



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

AUG 20 1984

Report Nos.: 50-321/84-28 and 50-366/84-28

Licensee: Georgia Power Company
P. O. Box 4545
Atlanta, GA 30302

Docket Nos.: 50-321 and 50-366

License Nos.: DPR-57 and NPF-5

Facility Name: Hatch 1 and 2

Inspection Dates: July 16-20, 1984

Inspection at Hatch site near Baxley, Georgia

Inspector: *L. R. Jenkins*
for W. W. Peery

8/8/84
Date Signed

Approved by: *L. R. Jenkins*
G. R. Jenkins, Section Chief
Division of Radiation Safety and Safeguards

8/8/84
Date Signed

SUMMARY

Inspection on July 16-20, 1984

Areas Inspected

This routine unannounced inspection involved 32 inspector-hours on site in the areas of radiation protection training, internal exposure, external exposure for recirculation piping replacement, solid waste, transportation, liquid and gaseous wastes.

Results

One violation was identified - failure to post a radiation area.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *H. Nix, General Manager, Plant Hatch
- *T. Green, Deputy General Manager, Plant Hatch
- *T. Elton, Acting Superintendent Regulatory Compliance
- *P. Fornel, QA Site Manager
- *S. Ewald, Manager Nuclear Chemistry and Health Physics
- D. Moore, Director, Training
- *R. Zavadoski, Manager Health Physics and Chemistry
- *W. Rogers, Health Physics Superintendent
- D. Smith, Supervisor, Health Physics
- *M. Link, Laboratory Supervisor
- *D. Elder, QA Field Representative
- *C. Stancil, Jr., Plant Engineer
- R. Hand, Supervisor, Chemistry
- V. McGowan, Foreman, Chemistry
- W. McLeod, Foreman, Health Physics
- B. Thigpen, Quality Assurance
- N. Purdin, Training Specialist

Other licensee employees contacted included three technicians.

NRC Resident Inspector

- *P. Holmes-Ray, Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on July 20, 1984 with those persons indicated in paragraph 1 above. The licensee was informed of a violation involving failure to post a radiation area. (paragraph 7) The licensee acknowledged the apparent violation.

3. Training and Qualification (83723)

Technical Specification 6.3.1 requires that each member of the facility staff meet or exceed the minimum qualification of ANSI N18.1-1971 for comparable positions, except for the Health Physicist-Radiochemist (Radiation Protection Manager) who shall meet or exceed the qualifications of Regulatory Guide 1.8 September, 1975.

Paragraph 4.5.2 of ANSI N18.1 states that technicians in responsible positions shall have a minimum of two years of working experience in their specialty. The inspector reviewed the experience and training records for selected Health Physics technicians currently working at the station. The

inspector observed five technicians during implementation of radiological controls for selected activities.

Regulatory Guide 1.8, September, 1975 requires the Radiation Protection Manager to have a bachelor's degree or the equivalent in a science or engineering subject, including some formal training in radiation protection and at least five years of professional experience in applied radiation protection. At least three years of the professional experience should be in applied radiation protection work in a nuclear facility dealing with radiological problems similar to those encountered in nuclear power plants.

The Radiation Protection Manager exceeds these requirements of Regulatory Guide 1.8.

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 exposure 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 ~~licensee's~~ training program met the standards of ANSI N18.1 and the INPO training program.

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.

The inspector reviewed changes in the licensee's training policies, goals, program and methods related to radiation protection, radioactive material control and plant chemistry, discussed the changes with licensee representatives and verified that the changes should not adversely affect the licensee's program.

Technical Specification 6.4.1 states that a retraining and replacement training program for the facility staff shall be in accordance with ANSI N18.1-1971. Paragraph 5.5 of ANSI N18.1 states that a training program shall be established which maintains the proficiency of the operating organization through periodic training exercises, instruction periods and reviews.

The inspector discussed the replacement training and refresher training program for various personnel with licensee representatives and reviewed selected training records.

The results of licensee audit QA-84-046, Training, conducted January 3-13, 1984, revealed that corrective action was timely and adequate.

No violations or deviations were identified.

4. Internal Exposure Control (83725)

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 suitable measurements of concentrations of radioactive materials in air be performed to detect and evaluate the airborne radioactivity in restricted areas and that appropriate bioassays be performed to detect and assess individual intakes of radioactivity.

The inspector reviewed selected results of general in-plant air samples taken during the period January 1 to June 30, 1984 and the results of air samples taken to support work authorized by specific radiation work permits.

The inspector reviewed selected results of bioassays (whole body counts/urinalyses) and the licensee's assessment of individual intakes of radioactive material performed during the period January 1 to June 30, 1984.

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 or limit concentrations, when averaged over the number of hours in any week during which individuals are in the area, to less than 25 percent of the specified concentrations.

The use of process and engineering controls to limit airborne radioactivity concentrations in the plant was discussed with licensee representatives and the use of such controls was observed during tours of the plant.

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 Appendix B, Table 1, Column 1, other precautionary measures should be used to maintain the intake of radioactive material by any individual within seven consecutive days as far below 40 MPC-hours as is reasonably achievable. By review of records, observations and discussions with licensee representatives, the inspector evaluated the licensee's respiratory protection program, including training, medical qualifications, fit-testing, MPC-hour controls, quality of breathing air, and the issue, use, decontamination, repair and storage of respirators.

The inspector reviewed the following plant procedures, including changes, which established the licensee's internal exposure control and assessment program and verified that the procedures were consistent with regulations, Technical Specifications and good health physics practices:

HNP-8021 Bioassay Program
HNP-8134 Whole Body Counter Systems

No violations or deviations were identified.

On June 27, 1984 two pipefitters became contaminated while working on a snubber in the Unit 2 dry-well. The source of the contamination was believed to be from a piece of recirculation drain pipe which they were using with a hammer to drive a pin out of the snubber. One individual had

facial contamination up to 40,000 dpm and the other had facial contamination up to 8,000 dpm. The two individuals initially found the contamination when monitoring themselves with a frisker. They were immediately successfully decontaminated. A thorough investigation by the licensee revealed that the individual with 40,000 dpm facial contamination had sustained an internal uptake of radioactivity by ingestion and that the second individual had no detectable uptake. The evaluation of the potential dose was done in conjunction with the Radiation Management Corporation (RMC). Multiple whole body counts and urine and fecal samples were used to determine the dose to the one individual. The data when analyzed by RMC and the licensee indicated primarily cobalt-60 and zinc-65 in large particle size (10-20 microns). The biological half-life of the material was very short (about 2 days) as determined by bioassays and the organ of concern was the GI tract. Based on the bioassays results the calculated dose to the GI tract was 9.5 mrem from cobalt-60 and 1.5 mrem from zinc-65 for a total of 11.0 mrem. The area had not been declared an airborne radioactivity area and there was no indication of a significant lung burden. This event demonstrated that the licensee's bioassay program is of good quality and effectively used in the determination of dose from the internal deposition of radioactive materials. The work was being performed in accordance with an active Radiation Work Permit. The licensee took prompt corrective actions through discussions with the two individuals involved, discussions between appropriate work groups and their personnel and by requesting that the Training Department emphasize in radiation worker training the potential for disturbing contamination when performing this or similar work. Management expressed concern that this event occurred. This was not a reportable event.

No violations or deviations were identified.

5. Solid Wastes and Transportation (84722 and 86721)

Technical Specification 2.1.5, 10 CFR 20, 61 and 71, and 49 CFR Parts 171 through 178 contain requirements for solid waste handling and transportation.

The inspector reviewed the results of audits and corrective action.

The inspector determined that there have been no changes in the program involving 10 CFR 50.59.

The inspector observed the processing, control and storage of solid wastes.

The inspector determined that the licensee had procedures for the proper classification of wastes, preparation of waste manifests, marking of packages with class of waste and investigation of lost shipments. There have been no lost shipments.

The inspector reviewed procedure HNP-8036 through 8039 and HNP 8010 all of which deal with shipment and receipt of Radioactive Material, packaging, classification and manifests. All of the procedures were approved by management.

The inspector determined the licensee's practice regarding the procurement and reuse of packaging. The inspector determined that the licensee has had no transportation incidents during the period January 1 to July 26, 1984.

The inspector observed a truck shipment of dry compacted waste on July 18, 1984, and a shipment of dewatered spent resins on July 19, 1984.

No violations or deviations were identified.

6. Liquid and Gaseous Wastes (84723 and 84724)

Technical Specification 2.1, Radioactive Effluents and 10 CFR 20 contain the requirements for radioactive effluents. The inspector reviewed licensee records of liquids and gaseous effluents and no violations were identified.

The inspector reviewed the results and corrective action for the most recent audits pertaining to liquid and gaseous effluents.

The inspector determined that there have been no changes in equipment or procedures involving 10 CFR 50.59.

The inspector reviewed the current calibration records for selected effluent monitors. Functional tests and set point records were also reviewed. The readouts for all effluent monitors were also observed in the Control Room and all appeared to be operating properly.

The inspector determined that reactor coolant water met chemical and radiochemical requirements.

No violations or deviations were identified.

7. Posting (83822)

During independent radiation surveys in the licensee's waste handling building on July 18, 1984, the inspector observed a reading of 16 mr/hr at 18 inches from steel box shipping containers which contained demineralizer filters in storage. The radiation levels around the containers constitute a radiation area as defined in 10 CFR 20.202 (b)(2). 10 CFR 20.203 requires that each radiation area be posted with a sign or signs bearing the radiation caution symbol and the words "Caution-Radiation Area". Contrary to this posting requirement, the inspector observed on July 18, 1984, that the radiation area around the shipping containers was not posted as required. A Health Physics supervisor instructed personnel to post the area as a radiation area. Other posting and labeling throughout the plant was observed to be as required by 10 CFR 20.203. This is a violation (84-28-01).

8. External Exposure Control (83724)

10 CFR 20.101 specifies applicable radiation dose standards.

On July 10, 1984, three Health Physics personnel were exchanging a 95.2 curie Cesium-137 sealed source in the Health Physics instrument calibrator with a new 200 curie cesium-137 source when the trolley containing the old

source inside the shielded well of the calibrator became lodged during efforts to remotely remove the old source. The work was being performed under Radiation Work Permit No. 1-84-1912, issued on July 10, 1984. During efforts to further shield the source down inside the calibrator shield one individual reached inside the well and placed a lead brick, with a handle, over the source. This resulted in an extremity dose to his left hand of 11.4 rem as measured by a TLD finger ring. Careful preplanning for the source exchange had been made but the inadvertent lodging of the trolley had not been expected. Stop points had been planned and were utilized. A thorough radiation survey had been made and potential dose calculations and evaluations made. All personnel were multi-badged. Stay times were carefully controlled. After further planning the old and new sources were exchanged without further difficulty. A thorough critique was held concerning this event. The highest whole body dose was 320 mrem and no one exceeded the quarterly limits of 10 CFR 20.101. Management expressed a serious concern that the event occurred and indicated that corrective measures are being taken to preclude recurrence of a similar event.

9. ALARA (83728)

The licensee's recirculation piping replacement project was nearing completion in Unit 2. All of the piping replacement was complete and has been hydro-tested. Clean-up was underway in the drywell and a start-up date of August 1, 1984, was the target. The licensee's original project man-rem estimate was 1700 man-rem; however, this was adjusted downward twice to 1100 man-rem. As of June, 1984, 890 man-rem had been expended. This involved 105382 man-hrs. It appears that the project will be completed with significant reduction in man-rem estimates.