

June 23, 1987

Docket No.: 50-293

Boston Edison Company M/C Nuclear  
ATTN: Mr. Ralph E. Bird  
Senior Vice President - Nuclear  
800 Boylston Street  
Boston, Massachusetts 02199

Dear Mr. Bird:

The Commission has issued the enclosed Amendment No. 101 to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station. This amendment consists of changes to the Technical Specifications in response to your application dated January 19, 1987 as supplemented by letter dated February 25, 1987.

This amendment revises Technical Specification 4.7.B.2.a by reducing the differential pressure criteria for replacing filters in the Control Room High Efficiency Air Filtration (CRHEAF) System from 8 to 6 inches of water.

A copy of our Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,



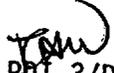
Richard H. Wessman,  
Senior Project Manager  
Project Directorate I-3  
Division of Reactor Projects I/II

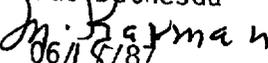
Enclosures:

1. Amendment No. 101 to DPR-35
2. Safety Evaluation

cc w/enclosures:  
See next page

PDR-3/DRPI/II  
MRushbrook/rad  
06/17/87

  
PDI-3/DRPI/II  
RWessman  
06/17/87

OGC-Bethesda  
  
06/18/87

PDI-3/DRPI/II  
VNerses  
06/23/87

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AMENDMENT NO. 101 TO FACILITY OPERATING LICENSE DPR-35 -  
PILGRIM NUCLEAR POWER STATION

DISTRIBUTION: w/enclosures:

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T. Barnhart (8)  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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Sincerely,

A handwritten signature in dark ink, appearing to read "Richard H. Wessman".

Richard H. Wessman,  
Senior Project Manager  
Project Directorate I-3  
Division of Reactor Projects I/II

Enclosures:

1. Amendment No. 101 to DPR-35
2. Safety Evaluation

cc w/enclosures:  
See next page

Mr. Ralph G. Bird  
Boston Edison Company

Pilgrim Nuclear Power Station

cc:

Mr. K. P. Roberts, Station Manager  
Boston Edison Company  
RFD #1, Rocky Hill Road  
Plymouth, Massachusetts 02360

Boston Edison Company M/C Nuclear  
ATTN: Ralph G. Bird  
Senior Vice President - Nuclear  
800 Boylston Street  
Boston, Massachusetts 02199

Resident Inspector's Office  
U. S. Nuclear Regulatory Commission  
Post Office Box 867  
Plymouth, Massachusetts 02360

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11 Lincoln Street  
Plymouth, Massachusetts 02360

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Massachusetts Department of  
Environmental Quality Engineering  
One Winter Street  
Boston, Massachusetts 02108

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Boston, Massachusetts 02108

Mr. Robert M. Hallisey, Director  
Radiation Control Program  
Massachusetts Department of  
Public Health  
150 Tremont Street, 2nd Floor  
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U. S. Nuclear Regulatory Commission  
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Boston Edison Company  
25 Braintree Hill Office Park  
Braintree, Massachusetts 02184



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. 101  
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 January 19, 1987 as supplemented February 25, 1987 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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(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 101, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 30 days after the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Victor Nerses, Acting Director  
Project Directorate I-3  
Division of Reactor Projects I/II

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 23, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 101

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 vertical lines indicating the areas of change. The corresponding overleaf pages are provided to maintain document completeness.

Remove Pages

158B

Insert Pages

158B

3.7.B (Continued)

2. Control Room High Efficiency Air Filtration System
  - \*a. Except as specified in Specification 3.7.B.2.c below, both trains of the Control Room High Efficiency Air Filtration System used for the processing of inlet air to the control room under accident conditions and the diesel generator(s) required for operation of each train of the system shall be operable whenever secondary containment integrity is required and during fuel handling operations.
  - b. (1.) The results of the in-place cold DOP tests on HEPA filters shall show  $\geq 99\%$  DOP removal. The results of the halogenated hydrocarbon tests on charcoal adsorber banks shall show  $\geq 99\%$  halogenated hydrocarbon removal when test results are extrapolated to the initiation of the test.
  - (2.) The results of the laboratory carbon sample analysis shall show  $\geq 95\%$  methyl iodide removal at a velocity within 10% of system design, 0.05 to 0.15 mg/m<sup>3</sup> inlet methyl iodide concentration,  $\geq 70\%$  R.H., and  $\geq 125^\circ\text{F}$ .
- \*c. From and after the date that one train of the Control Room High Efficiency Air Filtration System is made or found to be incapable of supplying filtered air to the control room for any reason, reactor operation or refueling operations are permissible only during the succeeding 7 days. If the system is not made fully operable within 7 days, reactor

\* Conditional Relief granted from this LCO for the period February 5, 1982 to startup for cycle 6.

4.7.B (Continued)

2. Control Room High Efficiency Air Filtration System
  - a. At least once every 18 months the pressure drop across each combined filter train shall be demonstrated to be less than 6 inches of water at 1000 cfm or the calculated equivalent.
  - b. (1.) The tests and analysis of Specification 3.7.B.2.b shall be performed once every 18 months or following painting, fire or chemical release in any ventilation zone communicating with the system while the system is operating.
  - (2.) In-place cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing which could affect the HEPA filter bank bypass leakage.
  - (3.) Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal adsorber bank or after any structural maintenance on the system housing which could affect the charcoal adsorber bank bypass leakage.
  - (4.) Each train shall be operated with the heaters in automatic for at least 15 minutes every month.
  - (5.) The test and analysis of Specification 3.7.B.2.b.(2) shall be performed after every 720 hours of system operation.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 101

TO FACILITY OPERATING LICENSE NO. DPR-35

BOSTON EDISON COMPANY

PILGRIM NUCLEAR POWER STATION

DOCKET NO. 50-293

1.0 INTRODUCTION

By letter dated January 19, 1987, as supplemented February 25, 1987, Boston Edison Company transmitted, a proposal to change the Pilgrim Technical Specifications. The licensee has proposed (1) to decrease the pressure drop across the filter unit in the Control Room High Efficiency Air Filtration (CRHEAF) system to 6 inches of water (currently the Technical Specification specifies less than 8 inches of water), and (2) to add a 10 percent tolerance ( $\pm 10\%$ ) to the air flow rate to be used with the filter unit during filter surveillance testing.

2.0 EVALUATION

The CRHEAF system provides outside makeup air for pressurizing the control room following a design basis accident. The CRHEAF system is an engineered safety feature system. The system consists of two redundant filtration units. Each unit contains a heating coil, a prefilter, an upstream HEPA filter, a charcoal adsorber, and a final HEPA filter. Each unit is designed for an air flow intake capacity of 1,000 cfm.

The current Pilgrim Technical Specification Section 4.7.B.2.a specifies that:

"At least once every 18 months the pressure drops across each combined filter train shall be demonstrated to be less than 8 inches of water at 1,000 cfm."

The licensee has proposed to decrease the acceptable pressure drop to 6 inches of water across the filter unit when the air flow rate is 1,000 cfm  $\pm 10\%$ .

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The staff estimates that the pressure drop across a HEPA filter should be less than 1 inch of water when the filter is new and operated at rated design air flow capacity. The pressure drop will increase as particulates and dust are collected in the filter. The licensee stated in the referenced letters that the HEPA filter vendor recommends limiting the maximum allowable pressure drop to 8 inches of water across each HEPA filter and to 3 inches of water for the filter replacement. Therefore, the proposed pressure drop of less than 6 inches of water across the entire filter unit (one prefilter, two HEPA filters, and one charcoal adsorber) is reasonable and acceptable. This change is also consistent with the value specified in GE/BWR Standard Technical Specifications (NUREG-0123, Revisions 3 and 4), as well as in Technical Specifications recently issued for other BWRs.

The staff also finds that the addition of a 10 percent tolerance to the air flow rate (i.e., 1,000 cfm  $\pm$  10%) is acceptable, since it is consistent with GE/BWR Standard Technical Specifications. It should be noted, however, that the CRHEAF system at Pilgrim Station is not provided with an air flow indicator and/or a recorder. Instead, the licensee has been utilizing Pitot tube air velocity measurements to estimate the air flow rate. The licensee has proposed that the air flow rate surveillance requirement of 1,000 cfm  $\pm$  10% will be met by the use of Pitot tube air velocity measurements in accordance with the plant established calculational procedures.

The staff believes that within this flow range (i.e., 1,000 cfm  $\pm$  10%), the design objectives of the CRHEAF system still can be met (e.g., slight positive pressurization of the control room, air residence time in the charcoal adsorber). Therefore, the staff finds that the licensee's method for determining the air flow rate is acceptable. The revised Section 4.7.2.a of the Pilgrim Technical Specifications will state, in part: "... less than 6 inches of water at 1,000 cfm  $\pm$  10% or the calculated equivalent."

On the basis of the above evaluation, we find that the licensee's proposed Pilgrim Technical Specification changes are acceptable. The bases for acceptance are: (1) proposed Technical Specifications are consistent with recently licensed BWR Technical Specifications as well as BWR Standard Technical Specifications, and (2) proposed Technical Specifications conform with acceptable design and operating practices for engineered safety feature ventilation systems.

### 3.0 ENVIRONMENTAL CONSIDERATIONS

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20.

The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR §51.22(c)(9). Pursuant to 10 CFR §51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: J. Lee

Dated: June 23, 1987