



MISSISSIPPI POWER & LIGHT COMPANY

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December 17, 1983
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NUCLEAR PRODUCTION DEPARTMENT

U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N.W., Suite 2900
Atlanta, Georgia 30303

Attention: Mr. J. P. O'Reilly, Regional Administrator

Dear Mr. O'Reilly:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-13
File 0200/15525/15526
I.E. Report 416/83-46 of
September 6-9 and 13-16, 1983
AECM-83/0777

Reference: 1) MAEC-83/0355, November 7, 1983

This letter provides our response to NRC Notice of Violation
416/83-46-01.

Yours truly,

L. F. Dale
Manager of Nuclear Services

PRH:lm
Attachment

cc: Mr. J. B. Richard (w/a)
Mr. R. B. McGehee (w/o)
Mr. T. B. Conner (w/o)
Mr. G. B. Taylor (w/o)

Mr. Richard C. DeYoung, Director (w/a)
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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Member Middle South Utilities System

RESPONSE TO NRC VIOLATION 416/83-46-01

I. ADMISSION OR DENIAL OF ALLEGED VIOLATION

Mississippi Power & Light (MP&L) Company admits to the alleged violation as stated.

II. REASONS FOR THE VIOLATION

Controlled documents identifying valve alignments for local leak rate tests (LLRTs) were not considered necessary, due to the procedural controls in the LLRT procedure, Surveillance Procedure 06-ME-1M61-V-0001. As specified in Revision 3, prior to issuance of Temporary Change Notice (TCN) No. 7, Prerequisite 4.1: "The pressure boundary around penetration or valve to be tested has been established. Responsible party will supply valve line up to determine pressure boundary." Instruction 5.1 required the Shift Supervisor to give permission to begin the test by signing the data package cover sheet. The data package cover sheet, in Step 3.1, clearly specified, "Valve lineup correct/Permission to begin the test..." followed by date and signature block. The Shift Supervisor's independent review of the valve lineup was considered to be an acceptable means of controlling the adequacy of the valve alignments, while allowing freedom to tailor the valve lineups to meet changing plant conditions or equipment availability.

III. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

1. Plant Staff conducted a review of local leak rate test (LLRT) records to determine the adequacy of the available records, to reconstruct the valve alignments used in performing the tests, and to compare the valve alignments used with alignments previously issued in a controlled, approved procedure. The review examined the surveillance procedure data packages for each LLRT, available tagout records, current piping and instrumentation diagrams (P&IDs), and in some cases unapproved drawings generated and retained by test personnel. Other plant documents, such as maintenance work orders, were used if applicable. The surveillance procedure valve alignments were compared with the valve alignments for the LLRTs performed during pre-operational testing and contained in the Official Copy of Special Test Procedure 1M61-ST-01, Revision 2. The review examined for correct or comparable valve alignments, test panel placement, and vent paths, and also included cursory reviews for correct direction of testing and correct test medium.
2. As a result of the review discussed above, and in response to the concern expressed by the NRC inspector, the following valves were retested on the dates shown:

<u>Valve Number</u>	<u>Surveillance Task Card Number</u>	<u>Date Tested</u>
Q1B21-F022C	ME2612	9/21/83
Q1B21-F025C	ME2611	9/21/83
Q1B21-F028C	ME2608	9/21/83
Q1B21-F067C	ME2609	9/21/83
Q1E32-F001J	ME2610	9/21/83
Q1B21-F022D	ME2617	9/19/83
Q1B21-F025D	ME2613	9/21/83
Q1B21-F028D	ME2616	9/19/83
Q1B21-F067D	ME2615	9/19/83
Q1E32-F001N	ME2614	9/19/83
Q1E12-F028A	ME2806	9/18/83
Q1E13-F028B	ME2836	9/21/83
Q1E12-F044A	ME2804	9/18/83
Q1E12-F044B	ME2834	9/22/83
Q1E12-F339	ME2878	9/18/83
Q1E51-F063	ME2783	9/20/83
Q1E61-F596D	ME2735	9/15/83

The valve alignments for all of these retests were documented in the surveillance data packages.

3. Temporary Change Notice (TCN) No. 7, dated August 31, 1983, was issued to Surveillance Procedure 06-ME-1M61-V-0001, Revision 3, to require that a valve alignment sketch for each valve or penetration tested be reviewed and approved by the Shift Supervisor and attached to the surveillance data package.
4. The nitrogen pressurization systems connected to the containment electrical penetrations were examined to determine if they meet the requirements for classification as continuous leakage monitoring system. It was concluded that they did not meet the requirements; consequently, all of the Type 1 and Type 2 containment electrical penetrations were local leak rate tested during the period September 20-22, 1983. The tests were documented in the Surveillance Task Cards ME3002 through ME3049 data packages.
5. Technical Section Instruction 09-S-08-1, "Local Leak Rate Test Result Analysis," Revision 0, was issued to provide a detailed procedure for analysis for individual LLRT results and comparison to GGNS Technical Specification and ASME Section XI requirements and for maintaining running totals of combined Type B and C test results to meet GGNS Technical Specifications. As of September 22, 1983, the GGNS Combined Leakage Rate for Type B and C tests with air was 10,500 sccm. (For GGNS, the maximum allowable combined leakage rate of 0.60 La is equal to 86,100 sccm.)

6. In response to the NRC inspector's concerns about the validity of the personnel airlock seal air supply tests, the procedure was reviewed to determine whether the seal air supply line from plant service air was adequately vented during the test. It was concluded that the seal air supply line was not vented. TCN No. 4, dated September 17, 1983, was issued to Surveillance Procedure 06-ME-1M23-R-0001, "Personnel Airlock Door Seal Air System Leak Test," Revision 20, to provide for venting the air supply line while performing the air system leak test. The three airlocks were retested as follows:

<u>Airlock</u>	<u>Surveillance Task Card Number</u>	<u>Date Test Completed</u>
Lower Ctmt. Elev. 119	ME2255	9/23/83
Upper Ctmt. Elev. 208	ME3175	9/29/83
Drywell	ME2334	9/23/83

7. In response to the NRC inspector's concerns about whether or not the test connections on the containment equipment hatch and the fuel transfer tube were closed following the LLRTs, the test connections were verified to be closed.
8. An independent review of LLRT results, procedures, and valve alignments was conducted under the general direction of the MP&L Unit 2 Project Manager. The review was performed by a senior engineer from the general contractor's organization who is familiar with local leak rate testing. The review consisted on an in-depth study to ensure that all penetrations had been tested as required by FSAR commitments and technical specification requirements. The application of the appropriate test pressure, test fluid, test direction, and test boundary (including venting) were also reviewed. Several items of concern were identified, and these items were presented to the Plant Safety Review Committee (PSRC) for decisions on their acceptability for plant operation. The items, PSRC decisions, and subsequent corrective actions, if any, are summarized below:
- A significant number of test connection globe valves were tested in a nonconservative direction. In discussions with the valve supplier it was verified that the force tending to lift the valve off its seat was insignificant compared to the normal seating force of the valve. The PSRC concluded that the results of the LLRTs on these valves are acceptable.
 - The test pressure used in many of the hydrostatic type LLRTs was too high, due to improper calculation of the test pressure required. Based on information provided by the valve supplier, it was verified that the variation in the seating force due to the higher test pressure was insignificant compared to the normal seating force. The

PSRC concluded that the LLRT results are acceptable; however, instructions for calculating the correct test procedure must be added to the LLRT procedure.

- c. In some cases there was a question whether an adequate vent path had been provided. Since the vent volumes had been drained prior to the test and were much larger than the volumes pressurized, the PSRC concluded that, since leakages for the tests were zero in each case, the tests were acceptable.
- d. Certain valves located below the surface of the suppression pool were tested with a vent path to the suppression pool and no compensation was made for the back pressure due to the hydrostatic head of the suppression pool. Using the same reasoning applied in Item III.8.b above, the PSRC concluded that the LLRT results are acceptable.
- e. Valve Q1G33-F252, a 6-inch motor-operated gate valve was determined to have been tested in the reverse direction. Based on information furnished by the valve supplier, the PSRC decided that the reverse test result was unacceptable. The valve was retested in the correct direction on November 11, 1983, under Surveillance Task Card No. ME2775.
- f. Several of the results of the electrical penetrations showed a slight lowering of pressure in the penetrations with no evidence of bubbles in the bubbler tube. In addition, slight level changes in the bubbler tube water column were noticed during some tests. Based on the small pressure and level changes involved, the PSRC concluded that the leakage was insignificant enough to be acceptable. It was recognized, however, that the bubbler test, as performed at GGNS, can be improved. The test needs to be improved such that it is a more accurate and reliable test.
- g. A spoolpiece between the inboard and outboard containment isolation valves in the RPV head spray line (Penetration 18) was removed during the LLRTs of the inboard and outboard isolation valves and was reinstalled following the tests. The PSRC decided that a leakage check (VT-2) of the spoolpiece and gasketed connections, which was performed during the reactor coolant system leakage test on August 22, 1983, and which verified no leakage, would provide satisfactory evidence of leak tightness, provided it could be shown that the pipe and spoolpiece were under pressure at the time of the leakage check. Under Maintenance Work Order (MWO) No. M3B175, while the RPV was under approximately 538 psig pressure on November 8, 1983, the pressure in the line was measured at 530 psig.

This established that the pipe was probably under pressure at the time of the leakage check and that, therefore, the leakage check was satisfactory.

IV. CORRECTIVE STEPS WHICH HAVE BEEN OR WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

1. Surveillance Procedure 06-ME-1M61-V-0001 was revised and reissued as Revision 20. In addition to upgrading the format and data package to the Revision 20 standards, this revision included the following:
 - a. The requirement of TCN No. 7 requiring a valve alignment sketch was incorporated.
 - b. A review of the LLRT procedure against the GGNS Technical Specifications was conducted to compare the procedure to the requirements. Several corrections were made in the procedure with respect to air versus water testing. These had previously been determined to be acceptable per NRC (A. Schwencer) letter to MP&L (J. P. McGaughy, Jr.) dated September 23, 1983, subject: Pneumatic Testing of Containment Valves.
 - c. A signature requirement was added to verify that the system connections are properly closed after each LLRT.
 - d. Instructions were added for calculating the correct test pressure for hydrostatic type LLRTs and for calculating the leakage rate at functional pressure for high/low pressure interface valves which are tested at less than functional pressure.
 - e. The electrical penetrations were reclassified to require LLRT at intervals no greater than 24 months.
2. Technical Section Instruction 09-S-08-2, "Local Leak Rate Test Valve Alignment," Revision 0, was issued. This instruction provides a valve alignment sketch and recommended valve alignment for each LLRT. The valve alignment record sheets attached to each sketch provide space to record and verify the alignments of each valve before and after each LLRT.
3. Further upgrading of the bubbler test will be undertaken to increase its accuracy. The upgrading of this test is expected to be complete by March 1, 1984.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved after the upgrading of the bubbler test which is expected to be completed by March 1, 1984.