



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

JAN 11 1990

Report Nos.: 50-269/38, 50-270/38, 50-287/38

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 4-8, 1989

Inspector: T.R. Collins 1/9/90
Date Signed

Approved by: J.P. Potter 1/9/90
Date Signed
 J.P. Potter, Chief
 Facilities Radiation Protection Section
 Emergency Preparedness and Radiological
 Protection Branch
 Division of Radiation Safety and Safeguards

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of radiation protection including : organization and management controls; control of radioactive materials and contamination surveys and monitoring; as low as reasonably achievable (ALARA) program; internal and external exposure controls; posting and labeling of radiological controlled areas; and followup on previous inspector identified items.

Results:

The licensee's radiation protection program continues to be effective in protecting the safety and health of station employees as evidenced by interviews with licensee management, supervisors, and personnel from station departments and records review. One Licensee Identified Violation (LIV) was identified:

- Failure to insure a contract worker was qualified to wear respiratory protective equipment.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

R. Bowser, Scientist
M. Buckallew, Health Physics Technician
J. Cherry, Health Physics Supervisor (ALARA)
*S. Coy, Supervising Scientist
*J. Davis, Technical Services
*E. LeGette, Compliance
B. Pursley, Assistant Scientist
*S. Spear, General Supervisor, Station Sciences
*M. Thorne, General Supervisor, Shift
*M. Tuckman, Station Manager
*L. Wehrman, Scientist
C. Yongue, Radiation Protection Manager

Other licensee employees contacted during this inspection included craftsmen, engineers, operators, mechanics, technicians, and administrative personnel.

Nuclear Regulatory Commission

P. Skinner, Senior resident Inspector
L. Wert, Resident Inspector

*Attended exit interview

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

a. Organization and Management Controls

The licensee is required by Technical specification (TS) 6.1.1.3 to implement the minimum operating shift requirement specified in Table 6.1.1. The inspector reviewed the licensee's organization staffing levels and lines of authority as they relate to outage radiation protection program and verified that the licensee had not made organizational changes which would adversely affect their ability to implement critical elements of its radiation protection program.

The station health physicist had a staff of 91 in support of the radiological protection program at the station. Fifteen section supervisors reported to four general supervisors. Additionally, there were two ALARA supervisors. Seven technical staff personnel reported to a supervising scientist and three administrative clerks reported to an administrative supervisor. The licensee stated that

54 of 62 health physics (HP) technicians were ANSI/ANS 3.1-1978 qualified and that 95 HP contract technicians were assigned to support the current Unit 3 refueling outage. The inspector noted that office supervisors and staff were assigned to field operations, while adequate vendor personnel were available to support the Unit 3 refueling outage.

No violations or deviations were identified.

b. External Exposure Control and Personnel Dosimetry

10 CFR 20.101(b) specifies the permissible radiation dose to the whole body to be entered on a NRC Form 4 or equivalent record prior to allowing the individual to exceed the limits of 10 CFR 101(a). The inspector reviewed selected occupational exposure histories for individuals who exceeded the values in 10 CFR 20.101(a). The exposure histories were being completed and maintained as required by 10 CFR 20.102.

TS 6.4.1 states that the station shall be operated and maintained in accordance with approved personnel radiation protection procedures.

The inspector reviewed selected active Radiation Work Permits (RWPs) for work inside Unit 3 Containment for appropriateness of the radiation protection requirements based on work scope, location, and conditions. During tours of the Radiation Controlled Area (RCA), the inspector observed the adherence of plant workers to the RWP requirements and discussed the RWP requirements with plant workers and Radiation Control personnel at the job site. The inspector concluded that RWPs specified adequate controls and that workers were aware of these controls.

No violations or deviations were identified.

c. Internal Exposure Control

10 CFR 20.103(a) establishes the limits for exposure of individuals to concentrations of radioactive materials in air in restricted areas, and requires measurements of airborne concentrations of radioactive materials in restricted areas and appropriate bioassays to detect and assess individual intakes of radioactivity.

The inspector reviewed selected results of bioassays (whole body counts) and the licensee's assessment of individuals intakes of radioactive material performed during the period of January-December 1989. The inspector determined by review and discussion with license representatives that no individual intakes had exceeded one percent of a maximum permissible organ burden (MPOB).

10 CFR 20.103(b) requires the licensee to use process or other engineering controls to the extent practicable, to limit concentrations of radioactive material in air to levels below that specified in Part 20, Appendix B, Table 1, Column 1, so that concentrations, when averaged over the number of hours in any week during which individuals are in the area, are less than 25 percent of the specified concentrations.

During tours of the RCA, the inspector observed the use of process and engineering controls, High Efficiency Particulate Air (HEPA) filters to limit airborne radioactivity concentrations in the plant and the inspector discussed these controls with Radiation Control personnel.

10 CFR 20.103(c) (2) requires in part that the licensee maintains and implements a respiratory protection program that includes, as a minimum: written procedures regarding selection, fitting, and maintenance of respirators for operability immediately prior to each use; written procedures regarding supervision and training of personnel and issuance records; and determination by a physician prior to initial use of respirators, and at least every 12 months thereafter that the individual user is physically able to use the respiratory protective equipment.

The inspector was informed by the licensee that on November 28, 1989, a contract worker was inadvertently issued respiratory protective equipment without being qualified to wear this equipment. The licensee determined that on November 29, 1989, that the contract worker had entered his RWP number in the HP badge number blank on his respiratory qualification card on November 28, 1989. This caused HP personnel to enter the RWP number, which happened to be a valid HP number, into the computer. HP verified the qualification without verifying the name on the respiratory qualification card. Therefore, HP personnel issued a respirator to a contract worker based on someone else's qualification, when in fact the contract worker was not qualified.

The inspector reviewed the corrective actions taken by the licensee to preclude any future events of this nature and concluded that the corrective actions were adequate to prevent recurrence. The inspector informed licensee management personnel that this event met the requirements of 10 CFR 2, Appendix C, for Licensee Identified Violations (LIVs), for failure to ensure personnel are qualified to wear respiratory protection equipment. (LIV: 50-269, 270, and 287/89-38-01).

d. Control of Radioactive Materials and Contamination, Surveys and Monitoring

The licensee was required by 10 CFR 20.201 (b), 20.403, and 20.401 to perform surveys to show compliance with regulatory limits and to maintain records of such surveys. TS 6.4 requires the licensee to

follow written procedures. Radiological control procedures further outlined survey methods and frequencies.

The inspector observed, during plant tours, surveys being performed by the radiation protection staff. The inspector reviewed selected RWPs during the inspection to determine if adequate controls and monitoring with the radiation protection technicians assigned, and with workers for each task.

During plant tours, the inspector noted radiation level and contamination survey results outside selected cubicles. The inspector performed independent radiation level surveys of selected areas and compared them to licensee survey results. The inspector reviewed selected survey records during November-December 1989, and discussed these records with licensee representatives for methods used to disseminate survey results. The inspector noted that only approximately 8,290 square feet (ft²) or 8 percent of the RCA was controlled as contaminated.

No violations or deviations were identified.

e. As Low As Reasonably Achievable (ALARA) Program

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 exposure ALARA. The recommended elements of an ALARA program are contained in Regulatory Guide 8.8, "Information Relevant to Ensuring the Occupational Radiation Exposure at Nuclear Power Stations will be ALARA," and Regulatory Guide 8.10, "Operating Philosophy for Maintaining Occupations Radiation Exposure ALARA."

The inspector discussed the ALARA goals and objectives for 1989 with licensee representatives and reviewed the person-rem estimates and results. The licensee's goal for 1989 was set at 620 person-rem or approximately 206 person-rem per unit. As of November 30, 1989, the licensee's actual collective exposure was approximately 630 person-rem, which is slightly above the licensee's goal of 620 person-rem. The reason for the licensee to exceed their projected goal was due to eleven unexpected leaking control rod drives in Unit 3 Containment. The anticipated exposure for this work was 11 person-rem; however, 27 person-rem was expended. Even though the licensee has exceeded its 1989 person-rem goal, the total exposure expended for 1989 should be well below the national average for a single unit Pressurized Water Reactor (PWR) of 346 person-rem, through 1988.

The licensee has established a informal goal for the year 1990 of 675 person-rem. This goal is still well below the single unit PWR national average of 346 person-rem, through 1988.

that this issue met Severity Level IV or V criteria, and since prompt corrective action was performed that met 10 CFR 2, Appendix C, and therefore, no Notice of Violation will be issued. However, this issue will be tracked by the NRC as a non-cited violation (NCV) and will be reviewed again during subsequent inspections. (NCV: 50-269, 270, and 287/89-38-02.)

4. Exit Interview

The inspection scope and findings were summarized on February 8, 1989, with those persons indicated in Paragraph 1. The inspector described the areas examined and discussed in detail the inspection findings listed below. The licensee did not identify as proprietary any of the materials provided to or received by the inspector during this inspection. The licensee was informed that the items in Paragraph 3 were considered closed.

<u>Item Number</u>	<u>Description and Reference</u>
50-269, 270, 287/89-38-01	LIV-failure to ensure a contract worker was qualified to wear respiratory equipment (Paragraph 2).
50-269, 270, 287/89-38-02	NCV-failure to perform periodic audits of certain aspects of the Radiation Protection Program (Paragraph 3).