



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report No.: 50-416/84-16

Licensee: Mississippi Power and Light Company
Jackson, MS 39205

Docket No.: 50-416

License No.: NPF-13

Facility Name: Grand Gulf 1

Inspection at Grand Gulf site near Port Gibson, Mississippi

Inspectors:

A. G. Wagner
A. G. Wagner

5/31/84
Date Signed

C. Julian for
J. L. Caldwell

5/31/84
Date Signed

Robert L. Carroll
R. Carroll

5/31/84
Date Signed

Approved by:

C. Julian
C. A. Julian, Section Chief
Division of Reactor Projects

5/31/84
Date Signed

SUMMARY

Inspection dates March 26 - April 27, 1984

Areas Inspected: This routine, announced inspection involved 151 resident inspector-hours in the areas of Enforcement Followup, Operational Safety Verification, Maintenance Observation, Surveillance Observation, ESF System Walkdown, Reportable Occurrence Followup, Inspector Followup Items, Quality Assurance Activities, Surveillance Audits, Potential Reportable Deficiencies, Quality Assurance Audit Review, and Nuclear Plant Engineering Activity.

Results: Of the twelve areas inspected, no violations or deviations were identified in nine areas; four apparent violations were found in two areas (failure to perform a procedure change safety evaluation, paragraph 3; failure to provide implementing procedure, paragraph 14; failure to follow procedures, paragraph 14; and failure to conduct an adequate audit, paragraph 14); two deviations were found in two areas (failure to certify/train technicians (two examples), paragraph 14; and failure to require PSRC review of all safety evaluations, paragraph 15).

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REPORT DETAILS

1. Persons Contacted

- *J. E. Cross, Plant Manager
- *R. F. Rogers, Assistant Plant Manager
- *C. R. Hutchinson, Assistant Plant Manager
- *J. W. Yelverton, Assistant Plant Manager
- *T. E. Reaves, Jr., Manager of Quality Assurance
- *J. D. Bailey, Compliance Coordinator
- *S. F. Tanner, QA Supervisor
- *L. F. Daughtery, Compliance Supervisor
- *C. A. Abbott, Plant Quality
- *F. H. Walsh, Maintenance Superintendent
- *W. F. Mashlours, Nuclear Plant Engineer
- *S. M. Feith, Nuclear Site QA Manager

Other licensee employees contacted included technicians, operators, and mechanics.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on April 27, 1984, with those persons indicated in paragraph 1 above. The licensee stated that they did not fully agree with all of the Quality Assurance findings.

3. Licensee Action on Previous Inspection Findings

(Closed) Violation 416/83-56-01: The inspectors have reviewed the corrective actions, results achieved and steps taken to avoid recurrence as stated in Mississippi Power and Light Company (MP&L) letter AECM 84/0089 dated February 9, 1984. The inspectors consider the corrective actions and steps taken to prevent recurrence to be satisfactory; therefore, this item is closed.

(Closed) Violation 416/83-56-02: The inspectors have reviewed the corrective actions, results achieved and steps taken to avoid recurrence as stated in MP&L letter AECM 84/0089 dated February 9, 1984. The inspectors consider the corrective actions and steps taken to prevent recurrence to be satisfactory; therefore, this item is closed.

(Closed) Violation 416/83-56-04 and Deviation 416/83-25-01: The inspectors have reviewed the corrective actions, results achieved and steps taken to avoid recurrence as stated in MP&L letter AECM 83/0533 dated August 29, 1983, and AECM 84/0089 dated February 9, 1984. The inspectors consider the corrective actions and steps taken to prevent recurrence for these specific items to be satisfactory. However, during the review of the procedure

involved, it was noted that a 10 CFR 50.59 safety evaluation was not performed.

The inspectors' review was of Plant Administrative Procedure 01-S-06-1, Revision 8, Protective Tagging System. Paragraph 2.2 places responsibility for protective tagging within the Administrative Building, MP&L warehouse, and Training Center, except for fire protection and Security Computer System, with the Maintenance Superintendent. The remaining protective tagging of plant equipment is the responsibility of the Shift Supervisor. These procedural responsibilities are contrary to the FSAR commitment contained in FSAR paragraph 13.1.2.2.3.2. The FSAR paragraph 13.1.2.2.3.2 states that "The Shift Superintendent is responsible for all protective tagging at GGNS." 10 CFR 50.59 requires a safety evaluation be performed on changes to procedures as described in the FSAR. A safety evaluation was not performed on the revision to plant administrative procedure 01-S-06-1, Protective Tagging System. This requirement to perform a safety evaluation is incorporated into plant administrative procedure 01-S-06-24, Revision 3, Safety and Environmental Evaluations paragraph 6.1.1. The failure to perform a procedure change safety evaluation will be identified as an apparent violation 416/84-16-01.

(Closed) Violation 83-38-10: The inspectors reviewed the corrective actions taken to avoid recurrence as stated in MP&L letters AECM 83/0694, 83/0776, and 84/0065 (dated 10/31/83, 12/8/83, and 2/3/84, respectively). The fire protection system impairment procedure (10-S-03-1) has been revised as addressed in NRC letter dated 3/30/84. In addition, fire doors have been posted to indicate prior notification to the shift superintendent is required before blocking the door open. The inspectors consider the corrective actions and steps taken to prevent recurrence to be satisfactory; therefore, this item is closed.

(Closed) Violation 83-50-03: This item involved implementation of a plant reorganization prior to approval of a requested change to the Technical Specifications. The appropriate changes to the Technical Specifications will be made during the current overall TS review program. This item is closed.

(Open) Unresolved 83-38-11: This unresolved item involved incorrect information being included in applications to the NRC for reactor operator exams. This matter is under investigation by the NRC and remains open.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraph 15.

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 resident inspectors are onsite, a selected ESF system is confirmed operable. The confirmation is made by verifying the following: accessible valve flowpath 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.

No violations or deviations were identified in the areas inspected.

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, radiological controls, and adherence to Quality Control hold points.

MWO-42701 - Repair P-53 FY 081
MWO-41968 - Check Valve on SRV Accumulators

No violations or deviations were identified in the areas inspected.

7. Surveillance Testing Observation

The inspectors 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 technical specifications, verification of test instrument calibration, observation of the conduct of

the test, removal from service and return to service of the system, and a review of test data.

06-OP-1C41-M-0001, Rev. 20, Standby Liquid Control Operability
06-OP-1000-D-0001, Rev. 20, Operating Log Surveillance Procedure

No violations or deviations were identified in the areas inspected.

8. ESF System Walkdown

A walkdown was conducted of the accessible portions of the 'B' Residual Heat Removal system. The walkdown consisted of an inspection and verification, where possible, of the required system valve alignment, including valve power available and valve locking, where required; instrumentation valved in and functioning; electrical and instrumentation cabinets free from debris, loose materials, jumpers and evidence of rodents; and system free from other degrading conditions. The following comments were noted:

- a. Valves F051B, F307B, F210, and F211 are required by the plant valve lineup procedure to be closed. Inspection of the valves showed their actual positions were closed; but a review of the as-built drawing M1085A Rev. 22B indicates the valves should be open. Based on the valve's function and a discussion with the licensee, it has been determined that the drawing should show the valves closed. The licensee stated that a DCP would be issued to correct the drawing to indicate that the valves should be normally closed.
- b. An inspection of the electrical lineups per SOI 04-1-01-E12-1 revealed that the label for MOV-F346, the RHR Sample return isolation valve, electrical breaker 52-163105 was in the valve lineup, but 52-16305 was on the actual breaker. The licensee has committed to writing a MWO to correct the actual label to be consistent with the valve lineup which has been determined to be correct.
- c. The valve lineup of SOI 04-1-01-E12-1 listed a valve FY 057 whose required position was open; but the valve operator position for the valve lists it as closed. An inspection of the actual valve revealed that the valve isolated an open-ended test connection and was in fact supposed to be closed. Discussion with the licensee also revealed that not only was the valve lineup incorrect on the required position, but the actual valve number was not FY 057, but FX 057. The licensee has written a TCN to the valve lineup procedure SOI 04-1-01-E12-1 to change FY 057 to FX 057 and change the required position from open to closed.

9. Reportable Occurrence

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>
83-180	11-07-83	Drywell Sump Level Control Inoperative
83-181	11-08-83	RPS Channel 'C' Out-of-Specification Voltage Setting
84-003	03-08-84	Control Room Fresh Air Unit Initiation
84-006	01-20-84	Division I Isolation
84-007	01-28-84	Missing Halon Control Panel Fuses
84-009	02-18-84	Shutdown Cooling Isolation
84-010	02-10-84	Shutdown Cooling Isolation
83-122	09-08-84	CO2 Master Selector Valve Inadvertently Shut
*83-169	10-23-83	CRD Nitrogen Pressure Low
*83-187	11-22-83	Division I ECCS Actuation
83-190	12-14-83	Loss of Shutdown Cooling
84-005	01-19-84	Inadvertent Drywell Purge Compressor Start
84-011	03-09-84	Shutdown Cooling Isolation
84-012	03-14-84	Failure to Check Elevator Control Doors
84-013	03-22-84	Shutdown Cooling Isolation
84-014	03-14-84	Unsealed Fire Barriers

10. Inspector Followup Items

(Closed) IFI 83-38-08: The establishment of an additional logging system for annunciators in the alarmed condition has been considered as not being required by the licensee. The existing system utilizes the operations maintenance work order (MWO) procedure, which requires the malfunctioning annunciator to be indicated as such with a "Do Not Use" sticker. This sticker is required to indicate the associated MWO number; hence, if at some later date an operator requires information concerning the malfunctioning/invalid alarm (i.e., reason invalid, status of repairs, LCO item, etc.), the MWO file/records can be easily obtained. If an alarm is in, and there is no sticker on it, the alarm is considered valid until proven otherwise.

The inspectors found that this system is being followed and appears to be adequate. This item is closed.

(Closed) IFI 416/83-38-02: Quality of Drawings. The licensee's review of General Electric drawings which have been transferred to Bechtel sepias, revealed approximately 700 illegible drawings. The upgrading of these drawings has been combined with the as-built program. Upper tier drawings are scheduled to be completed first, with the remainder to follow. A quality assurance corrective action request is being utilized to track this upgrading process. The inspectors had no further concerns. This item is closed.

(Open) IFI 83-38-03: This item concerns the need to fully include ASME Section XI in-service testing into the routine surveillance program. The licensee's currently NRC approved date for submittal of the Section XI program is August 1984. Following approval of the program by NRC, this item will be reinspected to ensure that all required tests are properly included into plant surveillance procedures. This item remains open.

(Open) IFI 83-38-17: This item tracks the licensee's commitment to review their procedures for incorrect use of the verbs "should" and "must". This will be completed concurrent with the licensee's overall procedure review scheduled for August 1984. The item remains open.

(Closed) IFI 83-38-18: This item questions the need to verify instrument set points during functional tests. This is a generic concern that has been addressed to NRR for review of setpoint methodology. Action, if needed, to implement a uniform requirement for all boiling water reactors will be initiated by NRR. This item is closed.

11. Quality Assurance Activities

On April 4, 1984, the inspectors participated in a conference call originated by MP&L Quality Assurance Department. The purpose of the call was to discuss an MP&L QA proposal to waive or change the requirements of paragraph 6.5.8.4 of the MP&L Operational Quality Assurance Manual; specifically, as this paragraph would apply to the Startup Test Program. The participants included representatives of the NRC Region II office, NRR, and MP&L Corporate QA.

Paragraph 6.5.8.4 of the topical report states that startup procedures are one-time-use procedures. Permanent changes are not to be required to be incorporated in a revision of these procedures until and unless the procedure is used again. MP&L wished to reuse certain startup procedures without making permanent changes. It was MP&L Production Department's contention that these revisions were unnecessary and time consuming. These contentions were apparently agreed to by MP&L Quality Assurance Department representatives. It was pointed out by the NRC representatives that the basis of these requirements are to be found in ANSI 18.7-1976/ANS 3.2 paragraph 5.2.15. The reasons for these requirements were discussed. MP&L QA withdrew its request for any further consideration of this waiver or change.

12. Surveillance Audits

The inspectors conducted a review of the 1984 audits and checking reports of surveillance procedures performed by quality assurance (QA) and plant quality (QC), respectively. These reports were reviewed to ascertain the degree of detail with which they are conducted and review compliance with the QA procedures manual and the plant administrative procedures. The following audit reports were reviewed:

84/0003 - Source Range Monitors
 84/0007 - Traversing In-Core Probe
 84/0008 - High Pressure Core Spray Service Water
 84/0009 - MSIV - Leakage Control System
 84/0012 - Isolation Actuation Instrumentation - Primary Containment
 84/0015 - Containment Spray
 84/0020 - Radiation Monitoring Instrumentation
 84/0023 - Suppression Pool
 84/0028 - Depressurization System - Suppression Pool
 84/0029 - Control Rod Scram Accumulators
 84/0030 - Emergency Core Cooling (ECCS) - Operating
 84/0032 - Radioactive Gaseous Effluent Doses
 84/0034 - Standby Service Water System
 84/0036 - RCIC Steam Supply Low Pressure Functional Test
 84/0037 - LPCI/RHR Subsystem 'A' Quarterly Functional Test
 84/0040 - Feedwater Leakage Control
 84/0054 - Reactor Recirculation Loops - Idle Loop Startup

The following checking reports were reviewed:

00007-84 CO₂ System Functional Test
 00011-84 Suppression Pool Level Wide Range (PAM) Channel 'A' Functional Test
 00027-84 Local Leak Rate Test
 00030-84 SRM 'C'
 00035-84 Containment/Drywell Differential Pressure (PAM) Functional Test
 00043-84 HPCS Quarterly Functional Test
 00051-84 RHR 'B'
 00055-84 APRM Calibration

The reports appear to have been conducted in accordance with the applicable quality procedures. Report findings have been corrected at the time of observation or were documented by the appropriate nonconformance document. The following additional observations were made:

- a. One plant quality checking activity appeared to follow the complete conduct of a surveillance procedure, and all but one verified a part of the conduct of the surveillance procedure.
- b. Three quality assurance audits appeared to follow the complete conduct of a surveillance procedure and four additional audits verified correct conditions for a part of the plant equipment associated with the conduct of the surveillance.

It appears from the small number of independent observations of activities in progress that QA does not have a large presence in the plant observing surveillance activities. This conclusion was discussed with senior licensee management. The inspectors were informed that the QA audit commitments would not allow more time for field verification in this area and meet the schedule for audit completion. It is the inspectors' understanding from senior licensee management that they will review the outstanding audit

commitments in this area. If possible, modifications would be made to these commitments to allow more time to be spent in the plant verifying activities associated with the conduct of the surveillance procedures and imparting a quality assurance presence in the plant.

13. Potential Reportable Deficiencies

The NRC Region II staff has reviewed the information submitted by MP&L concerning potential reportable deficiency 81-44. Based upon this review, the staff finds the licensee's submittal to be satisfactory. Therefore, this item is closed.

14. Quality Assurance Audit Review

The inspectors conducted review and verification of the activities associated with Quality Assurance Audit MAR 84/0035, Unit 1. This was done to verify that the audit was accomplished in accordance with Quality Assurance Program requirements.

The QA audit was conducted to verify that maintenance craft personnel are qualified to perform maintenance activities. The qualifications of craft personnel are based upon special training or job-related experience with equipment. The specified audit acceptance criteria was "7. The program shall take into account the need for ...a. (sic) skills to attain the required quality. 8. The program should provide for indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained." The QA audit findings were "The following area was found to be satisfactory: (emphasis found in audit report) Maintenance activities are being performed by craft personnel who are adequately qualified to perform these activities. No unsatisfactory (emphasis found in audit report) conditions were observed."

The QA auditors observed the maintenance activities being conducted in the plant. These observations involved approximately 16 electricians, eight I&C technicians, and 27 mechanics.

The inspectors reviewed the training of 16 maintenance personnel. The personnel selected for review were taken from the list of personnel audited by quality assurance. The review was done to verify that personnel performing maintenance were qualified in accordance with the FSAR, ANSI 18.1 and the implementing plant administrative procedure. The inspectors identified a number of maintenance training problems.

On one of the maintenance tasks, two I&C technicians were working on the Neutron Monitoring System. The two technicians were not certified to ANSI 18.1 as required by FSAR paragraphs 13.2.1 and 13.2.3. This paragraph requires that all key plant personnel will be certified in accordance with this commitment. The failure to have certified these technicians in accordance with ANSI 18.1 will be identified as a deviation 416/84-16-02.

The FSAR in paragraph 13.2.1.2.2 requires that personnel working on the Neutron Monitoring System will be provided training on this system. The two technicians working on the Neutron Monitoring System were not provided this training. The failure to provide the training as required by the FSAR will be identified as a further example of deviation 416/84-16-02, Failure to provide training.

The two I&C technicians are contractor personnel. A review was conducted to determine if there existed a contractual requirement for ANSI 18.1 certification on the part of the company supplying contractor personnel. No such requirement could be found. The inspectors were informed that it has not been the plant practice to apply the requirements of the plant maintenance personnel training procedures to contractor personnel. The failure to have a program or procedures which certifies and verifies the qualifications and training of contractor personnel performing work on safety-related equipment, will be identified as an apparent violation of 10 CFR 50, Appendix 'B', Criterion V, 416/84-16-03, Failure to provide an implementing procedure.

In addition to the I&C technicians who have no documented training, the inspectors noted that two electricians did not appear to have completed the requirements of plant administrative procedure 01-S-04-18, Rev. 2, Electrical Maintenance Training Program, for working on safety related equipment. Furthermore, three mechanics did not appear to have completed the requirements of plant administrative procedure 01-S-04-17, Rev. 4, Mechanical Maintenance Retraining and Replacement Program, for working on safety related equipment. The applicability to the people involved is not clear. The procedure appears to require all of the requirements to be complied with in order to perform maintenance in a particular area. There was a "grandfather" provision for personnel already at Grand Gulf when the procedure was issued. There is no criteria for evaluation of equivalent experience or training. There is no delineation of authority or responsibility for making an equivalent determination and none appears to be authorized. The failure to require maintenance personnel to fully meet the administrative procedure requirements will be identified as an apparent violation, 416/84-16-04, Failure to follow procedures.

In regards to the aforementioned I&C technicians, they were identified on a memorandum from the Assistant I&C Superintendent as having demonstrated the ability to successfully perform work on indicated systems. The QA auditor apparently assumed that this was a sufficient qualification. Provisions for this type of alternative certification are not contained in the plant administrative procedures.

MP&L-TOP-1A, Appendix A, commits to Regulatory Guide 1.144, which endorses ANSI N45.2.12-1977, Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants. Section 4.3.2.3 requires that selected elements of the quality assurance program shall be audited to the depth necessary to determine whether or not they are being implemented effectively. The failure of the QA auditors to identify in the audit report the deficiencies

subsequently identified in the area audited will be identified as an apparent violation, 416/84-16-05, Failure to conduct an adequate audit.

15. Nuclear Plant Engineering Activity

Just prior to the reactor startup after a maintenance outage, the inspectors were informed of a problem with the Drywell Personnel Air Lock. An identical deficiency had been corrected earlier for the two Containment Personnel Air Locks from the same vendor. The problem was identified on Material Nonconformance Report (MNCR) 00391-84. The MNCR was evaluated by MP&L Nuclear Plant Engineering (NPE) in accordance with NPE Administrative Procedures (AP) 01-801, Rev. 3, Processing of Nonconformance Reports, and 01-304, Rev. 6, Performance of Design and Preparation of Design Change Packages.

MNCR 00381-84 identified specifically that the entire air system for the air lock from the check valves upstream of the air accumulators to the inflatable seals was not seismically designed as required by specification requirements. The MNCR dispositioning included a NPE MNCR Disposition Form, a 10 CFR 50.59 Safety Evaluation and an Environmental Revision Form. The disposition form was signed by the responsible engineer, a verifier, the principle engineer, and a quality assurance engineer. The disposition discussed in some detail the potential effects of the loss of the drywell air lock inflatable seals. In summary, it was concluded that interim operation until the first refueling outage was justified with deficient inflatable seals and any deficiencies with the air supply system for these seals would not further reduce any margin of safety. This conclusion was emphatically adopted by NPE management as the "Engineering" position. This position was discussed with NPE management, plant management and the inspectors prior to reactor startup. During the course of the discussion, the inspectors pointed out that the air system's function was not limited to the inflatable seals. This air system also supplies the motive force engaging the door latches that hold the door closed. It would appear that if the air system was lost during a seismic event, the latches would be released and the door may come open. The door opening would provide a loss of the drywell boundary and allow a vent path bypassing the suppression pool. The failure to evaluate the effects of the air system loss on the operability of the door latches represented a potentially serious oversight in the safety evaluation of this equipment deficiency. The Plant Manager agreed and refused to approve the MNCR or startup the reactor until the air system was corrected.

During the discussion, the inspectors were informed by NPE management that the technical specifications were not consulted during the review, as they were plant staff's responsibility. NPE administrative procedure 01-304, Performance of Design and Preparation of Design Change Packages, paragraph 6.6.5 requires a review of the FSAR and GGNS Technical Specification to determine the necessity of a revision of these documents. The inspectors expressed concern that NPE in their work do not consider the FSAR and TS requirements when evaluating deficiencies in plant equipment.

This matter will remain unresolved pending future NRC review of NPE administrative procedures and practices for safety related work. 416/84-16-06

The licensee has been previously issued a Notice of Violation for inadequate safety evaluation. The licensee responded to a violation cited in inspection report 50-416/82-55. The response was detailed in MP&L letter AECM 82/411, dated September 20, 1982. In this response, the licensee stated Nuclear Production Department would issue and implement a policy to be adhered to by all sections of that department. This policy in Appendix 8.6, Section IV, paragraph A.5 requires all sections to have procedures which will provide for direct review of safety evaluations by the Plant Safety Review Committee. NPE has not implemented this commitment in their procedures. This raises a potential situation whereby the Plant Safety Review Committee may not review in a timely manner all safety evaluations performed by NPE. Thus, contrary to the previous commitment to the NRC in the referenced letter, NPE procedures do not provide for their safety evaluations to be reviewed by PSRC. This is a deviation which will be identified as 416/84-16-07, Failure to require PSRC to review all safety evaluations.