



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

NOV 24 1987

Report No.: 50-416/87-30

Licensee: System Energy Resources, Inc.  
Jackson, MS 39205

Docket No.: 50-416

License No.: NPF-29

Facility Name: Grand Gulf Nuclear Station

Inspection Conducted: November 2-6, 1987

Inspector:

R. Marston  
R. Marston

11/20/87  
Date Signed

Approved by:

J. B. Kahle  
J. B. Kahle, Section Chief  
Division of Radiation Safety and Safeguards

11/23/87  
Date Signed

SUMMARY

Scope: This routine, unannounced inspection involved onsite and in-office inspection in the areas of liquid and gaseous effluent releases.

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

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*J. E. Cross, Site Director
- \*R. Hutchinson, General Manager
- \*J. P. Dimmette, Jr., Manager - Plant Maintenance
- \*J. L. Robertson, Plant Licensing Superintendent
- \*W. R. Magee, Jr., Manager - Relay & Communications
- \*S. Feith, Director, Quality Programs
- \*J. G. Cesare, Director, Licensing
- \*K. Beatty, Training Superintendent
- \*F. W. Titus, Director, NPE
- \*J. H. Mueller, Mechanical Superintendent
- \*G. O. Smith, Plant Chemist
- \*M. Lloyd, Nuclear Plant Systems Analyst
- \*P. M. Different, Plant Licensing Engineer
- J. M. Lassetter, HP/Chemistry Specialist
- R. N. Buckley, Environmental Specialist
- J. P. Hinman, Engineer, Nuclear Plant Engineering
- D. F. Mahoney, Quality Programs Engineer
- R. Brinkman, Radiological Engineer
- B. Edwards, Mechanical Maintenance Engineer

#### NRC Resident Inspectors

- \*R. C. Butcher, SRI
- J. Mathis, RI

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on November 6, 1987, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspector's comments. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

### 3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

### 4. Audits (80721, 84723, 84724, 84725)

Technical Specification 6.5.2.8 specifies the requirements for the audits that are to be performed under the cognizance of the Safety Review Committee. The inspector reviewed the audits conducted since the last inspection. The following audits were included:

- ° MAR 87/0020, Radioactive Gaseous Effluent Monitoring, conducted June 24 - July 17, 1987. This audit was identified as a limited scope audit to verify the written program and implementation of Regulatory Guide 4.15 policies regarding radioactive gaseous effluents. Compliance was also evaluated to the criteria of Regulatory Guide 1.21 and the requirements of Technical Specification (T.S.) 3/4.11.2.1
- ° MNRE 87/01, Radiological Environmental Monitoring, conducted January 26 - February 18, 1987. This audit evaluated the program to the criteria of Reg Guide 4.15, and the requirements of 10 CFR 20, 10 CFR 71, 49 CFR 172, and 49 CFR 173. The audit included positive findings and a resume for the Technical Specialist on the Audit Team.

The audits appeared to be thorough and in depth. Most of the findings were resolved during the audit period. A licensee representative stated that an audit of the Liquid Radwaste Treatment System was in process and included evaluation to the requirements of Section 1.3 of the Offsite Dose Calculation Manual (ODCM).

No violations or deviations were identified.

#### 5. Radioactive Liquid Waste (84723)

Technical Specification 3/4.11.1 establishes upper limits for concentrations of radioactive materials in liquid effluents. The inspector selectively reviewed Liquid Radwaste Discharge Permits for the period July - September 1987. Each permit was in six parts:

- (1) Pre-Release Processing;
- (2) Pre-Release Analysis (including effluent monitor alarm setpoint calculation);
- (3) Monitor Setpoint Calibration;
- (4) Release Authorization;
- (5) Release; and
- (6) Post-Release Analysis.

The inspector determined from review of the permits and discussion with cognizant licensee personnel that the releases appeared to be conducted in accordance with Technical Specifications and implementing procedures and instructions. The inspector also reviewed the results of the Radwaste Release Monthly Composite Analysis.

No violations or deviations were identified.



6. Radioactive Gaseous Waste (84724)

Technical Specification 3/4.11.2 establishes upper limits for concentrations of radioactive materials in gaseous effluents. The inspector selectively reviewed Gaseous Radwaste Daily Logs for the period from March 1987 through November 2, 1987 for releases from the Radwaste Vent, Containment Vent, Turbine Building Vent, Fuel Handling Area Vent, and Standby Gas Treatment System. The records included both annual and quarterly noble gas beta and accrued gamma doses, maximum dose rates for both total body and skin, and showed comparison to annual limits. The inspector's review of the Release Logs and discussions with cognizant licensee representatives appeared to show that the program was conducted within Technical Specification and procedural limits.

No violations or deviations were identified.

7. Procedures (84723, 84724)

Technical Specification 6.8.1 requires in part, that written procedures shall be established, implemented and maintained covering the following activities:

- ° The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978;
- ° Surveillance and test activities of safety related equipment;
- ° Process Control Program implementation;
- ° Offsite Dose Calculation Manual implementation; and
- ° Quality Assurance Program for effluent and environmental monitoring, using the guidance in Regulatory Guide 4.15, February 1978.

The inspector reviewed selected procedures and instructions in the Chemistry/Health Physics area and Maintenance procedures applicable to effluent filter and adsorber testing. The procedures appeared to be adequate to meet the requirements of the Technical Specifications.

No violations or deviations were identified.

8. Radioactive Effluent Monitoring Instrumentation (84723, 84724)

Technical Specifications 3/4.3.7.1 establishes the minimum operability and surveillance for radioactive liquid and gaseous process and effluent stream monitoring instrumentation. Surveillance of counting room counting equipment is specified in appropriate procedures.

The inspector reviewed a selection of calibration records for plant effluent monitors. The records showed that the Maintenance Instrument and

Control Group calibrated the Containment Ventilation Accident Range Monitor on October 14, 1987; the Accident Range Monitors for both trains of the Standby Gas Treatment System on December 9, 1986; the Fuel Handling Area Gaseous Monitor was calibrated in May and July, 1987; the Containment Building Ventilation Gaseous Monitor was calibrated on July 10, 1987; and the Offgas Post Treatment Exhaust Gaseous Isotopic Monitor was calibrated on August 28, 1987.

The inspector examined calibration records for count room instrumentation, including source certificates. The Lab was equipped with three HPGe Gamma Spectroscopy systems, one Packard TriCarb Liquid Scintillation system, and two VC11T Gas Proportional systems. A licensee representative stated that another HPGe Gamma Spec system was maintained in the Chemistry Hot Lab. Records showed that the lab counting systems were in current calibration. A visual display was maintained at each Gamma Spec system showing the geometries for which each was calibrated.

No violations or deviations were identified.

#### 9. Air Cleaning Systems (84724)

The inspector reviewed records of HEPA filter and adsorber leak testing on effluent cleanup systems. The records showed that a vendor tested the following systems in March 1987:

- ° Radwaste Building Exhaust (HEPA Only);
- ° Radwaste Storage Tanks Ventilation;
- ° Containment Cooling System;
- ° Standby Gas Treatment Systems;
- ° Turbine Building Charcoal and Filter Trains; and
- ° Offgas Treatment Systems (HEPA Only).

No violations or deviations were identified.

#### 10. Post Accident Sampling System (PASS) (84723, 84724)

The inspector discussed the PASS with a cognizant licensee representative. The licensee representative stated that no changes had taken place in the PASS since the last inspection in this area, but several changes were planned during the upcoming outage. The licensee representative stated that inline chloride analysis (Coolant) and Hydrogen analysis (Containment and drywell atmosphere) would be deleted, as well as the gas stripper (coolant) and radiological analyzers. These parameters will be evaluated by laboratory analysis of grab samples. A new containment and drywell atmosphere sample control panel will be installed.

No violations or deviations were identified.

11. TI-2500/22 (25022)

The purpose of this Temporary Instruction is to provide for collection of licensee environmental TLD measurement results from monitoring locations collocated with NRC TLD monitoring locations. This information was obtained by the inspector. Therefore, Inspector Followup Item (IFI) 50-416/T2500/22, collection of collocated TLD measurement results, is closed.

12. Semiannual Radioactive Effluent Release Reports (84723, 84724)

Technical Specification 6.9.1.8 requires that routine radioactive release reports covering the operation of the unit during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year. Technical Specification 6.9.1.9 requires that the radioactive effluent release reports shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit as outlined in Regulatory Guide 1.21, Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof. The Technical Specification includes further requirements regarding the content and format of the report.

The inspector reviewed the report for the period January 1 - June 30, 1987. The report was transmitted within the 60 day period after June 30 and included all elements specified in Appendix B to Regulatory Guide 1.21 and the Technical Specification.

The inspector reviewed the releases for the semiannual period and compared them to releases from previous years. Results were generally consistent until the report for the first half of this calendar year, which showed an upward trend. A licensee representative stated that he believed this was due to a fuel leak which was detected during the period.

No violations or deviations were identified.