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December 7, 1989
PY-CEI/NRR-1106 L

U.S. Nuclear Regulatory Commission
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Washington, D. C. 20555

Perry Nuclear Power Plant
Docket No. 50-440
Response to Notice of
Open Items 50-440/89012-01,02,05
Violations 50-440/89012-03,04

Gentlemen:

This letter acknowledges receipt of the Notices of Violations and Open Items contained within Inspection Report 50-440/89012 dated November 2, 1989. The report identified areas examined by F.A. Maura, V. P. Loughheed, and M.R. Merholz during their inspection conducted from June 27 through October 23, 1989 of activities at the Perry Nuclear Power Plant, Unit 1.

Our responses to Notice of Violation 50-440/89012-03 and Violation 50-440/89012-04 are provided in Attachment 1. Per your request in the inspection report cover letter, information on Open Item 50-440/89012-01, Open Item 50-440/89012-02 and Open Item 50-440/89012-05 is also provided in Attachment 2.

If you have any questions, please feel free to call.

Very truly yours,

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50-440/89012-03
Restatement of Violation

10 CFR Part 50, Appendix J, Paragraph II.G. requires that Type B tests be performed to detect local leaks and to measure leakage across each pressure-containing or leakage-limiting boundary for containment penetrations whose design incorporates gaskets, among others. Paragraph III.D.2 required that Type B tests on penetrations incorporating gaskets be performed during reactor shutdowns for refueling, but in no case at intervals greater than two years. If opened following a Type A or Type B testing, containment penetrations subject to Type B testing shall be Type B tested prior to returning the reactor to an operating mode requiring containment integrity.

Contrary to the above, no Type B tests were conducted on the gasketed flange of the residual heat removal relief valve E12-F055A seal leak off line since it was tested as part of the preoperational Type A test performed in 1985. In addition, the flange had been disassembled at least twice, in 1986 per Work Order 86-1673 and in 1987 per Work Order 87-6296, and each time no Type B test was conducted prior to returning the reactor to power operation. During the 1989 refueling outage the flange was also worked on and during the Type A test was found to be leaking at least 1.62 scfm or 45% of the maximum containment allowable leakage rate.

This is a Severity Level IV violation (Supplement I).

Corrective steps that have been taken and results achieved

The flange leakage of 1E12-F055A was repaired during the first refueling outage. Leakage rates of the flanges of both 1E12-F055A and B were demonstrated to be acceptable during the latest Type A test which was performed during the first refueling outage. This event was previously investigated and documented under LER 89006.

Corrective steps that will be taken to avoid further violations

Engineering is presently developing design modifications to enhance testability of gasketed flanges on 1E12-F055A and B. Design development for these modifications is scheduled to be accomplished by 03/31/90.

Subsequently the LLRT program will be modified to include testing of gasketed flanges on 1E12-F055A and B. Program revisions are expected to be completed by 4/20/90.

A review has been conducted to ensure that all gasketed containment penetrations are being Type B tested with no discrepancies found. Furthermore, those Type B tests currently identified in the LLRT Program are being tested in accordance with 10CFR50 Appendix J requirements.

Date when full compliance will be achieved

Although design development and program modification are scheduled to be completed by 4/20/90, implementation of design modifications is not scheduled to be accomplished until the second refueling outage. It is not anticipated that there will be a need for testing of these connections prior to that time. Any maintenance or testing requiring the breaking of these gasketed connections during the present operating cycle will require acceleration of the modification activities.

50-440/89012-04

Restatement Of Violation

10 CFR Part 50, Appendix B, Criterion IV requires that procedures including changes thereto, which prescribe activities affecting quality be reviewed for adequacy.

Contrary to the above on July 6, 1989, during the performance of the containment integrated leak rate test the licensee revised its containment leak rate testing procedure without a review for adequacy to permit the flooding of the main steam lines. The inadequacy of the revision allowed water to leak out of the main steam lines thru an open drain line flooding the drywell lower level which required realignment of valves to drain the drywell before continuing the test.

This is Severity Level IV violation (Supplement I).

Corrective steps that have been taken and the results achieved.

The portion of the surveillance instruction (SVI-T23-T0394), responsible for allowing the leakage, was revised, with appropriate reviews for adequacy, to close the appropriate drain valve. This allowed successful completion of testing and prevented further leakage to drywell lower level.

Corrective steps that will be taken to avoid further violations.

An investigation revealed that the inadequate review was performed by Local Leak Rate Testing (LLRT) personnel during the procedure revision process. Accordingly, all LLRT personnel serving in a reviewing capacity have been trained to perform an in depth review of complete procedure and appropriate drawings when initiating procedural changes that affect valve lineups to ensure all vent and drain paths are in proper alignment.

Date when full compliance will be achieved

Full compliance was achieved upon revision of SVI-T23-T0394 on 07/08/89. Completion of training of LLRT personnel was achieved on 11/14/89.

50-440/89012-01
Restatement of Open Item

A review of the maintenance records indicated that most of the repairs performed consisted of machining or lapping the valve seats. Two stems were replaced in 1987 (A and B outboard) and two more in 1989 (B outboard and inboard). Guide rib repairs were required on two valves (A and C outboard) in 1989. General Maintenance Instruction GMI-096, "MSIV Disassembly, Repair, and Reassembly Instruction" was upgraded prior to the 1989 outage to include the recommendations in NUREG-1169; however, the procedure was later revised during the outage to delete the performance of certain data gathering steps. As a result the licensee did not have a complete set of measurements, such as radial clearance between the valve bore and the disc/piston assembly, for each valve which was worked. The inspectors indicated to the licensee that all valve parameters which may have an effect on proper valve operation and leak tightness should be obtained, otherwise it would be very difficult to determine the root cause of repeated failures. Procedural improvements to ensure all necessary valve data would be obtained during disassembly and after repairs were performed, in order to be able to correct the suspected causes of the valve failure as well as to be able to rule out other possible causes, are an Open Item (No. 440/89012-01(DRS)) pending correction of the valve performance deficiencies during the next refueling outage.

Response

General Maintenance Instruction GMI-096 had not been revised specifically to delete the performance of certain data gathering steps. All data gathering steps are still included in GMI-096. Due to the nature of the work being done (no machining of certain parts), work supervisors decided that some data gathering steps could be omitted. It is the responsibility of system engineering personnel, through the work order review process, to ensure that proper data is taken during disassembly and after repairs of the valves. In future MSIV maintenance activities, the required measurements will be specified in work order documentation prior to beginning maintenance activities.

50-440/89012-02
Restatement of Open Item

During the valve lineup review the inspectors noted that valve 1E51-F068 was required to be closed for the CILRT. Valve F068 is a normally open, motor operated valve in the RCIC turbine steam exhaust line to the suppression pool. The valve receives no automatic isolation signal. The CILRT valve lineup requiring valve F068 closed was in conformance with the UFSAR Tables 6.2.32 and 6.2.40. The licensee was given a copy of the NRC's decision in a similar case involving the LaSalle Station, which also applied to the Clinton Station. The licensee was informed that both UFSAR tables were in error and should be corrected at the next amendment submittal. The tables should show that valve 1E51-F068 is to

remain open during the CILRT so that valve F040 is the containment boundary, and that both valves F068 and F040 will be Type C tested. This is an Open Item (No. 440/89012-02(DRS)) pending revision to the UFSAR. The licensee revised its CILRT procedure to consider valve F040 the isolation valve for the test.

Response

Proposed changes associated with 1E12-F055A and B (ref. 50-440/89012-03) will affect the requirements of 10CFR50 Appendix J type C testing for 1E51-F068 because these valves share common system piping. Submission of changes to both UFSAR tables are therefore dependent upon completion of the 1E12 design modifications. Submission of changes is scheduled to be accomplished by 04/20/90. At present, each penetration remains in full compliance with appropriate 10CFR50 Appendix A General Design Criteria and 10CFR50 Appendix J testing requirements.

50-440/89012-05

Restatement of Open Item

Type B and C Test Pressure

The inspectors reviewed the licensee's procedures and test practices and the Volumetric leak rate monitor used to pressurize the penetration and measure its leakage rate. The inspectors also witnessed portions of the Type B test conducted on the containment Equipment Hatch on July 2, 1989. The penetration test pressure was monitored at the leak rate monitor (LRM). According to the licensee the LRM is used near the penetration with short hose runs; however, if considerable distance to the penetration or high leakage rates are experienced large diameter black hose is used to minimize the line pressure drop. The licensee appeared to be aware of the NRC's concerns to ensure test pressure (Pa) is maintained at the penetration. The test in progress witnessed by the inspector on July 2 was being conducted with the LRM near the penetration test connection; however, a 50 ft length of 1/4" ID hose was being used to connect the LRM to the penetration.

Since the leakage rate during this test was low (64 sccm) the 50 ft of 1/4" hose had no effect on the test pressure. Procedure OM8E, IMI-E2-20, Revision 1, had no controls to ensure the penetration would be tested at Pa regardless of hose length and leakage rate. Based on the inspectors observation of the containment Equipment Hatch test on July 2, and the high leakage rates experienced at several penetrations in the past, the lack of controls and/or guidance on IMI-E2-20, Revision 1, to maintain the test pressure at the penetration or valve under test at Pa throughout the test is considered to be an Open Item (No. 440/89012-05(DRS)) until the procedure is revised to include such controls.

Response

Procedure OM8E, IMI-E2-20 "Volumetric Leak Rate Monitor Operating Instructions" will be revised to include guidance on appropriate length and size of test hoses to maintain the test pressure at the penetration or valve under test at Pa throughout the test regardless of leakage rate. This is scheduled to be accomplished by 12/15/89.