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

Report No.: 50-416/85-10

Licensee: Mississippi Power and Light Company
Jackson, MS 39205

Docket No.: 50-416 License No.: NPF-29

Facility Name: Grand Gulf

Inspection Conducted: April 8-12, 1985

Inspector: for G. A. Schnebli — Frank Jape — 4/18/85 Date Signed

Approved by: F. Jape, Section Chief — Frank Jape — 4/18/85 Date Signed
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection involved 33 inspector-hours on site in the areas of startup testing and discussions with responsible licensee personnel concerning problems associated with Main Steam Isolation Valves (MSIVs) and Safety Relief Valves (SRVs) at Boiling Water Reactor (BWR) sites.

Results: No violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

J. Bailey, Regulatory Compliance Coordinator
*D. Beard, Mechanical Engineer-Supervisor
W. Cade, Shift Superintendent
*D. Cupstid, Startup Supervisor
J. Malone, Inservice Inspection (ISI) Coordinator
*J. Roberts, Technical Superintendent
*R. Rogers, Assistant to General Manager
J. Southers, Shift Engineer

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

Other Organization

R. Bodily, General Electric, Engineer, Startup Test Design and Analysis
M. Haben, General Electric, Engineer, Startup Test Operations

NRC Resident Inspectors

R. Butcher, Senior Resident Inspector
*J. Caldwell, Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on April 12, 1985, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed the inspection findings in detail. No dissenting comments were received from the licensee. The following new inspector followup item was identified during this inspection:

Inspector Followup Item, 416/85-10-01, Followup on the inability to complete step 4.6 of SU-29-3 (Recirculation Flow Control Testing) due to APRM spikes - paragraph 6.

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

This subject was not addressed in the inspection.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. MSIV and SRV Surveillance Testing (92706, 61701)

The inspector had several discussions with responsible licensee personnel concerning the general problems associated with MSIV and SRV surveillance testing at BWRs, which included the following:

a. The method of testing the MSIVs in which the licensee stated the valves are shut hot, under pressure and then leak tested by applying test pressure between the inboard and outboard valves. This is similar to the test method utilized by other utilities; however, due to additional stop valves installed downstream of the outboard MSIVs, Grand Gulf is able to determine by valve manipulation exactly which MSIV (inboard or outboard) is leaking. The feature is a definite advantage in comparison to other utilities that have to remove and plug either the inboard or outboard valve to determine which valve is leaking.

b. The problem of setpoint drift in SRVs is also being observed at Grand Gulf as six out of 19 SRVs failed during testing in the March 1985 outage. This failure rate was interesting due to the fact that the SRVs installed at Grand Gulf are manufactured by Dikkers and are of a different design than the Target Rock SRVs installed at other BWRs which have experienced a setpoint drift problem.

The inspector informed the licensee that their MSIV and SRV surveillance test program would be followed with particular interest in the area of SRV setpoint drift and MSIV seat leakage.

Within the areas examined no violations or deviations were identified.

6. Startup Test Witnessing - Unit 1 (61701)

The inspector witnessed selected portions of various tests in progress during this inspection which included the following:

- 1-C91-SU-13-3, Process Computer - Test Condition 3

- 1-B33-SU-29-3, Recirculation Flow Control System - Test Condition 3

- 1-N64-SU-74-3, Offgas System - Test Condition 3

The following areas were observed:

a. Testing was conducted in accordance with approved procedures and the latest revision of the test procedure was available and in use by personnel conducting the test.

b. All test procedure prerequisites were met.

c. Changes to the procedure were accomplished in accordance with the licensee's administrative controls.

d. Adequate coordination existed among the responsible organizations to conduct the test properly and in a controlled manner.

e. Test equipment was properly installed as required by the procedure.

f. Test data were collected and recorded as required by the procedure or other administrative instructions.

g. Preliminary review of test results assured that the licensee's preliminary test evaluation was consistent with the inspector's observations.

During the performance of section 4.6 in the Recirculation Flow Control System Test (1-B33-SU-29-3), a problem developed which required the test be secured prior to completion and the system restored to normal. The problem occurred when a flow demand step change signal, using a step change generator, was inserted simultaneously into both A and B flow control loops. This step change signal caused a power spike on the average power range monitor (APRM) instrumentation that approached the scram setpoint of 95% power for this test condition. General Electric and licensee startup engineers evaluated the data obtained during the power spikes and concluded that this section of the test could not be completed at the time due to insufficient scram margin. Therefore, a test exception was written, the procedure was secured and the system was restored to normal. Further evaluation showed that the test may be completed when the APRM gains are readjusted to read actual power in lieu of their present setting, approximately 10% higher than actual power.

This is identified as Inspector Followup Item 416/85-10-01, Followup on the resolution concerning the inability to complete section 4.6 of SU-29-3, (Recirculation Flow Control System Test) due to APRM spikes.

Within the areas examined no violations or deviations were identified.