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J. EDWARD HOWARD  
VICE PRESIDENT  
NUCLEAR ENGINEERING

April 4, 1985

BECO 85-067  
Proposed  
Change 85-03

Mr. Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

License DPR-35  
Docket 50-293

Proposed Technical Specification Change  
Concerning 3.7.D.2

Dear Sir:

Pursuant to the provisions of 10CFR50.90, the Boston Edison Company hereby proposes the attached modifications to Appendix A of Operating License DPR-35. This change adds a footnote to Section 3.7.D.2. This note grants temporary relief to allow hydrogen injection testing at Pilgrim.

We propose this as exigent. Should you require further information, please contact us.

Very truly yours,

*J. Edward Howard*

PMK/kmc

Attachment

3 signed originals and 40 copies

Commonwealth of Massachusetts)  
County of Suffolk )

Then personally appeared before me J. Edward Howard, who, being duly sworn, did state that he is Vice President - Engineering and Quality Assurance of the Boston Edison Company, the applicant herein, and that he is duly authorized to execute and file the submittal contained herein in the name and on behalf of the Boston Edison Company and that the statements in said submittal are true to the best of his knowledge and belief.

My Commission expires: *October 21, 1988*

*Peter M. Kahler*  
Notary Public

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### Proposed Change

Reference is made to Pilgrim Station Operating License No. DPR-35, pages 160 and 161. Table 3.7.1, on page 161, lists reactor water sample line isolation valves as primary containment isolation valves which must close within 10 seconds of an initiating signal. Page 160 contains 3.7.D.2, which states:

In the event any isolation valve specified in Table 3.7.1 becomes inoperable, at least one containment isolation valve in each line having an inoperable valve shall be placed in the isolated condition.

The proposed change will add a footnote to 3.7.D.2, which will give temporary relief from 3.7.D.2 for the inboard reactor water sample line valve. This footnote shall state:

Temporary relief from 3.7.D.2 is granted for the inboard reactor water sample line isolation valve (AO-220-44), providing the outboard isolation valve (AO-220-45) is demonstrated operable weekly. This relief is in effect from \_\_\_\_\_ until the conclusion of the hydrogen injection test.

The beginning date will be the date NRC grants approval of this change.

### Reason for Change

On March 28, 1985, the inboard reactor water sample line isolation valve, AO220-44, failed to operate within its technical specification limit of 10 seconds. The outboard isolation valve, AO220-45, was placed in its isolation condition in accordance with 3.7.D.2.

Ordinarily, this condition would continue until such time as AO220-44 could be repaired and the 10 second criterion met. However, Pilgrim Nuclear Power Station (PNPS) is very near to beginning the hydrogen injection testing to address an NRC commitment. Testing is a necessary prelude to implementing hydrogen injection as a mitigator of IGSCC.

Availability of the reactor water sample line is crucial because flow must be established from this line through the test equipment approximately four weeks prior to the test. This "preconditions" lines and vessels such that measurements in the ppb range will be accurate.

General Electric advises us that should Pilgrim be unable to complete the hydrogen injection test by May 15, 1985, the whole implementation program is in jeopardy. Therefore, it becomes imperative to seek the relief herein requested to allow AO220-44 and AO220-45 to be open.

### Exigent Circumstances

Boston Edison proposes that this change be treated as exigent as prescribed in 10 CFR 50.91(a)(5) and 50.91(a)(6).

By letter of December 4, 1984, NRC provided a safety evaluation which dealt with the piping replacement at PNPS. Section 1.5 discusses incipient cracking of the recirculation inlet thermal sleeve, and states, in part, "The licensee plans to implement the hydrogen water chemistry during the next refueling outage and the crack growth in the thermal sleeves is expected to be arrested in such an environment". Section 1.6 restates that hydrogen water chemistry would be implemented during the next refueling outage.

We submit, therefore, that long term continued operation is contingent upon arresting recirculation inlet thermal sleeve cracking in a timely manner, and that this, in turn, depends on the implementation of hydrogen water chemistry. Implementation cannot take place until after injection tests have been completed, which, as discussed above, is placed in jeopardy by the unexpected failure of the AO220-44 inboard isolation valve. Repair or replacement of AO220-44 would require a shutdown, and most likely would not provide sufficient time to "precondition" the system to allow the test to be conducted on schedule.

This situation could not have been anticipated. AO220-44 was repaired last shutdown and subsequently met its technical specification requirements. On March 28, 1985 we discovered it would no longer close in the specified 10 seconds. Courses of action were immediately pursued; an exigent granting of temporary relief from 3.7.D.2 was determined the only satisfactory option. This determination was discussed with NRC by telephone on March 28, 1985.

We therefore believe the criteria of 10 CFR 50.91(a)(5) have been met, and that this change should be granted as exigent.

#### Safety and Significant Hazards Considerations

The Commission has provided guidance for the application of the standards for determining whether a significant hazards consideration exists by providing examples of amendments not likely to involve significant hazards considerations (48FR14870). One such amendment involves a change that corresponds to section (vi) of 48FR14870 in that the change may result in some increase to the probability or consequences of a previously analyzed accident or may reduce in some way a safety margin, but the results of the change are clearly within all acceptable criteria.

AO220-44 has been declared inoperable because the surveillance test closure time for this valve exceeds the technical specification closure time of 10 seconds. This closure time has been selected to minimize the uncontrolled release of radioactive materials to the environs associated with a design basis accident. However, for a high energy line break outside of containment, for example, the rupture of a sample line (see Appendix O of PNPS - FSAR), the design basis LOCA closure time for the associated isolation valve does not apply. The postulated failure is assumed to occur during normal operation and no other accident is assumed to occur concurrently with the pipe failure, that is, the sample line break. In the event of a sample line break, the only Group I isolation signal that the AO220-44 receives is for low-low water level



at -49 inches. Therefore, the primary safety function of the AO22-44 is to provide assurance that the core will remain covered. Assuming that a scram has occurred (-9 inches), it is estimated that the top of the active fuel would be reached approximately 66 minutes after the isolation set point of -49 inches initiates primary containment isolation due to the sample line rupture. Since ECCS is initiated at this setpoint, the core is not uncovered as a result of the rupture. Additionally, calculations indicate that 10 CFR 100 limits will not be exceeded for eight (8) days. The current testing results of AO220-44 have demonstrated its capability to close, although not within the limit of 10 seconds. The average time has been approximately 11 seconds. Therefore, based upon the above information, AO220-44 can be assumed to be operable for this evaluation and the single failure criterion satisfied. Further assurance of the capability to isolate the sample line using the outboard valve, AO220-45, is demonstrated by the fact that no failures of this valve have occurred during plant life. This was substantiated through the review of the failure and malfunction reports for Pilgrim Station.

In addition, surveillance of the outboard isolation valve, AO-220-45, is increased to once/week during the relief period to provide additional confidence in its operability.

Temporary relief from 3.7.D.2 during the test period will not result in a significant increase in the probability or consequences of a previously analyzed accident because the failure of the subject sample line failure of the sample line (1) could not affect the ability to achieve and maintain safe shutdown, (2) will not result in any unacceptable effects on structures, systems, or components required for shutdown, and (3) will not result in unacceptable environmental effects, that is, would not result in exceeding site boundary limits as specified in 10 CFR 100.

For the reasons given above, the change proposed herein does not require the application of a significant hazards consideration because the operation of PNPS in accordance these proposed changes would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

#### Fee Determination

The appropriate application fee of \$150.00 does not accompany this proposed change due to the time constraints imposed by its exigent nature. Pursuant to 10CFR170.12(c) this fee will be submitted in the near future.

#### Schedule of Change

This change will become effective upon notification of the NRC's approval. This acceptance date becomes the start of the relief period, and will be incorporated into the footnote in the space provided.