



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

Report No. 50-416/81-14

Licensee: Mississippi Power and Light Company
 Jackson, MS

Facility Name: Grand Gulf 1

Docket No. 50-416

License No. CPPR-118

Inspection at Grand Gulf site near Port Gibson, Mississippi

Inspector: *P. A. Taylor for*
 L. W. Garner

6-10-81
 Date Signed

Approved by: *F. S. Cantrell*
 F. S. Cantrell, Section Chief, Division of
 Resident and Reactor Project Inspection

6/10/81
 Date Signed

SUMMARY

Inspection on May 6-13, 1981

Areas Inspected

This routine, announced inspection involved 61 inspector-hours on site in the areas of preoperational testing, system run-in observations, and discussions with licensee management.

Findings

Of the two areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Licensee Employees

- *C. Abbott, Plant Quality Assurance
- L. Eisenberger, Startup Engineer
- *J. Elm, MPL Maintenance
- *M. Farschon, GE Operations Manager
- *C. Hutchinson, Startup Manager
- M. Madison, Startup Engineer
- *J. Roberts, Startup Supervisor
- *B. Stewart, Construction
- *S. Tanner, QA Construction Coordinator
- *B. Wilson, MPL Maintenance

Other licensee employees contacted included maintenance technicians, I&C technicians and operators.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on May 13, 1981, with those persons indicated in Paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. A new unresolved item identified during this inspection is discussed in Paragraph 5.b.

5. Preoperational Testing and System Run-In

The inspector witnessed portions of the following test:

- a. Low Pressure Core Spray Preoperational Test Procedure, IE21PT01.
- b. HPCS Preoperational Test, IE22PT01.
- c. Thermal Expansion and Dynamic Test, IC88ST01.
- d. Reactor Vessel Flow Induced Vibration Testing Prior to Fuel Load, IF41ST01.

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Items inspected were procedure conformance to Regulatory Guide 1.68 and FSAR Chapter 14, Compliance with Test Procedures, selected test data acceptance criteria, compliance with General Maintenance Instruction 07-S-12-81 and 62, availability of completed Maintenance Calibration Instruction 07-S-53-19 and 181 for selected test instrumentation, and personnel awareness of test precautions and warnings.

- a. On May 10, 1981, an unsupported 3/4" test connections downstream of the High Pressure Core Spray (HPCS) injection line outboard isolation valve, IE22F004, was found broken off during 40% flow testing of the spray system per procedure IE22PT01. The test connection is less than 2 feet long and supports two valve IE22F021 and IE22F022. The break occurred immediately adjacent to the weld. Preliminary investigation indicates that the probable cause is fatigue failure due to flow induced vibration. The broken pipe has been sent off-site for metallurgic examination. The line has been repaired and a support has been added to prevent recurrence. Review of pipe design documents indicates that no piping support was specified for the test connection. The architect engineer (AE), has identified 5 other similar unsupported connections on the HPCS piping. All are outside of containment. The AE will provide a list of similar unsupported lines attached to all Class 1, 2, and 3 pipes in safety systems. The licensee has committed to visually inspect each one of these during system run-in and provide hangers, as required. This is an inspector follow-up item 50-416/81-14-01. The licensee is currently evaluating the event to determine if a part 21 or 50.55(e) report is required.
- b. Inspection of the Low Pressure Core Spray (LPCS), suction valve (IE21F012) from the suppression pool on May 11, 1981, indicated that it was wired in accordance with schematic E-1182-01, but not in accordance with the associated connection diagram. If the valve had been wired per the connection diagram, it would malfunction in a manner readily discernable. General Maintenance Instruction 07-S-12-81, Step 7.3, requires verification per schematic and connection diagram. This procedure had been completed January 30, 1981 for this valve. No comment was made on the completed data sheet to indicate that the connection diagram was incorrect or that a revision was necessary. Review of records by the cognizant test engineer, revealed no revision request was in processing. A Field Report E21-0011 is to be issued to request revision of the connection diagram.

Discussion with the test engineer indicated that he had issued two other field requests, FR-E21-0005 and FR-E21-0006, March 9, 1981, under similar circumstances, (e.g., wiring was correct per schematic, but not in accordance with connection diagram) with neither Field Report, Document Change Notice, Startup Field Report, nor other normal means of revising drawings having been entered into the licensee document change system to correct these connection diagrams. This matter is considered an unresolved item 50-416/81-14-02.

- c. Procedure IE21PT01, Step 7.6.2.11, requires the available NPSH be calculated. Data recorded on Data Sheet 8.7 per Step 7.6.2.7, does not include temperature, a necessary parameter for the calculation. A temporary Change Notice, TCN, was written to include the necessary calculational data on Data Sheets 8.6 and 8.7. If Section 7.5 of the procedure had been completed prior to completion of 7.6, the required values would have been available. However, completion of the sections in non-numeric order was authorized by the procedure. The licensee plans to include in future preoperational test procedures, steps to either take or verify that the data needed for calculations in a given section is available. The inspector had no further questions on this item.
- d. Procedure IE21PT01, Step 4.2.6, specifies water quality for injection into the reactor vessel must meet G.E. Specification 22A2707, Section 2.4.1. Discussions with licensee personnel, revealed that Section 2.4.1 should have been 2.1.4 and the error had occurred because the prototype G.E. preoperational test procedure had a typographical error. Further discussions revealed that Specification 22A2707 had been superceded by 22A2747. A memorandum from C. R. Hutchinson, Startup Engineer to J. W. Yelverton, QA Field Supervisor was issued May 11, 1981, to specify that G.E. Specification 22A2747, paragraphs 4.7 and 4.14, water quality requirements, are to be adhered to during pre-operational and startup testing. The inspector had no further questions on this item.