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

Report No. 50-416/81-29

Licensee: Missippi Power and Light Company
Jackson, MS 39205

Facility Name: Grand Gulf

Docket No. 50-416

License No. CPPR-118

Inspection at Grand Gulf site near Port Gibson, Mississippi

Inspector: A. H. Johnson — Date Signed: 8/7/81

Approved by: P. T. Burnett, Acting Section Chief — Date Signed: 8-7-81
Engineering Inspection Branch
Engineering and Technical Inspection Division

SUMMARY

Inspection on July 27-31, 1981

Areas Inspected

This routine, unannounced inspection involved 34 inspector-hours onsite in the areas of containment leak rate testing; preoperational test witnessing and preoperational test procedure review.

Results

No violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*G. B. Rogers, Site Manager
*C. R. Hutchinson, Startup Manager
*J. W. Yelverton, Quality Assurance Supervisor
*J. C. Roberts, Startup Supervisor
*J. C. Bell, Quality Assurance Representative
*M. A. Lacey, Quality Assurance Representative

Other licensee employees contacted included startup engineers, shift supervisors, and operators.

NRC Resident Inspector

*A. G. Wagner

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on July 30, 1981 with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Containment Integrated Leak Rate Test (CILRT) and Local Leak Rate Testing (LLRT)

a. The following items were discussed:

(1) For those systems that have valves tested in the reverse direction of containment pressure, the licensee must provide a documented evaluation to demonstrate that the results will provide equivalent or more conservative test results.

(2) The licensee agreed to ascertain that all commitments made to the NRC in the Question and Response Section of the FSAR are met by the leak rate test procedures. Responses to NRC questions address both local and integrated leakage rate testing.

(3) The licensee was made aware that the NRC requires that type A test (CILRT) instrument calibrations and certification to be traceable to National Bureau of Standards (NBS) or other recognized standards. This documentation will be made available to the inspector prior to performance of the test.

(4) The inspector received a draft copy of the containment leak rate test (CILRT) procedure while on site. The licensee stated that the containment integrated leak rate test (CILRT) procedure would be approved and be available to the inspector for review 30 days prior performance of the test.

(5) The licensee was made aware that the isolation and venting of the pressurization (air compressors) source is required upon reaching test pressure and start of official CILRT test data collection.

(6) The licensee stated that some form of tagging would be used for valve lineup of systems for the CILRT test.

(7) The licensee stated that they would use an event log during the CILRT test.

(8) The licensee stated that local leak rate testing would be performed, after completion of the CILRT, on penetrations used to perform the CILRT test (i.e., penetration used to pressurize the containment).

(9) The licensee stated that, to maintain administrative controls during the CILRT, only one copy of the CILRT test procedure would be used and that this copy would be located with the CILRT test director.

(10) The licensee stated that the reactor coolant system would be vented on the reactor head during the CILRT test.

(11) The licensee stated that SUM 5000 procedure would be used to make changes to the approved leak rate test procedures.

b. The inspector informed the licensee that the following NRC Staff positions would be used while performing the inspection of the licensee's leak rate test program:

1. Venting and Draining

Position

The reactor vessel, those systems that are part to the reactor coolant pressure boundary and could provide direct communication with the containment atmosphere under post-accident conditions, and those systems which are postulated to rupture (i.e., not designed for post-accident function) shall be vented and drained to the extent necessary to assure exposure of the containment isolation valves (as defined in Section II-Hof Appendix J to be 10 CFR 50) to the containment air test pressure, such that they will be subjected to the simulated accident differential pressure. If the venting and draining of any system potentially jeopardizes the maintenance of a safe shutdown condition, then those systems shall not be vented and drained; however, in this event, the local leakage rates (type C) for the isolation valves in these systems shall be added to the upper 95% confidence limit of the CILRT before determining the acceptability of the test.

2. CILRT Correction for Local Leakage

Position

If, during the performance of a Type A test, identifiable local leakage occurs to the extent that it could cause failure of the Type A test, e.g., through penetrations or isolation valves, the leak may be isolated and the Type A test continued until completion.

A containment penetration which is isolated during a Type A test must have a design which will permit local leak testing of all potential leakage paths through the penetrations.

Local leakage rates measured before and after repair must be reported, and the sum of the post-repair leakage rate and the CILRT upper 95% confidence limit must meet the Appendix J allowable leadage rate (0.75 La).

However, the difference in Type B and C test results before and after the repair of local leaks may not be deducted from the Type A test results in order to achieve an achieve an acceptable containment integrated leak rate.

Type B and C leak rate testing and repair prior to containment CILRT is also considered to be acceptable.

Inclusion of Instrument Errors

Position

The uncertainty in the measured leakage rate shall be established by calculating the 95% upper confidence limit (UCL) of the least squares fit of the leakage rate data. The test results will be considered acceptable, if the 95% UCL is less than or equal to 75% La (75% Lt for reduced pressure tests).

The accuracy of the measurement of the Type A leakage rate will be verified by the supplemental verification test. The measured difference between the supplemental verification test leakage rate and the Type A test leakage rate must be within 0.25 (0.25 Lt for the reduced pressure tests).

6. Preoperational Test Procedure Review and Test Witnessing

The inspector reviewed and witnessed the conduct of portions of test procedure 1E12PTOL Rev. 1, Residual Heat Removal Systems. The test was observed for conformance with Grand Gulf Startup Manual Chapter 5000 and 7000.

No violations or deviations were identified within the areas inspected.

7. Plant Tour

The inspector toured portions of the Control Building, Auxiliary Building and the Containment Building.

No violations or deviations were identified.