UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report No. 50-416/83-10

Licensee: Mississippi Power and Light Company
Jackson, MS

Facility Name: Grand Gulf 1

Docket No. 50-416

License No. NPF-13

Inspection at Grand Gulf Site near Port Gibson, Mississippi

Inspectors: L J Watson for A. G. Wagner — 4/25/83 Date Signed

L J Watson for D. E. Scott — 4/25/83 Date Signed

Approved by: D. R. Quick — 4/25/83 Date Signed
D. R. Quick, Section Chief, Division of Project and Resident Programs

SUMMARY

Inspection on February 16 - March 11, 1983

Areas Inspected

This routine, announced inspection involved 195 inspector-hours on site in the areas of operational safety verification, maintenance observation, surveillance testing observation, ESF system walkdown, calibration and inspector followup items.

Results

Of the six areas inspected, no items of noncompliance or deviations were identified in five areas; two violations were found in one area, (paragraph 5b, failure to follow procedure; and paragraph 5e, failure to follow procedure.) One deviation was found in one area (paragraph 5d , failure to control safety-related panels).

DETAILS

1. Persons Contacted

Licensee Employees

*C. K. McCoy, Nuclear Plant Manager
*J. W. Yelverton, Site QA Manager
*P. R. Hughes, Regulatory Compliance Supervisor
*L. F. Daughtery, Plant Compliance
*C. Hayes, Plant Quality Suupervisor
*J. Bailey, Plant Quality
*R. R. Weedon, Chemistry/H. P. Superintendent
*T. G. Lee, Staff Health Physics
*C. E. Gulley, Staff Health Physics
*J. Vincelli, Radiation Control Supervisor
*T. Hildebrandt, Health Physics Supervisor
*R. G. Keeton, Operations Superintendent
*S. M. Feith, Operations QA Supervisor

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

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on March 11, 1983, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection findings.

3. Licensee Action on Previous Inspection Findings

(Closed) Violation 416/82-55-03

The inspector has reviewed the Nuclear Production Department Policy and Organization Manual (POM) paragraph 7.12, "Changes, Tests and Experiments." This paragraph incorporates management's policy for complying with 10 CFR 50.59 requirements. The detailed guidance for implementing this policy has been incorporated into POM Appendix 8.6. This appendix was reviewed for conformance with the requirements of 10 CFR 50.59. A review was conducted of the POM, paragraph 7.12, implemented in Grand Gulf Administrative Procedure 01-S-06-3. There are no further questions concerning this item. This item is closed.

(Closed) Violation 416/82-55-04

The licensee has considered this an isolated incident. Disciplinary corrective action was taken with the individual involved. There are no further questions concerning this item. This item is closed.

(Closed) Violation 416/82-55-05

The licensee considered this to be an isolated case of procedural misinterpretation. The inspector does not necessarily agree with the licensee assessment because of the numbers of procedural violations which have occurred during the testing phase. The inspector reviewed the corrective actions to prevent recurrence. The Shift Test Supervisors were notified of the violation and notified to take the readings as required by the procedure. There are no further questions. This item is closed.

(Closed) Violation 416/82-65-01

The inspector has reviewed the corrective actions contained in Mississippi Power and Light Company letter AECM 82/523 of October 29, 1982. The inspector has verified that controlled copies of operating procedures have been placed at the Reactor Water Cleanup, and Fuel Pool Cooling and Cleanup Stations. On February 22, 1983, the inspector observed that the controlled procedure was used during a blowdown and precoat evolution of the fuel pool cleanup control station. There are no further questions concerning this item. This item is closed.

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. One new unresolved item identified during this inspection is discussed in paragraph 11.

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 inspector 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 weekly 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:

a. On February 5, 1983, the offsite 115KV power source was lost while feeding ESF Transformer 12. Diesel Generator 12 auto-started and assumed the load of Bus 16AB. Fifteen minutes following this LOSP event, switchyard breaker J5204 tripped causing the loss of Service Transformer 21, BOP power and the Division I bus 15AA. Diesel Generator 11 assumed the load of bus 15AA. The resultant Incident Report No. 83-2-14 and its technical evaluation concluded that the loss of the 115KV line while feeding Division I resulted in the loss of Division II power. This occurrence was attributed to the cold weather combined with the load shed of Division II Breaker 152-1610 which was feeding auxiliary power in the switchgear. The inspector is concerned that sufficient independence of the offsite power sources, as required by 10 CFR 50 Appendix A, does not exist. Reference is also made to LER NO. 82-045 which describes the event of 8/26/82 in which the loss of the 500 KV source for Division I resulted in the loss of 500KV source feeding Division II simultaneously. This item will be identified as an inspector followup item 416/83-10-01 pending NRC resolution of the concern with independance of offsite power sources.

b. During a plant tour on February 21, 1983, startup source removal and changeout was in progress. It was being accomplished in accordance with Plant Procedure 01-S-06-20, Rev. 2, "Reviewing, Loading and Removal of Neutron Sources." The procedure utilized the refueling platform auxiliary hoist. FSAR paragraph 9.1.4.2.10.2.4.1 describes the auxiliary hoist as being used for handling sources and other core internals. FSAR paragraph 9.1.4.3 describes the hoist's electrical interlock which prevents loads from being lifted higher than approximately 7 feet below the surface of the water. It is equipped with mechanical jamstops as being a backup to the electrical interlocks. During the first source removal the mechanical jam stopped upward movement prior to the source holder being able to clear the reactor vessel flange. After consideration of the safety implications, the shift supervisor had the auxiliary hoist cable manually lifted in order to complete removal of the source holder. During the manual lift, the height limits were observed on the physical cable marker not to exceed the FSAR limits. Appropriate health physics monitoring was performed with no adverse radiation levels. The source was then transferred to the source holders.

   The inspector noted that there were no entries made in the Control Room Operator's Log, the Shift Technical Advisor's Log nor the Shift Superintendent's Log. The inspector further noted that actions directed by the Shift Superintendent were not documented by a corrective action

document as required by Plant Administrative Procedure 01-S-03-1, Revision 4. Paragraph 6.2.6 provides four methods for reporting and processing quality related deficiencies such as this one. This will be identified as Violation 416/83-10-02, failure to follow procedure.

c. On February 22, 1983 the inspector observed portions of the blowdown and precoating of the Fuel Pool Cooling and Cleanup Filter Demineralizer. The evolution was performed in accordance with an approved, controlled procedure, 04-1-01-G41-1, Revision 13. Paragraph 4.6.2 aligns certain system manual valves for the precoat evolution. These valves, F-303 cleanout line drain, F-281 cleanout line drain and F-327 filter demineralizer outlet drain are located behind a biological shield wall. Most of the valves in this area are operated by remote reach-rods passing through the shield wall. Operation of these manual valves requires the operator to crawl over and around piping and filters which will present radiological problems during operations. Senior licensee management has informed the inspector that the problem will be reviewed and appropriate corrective action taken. The inspector will review the corrective action during a subsequent inspection. This will be identified as Inspector Followup Item 416/83-10-03.

d. During a tour of the control room and upper equipment room conducted on February 25, 1983, the inspector noted that six safety-related equipment panels were not locked. The panels were P-872, P-631, P-871, P-763D, P-736E and the Fire Control Panel adjacent to the Power Range Radiation Monitor Division 3 Panel. One of the unlocked panels had the locking indicator installed with the panel in the unlocked condition. Grand Gulf has had a number of violations for failure to control temporary alterations in panels and plant equipment. In response to violation 416/82-40-01, MP&L committed by letter AECM82/304, dated July 6, 1982, to lock all control room cabinets and control subsequent access through the shift supervisor/superintendent. A deviation from this commitment had been discovered on November 31, 1982, and was documented as Deviation 416/82-78-03. This deviation is still open.

The failure to have the control panels locked and controlled by the shift supervisor/superintendent as required by MP&L letter AECM 82/304 is a deviation. This deviation will be identified as 416/83-10-04.

e. During a plant tour on March 4, 1983, an inspection was made of internal conditions in safety-related panels. Panels inspected were located in the control room and upper equipment room. The inspection was made to verify cleanliness conditions and check for temporary alterations. The following observations were made.

(1) It was noted that panel P-691 contained three temporary alteration jumpers. The jumper numbers were checked against the master jumper log. One of the jumpers was not entered or controlled in the jumper log as required by Plant Administrative Procedure 01-S-06-3, Revision 10 paragraph 6.1.3 and 6.1.4. A subsequent

investigation by the licensee indicated that there were three jumpers associated with plant work that were not in the jumper log. All three jumpers were installed by a procedure which contained the required installation and verification signatures. Only one of the licensee's control systems failed to control the jumpers. The failure to control the jumpers in the jumper log constitutes an apparent violation of 01-S-06-3. This will be identified as 416/83-10-05, failure to follow procedure.

(2) It was noted that panel P-877 contained two lifted leads that were not tagged as a temporary alteration. Subsequent review by the licensee identified the leads as suppression pool temperature leads which supply the process computer. The leads were not under procedure or maintenance work order control. Thus they were required by Plant Administrative Procedure 01-S-06-3, Revision 10, paragraph 6.1.2 to be documented and controlled as temporary alteration. The failure to control the lifted leads constitutes an apparent violation of 01-S-06-3. This will be identified as 416/83-10-05, failure to follow procedure. (This is a second example of failure to follow the temporary alteration procedure.)

f. During a review of operations for replacement of the start-up sources, the inspector noted that on 2/17/83 the test for leakage of the sealed sources was not accomplished in accordance with a detailed written procedure. Technical Specification 4.7.5.2.c requires that each sealed startup source be tested for leakage and/or contamination within 30 days prior to being installed in the core. The Radiation Protection Instruction 08-S-02-64, Revision 2, "Leak Testing of Sealed Sources" provides instructions for testing for leakage by swiping or else as indicated by the Radiation Control Supervisor. The actual method of leak testing consisted of draining and flushing the source shipping cask, then performing a radionuclide analysis with a Germanium-Lithium counter in accordance with verbal instructions. The inspector discussed this item with plant health physics personnel. After discussions with regional management it was concluded that the detail for sampling was within the capability of the training and skill of the craft. A detailed procedure was not necessary.

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.

P32141 - Replace damaged wire and signal separation discrepancies in panel 872.

M30418 - Remove SRV 51B and 41B

P31915 - Trouble shoot and retest annunciator P-680-3A, B-4, Recirc Pump A overload trip.

I31996 - Suppression pool thermocouple rework

No violations were identified within the areas inspected.

7. Surveillance Testing Observation

The inspectors observed 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 on the conduct of the test, removal from service and return to service of the system and a review of test data.

06-IC-1E12-M-0002, Rev. 4, RHR 'B' Discharge Pressure (ADS) Channel 2B Functional Test.

No comments

06-IC-1D17-M-0015, Rev. 10, MSL Radiation Monitor Functional Test

No comments.

06-IC-1E21-M-0001 Rev. 13, LPCS Pump Functional Test

No comments.

06-OP-E12-Q-0006, Revision 13, "LPCI/RHR Subsystem "B" MOV Functional Test".

This surveillance procedure could not be completed as written due to the following discrepancies:

a. Instructions stated to remove the key from the "RHR Pump Suction from Suppression Pool" handswitch whereas the key could not be removed.

b. After starting the RHR "B" jockey pump, the instructions stated to return the RHR "B" jockey pump handswitch to "auto" whereas the handswitch does not have an "auto" position. The handswitch has only "start" and "stop" positions.

c. Discrepancy in the actual annunciation of an alarm versus the procedures description of the annunciated alarm.

The inspector noted that these discrepancies were apparently unnoticed during previous performance of the procedure. The procedure was stopped and TCN's were prepared to allow completion of the procedure.

No violations were identified within the areas inspected.

8. ESF System Walkdown

A complete walkdown was conducted of the accessible portions of the High Pressure Core Spray (HPCS) 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 degradating conditions. The following comments were noted on March 10, 1983.

a. The remote operated valve lineup checksheet requires valve F001, HPCS pump suction from CST, to be in the open position. The FSAR P&ID for the MPCS system shows the valve as required to be closed. From the system operating description the FSAR appears to be in error. This will be identified as an Inspector Followup Item 416/83-10-06, pending licensee review and correction. The inspector will review the corrective actions during a subsequent inspection.

b. On the system valve lineup sheet, the description for valve B21-FX066 was changed by a "line thru" from "PDT-N081 (Above Core Plate Tap)" to "PDT-N032 (Below Core Plate Tap)". The inspector determined that the change did not affect the system lineup. After discussion with shift supervision it was determined that it was intended to be used for requesting a procedure clarification . The inspector pointed out the need for not making extraneous markings on official documents. An appropriate change request will be filed.

9. Reportable Occurrence

The below listed Licensee Event Reports (LER's) 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 discussions with plant personnel as appropriate were conducted for the reports indicated by an asterisk. The following LER's are closed.

LER No.	Date	Event
*82-103	11/24/82	Failure to Perform Action Required per LCO for Inoperability of Division III.
*82-128	12/01/82	Division I and II Diesel Generators Inoperable.
*82-152	12/30/82	Diesel Fuel Oil Insolubles Test Not Performed.

*82-165	01/11/83	Unqualified Cable in D/G Control Circuitry
*82-174	01/20/83	D/G Annunciator Panel Circuit Card Failure
*83-038	02/24/83	D/G Tachometer Failure
*82-001	06/18/82	D/G Control Circuit DC Power Failure
*82-131	12/16/82	D/G Fuel Oil Leaks

The inspector had comments as noted on the following LERs:

82-080	10/18/82	Failed Capscrew on D/G Rear Crankcase Cover

The supplemental information for this LER stated that Nuclear Plant Engineering was evaluating the failed capscrew and the findings would be reported in a followup LER. The followup LER was issued March 7, 1983. This item will be held open pending evaluation of the followup LER.

*82-109	12/1/82	Diesel Generator Low Starting Air Pressure

The event description is not accurate in that the diesel generator was in a standby mode, not under surveillance testing, when the air receiver pressure was observed to be low. This condition had not alarmed to the control room operator because of the presence of other diesel conditions i.e., jacket water temperature, lube oil temperature, etc., which blocked the alarm of low air pressure. The air pressure was low because the power to the compressor was off. The updated report of investigations on the open air dryer breaker has not been provided. This item will remain open pending resolution of the concerns expressed herein.

82-156	12/31/82	Diesel Generator Failure to Start and Fuel Oil Leaks

As written, the LER reports that the diesel failed to start for a surveillance test. Based on discussion with the licensee, the attempted start was actually for a maintenance run following extensive repairs and maintenance. The LER should be amended to correctly reflect the testing status and therefore justify that the failure to start was not valid in accordance with Regulatory Guide 1.108. This item will remain open pending resolution of the concerns addressed herein.

10. Inspector Followup Items

(Closed) Inspector Follow-up Item 416/82-28-02

The inspector has reviewed the Safety Evaluation Report (SER) related to the operation of the Grand Gulf Nuclear Station, NUREG-0831. The current installation for prevention of syphoning of water from the spent fuel pool includes stop check valves in the lines to the pool cooling system. The SER in paragraph 9.1.3 allows the use of check valves, syphon breakers or other means to prevent inadvertent pool draining. There are no further questions concerning this item. This item is closed.

(Open) Inspector Follow-up Item 416/82-18-02

The corrective actions for this item are not complete. This item will remain open.

(Open) Inspector Follow-up Item 416/82-55-08

The corrective actions for this item are not complete. The licensee is continuing to review operator logs for adequacy of provided or required information. This item will remain open.

(Open) Inspector Follow-up Item 50-416/82-67-07

The inspector has reviewed the following revised Quality Assurance (QA) procedure and documents: Quality Assurance Audits-Planning and Scheduling, Revision 3, dated 2/1/83; Master Audit Plan, Revision 4, dated 2/2/83; Operations Audit Plan for Grand Gulf Nuclear Station Unit 1. The review verified that the QA program includes an audit of all surveillances, the audit schedule assures 100% of the surveillance requirements are included over a reasonable length of time, the methodology of conducting the surveillance audits assure technical adequacy of surveillance procedures, and measures have been established in the audit instruction to assure that Technical Specification requirements are addressed in appropriate procedures, instructions or drawings. In addition, the quarterly audit schedule will include a QA Audit of all license amendments for that quarter to assure that surveillance requirements are included in the surveillance program. There are no further questions concerning the QA Program for surveillance tests This item remains open pending completion of corrective action for the additional identified programmatic control deficiencies.

11. Calibrations

The inspector reviewed the records of calibrations for safety-related permanent plant gauges and readout instruments and found cases of calibration's not being performed and/or performed in accordance with non safety-related procedures. The surveillances of certain Technical Specification requirements are performed by monitoring and reading permanent plant instruments. A sample of these instruments were reviewed in order to

confirm that procedures existed for the calibration, that calibrations were scheduled and that records of performance were available. The preliminary findings were as follows:

a. No records of calibration could be located for fourteen instruments.

b. Five instruments were found to have been calibrated, or functionally checked rather than calibrated, with non-safety related procedures.

c. Computer points, which are not calibrated, were used for two readings.

d. Two instruments had been previously calibrated but were currently out of date.

There is a concern that the requirements of Regulatory Guide 1.33, as committed to by the MP&L QA program have not been implemented. The licensee has been asked to determine the extent of the apparent problem with calibration of permanent plant instruments and to ascertain the adequacy of the administrative controls over the program. This item will be identified as Unresolved Item No. 416/83-10-07 pending completion of the licensee review.