

March 16, 2005

Mr. Michael Kansler
President
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: PILGRIM NUCLEAR POWER STATION - ISSUANCE OF AMENDMENT RE:
REACTOR VESSEL HYDROSTATIC AND LEAK TESTING REQUIREMENTS
(TAC NO. MC2707)

Dear Mr. Kansler:

The Commission has issued the enclosed Amendment No. 211 to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station (Pilgrim). This amendment is in response to your application dated April 14, 2004.

This amendment approves changes to the Pilgrim Technical Specifications (TSs) to add new limiting conditions for operation to permit inservice hydrostatic testing and system leakage pressure testing of the reactor coolant system at temperatures greater than 212 °F, with the reactor shut down.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* Notice.

Sincerely,

/RA/

John P. Boska, Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-293

Enclosures: 1. Amendment No. 211 to License No. DPR-35
2. Safety Evaluation

cc w/encls: See next page

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Accession Number: ML050180493 Package: Tech Specs:

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OFFICIAL RECORD COPY

Pilgrim Nuclear Power Station

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Pilgrim Nuclear Power Station

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ENTERGY NUCLEAR GENERATION COMPANY
ENTERGY NUCLEAR OPERATIONS, INC.
DOCKET NO. 50-293
PILGRIM NUCLEAR POWER STATION
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 211
License No. DPR-35

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by Entergy Nuclear Operations, Inc. (the licensee) dated April 14, 2004, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-35 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 211, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Darrell J. Roberts, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: March 16, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 211

FACILITY OPERATING LICENSE NO. DPR-35

DOCKET NO. 50-293

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

Table of Contents, Page iii

3/4.0-1

B3/4.0-1

B3/4.0-2

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Insert

Table of Contents, Page iii

3/4.0-1

B3/4.0-1

B3/4.0-2

B3/4.0-3

3/4.14-1

3/4.14-2

B3/4.14-1

B3/4.14-2

B3/4.14-3

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 211 TO FACILITY OPERATING LICENSE NO. DPR-35

ENTERGY NUCLEAR GENERATION COMPANY

ENTERGY NUCLEAR OPERATIONS, INC.

PILGRIM NUCLEAR POWER STATION

DOCKET NO. 50-293

1.0 INTRODUCTION

By letter dated April 14, 2004 (see Agencywide Documents Access and Management System, accession number ML041130279), Entergy Nuclear Operations, Inc. (the licensee) submitted a request for changes to the Pilgrim Nuclear Power Station (Pilgrim) Technical Specifications (TSs). The requested changes would add a new limiting condition for operation (LCO) 3.0.7 to Section 3.0, "Limiting Condition for Operation (LCO) Applicability," a new TS Section 3.14, "Special Operations," and a new LCO 3.14.A, "Inservice Leak and Hydrostatic Testing Operation," to the TSs to permit inservice hydrostatic testing and system leakage pressure testing of the reactor coolant system (RCS) at temperatures greater than 212 °F with the reactor shut down.

2.0 REGULATORY EVALUATION

The American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) requires periodic hydrostatic and leakage tests of the RCS in order to ensure the structural integrity of the RCS pressure boundary. Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix G, states that "pressure tests and leak tests of the reactor vessel that are required by Section XI of the ASME Code must be completed before the core is critical."

Pilgrim TS 3.6.A.2 also requires that the hydrostatic and leakage tests be performed at RCS temperatures greater than 158 °F. This minimum allowable temperature is based on reactor pressure vessel (RPV) fracture toughness requirements.

3.0 TECHNICAL EVALUATION

In order to achieve the required test temperatures and pressures, the licensee performs the RPV hydrostatic and leakage tests with the RCS in an essentially water-solid condition while operating the reactor recirculation and control rod drive pumps. Operation of the pumps provides mechanical heat, as well as maintains consistent temperatures throughout the RPV and RCS during the test. While performing hydrostatic and leakage testing, reactor operators must maintain RCS temperatures within established administrative limits in order to ensure that

Enclosure

the RCS is above the minimum temperature of 158 °F (TS 3.6.A.2) and below the maximum temperature of 212 °F, which is the highest temperature allowed for cold shutdown (TS 1.0). Because it is difficult to stay within the above limits while operating with decay heat and system stored energy addition, the licensee is requesting that it be allowed to perform these tests at temperatures above 212 °F, without entering the “hot shutdown” condition. TS requirements currently require that the plant temporarily enter the hot shutdown mode if RCS temperatures exceed 212 °F during the performance of the test. If the hot shutdown Mode is entered, Pilgrim TSs would place further restrictions and require that additional plant systems be placed in an operable status. The proposed TS changes would, in effect, exempt the licensee from certain hot shutdown requirements during the performance of RCS hydrostatic and leakage testing:

1. LCO 3.0.7 is added to designate LCO 3.14.A as a special operation and to permit performance of the tests. Special operations are optional.
2. TS Section 3.14 and LCO 3.14.A are added, stating that: (a) the average RCS temperature specified in the definition of “cold shutdown” and “cold condition” may be considered as “not applicable”, and (b) operation considered not to be in “hot shutdown” when the RCS is above 212 °F during the performance of hydrostatic and leakage tests.
3. Corresponding TS Bases sections were also added.

The proposed new LCO 3.14.A will require the following functions which normally apply to hot shutdown to be operable when performing hydrostatic and leakage tests:

- Table 3.2A, Reactor Low Water Instrumentation
- LCO 3.7.B.1, Standby Gas Treatment System (SGTS)
- LCO 3.7.C.1, Secondary Containment

When performing hydrostatic and leakage tests and the above three functions are met, the following functions, which normally apply to hot shutdown, are not required to be operable during the testing:

- LCOs 3.5.A.1 and 3.5.A.2, Core Spray System
- LCOs 3.5.A.3 and 3.5.A.4, Low Pressure Coolant Injection System
- LCO 3.5.B.1, Residual Heat Removal (suppression pool cooling)
- LCO 3.5.B.2, Residual Heat Removal (containment spray)
- LCO 3.7.A.2, Primary Containment Integrity

The primary containment integrity will not be maintained while LCO 3.14.A is in effect because the test requires that operators enter the primary containment to observe RCS components in order to determine whether or not there is any RCS leakage present.

Current operability requirements of LCO 3.5.E.1, “Automatic Depressurization System (ADS)”, are not affected by the proposed LCO because it is independent of the RCS temperature. The current operability requirements in LCO 3.6.D.1, “Safety Relief Valves,” are unaffected by the proposed LCO because their operability is not required unless RCS temperature is greater than 340 °F. Similarly, LCO 3.5.C.1, “High Pressure Coolant Injection System,” and LCO 3.6.D.1,

Reactor Core Isolation Cooling System,” are also not affected because operability is not required unless RCS temperature is greater than 365 °F.

Because the tests are performed at times of low decay heat at near cold shutdown, the reactor stored energy is very low. Under those conditions, the possibility for fuel failure and increase of water activity is minimal. Even so, should a leak take place, the secondary containment and the SGTS will be operable to mitigate the event. The secondary containment and the standby gas treatment systems are adequate for handling any airborne activity that may occur during the hydrostatic or leak tests. In case of a large primary steam leak, the vessel will depressurize very rapidly because it is water solid. LCO 3.5.A.5, which requires operability of two low pressure injection/spray subsystems, is more than adequate to keep the core cooled under conditions of low decay heat.

3.1 NRC Staff’s Conclusion

The NRC staff evaluated the proposed addition of LCO 3.14.A to allow the hydrostatic and leak tests to be performed at RCS temperatures higher than 212 °F. The proposed LCO 3.14.A is a special operations LCO, and as provided by LCO 3.0.7, the criteria of 10 CFR 50.36(c)(2)(ii) do not apply. The proposed TS change is based on considerations of acceptable consequences during normal testing and/or postulated accident conditions. Therefore, the NRC staff finds that the proposed changes are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Massachusetts State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (69 FR 76489). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the

Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: L. Lois

Date: March 16, 2005