

BOSTON EDISON COMPANY
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BOSTON, MASSACHUSETTS 02199

WILLIAM D. HARRINGTON
SENIOR VICE PRESIDENT
NUCLEAR

February 28, 1986

BECO 86-022
Proposed Change 86-04

Mr. John A. Zwolinski, Director
BWR Project Directorate #1
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

License DPR-35
Docket 50-293

Proposed Amendment to Operating License
for Pilgrim Station - To Extend the License
Forty Years from the Date of
Issuance of the Operating License

Dear Sir:

Pursuant to the provisions of 10CFR50.90, the Boston Edison Company hereby proposes the attached modification to Facility Operating License No. DPR-35 for Pilgrim Nuclear Power Station, to extend the duration of the license forty years from the date of issuance of the operating license instead of forty years from the date of issuance of the construction permit.

Very truly yours,

W.D. Harrington

ERM/ns

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: My Commission Expires April 3, 1992

Edward P. Mac Cormack
Notary Public

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3/40 #150
#937065*

Proposed Amendment to Operating License
To Extend the License 40 Years from Date of Issuance
of the Operating License

A. Narrative

The present expiration date of Pilgrim Station's operating license is listed on page 5 of the Technical Specification Operating License section and is recorded as August 26, 2008. When the NRC issued Boston Edison the license to operate Pilgrim Station, it was issued to expire forty (40) years from the issuance date of the construction permit which was August 26, 1968. The plant was originally engineered and designed for a forty (40) year service life, as a minimum. Issuance of the forty (40) year operating license from the date of issuance of the construction permit restricts the mandated operating life capability to thirty-six (36) years, two and one-half (2 1/2) months. This request respectfully requests a full forty (40) year license for Pilgrim Station.

B. Reason for Change

Boston Edison believes that the Nuclear Regulatory Commission has clearly established a definitive foundation for the granting of our request. The regulation governing the licensing of nuclear power plants, 10CFR50.51, states that the Commission will issue an operating license:

For a fixed period of time to be specified in the license but in no case to exceed 40 years from the date of issuance. Where the operation of a facility is involved, the Commission will issue the license for the term requested by the applicant or for the estimated useful life of the facility if the Commission determines that the estimated useful life is less than the term requested.

Pilgrim Station was designed to meet the forty (40) year original criteria, and we fully expect that the facility will definitely exceed the present operating license expiration date, while remaining a viable asset to the economic stability of the Company's service area. The plant is a major resource in the Town of Plymouth and surrounding environs by virtue of its continuing contribution to the property tax base. The plant is a major employer of residents of the area, and purchaser of local subsidiary goods and services necessary for plant operation.

Pilgrim Station is a baseload generating station which provides power to the New England Power Pool for allocation throughout the northeast power grid. Its economical operation, for the additional years requested, will lessen the necessity to install additional baseload capacity to meet the growing needs of the region. In addition, its cost effective power supply will decrease the dependency on power production from fossil units which rely on expensive, imported oil for electrical generation. The Company's capital costs will also be spread over a longer period of time. This will

result in significant savings to residents and industrial users in the Company's service area who will benefit from the resulting lower cost of electricity.

Finally, this is not a unique request. In the past few years, the NRC staff has decided to date the licenses of new plants coming on line to expire the full forty (40) years after the issuance date of the operating license. From 1982 through 1984, thirteen (13) new plants were issued forty (40) year licenses from the date of issuance of their operating license. In 1984, Baltimore Gas and Electric submitted license change applications for its two plants at Calvert Cliffs. Full forty (40) year licenses were granted to the two plants in 1985, making them the first pre-1982 plants to receive full license extensions. In light of these developments, Boston Edison deems it in the best interest of its users and investors to request a full forty (40) year license at this time.

C. Safety Considerations

This change does not present an unreviewed safety question as defined in 10CFR50.59. It has been reviewed and approved by the Operations Review Committee, and reviewed by the Nuclear Safety and Audit Committee.

D. Justification Documentation

An Environmental Review pertaining to radiological and non-radiological impacts, occupational exposures, and population increase estimates, is contained in Attachment 1.

E. Significant Hazards Consideration

The NRC has provided guidance concerning the application of standards for determining license amendments involving significant hazards consideration. We have evaluated the potential impacts associated with this request and have performed an analysis of the technical issues pertaining to a change in the Pilgrim Station operating license from the date of issuance of the construction permit to the date of issuance of the operating license. Our analysis shows that the reactor vessel is the only non-replaceable plant component which could limit operating life because of its irreplaceable nature. The reactor vessel was designed using parameters listed in Combustion Engineering Report No. CENC 1139 of March 9, 1971, and included neutron fluences as the basis for a forty (40) year operating life. Additional studies, the Southwest Research Institute Report SWRI02-5951 of July 1981, and GE Report NDE 277-1285 of November 27, 1985, have indicated that expected cumulative neutron fluences will not be a limiting consideration for vessel life. Additionally, the design parameters listed in the Combustion Engineering Report are considered conservative by present standards. As a result, justification for adding the construction duration to the present expiration date to total forty (40) years now exists assuming the design criteria is not exceeded during the forty (40) year life. Ongoing industry studies may even indicate a reactor vessel life which may extend far beyond the original forty (40) years, although fatigue damage must be studied further.

Aging analysis has been performed for safety-related electrical equipment in accordance with 10CFR50.49, "Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants." Qualified lifetimes have been identified for this equipment as part of this analysis. These lifetimes will be incorporated into the Pilgrim Station maintenance and replacement procedures to ensure that all safety-related equipment remains qualified for the life of the plant regardless of the overall age of the plant.

The original design criteria for Pilgrim Station included many conservative, operating life-limiting assumptions. These resulted in analyses that supported a forty (40) year operating life at an 80% capacity factor. Recovering the period between issuance of the construction permit and commencement of power generation would bring the operating life of the plant to its forty (40) year chronological design life. Since the cumulative capacity factor, from plant inception, is less than 80%, the conservative operating criteria will not be compromised.

It is our conclusion, that issuance of a full forty (40) year license to Pilgrim Station, would not (1) involve a significant increase in the probability or consequence of an accident previously evaluated, because the plant was originally designed for a full forty (40) years; (2) create the possibility of a new or different kind of accident from any accident previously evaluated because original design features were incorporated which maximize the inspectability of structures, systems and equipment; or (3) involve any reduction in the margin of safety because safety margins were considered and incorporated into the original forty (40) year design.

Based on the aforementioned conclusive data, Boston Edison avers that extending the Pilgrim operating license to provide for a full forty (40) year operating life, involves no significant hazard consideration.

F. Schedule of Change

This amendment will be effective upon receipt of approval by the NRC.

G. Application Fee

Pursuant to 10CFR170.12(c), Boston Edison submits the enclosed check #937065 as payment for the application fee to cover the submittal of this license change request.

5. Boston Edison has not completed as yet construction of the Rad Waste Solidification System and the Augmented Off-Gas System. Limiting conditions concerning these systems are set forth in the Technical Specifications.
6. Pursuant to Section 105c(8) of the Act, the Commission has consulted with the Attorney General regarding the issuance of this operating license. After said consultation, the Commission had determined that the issuance of this license, subject to the conditions set forth in this subparagraph 6., in advance of consideration of and findings with respect to matters covered in Section 105c of the Act, is necessary in the public interest to avoid unnecessary delay in the operation of the facility. At the time this operating license is being issued and antitrust proceeding has not been noticed. The Commission, accordingly, has made no determination with respect to matters covered in Section 105c of the Act, including conditions, if any, which may be appropriate as a result of the outcome of any antitrust proceeding. On the basis of its findings made as a result of an antitrust proceeding, the Commission may continue this license as issued, rescind this license or amend this license to include such conditions as the Commission deems appropriate. Boston Edison and others who may be affected hereby are accordingly on notice that the granting of this license is without prejudice to any subsequent licensing action, including the imposition of appropriate conditions, which may be taken by the Commission as a result of the outcome of any antitrust proceeding. In the course of its planning and other activities, Boston Edison will be expected to conduct itself accordingly.
7. This license is effective as of the date of issuance and shall expire June 8, 2012.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by A. Giambusso

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Attachments:
Appendix A - Technical Specifications
(Radiological)