



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-269/84-26, 50-270/84-25, and 50-287/84-28

Licensee: Duke Power Company
422 South Church Street
Charlotte, NC 28242

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

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

Inspection Conducted: September 11 - October 10, 1984

Inspectors: C. W. Burger, for 11/8/84
J. Bryant Date Signed
C. W. Burger, for 11/8/84
K. Sasser Date Signed

Accompanying Personnel: L. King

Approved by: Hugh C. Dance 11/9/84
Hugh C. Dance, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine, unannounced inspection entailed 292 inspector-hours on site in the areas of operations, surveillance, maintenance, test machine shop, health physics, and allegations.

Results: One violation was identified - failure to write a nonconforming item report in a timely manner.

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REPORT DETAILS

1. Licensee Employees Contacted

- *M. S. Tuckman, Station Manager
- *J. N. Pope, Superintendent of Operations
 - T. Barr, Superintendent of Technical Services
 - J. Davis, Superintendent of Maintenance
- *R. Bond, Compliance Engineer
- *T. Matthews, Compliance Engineer
 - C. T. Yongue, Station Health Physicist
- *D. M. Thompson, Mechanical Maintenance Engineer
- *C. Harlin, HP
- *M. Thorne, HP
- *J. J. McCool, QA

Other licensee employees contacted included technicians, operators, mechanics, security force members, and staff engineers.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on October 12, 1984, with those persons indicated in paragraph 1 above. A violation described in paragraph 7, failure to issue a timely nonconforming item report on a filter installed backwards in the low pressure service water system, was discussed in detail. Also, three new unresolved items were discussed and are described in paragraphs 9, 11, and 14. The licensee acknowledged the findings.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items*

New unresolved items identified during this inspection are discussed in paragraphs 9, 11 and 14.

5. Plant Operations

The inspectors reviewed plant operations throughout the reporting period to verify conformance with regulatory requirements, Technical Specifications, and administrative controls. Control room logs, shift turnover records and equipment removal and restoration records were reviewed routinely. Interviews were conducted with plant operations, maintenance, chemistry, health physics and performance personnel.

*An Unresolved Item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.

Activities within the control rooms were monitored on an almost daily basis. Inspections were conducted on day and on night shifts, during week days, and on weekends. Some inspections were made during shift change in order to evaluate shift turnover performance. Actions observed were conducted as required by Section 3.18 of the station directives. The complement of licensed personnel on each shift inspected met or exceeded the requirements of the technical specifications. Operators were responsive to plant annunciator alarms and appeared to be cognizant of plant conditions.

Plant tours were taken throughout the reporting period on a routine basis. The areas toured included the following:

- Turbine Building
- Auxiliary Building
- Units 1, 2 and 3 Electrical Equipment Rooms
- Units 1, 2 and 3 Cable Spreading Rooms
- Station Yard Zone within the Protected Area
- Hot Machine Shop
- Unit 1 Reactor Building
- Lee Gas Turbine

During the plant tours, ongoing activities, housekeeping, security, equipment status, and radiation control practices were observed.

Unit 1 operated at essentially full power from the beginning of the report period on September 11 until it was shut down on October 5 for the cycle 9 refueling outage.

Units 2 and 3 operated at essentially full power throughout the report period, September 11 - October 10. The Unit 3 steam generator tube leak continues at approximately 0.02 gpm.

6. Surveillance Testing

The surveillance tests listed below were reviewed and/or witnessed by the inspectors to verify procedural and performance adequacy.

The completed tests reviewed were examined for necessary test prerequisites, instructions, acceptance criteria, technical content, authorization to begin work, data collection, independent verification where required, handling of deficiencies noted, and review of completed work.

The tests witnessed, in whole or in part, were inspected to determine that approved procedures were available, test equipment was calibrated, prerequisites were met, tests were conducted according to procedure, tests were acceptable and system restoration was completed.

The following completed surveillance procedures were reviewed:

PT 0/A/230/14	-	Procedure Review
WR 57127C	-	Leak Test on Unit 3 Personnel Air Lock
WR 53554-9	-	PM Relays on OTSG-1 Cubicles 1-5
WR 53559C	-	Test Battery Ground and Undervoltage Relays on DC Distribution Panel
WR 55968A	-	Test on SSF 125 VDC Normal and Standby Batteries
WR 55174 A & WR 55009	-	Source Range and Intermediate Range Channel Test
WR 53559C 53560C & 53561C	-	Test Relays an Pressurizer Heaters

All aspects of the following surveillances were witnessed including the review of procedures and results.

PT/0/A/0150/08B	Unit 3 RB Emergency Lock Leak Rate Test
PT/0/A/0610/15	Startup Transformer Normal to Emergency Power Transfer Test
IP/0/A/0310/14A	ES Channel A On-line Test, Unit 3
OP/3/A/1104/18	Sampling Gaseous Waste Decay Tanks

Also, on September 25, the inspectors witnessed a site general emergency in which the TSC and OSC were activated. Hook-up of the hydrogen recombiners was simulated.

No violations or deviations were identified.

7. Maintenance Activities

Maintenance activities were observed and/or reviewed during the reporting period to verify that work was performed by qualified personnel and that approved procedures in use adequately described work that was not within the skill of the trade. Activities, procedures and work requests were examined to verify proper authorization to begin work, provisions for fire, cleanliness, and exposure control, proper return of equipment to service, and that limiting conditions for operation were met.

The following completed work requests were reviewed:

WR 15170B	-	Valve 3LPSW-4 leaking lubricant
WR 14667B	-	Valve 2 MS-87 packing leak
WR 15055B	-	Replace Unit 1-B letdown filter
WR 15095B	-	Repair handwheel, Valve HP-197
WR 15460B	-	Replace seal supply filter

WR 15342B - SSF Unit 3 pressurizer water level shutdown not working
correctly
WR 14877B - OTSG "B" level low

All aspects of the following maintenance jobs were observed and the procedures and results were verified:

- WR 15779B - Repair/Replace Emergency Hatch Inner Door Gasket
(MP/O/A/1400/13)
- WR 57080A - Install Strongbacks on Emergency Hatch Inner Door
- WR 90024C - Adjust Interlocks on Unit 2 Personnel Hatch Doors
(MP/O/A/1400/09)

In addition, on September 12, 1984 and September 21, 1984 the inspectors witnessed licensee mechanical work on the Cuno filter in the low pressure service water supply line to the HPI pump coolers for Unit 3. In each case, the work was performed by adequately skilled personnel who met the intent of the procedures in use; however, the documentation was not always completed in a timely manner. These problems were apparently due to personnel confusion over whether certain steps in the procedure were applicable. These findings were discussed with licensee management, but are not being cited since neither procedures nor Technical Specifications were violated.

During the initial cleaning of the Cuno filter on September 12, 1984, the filter housing was noted to be installed backwards such that the flow direction was incorrect, thus rendering the filter cleaning mechanism ineffective.

The licensee stated that incorrect orientation of the housing was discovered one week previously when low cooling water flow to the HPI pump cooler was detected. On September 20, 1984, the inspectors determined that, although required by QA Procedure QCK-1, a Nonconforming Item Report (NCIR) had not been written. QCK-1 requires that "... any personnel discovering a nonconforming item ... shall promptly initiate form QCK-1A, NCIR". That procedure also states that production personnel shall initiate NCIR's in accordance with station directives. However, neither the station directives nor general employee training address initiation of NCIR's.

Failure to follow Procedure QCK-1 is contrary to ONS Technical Specification 6.4.1, which states that the station shall be operated and maintained in accordance with approved procedures. This is a Violation, 50-287/84-28-01, failure to follow procedure.

The QA inspection of the station modification which, in part, involved the installation of the Cuno filter in Unit 3, was completed in August 1982. A revision to the QA inspection procedure which then included inspection of system configuration was effective in September 1982 and was in use for the installation in the other ONS units.

8. Unit 1 Refueling Outage

On October 5, 1984, Unit 1 began the cycle 9, 49-day refueling outage. The resident inspector witnessed control room activities during reactor power reduction. The generator was tripped off-line at 11:47 p.m., while at approximately 15% power, as part of a surveillance test to verify transfer of 4160 volt main feeder bus from normal to emergency power.

Significant maintenance scheduled during the outage is: main turbine work (critical path) including nozzle block replacement; OTSG A and B eddy current testing and tube repair; and repair of numerous valves in various systems. The unit is scheduled to be back on-line on November 23, 1984.

9. Airborne Xenon in Excess of Maximum Permissible Concentration (MPC)

On October 1, 1984, while observing I&E calibration performance outside the gaseous waste decay tank room in the Unit 2 auxiliary building corridor, the inspectors were warned that airborne xenon contamination was present. The contamination was present due to a leaking valve. The auxiliary building corridor is a radiation control area; however, the area was not posted for airborne contamination.

The HP staff provided sample results showing levels of 2.7 MPC for Xe-133 and 4.6 MPC for Xe-135. The licensee explained that Xenon is not treated as airborne activity since it is inert, but is treated as a whole body dose rate. For that reason, in a radiation control area, the licensee does not practice posting for Xenon activity even when MPC levels are exceeded.

While it is true that Xenon is not absorbed and is treated as a whole body exposure, it does not appear to be exempted by 10 CFR 20.203(d)(2), which requires that each airborne radioactivity area be conspicuously posted as such.

The licensee does not agree that Oconee is in violation of 10 CFR 20.203(d)(2) based, in part, on the following:

- a. 10 CFR 20.103(a)(1), footnote 2 states, in part, "For radioactive materials designated 'Sub' in the 'Isotope' column of the table (this includes xenon), the concentration value specified is based upon exposure to the material as an external radiation source. Individual exposures to these materials may be accounted for as part of the limitation on individual dose in paragraph 20.101 (scaled occupational dose)".
- b. The International Committee on Radiation Protection, in ICRP 30, page 49, states, in part, "...for exposure by submission in radioisotopes of the noble gases, external irradiation will be of such overriding importance that it alone need be considered".

Based on the above, the apparent violation of 10 CFR 20.203(d)(2), will not be cited as a violation at this time. Pending review by Region II personnel, this will be considered as an unresolved item, UNR 50-270/84-25-01, Unposted Airborne Radioactivity Area.

10. Lee Gas Turbines

On October 2, 1984, the inspectors visited Lee Steam Station to verify lineup of the Lee gas turbines for Oconee emergency power supply while Keowee Unit 2 continued to be out-of-service for maintenance.

The Lee 6c turbine operated unloaded and tied into the Oconee Standby Bus through the Central white 100 Kv line. The Lee 5c turbine operated unloaded with the breakers not closed, providing a backup in case the 6c turbine tripped offline. Lee 4c was not operating but was available in standby. The turbine operation was in conformance with Technical Specifications.

No violations or deviations were identified.

11. Contaminated Oil Disposal

On October 5, 1984, the licensee informed the resident inspector that possibly contaminated oil from Oconee had been shipped to Lee Steam Station, near Williamston, SC, for burning as fuel. Approximately 30,000 gallons have been shipped since the fall of 1981. The oil had been sampled and was environmentally acceptable for burning in the Oconee auxiliary boiler. Duke has terminated shipment of contaminated oil from the Oconee site.

Due to an NRC interpretation of March 20, 1984, concerning McGuire Nuclear Station, the licensee determined that Duke was technically in violation of 10 CFR 50.18 in shipping the oil to Lee Station for incineration, although contamination consisted of only trace quantities. According to the licensee, disposal of Oconee oil at the Lee Station by burning has been approved by the South Carolina Department of Health and Environmental Control since 1981.

Circumstances of the event are being examined by Duke and by NRC. Until examination is complete this will be considered as an unresolved item and assigned to Unit 1; UNR 50-269/84-26-01, Disposal of Contaminated Oil.

12. Isolation of Keowee Overhead Power Path

On September 28, while Oconee reactors were under a limiting condition for operations (LCO) due to Technical Specification 3.7.4 (one Keowee hydro unit out-of-service) a power control breaker (PCB) in the 230 Kv switchyard tripped, rendering the Keowee overhead path unavailable for 17 minutes. Technical Specification 3.7.3 requires that, under the conditions described, the reactors be placed in hot shutdown within 12 hours.

The event was caused by PCB 22 short circuiting when placed back in service following maintenance. This caused PCBs 8 and 9 to trip, opening the Keowee overhead line. Following an immediate assessment by site personnel, PCB 9 was manually closed, restoring overhead line availability. The event was reported to NRC promptly.

No violations or deviations were identified.

13. Laundry and Hot Shower Tank Release Without Completion of Independent Verification of Valve Lineup

On September 12, the laundry and hot shower tank (LHST) was pumped out with a portion of the independent verification of valve lineup incomplete. Valve lineup was correct; chemistry and radioactivity samples analysis was complete and satisfactory; and all other portions of the procedure were satisfactorily completed. Therefore, there was no inadvertent or unacceptable release and no Technical Specifications were violated other than the incomplete valve verification.

The portion of valve lineup performed by the Chemistry Department for the release is included in procedure CP/O/B/5009/05B. This procedure includes two copies of the valve lineup, with one listed as initial lineup and one as independent verification. The two lineup sheets are performed separately and independently.

Notification to Operations that the system is ready for pumping is verbal. The operations procedure for processed liquid waste disposal, OP/O/A/1104/47, Step 1.5, requires two actions to occur for signoff; one is that notification from Chemistry has been received that the tank is ready for release and the other that a Processed Waste Release Analysis form has been received from Health Physics (HP). Normally, release by Chemistry is received by the control room prior to receipt of the HP analysis.

On this occasion, chemical and HP analyses were received prior to notification that independent verification was complete, and operators proceeded with the release.

Proposed modifications to the chemistry and operations procedures to eliminate this potential for error were completed on the following day. These modifications are being incorporated. Failure to follow procedure is a violation of Technical Specification 6.4, Station Operating Procedures. However, the violation will not be cited since it meets the conditions of 10 CFR 2, Appendix C.

14. Unit 1 Exceeding Cooldown Rate

On October 6, during Unit 1 reactor cooldown for refueling outage, for a period of 30 minutes cooldown was at a rate of 58° in 30 minutes, contrary to the maximum rate of 50° in 30 minutes allowed by Technical Specification 3.1.2.1, Table 3.1-2. The major portion of the cooldown was conducted at approximately 65°F per hour.

The licensee informed the resident inspectors of the event and will submit a Licensee Event Report. Pending licensee determination of corrective action to prevent recurrence and resident inspector review of the circumstances, this event will be considered as an unresolved item UNR 50-269/84-26-02, Exceeding Cooldown Rate.

15. Allegations of Improper Actions Identified by Licensee

On August 23, 1984, DPC Nuclear Production Department received, through a second party, information concerning statements made by an Oconee Nuclear Station (ONS) employee which alleged inconsistencies in personnel actions and alleged coverup of certain operational events. DPC investigators and ONS personnel conducted an investigation of the allegations. The resident inspector and Region II staff were informed of the allegations by the licensee soon after the information was developed. In addition, the resident inspector and Region II staff were kept informed of developments during the licensee's investigation of the allegations.

Preliminary review of the allegations by Region II revealed that four allegations concerned personnel related activities which were essentially substantiated during the licensee's investigation. These personnel allegations were found to be of no concern relative to plant safety.

Several other allegations related to operational activity at ONS were also developed during the licensee's investigation and preliminary review by Region II has been completed, however, additional Region II review of these allegations is continuing.

The Region II Regional Administrator held a meeting in the Region II offices on October 5, 1984, to discuss the status of the DPC investigation, to include DPC findings and corrective actions. This matter currently remains under review by Region II.