



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report Nos.: 50-269/84-08, 50-270/84-08, and 50-287/84-08

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 at Oconee site near Seneca, South Carolina

Inspectors: *A. Ignatonis* 5/7/84
for J. Bryant Date Signed

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Approved by: *V. L. Brownlee* 5/7/84
V. L. Brownlee, Chief, Section 2A Date Signed
Division of Reactor Projects

SUMMARY

Inspection on March 11 - April 17, 1984

Areas Inspected

This routine, unannounced inspection involved 218 inspector-hours on site in the areas of operations, surveillance, maintenance, procurement, shutdown and refueling operations, LER review, IE Bulletin followup, and NUREG-0737 item reviews.

Results

Of the eight areas inspected, no violations or deviations were identified.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *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

Other licensee employees contacted included construction craftsmen, operators, mechanic, security force members, and staff engineers.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on April 20, 1984, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Plant Operations (71709)

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.

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 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
- Unit 3 Reactor Building
- Keowee Hydro Station

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

Units 1 and 2 operated at essentially full power throughout the reporting period. Unit 1 experienced a runback to 55% power on March 20 due to a loss of safety and group 2 out-of-limit indication. No rods in the group had actually moved. The situation was corrected and the reactor returned to full power within seven hours.

Unit 3 remained shutdown for the cycle 7 refueling outage throughout the report period. Maintenance or repair work scheduled included removal and overhaul of reactor coolant pump 1A, complete disassembly and rework of the high pressure turbine, installation and tie-in of safe shutdown facility components, UT examination of core barrel hold down bolts, eddy current examination of steam generator tubes and letdown cooler replacement.

On 3A steam generator, of the 2869 tubes inspected by eddy current, four were found below minimum allowable thickness and were plugged. On 3B steam generator, of the 3780 tubes inspected five were plugged.

On Unit 3, all of the core barrel upper hold down bolts and twelve lower bolts were ultrasonically (UT) examined. Two upper bolts showed indications of cracks. Nothing will be done about these bolts at this time. The bolts are captured, top and bottom, and B&W analysis shows that the plant can be operated with up to five bolts missing. The only significant difficulty experienced to date has been with fuel handling equipment. One potential delay of several days was circumvented by rescheduling of work. Fuel movement was reinitiated on April 15, but problems with crane grapples have delayed the operation. At the end of the report period the licensee decided to remove the grapples for rework. Vendor representatives are on site.

Within the areas inspected, no violations or deviations were identified.

6. Surveillance Testing (61726)

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 procedures, test results were acceptable and system restoration was completed.

A partial list of surveillance tests reviewed were as follows:

Unit 1 reactor building personnel hatch outer door "O" ring seal leak test.

Reactor building electrical penetration SF6 gas pressure measurements.

Reactor building spray system performance test.

Concentrated boric acid storage tank transfer pump performance test.

Motor driven emergency feedwater pump performance test.

Fire protection and fire prevention equipment annual test.

Source range and intermediate range channel test.

Surveillance tests witnessed in whole or in part are listed below:

Seismic response testing of Unit 3 control room instrument racks.

Operational team response to turbine basement-fire drill only.

Ultrasonic examination of core barrel bolts.

Penetration room ventilation system test.

Penetration room temperature and humidity check.

1A reactor coolant pump labyrinth seal delta pressure check.

Within the areas inspected, no violations or deviations were identified.

7. Maintenance Activities (62703)

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.

Completed work orders reviewed included the following:

- Repair of borated water storage tank level instrumentation.
- Repair of air leak on low pressure injection pump.
- Replacement of filters in 2B reactor coolant pump seal supply system.
- Installation of brace and concrete anchors in cable spreading room.
- Preventive Maintenance on motors in storage.
- Process monitor instrument calibration.
- Reset of mechanical snubber.
- Preventive Maintenance of Unit 1 and 2 control room booster fan.

Partial observation of work in progress program included the following:

- Removal of 3A1 reactor coolant pump and motor.
- Installation of safe shutdown facility (SSF) high pressure injection pump.
- Fabrication of piping for SSF functions in Unit 3.
- Replacement of Unit 3 letdown coolers.
- 3B low pressure injection pump repair of fitting leak and flange leak.
- 3B Reactor building spray pumps-change out of mechanical seals.
- 3A high pressure injection pump-removal of boron accumulation and change out of mechanical seals.
- 1B Spent fuel pool pump outer bearing replacement

8. Procurement (38700)

The inspectors reviewed portions of the procurement and storage procedures and toured warehouses and lay down yards. Receipt by procurement, security force participation, and receiving inspection by QC were observed. Warehouse items were inspected for proper storage, identification for traceability, and special considerations such as internal heating of electrical equipment.

Methods of control of limited shelf life items and equipment requiring preventive maintenance were reviewed in the records section and in the warehouses. Isolation methods and practices for controlling items with incomplete acceptance information or with other problems awaiting resolution were inspected.

Within the areas inspected, no violations or deviations were identified.

9. Review of Licensee Event Report (92700)

The inspectors performed a review of nonroutine event reports to verify that the report details met license requirements, identified the cause of the event, described corrective actions appropriate for the identified cause, and adequately addressed the event and any generic implications. In addition, the inspectors examined selected operating and maintenance logs, and records and internal incident investigation reports. Personnel were interviewed to verify that the report accurately reflected the circumstances of the event, that the corrective action had been taken or responsibility assigned to assure completion, and that the event was reviewed by the licensee, as stipulated in the Technical Specifications. The following licensee event reports were reviewed:

(Closed) LER 50-287/83-11. Solenoid Valve 3SV-203 was replaced, which allowed valve 3LPSW-525 to open and establish flow through the motor cooler when the "3B" MDEFDWP starts. After 3SV-203 was replaced, its operation was checked both electrically and pneumatically per Work Request number 07873B.

(Closed) LER 50-287/83-13. Coolant storage valve 3CS-5 diaphragm replaced and valve cycled satisfactorily per Work Request number 08519B.

(Closed) LER 287/84-02. Replaced and calibrated amplifier of RCS Loop "A" flow transmitter per Work Request No. 10891B. Procedure IP/O/B/200/11 was used for instrument calibration.

10. IE Bulletins (92703)

The following IE Bulletins were reviewed to ensure receipt, evaluation and appropriate implementation.

- a. (Closed - Units 1 and 2) IE Bulletin 82-02: Degradation of Threaded Reactor Coolant Pressure Boundary of PWR Plants. The licensee responded to the subject Bulletin in correspondence dated July 29, 1982, October 11, 1983 and January 26, 1984. Licensee inspections were performed of threaded fasteners of closure connection components such as the steam generator, reactor coolant pump (RCP) main flange, and control rod drive mechanisms. With the exception of two studs on RCP 2B1, showing unacceptable corrosion/erosion wastage, no degradation was observed. A region based inspector reviewed the licensee's information and considers this Bulletin to be closed for Units 1 and 2.

- b. (Closed - Units 1, 2 and 3) IE Bulletin 83-08: Circuit Breakers with UV Trip Features used in Safety-Related applications other than Reactor Trip System. The licensee responded to this subject Bulletin in correspondence dated March 28, 1984. In that letter, the licensee has stated that they do not use or plan to use Westinghouse (W) type DB, type DS, General Electric type AK-2, or other circuit breakers with under voltage (UV) trip features in safety-related applications. However, the Keowee Hydroelectric Station does use W type DB breakers on the excitation area and they are in use in the 600 volt auxiliary 1x and 2x load centers as incoming and feeder breakers. But, these breakers are not equipped with a UV trip attachment and are used to close a circuit rather than open it. Based on the information provided the inspector considers this Bulletin to be closed.

11. TMI Action Item (NUREG 0737)

The status of TMI Action Plan Item II.K.3.5, reactor coolant pump trip criterion was reviewed. For further guidance on resolution of this item, the NRC issued Generic Letter 83-10 dated February 8, 1982. The licensee submitted their response to this letter on March 30, 1984. Manual reactor coolant pump (RCP) trip will be implemented and the licensee included a detailed analysis to support their position. The optimal set point for RCP trip will be on loss of subcooled margin. This RCP trip criterion will be provided in the licensee's procedures. Pending completion of procedure revision to incorporate this criterion, this item will remain open.