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

JAN 14 1987

Report Nos.: 50-269/86-35, 50-270/86-35, and 50-287/86-35

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 Conducted: December 8-12, 1986

Inspector: F N Wright 1/7/87
F. N. Wright Date Signed

Approved by: C M Hosey 1/7/87
C. M. Hosey, Section Chief Date Signed
Division of Radiation Safety and Safeguards

SUMMARY

Scope: This routine, unannounced inspection of the radiation protection program included a review of the organization and management of the health physics staff, external exposure control and personnel dosimetry, internal exposure control and assessment, radioactive material control, posting and labeling, health physics training, radiation protection audits and surveillances, licensee's program for maintaining radiation exposures as low as reasonably achievable (ALARA) and transportation.

Results: No violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

M. S. Tuckman, Station Manager
*C. T. Yongue, Station Health Physics
J. A. Long, Health Physics Coordinator
M. D. Thorne, Health Physics Coordinator
S. E. Spear, Health Physics Coordinator
J. E. Owens, Health Physics Supervisor
T. A. Smith, Health Physics Supervisor
B. A. Murphree, Administrative Supervisor
L. D. Robinson, Health Physics Supervisor
J. B. Dye, Health Physics Supervisor
R. W. Elliott, Health Physics Specialist
V. F. Owens, Health Physics Specialist
D. C. Groves, Health Physics Specialist
L. A. Churchill, Health Physics Specialist
J. Walker, Health Physics Specialist
J. D. Davis, Nuclear Production Specialist
L. E. Garrett, Nuclear Production Specialist
*J. R. Bracket, Senior Quality Assurance Engineer
*F. E. Owens, Compliance Shift Supervisor
*R. H. Ledford, Quality Assurance Surveillance Supervisor
*D. L. Davidson, Associate Health Physics
B. Stengel, Nuclear Production Specialist
*J. M. Davis, Superintendent of Technical Services
*T. B. Owen, Superintendent of Maintenance

Other licensee employees contacted included six health physics technicians, two clerks, and nine craft employees.

Nuclear Regulatory Commission

J. Bryant, Senior Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 12, 1986, with those persons indicated in Paragraph 1 above. The inspector discussed with licensee management the areas that were inspected during the inspection. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

3. Organization and Management Controls (83722)

a. Organization

The licensee is required by Technical Specification 6.1 to implement the plant organization specified in Figure 6.1-1. The responsibilities, authorities, and other management controls were further outlined in Chapters 12 and 13 of the Final Safety Analysis Report (FSAR).

The inspector reviewed the licensee's organization, staffing level and lines of authority as they related to radiation protection, radioactive material control and transportation of radioactive material and verified that the licensee had not made organizational changes which would adversely affect the ability of the licensee to control radiation exposures, radioactive material or transportation activities.

b. Staffing

Technical Specification 6.1.1.3 specifies minimum plant staffing. FSAR Chapters 12 and 13 outline further details on staffing.

The inspector discussed authorized staffing levels versus actual on-board staffing with the Health Physics Group Supervisor. The health physics staff is authorized 101 positions, of which 100 are filled.

No violations or deviations were identified.

4. Training and Qualifications

The inspector reviewed the licensee's organization responsible for ensuring that employees, contractors, and visitors were adequately trained and qualified in radiation protection matters. The inspector reviewed the licensee's training policies, goals, programs, and methods related to radiation protection and radioactive waste. The inspector verified that the licensee had not made changes in the training program that would adversely affect the ability of the licensee to ensure personnel were adequately trained.

a. General Employee Training

10 CFR 19.12 requires the licensee to instruct all individuals working in or frequenting any portion of the restricted area in the health protection problems associated with exposures to radioactive material or radiation, in precautions or procedures to minimize exposures, and in the purpose and functions of protective devices employed, applicable provisions of Commission regulations, individual responsibilities and the availability of radiation exposure data.

The inspector discussed the radiation protection aspects of the general employee training program with licensee representatives and selectively

reviewed the training records of personnel from various plant organizations.

During tours of the plant, the inspector interviewed workers to assess their knowledge and understanding of radiation protection requirements.

b. Health Physics Technician Training

Technical Specification 6.1.1.4 requires members of the facility staff to meet the minimum training and experience requirements described in Section 4 of ANSI/ANS-3.1-1978, "Selection and Training of Nuclear Power Plant Personnel" except for the site Health Physicist, the Superintendent of Operations, and the Operating Engineer.

Paragraph 4.5.2 of ANSI/ANS-3.1-1978, states that technicians in responsible positions shall have a minimum of three years of working experience in their speciality of which one year should be related technical training.

The inspector discussed the licensee's training and qualification program and the controls established for the tasks the technicians were allowed to perform. The inspector reviewed selected task training records of assigned health physics technicians and discussed the health physics refresher training program with the licensee.

No violations or deviations were identified.

5. External Occupational Dose Control and Personnel Dosimetry (83724)

The licensee is required by 10 CFR 20.202, 20.201(b), 20.101, 20.102, 20.104, 20.405, 19.13, 20.407, and 20.408 to maintain worker's doses below specified levels and keep records of and make reports of doses.

a. Personnel Monitoring

10 CFR 20.202 requires each licensee to supply appropriate personnel monitoring equipment to specific individuals and to require the use of such equipment.

The inspector discussed the assignment and use of personnel monitoring equipment with licensee personnel and reviewed the administrative dose limits established by the licensee. During tours of the plant, the inspector observed workers wearing appropriate personnel monitoring devices.

10 CFR 20.401(a) requires each licensee to maintain records showing the radiation exposure of all individuals for whom personnel monitoring was required under 10 CFR 20.202 of the regulations. Such records shall be kept on Form NRC-5 or equivalent. The inspector reviewed selected individual exposure records maintained by the licensee. All exposures reviewed were well below regulatory limits.

b. Caution Signs, Labels, and Controls

10 CFR 20.203 specifies the posting, labeling, and control requirements for radiation areas, high radiation areas, airborne radioactivity areas and radioactive material areas.

During tours of the plant, the inspector reviewed the licensee's posting and control of radiation areas, high radiation areas, airborne radioactivity areas, contaminated areas, radioactive material areas and the labeling of radioactive material. The inspector checked the security of the locks for selected high radiation areas.

c. Program for Maintaining Exposures As Low As Reasonably Achievable (ALARA)

The inspector reviewed the licensee's administrative exposure controls and determined that the administrative controls were designed to maintain exposures ALARA. The licensee requires consecutively higher tiers of supervision to approve dose extensions.

d. Posting of Notices to Workers

10 CFR 19.11 requires that each licensee post current copies of 10 CFR 19 and 10 CFR 20, the license or license conditions, applicable operating procedures and Form NRC-3, or if posting of the documents is not practicable, the licensee may post a notice which describes the document and states where it may be examined. 10 CFR 19.11 further requires that copies of any Notice of Violation involving radiological working conditions be conspicuously posted within two working days after receipt of the documents from the Commission. The inspector observed the posting of notices required by 10 CFR 19.11 during tours of the plant.

No violations or deviations were identified.

6. Internal Exposure Control and Assessment (83725)

The licensee was required by 10 CFR 20.103, 20.201(b), 20.401, 20.403, and 20.405 to control uptakes of radioactive material, assess such uptakes, keep records of and make reports of such uptakes. FSAR Chapter 12 also includes commitments regarding internal exposure control and assessment.

10 CFR 20.103(a) establishes the limits for exposure of individuals to concentrations of radioactive materials in air in restricted areas. This

section also requires that appropriate bioassays be performed to detect and assess individual intakes of radioactivity.

a. Internal Assessment

The inspector reviewed selected results of bioassays (whole body counts) and the licensee's assessment of individual intakes of radioactive material performed during 1986.

The inspector observed the operation of the whole body counter and discussed its operation, calibration, and results with the whole body counter operator.

b. Respiratory Protection

10 CFR 20.103(b) requires that when it is impracticable to apply process or engineering controls to limit concentrations of radioactive material in air below 25% of the concentrations specified in 10 CFR 20, Appendix B, Table 1, Column 1, other precautionary measures should be used to maintain the intake of radioactive material by an individual within seven consecutive days as far below 40 Maximum Permissable Concentration (MPC)-hours as is reasonably achievable.

10 CFR 20.103(c)(2) provides that the licensee may make allowance for the use of respiratory protective equipment in estimating exposures of individuals to radioactive material in air provided the licensee maintains and implements a respiratory protection program that includes, as a minimum, written procedures regarding supervision and training of personnel and issuance records.

The inspector reviewed the licensee's respiratory protection program, including training, medical qualifications, fit-testing, MPC-hour controls, quality of breathing air and the issue, use, repair, and storage of respirators.

The inspector reviewed records for several workers who were issued respirators in 1986, to determine if they were qualified for the respirators issued. Individual employee records were reviewed for appropriate medical qualification, fit-testing and respirator training.

The inspector reviewed the licensee's respirator maintenance, cleaning and issue areas and the licensee's inventory of spare respirator parts and determined that the parts were supplied by the manufacturer. The inspector determined that respirator repairs were made by trained individuals using approved procedures and techniques.

The inspector reviewed the licensee's analysis of the plant breathing air system that indicated that the breathing air was well within Grade D specifications. There was no indication of radionuclide cross contamination in the system. The licensee performed breathing air analysis on a quarterly basis.

No violations or deviations were identified.

7. Control of Radioactive Materials and Contamination Surveys, and Monitoring (83726)

The licensee is required by 10 CFR 20.201(b) and 20.401 to perform surveys as may be necessary for the licensee to comply with the regulations and are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present and to maintain records of such surveys. Technical Specification 6.4 requires the licensee to follow written procedures. Radiological control procedures further outline survey methods and frequencies.

a. Surveys

During plant tours, the inspector observed surveys being performed by the radiation protection staff and the posting of radiation and contamination survey results outside selected cubicles. The inspector examined the calibration stickers on radiation protection instruments in use by the licensee staff. The inspector performed independent radiation level surveys of selected areas and compared them to licensee survey results.

b. Frisking

Technical Specification 6.4.1 requires that the station be operated and maintained in accordance with approved procedures. Written procedures with appropriate check-off lists and instructions are required to be provided for personnel radiation protection.

Duke Power Company, Oconee Nuclear Station Directive (NSD) 3.3.2.(TS), "Radioactive Material Control," dated August 28, 1986, specifies the personnel contamination survey requirements and states that when performing personnel monitoring it should be performed at a survey rate of two inches per second. A three-minute whole body frisk or a 40-second hands and feet frisk is the minimum time to adequately survey for contamination.

While reviewing tour surveillance reports for 1986, the inspector determined that the licensee had documented a continuing problem with licensee employees performing personnel surveys or "frisks."

Station Tour Surveillance O-586/ST4 conducted March 11-13, 1986, reported that three of the ninety four employees observed during the surveillance failed to perform whole body or hand and feet frisk for the required time in accordance with NSD 3.3.2.

Station Tour Surveillance O-586/ST11 conducted August 8, 1986, reported that five of fifteen employees observed during the surveillance failed to perform whole body frisk or hand and feet frisk for the required time as specified in NSD 3.3.2.

Station Tour Surveillance 0-586/ST19 conducted September 24-29, 1986, reported that twenty three of the sixty employees observed during the surveillance failed to perform whole body or hand and feet frisk for the required time as specified in NSD 3.3.2.

Other surveillance observations reported in the surveillance tour reports referenced above included:

Personnel exiting and entering the radiological control areas (RCA) through exits not equipped with personnel survey instrumentation.

Personnel entering RCAs without knowledge of which radiation work permit (RWP) they were to be working under.

Personnel failing to complete dosimetry records "dose cards" in accordance with procedures.

The licensee identified the failure to follow radiation control procedures in the surveillance tour reports. Although, the licensee did not identify the procedural violations as deficiencies and therefore did not submit the findings into a formal corrective action system, the plant manager did receive copies of the surveillance reports and had initiated corrective actions. The surveillances performed in August 1986, and September 1986, were performed at the plant manager's request to determine the effectiveness of the corrective actions. (See Section 9, Quality Assurance/Quality Control of this report.)

The inspector discussed the failure to follow radiation control procedures with licensee representatives. The licensee provided the inspector with proposed and completed corrective actions addressing contamination control practices as a result of Institute of Nuclear Power Operations (INPO) findings, made in June 1985. The INPO finding had identified personnel survey deficiencies, in that, some personnel were performing personnel surveys too quickly to detect low levels of contamination.

At the time of the September 1986 surveillance not all of the licensee's corrective actions addressing the previous findings had been completed. The corrective actions that were completed by September 1986, as demonstrated by Surveillance Report 0-586/ST19 performed on September 24-29, 1986, had not been effective in preventing recurrence. The licensee was informed that failure to follow radiation control procedures for frisking would normally be considered a violation of plant Technical Specification 6.4.1. However, the NRC Enforcement Policy, 10 CFR 2, Appendix C, 1986, states that a Notice of Violation will generally not be issued for violations if (1) they were identified by the licensee; (2) they fit in Severity Level IV or V; (3) they were reported, if required; (4) they were or will be corrected, including measures to prevent recurrence, within a reasonable time; and (5) they

were not violations that could reasonably be expected to have been prevented by the licensee's corrective actions for previous violations. The inspector stated that this apparent violation met the criteria specified in 10 CFR 2, Appendix C and would be considered licensee identified. The inspector stated that the implementation of the yet completed long term corrective actions would be reviewed during future inspections (50-269, 270, and 287/86-35-01).

No deviations were identified.

8. Solid Waste (84722)

10 CFR 20.311 requires a licensee who transfers radioactive waste to a land disposal facility to prepare all waste so that the waste is classified in accordance with 10 CFR 61.55 and meets the waste characteristic requirements of 10 CFR 61.56. It further establishes specific requirements for conducting a quality control program and for maintaining a manifest tracking system for all shipments.

The inspector reviewed the methods used by the licensee to assure that waste was properly classified, met the waste forms and characteristics required by 10 CFR 61 and met the disposal site license conditions and discussed the use of these methods with licensee representatives.

No violations or deviations were identified.

9. Quality Assurance, Quality Control

a. Audits

The licensee is required by Technical Specification 6.1.3.4(a) to perform audits of radiation protection activities.

The licensee had conducted one audit in radiation protection activities for 1986. The inspector reviewed the scope content, and corrective action correspondence for Departmental Audit NP-86-2 (ON) which was conducted during the period of January 20, 1986 through February 11, 1986.

b. Surveillance

The site Quality Assurance organization provides periodic surveillance of radiation protection activities. The Senior Quality Assurance Engineer assigned to the Oconee station has the primary responsibility for administering the licensee's surveillance program.

The inspector reviewed the licensee's surveillance procedures, guidance, and checklists utilized in implementing the radiological protection surveillances.

The licensee had surveillances and tour surveillances which were less formal in preparation and basically limited to observations of work in progress. The licensee described surveillances in Quality Assurance Procedures QA-500, "Operations Division Surveillance Program," Revision 18 and tour surveillances in QA-515, "Operations Division Tour Surveillance," Revision 2.

The inspector reviewed selected surveillances and tour surveillance reports for 1986. As discussed in Section 7.b above, while reviewing the tour surveillance reports for 1986, the inspector determined that personnel survey procedure violations had been documented in at least three tour surveillance reports and in each case, the report indicated increases in failure to follow survey or frisking procedures. The Senior Quality Assurance Engineer reported the findings of each of the three reports to the plant manager for corrective action. However, the surveillance findings were never assigned to a formal corrective action program.

In reviewing the licensee's Tour Surveillance Procedure QA-515 the inspector noted that the procedure required that a deficiency of a relatively minor, isolated nature should be verbally reported to appropriate personnel during the tour for immediate correction. The narrative should reflect correction of these deficiencies. Deficiencies which are determined by the Surveillance Supervisor to represent significant conditions adverse to quality shall be documented in accordance with Procedure QCK-1, "Control of Non- Conforming Items," or QA-125, "Problems Investigation Process." All deficiencies which require(d) corrective action shall be reported to management in the Surveillance Summary Report in accordance with QA-500.

A licensee representative stated that the identified frisking procedural violations were not assigned to a formal corrective action program because the identified problems were not significant conditions adverse to quality as defined by the licensee's quality assurance program.

No violations or deviations were identified.

10. IE Information Notices (92717)

The following IE Information Notices were reviewed to ensure receipt and review by appropriate licensee management.

IEN 86-20: Low Level Radioactive Waste Scaling Factors, 10 CFR Part 61

IEN 86-22: Underresponse of Radiation Survey Instrument to High Radiation Fields

IEN 86-23: Excessive Skin Exposures Due to Contamination With Hot Particles

IEN 86-24: Respirator Users Notice: Increased Inspection Frequency For Certain Self-Contained Breathing Apparatus Air Cylinders

IEN 86-41: Evaluation of Questionable Exposure Readings of Licensee Personnel Dosimeters

IEN 86-43: Problems With Silver Zeolite Sampling of Airborne Radioiodine

IEN 86-44: Failure to Follow Procedures When Working in High Radiation Areas

IEN 86-46: Improper Cleaning and Decontamination of Respiratory Protection Equipment