

November 9, 1983

Docket No. 50-293

Mr. William D. Harrington  
Senior Vice President, Nuclear  
Boston Edison Company  
800 Boylston Street  
Boston, Massachusetts 02199

Dear Mr. Harrington:

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The Commission has issued the enclosed Amendment No. 71 to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated February 25, 1983.

The amendment revises the Technical Specifications to incorporate an action statement in the event a limiting condition for operation regarding jet pump flow mismatch is exceeded. This action statement would require an orderly shutdown to be initiated in the event a limiting condition for operation concerning jet pump flow mismatch is exceeded and not corrected within 30 minutes.

A copy of the related Safety Evaluation is also enclosed.

Sincerely,

Original signed by/

Paul H. Leech, Project Manager  
Operating Reactors Branch #2  
Division of Licensing

Enclosures:

1. Amendment No. 71 to License No. DPR-35
2. Safety Evaluation

cc w/enclosures:  
See next page

*Check the Petition  
or Comments  
immediately before  
issuing. If any  
come back to O&D.*

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Mr. A. Victor Morisi  
Boston Edison Company  
Pilgrim Nuclear Power Station

cc:

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Water Quality and  
Environmental Commissioner  
Department of Environmental Quality  
Engineering  
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Boston, Massachusetts 02111



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

BOSTON EDISON COMPANY

DOCKET NO. 50-293

PILGRIM NUCLEAR POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 71  
License No. DPR-35

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Boston Edison Company (the licensee) dated February 25, 1983 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-35 is hereby amended to read as follows:

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B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 71, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing

Attachment:  
Changes to the  
Technical Specifications

Date of Issuance: November 9, 1983

ATTACHMENT TO LICENSE AMENDMENT NO. 71

FACILITY OPERATING LICENSE NO. DPR-35

DOCKET NO. 50-293

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment Number and contain a vertical line indicating the area of change.

Remove

127

148

Replace

127

148

## 3.6.D. Safety Relief Valve (Cont'd)

from the initial discovery of discharge pipe temperatures in excess of 212°F for more than 24 hours without prior NRC approval of the engineering evaluation delineated in 3.6.D.3.

5. The limiting conditions of operation for the instrumentation that monitors tail pipe temperature are given in Table 3.2.F.

E. Jet Pumps

1. Whenever the reactor is in the startup or run modes, all jet pumps shall be operable. If it is determined that a jet pump is inoperable, an orderly shutdown shall be initiated and the reactor shall be in a Cold Shutdown Condition within 24 hours.

F. Jet Pump Flow Mismatch

1. Whenever both recirculation pumps are in operation, pump speeds shall be maintained within 10% of each other when power level is greater than 80% and within 15% of each other when power level is less than or equal to 80%.
2. If Specification 3.6.F.1 is exceeded immediate corrective action shall be taken. If recirculation pump speed mismatch is not corrected within 30 minutes, an orderly shutdown shall be initiated and the reactor shall be in the Cold Shutdown condition within 24 hours unless the recirculation pump speed mismatch is brought within limits sooner.

G. Structural Integrity

1. The structural integrity of the primary system boundary shall be maintained at the level required by the ASME Boiler and Pressure Vessel Code, Section XI, "Rules of Inservice Inspection of Nuclear Power Plant Components", 1974.

E. Jet Pumps

Whenever there is recirculation flow with the reactor in the start-up or run modes, jet pump operability shall be checked daily by verifying that the following conditions do not occur simultaneously.

1. The two recirculation loops have a flow imbalance of 15% or more when the pumps are operated at the same speed.
2. The indicated value of core flow rate varies from the value derived from loop flow measurements by more than 10%.
3. The diffuser to lower plenum differential pressure reading on an individual jet pump varies from established jet pump P characteristics by more than 10%.

F. Jet Pump Flow Mismatch

Recirculation pump speeds shall be checked and logged at least once per day.

G. Structural Integrity

The nondestructive inspections listed in Table 4.6.1 shall be performed as specified. The results obtained from compliance with this specification will be evaluated after 5 years and the conclusions of this evaluation will be reviewed with AEC.

BASES:

3.6.F and 4.6.F

Jet Pump Flow Mismatch

The LPCI loop selection logic has been previously described in the Pilgrim Nuclear Power Station FSAR. For some limited low probability accidents with the recirculation loop operating with large speed differences, it is possible for the logic to select the wrong loop for injection. For these limited conditions the core spray itself is adequate to prevent fuel temperatures from exceeding allowable limits. However, to limit the probability even further, a procedural limitation has been placed on the allowable variation in speed between the recirculation pumps.

The licensee's analyses indicate that above 80% power the loop select logic could not be expected to function at a speed differential of 15%. At or below 80% power the loop select logic would not be expected to function at a speed differential of 20%. This specification provides a margin of 5% in pump speed differential before a problem could arise. If the reactor is operating on one pump, the loop select logic trips that pump before making the loop selection.

Specification 3.6.F allows 30 minutes to correct a mismatch in recirculation pump speeds in order to take manual control of the recirculation pump MG set scoop tube positioner in the event that its control system should fail.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 71 TO FACILITY OPERATING LICENSE NO. DPR-35

BOSTON EDISON COMPANY

PILGRIM NUCLEAR POWER STATION

DOCKET NO. 50-293

### 1.0 Introduction

By letter dated February 25, 1983, Boston Edison Company (the licensee) requested changes to the Pilgrim Nuclear Power Station (PNPS) Technical Specifications (TSs) to incorporate an action statement in the event a limiting condition for operation regarding jet pump flow mismatch is exceeded.

### 2.0 Evaluation

The proposed change to Specification 3.6.F would add an action statement which requires that immediate corrective action be taken whenever recirculation pump speeds are not within 10% of each other at power levels greater than 80% of rated power and within 15% of each other when power is less than or equal to 80%. The proposed change also requires that if such a recirculation pump speed mismatch is not corrected within 30 minutes an orderly shutdown shall be initiated and that the reactor shall be in Cold Shutdown within 24 hours if the mismatch is not corrected within that time.

In reviewing the licensee's application, the BWR Standard Technical Specifications, NUREG-0123, Revision 3, served as the basis in assessing the acceptability of the proposed changes. The Standard Technical Specifications, page 3/4 4-3 pertaining to recirculation pumps (and their associated bases) are recognized by the staff as an acceptable implementation of requirements applicable when recirculation pump speed mismatch occurs. We have reviewed the Boston Edison's February 25, 1983 application and find the proposed Technical Specification changes to be consistent with the BWR Standard Technical Specifications; therefore, we conclude that these changes are acceptable.

### 3.0 Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and,

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pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

#### 4.0 Conclusion

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense security or to the health and safety of the public.

Principal Contributor: K. Eccleston

Dated: November 9, 1983