



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

Report No.: 50-416/85-20

Licensee: Mississippi Power and Light Company
Jackson, MS 39205

Docket No.: 50-416

License No.: NPF-29

Facility Name: Grand Gulf

Inspection Conducted: May 18 - June 15, 1985

Inspectors:	<u><i>R. C. Butcher</i></u>	<u>7/02/85</u>
	R. C. Butcher, Senior Resident Inspector	Date Signed
	<u><i>J. L. Caldwell</i></u>	<u>7/02/85</u>
	J. L. Caldwell, Resident Inspector	Date Signed
Approved by:	<u><i>V. W. Panciera</i></u>	<u>7/2/85</u>
	V. W. Panciera, Section Chief	Date Signed
	Division of Reactor Projects	

SUMMARY

Scope: This routine inspection entailed 150 resident inspector-hours at the site in the areas of Operational Safety Verification, Maintenance Observation, Surveillance Observation, ESF System Walkdown, Reportable Occurrences, Operating Reactor Events, Design, Design Changes and Modifications, Startup Testing, and Independent Inspection.

Results: Of the eight areas inspected, no apparent violations or deviations were identified in six areas; two apparent violations were found in two areas.

REPORT DETAILS

1. Licensee Employees Contacted

- *J. E. Cross, General Manager
- *C. R. Hutchinson, Manager, Plant Maintenance
- *R. F. Rogers, Technical Assistant
- *J. D. Bailey, Compliance Coordinator
- M. J. Wright, Manager, Plant Operations
- *L. F. Daughtery, Compliance Superintendent
- D. Cupstid, Start-up Supervisor
- R. H. McNulty, Electrical Superintendent
- R. V. Moomaw, I&C Superintendent
- *B. Harris, Compliance Coordinator
- *W. Russell, Assistant, Operations Superintendent
- *L. G. Temple, Assistant, I&C Superintendent

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

NRC Inspector

*W. K. Poertner

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on June 14, 1985, with those persons indicated in paragraph 1 above. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection. The licensee had no comment on the following inspection findings:

- a. Violation (50-416/85-20-01), two examples (1) inadequate procedure resulting in a reactor scram; (2) inadequate procedure resulting in failure to perform a safety evaluation - paragraph 10.
- b. Violation (50-416/85-20-02), failure to follow procedures for valve lineups - paragraph 11.
- c. Inspector Followup Item (50-416/85-20-03), revise startup procedure to reflect Technical Specification limits - paragraph 12.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Operational Safety Verification (71707)

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. Observation included instrument readings, setpoints and recordings status of operating systems; tags and clearances on equipment controls and switches; annunciator alarms; 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.

In the areas inspected, no violations or deviations were identified.

6. Maintenance Observation (62703)

During the report period, the inspector observed selected 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.

In the areas inspected, no violations or deviations were identified.

7. Surveillance Testing Observation (61726)

The inspector observed the performance of selected 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 review of the data for acceptability based upon the acceptance criteria.

In the areas inspected, no violations or deviations were identified.

8. ESF System Walkdown (71710)

A complete walkdown was conducted on the accessible portions of the Standby Service Water system in the basin and standby diesel generator areas. 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.

In the areas inspected, no violations or deviations were identified.

9. Reportable Occurrence (90712 and 92700)

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 inplant reviews and discussions with plant personnel as appropriate were conducted for the reports indicated by an asterisk. The LERs were reviewed using the guidance of the general policy and procedure for NRC enforcement actions. The following LERs are closed.

LER No.	Report Date	Event
83-80	10-11-83	Problems with Control Room HVAC Systems
83-82	08-01-83	Valid Failure of Division I Standby Diesel Generator
83-103	08-23-83	Shutdown Cooling Isolation Due to Spurious Isolation Trip
83-156	11-02-83	Capscrew Securing Division I Diesel Generator Starting Air Manifold to its Support Plate Found Broken
*83-179	12-06-83	Division II Diesel Generator Shutdown Due to Fuel Line Leak
*83-191	01-11-84	Standby Fresh Air Unit A Inadvertently Secured When Being Used To Meet Action Statement of Technical Specification 3.7.2
*83-192	01-23-84	Failure To Adequately Perform a 12 Hour Channel Check

*83-53	03-10-83	Electrical Penetrations Opened For Planned Maintenance Activity
*83-162	11-14-83	Drywell Pressure Instrumentation Readings Exceed Allowable Values of Technical Specifications

LER 83-179 is associated with violation 83-56-02 which was reviewed and closed in Inspection Report 84-16.

In the areas inspected, no violations or deviations were identified.

10. Operating Reactor Events (93702)

The inspectors reviewed activities associated with the below listed reactor scrams. The review included determination of cause, safety significance, performance of personnel and systems, 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. 23 occurred on April 14, 1985, with the reactor operating at 73% of rated core thermal power. At the time of the scram, Instrumentation and Control (I&C) Technicians were attempting to calibrate main steam line flow instruments per Maintenance Procedure (MP) 07-S-53-C34-4 as a prerequisite to Startup Test Procedure SU-25-3. The MP had been recently changed to require the reactor feed pump control to be placed in manual and the lifting of an input lead from the steam flow instrumentation to the vessel level instrumentation to prevent level changes during the calibration. The lifting of this input lead resulted in a large drop in sensed vessel level at the recirculation pump controls causing the recirculation pumps to transfer back to the Low Frequency Motor Generator (LFMG) Set. The resulting reduction in recirculation flow, power level and steam flow combined with the feed pump controls in manual caused vessel level to increase above the high level scram setpoint, automatically scrambling the reactor. The engineering review of the procedure change noted above was inadequate in that it failed to realize the magnitude of the sensed level change to the recirculation pump controls. This review resulted in the performance of an inadequate procedure which caused a reactor scram. 10 CFR 50, Appendix B, Criterion V states that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings. Failure to provide an adequate procedure will be identified as violation (50-416/85-20-01).

Also during the review of the procedure change the inspector discovered that the safety evaluation applicability screening required by Plant Administrative Procedure 01-S-06-24 was incorrectly performed. This screening is performed to determine if a safety evaluation is required. The screening procedure asks four questions and, if any of the four questions are answered yes, then a safety evaluation form (Attachment I of Procedure 01-S-06-24) would be

required to be filled out. The first question, "changes to the facility as described in the FSAR", was incorrectly answered. Discussions with the personnel involved indicated that per their interpretation, procedure 01-S-06-24 did not require a safety evaluation for the lifting of the steam flow input to the reactor vessel water level controller since it was being lifted for calibration purposes only. The failure to perform a safety evaluation was due to an inadequate procedure and will be identified as the second example of violation (50-416/85-20-01).

11. Independent Inspection (92706)

On June 6, 1985, while performing a routine startup, operators noticed an increasing temperature in the steam tunnel followed by an alarm indicating the steam tunnel blow out panels had opened. An investigation revealed the blow out panels to be closed but there appeared to be a steam leak in the tunnel. The subsequent shutting of valve ES1-F063, the RCIC/RHR Steam Supply inboard isolation valve isolated the leak. The licensee discovered two 3/4" test connection isolation valves Q1E51F207 and Q1E51F208 open. An investigation by the licensee disclosed that these valves had been last operated in support of a Local Leak Rate Test (LLRT) 06-ME-1M61-V-0001 on valve Q1E51F076. The LLRT Valve Lineup Procedure 09-S-08-2 Attachment XIV had been completed subsequent to the LLRT indicating that these valves had been independently verified in the closed position prior to the reactor startup. In interviews conducted by the licensee the operators responsible for closing these valves stated that they attempted to close these valves but found the valves already in the closed position. The licensee suggests that these valves were backseated open while they were still hot and had cooled off causing them to stick on their backseat when the attempt to close them was made. The licensee is looking into procedures for ensuring that valves are verified in their required positions. Technical Specification 6.8.1 requires that procedures shall be established, implemented and maintained. The failure of the licensee to ensure valve lineup procedure 09-S-08-2 Attachment XIV was correctly completed will be identified as a violation of T.S.6.8.1 (50-416/85-20-02).

12. Startup Testing (72530C and 72528C)

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.

1-000-SU-27-6
1-B21-SU-25-6

GENERATOR LOAD REJECTION
MAIN STEAM ISOLATION VALVE

The inspector reviewed the Reactor Startup of June 6, 1985. The licensee pulled critical while RHR Loop A was in the shutdown cooling mode of operation. Grand Gulf Technical Specifications allows one loop of RHR to be aligned for shutdown cooling for training startups provided the reactor vessel is not pressurized, thermal power is less than or equal to 1% of rated thermal power and reactor coolant temperature is less than 200°F.

The licensee placed RHR Loop A in shutdown cooling after placing the mode switch in startup to reduce coolant temperature so that the Rod Criticality data could be obtained at a coolant temperature of less than 150°F in order to determine core thermal margins as requested by General Electric.

The inspector reviewed Integrated Operating Instruction (IOI) 03-1-01-1, Cold Shutdown to Generator Carrying Minimum Load, interviewed management and operations personnel and reviewed applicable logs and chart recorders to determine if the licensee had violated Technical Specifications or applicable plant procedures.

The inspector determined that IOI-03-1-01-1 addresses a startup with shutdown cooling in operation, however the procedure does not address the action statement of Technical Specification 3.10.5 which requires that the mode switch be placed in the shutdown position if the reactor vessel is pressurized, thermal power exceeds 1% or coolant temperature exceeds 200°F. Interviews with operations personnel determined they were aware of the Technical Specification requirements and the action required if any of the above parameters were exceeded. The licensee committed to referencing the requirements of Technical Specification 3.10.5 in their procedure to ensure the operators are aware of the requirements. Until incorporated this will be identified as an Inspector Followup Item (85-20-03).

In the areas inspected, no violations or deviations were identified.

13. Design, Design Changes and Modifications (37700)

During Startup Test 1-000-SU31-2, Loss of T-G and Offsite Power, a deficiency was noted in that manual valve P41-F175A was closed by an operator when offsite power was lost, a post test review revealed that previous experience had shown that whenever Plant Service Water (PSW) was shut down, the Standby Service Water (SSW) basin experienced a loss of 80 gpm due to siphoning of water back through the PSW supply header. The licensee incorporated administrative controls to keep valve P41-175A closed, except when filling the SSW basin, as an interim fix. The licensee has now incorporated a Design Change Package (83/0316, Revision 0) which provides an open vent path to ensure a vacuum breaker exists. The inspectors reviewed the installation of DCP 83/0316 and verified, where possible the installation was complete, the proper procedural controls were followed, and the change was appropriately reviewed and approved.

In the areas inspected, no violations or deviations were identified.