



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

MAR 20 1985

Report No.: 50-416/85-04 and 50-417/85-01

Licensee: Mississippi Power and Light Company
Jackson, MS 39205

Docket No.: 50-416 and 50-417

License No.: NPF-13 and CPPR-119

Facility Name: Grand Gulf

Inspection Conducted: February 25-28, 1985

Inspectors:

A. L. Cunningham
A. L. Cunningham

03/14/85
Date Signed

A. Gooden
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03/14/85
Date Signed

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Approved by:

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for W. E. Cline, Section Chief
Division of Radiation Safety and Safeguards

3/17/85
Date Signed

SUMMARY

Scope: This routine, announced inspection entailed 202 inspector-hours on site in the area of an emergency preparedness exercise.

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

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REPORT DETAILS

1. Persons Contacted

- *T. O. Hildebrandt, Health Physics Supervisor
- *T. H. Cloninger, Director, Nuclear Engineering and Construction
- *J. Cross, General Manager
- *R. F. Rogers, Assistant to General Manager
- *L. F. Daughtery, Compliance Superintendent
- *J. Bailey, Licensing and Compliance Superintendent
- *J. B. Richard, Senior Vice President, Nuclear
- *C. L. Tyrone, Acting Director, Nuclear Support
- *P. B. Benedict, Emergency Planning Coordinator
- *L. F. Dale, Director, Nuclear Licensing and Safety
- *J. L. Moore, Assistant Vice President - Information Services
- *J. E. Wallace, Radiological Services Supervisor
- *J. L. Robertson, Operations Superintendent
- *M. C. Williams, Superintendent, Chemistry/Radiation Control

Other licensee employees contacted included technicians, operators, mechanics, security force members, and office personnel.

Other Organizations

- *J. Richardson, Enercon Services
- *M. Dunkle, Enercon Services
- *G. Johnson, Enercon Services
- *J. G. Cadwallader, Gulf States Utilities
- *J. D. Hatt, Arkansas Power and Light
- *M. W. Tull, Arkansas Power and Light
- *D. Schecl, TERA
- *M. Hill, Enercon Services
- *H. A. Goodman, General Electric
- *J. T. Chambers, General Electric

NRC Resident Inspector

- *R. Butcher

*Attended exit interview

2. Exit Interview (30703)

The inspection scope and findings were summarized on February 28, 1985, with those persons indicated in paragraph 1 above. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

3. Licensee Action on Previous Enforcement Matters

(Closed) Violation 50-416/84-01-01, 50-417/84-02-01: (Failure to provide in implementation procedures, offsite protective action recommendations consistent with Federal guidance regarding reactor containment and core status): The inspector reviewed the corrective actions, and the steps taken to preclude recurrence as stated in the licensee's Emergency Plan Procedure No. 10-S-01-5 (Rev. 5), entitled General Emergency. This procedure was revised to include a range of offsite protective action recommendations summarized in the matrix defined in Attachment I to the procedure.

4. Exercise Scenario (82301)

The scenario for the emergency exercise was reviewed to assure that provisions were made to test the integrated capability and a major portion of the basic elements defined in the licensee's emergency plan and organization pursuant to 10 CFR 50.47(b)(14), paragraph IV.F of Appendix E to 10 CFR 50, and specific criteria defined in Section II.N of NUREG 0654, Revision 1.

The scenario was reviewed in advance of the scheduled exercise date and was discussed in detail with licensee representatives on February 26, 1985. While no major problems with the scenario were identified, some inconsistencies became apparent during the exercise. The inconsistencies, however, failed to detract from the overall performance of the licensee's emergency organization.

The scenario developed for this exercise was detailed, and fully exercised the onsite emergency organizations. The scenario also provided sufficient information to the State and local government agencies consistent with the scope of their participation in the exercise.

The licensee made a large commitment to training and personnel through the use of controllers, evaluators, and required personnel participating in the exercise. The controllers appeared to provide adequate guidance throughout the exercise; however, some minor prompting was noted by the inspector. This item was discussed during the exercise critique.

No violations or deviations were identified.

5. Assignment of Responsibility (83201)

This area was observed to assure that primary responsibilities for emergency response by the licensee were established, and that adequate staff was available to respond to an emergency pursuant to 10 CFR 50.47(b)(1), paragraph IV.A of Appendix E to 10 CFR 50, and specific criteria defined in Section II.A of NUREG-0654, Revision 1.

The inspector observed that specific emergency assignments were made for the licensee's emergency response organization, and that adequate staff was available to respond to the simulated emergency. The initial response organization was augmented by designated licensee representatives; however, because of the scenario scope and conditions, long term or continuous

staffing of the emergency response organization was not required. Discussions with licensee representatives indicated that sufficient technical staff was available to provide for continuous staffing of the augmented emergency organization if needed.

The inspector also observed the activation, staffing, and operation of the emergency organization in the Technical Support Center (TSC), Operations Support Center (OSC), and Emergency Operations Facility (EOF). At each response center, the required staffing and assignment of responsibility were consistent with the licensee's approved procedures.

No violations or deviations were identified.

6. Onsite Emergency Organization (82301)

The licensee's onsite emergency organization was observed to assure that the following requirements were implemented pursuant to 10 CFR 50.47(b)(2), paragraph IV.A of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.B of NUREG 0654, Revision 1: (1) specific definition of responsibilities for emergency response; (2) adequacy of staffing to assure initial facility accident response in key functional areas at all times; (3) specification of onsite and offsite support organizational interactions.

The inspector observed that the initial onsite emergency organization was adequately defined and that staff was available to fill key functional positions within the emergency organization. Augmentation of the initial emergency response organization was accomplished through mobilization of off-shift personnel. The on-duty Shift Supervisor assumed the duties of Emergency Coordinator promptly upon initiation of the simulated emergency and directed the response until relieved by the Station Manager.

Required interactions between the licensee's emergency response organization and State and offsite support agencies were adequate and consistent with the scope of the exercise. Significant improvement in licensee/State interaction was noted by the inspectors.

No violations or deviations were identified.

7. Emergency Classification System (83201)

This area was observed to assure that a standard emergency classification and action level scheme was in use by the nuclear facility licensee pursuant to 10 CFR 50.47(b)(4), paragraph IV.C of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.D of NUREG 0654, Revision 1.

An emergency action level matrix was used to promptly identify and properly classify the emergency and escalate to more severe emergency classifications as the simulated emergency progressed. Licensee actions in this area were considered adequate.

An inspector observed that the emergency classification system was in effect as stated in the Radiological Emergency Plan and in the Implementing Procedures. The system appeared to be adequate for the classification of

the simulated accident and the emergency procedures provided for initial and continuing mitigating actions during the simulated emergency.

No violations or deviations were identified.

8. Notification Methods and Procedures (83201)

This area was observed to assure that procedures were established for notification of State and local response organizations and emergency personnel by the licensee, and that the content of initial and followup messages to response organizations was established. This area was further observed to assure that means to provide early notification to the populace within the plume exposure pathway were established pursuant to 10 CFR 50.47(b)(5), paragraph IV.D of Appendix E to 10 CFR 50, and specific criteria defined in Section II.E of NUREG 0654.

An inspector observed that notification methods and procedures were established and used to provide information concerning the simulated emergency conditions to Federal, State and local response organizations, and to alert the licensee's augmented emergency response organization. Telephone notification of State and local response organizations was promptly followed by transmission of hard copies of the notification to these organizations and the licensee's Emergency News Media Center (ENMC).

The prompt notification system (PNS) for alerting the public within the plume exposure pathway was in place and operational. The system was actuated during the exercise to simulate warning the public of significant events occurring at the plant site.

No violations or deviations were identified.

9. Emergency Communications (83201)

This area was observed to assure that provision for prompt communications among principal response organizations and emergency personnel was established and maintained pursuant to 10 CFR 50.47(b)(6), paragraph IV.E of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.F of NUREG 0654, Revision 1.

Communications among the licensee's emergency response facilities and emergency organization, and between the licensee's emergency response organization and local offsite authorities were adequate and consistent with the scope of the exercise. Technical information was provided to the State of Mississippi authorities in a timely manner.

No violations or deviations were identified.

10. Emergency Facilities and Equipment (83201)

This area was observed to assure that adequate emergency facilities and equipment to support an emergency response were provided and maintained pursuant to 10 CFR 50.47(b)(8), paragraph IV.E of Appendix E to 10 CFR 50, and specific criteria defined in Section II.H of NUREG 0654, Revision 1.

The inspectors observed the activation, staffing, and operation of the emergency response facilities and evaluated the equipment provided for emergency use during the exercise.

- a. Control Room - The inspector observed that reactor control room operations personnel acted promptly to initiate required responses to the simulated emergency. Emergency procedures were readily available, routinely followed, and factored into accident assessment and mitigation exercises.

Control Room personnel involvement was essentially limited to those personnel assigned routine and special operational duties. Effective management of personnel gaining access to the control room precluded overcrowding and maintained an ambient noise level required for orderly conduct of operations under emergency conditions.

The shift supervisor and the control room operators were cognizant of their duties, responsibilities, and authorities. These personnel demonstrated an understanding of the emergency classification system and the proficient use of specific procedures to determine and declare the proper classification.

- b. Technical Support Center (TSC) - The TSC was activated and promptly staffed following notification by the Coordinator of the simulated emergency conditions leading to the Alert classification. The facility staff appeared to be knowledgeable concerning their emergency duties, authorities, and responsibilities, and the required operation proceeded smoothly. This facility was provided with adequate equipment for support of the assigned staff. TSC security was promptly established.

The independent ventilation system was actuated during the exercise. During operation of this facility, radiological habitability was routinely monitored. Dedicated communicators were assigned to the facility and all required notifications were promptly implemented.

Status boards were strategically located to facilitate viewing by the TSC staff. Status boards were frequently updated as required to chronicle changes in plant status, and accident assessment and mitigation throughout the exercise. The inspectors noted that a status board dedicated to trending of simulated plant systems and engineering data was maintained and updated during the accident sequence.

- c. Operations Support Center (OSC) - The OSC was promptly staffed following activation of the emergency plan by the Emergency Coordinator. An inspector observed that teams were promptly assembled, briefed, and prepared for deployment. The OSC Supervisor appeared to be cognizant of his duties and responsibilities. During operation of this facility, radiological habitability was routinely monitored and documented.

- d. Emergency Operations Facility (EOF) - The EOF is located in the Training Building. The facility was adequately equipped and staffed to support an emergency response.

EOF security was promptly established, and the independent ventilation system was actuated. During operation of the facility, radiological habitability was routinely monitored. Status boards and other related visual aids were strategically located and were readily accessible for viewing by the EOF staff. Dedicated communicators were assigned to the facility to assure that all required notifications were promptly implemented.

Inspection disclosed the following additional findings, namely: (1) assumption of duties by the EOF Director was definite and firm; (2) staff briefings were frequent and consistent with changes in plant status and progress in accident assessment and mitigation; (3) communications between the EOF and the other emergency response facilities were effective; (4) engineering and other technical support functions including the State of Mississippi dose assessment group were readily accommodated and factored into problem-solving during the exercise. Interaction among the facility technical groups, including the State dose assessment group was adequate and effective.

No violations or deviations were identified regarding emergency response facilities and equipment.

11. Accident Assessment (82301)

This area was observed to assure that adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition were in use as required by 10 CFR 50.47(b)(9), paragraph IV.B of Appendix E to 10 CFR 50, specific criteria promulgated in Section II.I of NUREG 0654, Revision 1.

The accident assessment program included assessment of plant systems and status, and the effects of resulting radiological hazards to onsite and offsite personnel. During the exercise, the engineering accident assessment team functioned effectively in analyzing plant status to provide recommendations to the Site Emergency Manager regarding mitigating actions required to reduce damage to plant systems, prevent releases of radioactive materials, and terminate the emergency condition.

It was noted that following declaration of the General Emergency, the licensee failed to recommend offsite sheltering consistent with licensee revised Emergency Preparedness Procedure 10-S-01-5. Although this item was identified by the licensee, it was discussed at the exercise critique. The licensee agreed to evaluate this item and implement the required corrective action.

Inspector Followup Item (50-416/85-04-01, 50-417/85-01-01): Following General Emergency declaration, recommend protective action consistent with Emergency Preparedness Procedure 10-S-01-5, General Emergency.

Radiological assessment activities involving in-plant and offsite monitoring were conducted by licensee radiation monitoring teams. Offsite radiological effluent data was reported to the TSC as appropriate. EOF dose assessments and projections were computed and compared on a timely basis with results received from the TSC, based on data transmitted by the offsite monitoring group.

Members of the offsite monitoring team were cognizant of their duties and responsibilities. They appeared to be familiar with survey procedures and instrumentation, and the predesignated sampling sites and routes consistent with the scope of the exercise. It was noted during the exercise, however, that the SAP offsite monitoring team failed to follow Section 6.6.3 of Procedure No. 10-S-01-14 (Rev. 6). The referenced sections require estimation of beta dose rate by subtracting beta-shield-closed reading from beta-shield-open readings and multiplying the difference by the "beta correction factor". This finding was discussed at the exercise critique. The licensee agreed to evaluate this item.

Inspector Followup Item (50-416/85-04-02, 50-417/85-01-02): Estimate beta dose rate, as defined by EPP-10-S-01-14 (Rev. 6), by subtracting beta-shield-closed reading from beta-shield-open reading and multiplying difference by the "beta correction factor".

The dose assessment procedure used in the TSC and EOF incorporated detailed meteorological data available from existing onsite meteorological facilities or dedicated offsite alternate sources. Default values were also available for use if there were any questions regarding the reliability of the meteorological data obtainable from the above sources.

No violations or deviations were identified.

12. Public Education and Information (82301)

This area was observed to assure that information concerning the simulated emergency was made available for dissemination to the public as required by 10 CFR 50.47(b)(7), paragraph IV.D of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.G of NUREG-0654, Revision 1.

Information was provided to the media and the public in advance of the exercise. The information included details on how the public would be notified and the initial actions which should be taken in the event of a radiological emergency. A rumor control program was also in place.

The licensee activated a near site (Port Gibson, Miss.) Emergency News Media Center (ENMC). The facility was adequately equipped. Coordination of information between the State and utility was timely. Both utility and State groups worked together effectively in the ENMC. Written press releases were prepared and issued from the ENMC. Releases issued were timely, and adequately reflected plant emergency conditions and mitigating actions taken or planned. Corporate and State spokesmen conducted periodic press briefings. The briefings were technically accurate and presented in a manner readily understood by laymen. Visual aids were provided which effectively defined the simulated accident and the local areas within the plume exposure 10 mile EPZ impacted by radiological releases. A conference

telephone link was established between the ENMC, Mississippi Emergency Management Agency (MEMA) Operations Center, and the MP&L general office during the press briefing. This feature aided the exchange of news information.

No violations or deviations were identified.

13. Radiological Exposure Control (82301)

This area was observed to determine that methods for controlling radiological exposures during an emergency were established and implemented for emergency workers, and that such methods included exposure guidelines consistent with EPA recommendations as required by 10 CFR 50.47(b)(11) and specific criteria promulgated in Section II.K of NUREG 0654.

An inspector noted that radiological exposures were controlled throughout the exercise by issuing supplemental dosimeters to emergency workers and by conducting periodic radiological surveys in the emergency response facilities. Exposure guidelines were in place for various categories of emergency actions, and adequate protective clothing and respiratory protection were available if needed.

No violations or deviations were identified.

14. Recovery and Reentry Planning (82301)

This area was observed to assure that general plans were made for recovery and reentry as required by 10 CFR 50.47(b)(13), paragraph IV.H of Appendix E to 10 CFR 50, and specific criteria in Section II.M of NUREG 0654.

The licensee developed general plans and procedures for reentry and recovery which addressed both existing and potential conditions. The plans contained the position/title, authority, and responsibilities of each key individual in the recovery organization. The plans and criteria addressing deescalation of the emergency were consistent with the scope of the exercise and the scenario developed therefor.

No violations or deviations were identified.

15. Exercise Critique (82310)

The licensee's critique of the emergency exercise and weaknesses noted in their emergency response organization were formally presented to licensee management for corrective actions as required by 10 CFR 50.47(b)(14), paragraph IV.E of Appendix E to 10 CFR 50 and specific criteria promulgated in Section II.N of NUREG 0654.

The exercise critique was conducted on February 28, 1985. Licensee management, key exercise participants, and NRC representatives were present. The licensee discussed areas of the exercise which required improvement. The inspectors determined that the critique was comprehensive, and adequately addressed the weaknesses identified in their emergency responses during the exercise. The inspectors attended the critique conducted by the

licensee prior to the formal licensee/NRC critique. Inspection confirmed that the licensee conducted a detailed assessment of their conduct and operation of the emergency facilities during the exercise. Identified weaknesses and required improvements were recorded to assure that required corrections are promptly implemented.

No violations or deviations were identified.

16. Federal Emergency Management Agency (FEMA) Report

A report of FEMA's evaluation of offsite preparedness will be provided by a separate transmittal.

17. Public Meeting

Public critiques of the exercise were held in St. Joseph, Louisiana and Port Gibson, Mississippi. Agencies participating in the critiques included the licensee, States and local agencies, FEMA, and NRC.

18. Inspector Followup (92701)

- a. (Closed) Inspector Followup Item (IFI) 50-416/83-07-02: Poor interaction between licensee and State of Mississippi news media staffs which effectively inhibited free flow and coordination of news and information between the respective staffs. Observation and review during the subject exercise disclosed that required interaction and coordination of respective staff efforts were achieved.
- b. (Closed) IFI 50-416/84-07-01: Confusing exercise instructions given by Shift Supervisor. During the subject exercise, the Shift Supervisor was observed to consistently provide his staff with clear and specific instructions and orders.
- c. (Closed) IFI 50-416/84-08-01: Delay in classification of emergency. During the subject exercise, the licensee was observed to classify events in a timely manner.
- d. (Closed) IFI 50-416/84-08-02: State of Mississippi not provided with periodic updates on plant status. During the subject exercise, the licensee was observed to provide timely and concise updates of plant status to offsite agencies including the States of Louisiana and Mississippi.
- e. (Closed) IFI 50-416/84-08-04: Delay in informing State and offsite agencies of protective action responses. During the subject exercise, the licensee was observed to promptly transmit protective action recommendations to offsite agencies including the State of Mississippi.