



**BOSTON EDISON**

Pilgrim Nuclear Power Station  
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George W. Davis  
Senior Vice President - Nuclear

November 15, 1991  
BECo Ltr. 91-140

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555

Docket No. 50-293  
License No. DPR-35

SUBJECT: REPLY TO NOTICE OF VIOLATION (REFERENCE NRC REGION I  
INSPECTION REPORT NO. 50-293/91-22)

Dear Sir:

Enclosed is Boston Edison Company's reply to the Notice of Violation contained  
in the subject inspection report.

Please do not hesitate to contact me if there are any questions regarding the  
enclosed reply.

  
G. W. Davis

RLC/bal

Enclosure: Reply to Notice of Violation

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ENCLOSURE

REPLY TO NOTICE OF VIOLATION

Boston Edison Company  
Pilgrim Nuclear Power Station

Docket No. 50-293  
License No. DPR-35

During an NRC inspection conducted on May 6-10, 1991, two violations of NRC requirements were identified. In accordance with the provisions of 10 CFR 2.201, the violations are listed below followed by BECo's written response to the Notice of Violation.

NOTICE OF VIOLATION PART A

10 CFR 50.55a(g)(1) States in part that, "For boiling and pressurized water-cooled nuclear power facility whose construction permit was issued prior to January 1, 1971, components shall meet the requirements of paragraph (g)(4)...."

10 CFR 50.55a(g)(4) States in part that, "Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components which are classified as ASME Code Class 1, Class 2, and Class 3 shall meet the requirements, ...., set forth in Section XI of editions of the ASME B&PV Code...."

ASME Section XI, Subarticle IWP-4120, "Range" requires that the full scale range of each instrument shall be three times the reference value or less.

Additionally, test procedure 8.5.2.2.1, "LPCI System Loop A Pump & Valve Monthly/Quarterly Operability," Section 5, Step [4] requires a 0-15 psig pressure gage be used to measure pump suction pressure.

Contrary to the above, on September 10, 1991, during the performance of the LPCI pump quarterly IST surveillance, a 0-30 psig test gage was used to measure LPCI pump "C" suction pressure. The 0-30 psig test gage was greater than three times the reference value of 4 psig.

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

BACKGROUND

On September 10, 1991, during the performance of Procedure 8.5.2.2.1, "LPCI System Loop A Pump and Valve monthly/Quarterly Operability" surveillance, the NRC inspector observed the initial suction pressure reading for the "C" RHR pump was taken utilizing a 0-30 psig test gage. This action was not consistent with the requirements of Procedure 8.5.2.2.1 and the ASME code. Procedure 8.5.2.2.1, Section 5, Step (4) requires a 0-15 psig pressure gage to be used for obtaining the suction pressure measurement. ASME Section XI, Article IWP-4120, "Range," requires the full scale range of each instrument be three times the reference value or less. The reference value for the suction pressure measurement for this test was 4 psig. (The expected suction pressure with pump idle is between 2 and 6 psig. Actual measured idle suction pressure was 5.8 psig.) The Instrumentation and Control (I&C) Technician assigned responsibility for connecting the temporary test gages as required by the surveillance procedure, connected a 0-15 psig test gage for the "A" RHR pump suction measurement and a 0-30 psig test gage for the "C" RHR pump suction measurement.

The inspector noted that this action was not consistent with the test procedure and ASME code and informed the IST Test Engineer. The IST Test Engineer took immediate action to correct the deficiency.

REASON FOR VIOLATION

This violation was the result of non-adherence to approved station procedures by station personnel conducting surveillance procedure 8.5.2.2.1, "LPCI System Loop A Pump & Valve Monthly/Quarterly Operability" test.

CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED

Immediate action was taken by the IST test engineer to correct the observed deficiency. The suction pressure measurement for the "C" RHR pump was repeated utilizing the 0-15 psig test gage that had been used to record the "A" RHR pump suction pressure measurement. Action was also taken to confirm proper test equipment was used for the remaining portions of the test.

CORRECTIVE ACTION TAKEN TO PRECLUDE RECURRENCE

To preclude recurrence of similar violations, Boston Edison implemented additional actions that include the following:

- On September 16, 1991, the Senior Vice President-Nuclear issued a memorandum (PM91-121) to all Nuclear Organization personnel re-emphasizing the proper use and need for strict adherence to station procedures.
- Boston Edison is continuing to review the issue of procedure adherence to identify additional action that may be taken to enhance this area.

A review of IST surveillance procedures, and discussions with I&C and Operations supervisors/personnel was conducted to identify enhancements that will aid procedure compliance. The following items will emphasize IST procedural compliance, enhance personnel awareness and clarify surveillance requirements:

- IST training had been previously conducted for the shift crews. Crew IST performance will be monitored and, if found insufficient, additional training will be prescribed.
- An inventory list has been developed that identifies the required M&TE equipment to support quarterly IST. This complement of instrumentation will be maintained by the Maintenance Department to ensure the proper equipment is available to support IST. This will minimize test delays and reduce the potential for improper instrument use that could be encouraged by poor instrument availability.
- IST surveillances will be revised to provide additional clarity and emphasize compliance by: 1.) requiring a double verification for the installation of test equipment, and 2.) clarifying the Surveillance Data Control section to ensure involved personnel have reviewed the applicable sections/steps of the procedure and understand their involvement.

DATE WHEN FULL COMPLIANCE WAS ACHIEVED

Full compliance was achieved on September 10, 1991, when the 0-30 psig test gage was removed from the "C" RHR pump suction line and replaced with the 0-15 psig test gage as required by Procedure 8.5.2.2.1. Following installation of the proper test gage, test Procedure 8.5.2.2.1 was satisfactorily completed.

### NOTICE OF VIOLATION PART B

10 CFR 50.55a(g)(1) States in part that, "For boiling and pressurized water-cooled nuclear power facility whose construction permit was issued prior to January 1, 1971, components shall meet the requirements of paragraph (g)(4)...."

10 CFR 50.55a(g)(4) States in part that, "Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components which are classified as ASME Code Class 1, Class 2, and Class 3 shall meet the requirements, ....., set forth in Section XI of editions of the ASME B&PV Code...."

ASME B&PV Code, Section XI, Subarticle IWV-3200 states in part that "When a valve or its control system has been replaced or repaired or has undergone maintenance that could affect its performance, and prior to the time it is returned to service, it shall be tested to demonstrate that the performance parameters which could be affected by replacement, repair, or maintenance are within acceptable limits."

Additionally, Procedure 8.I.1.1, Section 6.2, Step [2], "Test Requirement," requires a stroke timing test be performed following valve packing adjustments (Routine Servicing).

Contrary to the above, on July 9, 1991, the valve packing on the LPCI shutdown cooling valve, MO-1001-50, was adjusted, during the performance of Maintenance Request 89-10-121, and the required valve stroke timing test was not performed.

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

### BACKGROUND

During the performance of NRC inspection activities on September 11, 1991, a review was conducted of the post maintenance IST testing following the completion of Maintenance Request No. 89-10-121 that performed an overhaul of the RHR shutdown cooling suction valve and operator for MO-1001-50.

Procedure 8.I.1.1, "Inservice Pump and Valve Testing Program," provides guidance on which IST must be performed following maintenance. The testing designated to be performed for the MO-1001-50 valve was in accordance with the guidance provided in procedure 8.I.1.1. However, the packing on this valve was adjusted (to stop leakage) following the valve stroke timing test. Procedure 8.I.1.1, Section 6.2, Step [2], "Work Scope Guidelines," defines adjusting the valve packing as a Routine Servicing of the valve. Procedure 8.I.1.1, Section 6.2, Step [2], "Test Requirement," requires a stroke timing test following valve packing adjustment (Routine Servicing). In lieu of performing a valve stroke timing test, an additional VOTES test was performed following packing adjustment. The VOTES test did not explicitly measure valve stroke time. Documentation that a stroke timing test had been performed following adjustment of the packing was not available. The failure to perform a stroke timing test following adjustment of the valve packing is a violation of procedure 8.I.1.1, Section 6.2.

### REASON FOR VIOLATION

The reason for this violation was personnel error that resulted from non-adherence to approved station procedures that govern the maintenance work control process.

Also, contributing to this violation were the following:

- A less than adequate review of Maintenance Work Request No. 89-10-121 during the closure process.
- General weakness in the knowledge level of Operations and Maintenance personnel regarding IST requirements.

#### CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED

Immediate action was taken by IST personnel to review the subsequent IST test records for the MO-1001-50 valve. Based on this review it was determined that, although the MO-1001-50 valve had not been stroke time tested immediately following the packing adjustment, it was subsequently satisfactorily stroke time tested on August 7, 1991, in accordance with Station Procedure 8.I.1.1, "Inservice Pump and IST Program Power Operated Valves", Station Instruction SI-PG-4050, "Determination of Limiting Stroke Time Acceptance Criteria for IST Program Operated Valves", meeting the requirements of Station Procedure 8.I.11.5, "Residual Heat Removal Miscellaneous Valve Cold Shutdown Operability".

#### CORRECTIVE ACTION TAKEN TO PRECLUDE RECURRENCE

To preclude recurrence of similar violations, the following additional actions are being taken:

- On September 16, 1991, the Senior Vice President-Nuclear issued a memorandum (PM91-121) to all Nuclear Organization personnel re-emphasizing the proper use and need for strict adherence to station procedures.
- Boston Edison is continuing to review the issue of procedure adherence to identify additional action that may be taken to enhance this area.

To help identify weaknesses, discussions were conducted with groups contributing to post maintenance adherence. Also, a review of RFO #8 IST post maintenance procedures was performed to verify clarity, completeness and accuracy. A weakness in personnel understanding of IST post maintenance requirements was identified. The following items will be conducted to enhance personnel knowledge and heighten their awareness of IST requirements:

- IST training had been previously conducted for the shift crews. Crew IST performance will be monitored and, if found insufficient, additional training will be prescribed. For immediate impact, IST post maintenance concerns have been placed into the Operations (required reading) Night Order Book.
- Maintenance Planners will receive additional IST training that will concentrate on identifying IST procedures for the various maintenance tasks. This training is planned for implementation during the second quarter of 1991.
- The Pilgrim Station work control program is currently under review. An enhanced work control program is being developed to streamline the current work control process. As part of this upgrade additional checks will be incorporated to ensure IST pre-maintenance and post-maintenance testing is identified. The enhanced program is targeted for implementation in 1992.

#### DATE WHEN FULL COMPLIANCE WAS ACHIEVED

Full compliance was achieved on August 7, 1991, when a stroke timing test was satisfactorily performed on valve MO-1001-50 in accordance with Procedure 8.I.11.5, "Residual Heat Removal Miscellaneous Valve Cold Shutdown Operability", Station Instruction SI-PG-4050, "Determination of Limiting Stroke Time acceptance Criteria for IST Program Power Operated Valves," and Station Procedure 8.I.1.1, "Inservice Pump and Valve Testing.