November 15, 1993

Docket No. 50-293

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

Dear Mr. Boulette:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - PILGRIM NUCLEAR POWER STATION, INCREASE ALLOWED FUEL ASSEMBLY STORAGE (TAC NO. M85898)

On February 11, 1993, Boston Edison Company submitted an application to amend the Technical Specifications (TSs) for Pilgrim Nuclear Power Station. The proposed change would revise the TSs to increase allowed fuel assembly storage. In order to complete our review, we require further information or clarification for selected issues. Enclosed is a list of the information we require. If you need clarification on this request, please call me at (301) 504-3041.

The requirements of this letter affect fewer than 10 respondents, and, therefore, are not subject to the Office of Management and Budget review under P.L. 96-511.

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

Enclosure:
As stated

cc w/enclosure:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Project Directorate I-3
Division of Reactor Projects - I/II
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Enclosure:
As stated

cc w/enclosure:
See next page

cc:

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Massachusetts Department of
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Mr. Thomas Rapone
Secretary of Public Safety
Executive Office of Public Safety
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Mr. David Rodham, Director
Massachusetts Emergency Management
Agency
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Framingham, Massachusetts 01701-0317
Attn: James Muckerheide

Chairmen, Citizens Urging
Responsible Energy
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Citizens at Risk
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Plymouth, Massachusetts 02361

W. S. Stowe, Esquire
Boston Edison Company
800 Boylston St., 36th Floor
Boston, Massachusetts 02199

REQUEST FOR ADDITIONAL INFORMATION

A. Heavy Loads Handling Concerns

1. Provide a figure showing the proposed rack lift rig.

2. What is the maximum load the lift rig is able to lift before reaching the yield stress on any component?

3. What is the maximum load the rig is able to lift before reaching the ultimate stress on any component?

4. Explain how the 150% test load you intend to employ for the lift rig (as noted on page 2-2 of the Holtec Report) complies with the test specified in Section 6.3 of ANSI N14.6-1978.

5. Show how you intend to test the lift rig to verify continuing compliance for use in installing racks after the initial reracked configuration.

6. The reactor building bridge crane (RBBC) is being specified for use in the reracking process. What is the ultimate load this crane can lift before any crane component fails?

7. Section (i) and (ii) on page 2-3 of the Holtec International Report (HI-92925) mention that "cranes" will be used in the reracking process. For those cranes other than the RBBC, provide the following information:

   a. What will each crane be used for?
   b. What specification has each crane been designed to, e.g. EOCI-61, CMAA-70?
   c. What ultimate load can each crane lift before failing?
   d. What is the maximum load each crane is expected to lift?

8. In section (i) on page 2-3 of the Holtec Report you state that cranes used in the project will receive a preventative maintenance checkup and inspection for the reracking operation. Will this be done for both the initial and other reracking configurations? How soon will this be accomplished before each reracking phase?

9. You state the following on page 2-3 of the Holtec Report:

   (1) No heavy load (rack or rig) with a potential to drop on a rack has less than 3 feet lateral free zone clearance from actual fuel.

   This assures the reader that there is at least 3 feet separation between a rack fully loaded with spent fuel and an empty rack or rig being moved.

It is not clear that a similar clearance will be maintained between a partially filled rack and a rack or rig being moved. Explain and justify any deviation for maintaining any lesser separation (less than 3 feet).

10. Show at what loads the rigging for the overhead platforms (discussed on page 2-5 of the Holtec Report) will fail. You intend to prevent damage to racks and spent fuel by carrying platforms over racks at a height of 36 inches or less. Discuss how you intend to monitor the 36 inch height.

11. What is the purpose of the rack overhead platforms? Will all the racks have platforms or only the new racks? How will you monitor placement of material on the platforms so as to prevent damage to spent fuel?

B. Thermal/Hydraulic Concerns

1. Show that the spent fuel pool cooling and cleaning system (FPCC) components are protected in the event of a spent fuel pool (SFP) cooling pump failure during a normal refueling. Provide the maximum temperature expected for the SFP bulk coolant, in that case.

2. What systems are available to provide coolant for the SFP in the event of complete failure of the FPCC system? What coolant flow rate can be provided as makeup from each system in the event of such failure? Which, if any, is designed to function after a seismic event? Which systems can operate without off-site power?

3. The Holtec Report, on page 5-13, shows the capability of residual heat removal (RHR) cooling mode 2 (maximum bulk pool temperature 129 °F) for a "normal" off load. What would be the SFP bulk coolant temperature in the event RHR cooling mode 1 was utilized? Are the decay heat loads in both cases 8.69 MBTU/Hr? Are there any refueling scenarios wherein an RHR pump would not be available in the event of a single failure?

4. Explain your use of collocation in determining the velocity fields in the lower plenum and in-cell as noted in Section 5.7.2, "Model Description" of the Holtec Report.