



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

Report Nos.: 50-416/84-21

Licensee: Mississippi Power and Light Company
Jackson, MS 39205

Docket No.: 50-416

License No.: NPF-13

Facility Name: Grand Gulf

Inspection Date: May 8 - June 14, 1984

Inspection at Grand Gulf site near Port Gibson, Mississippi

Inspectors: Robert E. Caswell for 7/23/84
A. G. Wagner Date Signed

R. E. Caswell for 7/23/84
J. L. Caldwell Date Signed

Approved by: C. A. Julian 8/1/84
C. A. Julian, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Areas Inspected

This routine, unannounced inspection involved 101 resident inspector-hours on site in the areas of Operational Safety Verification, Maintenance Observation, Surveillance Testing Observation, Reportable Occurrences, RHR Hanger Problem, and Nuclear Plant Engineering Procedure Design Change Controls.

Results

Of the six areas inspected, no violations or deviations were identified in five areas; four apparent violations were found in one area (failure to implement by procedure, paragraph 10.b; failure to establish nonconformance control measures, paragraph 10.c; failure to implement procurement procedures, paragraph 10.d; and failure to follow procedure, paragraph 10.e).

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *J. E. Cross, General Manager
- *J. H. Cloninger, Director, Nuclear Engineering and Construction
- *J. D. Bailey, Compliance Coordinator
- *J. M. Kelley, Quality Assurance Engineer
- *L. F. Daughtery, Compliance Supervisor
- *S. M. Feith, Manager, Nuclear Site Quality Assurance
- *L. C. Burgess, Programs Quality Assurance

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

*Attended exit interview.

2. Exit Interview

The inspection scope and findings were summarized on June 14, 1984, with those persons indicated in Paragraph 1 above. The licensee acknowledged the inspector's findings.

3. Licensee Action on Previous Inspection Findings

Not inspected.

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. New unresolved items identified during this inspection are discussed in paragraphs 5 and 10.a and 10.f.

5. Operational Safety Verification

The inspectors kept themselves informed on a daily basis of the overall plant status and any significant safety matters related to plant operations. Daily discussions were held with plant management and various members of the plant operating staff.

The inspectors made frequent visits to the control room such that it was visited at least daily when an inspector was on site. Observations included instrument readings, setpoints and recordings; status of operating systems; tags and clearances on equipment controls and switches; annunciator alarms; adherence to procedures; adherence to limiting conditions for operation; temporary alterations in effect; daily journals and data sheet entries;

control room manning; and access controls. This inspection activity included numerous informal discussions with operators and their supervisors.

Weekly, when onsite, a selected ESF system is confirmed operable. The confirmation is made by verifying the following: accessible valve flow path alignment; power supply breaker and fuse status; major component leakage, lubrication, cooling, and general condition; and instrumentation.

General plant tours were conducted on at least a biweekly basis. Portions of the control building, turbine building, auxiliary building and outside areas were visited. Observations included safety related tagout verifications; shift turnover; sampling program; housekeeping and general plant conditions; fire protection equipment; control of activities in progress; radiation protection controls; physical security; problem identification systems; and containment isolation.

The following comments were noted:

During a tour of the control room and a walkdown of control panel alarms, the inspector noted that there were inconsistencies between certain alarm annunciators and the Alarm Response Instructions (ARI). Specifically, on the 870 panel, position 4A-G2 is labeled "Drwl Chill Wtr. Temp. Hi." The ARI for that position is for "LPCS Pump Room Flooded." The similar alarm position 10A-H3 does not have an ARI for that position. The operators stated that the changes were made as part of design change modifications made to the drywell cooling system. This item is considered unresolved pending review by the licensee of the extent of the problem and its cause. This will be identified as Unresolved Item 416/84-21-01.

6. Maintenance Observation

During the report period, the inspectors observed the below listed maintenance activities for procedure adequacy, adherence to procedure, proper tagouts, adherence to Technical Specifications (TS), radiological controls, and adherence to Quality Control hold points.

MWO-M43653	Division I Diesel Generator Disassembly for Special Inspections
MWO-M41162	Inspect Division I Diesel Generator Overspeed Governor
MWO-M43900	Change Capscrews Division I Diesel Exhaust Manifold

No violations or deviations were identified in the areas inspected.

7. Surveillance Testing Observation

The inspector observed portions of the performance of the below listed surveillance procedures. The inspection consisted of a review of the procedure for technical adequacy, conformance to TS, verification of test instrument calibration, observation on the conduct of the test, removal from service and return to service of the system, and a review of test data.

06-OP-1000-D-1000, Rev. 21 Daily Operating Logs

06-IC-1B21-M-1004, Rev. 21 Reactor Vessel Water Level (PCIs) Level 2 & 1 Functional Test

06-OP-1G33-M-0002, Rev. 20 Standby Liquid Control (RWCU Isolation) Functional Test

06-OP-1C11-V-0012, Rev. 21 RPC Rod Block Functional Test

06-ME-1M10-R-0003, Rev. 20 Drywell Bypass Leakage Test

No violations or deviations were identified in the areas inspected.

8. Reportable Occurrences

The below listed Licensee Event Reports (LERs) were reviewed to determine if the information provided met NRC reporting requirements. The determination included adequacy of event description and corrective action taken or planned, existence of potential generic problems and the relative safety significance of each event. Additional in-plant reviews and discussion with plant personnel as appropriate, were conducted for the reports indicated by an asterisk. The following LERs are closed.

<u>LER NO.</u>	<u>DATE</u>	<u>EVENT</u>
83-097	07-20-83	RWCU Isolation
83-153	09-30-83	Steam Line Instrument Flow Error
*84-002	01-07-84	RPS Bus Trip
*83-188	12-01-83	RPS Bus Trip
84-015	03-26-84	Control Room Fresh Air Inadvertent Start
84-016	03-24-84	Division I Isolation and Diesel Start
84-017	04-09-84	Shutdown Cooling Isolation
84-018	04-14-84	Shutdown Cooling Isolation
84-023	04-30-84	No Continuous Conductivity Monitoring
84-025	05-01-84	Drywell Purge Surveillance Inadequate
84-027	05-30-84	Loss of 115KV Power Supply

(cont'd)

<u>LER NO.</u>	<u>DATE</u>	<u>EVENT</u>
84-019	04-18-84	Lack of Manual Isolation For Ten Valves
84-020	04-23-84	RWCU Isolation
84-021	04-23-84	LCO Time Limits for Off-Gas Sampling Exceeded
84-022	04-20-84	RWCU Isolation
84-028	05-07-84	Effects of Storm

No violations or deviations were identified in the areas inspected.

9. RHR Suction Pipe Hanger Problem

On May 10, 1984, during the test of RHR system 'A' and 'B' subsequent to the suction piping hanger repairs, the inspector witnessed a starting and securing of both systems. The inspector's attention was on the suction piping, especially in the area of the repaired hangers for the respective RHR pump start. The following observations were noted:

- a. The largest vibration and noise occurred in the 'B' RHR piping during the 'B' RHR pump start. A similar vibration and noise occurred in the 'A' suction piping during the 'A' RHR pump start but to a lesser degree.
- b. The vibration seemed to be the greatest just downstream of the repaired hanger and connection to the suction pipe in the vicinity of the suction valve.
- c. From discussion with the licensee, the inspector determined that suction piping in the opposite RHR system also experienced level noises and vibrations but to a lesser degree than the piping associated with the pump started.
- d. During the securing of the RHR pump, no noticeable vibration or noise in the suction piping occurred. However, the inspector was informed that the earlier securing of the RHR pumps did result in level noises and suction piping vibrations. The reason for the difference was the manner in which the system was secured. The further the discharge valve was throttled closed prior to securing the pump, the less the impact on the RHR system suction piping.

10. NPE Design Change Control Program

The inspector conducted a verification inspection of the implementation of the Quality Assurance MPL-Topical-1A design change controls in the Nuclear Plant Engineering Administrative Procedures (NPEAP). The inspection included MPL-Topical-1A policy 3 and some associated design change program aspects. The review included portions of the following procedures:

- NPEAP 01-301, Rev. 2, Design Interface Definition
- NPEAP 01-303, Rev. 5, Evaluation of Changes to Nuclear Plant Engineering Issued Design
- NPEAP 01-304, Rev. 6, Performance of Design and Preparation of Design Change Packages
- NPEAP 01-305, Rev. 5, Preparation and Control of Engineering Design Calculations/Analyses
- NPEAP 01-201, Rev. 1, Organization
- NPEAP 01-306, Rev. 4, Preparation and Control of Engineering Specifications/Standards

The inspector discussed minor comments with licensee representatives. The representative agreed to provide procedure clarifications where necessary. Additionally, the following concerns were identified:

- a. The FSAR Chapter 17.2 Quality Assurance Program is contained in MPL-Topical-1A. The NPEAPs implement the requirements of the quality assurance program and FSAR Chapter 13. 10 CFR 50.59 requires that changes to procedures as described in the FSAR be reviewed to determine if the change involves an unreviewed safety question. The procedures reviewed have undergone numerous revisions and had not had a 50.59 review performed on them. The failure to perform a 10 CFR 50.59 review on the NPEAPs will be identified as an unresolved item pending Regional Review 416/84-21-02.
- b. During the review, it could not be ascertained that the requirements for inspections as described in MPL-Topical-1A Section 3.5.6 were adequately prescribed in the NPEAPs. This section requires that designs be reviewed to assure that design characteristics can be controlled, inspected, and tested. NPEAP 01-304 and 01-306 allude to inspection requirements but do not implement the requirements of section 3.5.6. 10 CFR 50, Appendix B, Criterion V requires that activities affecting quality be prescribed by procedures appropriate to the circumstances. The failure to implement section 3.5.6 will be identified as an apparent Violation 416/84-21-03.
- c. It was noted during the review that the NPEAPs do not contain adequate procedures for implementing the requirements relating to the identification, documentation, and correction of nonconforming conditions. MPL-Topical-1A, paragraph 3.5.13 requires that errors and deficiencies in the design process, including computer programs, that could adversely affect safety-related structures, systems or components shall be documented and corrective action taken to preclude repetition. Section 15.4.1 states that the manager of NPE is responsible for implementing with documented procedures, the control of nonconforming activities applicable to that organization. Additional requirements which are identical or very similar are found in MPL-Topical-1A, Section 16.4.1, 16.4.2, 16.5.1, 16.5.2, 16.5.3, 16.5.4, 16.5.5, and 16.5.6. 10 CFR 50, Appendix B, Criterion XVI requires that measures be established for identification, documentation, and correction of conditions adverse to quality. The failure to establish these measures will be identified as an apparent Violation 416/84-21-04.

- d. It was noted during the review that the NPEAPs do not contain procedures for procurement activities. MPL-Topical-1A, Section 4.4.8 states that the manager of NPE is responsible for assuring procurement activities performed by the Nuclear Plant Engineering Staff, are procedurally controlled in accordance with the requirements of this policy. This includes preparation, review, approval, and issue of procurement documents. 10 CFR 50, Appendix B, Criterion IV requires measures be established to assure adequate quality requirements and procurement prescribed by procedures appropriate to the circumstances. The failure to implement this section will be identified as an apparent Violation 416/84-21-05.
- e. All of the NPEAPs inspected had been reviewed by the Manager of Quality Assurance or a designated representative. The QA reviews were conducted in accordance with Quality Assurance Procedure 6.10, Performance and Documentation of Reviews. This procedure requires an independent and objective examination, and evaluation of the procedures to verify compliance with quality requirements. These same procedures were the subject of an audit, MNPE-82/02. The audit was conducted on February 22-25, 1982. It does not appear that the audit verified NPEAP compliance with higher tier requirements, although some Operational Quality Assurance Manual and NPD Policy and Organization Manual commitments were audited.

Audit MNPE-82/02 was reviewed to determine if the areas audited were the same as the areas where the violations identified in paragraphs 6.c. and d. were found. It was noted that one of the audited areas of NPEAP 01-304, Revision 1, paragraph 6.9. was documenting any nonconformance with procedures for preparation of design change packages.

The current revision of that procedure in effect at the time of this inspection is 6. Revision 6 does not contain that paragraph. It appears that during the revision process, the requirements were removed from the procedure. The failure to perform an adequate review of the procedure as required by QAP 6.10 will be identified as a Violation 416/84-21-06.

- f. It is not apparent that audit MNPE-82/02 conducted February 22-25, 1982, was adequate to detect the problems identified in paragraphs a, b, and d. The audit verified implementation of the NPEAP requirements but does not appear to audit the implementation of the MPL-Topical-1A requirements. This item will be identified as Unresolved Item 416/84-21-07 pending review by the licensee of the adequacy and effectiveness of the audit program to detect inadequacies in implementation of higher tier requirements.

11. SSW Basin Design

On June 1, 1984, the licensee shutdown the plant resulting from a design analysis error on the Standby Service Water System. The error and the appropriate corrective action is under investigation by the licensee. The matter will be followed-up in a subsequent inspection.