

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

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Report No: 50-269/96-10, 50-270/96-10, 50-287/96-10

Licensee: Duke Power Company

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

Location: 7812B Rochester Highway
Seneca, SC 29672

Dates: June 2 - July 13, 1996

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ENCLOSURE 2

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EXECUTIVE SUMMARY

Oconee Nuclear Station, Units 1, 2 & 3
NRC Inspection Report 50-269/96-10,
50-270/96-10, 50-287/96-10

This integrated inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a 6 week period of resident inspection; in addition, it includes the results of announced inspections by two regional inspectors. A Safeguards inspector provided closure for an open item and the Project Manager provided information for an engineering issue.

Operations

Unit 2 experienced a dropped rod which required a power reduction to 55%, and the resetting of the High Flux Trip setpoints and the Flux/Flow/Imbalance trip setpoints. Maintenance technicians did not reset the Flux/Flow/Imbalance trip setpoints within the 4 hours required by Technical Specifications. This was identified as Violation 50-269,270,287/96-10-01. (Section 01.2)

Maintenance

- Technicians performing surveillance activities on the nonsafety-related Component Cooling Water system did not follow the step sign-off process required by the procedure. This was identified as a weakness in the use of and adherence to procedures. (Section M1.2)
- The present Inservice Testing program and procedures at Keowee are adequate to perform the required testing. The implementation of the modification for the turbine guide bearing oil system will allow increased testing for that system. (Section M1.3)
- The inspector concluded that failure to perform inspection of activities affecting quality by individuals other than those who performed the activity was a violation of 10 CFR 50, Appendix B, Criterion X requirements. Violation 50-269,270,287/96-10-03: Weld Procedure Qualifications Welded, Tested, Certified and Approved By Same Individual, was identified. (Section M1.5.3)

Engineering

- The licensee's evaluation of the hydrogen ignition during the welding of a dry cask storage canister at Point Beach as it related to ONS was considered a strength. (Section E1.1)
- A minor violation concerning the licensee's failure to request relief for Oconee Units 1, 2, and 3 Reactor Vessel Weld WR35 was identified as Non-Cited Violation 50-269,270,287/96-10-02: Failure To Request Relief. (Section E3.1)

Plant Support

- The inspector concluded that the licensee conducted emergency response drill 96-02 professionally and thoroughly. (Section P1)
- At the licensee's corporate office, the inspector reviewed corrective actions relative to the finding that the licensee allowed a vendor to continue to implement their access authorization program after determining the vendor failed to provide assurance that the individuals granted unescorted access were trustworthy and reliable. Corrective actions were timely and included a complete audit of the vendor's records and program. Arrangements have been made to audit the licensee's Access Authorization Program by the Regulatory Audits group beginning October 28, 1996. (Section S1)

Report Details

Summary of Plant Status

Unit 1 operated at or near full power throughout the reporting period.

Unit 2 operated at or near full power until July 6, 1996, when the unit reduced power to 55% in response to a dropped control rod (paragraph 01.2). The unit was returned to full power at 5:30 a.m. on July 7, 1996.

Unit 3 operated at or near full power throughout the reporting period.

Review of UFSAR Commitments

A recent discovery of a licensee operating their facility in a manner contrary to the Updated Final Safety Analysis Report (UFSAR) description highlighted the need for a special focus review that compares plant practices, procedures, and/or parameters to the UFSAR descriptions. While performing inspections discussed in this report, the inspectors reviewed the applicable portions of the UFSAR that related to the areas inspected. The inspectors verified that the UFSAR wording was consistent with the observed plant practices, procedures, and/or parameters. As addressed in Section M2.1, Reactor Protection System testing frequency differences were identified between the Technical Specifications and the UFSAR.

I. Operations

01 Conduct of Operations

01.1 General Comments (71707)

Using Inspection Procedure 71707, the inspectors conducted frequent reviews of ongoing plant operations. In general the conduct of operations was professional and safety-conscious; specific events and noteworthy observations are detailed in the sections below.

01.2 Dropped Control Rod On Unit 2

a. Inspection Scope (93702)

On July 6, 1996, at 2:10 a.m., Unit 2 control rod 3 in Group 7 dropped approximately 18% into the core as displayed on the position indication. The inspector interviewed operators and technicians, reviewed control room logs, procedures, and associated Technical Specifications (TS).

b. Observations and Findings

At 3:20 a.m. the control rod dropped into the core while the licensee was attempting to manually realign the rod with its group. The licensee entered abnormal procedure AP/2/A/1700/15, Dropped Control Rods. Power was reduced manually to 55 percent by the Operators in a controlled manner. TS 3.5.2.2.d required in part that the nuclear overpower trip setpoints based on flux and flux/flow/imbalance be reduced to 65.5 percent within 4 hours of the power reduction. The licensee reduced the setpoints associated with the flux. The licensee discovered at 12:15 p.m. that the flux/flow/imbalance setpoints had not been reduced. The licensee notified the NRC as required by 10 CFR Part 50.72 that Unit 2 had entered TS 3.0.3 after failing to reset the flux/flow/imbalance setpoints within 6 hours of dropping the control rod. The licensee's failure to meet the requirements of TS 3.5.2.2.d is being identified as Violation 50-270/96-10-01, Failure To Change Flux/Flow Imbalance Setpoint.

The licensee identified that the rod dropped because of a blown fuse on one of the six phases of the control rod drive stator. The licensee replaced the blown fuse and verified that the control rod drive stator was functional. Unit 2 was returned to full power at 5:30 a.m., on July 7, 1996.

c. Conclusions

The inspector concluded that the licensee was in violation of TS 3.5.2.2.d, and identified Violation 50-270/96-10-01, Failure To Change Flux/Flow/Imbalance Setpoint.

02 Operational Status of Facilities and Equipment

02.1 Engineered Safety Feature System Walkdowns (71707)

The inspectors used Inspection Procedure 71707 to walkdown accessible portions of the following safety-related systems:

- Keowee Hydro Station
- Low Pressure Injection System
- Emergency Feedwater System
- Spent Fuel Pool

Equipment operability, material condition, and housekeeping were acceptable in all cases. Several minor discrepancies were brought to the licensee's attention and were corrected. The inspectors identified no substantive concerns as a result of these walkdowns.

08 Miscellaneous Operations Issues (92901)

08.1 (Closed) VIO 269,270,287/94-38-01: Failure to Follow Keowee Transfer Procedure

On December 11, 1994, Keowee Hydro Unit 1 was not operated in accordance with OP/O/A/1106/019, Keowee Hydro at Oconee, Enclosure 3.4, in that operational control of the hydro unit was transferred from remote to local (using OP/O/A/2000/041, Keowee Modes of Operation) with the unit operating at speed-no-load conditions instead of being shutdown. The transfer of control with the unit operating at speed-no-load conditions resulted in overheating the generator field breaker closing coil and a loss of excitation to the operating hydro unit. Keowee procedure OP/O/A/2000/041 did not contain steps to transfer control using the remote/local switch. Therefore, the Keowee Hydro Operator had no written instructions to shutdown the operating hydro unit prior to transferring control from remote to local.

The inspector verified that Keowee procedure OP/O/A/2000/041 was revised to give Keowee operators instructions which would prevent control transfer while the Keowee unit was operating. The inspector also verified that OP/O/A/1106/019 was revised to provide guidelines for control transfers. The Keowee operators were trained on the revisions made to OP/O/A/2000/041, specifically, remote to local transfers. This item is closed.

II. Maintenance

M1 Conduct of Maintenance

M1.1 General Commentsa. Inspection Scope (62703)

The inspectors observed all or portions of the following maintenance activities:

- W096041837 3CCW-11 Perform Mech/Ele PM on Operator-Limitorque-Preventative Maintenance
- ON3IPA0305001 RPS Chan B Pump PWR Monitor Calibration
- IP/O/A/0310/012B Engineered Safeguards System Logic Subsystem 1 LPI Channel 3 Online Test
- IP/O/A/0310/013B Engineered Safeguards System Logic Subsystem 2 LPI Channel 4 Online Test

- WO 96025532 RPS Channel D Pump Power Monitor Calibration
- WO 95045276 NSM-32881 Part D, Replace Power Battery Chargers
- PT/1/A/2200/019 KHU-1 Turbine Sump Pump IST Surveillance
- WO 96000002 U-2, LPSW To RCPM, LPI, RB Component Cooler Calibration

b. Observations and Findings

The inspectors found the work performed under these activities to be professional and thorough. All work observed was performed with the work package present and in active use. Technicians were experienced and knowledgeable of their assigned tasks. The inspectors frequently observed supervisors and system engineers monitoring job progress. Quality control personnel were present when required by procedure. When applicable, appropriate radiation control measures were in place.

c. Conclusion

The inspectors concluded that the Maintenance activities listed above were completed thoroughly and professionally.

M1.2 Unit 2 Condenser Circulating Water (CCW) Pump B Rotameter and Flow Switch, W096040910

a. Inspection Scope

On June 11, 1996, the inspector observed calibration of the flow switch on the lube water to the 2B CCW Pump.

b. Observations and Findings

Calibration procedure IP/O/B/0261/004, Enclosure 11.2.2.b, CCW Pump B Rotameter and Flow Switch, was being utilized to perform the calibration. However, the inspector observed multiple steps being signed off when he approached the technicians. In addition, the inspector noted that the last step which was signed off was in advance of performing the activity specified in that step (step 10.2.22.c, Isolation Valve).

The inspector questioned the technicians regarding signing off multiple steps. The individuals told the inspector that they believed that the nonsafety-related procedure did not specifically require the steps to be signed off one at a time as they were completed.

The equipment being calibrated was not safety-related, but the licensee confirmed that management's expectations for performing this work were the same as for safety-related equipment. That is, the steps are to be

signed off as they are performed. The technicians were counseled by their supervisor on adherence to procedures.

c. Conclusion

The inspector concluded that a failure to maintain current documentation of the steps performed indicated a weakness in procedure adherence.

M1.3 Conduct of IST Program At Keowee Hydro Station

a. Inspection Scope

The inspector reviewed the licensee IST program that was applicable to the Keowee generating station. The licensee's submittal of the IST program was reviewed to ensure that all of the critical components that are applicable were included in the program and that where differences to ASME Section XI existed that justification for the differences was included in the submittal. The temporary and periodic tests were also reviewed. PIPs that were written on the system were reviewed to determine if there were any equipment failures.

b. Observations and Findings

All of the critical equipment for Keowee was listed for testing in the IST program with the exception of skid mounted equipment. The skid mounted equipment was tested under the Appendix B program. The licensee had stated this in their IST program submittal.

A review of the temporary test procedures and the periodic tests indicated that the applicable testing was being performed. The licensee's testing to date has been performed using temporary test procedures. Periodic test procedures have been developed to replace the temporary test procedures.

The licensee plans to modify the turbine guide bearing oil system so that individual components can be tested. The inspector reviewed the proposed modification drawings and periodic test procedure. The inspector determined that the modification will allow testing of the pumps and valves which is not possible under the present installation. The modification is due to be installed in September 1996.

The inspector reviewed the completed quarterly tests for the fall of 1995 and the first quarter of 1996. No problems were identified. The inspector reviewed three PIPs associated with the system. Corrective action had been completed for the PIPs.

c. Conclusions

The present IST program and procedures are adequate to perform the required testing. The implementation of the modification for the

turbine guide bearing oil system will allow increased testing for that system.

M1.4 Surveillance Observation (61726)

a. Inspection Scope

The inspector observed all or portions of the work activities required in the following work orders:

<u>Inspection Procedure</u>	<u>Title</u>
IP/O/A/3000/001	Instrumentation and Control Battery Daily Surveillance
IP/O/A/300/011	Instrumentation and Control Battery Quarterly Surveillance

b. Observations and Findings

The inspector reviewed the above procedures to verify that requirements specified in Technical Specification 4.6.9 and referenced in the subject procedures were accurately delineated, that appropriate reviews had been performed, that instruments and/or test equipment were appropriately identified and calibrated. A pre-job briefing was held to discuss the objectives of the activity and to review safety precautions while working around the cells. The surveillance was performed in a careful and unhurried manner following procedural instructions. Each cell was checked for evidence of corrosion and degradation around the terminals. Each cell was tested for voltage, specific gravity, temperature and electrolyte level. Data from each cell was documented in the appropriate enclosure provided in the procedure. Technicians were qualified to perform their task with training received under the licensee's training and qualification system. The surveillance was conducted in a well-planned and orderly manner following procedural requirements.

M1.5 Maintenance Observation (62703)

M1.5.1 Replacement Mechanical Operator for Valve CCW-267

a. Inspection Scope

This work effort was performed to replace the operator on valve CCW-267 which was discovered broken in the conduct of a system pump test on June 3, 1996.

b. Observations and Findings

The valve was identified as a QA-1 condition active valve, that ensures Safe Shutdown Facility (SSF) Auxiliary Service Water System (ASW) pump minimum flow requirements are met. This valve is also used to isolate

flow through the SSF, ASW test line at the start of a SSF event to avoid diverting flow away from the Steam Generators (S/Gs).

The work was performed as minor modification No. OE-9246 under Work Order No. 96046304-01. The maintenance procedures (MP) used to perform the task of removal and replacement were MP/O/A/1800/005, Torque Miscellaneous Fasteners and MP/O/A/1210/007, Operator Limitorque-SMB/SB Series Removal and Replacement. This valve appears on flow Diagram No. OFD 133A-2.5 (J-11) Rev. 25. Because an exact replacement of the original manual actuator (Model B320-40) was not available, the licensee used a similar actuator (Model B320-50) made by the same manufacturer (Limitorque).

The inspector reviewed the above mentioned documents including the replacement evaluation, the unreviewed safety question evaluation (10 CFR 50.59), and the Problem Investigation Process (PIP) Report No. 4-096-1101 dated June 3, 1996. The inspector observed disassembly of the broken actuator, inspected the broken parts and the replacement component following installation. By review of the work package and through discussions with cognizant QA personnel, the inspector verified that QC inspections were performed during the reassembly as required, and that a post-maintenance functional test showed the valve was operational.

M1.5.2 Spent Fuel Canister Closure Weldment Welder Performance Qualification

a. Inspection Scope

To observe the conduct of welder performance qualification test to assure compliance with ASME Code Section IX, Regulatory and Procedure Requirements.

b. Observation and Findings

At the time of this inspection, the licensee was in the process of requalifying a welder to weld the closure joint on a spent fuel canister. The test was being conducted using the machine gas tungsten arc welding process with remote visual control to the requirements of Field Weld Data Sheet, No. L-165B Rev. 1. Within these areas, the inspector checked the power supply unit, and the wire feed equipment and the remote visual control console for physical condition, operability, and evidence of calibration as applicable. The test was performed on a 3/8" plate in the flat 1G position. Joint contour involved a typical 37 1/2 degree open groove with backing. During the test, the inspector observed filler metal deposition over several passes and verified that the weld was being fabricated within the essential variables of QW-360, ASME Code, Section IX and the parameters of FWDS L-165B, Rev. 1. Also, through observation and discussion with the welder being requalified, the inspector determined that he had adequate knowledge and expertise with the process and technique to requalify successfully. Following the close of this inspection, the individual monitoring the test and responsible for evaluating the test coupons for integrity provided the

inspector with a copy of the performance qualification record showing that the welder had passed requalification requirements.

M1.5.3 Review of Weld Procedure Qualification Records

a. Inspection Scope

The inspector reviewed weld procedure and associated Field Weld Data Sheet qualification records to verify compliance with ASME Code Section IX, Regulatory and Procedural requirements.

b. Observation and Findings

PIP NO. 0-095-1409 was written to document a concern over the apparent lack of independent inspections in the conduct of welding procedure qualifications. In this regard, the inspector ascertained that the problem as described in the subject PIP involved a review of the licensee's welding procedure qualification record L-137D. The inspector's review of this qualification record showed that the individual who qualified the process did the brazing, tested the coupons for code acceptance, certified the results as meeting code requirements, and approved the procedure. In addition, the inspector noted that the above mentioned PIP identified additional examples of weld procedure qualifications where the same individual had performed a number of the activities described above during the qualification process. Following are examples where this same individual performed a number of activities and functions during the qualification process.

	L-129D	L-131D	L-133D	L-134D	L-137D
Weld\Braze Test	A	A	A	A	A
Test Coupons	A	A	A	A	A
Certify Results	A	B	B	B	A
Approve Procedure	A	B	B	B	A
Qualify Process	A	A	A	A	A
QA Review	B	A	A	A	B

By review of the organizational chart the inspector ascertained that both individuals (A and B) work in the same organization, the metallurgy laboratory. Both individuals work for the same supervisor and are essentially charged with similar tasks which suggests a lack of independence between two separate functions, welding and inspections. In discussing this issue with site mechanical maintenance and safety assurance managers, the inspector expressed concern over the adequacy of the welding program as implemented by Procedure L-100, Rev. 13, in that it does not preclude the same individual from performing in the role of a craft/welder, a QC inspector, a QA reviewer, and a certifier of his own work. The licensee's cognizant engineer indicated that an investigation of this practice was being pursued through the PIP process and that a decision was expected to be reached by July 1, 1996. In conclusion, the inspector stated that failure to perform inspection of activities affecting quality by individuals other than those who

performed the activity was a violation of 10 CFR 50, Appendix B, Criterion X requirements. Violation 50-269,270,287/96-10-03: Weld Procedure Qualifications Welded, Tested, Certified and Approved by same Individual, was identified.

M1.5.4 Steam Generator (S/G) Tube Maintenance; Eddy Current Examination Results, Unit 2 (73755)

a. Inspection Scope

Through discussions with cognizant personnel and by review of eddy current examination records the inspector ascertained inspection results and corrective actions taken by the licensee before returning both S/Gs to service. The following table depicts a summary of the number of tubes examined, the type of examination performed, and corrective actions taken.

The numbers in parentheses represent the original work scope quantities planned or estimated:

	<u>Activity</u>	<u>A H/L</u>	<u>A C/L</u>	<u>B H/L</u>	<u>B C/L</u>
1.	MRPC I-690 plugs - 20 H/L (orig. included c/l baseline)	54	0 (35)	78	0 (40)
2.	MRPC Lane/Wedge	227	N/A	222	N/A
3.	Bobbin/Plus Pt. sleeves (all I-690) (orig. included plus Pt. all)	278/57(278)	N/A	266/54(266)	N/A
4.	Re-expanded rolls	0	2	1	1
5.	0.510 Bobbin (100%) coil probe	15,393		15,263	
6.	MRPC special interest tubes	1213 (680)		2124(1094)	
7.	Plug removal	none		none	
8.	Tubes plugged	199 (61)		213(65)	
9.	Tube Pulls	4 full length from 2A cold leg			

A review of Unit 2 steam generator maintenance data on tubes plugged following this outage (EOC-15) was as follows:

S/G	Tubes Plugged	% Of Tubes Plugged	Plug Limit	Tubes Sleeved
2A	337	2.17%	10% max*	277
2B	481	3.10%	10% max*	261

*The licensee is performing analysis to raise the plugging limit to 15% per S/G.

M1.5.5 S/G 2A Upper Head-to-Tubesheet Weld With Subsurface Flaw Indication

a. Inspection Objective:

Provide a summary of the licensee's ISI examination findings in the upper head-to-tubesheet weld No. 2-SGA-WG58-1, including disposition of the indication identified and NRR's safety evaluation.

b. Discussion:

As required by the licensee's Third Ten Year interval examination, inspection of the subject weld was performed during the 1996 EOC-15 refueling outage per ASME Code Section XI, 1989 edition requirements. Examination of this weld was also performed during the two previous intervals.

During the first interval, this weld was examined in 1982 during the fifth refueling outage per ASME Code, Section XI, 1974 edition requirements. The weld was re-examined during the second interval in 1990 during the eleventh outage per ASME, Section XI, 1980 edition requirements.

Examination of the weld during the 1996 refueling outage led to the identification of a subsurface ultrasonic indication that exceeded code allowable size. The indication was located close to the midplane of the weldment and measured 56 inches in length, 0.8 inches in depth, and was located 3.8 inches from the outer and 3.9 inches from the inner weld surface. Because the indication exceeded code allowable flaw size, the licensee evaluated the indication under IWB-3600 and Appendix A code requirements. This evaluation showed the weld was acceptable under IWB-3132.4, Acceptance by Analytical Evaluation. This paragraph references IWB-2420 which requires re-examination of the flaw during the next three inspection periods for monitoring for possible growth. On May 2, 1996, the licensee communicated this finding and analytical results by telephone to NRR who indicated that as required by IWB-3134, details of the evaluation and analysis had to be submitted for their review and approval before the plant could resume operations. On May 3, 1996, the licensee submitted the requested information to NRR who reviewed and accepted the evaluation and analysis as the basis for continued operation with the proviso for re-examination of the weld as required by the code.

M2 **Maintenance Procedures and Documentation**

M2.1 Testing of the Unit 2 Reactor Protective Channels

a. Inspection Scope (61726)

The inspectors reviewed Section 7.2, Reactor Protective System (RPS), of the FSAR which requires that RPS Channel A be electrically trip tested for every input up to and including the channel trip relay within one

week of unit startup. It further required that the B, C, and D channels be tested consecutively within the following 45 day periods.

b. Observations and Findings:

The inspectors questioned the licensee as to how this requirement was met after the Unit 2 Refueling Outage was completed and returned to service on May 7, 1996. In response, the licensee informed the inspectors that the sequence of testing the RPS channels was not performed as outlined in the FSAR. The A channel was not tested within the one week requirement as specified in the FSAR. Channel A was tested on June 13, 1996, under the requirements specified in WO 96043107.

The TS was changed by Amendment No. 199 to Facility Operating License DRP-38, Amendment No. 199 to Facility Operating License DPR-47, and Amendment No. 196 to Facility Operating License DRP-55 to require that the testing for each RPS channel be performed within a time period not to exceed 45 days but not in a particular sequence. The TS change was approved and received by the licensee on April 13, 1996.

Although the FSAR had not been changed, a proposed change that incorporated the TS amendments had been prepared and was scheduled to be presented to the NRC on June 30, 1996.

c. Conclusion:

The inspectors concluded that the licensee's effort to review and update the FSAR was acceptable for the issue identified.

M8 Miscellaneous Maintenance Issues (92902, 90712)

M8.1 (Closed) VIO 269/94-28-01: Failure To Follow Procedure (Breaker Installation)

On September 12, 1994, during the performance of TN/1/A/2881/0/DL1, step 8.8.10, which required that internal wiring of the replacement breaker assembly be verified by performing a meg ohm (continuity) check between the conductors, was not performed prior to installing breaker 1X0-F1AT in motor control center 1X0. The breaker leads had been inadvertently reversed during the modification process and this resulted in the loss of MCC 1X0 when the breaker compartment stabs contacted the bus bars due to a phase to phase short. Loss of 1X0 resulted in the loss of the majority of the Unit 1 radiation monitors, as well as pressurizer spray control. The inspector verified the corrective actions described in the licensee's response letter, dated November 17, 1994, to be reasonable and complete. This violation is closed.

M8.2 (Closed) LER 269/94-05: Containment Isolation Valve Technically Inoperable.

This event was discussed in NRC Inspection Report 50-269,270,287/94-32 and was dispositioned as Non-Cited Violation 50-269/94-32-02, Inoperable

Containment Isolation Valve Due To Maintenance Error. Accordingly, this LER is closed.

M8.3 (Closed) LER 287/94-01: Reactor Trip On False High Level Indication Due To Equipment Failure.

This LER describes the reactor trip that occurred on March 1, 1994, when a defective heater drain tank level switch caused a false high drain tank level signal to be generated. The resulting transient and the licensee's corrective actions were addressed in detail in Inspection Report 50-269,270,287/94-08. As corrective actions were considered appropriate, this LER is closed.

III. Engineering

E1 Conduct of Engineering (37551, 37550)

E1.1 Hydrogen Accumulation During the Welding of a Spent Fuel Canister

a. Inspection Scope

The inspector reviewed the licensee's actions in response to Information Notice 96-34, Hydrogen Gas Ignition During Closure Welding Of A VSC-24 Multi-Assembly Sealed Basket.

b. Observations and Findings

The licensee performed an evaluation, Calculation OSC - 6580, to determine the amount of hydrogen that would be generated when welding the lid on the canisters that are utilized to store spent fuel in the ONS ISFSI. This evaluation was in response to the combustible gas burn at Point Beach Nuclear Plant when a welder began welding the lid to the canister. The ONS canisters have an aluminum coating inside whereas the canister at Point Beach was coated with a Carbo Zinc-11 material.

The results of the ONS evaluation revealed that the "worst case" hydrogen yields at ONS could reach 1.7 volume percent, but nominally would not exceed 0.26 volume percent for the ONS equipment. A second calculation utilizing the Carbo Zinc-11 coated spent fuel canisters like those utilized at Point Beach revealed that a volume of 40.80 percent could be obtained. Based on this calculation, the licensee determined that the corrosion of aluminum was not enough to generate sufficient hydrogen during the time period of concern to reach the lower flammability limit for hydrogen even for the most conservative case.

Actual measurements were made during welding of canister #37 which revealed a hydrogen content of 2.05 volume percent. Although this amount is less than the lower flammability limit, the licensee is further evaluating the source of the hydrogen.

c. Conclusion

The licensee's actions in taking a proactive role in evaluating the Point Beach Incident as it related to ONS was considered a strength.

E3 Engineering Procedures and Documentation

E3.1 Failure to Request Relief

The project manager identified that the licensee had not requested relief related to the Reactor Pressure Vessel Circumferential Head Weld on Units 1, 2, and 3 since at least the beginning of the Second Inservice Inspection Interval. Section XI of the ASME Code Examination Category B-A, Item B1.21, requires 100% volumetric examination of accessible length of one circumferential head weld as defined by Figure IWB 2500-3. The licensee did not meet the requirements of TS 4.2.1 which states that inservice examination of ASME Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda as required by 10 CFR 50, Section 50.55a(g)(4), to the extent practicable within the limitations of design, geometry and materials of construction of the components, except where specific written relief has been granted by the Commission. The licensee is in the process of requesting relief for Oconee Units 1, 2, and 3 Reactor Vessel Weld WR35. This failure constitutes a violation of minor significance and is being treated as a Non-Cited Violation consistent with Section IV of the NRC Enforcement Policy. This issue will be identified as NCV 50-269,270,287/96-10-02, Failure To Request Relief.

E8 Miscellaneous Engineering Issues (92903, 90712)

E8.1 (Closed) LER 50-269/94-01, Seismic/LOOP Event May Result In The Loss Of Post Accident Cooling Due To Design Deficiency

The licensee identified on December 30, 1993, during a walkdown of the CCW System, 4 valves on Units 1, 2, and 3 that did not appear on the CCW flow diagrams. The valves and some instrument tubing were located near buoyancy restraints on the system. Due to the potential for interaction during a seismic event, an operability evaluation was performed. The results of the evaluation revealed that these valves could be sheared and result in the system becoming inoperable due to the intake of air at the interface points. This intake of air could be sufficient to defeat the siphon mode of operation during a loss of offsite power (LOOP).

An investigation into the situation revealed that the buoyancy restraints were installed on July 18, 1991, October 14, 1992, and June 22, 1992, for Units 1, 2, and 3, respectively. The evaluation determined that air leakage could be sufficient to cause the loss of siphon effect and therefore the units would have been inoperable since the dates that the restraints were installed.

The licensee implemented a minor modification to increase the clearance between the buoyancy restraints and the instrument lines to reduce the potential for failure with respect to a seismic event. In addition, the valves were added to the flow diagram drawings. The inspector reviewed the system and determined that the interferences in question had been corrected. This LER is closed based on the licensee's efforts to identify, report and correct the deficiency.

E8.2 (Closed) VIO 269,270,287/94-28-03: Corrective Actions Associated With Turbine Bypass Valves Randomly Repositioning Not Adequate.

On August 10, 1994, the Unit 3 "B" steam generator was blown down to a dry condition when the turbine bypass valves for that steam header randomly repositioned following power restoration to the Integrated Control Circuit module controlling the valves. The licensee had been aware of the potential for this event for several months. However, the preventive measures which were implemented were ineffective in preventing the dryout event.

The licensee replaced the ICS modules with an equivalent module which does not randomly reposition the bypass valves. The inspectors confirmed that the new modules were installed for all three Oconee units on August 13, 1994. This item is closed.

E8.3 (Closed) Unresolved Safety Issue (USI) A-26: Reactor Pressure Vessel Pressure Transient Protection

The inspector reviewed the documentation and inspection efforts for USI A-26, and concluded that the modifications had been completed and documented in previous inspection reports. The final open item for this USI was Inspector Followup Item 50-269,270,287-98-36-03, Revised Low Temperature Overpressure (LTOP) System Operability. This IFI was closed and documented in Inspection Report 50-269,270,287-91-31. This IFI was considered closed based on implementation of Technical Specification 3.1.2.9, which specifies requirements for assuring operability of the LTOP system. USI A-26 is closed.

IV. Plant Support Areas

P1 **Conduct of Emergency Preparedness Activities**

On June 26, 1996, the inspector observed portions of activities associated with the licensee's emergency response drill 96-02. The initiation of the drill scenario involved a S/G Tube Rupture in the 1A S/G. An Alert was declared, and the technical support center (TSC) was activated. The inspector observed activities with manning the TSC. The inspector concluded that the licensee conducted the drill professionally and thoroughly.

S1 Conduct of Security and Safeguards Activities

a. Inspection Scope (TI 2515/127)

On April 25, 1991, the Commission published 10 CFR 73.56, Personnel Access Authorization Requirements for Nuclear Power Plants, which required licensees to fully implement their Access Authorization Program (AAP) by April 27, 1992. By letter dated July 1, 1994, the licensee submitted Revision 0 to the Catawba, McGuire, and Oconee Physical Security Plans committing to the requirements of 10 CFR 73.56 and NRC Regulatory Guide 5.66, Access Authorization Program for Nuclear Power Plants.

The Nuclear Management and Resources Council (NUMARC) has published NUMARC 89-01, "Industry Guidelines for Nuclear Power Plant Access Authorization Programs," dated August 1989, which was adopted by NRC's Regulatory Guide 5.66 as an Appendix. During an inspection of the licensee's AAP conducted November 13-17, 1995, it was noted that for approximately 11 months, the licensee allowed a vendor to continue to implement their AAP after determining the vendor failed to assure that individuals granted unescorted access were trustworthy and reliable. On June 17, 1996, at the Duke Power Company Corporate Office, the inspector reviewed the corrective actions implemented by the licensee in response to this identified violation (VIO 50-269,270,287/95-24-02).

b. Observations and Findings

The licensee performed a 100 percent audit of the vendor's access authorization records and program during the period of December 4-8, 1995, to confirm acceptability of the vendor's AAP. Three findings were noted by the licensee with respect to three individuals granted unescorted access prior to the completion of background investigations. These three background investigations were completed during the audit. No derogatory information was revealed. Additionally, the vendor responded to these findings and delineated corrective actions in a letter to the licensee dated December 14, 1995.

The licensee failed to have a procedure in place to audit small vendor AAPs. The licensee developed "Procedure for Evaluating Contractor's/Vendor's Access Authorization and Fitness For Duty Programs," Revision 1, dated January 19, 1996. This procedure outlines the responsibility of the auditor in relation to conducting audits of vendors not being reviewed under a joint utility audit. In addition, the Manager, Workforce Processing's role, in the area of acceptance of a vendor's AAP, is documented. Previously, these two individuals' responsibilities were not clearly delineated. The procedure also outlines necessary steps in cases of nonconformance by a vendor to assure action is taken to correct the deficiencies, or upon determination, having the vendor removed from the approved contractor/vendors list of acceptable AAPs.

Licensee procedure "Access Authorization Program," Revision 8, has been revised to reflect clear responsibility of the Manager, Workforce Processing. The licensee has incorporated audit function responsibilities for vendor programs as well as the Manager, Workforce Processing's responsibilities to ensure that vendor/contractor employees meet Duke Power Company and NRC requirements, before being granted unescorted access. The procedure also provides clarification with respect to temporary access authorization requirements.

In a letter dated January 22, 1996, the licensee committed to performing a full audit of their AAP. Upon further discussion with licensee representatives, the inspector was informed this audit would be conducted during the period of October 28 - November 8, 1996. The licensee stated the audit report would be made available for review.

c. Conclusions

Based on document and record review and discussion with licensee representatives, the inspector found the licensee's corrective actions to be thorough and timely. The licensee's procedures now more clearly define responsibility between Workforce Processing and the audit review group to better prevent recurrence of the violation. This item is closed.

V. Management Meetings

X1 **Exit Meeting Summary**

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on July 18, 1996. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

Partial List of Persons Contacted

Licensee

B. Peele, Station Manager
 M. Bailey, Acting Regulatory Compliance Manager
 D. Coyle, Systems Engineering Manager
 J. Davis, Engineering Manager
 T. Coutu, Operations Support Manager
 W. Foster, Safety Assurance Manager
 J. Hampton, Vice President, Oconee Site
 D. Hubbard, Maintenance Superintendent
 C. Little, Electrical Systems/Equipment Manager
 J. Smith, Regulatory Compliance
 G. Rothenberger, Operations Superintendent
 R. Sweigart, Work Control Superintendent

NRC

D. LaBarge, Project Manager

Inspection Procedures Used

IP 71707: Plant Operations
 IP 61726: Surveillance Observations
 IP 62703: Maintenance Observation
 IP 71750: Plant Support Activities
 IP 37551: Onsite Engineering
 IP 92901: Followup - Plant Operations
 IP 92902: Followup - Maintenance
 IP 92903: Followup - Engineering
 IP 90712: LER Followup
 IP 93702: Prompt Onsite Event Response
 IP 37550: Engineering
 IP 40500: Problem Identification, Resolution and Prevention
 TI 2515/127: Access Authorization

Items Opened, Closed, and DiscussedOpened

50-270/96-10-01 VIO Failure To Change Flux/Flow/Imbalance Setpoint
 (Section 01.2)
 50-269,270,287/96-10-03 VIO Weld Procedure Qualifications Welded, Tested,
 Certified and Approved By Same Individual
 (Section M1.5.3)
 50-269,270,287/96-10-02 NCV Failure To Request Relief (Section E3)

Closed

50-269,270,287/94-38-01 VIO Failure to Follow Keowee Transfer Procedure
 (Section 08.1)
 50-269/94-28-01 VIO Failure To Follow Procedure During Breaker
 Installation (Section M8.1)
 50-269/94-05 LER Containment Isolation Valve Technically
 Inoperable (Section M8.2)
 50-269/94-01 LER Seismic/LOOP Event May Result In The Loss Of Post
 Accident Cooling Due to Design Deficiency
 (Section E8.1)
 50-269,270,287/95-24-02 VIO Failure To Assure Individuals Granted Unescorted
 Access Were Trustworthy And Reliable (Section S1)
 USI A-26 USI Reactor Pressure Vessel Pressure Transient
 Protection (Section E8.3)

50-287/94-01 LER Reactor Trip On False High Level Indication Due To Equipment Failure (Section M8.3)

50-269,270,287/94-28-03 VIO Corrective Actions Associated With Turbine Bypass Valves Randomly Repositioning Not Adequate (Section E8.2)

List of Acronyms

AAP	Access Authorization Program
ASW	Auxiliary Service Water
CFR	Code of Federal Regulations
CCW	Condenser Circulating Water
DPC	Duke Power Company
EOC	End Of Cycle
IR	Inspection Report
ISFSI	Independent Spent Fuel Storage Installation
IST	In Service Test
ISI	In Service Inspection
KHU	Keowee Hydro Unit
LER	Licensee Event Report
LOOP	Loss of Offsite Power
LPI	Low Pressure Injection
LPSW	Low Pressure Service Water
LTOP	Low Temperature Overpressure
MP	Maintenance Procedure
NCV	Non-Cited Violation
NSM	Nuclear Station Modification
NSD	Nuclear System Directive
NUMARC	Nuclear Management and Resources Council
ONS	Oconee Nuclear Station
PSID	Pounds Per Square Inch Differential
PSIG	Pounds Per Square Inch Gauge
PM	Preventive Maintenance
PIP	Problem Investigation Process
QA	Quality Assurance
QC	Quality Control
RCS	Reactor Coolant System
RPS	Reactor Protection System
S/G	Steam Generator
SSF	Safe Shutdown Facility
TS	Technical Specification
TSC	Technical Support Center
WCC	Work Control Center
WO	Work Order