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

Report No.: 50-416/84-37

Licensee: Mississippi Power and Light Company
Jackson, MS 39205

Docket No.: 50-416 License No.: NPF-13

Facility Name: Grand Gulf

Inspection Conducted: August 27 to September 14, 1984

Inspectors: R E Carroll for 10/16/84
A. G. Wagner Date Signed

R E Carroll 10/16/84
J. L. Caldwell Date Signed

Approved by: R M Dev for 10/17/84
P. R. Bemis, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine, announced inspection involved 109 resident inspector-hours on site in the areas of Enforcement Followup, Operational Safety Verification, Maintenance Observation, Surveillance Testing Observation, Reactor Scrams, Reportable Occurrences, Technical Specification Training, Design Changes, Power Ascension Testing and Inspector Followup Items.

Results: Of the ten areas inspected, no violations or deviations were identified in nine areas; one apparent violation was found in one area (paragraph 5, failure to follow procedure).

## REPORT DETAILS

1. Licensee Employees Contacted

*J. E. Cross, General Manager
*C. R. Hutchinson, Manager Plant Maintenance
*M. J. Wright, Acting Manager Plant Operations
*J. L. Robertson, Operations Superintendent
*L. F. Daughtery, Compliance Superintendent

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 September 19, 1984, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection findings.

3. Licensee Action on Previous Enforcement Matters

(Closed) Violation 416/84-07-02: (Failure to provide Response Team members with current training): The inspector has reviewed the corrective actions, results achieved and steps taken to avoid recurrence stated in Mississippi Power and Light Company letter AECM-84/0261 dated April 27, 1984. A monthly punch list has been developed to track the correct status of emergency preparedness training of plant personnel. The use of this punch list will ensure assigned personnel are trained and allow preplanning for training which is about to expire. The inspector finds the corrective actions and steps taken to prevent recurrence to be satisfactory; therefore this item is closed.

(Closed) Violation 416/84-07-03: (Failure to prescribe procedures for appointing temporary supervisors): The inspector has reviewed the corrective actions, results achieved and steps taken to avoid recurrence stated in Mississippi Power and Light Company letter AECM-84/0261 dated April 27, 1984. Plant Administrative Procedure 01-5-01-1, "Grand Gulf Nuclear Station Organization Structure", has been revised to address all areas concerning the appointment of temporary supervisors. The inspector finds the corrective actions and steps taken to prevent recurrence to be satisfactory; therefore this item is closed.

4. Unresolved Items

Unresolved items were not identified during this inspection.

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 inspector observed the conduct of 09-S-02-402, Rev. 1, "Individual Control Rod Scram to Reduce Flange Leakage", on September 12, 1984. The instruction was being performed at the direction of the reactor operator at the controls. The operator in the containment was provided a copy of the procedure. The procedure prerequisites require the hydraulic control unit (HCU) valve lineup to be verified in accordance with the system operating instructions. The valve lineup was not provided to the operator in the containment. The operator at the controls was directing the valve check for accumulator 52-17 by two-way radios. More than one valve was being checked at a time by the operators. Contrary to the direction from the control room, the containment operator shut accumulator valve V-101. With V-101 shut, the rod associated with that accumulator would not have inserted into the reactor on a reactor scram signal. The failure to perform a proper HCU valve lineup verification will be identified as apparent Violation 416/84-37-01, Failure to Follow Procedure.

The inspector reviewed the records associated with a reactor power level increase which took place on September 12, 1984. Included in the review was the Control Rod Movement Sequence which documents the control rod startup and shutdown movement sequences. Also included in the sequence is the verification that fully withdrawn control rods are coupled. The control rod coupling check is required by Technical Specification (TS) 4.1.3.4.b for

control rod withdrawn to full out. It was noted that the coupling check verification blocks were not initialed for control rods 20-05, 44-61, 60-21 and 04-45. Subsequently, the control rod withdrawal sequence was continued. The failure of the operator to initial the coupling check verification blocks is considered an isolated case.

6. Maintenance Observation

During the report period, the inspectors observed the below listed maintenance activities. The observations included a review of the work documents for adequacy, adherence to procedure, proper tagouts, adherence to Technical Specifications, radiological controls, observation of all or part of the actual work and/or retesting in progress, specified retest requirements, and adherence to the appropriate quality controls.

I-46034 Reactor Water Level Calibration and Functional Check

E-45627 Q1T48 - F022B Flow Control Modification

No violations or deviations were identified in the areas inspected.

7. Surveillance Testing Observation

The inspector observed the performance of the below listed surveillances. The observation included a review of the procedure for technical adequacy, conformance to Technical Specifications, verification of test instrument calibration, observation of all or part of the actual surveillances, removal from service and return to service of the system or components affected, and a review of the data for acceptability based upon the acceptance criteria.

06-TC-1C51-V-0001, Rev. 20, Intermediate Range Calibration

06-OP-1E51-R-0005, Rev. 22, RCIC Pump Low Pressure Flow Verification Test

06-OP-1C61-M-0001, Rev. 21, Remote Shutdown Panel and Accident Monitoring Instrumentation Channel Check

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. The following LERs are closed.

| LER NO. | DATE | EVENT |
|---|---|---|
| 84-034 | 07-19-84 | Shutdown Cooling Isolation |

| | | |
|---|---|---|
| 84-036 | 07-27-84 | Two Channels of RWCU Trip System Inoperable |

No violations or deviations were identified in the areas inspected.

9. Reactor Scrams

The inspectors reviewed activities associated with the below listed reactor scrams. The review included determination of cause, safety significance, performance of personnel and system, and corrective action. The inspectors examined instrument recordings, computer printouts, operations journal entries, scram reports and had discussions with operations maintenance and engineering support personnel as appropriate.

Scram No. 7, September 5, 1984. The reactor was in range 7 on the Intermediate Range of the Neutron Monitoring System (IRM). A normal plant heat up was in progress. The reactor scram was caused by IRM 'A' and 'F' exceeding their upscale trip point. This type of scram is prevented by operator monitoring of the neutron flux level and ranging-up to the next higher range as flux level increases. In this case the operator failed to range up the IRMs in time to prevent a scram.

The operator was distracted from his duties by other control room activities going on simultaneously. To prevent recurrence, senior licensee management has directed that the following actions be taken:

- The operator assigned to move control rods would have no other responsibilities.
- There would be only one trainee inside the control room horseshoe control area at a time.
- Each shift would be briefed on the scram and its causes, including possible distractions.
- Each shift supervisor would be counseled concerning his responsibilities to maintain order and control in the control room. Congestion is to be avoided, and the number of personnel in the control room limited to those necessary for safe reactor operation.

If properly followed, the above actions should be sufficient to prevent recurrence of this type of scram.

No violations or deviations were identified in the areas inspected.

10. Technical Specification Training

The Senior Resident Inspector reviewed the training conducted by the licensee on the unit Technical Specification (TS) changes. The training given to licensed operators was conducted to satisfy a commitment to the NRC.

The training was conducted in two phases. The first phase covered the proposed Technical Specification changes submitted to the NRC. The training categorized the changes and explained each category. This training was given in early August 1984. The inspector reviewed the training records to verify that all licensed operators had attended. In addition to licensed operators, the training was attended by shift advisors and shift technical advisors.

The second phase of training consisted of a review of the approved issued Technical Specification changes. There were no formal lesson plans for the second phase of training. The site resident inspectors attended one of the training sessions. The instructor was a qualified Senior Reactor Operator who had participated in the review, submittal, and resolution of the Technical Specification problem sheets and change requests. He appeared thoroughly familiar with the T.S. changes. The instructor pointed out all changes made to the T.S. on a page by page review. In pointing out the changes, he provided the applicable basis and background information for each change. The operators were given the opportunity to ask questions necessary for understanding the changes. The senior resident inspector verified the training records kept by the instructor to ensure all licensed operators had received the second phase of training. All licensed operators on-shift had received the training. Three senior reactor operators assigned to the training department had not yet received the training. They are not assigned to shift duties. The inspector was informed that they would receive the second phase of training prior to assuming any licensed duties.

Based on the Senior Resident Inspector's observation, the T.S. training was detailed, thorough and complete. The training provided the operators the operators the necessary technical detail to understand the changes or resolve their questions in regard to the changes.

No violations or deviations were identified in the areas inspected.

11. Design, Design Changes and Modifications

The inspector conducted a review of the design change packages listed below. The review included a verification that the packages were reviewed and approved in accordance with 10 CFR 50.59, the Technical Specifications and Quality Assurance Control. In addition, verification was made to ensure as-built drawings were changed to reflect the modifications, operating procedures were revised where necessary, and design changes are controlled in accordance with established procedures. The procedures used by MP&L Nuclear Plant Engineering have recently been revised as a result of resident inspection activities. They were not looked at during this inspection. The activities were controlled by Plant Administrative Procedure 01-S-07-4, "Plant Changes and Modifications", which was reviewed by the inspector.

| | |
|---|---|
| DCP 82/486 | Pratt Butterfly Valve MDT Operator Position Indicator |
| DCP 84/4027 | Repair of Lines 3" GBB-90 and 18" GBB-81 |
| DCP 83/379 | Modify Tefzel Bearing in Reactor Recirculation Flow Control Valve Linear Velocity Transducers (A&B) |
| DCP 82/3528 | Reconnect Handswitch B21H-518 |

With the above design changes, the below listed changes were reveiwed to ensure that change activities are being conducted in accordance with the appropriate specifications, drawings, that acceptance and startup testing is conducted with technically adequate and approved procedures, and that appropriate controls such as firewatches, welding and cutting permits, etc., are followed where required.

| | |
|---|---|
| DCP 83/4063 | Pipe and Pipe Support Modifications to CRD Hydraulic System Air Lines |
| DCP 83/513 | Change Optical Isolator for the Standby Liquid Control Tank Instrumentation |

Finally, the inspector reviewed the outstanding facility change requests to determine that an excessive backlog of requests is not developing.

No violations or deviations were identified in the areas inspected.

12. Power Ascension Testing

The inspector has monitored and observed the activities associated with startup testing. The inspector kept current on the test schedule and attended startup status and planning meetings. The startup engineer's log was reviewed during the daily control room tour.

The inspector observed all or part of the conduct, or preparation for conduct, of the below listed startup procedures and operations. The observation included a review of the procedure for meeting all test prerequisites, initial conditions, test equipment and calibration requirements. The overall crew performance was observed to ensure that minimum crew requirements were being met, that appropriate revised procedures were in use, that crew actions appeared to be correct and timely, that all data was collected by the proper personnel for final analysis, and that quick summary analysis showed proper plant response to the test. Where test results were available, in preliminary or final form, they were verified to be consistent with observations or that overall test acceptance criteria had been met.

1-E51-SU-14-H, Rev. 3, RCIC System - Heatup (Hot Quick Start)

09-5-02-1, Rev. 2, Heat Balance Calculation

No violations or deviations were identified in the areas inspected.

13. Inspector Followup Items

(Closed) IFI 416/83-38-06: This item has been previously reviewed in inspection report 50-416/84-09. The item was held open after that review until Technical Section Procedure 09-5-05-8, "Surveillance Procedure Scheduling", was issued. Procedure 09-S-05-8 has been issued. There are no further questions. This item is closed.

(Closed) IFI 416/84-24-03 This item dealt with modifying plant procedures to verify the syphon line, installed between the Standby Service Water (SSW) basins, was filled and vented. The inspector reviewed system operating instruction 04-1-01-P41-1, Revision 18, which had been modified to check the syphon line filled and vented, and found the instructions to be adequate. This item is closed.