



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

Report No.: 50-395/83-22

Licensee: South Carolina Electric and Gas Company
Columbia, SC 29218

Docket No.: 50-395

License No.: NPF-12

Facility Name: Summer

Inspection at Summer site near Jenkinsville, South Carolina

Inspector: W. W. Peery 7/25/83
Date Signed

Approved by: K. P. Barr 8/2/83
Date Signed
K. P. Barr, Section Chief
Operational Program Branch
Division of Engineering and Operational Programs

SUMMARY

Inspection on June 20-24, 1983

Areas Inspected:

This routine, unannounced inspection involved 32 inspector-hours on site in the areas of radiation protection and radioactive waste management.

Results

Of the two areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *O. S. Bradham, Plant Manager
- *J. G. Connelly, Deputy Plant Manager
- *V. R. Albert, Assistant Manager, Support Services
- *W. R. Baehr, Manager, Corporate Health Physics and Environmental Programs
- *K. W. Woodward, Assistant Manager, Operations
- *L. A. Blue, Assistant Manager, Health Physics
- *W. L. Marchant, Nuclear Licensing
- *B. S. Mullinax, ISEG Engineer
- *C. McKinney, Technical Services
- *R. G. Sweet, Quality Assurance
- P. Shultz, Health Physics Supervisor
- J. Cox, Health Physics Supervisor
- E. Robinson, Health Physics Supervisor

Other licensee employees contacted included three technicians.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on June 24, 1983, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

(Closed) Violation 83-04-01, Posting of Radiation Areas. The inspector verified that the area outside the equipment hatch on the 472 ft. elevation was now posted as required by 10 CFR 20.203(b). In addition, it was observed that locked doors had been installed to restrict access to the area.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Startup Surveys

At the time of the last inspection (83-04) the inspector reviewed licensee records of the results of startup radiation surveys up to 48% power level. Neutron levels up to 2500 mrem/hr and gamma levels up to 400 mrem/hr were measured around the reactor cavity at the 463 ft. elevation inside containment. At this same elevation (463 ft.) inside containment 400 mrem/hr neutrons and 15 mrem/hr gamma were measured outside the pressurizer by the elevator. At the 463 ft. elevation of the fuel handling building 1.0 mrem/hr neutrons and less than 2.0 mrem/hr gamma were measured at the

personnel access hatch. At the equipment access hatch outside the reactor building on the 472 ft. elevation 15 mrem/hr neutrons and less than 2.0 mrem/hr gamma were measured. On the 436 ft. elevation of the fuel handling building less than 0.5 mrem/hr neutrons and less than 2.0 mrem/hr gamma were measured at the emergency personnel airlock.

During this inspection the inspector reviewed the licensee's records of the results of startup surveys up through the 90% power level. The startup surveys are not complete because the power level has not been sustained at 100% long enough for the final survey to be completed. At the 90% power level neutrons up to 5.0 rem/hr and gamma at 600 mrem/hr were measured around the reactor cavity at the 463 ft. elevation inside containment. At the 463 ft. elevation of the fuel handling building outside the outer door of the personnel hatch about 0.5 mrem/hr neutrons and 2.0 mrem/hr gamma have been measured, however, inside the air lock of the personnel access hatch 25 mrem/hr of neutrons have been measured and inside containment at the inner door to the airlock 60 mrem/hr of neutrons have been measured. At the equipment access hatch outside the reactor building 45 mrem/hr neutrons and 10 mrem/hr gamma have been measured. At the 436 elevation of the fuel handling building the levels remained low at the emergency personnel airlock and on the order of 0.5 mrem/hr neutrons and 2.0 mrem/hr gamma. The inspector informed licensee plant management and a corporate representative of the NRC's concerns about the neutron levels, particularly the high levels inside containment and at the personnel hatch. The inspector was informed that the neutron problem is under study by plant and corporate personnel and a decision as to the solution to the problem has not been reached. The inspector informed licensee representatives that the item will remain open (82-60-01).

6. Containment Entry

On June 22, 1983, the inspector observed an entry by four individuals into containment through the emergency hatch (436 ft. elevation) for the purpose of inspecting containment sump level. The emergency hatch is being used due to the higher radiation levels at the 463 ft. elevation inside containment.

One health physics technician with neutron and gamma survey instruments accompanied three individuals into containment and one health physics technician and a security guard were stationed outside the hatch. Prior to entry, the hatch was locked and properly posted and the guard was required to log all individuals in and out of containment. The health physics technician who entered containment logged stay times for the various radiation dose rates encountered by the individuals while in containment. The health physics technician outside the hatch also recorded total stay times. The calculations of total exposures from containment entries are based on dose rates and stay times in each area. Personnel exposures for containment entries have been maintained well below Part 20 limits and licensee representatives stated that the calculations of exposures based on dose rates and stay times tend to be higher (conservative) than actual exposures. The inspector noted that the individuals who entered containment on 6/22/83, wore protective clothing and personnel monitoring devices, however, at least

one individual did not tape his gloves to his coveralls and one individual lost his pocket dosimeter in containment. The inspector noted other previously documented cases by the licensee of lost or misuse of pocket dosimeters and/or TLD's. Corrective measures for these cases were also documented and a tabulation is being maintained of all such cases to track trends and the extent of the problem. The records indicate that the number of such cases has not been excessive compared to other facilities. The inspector informed licensee representatives that the above observed problems constitute poor Health Physics practices which will be carried as an Open Item (83-22-01), to be reviewed in future inspections.

7. Posting and Labeling

During tours of the plant the inspector noted no instances where posting failed to meet the requirements of 10 CFR 20.203.

8. ALARA

The inspector reviewed the minutes of ALARA Committee Meetings and noted numerous recommendations for improvements in facilities, equipment and procedures that had been implemented or had provision for assignment of responsibility and tracking to completion. Licensee records revealed that for the steam generator modification outage 3/15/83 to 5/15/83, the original outage exposure goal of 75 man-rem was reduced to 47 man-rem, attributable largely to the efforts of the ALARA Committee. Total exposure for 1983 has been 49.751 man-rem as of June 6, 1983.

9. Waste Management

The inspector reviewed the minutes of the meetings of Radioactive Waste Committee and had no further questions. The results of a review by a sub-committee of the Radwaste Committee of FSAR requirements for the Waste Process Control Program revealed primarily the need for minor procedural changes. These will be reviewed at the time of the next inspection. The licensee has shipped a total of only 120 drums and 2 boxes to date.