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

September 19, 1989

Docket No. 50-293

Mr. Ralph G. Bird
Senior Vice President - Nuclear
Boston Edison Company
Pilgrim Nuclear Power Station
RFD #1 Rocky Hill Road
Plymouth, Massachusetts 02360

Dear Mr. Bird:

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT-EXEMPTION FROM PRIMARY CONTAINMENT LEAKAGE TESTING REQUIREMENTS OF APPENDIX J TO 10 CFR PART 50, PILGRIM NUCLEAR POWER STATION (TAC NO. 73773)

Enclosed is a copy of an "Environmental Assessment and Finding of No Significant Impact" for your information. This assessment relates to your application dated July 7, 1989, and supplemented on September 1, 1989 for specific exemptions from the requirements of Appendix J to 10 CFR Part 50 for the Pilgrim Nuclear Power Station (PNPS).

You requested an Exemption from 10 CFR Part 50, Appendix J, Section III.A.6(b), which currently requires a Type A primary containment integrated leak rate test (PCILRT) be conducted every 18 months or during a plant refueling, which ever occurs first. The request was to resume the PCILRT schedule at the PNPS specified in 10 CFR Part 50, Appendix J, Section III.D.1(a), which requires three tests be performed during each 10-year service period at approximately equal intervals. This request results in approximately a 22 month schedule extension for the required Type A test which would be performed during the next refueling outage (RFO-8). The bases for the request is an alternative Local Leak Rate Testing (LLRT) Corrective Action Plan included in your submittal in accordance with the guidance provided in NRC Information Notice 85-71, "Containment Integrated Leak Rate Tests," dated August 22, 1985.

In addition, one-time schedule exemptions are requested from the requirements of 10 CFR Part 50 Appendix J, Section III.D.2(a) and III.D.3, for Type B and C LLRTs as they apply to four specific valves, the drywell head, and drywell access hatch as detailed in the enclosed environmental assessment. The request is to extend the two year test interval by approximately six months and allow the required testing to be accomplished during RFO-8.

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September 19, 1989

The notice has been forwarded to the Office of the Federal Register for publication.

Sincerely,

/s/

Daniel G. McDonald, Senior Project Manager
Project Directorate I-3
Division of Reactors Projects I/II
Office of Nuclear Reactor Regulation

Enclosure:
Notice

cc w/enclosure:
See next page

(TAC 73773 EA PILGRIM)

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MBJ 9/18/89

*subject to correction of noted typos

cc w/enclosure:
Mr. K. L. Highfill
Vice President of Operations/
Station Station
Pilgrim Nuclear Power Station
RFD #1 Rocky Hill Road
Plymouth, Massachusetts 02360

Resident Inspector
U. S. Nuclear Regulatory Commission
Pilgrim Nuclear Power Station
Post Office Box 867
Plymouth, Massachusetts 02360

Chairman, Board of Selectmen
11 Lincoln Street
Plymouth, Massachusetts 02360

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

Office of the Attorney General
One Ashburton Place
20th Floor
Boston, Massachusetts 02108

Mr. Robert M. Hallisey, Director
Radiation Control Program
Massachusetts Department of
Public Health
150 Tremont Street, 2nd Floor
Boston, Massachusetts 02111

Regional Administrator, Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Mr. John Dietrich
Licensing Division Manager
Boston Edison Company
25 Braintree Hill Park
Braintree, Massachusetts 02184

Mr. Richard N. Swanson, Manager
Nuclear Engineering Department
Boston Edison Company
25 Braintree Hill Park
Braintree, Massachusetts 02184

Ms. Elaine D. Robinson
Nuclear Information Manager
Pilgrim Nuclear Power Station
RFD #1, Rocky Hill Road
Plymouth, Massachusetts 02360

Mr. Charles V. Barry
Secretary of Public Safety
Executive Office of Public Safety
One Ashburton Place
Boston, Massachusetts 02108

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UNITED STATES NUCLEAR REGULATORY COMMISSION

BOSTON EDISON COMPANY

DOCKET NO. 50-293

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of exemptions from certain requirements of 10 CFR Part 50, Appendix J, Section III.A.6(b), III.D.2(a), and III.D.3, to the Boston Edison Company (BECO/licensee) for the Pilgrim Nuclear Power Station located at the licensee's site in Plymouth County, Massachusetts.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action:

The licensee would be exempted from the requirements of 10 CFR Part 50, Appendix J, Section III.A.6(b) to the extent that a Type A Primary Containment Integrated Leak Rate Test (PCILRT) would not have to be performed during the Pilgrim Nuclear Power Station's (PNPS) upcoming surveillance outage scheduled for October 1989. Also, the normal PCILRT retest schedule specified in Section III.D.1(a) of Appendix J would be restored.

In addition, the licensee would be exempted from the requirements of Sections III.D.2(a) and III.D.3 to the extent that Type B and C Local Leak Rate Tests (LLRTs) would not be performed during the upcoming October 1989 outage, but would be allowed a one-time schedule extension of approximately six months for the following components:

1. Shutdown Cooling Isolation Valves MO-1001-47 and MO-1001-50 (Type C LLRTs)
2. Reactor Building Closed Cooling Water Isolation Valve MO-4002 on the line from the drywell and Check Valve 30-CK-432 on the line to the drywell (Type C LLRTs)

3. Drywell Head and Drywell Head Access Hatch (Type B LLRTs)

The Need for the Proposed Action:

The PCILRTs performed during the 1982, 1983, and 1987 refueling outages at the PNPS were deemed failures in the "as-found" condition due to leakage from the pathways of the Type B and C LLRTs. Section III.A.6(b) of Appendix J states that, should two consecutive PCILRTs fail to meet the applicable acceptance criteria, a retest must be performed during each subsequent refueling outage until two consecutive tests are deemed acceptable, after which time the retest schedule specified in Section III.D.1(a) may be resumed. Accordingly, the licensee would be required to perform a PCILRT during the surveillance outage scheduled for October 1989. As an alternative to performing the required test, the licensee has submitted a Corrective Action Plan in accordance with the guidance provided in NRC Information Notice 85-71, "Containment Integrated Leak Rate Tests", dated August 22, 1985.

The Corrective Action Plan includes a LLRT failure analysis team to investigate LLRT failures, determination of root causes, and recommend corrective actions. The plan also includes a trending program, test method improvements and augmented testing. It should be noted, that the major leakage (about 83%) of the LLRTs performed in December 1987, was due to the feedwater check valves. The short term replacement of problem components in the valves and the long term inspection and testing of the valves had been unsuccessful. However, in recent years, the licensee initiated a Valve Betterment Program which has resulted in the replacement of 17 valves and modifications to 12 other valves which were identified as having excessive leakage. These actions appear to have resolved the feedwater check valve leakage problem and leakage from other Type B and C components. The implementation of the Corrective Action Plan including augmented LLRTs and continued close trending of the Type B and C

tests performed on all required penetrations, including the replaced and refurbished valves, should ensure the intent of 10 CFR 50, Appendix J, Section III.A.6(b) is met in that unacceptable containment leakage is identified and corrected.

The schedule exemption for the Shutdown Cooling Suction Isolation valves is needed to defer the leak rate testing until the next scheduled refueling outage. The shutdown cooling system is the normal means of removing decay heat from the reactor vessel during short outages, such as the upcoming October 1989 surveillance outage.

The schedule exemption for the Reactor Building Closed Cooling Water (RBCCW) system isolation valves is needed because the testing would impact components cooled by the RBCCW system during the upcoming short outage. In addition, staging to provide access must be built and removed resulting in considerable exposure of workers to radiation. The water in the system is also required to be drained and treated resulting in an increase in the production of radwaste.

The schedule exemption for the drywell head and the drywell head access hatch is needed due to the extent of the work needed to be performed and the resulting worker exposure to radiation. Nine shield blocks above the drywell must be removed. These are normally removed only during refueling outages to allow removal of the reactor head for fuel loading.

Environmental Impacts of the Proposed Action:

The proposed action of performing the Type A PCILRT during the next refueling outage (RFO-8) and then following a schedule in accordance with 10 CFR 50, Appendix J, Section III.D.1(a), is based on the implementation of

the Corrective Action Plan and continued trending of LLRTs. These actions would ensure that excessive leakage from containment isolation valves is identified and corrected. The proposed action would provide a level of safety at least equivalent to that attained by being in compliance with 10 CFR 50, Appendix J, Section III.A.6(b).

The proposed action, in relation to the granting of a one-time schedule extension of approximately six months for performing the Type B or C LLRTs on the components previously discussed, is based on augmented LLRTs and the impact which would result if the tests were performed during the upcoming October 1989 outage. The length of the requested extension and the previous history of the components provides reasonable assurance that excessive leakage will not occur prior to the next tests which will be performed during RFO-8; and that there will be no significant changes in the types or amounts of effluents that may be released offsite.

The Commission has concluded, based on the above, that there are no significant radiological environmental impacts associated with the proposed exemptions, and in fact would reduce the amount of radwaste generated and reduce exposure of workers to radiation.

With regard to potential nonradiological impacts, the proposed exemptions involve features located entirely within the restricted areas as defined in 10 CFR Part 20. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant nonradiological environmental impacts associated with the proposed exemptions.

Alternative to the Proposed Action:

Since the Commission has concluded there are no measurable environmental impacts associated with the proposed exemptions, any alternatives with equal or greater environmental impact need not be evaluated. The principal alternative to the exemptions would be to require rigid compliance with the applicable portions of Sections III.A.6(b), III.D.2(a) and III.D.3 of the Appendix J requirements. Such action would not enhance the protection of the environment and would result as unjustified worker exposure and cost for the licensee.

Alternative Use of Resources:

This action does not involve the use of any resources not considered previously in the Final Environmental Statement related to the operation of Pilgrim Nuclear Power Station.

Agencies and Persons Consulted:

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for the proposed exemptions. Based upon the foregoing environmental assessment, the NRC staff concludes that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this proposed action, see the licensee's letters dated July 7 and September 1, 1989. The letters are available for public inspection at the Commission's Public Document Room,

Gelman Building, Lower Level, 2120 L Street, N.W., Washington, D.C. and at the Plymouth Public Library, 11 North Street, Plymouth, Massachusetts.

Dated at Rockville, Maryland this 19th day of September 1989.

FOR THE NUCLEAR REGULATORY COMMISSION

Richard H. Wessman, Director
Project Directorate I-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation