

February 2, 1995

Mr. E. Thomas Boulette, Ph.D  
Senior Vice President - Nuclear  
Boston Edison Company  
Pilgrim Nuclear Power Station  
RFD #1 Rocky Hill Road  
Plymouth, MA 02360

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SUBJECT: ISSUANCE OF AMENDMENT NO. 157 TO FACILITY OPERATING LICENSE NO. DPR-35, PILGRIM NUCLEAR POWER STATION (TAC NO. M90368)

Dear Mr. Boulette:

The Commission has issued the enclosed Amendment No. 157 to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station. This amendment is in response to your application dated September 6, 1994.

This amendment would remove Technical Specification Section 4.5.H.4 which requires the testing and calibration of pressure switches in certain emergency core cooling system lines.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register Notice.

Sincerely,  
Original signed by:  
Ronald B. Eaton, Senior Project Manager  
Project Directorate I-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-293

- Enclosures: 1. Amendment No. 157 to License No. DPR-35  
2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

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Senior Vice President - Nuclear  
Boston Edison Company  
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Sincerely,

A handwritten signature in black ink, appearing to read "Ronald B. Eaton".

Ronald B. Eaton, Senior Project Manager  
Project Directorate I-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-293

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cc w/encls: See next page

E. Thomas Boulette

Pilgrim Nuclear Power Station

cc:

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

BOSTON EDISON COMPANY

DOCKET NO. 50-293

PILGRIM NUCLEAR POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 157  
License No. DPR-35

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
  - A. The application for amendment filed by the Boston Edison Company (the licensee) dated September 6, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations;
  - 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.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director  
Project Directorate I-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 2, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 157

FACILITY OPERATING LICENSE NO. DPR-35

DOCKET NO. 50-293

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Remove

3/4.5-9

B3/4.5-6

Insert

3/4.5-9

B3/4.5-6

LIMITING CONDITION FOR OPERATION

3.5 CORE AND CONTAINMENT COOLING SYSTEMS (Cont)

SURVEILLANCE REQUIREMENT

4.5 CORE AND CONTAINMENT COOLING SYSTEMS (Cont)

H. Maintenance of Filled Discharge Pipe (Cont)

2. Following any period where the LPCI system or core spray systems have not been required to be operable, the discharge piping of the inoperable system shall be vented from the high point prior to the return of the system to service.
3. Whenever the HPCI or RCIC system is lined up to take suction from the torus, the discharge piping of the HPCI and RCIC shall be vented from the high point of the system and water flow observed on a monthly basis.

BASES:

3.5 CORE AND CONTAINMENT COOLING SYSTEMS (Cont)

occur. A potential draining of the reactor vessel (via control rod blade leakage) would allow this water to enter into the torus and after approximately 140,000 gallons have accumulated (needed to meet minimum NPSH requirements for the LPCI and/or core spray pumps), the torus would be able to serve as a common suction header. This would allow a closed loop operation of the LPCI system and the core spray system (once re-aligned) to the torus. In addition, the other core spray system is lined up to the condensate storage tanks which can supplement the refuel cavity and dryer/separator pool water to provide core flooding, if required.

Specification 3.9 must also be consulted to determine other requirements for the diesel generators.

G. Deleted

H. Maintenance of Filled Discharge Pipe

If the discharge piping of the core spray, LPCI system, HPCI, and RCIC are not filled, a water hammer can develop in this piping when the pump and/or pumps are started. An analysis has been done which shows that if a water hammer were to occur at the time at which the system were required, the system would still perform its design function. However, to minimize damage to the discharge piping and to ensure added margin in the operation of these systems, this Technical Specification requires the discharge lines to be filled whenever the system is in an operable condition.

An acceptable method of ensuring that the lines are full is to vent at the high points. The monthly frequency is based on the gradual nature of void buildup in the ECCS piping, the procedural controls, and operating experience.

4.5 CORE AND CONTAINMENT COOLING SYSTEMS SURVEILLANCE FREQUENCIES

The testing interval for the core and containment cooling systems is based on industry practice, quantitative reliability analysis, judgment and practicality. The core cooling systems have not been designed to be fully testable during operation. For example, in the case of the HPCI, automatic initiation during power operation would result in pumping cold water into the reactor vessel which is not desirable. Complete ADS testing during power operation causes an undesirable loss-of-coolant inventory. To increase the availability of the core and containment cooling systems, the components which make up the system; i.e., instrumentation, pumps, valves, etc., are tested frequently. The pumps and motor operated valves are tested in accordance with ASME B&PV Code, Section XI (IWP and IWV, except where specific relief is granted) to assure their operability. The frequency and methods of testing are described in the PNPS IST program. The PNPS IST Program is used to assess the operational readiness of pumps and valves that are safety-related or important to safety. When components are tested and found inoperable the impact on system operability is determined, and corrective action or Limiting Conditions of Operation are initiated. A simulated automatic actuation test once each cycle combined with code inservice testing of the pumps and valves is deemed to be adequate testing of these systems.

The surveillance requirements provide adequate assurance that the core and containment cooling systems will be operable when required.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 157 TO FACILITY OPERATING LICENSE NO. DPR-35  
BOSTON EDISON COMPANY  
PILGRIM NUCLEAR POWER STATION  
DOCKET NO. 50-293

1.0 INTRODUCTION

By letter dated September 6, 1994, the Boston Edison Company (the licensee) submitted a request for change to the Pilgrim Nuclear Power Station Technical Specifications (TSs). The requested change would remove TS Section 4.5.H.4 which requires the testing and calibration of pressure switches in certain emergency core cooling system (ECCS) lines.

2.0 EVALUATION

The discharge piping for ECCS is maintained filled to prevent water hammer during automatic pump starts. Monthly venting is the primary means of ensuring filled discharge piping. The pressure switches are an adjunct to such venting. Piping in the Core Spray System, the Low Pressure Coolant Injection System (LPCI), the High Pressure Coolant Injection (HPCI) system, and the Reactor Core Isolation Coolant (RCIC) system are all equipped with pressure switches that detect pressure decay in the discharge piping of these systems.

A change is proposed removing TS Section 4.5.H.4, thereby removing the ECCS discharge piping pressure switches from TSs. The proposed change does not change Pilgrim's configuration or equipment. The switches perform a surveillance function and do not provide a signal needed to prevent or mitigate an accident. The switches will continue to perform their surveillance function and their surveillance and calibration will be performed in accordance with Pilgrim procedures. Removal of Section 4.5.H.4 eliminates the possibility of inoperable switches forcing the shutdown of Pilgrim or the alternative of declaring an operable safety system inoperable because of its association with these switches.

The purpose of Section 4.5.H.4 is to assure that the ECCS discharge piping is maintained full to prevent water hammer. The purpose of the pressure switches is to detect voids in ECCS discharge piping to prevent the possibility of damage due to water hammer. These switches are not safety related, have no automatic functions, and are not relied on to prevent or mitigate an accident. Instead, they enhance the existing discharge pipe venting surveillance requirements by detecting void formation in discharge pipe.

The switches will continue to perform their surveillance function through Pilgrim procedures. Venting will continue to be required by TSs.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Massachusetts State Official was notified of the proposed issuance of the amendment. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC 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 issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (59 FR 53838). 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.

### 5.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) 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: K.R. Cotton

Date: February 2, 1995