

January 8, 2003

MEMORANDUM TO: Biweekly Notice Coordinator

FROM: Travis L. Tate, Project Manager, Section 2 /RA/
Project Directorate I
Division of Licensing Project Management

SUBJECT: REQUEST FOR PUBLICATION IN BIWEEKLY FR NOTICE -
NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT
TO FACILITY OPERATING LICENSE, PROPOSED NO
SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION,
AND OPPORTUNITY FOR A HEARING (TAC NO. MB5121)

Entergy Nuclear Operations, Inc., Docket No. 50-293, Pilgrim Nuclear Power Station,
Plymouth County, Massachusetts

Date of amendment request: May 1, 2002, as supplemented December 4, 2002

Description of amendment request: The proposed amendment would extend the applicability of the current Pilgrim Nuclear Power Station (Pilgrim) reactor pressure vessel pressure-temperature (P-T) curves through the end of Operating Cycle (OC) 16. The current P-T curves were approved for use in License Amendment 190, dated April 13, 2001, and are limited to use through the end of OC 14. The proposed change would delete the 20 and 32 Effective Full Power Year (EFPY) curves and replace the wording of the title blocks to allow use through the end of OC 16. The proposed amendment would change Pilgrim Technical Specification Figures 3.6.1, 3.6.2 and 3.6.3.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration. The NRC staff has reviewed the licensee's analysis against the standards of 10 CFR 50.92(c). The NRC staff's review is presented below:

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1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

The proposed change involves a request to extend the use of the current reactor pressure vessel P-T curves for two additional OCs. The P-T curves were generated in accordance with the fracture toughness requirements of 10 CFR Part 50, Appendix G, and American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Appendix G and Regulatory Guide 1.99, Revision 2, *Radiation Embrittlement of Reactor Vessel Materials*, and were established in compliance with the methodology used to calculate and predict effects of radiation on embrittlement of reactor pressure vessel beltline materials. There are no physical changes to the plant or new modes of operation being introduced by the proposed change. Further, the proposed change does not involve a change to any activities or equipment and is not assumed in the safety analysis to initiate any accident sequence. The proposed change does not adversely affect the integrity of the reactor coolant pressure boundary such that its function in the containment of radioactive materials is affected. Additionally, the proposed change will not create any failure mode not bounded by previously evaluated accidents. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

The current P-T curves were generated in accordance with the fracture toughness requirements of 10 CFR Part 50, Appendix G, and ASME Code, Section XI, Appendix G, and were approved by the U.S. Nuclear Regulatory Commission for use

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through OC 14. The proposed change would extend use of the P-T curves for two additional OCs. No new modes of operation are introduced by the proposed change. Plant operation in compliance with the current P-T curves ensures conditions in which brittle fracture of primary coolant pressure boundary materials is avoided. Accidents involving a breach of the primary coolant pressure boundary have previously been evaluated and no other types of accidents associated with the proposed change have been identified. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

The proposed curves were established in compliance with the methodology used to calculate and predict effects of radiation on embrittlement of reactor pressure vessel beltline materials and are estimated for 48 effective full-power years. The current curves are approved for use through the end of OC 14 (~19 EFPYs) which provides a conservatism factor of 1.7 between the actual EFPYs at the end of OC 14 and the end-of-life curve (32 EFPY). The change would extend the use of the proposed curves to the end of OC 16 (~23 EFPYs) which provides a conservatism factor of approximately 2.0. The actual EFPYs at the end of OC 16 is bounded by the 48 EFPYs estimated for the current curves. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

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