

BOSTON EDISON

Pilgrim Nuclear Power Station
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BEC0 90-048

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

License DPR-35
Docket 50-293

Proposed Technical Specification Change Under
Exigent Circumstances, Concerning APRM Upscale
Control Rod Block Setpoint in Startup and Refuel Modes

In accordance with 10CFR50.90, Boston Edison Company proposes the attached changes to Appendix A of Operating License DPR-35. The proposed changes revise the Pilgrim Nuclear Power Station (PNPS) Technical Specifications to correct the setpoint for the APRM upscale control rod block in the startup and refuel modes.

During an investigation of related issues on March 23, 1990, Boston Edison determined the Technical Specifications incorrectly require a flow biased setpoint for the APRM upscale control rod block during startup and refuel modes. The flow biased setpoint is valid for the run mode of operation, but is bypassed to a setdown value when the mode switch is moved to the startup or refuel positions. The proposed change adds the setdown feature of this setpoint to Technical Specifications for the startup and refuel modes.

PNPS is currently shutdown for mid-cycle maintenance and surveillance with the mode switch in the shutdown position. In the shutdown mode, the APRM upscale control rod block is not required to be operable.

Because compliance with the current operating license requirement for a flow biased setpoint in the startup mode is not possible by plant design, this proposed change must be approved before restart from the present outage. Restart of PNPS is currently scheduled for April 15, 1990. Therefore, Boston Edison requests NRC approval of this proposed change under exigent circumstances.

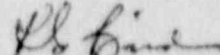
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These proposed changes to PNPS Technical Specifications are consistent with "Standard Technical Specifications" and the "Improved BWR Technical Specification for BWR/4s."



R. G. Bird

Commonwealth of Massachusetts)
County of Plymouth)

Then personally appeared before me, Ralph G. Bird, who being duly sworn, did state that he is Senior Vice President - Nuclear 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
DATE


NOTARY PUBLIC

DMV/jcp/4223

Attachments: A. Description of Proposed Change
B. Amended Technical Specification Pages
C. Marked-up Pages from Current Technical Specifications

1 signed original and 37 copies

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Description of Proposed Change

Proposed Change

The proposed changes to PNPS Technical Specifications correct the setpoint for the average power range monitor (APRM) upscale control rod block in the startup and refuel modes. These changes are shown on the revised pages in Attachment B and the marked-up pages of current Technical Specifications in Attachment C.

Specifically, Technical Specification 2.1.B is revised to clarify that the currently provided flow biased setpoint for APRM upscale rod block is applicable for the run mode of operation. New Specification 2.1.B.2 is added to provide the applicable setpoint for startup and refuel modes.

Technical Specification 4.1.B is revised to reference the applicable specifications containing the flow biased setpoints for both APRM scram and rod block. Changes are also included as listed below to revise this specification to be as consistent as possible with "Standard Technical Specifications" in NUREG-0123 and the "Improved BWR Technical Specifications for BWR/4s" in NEDC-31681.

- Revise the surveillance requirement to verify the maximum fraction of limiting power density (MFLPD) in Specification 4.1.B to provide the proper applicability (when thermal power is greater than or equal to 25% of rated thermal power) and completion times.
- Add the proper limiting condition for operation for MFLPD to new Specification 3.1.B.
- Move the action statement when MFLPD exceeds the fraction of rated power (FRP) from Specification 4.1.B to new Specification 3.1.C and provide a 6-hour completion time for the action.
- Add to new Specification 3.1.D the proper action statement if the required actions and associated completion times of new Specification 3.1.C cannot be met.

Technical Specification Table 3.2.C-1 is revised to add a setdown APRM upscale control rod block trip function for startup and refuel modes. The flow biased trip function remains applicable for the run mode only.

Technical Specification Table 3.2.C-2 is revised to remove the flow biased description for the APRM upscale control rod block and to change the trip setpoint to those described in Specification 2.1.B. Specification 2.1.B is revised as described above to provide the setpoints for both run mode (flow biased) and startup and refuel modes (setdown).

The bases for Specification 3.2 are revised to clarify that the APRM upscale rod block is flow biased only in the run mode and setdown below the APRM flux scram trip in the startup and refuel modes.

Reason for Change

During an investigation of related issues, Boston Edison determined that the Technical Specifications incorrectly require a flow biased setpoint for the APRM upscale control rod block during startup and refuel modes. The flow biased setpoint is valid for the run mode of operation, but is bypassed to a setdown value when the mode switch is moved to the startup or refuel positions. The proposed changes to Technical Specifications add the setdown feature of this setpoint to conform with the design of the APRM upscale control rod block in the startup and refuel modes at PNPS. Additional changes described above are included to be as consistent as possible with "Standard Technical Specifications" and the "Improved BWR Technical Specifications for BWR/4s."

Safety Evaluation and Determination of No Significant Hazards Considerations

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 this proposed Technical Specification change.

1. The operation of the Pilgrim Nuclear Power Station (PNPS) in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The PNPS safety analyses, as described in the Final Safety Analysis Report (FSAR), rely on the APRM neutron flux scram trip to protect the reactor from exceeding safety limits during postulated accidents. The safety analyses do not take credit for the control rod block function of the reactor manual control system. The control rod block function is included in the plant design only to reduce the probability of challenges to the reactor protection system and limit potential local fuel damage as a result of control rod manipulation errors. As described in the FSAR, the only safety design function of the reactor manual control system is to not inhibit the accomplishment of a reactor scram by the reactor protection system.

The addition of the setdown feature of the APRM upscale control rod block for startup and refuel modes to Technical Specifications only serves to conform the Technical Specifications to current plant design and the FSAR. This change does not alter any equipment configuration or operation at PNPS.

The proposed changes to the surveillance requirement for the maximum fraction of limiting power density (MFLPD) serve to clarify that MFLPD need not be verified below 25% of rated thermal power. Based on NUREG-0123, Revision 3, Bases 3/4.2.3, the fuel thermal margin (MCPR) exceeds the applicable operating and safety limits by a considerable margin for all possible control rod patterns. The MCPR margins evaluated at 25% of rated thermal power at PNPS demonstrates this margin. In addition, operation at or below 25% of rated thermal power results in a relatively small moderator void fraction. Hence, abnormal operating conditions affecting flow rate, pressure, or enthalpy have only a small potential for void collapse, limiting the potential for core-wide power excursions. Because of this inherent margin of safety added by operation at or below 25% of rated thermal power, surveillance of MFLPD below 25% of rated thermal power is not required to ensure that existing safety limits are met. This change to the MFLPD

surveillance requirement conforms with the "Standard Technical Specifications" in NUREG-0123 and the "Improved BWR Technical Specifications for BWR/4s" in NEDC-31681.

Boston Edison concludes that the proposed changes would not impact the accomplishment of a reactor scram by the reactor protection system and would not significantly impact the existing margin of safety at or below 25% of rated thermal power. For these reasons, the proposed change would not increase the probability or consequences of an accident previously evaluated.

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

As described above, the proposed change does not involve any changes to plant design or configuration. The proposed change only serves to conform PNPS Technical Specifications to the current plant design as described in the FSAR and to the "Standard Technical Specifications" and the "Improved BWR Technical Specifications for BWR/4s." For this reason, Boston Edison concludes that the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The proposed change to add the setdown feature of the APRM upscale control rod block for startup and refuel modes has no impact on PNPS safety analyses, as described above. In addition, the surveillance of MFLPD at or below 25% of rated thermal power is not required to ensure that existing safety limits are met. For these reasons, Boston Edison concludes that the proposed changes will not involve a significant reduction in the margin of safety.

This change has been reviewed and approved by the Operations Review Committee and reviewed by the Nuclear Safety Review and Audit Committee.

Explanation of Exigent Circumstances

The Code of Federal Regulations (10CFR50.91(a)(6)) requires licensees requesting a license amendment be issued without the normal 30-day public notice to provide an explanation of the exigent circumstances. PNPS is presently shutdown for a maintenance/surveillance outage. Our present schedule calls for restart of the plant on or about April 15, 1990.

During an investigation of related issues, Boston Edison concluded on or about March 23, 1990 that a change to the Technical Specifications would be required to permit restart of the plant. Because the need for the change was not known to us prior to this time, the exigent circumstances could not have been avoided.

Boston Edison has made a good faith effort to prepare the enclosed request and submit it for NRC approval as expeditiously as possible while adhering to the appropriate requirements for completeness and accuracy.

Schedule for Change

This change will be implemented within 30 days following BECo's receipt of its approval by the Commission.