

ENTERGY NUCLEAR GENERATION COMPANY *

And ENTERGY NUCLEAR OPERATIONS, INC.

(PILGRIM NUCLEAR POWER STATION)

DOCKET NO. 50-293

RENEWED FACILITY OPERATING LICENSE

Renewed License No. DPR-35

The Nuclear Regulatory Commission (the Commission) has found that:

- a. Except as stated in condition 5, construction of the Pilgrim Nuclear Power Station (the facility) has been substantially completed in conformity with the application, as amended, the Provisional Construction Permit No. CPPR-49, the provisions of the Atomic Energy Act of 1954, as amended (the Act), and the rules and regulations of the Commission as set forth in Title 10, Chapter 1, CFR; and
- b. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission; and
- c. There is reasonable assurance (i) that the activities authorized by the renewed operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission; and
- d. The Entergy Nuclear Generation Company (Entergy Nuclear) is financially qualified and Entergy Nuclear Operations, Inc. (ENO) is technically and financially qualified to engage in the activities authorized by this renewed operating license, in accordance with the rules and regulations of the Commission; and
- e. Entergy Nuclear and ENO have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements" of the Commission's regulations; and
- f. The issuance of this renewed operating license will not be inimical to the common defense and security or to the health and safety of the public; and
- g. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of this renewed operating license (subject to the condition for protection of the environment set forth herein) is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements of said regulations have been satisfied; and
- h. Actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under

* The Nuclear Regulatory Commission approved the transfer of the license from Boston Edison Company to Entergy Nuclear Generation Company on April 29, 1999.

10 CFR 54.21(a)(1); and (2) time-limited aging analyses that have been identified to require review under 10 CFR 54.21(c), such that there is reasonable assurance that the activities authorized by the renewed operating license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for the facility, and that any changes made to the facility's current licensing basis in order to comply with 10 CFR 54.29(a) are in accordance with the Act and the Commission's regulations.

Facility Operating License No. DPR-35, dated June 8, 1972, issued to the Boston Edison Company (Boston Edison) is hereby amended in its entirety, pursuant to an Initial Decision dated September 13, 1972, by the Atomic Safety and Licensing Board, to read as follows:

1. This renewed operating license applies to the Pilgrim Nuclear Power Station, a single cycle, forced circulation, boiling water nuclear reactor and associated electric generating equipment (the facility), owned by Entergy Nuclear and operated by ENO. The facility is located on the western shore of Cape Cod Bay in the town of Plymouth on the Entergy Nuclear site in Plymouth County, Massachusetts, and is described in the "Final Safety Analysis Report," as supplemented and amended.
2. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Entergy Nuclear:
 - A. Pursuant to the Section 104b of the Atomic Energy Act of 1954, as amended (the Act) and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," a) Entergy Nuclear to possess and use and b) ENO to possess, use, and operate the facility as a utilization facility at the designated location on the Pilgrim site;
 - B. ENO, pursuant to the Act and 10 CFR 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
 - C. ENO, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source or special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - D. ENO, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - E. ENO, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
3. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations; 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50 and Section 70.32 of 10 CFR Part 70; and is subject to all applicable

provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Level

ENO is authorized to operate the facility at steady state power levels not to exceed 2028 megawatts thermal.

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 236, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Records

ENO shall keep facility operating records in accordance with the requirements of the Technical Specifications.

D. Equalizer Valve Restriction - DELETED

E. Recirculation Loop Inoperable - DELETED

F. Fire Protection

ENO shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility and as approved in the SER dated December 21, 1978 as supplemented subject to the following provision:

ENO may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

G. Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Pilgrim Nuclear Power Station Physical Security, Training and Qualification, and Safeguards Contingency Plan, Revision 0" submitted by letter dated October 13, 2004, as supplemented by letter dated May 15, 2006.

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The licensee's CSP was approved by License Amendment No. 236.

H. Post-Accident Sampling System, NUREG-0737, Item II.B.3. and Containment Atmospheric Monitoring System, NUREG-0737, Item II.F.1(6)

The licensee shall complete the installation of a post-accident sampling system and a containment atmospheric monitoring system as soon as practicable, but no later than June 30, 1985.

I. Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 177, are hereby incorporated into this renewed operating license. ENO shall operate the facility in accordance with the Additional Conditions.

J. Conditions Related to the Sale and Transfer

- (1) For purposes of ensuring public health and safety, Entergy Nuclear shall provide decommissioning funding assurance of no less than \$396 million, after payment of any taxes, in the decommissioning trust fund for Pilgrim upon the transfer of the Pilgrim licenses to Entergy Nuclear.
- (2) Entergy Nuclear shall maintain the decommissioning trust funds in accordance with the Order, the related Safety Evaluation dated April 29, 1999, and the related application for approval of the transfer.
- (3) Entergy Nuclear shall provide a Provisional Trust fund in the amount of \$70 million, after payment of any taxes, in the Provisional Trust for Pilgrim upon the transfer of the Pilgrim licenses to Entergy Nuclear. The Provisional Trust shall be established and maintained in conformance with the representations made in the application for approval of the transfer.
- (4) Entergy Nuclear shall have access to a contingency fund of not less than fifty million dollars (\$50m) for payment, if needed, of Pilgrim operating and maintenance expenses, the cost to transition to decommissioning status in the event of a decision to permanently shut down the unit, and decommissioning costs. Entergy Nuclear will take all necessary steps to ensure that access to these funds will remain available until the full amount has been exhausted for the purposes described above. Entergy Nuclear shall inform the Director, Office of Nuclear Regulation, in writing, at such time that it utilizes any of these contingency funds. This provision does not affect the NRC's authority to assure that adequate funds will remain available in the plant's separate decommissioning fund(s), which Entergy Nuclear shall maintain in accordance with NRC regulations. Once the plant has been placed in a safe-shutdown condition following a decision to decommission, Entergy Nuclear will use any remainder of the \$50m contingency fund that has not been used to safely operate and maintain the plant to support the safe and prompt decommissioning of the plant, to the extent such funds are needed for safe and prompt decommissioning.

- (5) The Decommissioning Trust agreement(s) shall be in a form which is acceptable to the NRC and shall provide, in addition to any other clauses, that:
- a) Investments in the securities or other obligations of Entergy Nuclear, Entergy Corporation, their affiliates, subsidiaries or associates, or their successors or assigns shall be prohibited. In addition, except for investments tied to market indexes or other non-nuclear sector mutual funds, investments in any entity owning one or more nuclear power plants is prohibited.
 - b) The Director, Office of Nuclear Reactor Regulation, shall be given 30 days prior written notice of any material amendment to the trust agreement(s).

K. Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel
 - (b) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures
 - (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders
- L. The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.
- M. Upon Implementation of Amendment No. 231 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage required by SR 4.7.6.2.e in accordance with TS 5.5.8.c.(i), the assessment of CRE habitability as required by Specification 5.5.8.c.(ii), and the measurement

of CRE pressure as required by Specification 5.5.8.d shall be considered met as follows:

- (a) The first performance of SR 4.7.2.6.5.e in accordance with Specification 5.5.8.c.(i) shall be within the specified frequency of 6 years, plus the 18-month allowance as defined by SURVEILLANCE INTERVAL measured from December 5, 2005, the date of the most recent successful tracer gas test, as stated in Entergy's letter "Follow-Up Response to NRC Generic Letter 2003-01" (EN0 2.06.019), dated March 20, 2006, or within 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
 - (b) The first performance of the periodic assessment of CRE habitability Specification 5.5.8.c.(ii) shall be within 3 years, plus the 9-month allowance of SURVEILLANCE INTERVAL as measured from December 5, 2005, the date of the most recent successful tracer gas test, as stated in Entergy's letter "Follow-Up Response to NRC Generic Letter 2003-01" (EN0 2.06.019), dated March 20, 2006, or within 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
 - (c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.8.d shall be within 24 months, plus the 180-day allowance of the SURVEILLANCE INTERVAL as measured from the date of the most recent successful pressure measurement test or within 180 days if not performed previously.
4. This license is subject to the following condition for the protection of the environment: Boston Edison shall continue, for a period of five years after initial power operation of the facility, an environmental monitoring program similar to that presently existing with the Commonwealth of Massachusetts (and described generally in Section C-III of Boston Edison's Environmental Report, Operating License Stage dated September, 1970) as a basis for determining the extent of station influence on marine resources and shall mitigate adverse effects, if any, on marine resources.
 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 has 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 an 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. The information in the FSAR supplement, submitted pursuant to 10 CFR 54.21(d), as supplemented by Commitments Nos. 3, 8, 9, 13, 15, 18, 19, 21, 22, 24, 25, 26, 27, 28, 30, 31, 33, 34, 35, 36, 37, 39, 40, 46, 51, and 52 of Appendix A of NUREG-1891, "Safety Evaluation Report Related to the License Renewal of Pilgrim Nuclear Power Station" dated June 2007, as supplemented, is henceforth part of the FSAR which will be updated in accordance with 10 CFR 50.71(e). In addition, the licensee shall incorporate into its FSAR the "Description of Program" from Table 3.0-1 "FSAR Supplement for Aging Management of Applicable Systems" of License Renewal Interim Staff Guidance LR-ISG-2011-05 "Ongoing Review of Operating Experience."

The licensee may make changes to the programs and activities described in the FSAR supplement and Commitments Nos. 3, 8, 9, 13, 15, 18, 19, 21, 22, 24, 25, 26, 27, 28, 30, 31, 33, 34, 35, 36, 37, 39, 40, 46, 51, and 52 of Appendix A of NUREG-1891, as supplemented, provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

8. The licensee's FSAR supplement submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and as supplemented by Commitments Nos. 3, 8, 9, 13, 15, 18, 19, 21, 22, 24, 25, 26, 27, 28, 30, 31, 33, 34, 35, 36, 37, 39, 40, 46, 51, and 52 of Appendix A of NUREG-1891, as supplemented, along with the FSAR description regarding consideration of operating experience for license renewal aging management programs in Condition 7 above, describes certain future programs and activities to be completed before the period of extended operation. The licensee shall complete these activities no later than June 8, 2012, and shall notify the NRC in writing when implementation of these activities is complete.
9. Capsule withdrawal schedule – For the renewed operating license term, all capsules in the reactor vessel that are removed and tested must meet the requirements of American Society for Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the staff prior to implementation. All capsules placed in storage must be maintained for future insertion. Any changes to storage requirements must be approved by the staff, as required by 10 CFR Part 50, Appendix H.

10. This license is effective as of the date of issuance and shall expire June 8, 2032.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "Eric J. Leeds". The signature is fluid and cursive, with a large initial "E" and "L".

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Attachments:
Appendix A - Technical Specifications
(Radiological)
Appendix B – Additional Conditions
Date of Issuance: May 29, 2012