

July 17, 1985

Docket No. 50-293

Mr. John F. Doherty  
318 Summit Avenue, #3  
Brighton, Massachusetts 02135

Dear Mr. Doherty:

In response to your letter dated July 8, 1985, we are providing the enclosed copy of Boston Edison Company's letter dated April 12, 1985. That letter proposes changes in the Technical Specifications relative to the fuel storage pool at the Pilgrim Nuclear Power Station.

We have not completed our review of Boston Edison's proposal. When our evaluation is available, a copy will be sent to you.

Sincerely,

Original signed by/

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

Enclosure:  
As stated

cc w/enclosure:  
See next page

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Mr. William D. Harrington  
Boston Edison Company  
Pilgrim Nuclear Power Station

cc:

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WILLIAM D. HARRINGTON  
SENIOR VICE PRESIDENT  
NUCLEAR

April 12, 1985

BECO 85-077  
Proposed Change  
85-05

Mr. Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

License DPR-35  
Docket 50-293

Proposed Technical Specification Change  
Fuel Storage Pool

Dear Sir:

Pursuant to the provisions of 10CFR50.90, the Boston Edison Company hereby proposes the attached modifications to Appendix A of Operating License DPR-35. These proposed modifications recommend raising the K-effective of the fuel pool to the industry standard and adding a K-infinity factor to the fuel pool LCO.

Very truly yours,

*W D Harrington*

ERM/ns

Attachment

3 signed originals and 40 copies

Commonwealth of Massachusetts)  
County of Suffolk )

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

My Commission expires: *October 21, 1988*

*Peter M. Kahle*  
Notary Public

*4501220148*

Proposed Amendments to  
Technical Specifications  
Fuel Storage Pool

A. Narrative

The present Technical Specification for the fuel storage pool provides a K-effective of 0.90 which is less than the industry standard of 0.95. It also does not list a K-infinity value. This proposal will change the K-effective from its present 0.90 to 0.95 to meet industry standard criteria, and will add a K-infinity value of  $\leq 1.35$ . The K-infinity will replace the maximum fuel loading criteria of U-235 and the maximum assembly average loading of weight percent U-235.

B. Reason for Change

The Technical Specifications presently limit the fuel storage K-effective to  $\leq 0.90$ . This is unnecessarily restrictive in accordance with regulatory and industry accepted practices. The proposed change in K-effective will provide more flexibility in the event of future redesign of the fuel racks.

The present design criteria in the Final Safety Analysis Report is a K-effective  $\leq 0.90$  for normal conditions and a K-effective  $\leq 0.95$  for abnormal conditions. The proposed K-effective  $\leq 0.95$  includes both conditions and does not reduce the margin of criticality from the original design.

C. Safety Considerations

These changes do not present an unreviewed safety question as defined in 10CFR50.59. They have been reviewed and approved by the Operations Review Committee, and reviewed by the Nuclear Safety Review and Audit Committee.

D. Significant Hazards Consideration

The NRC has provided guidance concerning the application of standards for determining whether license amendments involve significant hazards considerations by providing certain examples (48FR14870). The change of the Technical Specification LCO to raise the K-effective limit of the fuel storage pool and add a K-infinity value is an example of an amendment which is considered not likely to involve a significant hazards consideration, and provides, "(ii) a change that constitutes an additional limitation, restriction, or control not presently included in the Technical Specifications: for example, increasing the limit of the fuel pool K-effective in order to conform to the standard within the industry, while encompassing the limits of the original design criteria."

The present fuel racks at Pilgrim Station have been designed based on an 8x8 fuel assembly with an average enrichment of 3.0 weight percent U-235, without gadolinia and water rods. This assembly design has a maximum K-infinity of 1.35. The proposed change will replace the linear U-235 density and enrichment with the corresponding maximum K-infinity of the

same assembly design which was used for the design of the present fuel racks. This change will not allow storage of any assembly which has a maximum K-infinity greater than 1.35, thus guaranteeing a K-effective equal to or less than 0.95 when stored in the racks. The replacement of the maximum fuel loading criteria of grams of U-235, and the maximum average loading of weight percent U-235, will allow credit to be taken for the gadolinia which is mixed with the uranium oxide in the Pilgrim fuel assemblies.

E. Schedule of Change

This amendment will be effective 30 days after receipt of approval by the NRC.

F. Application Fee

Pursuant to 10CFR170.12(c), Boston Edison classifies this change as a Class III amendment. An application fee of \$150 (check #896317) is included with this proposed amendment.

## 5.5 FUEL STORAGE

- A. The new fuel storage facility shall be such that the  $K_{eff}$  dry is less than 0.90 and flooded is less than 0.95.
- B. The  $K_{eff}$  of the spent fuel storage pool shall be less than or equal to 0.95.
- C. Fuel assembly in the spent fuel pool shall have a maximum  $K_{\infty}$  less than or equal to 1.35.
- D. The number of spent fuel assemblies stored in the spent fuel pool shall not exceed 2320.
- E. Loads in excess of 1000 lbs. shall be prohibited from travel over fuel assemblies in the spent fuel storage pool.
- F. No fuel which has decayed for less than 200 days shall be stored in racks within an arc described by the height of the cask around the periphery of the energy absorbing pad.

## 5.6 SEISMIC DESIGN

The station Class I structures and systems have been designed for ground accelerations of 0.08g (design earthquake) and 0.15g (maximum credible earthquake).