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

JUN 12 1990

Report Nos.: 50-269/90-14, 50-270/90-14 and 50-287/90-14

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

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

Licensee Nos.: DPR-38, DPR-47 and DPR-55

Facility Name: Oconee 1, 2, and 3

Inspection Conducted: May 14-19, 1990

Inspector: F. N. Wright — 6/4/90 Date Signed

Approved by: J. P. Potter, Chief — 6/5/90 Date Signed
Facilities Radiation Protection Section
Emergency Preparedness and Radiological Protection Branch
Division of Radiation Safety and Safeguards

SUMMARY

Scope:

This routine, unannounced inspection of the radiation protection program was made to review activities associated occupational radiation exposures during extended outages.

Results:

One non-cited licensee identified violation was identified for failure to conduct quarterly as low as reasonably possible (ALARA) committee meetings. Overall, the licensee's radiation protection staff appears to be generally effective in protecting the health and safety of the workers.

The routine inspection was interrupted and shortened by a spent fuel pool spill that occurred in the morning of May 17, 1990. The spill contaminated portions of Control and Auxiliary Buildings on Units 1 and 2. The details of the inspector's review of May 17-19, 1990, were documented in a special resident inspector's report number 50-269, 270, 287/90-16. The licensee's radiation protection staff and other licensee personnel responded quickly and effectively to the event limiting the spread of contamination and personnel contaminations.

No additional violations of radiation control procedures were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*H. Barron, Station Manager
D. Berkshire, Scientist, Radiation Protection
T. Cherry, Supervisor, Radiation Protection
*S. Coy, General Supervisor, Radiation Protection
*T. Curtis, Compliance Manager
*B. Laye, Supervisor, Radiation Protection
J. Long, General Supervisor, Radiation Protection
W. Pursley, Associate Scientist
H. Smith, Supervisor, Radiation Protection
S. Spear, General Supervisor, Radiation Protection

Other licensee employees contacted during this inspection included engineers, craft, technicians and administrative personnel.

Nuclear Regulatory Commission (NRC)

*P. Skinner, Senior Resident Inspector

*Attended exit interview held April 20, 1990

2. Occupational Exposure, Shipping, and Transportation (83750)

a. Organization and Management Controls

The inspector reviewed the licensee's radiation protection outage organization. The licensee's outage organization was clearly defined in Unit 1 end of core (EOC) 12 Refueling Outage Directory. The licensee had utility radiation protection supervisors assigned to each work station with 24 hour coverage. The licensee's organization and staffing levels appeared to be adequate for the planned outage work. In addition to the licensee's radiation protection staff, the licensee obtained the services of 100 health physics personnel that included 92 senior and 6 junior health physics technicians and 2 health physics supervisors. The inspector observed on-going work in the licensee's Reactor and Auxiliary Buildings and observed radiation protection controls being implemented effectively.

No violations or deviations were identified.

b. Surveys, Monitoring, and Control of Radioactive Material

10 CFR 20.201(b) requires each licensee to make or cause to be made such surveys as (1) may be necessary for the licensee to comply with

the regulations and (2) are reasonable under the circumstances to evaluate the extent of radioactive hazards that may be present.

The inspector reviewed the plant procedures which established the licensee's radiological survey and monitoring program and verified that the procedures were consistent with regulations, Technical Specifications, and good health physics practices.

The inspector reviewed selected records of radiation and contamination surveys performed in May, 1990 and discussed the survey results with licensee representatives. During tours of the plant the inspector observed health physics technicians performing radiation and contamination surveys.

The inspector performed independent radiation surveys in the Unit 1 Reactor and Auxiliary Buildings and verified that the areas were properly posted.

No violations or deviations were identified.

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

10 CFR 20.1.(c) states that persons engaged in activities under licenses issued by the NRC should make every reasonable effort to maintain radiation exposures a low as reasonably achievable. The recommended elements of an ALARA program are contained in Regulatory Guide 8.8, Information Relevant to Ensuring that Occupational Radiation Exposure at Nuclear Power Stations will be ALARA, and Regulatory Guide 8.10, Operating Philosophy for Maintaining Occupational Radiation Exposures ALARA.

Oconee FSAR Chapter 12.0, Radiation Protection, Section 12.1, specified the licensee's policy for ensuring that occupational radiation exposures were ALARA. The licensee's policy stated, in part, that the licensee's ALARA program included a published ALARA Manual and an ALARA Committee at each station. The FSAR stated that the ALARA Committee membership was to include representatives of management and applicable groups, including a liaison from the General Office Health Physics Staff. Chapter 12 also specified other station ALARA program responsibilities, including the the use and maintenance of ALARA procedures to implement the objectives specified in the chapter.

The Duke Power Company ALARA Manual, Revision dated June 1988, also stated that the ALARA Committee at each station was to include the general office ALARA Coordinator and management representatives from the stations operations, maintenance, and health physics organizations. The ALARA manual required the ALARA Committee to meet a minimum of once per quarter and more frequently, if necessary. The committee had the responsibility to monitor and appraise the

effectiveness of the stations ALARA program and determine station ALARA goals and objectives.

Oconee Nuclear Station Directive 3.3.5 (TS), Oconee Nuclear Station ALARA Program, revision dated July 28, 1990, described the licensee's ALARA program and also required the station ALARA Committee to meet a minimum of once per quarter to carry out ALARA responsibilities.

In 1989, the licensee did not believe that the ALARA Committee was as effective as they would have liked it to be. However, the licensee was not sure how the ALARA Committee should be restructured. In a memorandum to Oconee Nuclear Station Files, dated August 25, 1989, the licensee documented that station management had decided to temporarily suspend the ALARA Committee as it existed and pursue ALARA involvement from various groups by alternative means. The licensee's memorandum stated that the results of this approach would then be judged against earlier committee results and a decision made on program direction. The memorandum also stated that the licensee's ALARA program would remain in conformance with the requirements of Regulatory Guide 8.8 and the change should not be viewed as a lessening of management's firm commitment to the ALARA concept. The memorandum was signed by a radiation protection ALARA supervisor.

The inspector determined that the licensee's letter to files had not specified a period when the review process would be complete. Additionally, the licensee's file letter was not issued by staff members authorized to take exceptions to required procedures. The inspector determined that the licensee's Quality Assurance (QA) Staff had noted the procedural non-compliance during a annual audit of the radiation protection and environmental monitoring programs conducted in January and February, 1990. The QA staff issued Audit Follow-up Item NP-90-02(ON)(04) as a tracking mechanism for monitoring the progress of committee activity resolution. The licensee response to the QA follow-up item reported that the proposed ALARA Committee would include the Station Manager, Superintendents, and the Radiation Protection Manager. The response reported that Station Directive 3.3.5 would be revised by June 1, 1990 to reflect committee changes.

Contrary to the above requirements, the Oconee ALARA Committee failed to hold quarterly meetings in the last two calendar quarters of 1989 and the first two calendar quarters of 1990. The Committee's last meeting was held June 29, 1989. The inspector stated that failure to hold the meetings was an apparent deviation of FSAR requirements and an apparent violation of Station Directive 3.3.5 269, 270, 287/90-14-01. However, this licensee identified violation is not being cited because criteria specified in Section V.G of the NRC Enforcement Policy were satisfied.

The proposed ALARA Committee appears to be an ALARA program improvement. The revised committee should increase management

involvement and provide the committee with the necessary authority to implement ALARA Committee objectives.

The licensee has had good results from controlled crud bursts on Unit 1. In 1987, the licensee removed 1,200 curies of Co-58 and 9 curies of Co-60 and in 1989, the licensee removed another 500 curies of Co-58 and 24 curies of Co-60. Following shutdown for the licensee's Unit 1 refueling outage, April 1990, the licensee was able to remove 445 curies of Co-58 and 2 curies of Co-60.

The licensee's collective personnel exposures have been declining in recent years. The collective personnel exposures for 1987, 1988, and 1989 were 1141, 870, and 686 person-rem respectively. The licensee's collective exposure goal set by the General Office for 1990 was 1071 person-rem and the station reduced that to 950 person-rem. The licensee's collective personnel exposure estimate for the Unit 1 refueling outage was 207 person-rem. On the twentieth day of the outage the licensee had accumulated 78 person-rem and was slightly above the projected dose of 75 for that period. The licensee credits some of the reductions to its control crud burst program and staff experience levels.

One licensee identified violation was identified.

d. External Exposure Controls

The inspector reviewed licensee radiation work permits written for work task receiving the most personnel exposure. The selections were made from a licensee computer report showing task and cumulative personnel exposures. The inspector observed work for many of the task and determined that the licensee was using suitable radiation protection controls to monitor work in progress.

No violations or deviations were identified.

3. Exit Interview

The inspection scope and findings were summarized on May 19, 1990, with those persons indicated in paragraph 1 above. Dissenting comments were not received from the licensee. Proprietary information is not contained in this report.

The inspector described the areas inspected and discussed in detail the inspection findings listed below.

Item Number	Description and Reference
269, 270, 287/90-14-01	Non-cited licensee identified violation concerning failure to hold quarterly ALARA committee meetings (Paragraph 2).