

**Boston Edison**

Pilgrim Nuclear Power Station
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L. J. Olivier

Vice President Nuclear Operations
and Station Director

September 6, 1994

BECO Ltr. #94-097

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

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

**Proposed Technical Specification Change to the Setpoint for
Reactor Pressure to Isolate the Shutdown Cooling System**

Boston Edison Company (BECO) hereby proposes the attached modification to Appendix A Operating License No. DPR-35 in accordance with 10CRF50.90. This proposed change reduces the Reactor Pressure Setpoint at which the shutdown cooling system automatically isolates. This setpoint also isolates the low pressure coolant injection valves when the shutdown cooling system is in operation.

The technical specification bases for Section 3.2 are revised to reflect the proposed changes.

The requested changes are described in Attachment A. The revised technical specification pages are provided in Attachment B. Attachment C provides the existing pages marked-up to show the proposed changes.

L. J. Olivier
L. J. Olivier

Commonwealth of Massachusetts)
Country of Plymouth)

Then personally appeared before me, L. J. Olivier, who being duly sworn, did state that he is Vice President - Nuclear Operations and Station Director of Boston Edison Company and that he is duly authorized to execute and file the submittal contained herein in the name and on behalf of Boston Edison Company and that the statements in said submittal are true to the best of his knowledge and belief.

My commission expires: October 5, 1995

John Kahler

ETB/BRS/nas/TS/SCSTC

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Attachments: (A) Description of Changes
(B) Amended Technical Specification Pages
(C) Marked-up pages from Current Technical Specifications

1 signed original and 37 copies

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ATTACHMENT A

Proposed Changes

Changes are proposed to reduce the reactor pressure trip level setting (setpoint) for automatically isolating the shutdown cooling system. This setpoint is a common signal for instrumentation that initiates primary containment isolation and instrumentation that initiates or controls the core and containment cooling systems. The current technical specification setpoint of ≤ 110 psig is being revised to ≤ 76 psig as part of modifications to improve design margins for the shutdown cooling isolation valves being implemented during Refueling Outage (RFO) 10. The proposed ≤ 76 psig setpoint protects the Residual Heat Removal (RHR) System piping from over-pressurization, and is consistent with the improved design specifications for the shutdown cooling valves.

Reason for Change

The Shutdown Cooling System isolation valves are being modified as part of the PNPS Generic Letter 89-10 program during RFO 10 (scheduled for April 1995) to improve the design margin. We evaluated the existing setpoint and the capability of the valves and determined modifications were necessary to restore design margins consistent with our Generic Letter 89-10 program. The solution we chose was to modify the motor-operated valves in conjunction with lowering the isolation setpoint. An analytical maximum pressure of 80 psig was considered optimal for reducing valve differential pressure loads while providing operational overlap between shutdown cooling and reactor pressure control via the safety/relief valves. This setpoint is below the current technical specification limit of ≤ 110 psig; however, full design margins for the valves are realized at the proposed lower pressure. We are proposing, therefore, to reduce the setpoint to be consistent with maximizing design margin. The proposed setpoint was developed in accordance with Regulatory Guide 1.105.

Safety Evaluation and Determination of No Significant Hazards

The Code of Federal Regulations (10CFR50.91) requires licensees requesting an amendment to provide an analysis, using the standards in 10CFR50.92, that determines whether a significant hazards consideration exists. The following analysis is provided in accordance with 10CFR50.91 and 10CFR50.92 for the proposed amendment reducing the reactor pressure setpoint which isolates the shutdown cooling isolation and the low pressure coolant injection valves.

1. The operation of Pilgrim Station in accordance with the proposed Amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

Technical Specification Table 3.2.A lists the instrumentation that initiates primary containment isolation and also lists the trip level setting (setpoints) for that instrumentation. The setpoint for reactor high pressure is presently ≤ 110 psig which was selected to provide protection for the RHR low pressure suction piping against possible overpressurization. This signal initiates a group 3 containment isolation by closing the shutdown cooling isolation valves and the Low Pressure Coolant Injection (LPCI) valves. To provide an optimal solution to address Generic Letter 89-10, the motor-operated valves which effect the isolation of the RHR suction piping (MO1001-47 and MO1001-50) are being modified based on a lower differential pressure in the design calculations. The setpoint is being reduced to ensure plant operation is maintained in accordance with the new design and to continue to provide the protection necessary against overpressurization. This does not involve an increase in the probability or consequences of an accident previously analyzed because reducing the setpoint to less than what the technical specifications currently requires is a change in the conservative direction relative to protection

of the piping. The LPCI injection valves are designed for higher pressures and the proposed setpoint change does not involve an increase in the probability or consequences of an accident previously evaluated.

Technical Specification Table 3.2.B lists instrumentation that initiates or controls the core and containment cooling systems and also lists the trip level settings (setpoints) for that instrumentation. The setpoint for reactor low pressure ≤ 110 psig, is a permissive for the group 3 isolation of the RHR inboard injection valves. Reducing the setpoint to ≤ 76 psig is consistent with the design of the other group 3 isolation valves that receive the same signal and accomplishes the isolation of the shutdown cooling system when there is a system breach. Thus, revising this setpoint does not increase the probability or consequences of an accident previously evaluated.

2. The operation of Pilgrim Station in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed setpoint change supports modifications made to the shutdown cooling isolation valves to provide additional margin to address Generic Letter 89-10 concerns. Reducing the setpoint for this function continues to provide protection of the RHR suction piping and ensures closure of the isolation valves. Therefore, revising the reactor high pressure setpoint to ≤ 76 psig for instrumentation that initiates primary containment isolation (Table 3.2.A) does not create the possibility of a new or different kind of accident previously evaluated. Similarly, the revision of the reactor low pressure setpoint to ≤ 76 psig for instrumentation that initiates or controls the core and containment cooling systems does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The operation of Pilgrim Station in accordance with the proposed amendment will not involve a significant reduction in a margin of safety.

The purpose of the setpoint for reactor pressure in Table 3.2.A and 3.2.B is to provide protection for the RHR suction piping and ensure proper isolation for unlikely piping breaches. Changing the setpoint to a lower value is consistent with modifications being made to the shutdown cooling isolation valves. The margin of safety for this setpoint was established to protect the RHR suction piping from overpressurization and to ensure that primary containment integrity could be established by the isolation valves on a Group 3 isolation. A margin of safety for protecting the RHR suction piping exists due to the difference between the design pressure of the piping and the setpoint specified in the technical specifications. Reducing the setpoint increases the difference between the design pressure of the piping and the setpoint hence, this margin of safety is increased. The margin of safety established for primary containment isolation valves is maintained by specifying a setpoint which corresponds to the closing differential pressure of the valves under postulated accident conditions. The setpoint change does not reduce the design margins established to ensure the valves perform their design isolation function when required. The low pressure coolant injection valves that receive this same signal are designed for higher pressures than the current setpoint of ≤ 110 psig and, therefore, a lower setpoint increases the margin of safety. Thus, the proposed amendment does not involve a significant reduction in a margin of safety.

The proposed change has been reviewed and recommended for approval by the Operations Review Committee and reviewed by the Nuclear Safety Review and Audit Committee.

Schedule of Change

We intend to perform these modifications during our next refueling outage currently scheduled to commence April 1, 1995. Therefore, we request this change become effective 30 days following restart from the refueling outage.