



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report No: 50-416/84-25

Licensee: Mississippi Power and Light Company
Jackson, MS 39205

Facility Name: Grand Gulf

Docket No.: 50-416

License No.: NPF-13

Inspection Dates: July 23-27, 1984

Inspection at Grand Gulf site Near Port Gibson, MS

Inspectors: *R. H. Albright*
R. H. Albright

8/21/84
Date Signed

for *T. R. Covins*
T. R. Covins

8/21/84
Date Signed

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

8/21/84
Date Signed

SUMMARY

Areas Inspected

This routine unannounced inspection involved 63 inspector-hours on site in the areas of organization and management controls, training and qualification, external exposure control and personal dosimetry, internal exposure control, surveys, monitoring and control of radioactive material, ALARA program, licensee audits and surveillances, solid waste, and transportation of radioactive material.

Results

Two violations were identified. Failure to adequately dewater resin prior to disposal and failure to follow procedures for release of materials from radiologically controlled areas.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *M. Wright, Acting Plant Manager-Operations
- *L. F. Daughtery, Compliance Superintendent
- *M. C. Williams, Superintendent, Chemistry and Radiation Control
- *J. Vincelli, Radiation Control Supervisor
- *L. R. McKay, Manager Radiological and Environmental Services
- *D. Lowman, Nuclear Support
- *J. D. Bailey, Compliance Coordinator
- T. Hildebrandt, Health Physics Supervisor
- C. E. Gulley, Radwaste Coordinator

Other licensee employees contacted included technicians, operators, and office personnel.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on July 27, 1984, with those persons indicated in paragraph 1 above. The violations of 10 CFR 61.56, shipment of solid waste with excessive water in the disposable container, and Technical Specification 6.8.1, failure to perform the required surveys for release of material from the Radiation Control Area, were discussed. Licensee management acknowledged the violations.

3. Organization and Management Controls (83722)

Technical Specification 6.2.2 describes the licensee's organization. Detailed responsibilities and lines of authority for the Chemistry and Radiation Protection Section are specified in plant procedure 01-S-01-6.

The inspector reviewed changes made to the licensee's organization, staffing levels and lines of authority as they related to radiation protection, radioactive material control and plant chemistry. The licensee's implementation of a recent plant reorganization prior to NRC approval has been cited by the Resident Inspector as a violation of Technical Specifications. This organization change was still under review by the Office of Nuclear Reactor Regulation.

No additional violations or deviations were identified.

4. 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.

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 chemistry and health physics personnel currently working at the station. The inspector discussed radiological controls for specific jobs with Health Physicists.

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 inspector discussed the radiation protection aspects of the general employee training program with licensee representatives and attended portions of the training class

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.

Plant Administrative Procedures 01-S-04-9, 01-S-04-8, and 01-S-04-24 establish the training/retraining program for Health Physics, Chemistry and Radwaste Operator personnel respectively.

The inspector discussed the replacement training and refresher training program for Health Physics, Chemistry and Radwaste Operator personnel with licensee representatives and reviewed selected training records.

No violations or deviations were identified.

5. External Exposure Control and Personal Dosimetry (83724)

10 CFR 20.202 requires each licensee to supply appropriate personnel monitoring equipment to specific individuals and requires the use of such equipment.

During tours of the plant, the inspector observed workers wearing appropriate personnel monitoring devices.

Technical Specification 6.8.1 requires the licensee to have written radiation protection procedures, including the use of radiation work permits. The inspector reviewed plant procedure 08-S-01-24, Radiation Work Permits, which provided detailed instructions on the preparation and processing of Radiation Work Permits (RWPs).

The inspector reviewed the RWP for removal of intermediate range neutron detectors for appropriateness of the radiation protection requirements based on work scope, location, and conditions.

10 CFR 20.203 specifies the posting, labeling and control requirements for radiation areas, high radiation areas, airborne radioactivity areas and radioactive material. Additional requirements for control of high radiation areas are contained in Technical Specification 6.12.

During tours of the plant, the inspector reviewed the licensee's posting and control of radiation areas, high radiation areas, contamination areas, radioactive material areas and the labeling of radioactive material.

10 CFR 19.11 requires that each licensee post current copies of 10 CFR 19 and 10 CFR 20 or if posting of the documents is not practicable, the licensee may post a notice which describes the document and states where it may be examined. The inspector observed the posting of notices required by 10 CFR 19.11 during tours of the plant.

No violations or deviations were identified.

6. 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.

The inspector reviewed selected results of general in-plant air samples taken during the period January to May, 1984.

No violations or deviations were identified.

7. Surveys, Monitoring, and Control of Radioactive Material (83726)

10 CFR 20.201(b) requires each licensee to make or cause to be made such surveys as (1) may be necessary for the licensee to comply with the regulations and (2) are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present. Technical Specification 6.8.1 requires the licensee to have written radiation protection procedures, including procedures for contamination control.

The inspector reviewed the following plant procedures which established the licensee's radiological survey and monitoring program and verified that the procedures were consistent with regulations, Technical Specifications and good health physics practices:

01-S-08-2 Exposure and Contamination Control
01-S-02-50 Radiological Surveys and Surveillances

The inspector reviewed selected records of radiation and contamination surveys performed during the period of January to May, 1984.

Licensee procedure 08-S-01-25, Contamination Control, states the criteria for release of materials from contaminated areas to uncontrolled areas. The criteria for release of material from contaminated areas is less than 100 counts per minute above background by direct scan and less than 1000 dpm/100 cm² as measured by smears. Through discussions with licensee representatives the inspector determined that materials released from contaminated areas are smear surveyed prior to release.

Administrative Procedure 01-S-08-2 states radiological survey limits for releasing equipment and material from radiologically controlled areas as less than 100 counts per minute above background by direct scan and less than 1000 dpm/100 cm² as measured by smears.

During tours of the facility on July 26, 1984, the inspector observed a health physicist performing surveys for releasing material and equipment from the Radiation Control Area. The Health Physicist released these items by direct scan only. No smear survey was performed. Licensee contamination surveys of clean tool storage areas during the inspection did not indicate that contaminated equipment had been released from the licensee radiologically controlled area. The failure to comply with the material and equipment release limits in procedure 01-S-08-2 is a violation of Technical Specification 6.8.1 (416/84-25-01).

8. ALARA Program (83728)

10 CFR 20.1c states that persons engaged in activities under licenses issued by the NRC should make every reasonable effort to maintain radiation exposure as low as reasonably achievable (ALARA). The recommended elements of an ALARA program are contained in Regulatory Guide 8.8, Information Relevant to Ensuring that Occupational Radiation Exposure at Nuclear Power Stations will be ALARA, and Regulatory Guide 8.10, Operating Philosophy for Maintaining Occupational Radiation Exposures ALARA.

The inspector discussed the ALARA goals and objectives for the current year with licensee representatives and reviewed the man-rem estimates and results for the current year.

The licensee established ALARA goals for 1984 from exposure history data for the first year operation of other operating BWRs and from GE design studies available for the facility. The station exposure goal for 1984 is 66.1 man-rem. For the period January-June, 1984, 22.8 man-rem were used.

No violations or deviations were identified.

9. Licensee Audits and Surveillances (83723, 83724, 83725, 83726, 83728, 84722, and 86721)

The inspector discussed the audit and surveillance program related to radiation protection, radioactive waste management and transportation of radioactive material with licensee representatives. The inspector reviewed the following audits and surveillances:

QA Audit Report MAR 83/0151, Control of Occupational Exposure to Radiation and Contamination

QA Audit Report MAR 83/0147, Radwaste Operator Training and Qualification Program

January 1984, Health Physics Appraisal: Dosimetry Program

January 1983, Health Physics Appraisal: Personnel Selection, Qualification and Training Program

February 1983, Health Physics Appraisal: ALARA Program - Part I

April 1983, Health Physics Appraisal: Surveillance Program (Instrumentation)

No violations or deviations were identified.

10. Solid Waste (84722)

10 CFR 20.311 requires a licensee who transfers radioactive waste to a land disposal facility to prepare all waste so that the waste is classified in accordance with 10 CFR 61.55 and meets the waste characteristics requirements of 10 CFR 61.56. It further establishes specific requirements for conducting a quality control program and for maintaining a manifest tracking system for all shipments.

The inspector reviewed the following plant procedures for the packaging and classifying of radioactive waste shipped to low-level waste burial facilities:

08-S-06-20, Packaging Radioactive Materials
 08-S-06-10, Radioactive Material Classification
 08-S-02-63, Estimating Activity of Packaged Radioactive Material
 08-S-06-11 Temp 1, Interim Classification of Radwaste

The inspector reviewed the methods used by the licensee to assure that waste was properly classified, met the waste forms and characteristics required by 10 CFR 61 and met the disposal site license conditions and discussed the use of these methods with licensee representatives.

The inspector reviewed selected manifests prepared for waste shipments made during 1984 to verify that a tracking system was being used to insure that shipments arrived at the intended destination without undue delay.

10 CFR 61.56(a)(3) requires that solid waste containing liquid shall contain as little free standing liquid as is reasonably achievable, but in no case shall the liquid exceed 1% of the volume. The licensee was notified in a letter from the State of South Carolina dated May 9, 1984, that a steel liner (approximate 1500 gallon capacity) which contained dewatered resin as class A unstable radioactive waste, was found to contain approximately 53.35 gallons of liquid when received at the Chem-Nuclear burial facility; this was greater than the 1% limit. No escalated enforcement action was taken by the State. The disposal liner contained approximately 0.06 millicuries of activation products. This was a violation of 10 CFR 61.56(a)(3). (416/84-25-02)

11. Transportation of Radioactive Material (86721)

10 CFR 71.5 requires that licensees who transport licensed material outside the confines of its plant or other place 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 in 49 CFR Parts 170 through 189.

The inspector observed the performance of radiological surveys and the loading of a waste shipment, consisting of four steel liners containing dewatered resin on July 26, 1984. The inspector discussed the shipment with licensee representatives.

The inspector reviewed plant procedures 08-S-06-03, Radioactive Material Surveys, and 08-S-06-40, Marking, Labeling and Placarding Radioactive Material Shipments, for the preparation and shipment of radioactive material and verified that the procedures were consistent with regulations.

No violations or deviations were identified.