



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

Report No.: 50-416/85-25

Licensee: Mississippi Power And Light Company
Jackson, MS 39205

Docket No.: 50-416

License No.: NPF-29

Facility Name: Grand Gulf 1

Inspection Conducted : July 15 - 19, 1985

Inspector: P. T. Burnett

25 July 1985
Date Signed

Approved by: F. Jape
For F. Jape, Section Chief
Engineering Branch
Division of Reactor Safety

July 25, 1985
Date Signed

SUMMARY

Scope: This routine, unannounced, inspection entailed 32 inspector-hours at the site in the of review of completed startup tests.

Results: No violations or deviations were identified.

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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
- *D. Cupstid, Start-up Supervisor
- *W. P. Harris, Compliance Coordinator
- *G. H. Davant, Startup Engineer

Other licensee employees contacted included engineers, operators, and office personnel.

NRC Resident Inspectors

- *R. Buthcher
- *J. Caldwell

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on July 19, 1985 with those persons indicated in paragraph 1 above. (The actual presentation of the findings was given by another inspector.) No dissenting comments were received from the licensee. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Plant Surveillance (71711)

The inspector toured the nuclear instrument back panels in the control room and the upper cable spreading room. The number of bypassed local power range monitors (LPRMs) in each average power range monitor (APRM) channel was determined by observation of the status lights. The determination was compared with records maintained in the control room by the licensee, and was found to agree. No APRM had more than four LPRMs bypassed, nor were more than two of the bypassed LPRMs in any APRM from the same string level.

Since there are 22 LPRMs per APRM, with a minimum of five LPRMs at each level, all APRMs were operable. Technical specification table 3.3.1-1 defines an APRM as inoperable if there are less than two LPRM inputs per level or less than fourteen LPRM inputs per channel.

However, a total of 16 failed detectors with only 90 effective full-power days of operation projects to about 60 failures by the end of the current cycle, if the failures are proportional to time at power. The Technical Specifications would allow, at most, 64 failed detectors. The status of the LPRMs will be monitored during future inspections.

6. Review of Completed Startup Tests (72532)

The following completed startup tests were reviewed to assure that the results had been reviewed and accepted by plant management, that the acceptance criteria had been satisfied, and that all test exceptions had been resolved or were being actively pursued.

a. Heatup Tests

- (1) 1-C51-SU-11-H (Revision 1), LPRM Calibration, could not be performed at heatup conditions because of insufficient neutron flux. The test was actually performed at test condition 1 under test exception HU-63. Performance was on October 6-15, 1984. The results were accepted on November 1, 1984, with no open test exceptions.
- (2) 1-C91-SU-13-H (Revision 1), Process Computer, was completed on October 27, 1984. The results were accepted with no open test exceptions on November 9, 1984.
- (3) 1-B21-SU-16-H (Revision 1), Selected Process Temperatures and Water Level Measurements, was performed on October 25-30, 1983. The results were accepted on February 16, 1984 with no open test exceptions.
- (4) 1-000-SU-23-H (Revision 1), Feedwater System, was performed on November 4-8, 1983. The results were accepted on March 23, 1984 with no open test exceptions.
- (5) 1-B21-SU-25-H (Revision 1), Main Steam Isolation Valves, was performed over the period October 17, 1983 to March 21, 1984. The results were accepted on April 13, 1985 by all but the plant manager, who did not sign the cover sheet until July 17, 1985, when the lack of signature was identified by the inspector. The failure to sign was a simple oversight. No exceptions to the test were open on April 13, 1985.
- (6) 1-B21-SU-26-H (Revision 2), Relief Valves, was performed in the period September 26 to November 29, 1983. The results were accepted on February 16, 1984 with no open test exceptions.

- (7) 1-G33-SU-70-H (Revision 1), Reactor Water Cleanup System, was performed from September 26 to November 3, 1983. The results were accepted on November 16, 1983 with no open exceptions to the test.
- (8) 1-M51-SU-72-H (Revision 1), Drywell Cooling System, was performed from September 26 to October 31, 1983, and the results were accepted on 15 November 1983 with no test exceptions open.
- (9) 1-000-SU-75-H (Revision 1), Cooling Water Systems, was performed over the period September 24 to November 2, 1983. The results were accepted on February 16, 1984 with no test exceptions open.

b. Test Condition 3

- (1) 1-C11-SU-05-3(Revision 1), Control Drive System, was performed on April 25-26, 1985. The results were accepted on April 27, 1985 with no exceptions. No rods exceeded the first line scram time limit in the table of acceptable scram times, hence no further evaluation of performance with respect to location was required.
- (2) 1-C51-SU-11-3 (Revision 1), LPRM Calibration, was performed on February 6, 1985. The results were accepted on April 15, 1985 with no open exceptions.
- (3) 1-C51-SU-12-3 (Revision 2), APRM Calibration, was performed on February 5-6, 1985 using 06-RE-1J11-V-0001 (Revision 23), Power Distribution Limits Verification, for data collection. The results were accepted on April 9, 1985 with no exceptions.
- (4) 1-C91-SU-13-3 (Revision 1), Process Computer, was performed on April 12, 1985, and the results were accepted on April 26, 1985 with no open exceptions.
- (5) 1-B21-SU-16-3 (Revision 2), Selected Process Temperatures and Water Level Measurements, was performed between January 24 and April 19, 1985. The results were accepted on April 26, 1985 with no open exceptions.
- (6) 1-000-SU-18-3 (Revision 1), Core Power Distribution Limits, was performed on April 12, 1985. The total traveling incore probe (TIP) flux measurement uncertainty was 1.8%, well below the acceptance criterion limit of 6%. The results were accepted on April 26, 1985 with no open exceptions.
- (7) 1-000-SU-19-3 (Revision 1), Core Performance, was performed on February 5, 1985 with no exceptions taken. The results were accepted on April 15, 1985.

- (8) 1-N32-SU-22-3(Revision 1), Initial Pressure Controller, was performed between January 30 and April 6, 1985. The results were approved on April 27, 1985 with no open exceptions. Testing related to automatic load following (ALF) was deleted as non essential, since use of the ALF feature is not anticipated in the near future.
- (9) 1-000-SU-23-3 (Revision 2), Feedwater System, was performed between February 6 and April 26, 1985. The results were accepted on April 27, 1985 with exception MP-77, a level 2 acceptance criterion unresolved.

The licensee has observed and made specific note that the response of the feedwater system to plant transients was slow leading to high vessel water level during power reductions. However, no corrective action was indicated. Resolution of feedwater system issues will be pursued during future inspections.

- (10) 1-000-24-SU-3 (Revision 1), Turbine Valve Surveillance, was performed on April 6-8, 1985. The results were accepted on April 26, 1985 with no open test exceptions.
- (11) 1-B21-SU-25-3 (Revision 1), Main Steam Isolation Valves, was performed on April 1-26, 1985, with the results accepted on April 29, 1985 with no open exceptions.
- (12) 1-000-SU-27-3 (Revision 2), Turbine Trip, was performed between April 24-27, 1985. The results were accepted on April 29, 1985 with two test exceptions still open. The exceptions, MP-117 and MP-118, affect only level 2 acceptance criteria.
- (13) 1-B33-SU-29-3 (Revision 2), Recirculation Flow Control System, was performed on April 8-27, 1985. Four test exceptions, MP-106, MP-107, MP-111, and MP-112, none of which address acceptance criteria, were still open when the test was accepted on April 29, 1985.
- (14) 1-B33-SU-30-3 (Revision 2), Reactor Recirculation System, was performed between April 16 and 26, 1985. The results were accepted on April 29, 1985 with test exception MP-99 (a level 2 acceptance criterion) still open.
- (15) 1-B33-SU-35-3 (Revision 1), Recirculation System Flow Calibration, was performed between February 6 and April 4, 1985. The results were accepted on April 29, 1985 with no open test exceptions.
- (16) 1-000-SU-75-3 (Revision 2), Cooling Water Systems, was performed on January 24-26, 1985, and the results were accepted on March 25, 1985. The test was performed without requiring a single test change or exception.

No violations or deviations were identified in the review of the completed startup test procedures. The status of the review of the startup tests is shown in an attachment to this report.

7. Followup of Inspector-Identified Items (927901)

(Closed) Inspector followup item 50-416/83-29-02, Remote shutdown crew initial positions. By permanent test change number 1, issued on June 15, 1984, to startup test procedure 1-000-SU-28-2, Shutdown from Outside the Main Control Room, the licensee removed the procedure step that dispatched the test crew to the remote stations prior to initiating the test. With this change the test was initiated with the crew in the control room, satisfying the requirements of Regulatory Guide 1.68.2. Proper performance of the test was witnessed during inspection 50-416/85-01.