

February 13, 1985

Docket No. 50-293

Mr. William D. Harrington
Senior Vice President, Nuclear
Boston Edison Company
800 Boylston Street
Boston, Massachusetts 02199

Dear Mr. Harrington:

SUBJECT: RPV THERMAL AND PRESSURIZATION LIMITATIONS

Re: Pilgrim Nuclear Power Station

Amendment No. 82 to Facility Operating License No. DPR-35 revised the reactor pressure vessel (RPV) thermal and pressurization limit curves for 6.68 and 8.0 years effective full power years of reactor operation. The revision was made to reflect the RT_{NDT} shift determined from actual testing of the first material surveillance capsule removed from the RPV.

Adjustment of the thermal and pressurization limit curves for subsequent periods of operation must also be addressed, as we noted in our letter to you dated October 10, 1984. In order to make the necessary evaluation, we will need adequate responses to the enclosed request for information. To ensure a timely review, please provide the information at least six months prior to the start of the next refueling outage at Pilgrim Station.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

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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REQUEST FOR ADDITIONAL INFORMATION
RELATIVE TO RPV THERMAL/PRESSURIZATION LIMIT CURVES
PILGRIM NUCLEAR POWER STATION
DOCKET NO. 50-293

1. In order to demonstrate that the closure flange region weld flange materials comply with the safety margins of Appendix G, 10 CFR 50, indicate the RT_{NDT} of these materials using either the method in the ASME Code or USNRC Branch Technical Position MTEB 5-2, "Fracture Toughness Requirements." If the proposed pressure temperature limit curves do not meet the safety margins required by Appendix G, 10 CFR 50, for these materials, provide either:
 - a. a new set of curves which comply with the Appendix G safety margins, or
 - b. provide a fracture mechanics analysis which indicates that other materials are more limiting.

2. In order to demonstrate that the surveillance material is the most limiting with regard to radiation damage, provide:
 - a. surveillance data for the correlation monitor material in the capsule;
 - b. indicate the amount of copper, phosphorous and nickel in each weld material and plate material used in fabrication of the Pilgrim reactor vessel beltline.

The staff does not regard the information in Boston Edison Company's letter of October 21, 1977, as demonstrating that the surveillance material is most limiting. Actual test results from samples that were removed from each beltline material are required. If test results are unavailable for the amount of copper, bounding values may be assumed. If bounding values of copper are assumed, if test results on correlation monitor material do not comply with R. G. 1.99 predictions, or if the amount of copper in the Pilgrim reactor vessel beltline materials exceeds that of the surveillance material, the surveillance material will not be regarded as most limiting. If the surveillance material is not regarded as most limiting, the licensee must propose a method acceptable to the staff for predicting the amount of increase in RT_{NDT} resulting from neutron irradiation damage. The method must conservatively predict the amount of increase in RT_{NDT} that was reported for the surveillance material in SWRI Report 02-5951, "Pilgrim Nuclear Power Station Unit 1 Reactor Vessel Irradiation Surveillance Program," dated July 1981. (Note: The increase in RT_{NDT} for the surveillance weld material was estimated by the change in temperature at 50 ft-lbs. for the irradiated and nonirradiated material. The increase in RT_{NDT} should be measured at the 30 ft-lbs. level. Hence, the amount of increase in RT_{NDT} for the surveillance weld material should be 30°F.)