



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

Report Nos.: 50-269/83-34, 50-270/83-34, and 50-287/83-34

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 1, 2, and 3

Inspection at Oconee site near Seneca, South Carolina

Inspector:

R. L. Albright
for B. T. Debs

12-2-83

Date Signed

Approved by:

K. P. Barr

K. P. Barr, Section Chief
Operational Program Branch
Division of Engineering and Operational Programs

12/2/83

Date Signed

SUMMARY

Inspection on November 14-18, 1983

Areas Inspected

This routine, unannounced inspection involved 31.5 inspector-hours on site in the areas of posting and labeling, radioactive material control, airborne radioactive material monitoring, radiation work permits, personnel contamination and exposure monitoring, unescorted access training, instruments and calibration, radioactive material shipping, high airborne radioactive material in Unit 2 containment and a radioactive spill.

Results

Of the nine areas inspected, no violations or deviations were identified in eight areas; one apparent violation was found in the other area.

8410240095 840612
PDR ADOCK 05000269
Q PDR

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *J. E. Smith, Station Manager
- *E. Brown Jr., Assistant Health Physics Supervisor
- *C. Harlin, Health Physics Coordinator
- *T. C. Matthews, Compliance Specialist
- *R. J. Brackett, Senior QA Engineer
- *R. P. Rogers, OSRG

Other licensee employees contacted included three construction craftsmen, five technicians, four security force members and three office personnel.

NRC Resident Inspectors

J. Bryant
D. Falconer

2. Exit Interview

The inspection scope and findings were summarized on November 18, 1983, 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. Posting and Labeling

The inspector selectively inspected the posting of high radiation areas, radiation areas, contamination areas and radioactive material storage areas at the licensee's facility. The inspector performed independent measurements of radiation levels of selected radiation control areas and concluded that the posting and labeling appeared to be adequate with one exception discussed in Section 6.

6. Radioactive Material Control

The inspector reviewed the licensee's last two semi-annual source leak tests and inventories. No anomalies were observed. The inspector observed that the licensee's records associated with the sources were complete and accurate.

The inspector obtained two sediment samples from the licensee's No. 3 Chemical Treatment Pond (CTP). Isotopic analysis of these samples performed by the licensee qualitatively indicated the presence of Cobalt-60, Cesium 134 and 137. Licensee representatives indicated that in calendar year 1982, six core samples had been obtained from this pond. Concentrations of Cobalt-60 ranged from $2.38 \text{ E}2$ to $2.24 \text{ E}3$ picocuries per kilogram (wet weight). Concentrations of Cesium 134 ranged to $5.25 \text{ E}4$ picocuries per kilogram (wet weight) and Cesium 137 to $4.47 \text{ E}4$ picocuries per kilogram. These values represent concentrations as high as 2,143 percent of the concentration found in environmental control samples taken across the lake. The inspector observed that due to the size of the pond, and the observed concentrations of licensed material throughout the pond, the pond's inventory of licensed material exceeded the ten times the quantity of such material specified in Appendix C of 10 CFR 20 and therefore should be posted as containing radioactive material in accordance with 10 CFR 20.203(e). The licensee concurred and took immediate action to post the pond properly. The inspector informed licensee management that prior failure to properly post the pond was a violation of 10 CFR 20.203(e) (83-34-01).

7. Airborne Radioactive Material Monitoring

The inspector reviewed selected health physics operational logs and counting data associated with high volume air samples taken by the licensee. The inspector observed that adequate air samples appear to be taken, however, the inspector expressed concern that apparently there was a one to one and a half hour turnaround time between the acquisition of the sample and the time the results are reported back to the job site. The inspector also observed that the licensee does not employ constant air monitors (CAMs). Licensee management acknowledged the inspector's concerns. The inspector was informed that the licensee is evaluating state of the art CAMs. Additionally, thought is being given to the use of portable count rate meters to obtain initial air sample data before the sample is taken to chemistry. No violations or deviations were noted.

8. Radiation Work Permits (RWPs)

The inspector reviewed selected active Radiation Work Permits for adequacy and completeness which included No. 250 - Reactor Building No. 2, HP Survey Initial and Routine; No. 276 - Reactor Building No. 2, Personnel and Equipment Hatch Staging and Removing Supplies, Tools, Equipment, etc.; No. 268 Reactor Building No. 2, Miscellaneous Valve Work. The inspector also observed compliance with the radiological requirements of the RWP's. No violations or deviations were noted.

9. Personnel Contamination and Exposure Monitoring

The inspector reviewed personnel contamination reports for November 1983 and the tracking and trending information for calendar year 1983 and 1982. The inspector observed that the licensee performs a detailed evaluation of each skin contamination event in accordance with station procedure

HP/O/03/1005/11, however, tracking and trending data does not reflect a significant reduction in personnel contaminations over the reviewing period.

The inspector observed selected personnel performing whole body contamination frisks. All observed frisks were performed in accordance with station directives.

The inspector reviewed the licensee's computer generated exposure printout which is published twice daily. The Alert Exclusion list of this printout indicated that no individuals had been brought above the site's administrative exposure limits. The inspector reviewed Oconee Station Directive No. 3.8.12 (TS) "Control of Airborne (Internal) Radiation Exposure" and had no further questions.

The inspector observed that the licensee did not have a formal Beta radiation evaluation procedure. Licensee management indicated that a procedure was being developed by the corporate office and that interim employment of face shields, goggles, respirators and protective clothing should be adequate to attenuate the Beta radiation at the energies encountered with their three units. The inspector had no further questions. In the aforementioned areas, no violations or deviations were noted.

10. Unescorted Access Training

The inspector attended the site specific portion of the licensee's General Employee training and found it to be adequate.

11. Instruments and Equipment

The inspector observed a variety of radiological instruments (portable survey instruments, portal monitors, personnel friskers) in use and available for use. The inspector checked calibration stickers, performed battery checks for selected portable instruments in the health physics office, and response checked selected portable instruments for proper operation. The inspector discussed the radiation survey instrument calibration program with licensee representatives. The inspector had no further questions.

12. Radioactive Material Shipping

Oconee spent fuel shipment number 31 arrived at the McGuire Nuclear Station on July 30, 1983. Upon arrival, McGuire personnel discovered that one security seal to be mislocated on the rear impactor of the shipping cask. Investigation revealed that the security seal discrepancy originated at the source (Oconee) and not enroute to McGuire.

Fuel handling personnel erroneously inserted the security seal connecting a rear impactor bolt head to the cask.

No violations or deviations were identified.

13. High Airborne Radioactive Material in Unit 2 Containment

On October 29, 1983, an 11:48 a.m. air sample indicated an airborne concentration of 18 times MPC inside the Unit 2 containment equipment hatch. The equipment hatch was open at this time. Flame heating of the 2A2 Reactor Coolant Pump impeller had just been secured after approximately one hour of heating. An air sample taken immediately outside the hatch, but inside a weather tent around the hatch, indicated 0.85 MPC. Air samples outside the tent indicated less than 0.25 MPC. At the time of the event, the containment building should have been under a negative pressure by mini-purge. Past event smoke tests performed at the hatch indicated a vortex current which caused smoke to exit the containment hatch at the top and roll down the hatch opening and reenter the bottom of the opening. The licensee has determined that the contamination released did not exceed any technical specification values or 10 CFR 20 limits. The licensee is attempting to determine the cause for the ineffectiveness of the mini-purge. No violations or deviations were noted by the inspector.

14. Radioactive Spill

At 2:30 a.m. hours on November 4, 1983, approximately 5 gallons of contaminated water containing $1.4E-5$ microcuries per milliliter were spilled from a 2B steam generator pulse lance surge tank which was located on a trailer bed outside the Unit 2 containment building. Approximately 2.5 gallons of this water entered a yard storm drain which drains to No. 3 Chemical Treatment Pond (CTP). Analysis of the composite sample which is taken at the No. 3 CTP discharge prior to entry to the Keowee River indicated no detectable activity.

Large area smears in the spill area indicated contamination less than 200 disintegrations per minute. It has been determined that no release limits were exceeded. The cause of the overflow was an electrical failure to the surge tank level indication. There was a catch pan below the tank, however, the drain plug had been removed from the pan. No violations or deviations were noted.