UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report Nos. 50-269/80-20, 50-270/80-15 and 50-287/80-14

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

Facility: Oconee Nuclear Station

Docket Nos. 50-269, 50-270 and 50-287

License Nos. DPR-38, DPR-47 and DPR-55

Inspection at Oconee Nuclear Station near Seneca, South Carolina

Inspectors: R D Martin for
F. Jape — 6/20/80 Date Signed

R D Martin for
W. T. Orders — 6/20/80 Date Signed

Approved by: R D Martin
R. D. Martin, Section Chief, RONS Branch — 6/20/80 Date Signed

SUMMARY

Inspection on May 1-30, 1980

Areas Inspected

This inspection involved 250 inspector-hours on site in the areas of plant operations, physical protection, off-site fuel shipment and surveillance activities.

Results

Of the four areas inspected no apparent items of noncompliance or deviations were identified in two areas; four apparent items of noncompliance were found in two areas. (Infraction-failure to maintain correct status of demineralizer, Paragraph 5); (Infraction-failure to provide data to determine a shutdown margin, Paragraph 5); (Infraction-failure to promptly investigate an unplanned reactivity insertion of more than 0.5% DK/K, Paragraph 5); and (Infraction-using superceded procedure to operate fuel handling equipment, Paragraph 8).

DETAILS

1. Persons Contacted

Licensee Employees

*J. E. Smith, Station Manager
*J. M. Davis, Superintendent of Maintenance
*J. N. Pope, Superintendent of Operations
*T. B. Owen, Superintendent of Technical Services
*R. T. Bond, Licensing and Projects Engineer
J. Brackett, Senior QA Engineer

Other licensee employees contacted included technicians, operators, mechanics, security force members, and office personnel.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on May 9, 23 and 30, 1980, with those persons indicated in Paragraph 1 above. The station manager acknowledged the noncompliance items discussed in paragraphs 5 and 8. The licensee's investigation of these items has not been completed at the time of this report. LER RO-270/80-3 will cover the reactivity addition event (paragraph 5) and the use of a superceded procedure will be reviewed internally (paragraph 8). The remainder of items discussed were acknowledged without significant comment by licensee representatives.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Plant Operations

The inspector reviewed plant operations, throughout the report period, to ascertain conformance with regulatory requirements, technical specifications and administrative directives. The control room logs, shift supervisors' logs, shift turnover records and the removal and restoration record books for all three units were reviewed. Interviews with plant operations, maintenance, chemists, health physicists and performance personnel were held on the day and night shifts.

Activities within the control rooms were observed and monitored during day and night shifts and at shift changes. The actions and activities were conducted as prescribed in Section 3.08 of the Station Directives. The

number of licensed personnel on each shift met or exceeded the minimum required by IEB 79-05C. Operators were assigned special duty as required by IEB 79-05C.

On May 5, 1980, a demineralizer (demin) was placed into service to remove chlorides from the Unit 2 primary coolant system. The plant was at cold shutdown at the time. The demin was placed in and out of service as required by procedure OP/2/1103/04, "Soluble Poison Concentration Control," while sampling for boron and chloride content. After about three hours, the primary coolant system was discovered to be deborated from 1895 ppm to 1539 ppm. The control operator then bypassed and isolated the demin from the reactor coolant system. The inspector reviewed the event and found the following.

The demin placed into service was apparently not saturated with boron. The demin status board in the control room and the first sample results indicated incorrectly that the demin was saturated with boron. Additional samples were taken at the request of the control operator. The results were apparently thought to be invalid since the boron concentration was less than anticipated. By the time the chemistry results were accepted as correct, the primary coolant was deborated 356 ppm (from 1895 ppm to 1539 ppm) which is a reactivity addition of 4.45% DK/K. Failure to maintain an accurate status of the demin is considered to be in noncompliance with 10 CFR 50, Appendix B, Criterion XIV, and is classified as an infraction (270/80-15-01).

The event was logged on the control room log on May 7, 1980, but was not logged in the shift supervisor's log. Apparently this prevented the event from promptly being investigated as required by the Technical Specification 6.2.1. Investigation was initiated on May 9, 1980, when the event was brought to the attention of licensee personnel by the inspector during an exit meeting. Failure to promptly investigate this event is considered to be in noncompliance with Technical Specification 6.2.1 and is classified as an infraction. (270/80-15-03).

Refueling activities on Unit 2 were completed April 11, 1980. The reactivity insertion event, discussed above, occurred after refueling had been completed on May 5, 1980. During the period from April 11, 1980 to May 9, 1980, the control room personnel had insufficient data to calculate shutdown margin per OP/2/A/1103/15. On May 9, 1980, the performance engineer issued a letter providing the minimum boron concentration needed to assure the required shutdown margin. The failure to provide data for shutdown margin calculation is considered an infraction with Technical Specification 6.4.1, items a and b (270/80-15-02). This TS requires procedures to be provided for safety-related activities.

Upon discovery of the missing data, the Performance Engineer issued an Intrastation Letter providing the required boron concentration to assure the 1% shutdown margin. These data are valid until criticality and completion of the zero power physics test program.

6. Long Term Shutdown Inspection

Inspections conducted during the continued outage on Oconee Unit 2 ascertained that the facility is being maintained in conformance with regulatory requirements. Through direct observation of activities, tours of the facility and discussions with licensee personnel the inspector ensured that the licensee is effectively discharging its responsibilities for continued safe shutdown.

Activities within the control room were observed and monitored during day and night shifts and at shift changes. The actions and activities were conducted as detailed in Section 3.08 of the Station Directive. The number of licensed personnel on each shift met or exceeded the minimum required by IEB 79-05C. Licensee's adherence to limiting conditions for operation important during plant shutdown was verified.

See paragraph 5 for discussion of noncompliance related to unplanned reactivity addition during the current Unit 2 outage.

Instrumentation and recorder traces available in the control room were monitored for abnormalities. Control room logs, shift supervisors logs, shift turnover records, and the removal and restoration record logs were reviewed. Interviews with plant operators, maintenance craftsmen, chemists, health physicists and performance personnel were conducted on day and night shifts.

The inspector conducted plant tours during the inspection period to verify that monitoring equipment was recording as required, equipment was properly tagged, operations personnel were cognizant of plant conditions and plant housekeeping efforts were adequate. The inspector also determined that appropriate radiation controls were properly established, critical clean areas were being controlled in accordance with procedures, excess equipment or material is stored properly and combustible material and debris were disposed of expeditiously. During plant tours, the inspector searched for the existence of unusual fluid leaks, piping vibration, pipe hangar and seismic restraint settings, selected valve and breaker positions, equipment caution and danger tags, adequacy of fire fighting equipment and instrument calibration dates.

Within the areas inspected, there were no items of noncompliance o deviations from commitments identified.

7. Physical Protection

During the report period, the inspector verified by observation and interview that measures taken to assure the physical protection of the facility met current requirements. Areas inspected included the security force organization, physical barriers, access control and badging practices, and compensatory measures.

Within the areas inspected no items of noncompliance or deviations were identified.

8. Spent Fuel Transfer

One of the fuel assemblies that had been under test for DOE was scheduled for transfer to the B&W research center in Lynchburg, Virginia. The inspector followed this activity from receipt of the empty fuel transfer cask to offsite shipment of the loaded cask.

The empty cask was received on May 22, 1980, with surface contamination in excess of DOT and NRC limits stated in 10 CFR 20. 205(b)(2). This finding was reported by Duke Power Company per 10 CFR 20.205(c)(2). The cask was decontaminated by the licensee and prepared for loading.

Duke Power Company's Administrative Policy Manual, Section 4.2.6, "Use of Procedures," and Technical Specification 6.4.1, "Station Operating Procedures," require current, written, approved procedures be employed in the conduct of station operations. On May 22, 1980, operating procedure OP/0/A/1506/01, dated May 25, 1979, was employed to operate fuel handling equipment in transferring spent fuel assembly 1D54 from the spent fuel storage rack to a spent fuel shipping cask. The working copy of procedure OP/0/A/1506/01 was not verified to be valid by comparison with the Control Copy of the procedure as required by Administrative Instruction 4.2.6. The procedure had been superceded by two major revisions dated December 1, 1979 and May 13, 1980 respectively.

This failure to operate station equipment in accordance with current, approved, written procedures as required by Technical Specification 6.4.1 has been designated an infraction (269/80-20-01). This finding was discussed at the May 30, 1980 exit meeting. Licensee management indicated that this issue would be investigated and appropriate corrective measures taken.

9. Equipment Surveillance

The inspector witnessed performance of surveillance tests listed below to verify procedure conformance with technical specification requirements, proper licensee procedure review and approval, current test instrumentation calibration, proper removal and restoration of equipment, test data accuracy and completeness, test personnel qualification, and technical specification compliance.

Equipment	Type	Test
2LT-41P, Pressurizer Level Instrument	Instrument	Calibration
2RC8-DT1, Reactor Coolant Temperature	"	"
2LT-42P, Pressurizer Level Instrument	"	"
2LT-43P, " " "	"	"
Turbine Driven Emergency Feedwater Pump, Unit 2	System	Performance
Motor Driven Emergency Feedwater Pumps, Unit 2	System	Performance

Within the area inspected no items of noncompliance or deviation were identified.

10. Reactor Building Inspection: Unit 2

The inspector accompanied licensee personnel during the containmen inspection conducted on 5/28/80. This inspection is required by 10 CFR 50 Appendix J.V.A and the licensee's activity is controlled by PT/O/A/150/16, "RB Inspection Test." This inpsection is a visual examination of the accessible interior and exterior surfaces of the containment structure.

There were no major or substantive defects noted during the inspection.

11. Reactor Cavity Annulus Seal Ring

NRC expressed concern over the storage location of the reactor cavity annulus seal ring. DPC has responded to this concern and has elected to relocate the seal ring to an area where it can be bolted down.

The relocation is described in NSM 1487 at Oconee Nuclear Station. The work has been verified as complete by the resident inspector for Oconee Unit 1 on February 13, 1980 and for Oconee Unit 2 during the current outage. The relocation for Unit 3 is scheduled for the next refueling outage.

The inspector found the work to be satisfactorily completed and had no questions or comments.