



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

JUN 12 1984

Report No.: 50-416/84-13

Licensee: Mississippi Power and Light Company
Jackson, MS 39205

Docket No.: 50-416

License No.: NPF-13

Facility Name: Grand Gulf 1

Inspection Dates: April 30 - May 4, 1984

Inspection at Grand Gulf site near Port Gibson, Mississippi

Inspector:

J. L. Kreh
J. L. Kreh

6-8-84

Date Signed

Accompanying Personnel: G. A. Stoetzel'

Approved by:

W. E. Cline
W. E. Cline, Chief

6-8-84

Date Signed

Emergency Preparedness Section
Division of Radiation Safety and Safeguards

SUMMARY

Scope: This routine, unannounced inspection involved 70 inspector-hours on site in the area of emergency preparedness.

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

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REPORT DETAILS

1. Persons Contacted

Grand Gulf Nuclear Station

- *R. F. Rogers, Assistant Plant Manager, Operations
- *J. D. Bailey, Compliance Coordinator
- *M. C. Williams, Chemistry/Radiation Control Superintendent
- *J. C. Vincelli, Radiation Control Supervisor
- *S. F. Tanner, QA Supervisor
- *J. G. Hurley, Emergency Planning Coordinator
- *R. D. Brown, Plant Chemist
- T. Lee, Station Health Physicist
- C. D. Stafford, Shift Superintendent
- L. B. Moulder, Shift Superintendent
- C. V. Hicks, Shift Superintendent
- C. W. Ellsaesser, Shift Superintendent
- D. H. Wells, Nuclear Instructor

MP&L Corporate

- L. F. Dale, Manager, Nuclear Services
- L. R. McKay, Manager, Radiological and Environmental Services
- J. G. Cesare, Jr., Manager, Nuclear Licensing
- W. E. Edge, Manager, Programs Quality Assurance
- F. G. Moreno, Manager, Administrative and Business Services
- J. L. Hogue, Manager, Nuclear and Educational Communications
- J. Wallace, Corporate Health Physicist
- G. W. Ingram, QA Consultant
- D. A. Schneck, Consultant (Tera Corporation)
- G. T. Harper, Consultant (WOTEC)

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on May 3, 1984, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

Licensee corrective action taken on a* violation identified in Report Nos. 50-416/84-01 and 50-417/84-02 was reviewed and determined to be inadequate. This violation remains open. See paragraph 6 below for details.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. A new unresolved item identified during this inspection is discussed in paragraph 13.

5. Emergency Detection and Classification (82201)

The inspector reviewed a sample of the initiating conditions and Emergency Action Levels (EALs) in Emergency Plan Procedure 10-S-01-1 (EPP-1, "Activation of the Emergency Plan") and verified that they are consistent with those in the Emergency Plan (EP) and with the initiating events listed in NUREG-0654, Rev. 1, Appendix 1.

EPP-6 ("Notification of Offsite Agencies and Plant On-Call Emergency Personnel") specifies that State and local agencies will be notified within 15 minutes of the declaration of an emergency. The Operational Hot Line (OHL) is used for both the initial notification and periodic updates to offsite agencies.

Four of the station's five Shift Superintendents were interviewed by the inspector and were asked to determine, based on given plant conditions and/or parameters, the appropriate emergency classification for each of 4 situations. All classification determinations were consistent with EPP-1, although some of the Shift Superintendents had some difficulty classifying one of the situations (a "General Emergency" event) due to the fact that it fell under "Other", the last of 18 categories of plant conditions. The inspector noted that none of the Shift Superintendents misinterpreted the nonstandard scientific notation (e.g., 5×10^{-7} instead of the proper 5 E-7 or 5×10^{-7}) used consistently in EPP-1, Attachment 1. The inspector pointed out the need for adoption of standard notation in the next revision of EPP-1.

The inspector had no further questions in this area.

6. Protective Action Decision-Making (82202)

This area was reviewed during a special inspection on January 16-17, 1984 (see Report Nos. 50-416/84-01 and 50-417/84-02). The current inspection reviewed corrective actions taken by the licensee in response to the Notice of Violation issued with the above-referenced report.

Although EPP-5 ("General Emergency") was revised in response to the January 1984 findings, the inspector determined that the range of protective actions that had been developed was still not consistent with Federal guidance, in that the procedure contained no provision for an immediate sheltering recommendation (2-mile radius, 5 miles downwind) upon declaration of a General Emergency. The licensee satisfactorily resolved this procedural inadequacy by issuing a Temporary Change Notice (dated 5-2-84) to EPP-5 before the completion of the inspection. The Shift Superintendents

had not yet received the TCN at the time of their walk-throughs, however, and were thus unable to formulate the required initial sheltering recommendation at the General Emergency classification.

As a result of the walk-throughs with the Shift Superintendents, the inspector also determined that EPP-5, used in combination with EPP-12 ("Offsite Dose Calculations"), does not provide appropriate guidance for formulating protective action recommendations based on projected doses. One of the scenarios presented in the walk-throughs involved a noble gas release with 4-hour centerline dose projections of 135 rems at 0.4 miles, 11 rems at 2 miles, and 1 rem at 10 miles. Each of the Shift Superintendents interviewed on this scenario produced correct dose projections, given the release rate and the meteorological conditions; however, their recommended protective actions were limited to evacuation of downwind sectors (1 and 4 sectors, respectively) to 10 miles. The inspector discussed with licensee representatives the "keyhole" concept of protective actions for the plume-exposure pathway (as presented in NUREG-0654, Rev. 1, p. 16 and Appendix 1) and emphasized the need to include explicit guidance on this approach in EPP-5 and/or EPP-12. During the exit meeting, licensee management committed to revising the procedure(s) to incorporate this guidance by June 2, 1984 (30 days), and to completing appropriate training on the revised procedure(s) by June 17, 1984 (45 days).

Based on the above findings, the violation in this area remains open (50-416/84-01-01 and 50-417/84-02-01). Corrective actions planned by the licensee will be reviewed during the next inspection.

7. Notification and Communications (82203)

The inspector reviewed EPP-6 and EPP-24 ("Maintenance of Emergency Preparedness"), and conducted interviews with appropriate site personnel.

The inspector observed the Control Room communicator perform offsite notifications on the licensee's OHL for the actual Unusual Event declared on May 2, 1984. Notifications to offsite agencies were completed successfully in approximately 10 minutes, except Tensas Parish, which could not be contacted on the OHL and was notified via commercial telephone. Weekly notification checks to offsite agencies are made by the Control Room and documented in the Control Room logs. The site EPC conducts a monthly emergency classification/notification drill in the Control Room. Review of the records of these drills indicated that any deficiencies noted in the OHL were immediately reported to the phone company.

Emergency communications equipment in the ERFs (TSC, OSC, and EOF) was determined to be as indicated in inventories in the EP and EPPs. Appropriate backup systems were available among the ERFs and between the ERFs and offsite agencies.

8. Changes to Emergency Preparedness Program (82204)

The inspector reviewed EP Sections 8.4 and 8.5 and interviewed appropriate licensee personnel. A review of all EPP revisions in the past year showed that plant management had reviewed and signed off on all revisions.

The inspector found no physical changes to the ERFs or additional nonemergency functions added to the ERFs which adversely affected their intended emergency functions.

A review of the plant and corporate staffs found no organizational changes in the past year which would adversely affect the emergency program. The functions of site and corporate EPC have remained constant in the past year.

The licensee's procedure for distribution of EP/EPP revisions to appropriate personnel and organizations was reviewed and found to be adequate. The licensee's "Office Services" section requires that all holders of controlled copies sign and return a form stating that each revision has been received. Office Services retains this written documentation to verify that all controlled copies are current.

9. Shift Staffing and Augmentation (82205)

The inspector reviewed EPP-6 and interviewed appropriate plant staff. The licensee's on-call personnel list is updated quarterly by the site EPC. Any changes that are made in the interim period are reported in writing directly to the Control Room with a copy to the EPC.

The on-call list includes the home phone numbers and pager (beeper) number of the person on call for each emergency function. Currently, no routine checks are made of the pager system; however, the site EPC stated that he is in the process of establishing such a check system.

The inspector noted that the licensee has never performed a study to document augmentation time with regard to Table 5-1 of the Emergency Plan (i.e., the licensee's equivalent of Table B-1 in NUREG-0654). The licensee was made aware of the need to perform such a test. The merits of conducting such a study as part of the testing on the pager system was discussed with licensee representatives. This is an inspector follow-up item (50-416/84-13-01).

10. Training (82206)

During the past two months, the licensee has phased into use a computerized system for tracking the training of emergency organization personnel. It appears that this system will be very useful to the training organization; among other capabilities, the computer can be queried as to which members of the emergency organization are due for training in any selected area through a specified date (e.g., 30 days hence). The inspector was able to readily determine from the computer printout that 3 of the 4 Shift Superintendents who were interviewed during this inspection had already received classroom

training on EPP-5, Rev. 4, issued January 26, 1984. Since Shift Superintendents are required by AP 01-S-04-15 ("Required Reading Program") to peruse applicable EPP revisions, the one who had not yet received updated formal training on EPP-5 nevertheless demonstrated adequate familiarity with that revised procedure during his interview.

As noted in paragraph 7 of Report Nos. 50-416/84-01 and 50-417/84-02, the licensee had identified a problem with the emergency preparedness training program in that some operations personnel had not been trained on an annual basis as required by the EP. The licensee's internal Corrective Action Request (CAR) on this matter was completed and cleared in April 1984. It appears that the new computerized tracking system will significantly improve the licensee's ability to ensure the timeliness of emergency preparedness training and retraining.

The inspector also discussed training matters with several members of the licensee's staff at the Corporate Office. The inspector reviewed descriptions of position responsibilities (as delineated in CEPP-6.6) for the Offsite Emergency Coordinator, EOF Administrative Director, EOF Communicator, CEC Communicator, Corporate Information Officer, and Public Information Officer. The descriptions were appropriately detailed and explicit. It was noted that corporate procedures specify that members of the offsite emergency organization are to be trained in accordance with Grand Gulf training procedures with respect to frequency and subject matter.

The inspector had no further questions in this area.

11. Dose Calculation and Assessment (82207)

The inspector reviewed EPP-12 ("Offsite Dose Calculations") and interviewed appropriate plant and corporate personnel with regard to dose assessment. The licensee's dose calculational scheme is a manual system which is based on dose conversion factors presented in EPA-520/1-75-001. Isopleth overlays and atmospheric dispersion parameters (X/Q) were developed by a consultant several years ago. The same calculational scheme is used by the State of Mississippi.

The inspector compared results of the licensee's dose assessment system with IRDAM using several scenarios developed in NUREG/CR-3012, Vol. 3 ("IRDAM - Scenario for Comparing Dose Assessment Models"). Comparisons for two noble gas release scenarios and one radioiodine release scenario were within a factor of two.

The inspector conducted walk-throughs with 3 site health physicists, 3 shift superintendents, and 1 corporate health physicist. All licensee personnel interviewed were capable of making timely, accurate dose calculations. One staff member interviewed was not familiar with the format of the dose calculation worksheet in EPP-12. This was attributed to the recent issuance of the procedure (March 30, 1984) and the fact that training on the revision was not complete.

The inspector noted that EPP-12 did not have guidance for use of the table relating ARM readings for the drywell and containment to containment source term (p. 5 of Attachment I to EPP-12). It is not clear based on this procedure how to project doses once one has determined a source term in containment. The procedure should be amended to clarify this matter. This is an inspector follow-up item (50-416/84-13-02).

The inspector discussed with the licensee the desirability of computerizing the current manual dose calculation system to eliminate potential transpositional errors. Such a computerized system would also provide a hard copy of the results and simplify repetitive calculations. The licensee has been made aware of this concern previously. During the exit meeting, the licensee showed the inspector a purchase order that had just been written for a small computer for the TSC which is to be used for such calculations.

12. Public Information Program (82209)

The inspector reviewed, and discussed with corporate representatives, the first edition of the licensee's emergency planning publication, which was mailed in January 1984 to about 7,000 households within the 10-mile EPZ. This publication is apparently the first of its kind to be the cast in the form of a calendar, "full-sized" and designed to be displayed on the wall. As each month is "turned over", further information (in most cases confined to a single topic) is presented in verbal and pictorial form. Particularly noteworthy is the fact that the text has been printed in a relatively large face. The calendar was developed in a cooperative effort between the licensee and State and local agencies, and was printed by the licensee. The inspector verified that the publication contains the information required by 10 CFR 50, Appendix E, paragraph IV.D.2 and NUREG-0654, Section II.G.

The inspector was shown a copy of a poster that the licensee has developed for distribution by local emergency preparedness organizations and State agencies. The posters (about 250 have been printed) are expected to be placed primarily in storefronts to inform the transient population of what should be done in the event of a nuclear plant emergency. In addition, licensee representatives stated that a brochure is being developed for placement in motels and tourist centers.

The inspector had no further questions in this area.

13. Licensee Audits (82210)

Through a review of the licensee's Programs Quality Assurance Report No. MNEP-83/01, and an interview with the lead auditor for that report, the inspector determined that an independent review of the emergency preparedness program had been conducted during the preceding 12 months (specifically, during the period November 28 - December 9, 1983), as required by EP Section 8.5 and 10 CFR 50.54(t). That audit produced 7 CARs, as a result of which licensee management has established July 1, 1984 as the deadline for issuance of a complete revision to the EP and EPPs in order to address the

CARs. The inspector was satisfied with the operation of the mechanism that has been established to address audit findings.

The inspector was unable to determine whether the audit had evaluated for adequacy the interfaces with State and local agencies. Although the auditor asserted that such an evaluation had been performed, the discussion of this matter in the report was extremely sketchy in comparison with that of other aspects of the audit. Specifically, the report states that "[EP] Appendix D contains letters of agreement but not all of the letters identify the emergency measures to be provided and criteria for their implementation." The report also indicates which of the offsite agencies had been offered training and whether it was completed. Although requested, no other documentation was made available to the inspector regarding the evaluation for adequacy of the interfaces with State and local governments. Licensee personnel stated that details of the evaluation are contained in auditors' notes and other documents which could not be located in the absence of the Corporate Emergency Preparedness Coordinator during the inspection. This matter is an unresolved item (50-416/84-13-03) which will be evaluated during the next inspection.