



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

SEP 14 1988

Report Nos.: 50-321/88-26 and 50-366/88-26

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 Conducted: August 16-19, 1988

Inspector:	<u>R. B. Shortridge</u>	<u>9-9-88</u>
	R. B. Shortridge	Date Signed
Approved by:	<u>C. M. Hosey</u>	<u>9/9/88</u>
	C. M. Hosey, Section Chief	Date Signed
	Division of Radiation Safety and Safeguards	

SUMMARY

Scope: This routine, unannounced inspection was conducted in the areas of solid radwaste (84722), transportation of radioactive material (86721), followup on previous inspection items, and selected NRC Information Notices.

Results: No violations or deviations were identified. The licensee's program for controlling solid radwaste and shipping radioactive material continues to be effective.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

S. Bethay, Acting Manager, Nuclear Safety and Compliance
O. Fraser, Manager, Quality Assurance
W. Kirkley, Engineering Superintendent, Health Physics
J. Lewis, Manager, Operations
H. Nix, Plant General Manager
D. Read, Manager, Plant Support
J. Reddick, Supervisor, Health Physics
D. Smith, Superintendent, Health Physics
R. Zavadoski, Manager, Health Physics and Chemistry

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

Nuclear Regulatory Commission

*J. Menning, Senior Resident Inspector

2. Solid Waste (84722)

a. Waste Classification and Characterization

10 CFR 20.311 (d)(1) requires that licensee's prepare all waste such that the waste is classified in accordance with 10 CFR 61.55 and meet the waste characteristic requirements specified in 10 CFR 61.56.

The licensee samples five waste streams annually: dry active waste (DAW), equipment and floor drains, fuel pool clean up, reactor water clean up and condensate systems. DAW was sorted when collected, compacted, and shipped for burial. Liquid waste was processed through filters and deep bed demineralizers, condensate phase separator or the clean up phase separator. Prior to transfer of the resin to a steel or polyethylene high integrity container (HIC) for stability and shielding, the clean up phase separator tank or condensate phase separator tank volumes are recirculated at least twice and samples are drawn to determine waste class and type of HIC for transport.

To comply with NRC regulatory guidance presented in the Low Level Waste Licensing Branch Technical Position on Waste Classification, the licensee contracts with a vendor to evaluate annually scaling factors used to quantify hard to measure radionuclides in radioactive waste. The inspector reviewed the radionuclide distribution of evaluated waste streams and noted that there had been no significant

changes in the relative distribution of radionuclides and that scaling factors appeared to be appropriate.

The inspector reviewed the documentation of shipping preparation for 7 resin shipments against the following requirements.

- ° Preparation of shipping manifest 10 CFR 20.311(b), (c) and (d), 4, 5 and 7.
- ° Classification of Wastes 10 CFR 20.311(f) 3
- ° Waste form and characterization 10 CFR 20.311(d) 1
- ° Waste shipment, labeling 10 CFR 20.311(d) 2
- ° Waste shipment tracking 10 CFR 20.311(d),(e),(f) and (h)

b. Solid Radwaste Processing

The inspector observed the dewatering of a resin liner by a contract vendor and the subsequent shipment by the licensee. The operation was performed using Radiation Work Permit (RWP) 88-630, Process, Ship and Receive, Radioactive Material. The resin was dewatered and air dried over an eight hour period. Prior to transfer of the HIC liner to a shipping cask, a quality control check was performed to verify the computer program for verification of septa dew point. The dewpoint was verified as satisfactory and the dewatering/drying head was removed from the liner. The highest radiation level over the liner opening was 350 millirem per hour (mr/hr) at one foot. A heavy plastic cover was installed over the opening immediately upon dewatering/drying head removal. Radiation levels in the general area of the waste processing pad were 10 mr/hr with 800 mr/hr on contact with the liner containing a calculated 3.0 curies of condensate phase separator resin. The inspector noted during the operation that equipment design and operational procedures were developed using the concept of maintaining radiation exposure As Low As Reasonably Achievable (ALARA). The operating crew consisting of 8 people including health physics, vendor technicians, and craftsman acquired 40 millirems during the 30 minute operation. The licensee used appropriate radiological controls for the operation.

c. Radwaste Quality Control

Specific quality controls are implemented by the licensee for the generation of radwaste as required by 10 CFR 20.311 to assure compliance with 10 CFR 61.55 and 61.56. Also the licensee's technical specification requires a process control program. The inspector determined that the vendor procedures for dewatering resin liners were approved for use by the licensee and from licensee data that seven previous resin dewatering operations were conducted in accordance with process control program and regulatory requirements.

The inspector reviewed the qualifications of selected individuals performing resin dewatering activities. All on the job training had been completed and qualification cards were up to date.

The inspector reviewed the waste processing vendor's Quality Assurance Manual and Quality Assurance Program Requirements and noted they complied with the requirements of 10 CFR 71, Subpart H, 10 CFR 50, Appendix B and ANSI N45.2. The Quality Assurance Manual contained the certificate of compliance for the resin cask used in the radwaste shipment 88-058 observed by the inspector (see Paragraph a).

d. Radwaste Program Improvement Items

The licensee experienced previous problems with contamination controls during dewatering resin liners. When the dewatering/drying head was transferred from the resin liner to its storage stand, resin and water would spill in the work area. A modification was made to the fill heads to incorporate a throttle valve and spray ring to facilitate flushing the liner after fill and to control fill rates. This initiative resulted in reducing contamination levels in the work area significantly and precluded the need for respiratory protection during the dewatering/drying head removal operation.

A problem with short run times and poor removal efficiencies was experienced with the condensate demineralizers. Replacement of the septa, and a thorough investigation and selection of different resins did not result in improving run times to greater than seven days. The licensee learned that some fossil plants had dramatically extended condensate demineralizer run/times by bodyfeeding. To bodyfeed, demineralizers are precoated with only 40 to 60 percent of their normal loading. Then a resin and fiber slurry mixture is continuously fed into the process stream upstream of the condensate demineralizer which overlays the precoat. The licensee improved the normal bodyfeed system design by providing for separate vessel injection rather than injection of the resin and fiber into a common header which results in uneven distribution of the precoat material. The bodyfeed system was installed at Plant Hatch on January 1986. Through experimentation the licensee has found that a 2 to 1 ratio of resin to fiber has produced the longest run/times. Reactor water conductivity in -1985 averaged 0.24 micro Siemens per centimeter for Unit 1 and 0.23 for Unit 2. In 1987, Unit 1 averaged 0.15 Micro Siemens per centimeter and Unit 2 averaged 0.17. Run/times on the condensate polishers have quadrupled with body feed and solid radioactive waste has been dramatically reduced. The licensee has just completed the addition of the body feed system to the radwaste floor drain filter system to increase the run times for this system.

e. Other Radwaste Processing

During a tour of the solid waste processing building and discussions with licensee representatives, it was noted that equipment had been installed to improve waste processing. The licensee developed a scaffolding/tool monitor by using a computer based controller from a PCM-1 portal Monitor. Ten large area gas flow proportional detectors

were used to monitor items at a 2 inch per second movement with a 2 second count time and less than 5,000 disintegration per minute sensitivity. In addition, the licensee has added a high efficiency particulate air system to a air conditioned large cabinet for drying mop heads and other wet materials scheduled for disposal.

f. Radwaste Shipments

Through discussions with licensee representatives and review of solid waste data, it was noted that 27,463 cubic feet (ft³) of solid waste containing 1,816 Curies of activity had been shipped during 1987. Through June 30, 1988, the licensee had made 40 shipments consisting of 17,515 ft³ of solid radwaste containing 1,308 Curies of activity. Also a total of 3,000 ft³ of solid waste remained in storage awaiting shipment.

No violations or deviations were identified.

3. Transportation (86721)

10 CFR 71.5 requires that licensees who transport licensed material outside the confines of its plant to other places of use, or who deliver licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR, Parts 170 through 189.

The inspector reviewed shipping records for 7 resin shipments 88-051W through 88-057 RW and 4 laundry shipments 076L through 079L. The inspector also reviewed the licensee's system for tracking waste shipments. The inspector determined that the licensee selection of packages, shipping manifest, vehicle surveys, and tracking of shipments were performed as required by 10 CFR 71 and 49 CFR 170-189.

No violations or deviations were identified.

4. Licensee Action on Previous Inspection Findings (92701)

- a. (Closed) Inspector Followup Item (IFI) 50-321/87-04-01. A previous inspection identified that the licensee's skin dose calculations appeared non-conservative and that guidance for retaining hot particles was missing. The licensee revised procedure, 62RP-RAD-005 Decontamination, to contain necessary instructions for hot particle analysis and skin dose calculation action levels.
- b. (Closed) IFI 50-321/87-27-04. This item concerned the need for development and implementation of a hot particle monitoring program. The licensee developed procedure, 62RP-RAD-032-05 Skin Dose Assessment, to provide instructions for handling, detection, and assessment of skin dose for hot particle skin contaminations or noble

gas air concentrations. Skin dose calculations are based on VARSKIN (Nureg/CR-4418).

- c. (Closed) IFI 50-321/88-04-01. A previous inspection identified the need for instructions for reviewing whole body count (WBC) results and direction on which type whole body counter, chair or standup, should be used and when. Procedure DI-RAD-05-0288N, Whole Body Count Guidelines was revised to provide instructions on determining the type of whole body counter to be used for routine and special body counts, and dress and shower requirements for persons needing a whole body count.

5. IE Information Notices (IEN) (92717)

The inspector determined that the licensee had received IEN 88-08, Chemical Reactions with Radioactive Waste Solidification Agents and IEN 88-32, Prompt Reporting to NRC of Significant Incidents Involving Radioactive Material and that the Notices had been reviewed for applicability; distributed to the appropriate personnel and that action, as appropriate, was taken.

6. Exit Interview

The inspection scope and results were summarized on August 19, 1988, with those persons indicated in Paragraph 1. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspector during this inspection. No dissenting comments were received from the licensee.

Licensee management was informed that the 3 IFIs discussed in Paragraph 4 were considered closed.