



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 28, 2019

Ms. Pamela B. Cowan  
Senior Vice President  
and Chief Operating Officer  
Holtec Decommissioning International, LLC  
Krishna P. Singh Technology Campus  
1 Holtec Blvd.  
Camden NJ 08104

SUBJECT: PILGRIM NUCLEAR POWER STATION - ISSUANCE OF AMENDMENT  
NO. 250 RE: PERMANENTLY DEFUELED TECHNICAL SPECIFICATIONS  
(EPID L-2018-LLA-0268)

Dear Ms. Cowan:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 250 to Renewed Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station, in response to your application dated September 13, 2018, as supplemented by letters dated January 10, February 8, March 14, and July 16, 2019.

This amendment revises Renewed Facility Operating License No. DPR-35 and the associated technical specifications to Permanently Defueled Technical Specifications for a facility in the permanently shutdown and defueled condition.

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,

A handwritten signature in black ink that reads "Scott P Wall".

Scott P. Wall, Senior Project Manager  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-293

Enclosures:

1. Amendment No. 250 to Renewed License No. DPR-35
2. Safety Evaluation

cc: Listserv



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

HOLTEC DECOMMISSIONING INTERNATIONAL, LLC

HOLTEC PILGRIM, LLC

DOCKET NO. 50-293

PILGRIM NUCLEAR POWER STATION

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 250  
Renewed License No. DPR-35

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by Entergy Nuclear Operations, Inc.,<sup>1</sup> dated September 13, 2018, as supplemented by letters dated January 10, February 8, March 14, and July 16, 2019, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - 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.

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<sup>1</sup> Effective August 26, 2019, Renewed Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station (Pilgrim), including the general license for the Pilgrim Independent Spent Fuel Storage Installation, was transferred from Entergy Nuclear Operations, Inc. (ENOI) to Holtec Pilgrim, LLC as the licensed owner and to Holtec Decommissioning International, LLC (HDI) as the licensed operator for decommissioning. In a letter dated August 22, 2019, HDI requested that the NRC continue all ongoing regulatory actions and reviews currently underway for Pilgrim. HDI and Holtec Pilgrim, LLC have assumed responsibility for the continuation of these regulatory actions and reviews (Agencywide Documents Access and Management System Accession No. ML19234A357).

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

- The title "RENEWED FACILITY OPERATING LICENSE" is to read "RENEWED FACILITY LICENSE"
- Paragraphs a through d and f through h are to read as follows:
  - a. DELETED
  - b. The facility will be maintained 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 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. Holtec Pilgrim, LLC (Holtec Pilgrim) is financially qualified and Holtec Decommissioning International, LLC (HDI) is technically and financially qualified to engage in the activities authorized by this renewed license, in accordance with the rules and regulations of the Commission; and
  - f. The issuance of this renewed 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 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.
  - h. DELETED
- Paragraphs 1, 2.B, 2.C, 3, 3.A through 3.F, 3.H, 3.I, 3.M, and 4 through 10 are to read as follows:
  - 1. This renewed 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 Holtec Pilgrim and maintained and operated for decommissioning by HDI. The facility is located on the western shore of Cape Cod Bay in the town of Plymouth on the Holtec Pilgrim site in Plymouth County, Massachusetts, and is described

in the "Final Safety Analysis Report," as supplemented and amended.

- 2.B HDI, pursuant to the Act and 10 CFR 70, to possess at any time special nuclear material that was used as reactor fuel, in accordance with the limitations for storage, as described in the Final Safety Analysis Report, as supplemented and amended;
- 2.C HDI, 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 that were used for reactor startup, sealed sources that were used for calibration of reactor instrumentation and are used in radiation monitoring equipment, and as fission detectors in amounts as required;
- 3. This renewed 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. DELETED

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 250, are hereby replaced with the Permanently Defueled Technical Specifications. The licensee shall maintain the facility in accordance with the Permanently Defueled Technical Specifications.

C. Records

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

D. DELETED

E. DELETED

F. DELETED

H. DELETED

I. DELETED

M. DELETED

4. DELETED
5. DELETED
6. DELETED
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).

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.

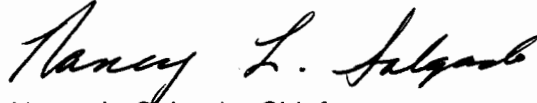
8. DELETED
9. DELETED
10. This license is effective as of the date of issuance and until the Commission notifies the licensee in writing that the license is terminated.

- The Attachments are hereby amended to read as follows:

Attachment:  
Appendix A – Permanently Defueled Technical Specifications  
(Radiological)

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

FOR THE NUCLEAR REGULATORY COMMISSION



Nancy L. Salgado, Chief  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to Renewed Facility  
Operating License No. DPR-35  
and Technical Specifications

Date of Issuance: October 28, 2019

ATTACHMENT TO LICENSE AMENDMENT NO. 250

PILGRIM NUCLEAR POWER STATION

RENEWED FACILITY OPERATING LICENSE NO. DPR-35

DOCKET NO. 50-293

Replace the following pages of the Renewed Facility Operating License; Appendix A, Technical Specifications; and Appendix B, Additional Conditions, with the attached revised pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Renewed Facility Operating License No. DPR-35

<u>REMOVE</u>	<u>INSERT</u>
-1- through -8-	-1- through -6-

Appendix A, Technical Specifications

<u>REMOVE</u>	<u>INSERT</u>
Title Page	Title Page
TOC i through iii	TOC i
1-1 through 1-6	1.0-1
2-1	2.0-1
3/4.0-1	3/4.0-1
3/4.1-1 through 3/4.1-8	--
3/4.2-1 through 3/4.2-41	--
3/4.3-1 through 3/4.3-14	--
3/4.4-1 through 3/4.4-2	--
3/4.5-1 through 3/4.5-12	--
3/4.6-1 through 3/4.6-11	--
3/4.7-1 through 3/4.7-17	--
3/4.8-1 through 3/4.8-2	--
3/4.9-1 through 3/4.9-5	--
3/4.10-1	3/4.10-1
3/4.10-1a	--
3/4.10-2	--
3/4.11-1 through 3/4.11-4	--
3/4.12-1 through 3/4.12-2	--
3/4.13-1 through 3/4.13-2	--
3/4.14-1 through 3/4.14-10	--
4.0-1 through 4.0-2	4.0-1
5.0-3	5.0-3
5.0-5 through 5.0-16	5.0-5 through 5.0-12

Appendix B, Additional Conditions

<u>REMOVE</u>	<u>INSERT</u>
-1-	--

HOLTEC PILGRIM, LLC  
And HOLTEC DECOMMISSIONING INTERNATIONAL, LLC  
(PILGRIM NUCLEAR POWER STATION)

DOCKET NO. 50-293

RENEWED FACILITY LICENSE

Renewed License No. DPR-35

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

- a. DELETED
- b. The facility will be maintained 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 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. Holtec Pilgrim, LLC (Holtec Pilgrim) is financially qualified and Holtec Decommissioning International, LLC (HDI) is technically and financially qualified to engage in the activities authorized by this renewed license, in accordance with the rules and regulations of the Commission; and
- e. Holtec Pilgrim and HDI 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 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 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.
- h. DELETED



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 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 Holtec Pilgrim and maintained and operated for decommissioning by HDI. The facility is located on the western shore of Cape Cod Bay in the town of Plymouth on the Holtec Pilgrim 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:
  - 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) Holtec Pilgrim to possess, and b) HDI to possess, maintain, and decommission the facility at the designated location on the Pilgrim site;
  - B. HDI, pursuant to the Act and 10 CFR 70, to possess at any time special nuclear material that was used as reactor fuel, in accordance with the limitations for storage, as described in the Final Safety Analysis Report, as supplemented and amended;
  - C. HDI, 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 that were used for reactor startup, sealed sources that were used for calibration of reactor instrumentation and are used in radiation monitoring equipment, and as fission detectors in amounts as required;
  - D. HDI, 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. HDI, 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 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. DELETED

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 250, are hereby replaced with the Permanently Defueled Technical Specifications. The licensee shall maintain the facility in accordance with the Permanently Defueled Technical Specifications.

C. Records

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

D. DELETED

E. DELETED

F. DELETED

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, as supplemented by a change approved by Amendment Nos. 238, 241, 244, and 247.

H. DELETED

I. DELETED

J. Conditions Related to the Sale and Transfer

(1) Deleted

(2) Deleted

(3) Deleted

(4) Deleted

(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 Holtec Pilgrim, Holtec International, 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. DELETED

4. DELETED

5. DELETED

6. DELETED

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).

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. DELETED

9. DELETED

10. This license is effective as of the date of issuance and until the Commission notifies the licensee in writing that the license is terminated.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Eric J. Leeds, Director  
Office of Nuclear Reactor Regulation

Attachment:  
Appendix A – Permanently Defueled Technical Specifications  
(Radiological)

Date of Issuance: May 29, 2012

**APPENDIX A**

**TO**

**FACILITY LICENSE DPR-35**

**PERMANENTLY DEFUELED TECHNICAL SPECIFICATIONS AND BASES**

**FOR**

**PILGRIM NUCLEAR POWER STATION**

**PLYMOUTH, MASSACHUSETTS**

**Holtec Pilgrim, LLC and Holtec Decommissioning International, LLC**

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## 1.0 DEFINITIONS

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The succeeding frequently used terms are explicitly defined so that a uniform interpretation of the specifications may be achieved.

ACTION	ACTION shall be that part of a specification which prescribes remedial measures required under designated conditions.
CERTIFIED FUEL HANDLER	A CERTIFIED FUEL HANDLER is an individual who complies with the provisions of the CERTIFIED FUEL HANDLER Training and Retraining Program.
IMMEDIATE	IMMEDIATE means that the required action will be initiated as soon as practicable considering the safe maintenance of the facility and the importance of the required action.
LIMITING CONDITIONS FOR OPERATION (LCO)	<p>The LIMITING CONDITIONS FOR OPERATION specify the minimum acceptable levels of system performance necessary to assure safe maintenance of the facility. When these conditions are met, the facility can be maintained safely and abnormal situations can be safely controlled.</p> <p>Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be considered a failure to meet the LCO.</p>
NON-CERTIFIED OPERATOR	A NON-CERTIFIED OPERATOR is a non-licensed operator who complies with the qualification requirements of Specification 5.3.1, but is not a CERTIFIED FUEL HANDLER.
SURVEILLANCE FREQUENCY	<p>Each Surveillance Requirement shall be performed within the specified SURVEILLANCE INTERVAL with a maximum allowable extension not to exceed 25 percent of the specified SURVEILLANCE INTERVAL.</p> <p>The SURVEILLANCE FREQUENCY establishes the limit for which the specified time interval for Surveillance Requirements may be extended. It permits an allowable extension of the normal surveillance interval to facilitate surveillance schedule and consideration of facility conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified.</p> <p>This limitation of this definition is based on engineering judgment and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the Surveillance Requirements. This provision is sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.</p>
SURVEILLANCE INTERVAL	The SURVEILLANCE INTERVAL is the calendar time between surveillance tests to be performed to confirm that a parameter is within limits.



**2.0 NOT USED**

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Not Used

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**3.0 NOT USED**

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Not Used

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### 3/4.10 SPENT FUEL STORAGE

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<u>LIMITING CONDITION FOR OPERATION</u>	<u>SURVEILLANCE REQUIREMENT</u>
<p data-bbox="232 275 667 306">3.10 <u>SPENT FUEL STORAGE</u></p> <p data-bbox="340 342 806 407">Applicability: Applies to the storage of spent fuel.</p> <p data-bbox="340 476 824 541">Objective: To ensure safe storage of spent fuel.</p> <p data-bbox="340 611 518 642">Specification:</p> <p data-bbox="340 678 526 709">A. Not Used</p> <p data-bbox="340 745 526 777">B. Not Used</p> <p data-bbox="340 812 781 844">C. <u>Spent Fuel Pool Water Level</u></p> <p data-bbox="399 879 847 1008">Whenever irradiated fuel is stored in the spent fuel pool, the pool water level shall be maintained at or above 33 feet.</p>	<p data-bbox="887 275 1318 306">4.10 <u>SPENT FUEL STORAGE</u></p> <p data-bbox="979 342 1513 443">Applicability: Applies to the parameter which monitors the storage of spent fuel.</p> <p data-bbox="979 476 1493 577">Objective: To verify that spent fuel is being stored safely.</p> <p data-bbox="979 611 1158 642">Specification:</p> <p data-bbox="979 678 1156 709">A. Not Used</p> <p data-bbox="979 745 1156 777">B. Not Used</p> <p data-bbox="979 812 1409 844">C. <u>Spent Fuel Pool Water Level</u></p> <p data-bbox="1025 879 1506 980">Whenever irradiated fuel is stored in the spent fuel pool, the water level shall be recorded daily.</p>

## 4.0 DESIGN FEATURES

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### 4.1 Site Location

Pilgrim Nuclear Power Station is located on the western shore of Cape Cod Bay in the Town of Plymouth, Plymouth County, Massachusetts and contains approximately 517 acres owned by Holtec Pilgrim as shown on FSAR Figures 2.2-1 and 2.2-2. The site boundary is posted and a perimeter security fence provides a distinct security boundary for the protected area of the station.

The reactor (center line) is located approximately 1800 feet from the nearest property boundary.

### 4.2 Not Used

### 4.3 Spent Fuel Storage

#### 4.3.1 Criticality

4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:

- a. Fuel assemblies having a maximum k-infinity of 1.32 for standard core geometry, calculated at the burnup of maximum bundle reactivity, and an average U-235 enrichment of 4.6 % averaged over the axial planar zone of highest average enrichment; and
- b.  $K_{eff} \leq 0.95$  if fully flooded with unborated water, which includes an allowance for uncertainties as described in the applicable section of the FSAR.

#### 4.3.2 Drainage

The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 115 ft.

#### 4.3.3 Capacity

The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 3859 fuel assemblies.

#### 4.3.4 Heavy Loads

- a. Loads in excess of 2000 lb. shall be prohibited from travel over fuel assemblies in the spent fuel storage pool with the exception that heavy load handling over irradiated fuel in the Multi-Purpose Canister is permitted using a single-failure-proof handling system.
  - b. No fuel which has decayed for less than 200 days shall be stored in racks within an arc described by the height of the cask around the periphery of the leveling platform during cask handling operations in the spent fuel pool or when a cask is in the spent fuel pool.
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## 5.0 ADMINISTRATIVE CONTROLS

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### 5.2 Organization (continued)

#### 5.2.2 Facility Staff (continued)

- b. At least one person qualified to stand watch in the control room (NON-CERTIFIED OPERATOR or CERTIFIED FUEL HANDLER) shall be present in the Control Room when nuclear fuel is stored in the spent fuel pool.
  - c. Oversight of fuel handling operations shall be provided by a CERTIFIED FUEL HANDLER.
  - d. Shift crew composition may be less than the minimum requirement of 5.2.2.a for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements and all of the following conditions are met:
    - 1) No fuel movements are in progress;
    - 2) No movement of loads over fuel are in progress; and
    - 3) No unmanned shift positions during shift turnover shall be permitted while the shift crew is less than the minimum.
  - e. Not Used
  - f. An individual qualified in radiation protection procedures shall be on site during fuel handling operations and during movement of heavy loads over the fuel storage racks. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.
  - g. Not Used
  - h. The control room supervisor shall be a CERTIFIED FUEL HANDLER.
  - i. Not Used
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## 5.0 ADMINISTRATIVE CONTROLS

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### 5.4 Procedures

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- 5.4.1 Written procedures shall be established, implemented, and maintained covering the following activities:
- a. The procedures applicable to the safe storage of nuclear fuel recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978;
  - b. Not Used
  - c. Quality assurance for effluent and environmental monitoring;
  - d. Fire Protection Program implementation; and
  - e. All programs specified in Specification 5.5.
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## 5.0 ADMINISTRATIVE CONTROLS

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### 5.5 Programs and Manuals

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The following programs shall be established, implemented and maintained.

#### 5.5.1 Offsite Dose Calculation Manual (ODCM)

- a. The ODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program; and
- b. The ODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Radiological Environmental Operating, and Radioactive Effluent Release, reports required by Specification 5.6.2 and Specification 5.6.3.
- c. Licensee initiated changes to the ODCM:
  1. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:
    - a. sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and
    - b. a determination that the change(s) maintain the levels of radioactive effluent control required by 10 CFR 20.1302, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;
  2. Shall become effective after the approval of the plant manager; and
  3. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

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## 5.0 ADMINISTRATIVE CONTROLS

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### 5.5 Programs and Manuals (continued)

5.5.2 Not Used

5.5.3 Not Used

#### 5.5.4 Radioactive Effluent Controls Program

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

- a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;
- b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ten times the concentration values in Appendix B, Table 2, Column 2 to 10 CFR 20.1001-20.2402;
- c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;
- d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released to unrestricted areas, conforming to 10 CFR 50, Appendix I;
- e. Determination of cumulative contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days. Determination of projected dose contributions from radioactive effluents in accordance with the methodology in the ODCM at least every 31 days;
- f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

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## 5.0 ADMINISTRATIVE CONTROLS

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### 5.5 Programs and Manuals (continued)

#### 5.5.4 Radioactive Effluent Controls Program (continued)

- g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site boundary to areas at or beyond the site boundary conforming to the following:
  - 1. For noble gases: Less than or equal to 500 mrem/yr to the whole body and less than or equal to 3000 mrem/yr to the skin, and
  - 2. For Iodine-131, Iodine-133, Tritium, and all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to 1500 mrem/yr to any organ.
- h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;
- i. Limitations on the annual and quarterly doses to a member of the public from Iodine-131, Iodine-133, Tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and
- j. Limitations on the annual dose or dose commitment to any member of the public, beyond the site boundary, due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

#### 5.5.5 Not Used

#### 5.5.6 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases of these Technical Specifications.

- a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.
- b. Licensees may make changes to Bases without prior NRC approval provided the changes do not require either of the following:
  - 1. a change in the TS incorporated in the license; or
  - 2. a change to the updated FSAR or Bases that requires NRC approval pursuant to 10 CFR 50.59.

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## 5.0 ADMINISTRATIVE CONTROLS

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### 5.5 Programs and Manuals (continued)

#### 5.5.6 Technical Specifications (TS) Bases Program (continued)

- c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the FSAR.
  - d. Proposed changes that meet the criteria of Specification 5.5.6b above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).
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## **5.0 ADMINISTRATIVE CONTROLS**

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### **5.6 Reporting Requirements**

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The following reports shall be submitted in accordance with 10 CFR 50.4.

5.6.1 Not Used

5.6.2 Annual Radiological Environmental Operating Report

The Annual Radiological Environmental Operating Report covering the operation of the facility during the previous calendar year shall be submitted by May 15 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include a summary of the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

5.6.3 Radioactive Effluent Release Report

The Radioactive Effluent Release Report covering the operation of the facility shall be submitted in accordance with 10 CFR 50.36a by May 15th of each year. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the facility. The material provided shall be consistent with the objectives outlined in the ODCM and process control procedures and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

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## 5.0 ADMINISTRATIVE CONTROLS

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### 5.7 High Radiation Area

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5.7.1 Pursuant to 10 CFR 20, paragraph 20.1601(c), in lieu of the requirements of 10 CFR 20.1601, each high radiation area, as defined in 10 CFR 20, in which the intensity of radiation is  $> 100$  mrem/hr but  $< 1000$  mrem/hr, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures (e.g., radiation protection personnel) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates  $\leq 1000$  mrem/hr, provided they are otherwise following facility radiation protection procedures for entry into such high radiation areas.

Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device that continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device that continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel are aware of them.
- c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the radiation protection manager in the RWP.

5.7.2 In addition to the requirements of Specification 5.7.1, areas with radiation levels  $\geq 1000$  mrem/hr shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the control room supervisor on duty or radiation protection supervision. Doors shall remain locked except during periods of access by personnel under an approved RWP that shall specify the dose rate levels in the immediate work areas and the maximum allowable stay times for individuals in those areas. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area.

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### 5.7 High Radiation Area (continued)

## 5.0 ADMINISTRATIVE CONTROLS

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- 5.7.3 For individual high radiation areas with radiation levels of  $> 1000$  mrem/hr, accessible to personnel, that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, or that cannot be continuously guarded, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning device.
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 250

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-35

HOLTEC DECOMMISSIONING INTERNATIONAL, LLC

HOLTEC PILGRIM, LLC

PILGRIM NUCLEAR POWER STATION

DOCKET NO. 50-293

1.0 INTRODUCTION

By application dated September 13, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18260A085), as supplemented by letters dated January 10, February 8, March 14, and July 16, 2019 (ADAMS Accession Nos. ML19016A135, ML19044A574, ML19079A158, and ML19197A114, respectively), Entergy Nuclear Operations, Inc. (ENOI) requested changes to Renewed Facility Operating License (RFOL) No. DPR-35 and the associated Technical Specifications (TSs) for the Pilgrim Nuclear Power Station (Pilgrim). Specifically, ENOI requested an amendment to revise the Pilgrim RFOL and the associated TSs to Permanently Defueled Technical Specifications (PDTs) consistent with the permanent cessation of operations and permanent removal of fuel from the reactor vessel.

The supplements dated January 10, February 8, March 14, and July 16, 2019, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on November 6, 2018 (83 FR 55572).

2.0 BACKGROUND

By letter dated November 10, 2015 (ADAMS Accession No. ML15328A053), ENOI notified the NRC of its intent to permanently cease operations at Pilgrim no later than June 1, 2019. By letter dated June 10, 2019 (ADAMS Accession No. ML19161A033), ENOI certified to the NRC that power operations ceased at Pilgrim on May 31, 2019, and that fuel was permanently removed from the reactor vessel and placed in the spent fuel pool (SFP) on June 9, 2019. Accordingly, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.82(a)(2), the Pilgrim RFOL no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel.

By letter dated November 16, 2018 (ADAMS Accession No. ML18320A031), ENOI, on behalf of itself and Entergy Nuclear Generation Company (ENGCO) (to be known as Holtec Pilgrim, LLC),

Holtec International (Holtec), and Holtec Decommissioning International, LLC (HDI, the licensee) (together, Applicants), requested that the NRC consent to: (1) the indirect transfer of control of RFOL No. DPR-35 for Pilgrim, as well as the general license for the Pilgrim Independent Spent Fuel Storage Installation (ISFSI) (collectively, the Licenses), to Holtec; and (2) the direct transfer of ENOI's operating authority (i.e., its authority to conduct licensed activities at Pilgrim) to HDI. In addition, the Applicants requested that the NRC approve a conforming administrative amendment to the Licenses to reflect the proposed direct transfer of the Licenses from ENOI to HDI; a planned name change for ENGEC from ENGEC to Holtec Pilgrim, LLC; and deletion of certain license conditions to reflect satisfaction and termination of all ENGEC obligations after the license transfer and equity sale.

By Order dated August 22, 2019 (ADAMS Accession No. ML19170A265), the NRC staff approved the direct and indirect transfers requested in the November 16, 2018, application. Additionally, on August 22, 2019 (ADAMS Accession No. ML19234A357), HDI informed the NRC that:

HDI will assume responsibility for all ongoing NRC regulatory actions and reviews currently underway for Pilgrim Nuclear Power Station. HDI respectfully requests NRC continuation of these regulatory actions and reviews.

On August 26, 2019 (ADAMS Accession No. ML19239A037), ENOI informed the NRC that the transaction closed on August 26, 2019. On August 27, 2019 (ADAMS Accession No. ML19235A050), the NRC issued Amendment No. 249 to RFOL No. DPR-35 for Pilgrim. Accordingly, HDI is now the licensee for decommissioning operations at Pilgrim.

By letter dated April 12, 2017 (ADAMS Accession No. ML17058A325), the NRC approved a Certified Fuel Handler (CFH) training and retraining program for Pilgrim.

By letter dated July 10, 2017 (ADAMS Accession No. ML17066A130), the NRC issued Amendment No. 246 to RFOL No. DPR-35 for Pilgrim. This amendment revised and removed certain requirements from the Section 5.0, "Administrative Controls," portions of the Pilgrim TSs that are not applicable to the facility in a permanently defueled condition as well as revised and made editorial changes to the TS Table of Contents; Section 1.0, "Definitions"; and Section 4.0, "Design Features."

By letter dated December 15, 2017 (ADAMS Accession No. ML17290A487), the NRC issued Amendment No. 247 to RFOL No. DPR-35 for Pilgrim. This amendment revised the RFOL for the Cyber Security Plan Milestone 8 full implementation completion date, as set forth in the Cyber Security Plan implementation schedule, and the physical protection license condition. Specifically, this amendment revised the Cyber Security Plan Milestone 8 completion date from December 15, 2017, to December 31, 2020.

By letter dated December 27, 1996 (ADAMS Accession No. ML011910342), the NRC issued Amendment No. 169 to RFOL No. DPR-35 for Pilgrim. This amendment removed TS pages 3/4.4.3 through 5. By letter dated July 31, 1998 (ADAMS Accession No. ML011910025), the NRC staff issued Amendment No. 177 for Pilgrim. This amendment removed TS pages 3/4.8.3 through 3/4.8.20 and 7/8.1 through 7/8.17. By letter dated November 8, 2007 (ADAMS Accession No. ML073130042), the NRC staff provided to the Atomic Safety and Licensing Board the resolution of discrepancies between NRC and ENOI controlled versions of Pilgrim TSs.

The existing Pilgrim TSs contain limiting conditions for operation (LCOs) that provide for appropriate functional capability of equipment required for safe operation of the facility, including when the plant is in a defueled condition. Since the safety function related to safe storage and management of irradiated fuel at an operating plant is similar to the corresponding function at a permanently defueled facility, the applicable existing TSs provide an appropriate level of control. However, the majority of the existing TSs are only applicable when the reactor is in an operational MODE. Since the facility's 10 CFR Part 50 license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, the LCOs (and associated surveillance requirements (SRs)) that do not apply in the permanently shutdown and defueled condition are being proposed for deletion. The proposed amendment would revise the RFOL and associated TSs to reflect the permanent cessation of reactor operations and the permanently defueled condition of the reactor vessel at Pilgrim. In general, the changes eliminate those TSs applicable in operating MODES, MODES where fuel is emplaced in the reactor vessel, and certain TSs required for movement of irradiated fuel assemblies. Changes are also proposed to TS definitions, administrative controls, and related to programs and procedures. The proposed amendment would also revise the RFOL to clarify or remove certain conditions not relevant to the permanently shutdown and defueled condition and would add conditions consistent with other permanently shutdown and defueled reactors.

On April 7, 2016, the NRC issued Generic Letter (GL) 2016-01, "Monitoring of Neutron-Absorbing Materials in Spent Fuel Pools" (ADAMS Accession No. ML16097A169), to address the degradation of neutron-absorbing materials (NAMs) in wet storage systems for reactor fuel at power and non-power reactors. The generic letter requested that licensees provide information to allow the NRC staff to verify continued compliance through effective monitoring to identify and mitigate any degradation or deformation of NAMs credited for criticality control in SFPs.

By letter dated November 3, 2016 (ADAMS Accession No. ML16319A131), as supplemented by letter dated February 8, 2018 (ADAMS Accession No. ML18039A843), ENOI responded to GL 2016-01 for Pilgrim. In ENOI's response to GL 2016-01, as supplemented, ENOI also identified that 2016 testing on the Boraflex installed in the SFP at Pilgrim showed that some of the Boraflex was no longer bounded by the nuclear criticality safety analysis (CSA) of record. This resulted in ENOI implementing corrective actions to manage Boraflex degradation and maintain subcriticality in the SFP. On September 26, 2018, the NRC issued a letter to ENOI regarding the closeout of GL 2016-01 (ADAMS Accession No. ML18249A162). The letter states that:

The NRC staff found the interim corrective actions taken by the licensee to be adequate; however, the [ENOI] identified a non-conservative technical specification which will be resolved per Administrative Letter 98-10 [AL 98-10], "Dispositioning of Technical Specifications That Are Insufficient to Assure Plant Safety," dated December 29, 1998 (ADAMS Accession No. ML031110108).

The non-conservative TS is further discussed in Section 4.5.2 of this safety evaluation.

### 3.0 REGULATORY EVALUATION

#### 3.1 Technical Specifications

Section 182a of the Atomic Energy Act of 1954, as amended, requires applicants for nuclear power plant operating licenses to include TSs as part of the application. The NRC's regulatory



requirements related to the content of the TSs are contained in 10 CFR 50.36, "Technical specifications." Pursuant to 10 CFR 50.36, each operating license issued by the Commission includes TSs and includes items in the following categories: (1) safety limits (SLs), limiting safety system settings, and limiting control settings, (2) LCOs, (3) SRs, (4) design features, (5) administrative controls, (6) decommissioning, (7) initial notification, and (8) written reports.

Section 50.36 of 10 CFR provides four criteria to define the scope of equipment and parameters to be included in the TS LCOs. These criteria were developed for licenses authorizing operation (i.e., operating reactors) and focus on instrumentation to detect degradation of the reactor coolant system (RCS) pressure boundary and process variables, design features, operating restrictions, or structures, systems, or components (SSCs) that affect the integrity of fission product barriers during design-basis accidents (DBAs) or transients. They also focus on SSCs which operating experience or probabilistic risk assessment have shown to be significant to public health and safety. A general discussion of how these criteria were evaluated to ensure that the TS LCOs proposed for deletion are no longer required to be included in TSs, is provided below.

Criterion 1 of 10 CFR 50.36(c)(2)(ii)(A) states that TS LCOs must be established for "installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary." Once no fuel is present in the reactor or RCS at the Pilgrim facility, this criterion is not applicable.

Criterion 2 of 10 CFR 50.36(c)(2)(ii)(B) states that TS LCOs must be established for a "process variable, design feature, or operating restriction that is an initial condition of a DBA or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier." The purpose of this criterion is to capture those process variables that have initial values assumed in the DBA and transient analyses, and which are monitored and controlled during power operation. The scope of DBAs applicable to a permanently shutdown and defueled reactor is reduced from those postulated for an operating reactor, and most TSs satisfying Criterion 2 are no longer applicable. The one existing TS that defines the initial condition of the DBA associated with irradiated fuel movement is discussed in Section 3.5 of this safety evaluation.

Criterion 3 of 10 CFR 50.36(c)(2)(ii)(C) states that TS LCOs must be established for an SSC "that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier." The intent of this criterion is to capture into TSs those SSCs that are part of the primary success path of a safety sequence analysis. Also captured by this criterion are those support and actuation systems that are necessary for items in the primary success path to successfully function. The primary success path of a safety sequence analysis consists of the combination and sequences of equipment needed to operate (including consideration of the single failure criterion), so that the plant response to DBAs and transients limits the consequences of these events to within the appropriate acceptance criteria. There are no transients that continue to apply to permanently shutdown and defueled reactors. The scope of applicable DBAs that continue to apply to Pilgrim is discussed in more detail in Section 4.0 of this safety evaluation.

Criterion 4 of 10 CFR 50.36(c)(2)(ii)(D) states that TS LCOs must be established for an SSC "which operating experience or probabilistic risk assessment has shown to be significant to public health and safety." The intent of this criterion is that risk insights and operating experience be factored into the establishment of TS LCOs. There are no longer any DBAs at Pilgrim in a

permanently shutdown and defueled condition that can result in a significant offsite radiological risk to public health and safety.

### 3.2 Radiological Consequences from Design-Basis Accidents

Radiological accidents considered in licensing nuclear power plants are classified as DBAs and severe (beyond design basis) accidents. DBAs are those accidents that both the licensee and the NRC staff evaluate to ensure that the plant can withstand normal and abnormal transients and a broad spectrum of postulated accidents without undue hazard to the health and safety of the public. Severe accidents are those that are beyond the design basis of the plant. They are more severe than DBAs because they may result in substantial damage to the fuel, whether or not there are serious offsite consequences. For the most part, DBAs focus on reactor operation and are not applicable to plants undergoing decommissioning. The only DBAs or severe accidents applicable to a decommissioning plant are typically those involving the SFP. These postulated accidents are not expected to occur during the life of the plant, but are evaluated to establish the design basis for the preventive and mitigative safety systems of the spent fuel storage facility.

Regulations governing accidents that must be addressed by nuclear power facilities, both operating and shutdown, are found in 10 CFR Part 50 and 10 CFR Part 100. The environmental impacts of DBAs, including those associated with the SFP, are evaluated during the initial licensing process. The ability of the plant to withstand these accidents is demonstrated to be acceptable before issuance of the operating license. The results of these evaluations are found in license documentation, such as the staff's safety evaluation report, the final environmental statement, and in the licensee's Updated Final Safety Analysis Report (UFSAR) or equivalent. The consequences for these events are evaluated for the hypothetical maximally exposed individual. The licensee is required to maintain the acceptable design and performance criteria throughout the life of the plant.

The NRC staff evaluated the radiological consequences of the postulated Fuel Handling Accident (FHA) DBA against the dose criteria specified in 10 CFR 50.67, "Accident source term," and using the guidance described in Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," dated July 2000 (ADAMS Accession No. ML003716792). The RG 1.183 provides guidance to licensees on acceptable application of alternate source term (AST) submittals, including acceptable radiological analysis assumptions for use in conjunction with the accepted AST.

By letter dated April 28, 2005 (ADAMS Accession No. ML051040065), the NRC issued Amendment No. 215 to RFOL No. DPR-35 for Pilgrim. The amendment adopted Technical Specifications Task Force (TSTF) Traveler TSTF-51, "Revise Containment Requirements During Handling Irradiated Fuel and Core Alterations," and selectively implemented an AST per 10 CFR 50.67 to perform the radiological consequences analysis of the design-basis FHA to support the changes to the TSs. The analysis of the FHA that supported these changes did not take credit for secondary containment isolation or filtration by the Standby Gas Treatment System (SGTS) or the Control Room High Efficiency Air Filtration System (CRHEAFS), and assumed the FHA occurred 24 hours after reactor shutdown from full power.

The FHA-specific dose acceptance criteria are specified in NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition" (SRP), Section 15.0.1, "Radiological Consequence Analyses Using Alternative Source Terms," Revision 0, July 2000 (ADAMS Accession No. ML003734190).

The dose acceptance criteria for the FHA are a total effective dose equivalent (TEDE) of 6.3 roentgen equivalent man (rem) at the exclusion area boundary (EAB) for the worst 2 hours, 6.3 rem at the outer boundary of the low population zone (LPZ), and 5 rem in the control room (CR) for the duration of the accident.

The regulations in 10 CFR 50.67 state, in part, that the NRC may issue the amendment only if the licensee's analysis demonstrates with reasonable assurance that:

- (i) An individual located at any point on the boundary of the exclusion area for any 2-hour period following the onset of the postulated fission product release, would not receive a radiation dose in excess of 0.25 Sv [Sievert] (25 rem) total effective dose equivalent (TEDE).
- (ii) An individual located at any point on the outer boundary of the low population zone, who is exposed to the radioactive cloud resulting from the postulated fission product release (during the entire period of its passage), would not receive a radiation dose in excess of 0.25 Sv (25 rem) total effective dose equivalent (TEDE).
- (iii) Adequate radiation protection is provided to permit access to and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 0.05 Sv (5 rem) total effective dose equivalent (TEDE) for the duration of the accident.

Appendix A to 10 CFR Part 50, "General Design Criteria [GDC] for Nuclear Power Plants," Criterion 19, "Control room," states, in part:

A control room shall be provided from which actions can be taken to operate the nuclear power unit safely under normal conditions and to maintain it in a safe condition under accident conditions, including loss-of-coolant accidents. Adequate radiation protection shall be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident. Equipment at appropriate locations outside the control room shall be provided (1) with a design capability for prompt hot shutdown of the reactor, including necessary instrumentation and controls to maintain the unit in a safe condition during hot shutdown, and (2) with a potential capability for subsequent cold shutdown of the reactor through the use of suitable procedures.

The emergency planning requirements of 10 CFR 50.47, "Emergency plans," and Appendix E to 10 CFR Part 50, "Emergency Planning and Preparedness for Production and Utilization Facilities," continue to apply to a nuclear power reactor after permanent cessation of operations and removal of fuel from the reactor vessel. There are no explicit regulatory provisions distinguishing emergency planning requirements for a power reactor that has been permanently shut down from those for an operating power reactor. The NRC staff notes that the risk of an offsite radiological release is significantly lower and the types of possible accidents are significantly fewer at a nuclear power reactor that has permanently ceased operations and removed fuel from the reactor vessel than at an operating power reactor.

Nuclear Energy Institute (NEI) topical report NEI 99-01, "Development of Emergency Action Levels for Non-Passive Reactors," Revision 6 (ADAMS Accession No. ML12326A805), provides guidance for the development of emergency action levels (EALs) for reactors in a permanently defueled condition. The NEI 99-01 topical report was endorsed by the NRC in a letter dated March 28, 2013 (ADAMS Accession No. ML12346A463). Revision 6 of NEI 99-01 states that the accident analysis necessary to adopt the permanently defueled EAL scheme must confirm that the source terms and release motive forces are not sufficient to warrant classification of a site area emergency (SAE) or general emergency. An SAE would be declared for any events where exposure levels beyond the site area boundary are expected to exceed 10 percent of the Environmental Protection Agency (EPA) Protective Action Guides (PAGs). The EPA PAG for sheltering or evacuation of the public is a projected dose of one to five rem total effective dose (TED<sup>1</sup>) in 4 days. In addition, the EPA PAG for recommending the administration of potassium iodide (KI) (as a thyroid blocking agent) is a projected dose of 5 rem to the child thyroid from radioactive iodine. Correspondingly, NEI 99-01 established the SAE classification threshold as 100 millirem (mrem) TEDE or 500 mrem thyroid committed dose equivalent.

RG 1.183 provides the methodology for analyzing the radiological consequences of several DBAs to show compliance with 10 CFR 50.67. RG 1.183 provides guidance to licensees on acceptable application of AST submittals, including acceptable radiological analysis assumptions for use in conjunction with the accepted AST.

SRP Section 15.0.1 provides review guidance to the staff for the review of AST amendment requests. Section 15.0.1 states that the NRC reviewer should evaluate the proposed change against the guidance in RG 1.183. The dose acceptance criteria for the FHA are a TEDE of 6.3 rem at the EAB for the worst 2 hours, 6.3 rem at the outer boundary of the LPZ, and 5 rem in the CR for the duration of the accident.

Regulatory Issue Summary (RIS) 2006-04, "Experience with Implementation of Alternative Source Terms," dated March 7, 2006 (ADAMS Accession No. ML053460347), discusses experiences with analyzing an accident involving a release from off-gas or waste systems. As part of full AST implementation, some licensees have included an accident involving a release from their off-gas or waste gas system. For this type of accident, licensees have proposed acceptance criteria of 500 mrem TEDE. The acceptance criterion for this event is that associated with the dose to an individual member of the public as described in 10 CFR Part 20, "Standards for Protection Against Radiation." When the NRC revised 10 CFR Part 20 to incorporate a TEDE dose, the offsite dose to an individual member of the public was changed from 500 mrem whole body to 100 mrem TEDE. Therefore, any licensee who chooses to implement AST for an off-gas or waste gas system release should base its acceptance criteria on 100 mrem TEDE. Licensees may also choose not to implement AST for this accident and continue with their existing analysis and acceptance criteria of 500 mrem whole body.

Branch Technical Position 11-5, "Postulated Radioactive Release Due to a Waste Gas System Leak or Failure," of SRP Chapter 11, "Radioactive Waste Management," provides guidance to the reviewer for assessing the analysis of an accidental release from the waste gas system.

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<sup>1</sup> For the purposes of this safety evaluation, the terms "TED" and "TEDE" are used interchangeably as both describing the combined effects of internal and external radiation exposure.

### 3.3 Spent Fuel Pool Criticality

GDC 62, "Prevention of criticality in fuel storage and handling," requires that, "Criticality in the fuel storage and handling system shall be prevented by physical systems or processes, preferably by use of geometrically safe configurations."

Per 10 CFR 50.68(a), each holder of an operating license shall comply with either 10 CFR 70.24 or the requirements in 10 CFR 50.68(b). The licensee has elected to meet 10 CFR 50.68(b) and, accordingly, must comply with the following requirements:

- (1) Plant procedures shall prohibit the handling and storage at any one time of more fuel assemblies than have been determined to be safely subcritical under the most adverse moderation conditions feasible by unborated water.
- (2) If no credit for soluble boron is taken, the estimated ratio of neutron production to neutron absorption and leakage (k-effective) of the spent fuel storage racks loaded with fuel of the maximum fuel assembly reactivity must not exceed 0.95, at a 95 percent probability, 95 percent confidence level, if flooded with unborated water. If credit is taken for soluble boron, the k-effective of the spent fuel storage racks loaded with fuel of the maximum fuel assembly reactivity must not exceed 0.95, at a 95 percent probability, 95 percent confidence level, if flooded with borated water, and the k-effective must remain below 1.0 (subcritical), at a 95 percent probability, 95 percent confidence level, if flooded with unborated water

The regulations in 10 CFR 50.36(b) require TSs to be derived from the analyses and evaluation included in the safety analysis report and amendments thereto. As required by 10 CFR 50.36(c)(4), the TSs will include design features of the facility such as materials of construction and geometric arrangements, which, if altered or modified, would have a significant effect on safety and are not covered in categories described in paragraphs (c)(1), (2), and (3) of 10 CFR 50.36.

## 4.0 TECHNICAL EVALUATION

### 4.1 Accident Analysis

Chapter 14, "Station Safety Analysis," of the Pilgrim UFSAR describes the DBA scenarios that are applicable to Pilgrim during power and refueling operations and the accidents with the greatest potential for radiation exposure. The UFSAR accident scenarios include several DBA evaluations which include the Control Rod Drop Accident, a Loading Error Accident, the Loss-of-Coolant Accident (LOCA), the FHA, the Radwaste System Accident, and the Main Steam Line Break Accident. The most severe postulated DBA involves damage to the nuclear reactor core and the release of large quantities of fission products. Many of these accident scenarios involve failures or malfunctions of systems, which could affect the fuel in the reactor vessel. With the permanent cessation of reactor operations and the permanent removal of fuel from the reactor vessel, such accidents are no longer possible. Therefore, the postulated accidents involving failure or malfunction of the reactor, reactor cooling system, steam system, or turbine generator are no longer applicable. The licensee has stated, and the NRC staff agrees, that while spent fuel remains in the SFP, the remaining DBA accident is the FHA.

The licensee also performed an additional evaluation for a radioactive waste handling event which postulates the dropping of a high integrity container (HIC). For completeness, the NRC staff also evaluated the applicability of the previously mentioned DBAs documented in the Pilgrim UFSAR to ensure that these accidents would not have consequences that could potentially exceed the 10 CFR 100.11 dose limits and the dose acceptance criteria of RG 1.195, "Methods and Assumptions for Evaluating Radiological Consequences of Design Basis Accidents at Light-Water Nuclear Power Reactors," dated May 2003 (ADAMS Accession No. ML031490640), or approach the EPA PAG criteria of 1 rem TED.<sup>2</sup>

In addition, the licensee considered a beyond design basis event (BDBE) scenario to evaluate the effects of a loss of SFP water inventory resulting in radiation exposure at the EAB and the CR. The purpose of this evaluation was to determine the offsite radiological impact of a complete loss of SFP water.

#### 4.1.1 Fuel Handling Accident in the Reactor Building

Since the reactor has been completely defueled following the permanent shutdown, an FHA in the reactor cavity is no longer a credible accident. The DBA FHA in the Reactor Building is applicable when Pilgrim is in a permanently shutdown and defueled condition. The licensee's analysis was performed to determine the dose to operators in the CR and the public at the EAB or "Site Boundary," and LPZ as a function of time after shutdown. The DBA FHA analysis uses the AST guidelines outlined in NUREG-1465, "Accident Source Terms for Light-Water Nuclear Power Plants," dated February 1995 (ADAMS Accession No. ML041040063); RG 1.183; and RG 1.194, "Atmospheric Relative Concentrations for Control Room Radiological Habitability Assessments at Nuclear Power Plants," dated June 2003 (ADAMS Accession No. ML031530505). The calculation demonstrates that radiological doses at the EAB, LPZ, and the CR are all within allowable limits of 10 CFR 50.67. The analysis assumes, in part: (1) a minimum period of decay of 24 hours before a channeled fuel assembly can be handled; (2) the subsequent drop of a channeled fuel assembly in the SFP; (3) an open Reactor Building with no filtration by the SGTS; and (4) no credit for operation of the CRHEAFS. Results of the analysis indicate that the EAB, LPZ, and CR doses are all within their respective regulatory allowable limits for an FHA occurring in the Reactor Building. Additionally, the analysis concludes that the dose at the EAB 72 hours after shutdown is 0.91 rem TEDE, which is below the EPA PAG limit of 1 rem TED.

In performing this review, the NRC staff relied upon information provided by the licensee and NRC staff experience in performing similar reviews. The NRC staff concludes that the dose consequence from a FHA for the permanently defueled Pilgrim would not approach the EPA PAGs and would not trigger the declaration of an SAE.

#### 4.1.2 Fuel Handling Accident in Spent Fuel Pool

Pilgrim UFSAR Section 14.5 incorporated the General Electric (GE) Hitachi Nuclear Energy Report, "Fuel Handling Accident in the Spent Fuel Pool Generic Dose Assessment," involving a generic assessment of an accident involving an un-channeled fuel assembly dropped in the SFP. The limiting scenario postulates that the un-channeled assembly is dropped, impacting racked assemblies, subsequently tipping over and striking the SFP wall, and then remains in an

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<sup>2</sup> Use of EPA PAGs as a threshold is consistent with the planning basis for the 10-mile EPZ provided in NUREG-0396 (EPA 520/1-78-016), "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," and endorsed by the Commission in a policy statement published on October 23, 1979 (44 FR 61123).

upright position. The analysis computes fewer total damaged rods than in the reactor building due to the lower drop height, and are assumed to fail at the top of the assembly that strikes the SFP wall. This leads to a release of radionuclides at a shallower depth than 23 feet, which means that the assumed decontamination factor for the pool water of 200 would be less. The computed doses result in a net increase relative to the design-basis FHA. Therefore, the licensee assumes an additional decay time of 45 days in addition to what is assumed in the design-basis FHA (24 hours) to ensure that the analysis is bounded by the Pilgrim analysis of record. The additional 45 days of decay results in a net reduction in the dose to approximately 40 percent of the DBA FHA dose. Therefore, Pilgrim maintains a procedurally enforced administrative restriction prohibiting the handling of un-channeled assemblies unless they have decayed for a minimum of 46 days following reactor shutdown to ensure that the consequences of the DBA FHA remains bounding for the drop of an un-channeled irradiated fuel assembly in the SFP.

The NRC staff reviewed the licensee's evaluation and performed independent analyses which confirmed the licensee's results and conclusions. Due to the amount of decay calculated (72 hours), and the procedurally enforced administrative restriction prohibiting the handling of un-channeled assemblies unless they have decayed for a minimum of 46 days following reactor shutdown, the results of these two analyses may be applied after August 15, 2019, with Pilgrim's shutdown on June 1, 2019.

#### 4.1.3 Radioactive Waste Handling Accident (HIC Drop Accident)

Section 14.5.6 of the Pilgrim UFSAR evaluates the potential effects resulting from condenser hotwell or radwaste system tank failures inside the Radwaste and Turbine Building. In addition, it evaluates the failure of the offgas piping, an air ejector discharge line break, and the rupture of the condensate storage tanks. In general, this section addresses radwaste system failures.

HICs are used to contain dewatered solid wastes which include backwash sludge wastes from the reactor water cleanup system, and all spent resins and charcoal from the radwaste, SFP, condensate demineralizers, Thermex, and radwaste filter/demineralizer. The Pilgrim UFSAR does not include the analysis of the radwaste handling event addressing the drop of an HIC because it was considered bounded by the other DBA analyses of record. However, since the reactor is permanently shutdown and defueled, there is no mechanism to raise the radioactivity assumed in these analyses. Therefore, the licensee identified the HIC drop as the new bounding radwaste system accident since the plant is permanently shutdown and defueled when the PDTs are implemented.

The licensee refers to Calculation No. M1421, Offsite Doses Following the Drop of a High Integrity Container, Revision 0, in its evaluation of dropping an HIC containing a bounding mix of radioisotopes onto another fully loaded HIC in the open air. Thus, the release to the environment is an instantaneous unfiltered ground level release that takes no credit for the operation of any SSCs to mitigate the consequences of the event to meet the applicable dose limits.

The addition of the HIC drop event to the Pilgrim UFSAR will be beneficial during the active decommissioning phase. Following the transfer of all of the spent fuel to the ISFSI, the FHA will no longer be possible and the analysis will be removed from the Pilgrim UFSAR. At that time, the analysis of the HIC drop event will become the sole remaining event addressed in Section 14 of the Pilgrim UFSAR.

The NRC staff reviewed the license's evaluation and performed independent analyses which confirmed the licensee's results and conclusions

#### 4.1.5 Spent Fuel Pool Drain Down Event

Section 4.3.9 of NUREG-0586, "Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities," Supplement 1, dated November 2002 (ADAMS Accession No. ML023470304), identifies that an SFP drain down event is beyond design basis. The SFP water and the concrete pool structure serve as radiation shielding. A loss of water shielding above the fuel could increase the offsite radiation levels because of the gamma rays streaming up out of the pool and being scattered back to a receptor at the site boundary. The radiation that is scattered due to interactions with air is sometimes referred to as sky-shine. Therefore, the licensee analyzed the radiological consequences of this BDBE scenario to evaluate the effects of a loss of water inventory from the Pilgrim SFP. The primary purpose of this calculation is to determine the dose rates as a function of time at the EAB and in the CR due to loss of shielding for an event in which the spent fuel assemblies are uncovered following drain down. The dose rates determined by this calculation are due to direct and indirect radiation from spent fuel assemblies. The NRC staff notes that while the direct dose rate above the unshielded fuel would be high, radiation protection personnel would restrict access to ensure that no one was subjected to the direct dose from the unshielded fuel. Therefore, the primary concern becomes the dose rate from gamma and neutron radiation that is scattered from interactions with the air above the SFP. The NRC staff finds that the licensee used appropriate methods to evaluate the effects of this source of radiation at the EAB and in the CR.

The NRC staff reviewed the license's evaluation and performed independent analyses which confirmed the licensee's results and conclusions.

#### 4.1.5 Accident Analysis Conclusions

The NRC staff reviewed the assumptions, inputs, and methods used by the licensee to assess the radiological impacts of the proposed changes. The staff finds that the licensee proposed changes use analysis methods and assumptions consistent with the guidance contained in RG 1.183. The staff compared the doses estimated by the licensee to the applicable criteria and to the results of confirmatory analyses by the staff. The staff finds that there is reasonable assurance that Pilgrim, as modified by the proposed amendment, will continue to provide sufficient safety margins with adequate defense-in-depth to address unanticipated events and to compensate for uncertainties in accident progression and in analysis assumptions and parameters. The staff concludes that the licensee has demonstrated that the dose consequences for postulated accidents at the permanently shutdown and defueled plant would not have consequences that could potentially exceed the 10 CFR 50.67 dose limits and RG 1.183 dose acceptance criteria or approach the EPA PAG criteria of 1 rem TED. Therefore, the staff finds the proposed changes to be acceptable from a dose consequence perspective.

## 4.2 Proposed Changes to the Renewed Facility Operating License

### 4.2.1 License Title

The current license title is "Renewed Facility Operating License."

The licensee proposed to delete "Operating" from the title, so that it reads: "Renewed Facility License."



The proposed change to the title to delete "Operating" would provide a more accurate description of the facility during the permanently shutdown and defueled condition. Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.2 License Finding "a"

The current license finding "a" states:

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

The licensee proposed to delete license finding "a."

The decommissioning of Pilgrim does not depend on the conformity with the Provisional Construction Permit No. CPPR-49. By letter dated August 26, 1968 (ADAMS Accession No. ML011900193), the Atomic Energy Commission issued the Provisional Construction Permit No. CPPR-49 to Pilgrim for completing construction no later than December 31, 1972. By letter dated June 8, 1972 (ADAMS Accession No. ML011920392), the Atomic Energy Commission issued Facility Operating License No. DPR-35 to the licensee. Therefore, the Provisional Construction Permit No. CPPR-49 was superseded by the Facility Operating License No. DPR-35. Accordingly, the NRC staff finds it acceptable to delete license finding "a."

#### 4.2.3 License Finding "b"

The current license finding "b" states:

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

The licensee proposed to change license finding "b" to state:

The facility will be maintained in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission; and

The proposed change to the description "the facility will operate" to "the facility will be maintained" would provide a more accurate description of the requirements during the permanently shutdown and defueled condition. Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.4 License Finding "c"

The current license finding "c" states:

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

The licensee proposed to change license finding "c" to state:

There is reasonable assurance (i) that the activities authorized by the renewed 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

The proposed change to delete "operating" would provide a more accurate description of the facility during the permanently shutdown and defueled condition. Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.5 License Finding "d"

The current license finding "d" states:

Holtec Pilgrim, LLC (Holtec Pilgrim) is financially qualified and Holtec Decommissioning International, LLC (HDI) 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

Accounting for the changes made to the license by Amendment No. 249, the proposed license finding "d" is:

Holtec Pilgrim, LLC (Holtec Pilgrim) is financially qualified and Holtec Decommissioning International, LLC (HDI) is technically and financially qualified to engage in the activities authorized by this renewed license, in accordance with the rules and regulations of the Commission; and

The proposed change to delete "operating" would provide a more accurate description of the facility during the permanently shutdown and defueled condition. Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.6 License Finding "f"

The current license finding "f" states:

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

The licensee proposed to change license condition "f" to state:

The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public; and

The proposed change to delete "operating" would provide a more accurate description of the facility during the permanently shutdown and defueled condition. Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.7 License Finding "g"

The current license finding "g" states:

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

The licensee proposed to change license finding "g" to state:

After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of this renewed 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.

The proposed change to delete "operating" would provide a more accurate description of the facility during the permanently shutdown and defueled condition. Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

The proposed change to replace the semicolon and the word "and" with a period is an editorial change and does not change any technical content. The NRC staff finds this change acceptable.

#### 4.2.8 License Finding "h"

The current license finding "h" states:

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 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.

The licensee proposed to delete license finding "h."

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.9 License Condition 1

The current license condition 1 states:

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 Holtec Pilgrim and maintained and operated for decommissioning by HDI. The facility is located on the western shore of Cape Cod Bay in the town of Plymouth on the Holtec Pilgrim site in Plymouth County, Massachusetts, and is described in the "Final Safety Analysis Report," as supplemented and amended.

Accounting for the changes made to the license by Amendment No. 249, the proposed license condition 1 is:

This renewed 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 Holtec Pilgrim and maintained and operated for decommissioning by HDI. The facility is located on the western shore of Cape Cod Bay in the town of Plymouth on the Holtec Pilgrim site in Plymouth County, Massachusetts, and is described in the "Final Safety Analysis Report," as supplemented and amended.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the

reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.10 License Condition 2.A

The application dated September 13, 2018, as supplemented by letters dated January 10, February 8, March 14, and July 16, 2019, requested changes to license condition 2.A. These changes were addressed as part of Amendment No. 249.

#### 4.2.11 License Condition 2.B

The current license condition 2.B states:

HDI, 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;

Accounting for the changes made to the license by Amendment No. 249, the proposed license condition 2.B is:

HDI, pursuant to the Act and 10 CFR 70, to possess at any time special nuclear material that was used as reactor fuel, in accordance with the limitations for storage, as described in the Final Safety Analysis Report, as supplemented and amended;

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.12 License Condition 2.C

The current license condition 2.C states:

HDI, 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;

Accounting for the changes made to the license by Amendment No. 249, the proposed license condition 2.C is:

HDI, 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 that were used for reactor startup, sealed sources that were

used for calibration of reactor instrumentation and are used in radiation monitoring equipment, and as fission detectors in amounts as required;

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.13 License Condition 3

The current license condition 3 states:

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:

The licensee proposed to change license condition 3 to state:

This renewed 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:

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.14 License Condition 3.A, "Maximum Power Level"

The current license condition 3.A states:

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

The licensee proposed to delete license condition 3.A.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the

reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.15 License Condition 3.B, "Technical Specifications"

The current license condition 3.B states:

The Technical Specifications contained in Appendix A, as revised through Amendment No. 249, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

The licensee proposed to change license condition 3.B to state:

The Technical Specifications contained in Appendix A, as revised through Amendment No. 250, are hereby replaced with the Permanently Defueled Technical Specifications. The licensee shall maintain the facility in accordance with the Permanently Defueled Technical Specifications.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.16 License Condition 3.C, "Records"

The current license condition 3.C states:

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

The licensee proposed to change license condition 3.C to state:

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

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.2.17 License Condition 3.D, "Equalizer Valve Restriction"

The current license condition 3.D states:

Equalizer Valve Restriction – DELETED

The licensee proposed to delete the title, "Equalizer Valve Restriction."

This is an editorial change and does not change any technical content. The NRC staff finds this change acceptable.

#### 4.2.18 License Condition 3.E, "Recirculation Loop Inoperable"

The current license condition 3.E states:

Recirculation Loop Inoperable – DELETED

The licensee proposed to delete the title, "Recirculation Loop Inoperable."

This is an editorial change and does not change any technical content. The NRC staff finds this change acceptable.

#### 4.2.19 License Condition 3.F, "Fire Protection"

The current license condition 3.F states:

HDI 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:

HDI 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.

The licensee proposed to delete license condition 3.F.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and the fire protection program will be revised to take into account the facility conditions and activities during decommissioning. Pilgrim will continue to utilize the defense-in-depth concept, placing special emphasis on detection and suppression in order to minimize radiological releases to the environment. This license condition, which is based on maintaining a fire protection program at an operating reactor in accordance with 10 CFR 50.48 with the ability to achieve and maintain safe shutdown of the reactor in the event of a fire, will no longer be applicable at Pilgrim. However, many of the elements that are applicable for the operating plant fire protection program continue to be applicable during facility decommissioning. During the decommissioning process, a fire protection program is required by 10 CFR 50.48(f) to address the potential for fires that could result in a radiological hazard. The regulation is applicable regardless of whether a requirement for a fire protection program is included in the facility license. Therefore, a license condition requiring such a program for a permanently shut down and defueled facility is not necessary.

The NRC staff finds that license condition 3.F for Pilgrim is based on maintaining fire protection programs that provide reasonable assurance of the ability to achieve and maintain safe



shutdown in the event of a fire in accordance with 10 CFR 50.48. Achieving and maintaining safe shutdown in the event of a fire is no longer applicable to decommissioning fire protection programs at Pilgrim once the facility is permanently shutdown and the fuel has been permanently removed from the reactor. However, elements of the fire protection program (e.g., license condition 3.K, Mitigating Strategy) continue during decommissioning to address fire events that could result in radiological hazards. The regulation in 10 CFR 50.48(f) requires Pilgrim to address the potential for fires, which could result in a radiological hazard. The NRC staff concludes that the rule, which requires a fire protection program for licensees that have submitted the certifications under 10 CFR 50.82(a)(1), is sufficient to ensure that a program is maintained. Therefore, a license condition that also requires fire protection programs for the permanently shutdown and defueled unit is redundant. Based on the above, the NRC staff concludes that reliance on 10 CFR 50.48(f) is appropriate and that the licensee's request to delete license condition 3.F is acceptable.

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

The current license condition 3.H states:

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.

The licensee proposed to delete license condition 3.H.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

4.2.21 License Condition 3.I, "Additional Conditions"

The current license condition 3.I states:

The Additional Conditions contained in Appendix B, as revised through Amendment No. 249, are hereby incorporated into this renewed operating license. HDI shall operate the facility in accordance with the Additional Conditions.

The licensee proposed to delete license condition 3.I.

By letter dated July 31, 1998 (ADAMS Accession No. ML011910025), the NRC issued Amendment No. 177 to Pilgrim. This amendment relocated the Radioactive Effluent TSs and the Radiological Environmental Monitoring Program to the Offsite Dose Calculation Manual, in accordance with the recommendations of GL 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications in the Administrative Controls Section of the Technical Specifications and the Relocation of Procedural Details of RETS to the Offsite Dose

Calculation Manual or to the Process Control Program,” dated January 31, 1989 (ADAMS Accession No. ML031140051).

License condition 3.I is a historical requirement that was previously met; therefore, the deletion of license condition 3.I is an administrative change and does not change any technical content. The NRC staff finds the deletion of license condition 3.I acceptable.

#### 4.2.22 License Condition 3.M

The current license condition 3.M states:

Upon Implementation of Amendment No. 231 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage 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” (ENO 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” (ENO 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.

The licensee proposed to delete license condition 3.M.

By letter dated November 20, 2008 (ADAMS Accession No. ML081570366), the NRC issued Amendment No. 231 to Pilgrim. The amendment revised the TSs requirements related to control room envelope habitability in TS 3.7.B.2, “Control Room High Efficiency Air Filtration System (CRHEAFS),” and TS Section 5.5, “Administrative Controls - Programs and Manuals,” consistent with Traveler TSTF-448, Revision 3, “Control Room Habitability.”

License condition 3.M is a historical requirement that was previously met; therefore, the deletion of license condition 3.M is an administrative change and does not change any technical content. The NRC staff finds the deletion of license condition 3.M acceptable.

#### 4.2.23 License Condition 4

The current license condition 4 states:

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.

The licensee proposed to delete license condition 4.

By letter dated June 8, 1972 (ADAMS Accession No. ML011920392), the Atomic Energy Commission issued Facility Operating License No. DPR-35 to the licensee. The period of 5 years after initial power operations has elapsed; therefore, license condition 4 no longer applies. The deletion of license condition 4 is an administrative change and does not change any technical content. The NRC staff finds the deletion of license condition 4 acceptable.

#### 4.2.24 License Condition 5

The current license condition 5 states:

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.

The licensee proposed to delete license condition 5.

License condition 5 is a historical action that has been completed; therefore, the deletion of license condition 5 is an administrative change and does not change any technical content. The NRC staff finds the deletion of license condition 5 acceptable.

#### 4.2.25 License Condition 6

The current license condition 6 states:

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.

The licensee proposed to delete license condition 6.

By letter dated June 8, 1972 (ADAMS Accession No. ML011920392), the Atomic Energy Commission issued Facility Operating License No. DPR-35 to the licensee. The antitrust proceeding was completed years ago; therefore, this is an administrative change and does not change any technical content. The NRC staff finds the deletion of license condition 6 acceptable.

#### 4.2.26 License Condition 7

The current license condition 7 states:

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.

The licensee proposed to change license condition 7 to state:

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).

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.

By letter dated June 8, 2012 (ADAMS Accession No. ML12164A334), ENOI notified the NRC of the completion of the implementation of these license renewal activities with a couple of exceptions regarding Condensate Storage Tank "A" testing and neutron absorber testing of Metamic. By letter dated October 18, 2012 (ADAMS Accession No. ML12307A432), ENOI notified the NRC of the completion of the implementation of the activities associated with Condensate Storage Tank "A" testing and neutron absorber testing of Metamic. Since the actions are complete, this is an administrative change and does not change any technical content. The NRC staff finds the deletion of license condition 7 acceptable.

#### 4.2.27 License Condition 8

The current license condition 8 states:

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.

The licensee proposed to delete license condition 8.

By letter dated June 8, 2012 (ADAMS Accession No. ML12164A334), ENOI notified the NRC of the completion of the implementation of these license renewal activities with a couple of exceptions regarding Condensate Storage Tank "A" testing and neutron absorber testing of Metamic. By letter dated October 18, 2012 (ADAMS Accession No. ML12307A432), ENOI notified the NRC of the completion of the implementation of the activities associated with Condensate Storage Tank "A" testing and neutron absorber testing of Metamic. Since the actions are complete, this is an administrative change and does not change any technical content. The NRC staff finds the deletion of license condition 8 acceptable.

#### 4.2.28 License Condition 9

The current license condition 9 states:

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.

The licensee proposed to delete license condition 9.

The regulation in Appendix H to 10 CFR Part 50 requires that the design of the reactor vessel surveillance capsule program and the withdrawal schedule must meet the requirements in the version of ASTM Standard Practice E185 that is current on the issue date of the American Society of Mechanical Engineers (ASME) Code to which the reactor pressure vessel (RPV) was purchased. The rule also requires the licensee to perform capsule testing and to report the test results in accordance with the requirements in ASTM Standard Practice E185-82 to the extent practicable for the configuration of the test specimens in the RPV surveillance capsules.

The requirements in Appendix H are only applicable to nuclear plants that are performing power operations in the reactor critical operating mode because: (a) this is the plant operating mode that produces high energy neutrons as a result of the reactor's nuclear fission process; and (b) the requirements are set in place to provide assurance that the RPV will maintain adequate levels of fracture toughness throughout the operating life of the reactor.

Continued implementation of the applicable surveillance capsule testing and reporting requirements are no longer necessary for Pilgrim because once power operations were ceased at Pilgrim, from a fracture toughness perspective, the Pilgrim RPV will cease to be exposed to further irradiation by high energy neutrons or subjected to any high thermal stress environments, as induced by operating the RCS at an elevated temperature.

The physical and radiological control of the remaining surveillance capsules that are located in the Pilgrim RPV will be managed in accordance with the applicable radiological control requirements of 10 CFR Part 20 and with any applicable security or physical protection requirements for components in either 10 CFR Part 37 or 10 CFR Part 73. Therefore, the removal, testing, reporting, and storage requirements for reactor vessel surveillance capsules and their test specimens do not need to be implemented further after Pilgrim permanently ceases power operations because there will no longer be any need to remove the remaining surveillance capsules from the RPV or perform material testing of the test specimens in those capsules. As such, the deletion of this license condition is appropriate. Therefore, the NRC staff finds the deletion of license condition 9 acceptable.

#### 4.2.29 License Condition 10

The current license condition 10 states:

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

The licensee proposed to change license condition 10 to state:

This license is effective as of the date of issuance and until the Commission notifies the licensee in writing that the license is terminated.

The proposed change would modify this license condition to reflect the proposed permanently shutdown and defueled condition of the facility. Consistent with 10 CFR 50.82(a)(2), the Pilgrim

RFOL no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel once the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed. The proposed change would revise license condition 10 to conform with 10 CFR 50.51, "Continuation of license," in that the license authorizes ownership and possession by the licensee until the Commission notifies the licensee in writing that the license is terminated.

The NRC staff reviewed the proposed change to license condition 10. The current license condition 10, which documents the date of the expiration of the RFOL, is no longer necessary for the permanently shutdown and defueled condition of the facility. The revised license condition 10 documents the condition of the facility and summarizes the actions and requirements applicable to the facility by 10 CFR 50.51. Therefore, the NRC staff finds the proposed change to license condition 10 acceptable.

#### 4.3 Changes to Appendix B – Additional Conditions

The current Appendix B states:

Holtec Decommissioning International, LLC shall comply with the following conditions on the schedules noted below:

Amendment Number

177

Additional Conditions

The licensee is authorized to relocate certain Technical Specifications requirements to licensee-controlled documents. Implementation of this amendment shall include relocation of various sections of the technical specifications to the appropriate documents as described in the licensee's application dated September 19, 1997, and in the staff's safety evaluation attached to this amendment.

Implementation Date

The amendment shall be implemented within 30 days from July 31, 1998, except that the licensee shall have until the next scheduled Updated Final Safety Analysis Report (UFSAR) update to incorporate the UFSAR relocations.

The licensee proposed to delete Appendix B.

By letter dated July 31, 1998 (ADAMS Accession No. ML011910025), the NRC issued Amendment No. 177 to Pilgrim. This amendment relocated the Radioactive Effluent TSs and the Radiological Environmental Monitoring Program to the Offsite Dose Calculation Manual, in accordance with the recommendations of GL 89-01.

Appendix B is a historical requirement that was previously met; therefore, the deletion of Appendix B is an administrative change and does not change any technical content. The NRC staff finds the deletion of Appendix B acceptable.

#### 4.4 Changes to Appendix A, Technical Specification

##### 4.4.1 Title Page

The current title page states, in part:

Facility Operating License DPR-35  
Technical Specification and Bases

The licensee proposed to change the title page to state, in part:

Facility License DPR-35  
Permanently Defueled Technical Specification and Bases

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

##### 4.4.2 Table of Contents

The licensee proposed to revise the Table of Contents to reflect proposed additions, deletions, and changes to the TSs as described in Sections 4.4.3 through 4.4.19, 4.5, 4.6, and 4.7 of this safety evaluation, and as detailed in Attachment 2 to the license amendment request (LAR) dated September 13, 2018. The changes to the Table of Contents are editorial and do not change any technical content. The NRC staff finds the changes to the Table of Contents acceptable.

##### 4.4.3 TS Section 1.0, "Definitions"

###### 4.4.3.1 Definitions Proposed for Deletion

The licensee proposed to delete the following definitions in TS Section 1.0, which currently state:

###### AUTOMATIC PRIMARY CONTAINMENT ISOLATION VALVES

Are primary containment isolation valves which receive an automatic primary containment group isolation signal.

###### COLD CONDITION

Reactor coolant temperature equal to or less than 212°F.

###### CORE ALTERATION

CORE ALTERATION shall be the movement of any fuel, sources, or reactivity control components, within the reactor vessel with the vessel head removed and



fuel in the vessel. The following exceptions are not considered to be CORE ALTERATIONS:

- a. Movement of source range monitors, local power range monitors, intermediate range monitors, traversing incore probes, or special movable detectors (including undervessel replacement); and
- b. Control rod movement, provided there are no fuel assemblies in the associated core cell.

Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe position.

#### CORE OPERATING LIMITS REPORT (COLR)

The COLR is a reload-cycle specific document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Specification 5.6.5. Plant operation within these operating limits is addressed in individual specifications.

#### DESIGN POWER

DESIGN POWER means a steady state power level of 2028 thermal megawatts.

#### FIRE SUPPRESSION WATER SYSTEM

A FIRE SUPPRESSION WATER SYSTEM shall consist of: a water source(s); gravity tank(s) or pump(s); and distribution piping with associated sectionalizing control or isolation valves. Such valves shall include hydrant post indicator valves and the first valve ahead of the water flow alarm device on each sprinkler, hose standpipe or spray system riser.

#### HOT STANDBY CONDITION

HOT STANDBY CONDITION means operation with coolant temperature greater than 212°F, system pressure less than 600 psig, the main steam isolation valves closed and the mode switch in startup.

#### INSTRUMENT CALIBRATION

An INSTRUMENT CALIBRATION means the adjustment of an instrument signal output so that it corresponds, within acceptable range and accuracy, to a known value(s) of the parameter which the instrument monitors. Calibration shall encompass the entire instrument including actuation, alarm or trip.

#### INSTRUMENT CHANNEL

An INSTRUMENT CHANNEL means an arrangement of a sensor and auxiliary equipment required to generate and transmit to a trip system a single trip signal related to the plant parameter monitored by that instrument channel.

## INSTRUMENT CHECK

An INSTRUMENT CHECK is a determination of acceptable operability by observation of instrument behavior during operation. This determination shall include, where possible, comparison of the instrument with other independent instruments measuring the same variable.

## INSTRUMENT FUNCTIONAL TEST

An INSTRUMENT FUNCTIONAL TEST means the injection of a simulated signal into the instrument primary sensor to verify the proper instrument channel response, alarm and/or initiating action.

## LEAKAGE

### a. Identified LEAKAGE:

1. Reactor coolant LEAKAGE into drywell collection systems, such as pump seal or valve packing leaks, that is captured and conducted to a sump or collecting tank, or
2. Reactor coolant LEAKAGE into the drywell atmosphere from sources which are both specifically located and known either not to interfere with the operation of the leakage detection systems or not to be Pressure Boundary Leakage.

### b. Unidentified LEAKAGE:

Unidentified LEAKAGE shall be all reactor coolant leakage which is not Identified Leakage.

### c. Pressure Boundary LEAKAGE

Pressure Boundary LEAKAGE shall be leakage through a non-isolable fault in a reactor coolant system component body, pipewall or vessel wall.

## LIMITING SAFETY SYSTEM SETTING (LSSS)

The LIMITING SAFETY SYSTEM SETTINGS are settings on instrumentation which initiate the automatic protective action at a level such that the safety limits will not be exceeded. The region between the safety limit and these settings represents margin with normal operation lying below these settings. The margin has been established so that with proper operation of the instrumentation the safety limits will never be exceeded.

## LOGIC SYSTEM FUNCTIONAL TEST

A LOGIC SYSTEM FUNCTIONAL TEST means a test of all relays and contacts of a logic circuit from sensor to activated device to insure components are

operable per design intent. Where practicable, action will go to completion (i.e., pumps will be started and valves opened).

#### MINIMUM CRITICAL POWER RATIO (MCPR)

The value of critical power ratio associated with the most limiting assembly in the reactor core. Critical Power Ratio (CPR) is the ratio of that power in a fuel assembly, which is calculated to cause some point in the assembly to experience boiling transition, to the actual assembly operating power.

#### MODE

The reactor MODE is that which is established by the mode selector-switch. The MODES include:

##### Startup MODE

In this MODE the reactor protection scram trip, initiated by main steam line isolation valve closure, is bypassed when reactor pressure is less than 600 psig, the low pressure main steam line isolation valve closure trip is bypassed, the reactor protection system is energized with IRM neutron monitoring system trips and control rod withdrawal interlocks in service.

##### Run MODE

In this MODE the reactor system pressure is at or above 785 psig and the reactor protection system is energized with APRM protection and RBM interlocks in service.

##### Shutdown MODE

The reactor is in the shutdown MODE when the reactor mode switch is in the shutdown mode position and no core alterations are being performed.

- a. Hot Shutdown means conditions as above with reactor coolant temperature greater than 212°F.
- b. Cold Shutdown means conditions as above with reactor coolant temperature equal to or less than 212°F.

##### Refuel MODE

The reactor is in the refuel MODE when the mode switch is in the refuel mode position. When the mode switch is in the refuel position, the refueling interlocks are in service.

#### OPERABLE – OPERABILITY

A system, subsystem, division, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or

emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, division, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).

#### OPERATING

OPERATING means that a system or component is performing its intended functions in its required manner.

#### OPERATING CYCLE

Interval between the end of one refueling outage and the end of the next subsequent refueling outage.

#### PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

The PTLR is the Pilgrim-Specific document that provides the reactor vessel Pressure-Temperature (P-T) Curves, including heat up and cool down rates and fluence and Adjusted Reference Temperature limits for Specification 3.6.A. These pressure and temperature limits shall be determined for each fluence period in accordance with Specification 5.5.9.

#### PRIMARY CONTAINMENT INTEGRITY

PRIMARY CONTAINMENT INTEGRITY means that the drywell and pressure suppression chamber are intact and all of the following conditions are satisfied:

1. All manual containment isolation valves on lines connected to the reactor coolant system or containment which are not required to be open during accident conditions are closed.
2. At least one door in each airlock is closed and sealed
3. All blind flanges and manways are closed.
4. All automatic primary containment isolation valves and all instrument line check valves are operable or at least one containment isolation valve in each line having an inoperable valve shall be deactivated in the isolated condition.
5. All containment isolation check valves are operable or at least one containment valve in each line having an inoperable valve is secured in the isolated position.

#### PROTECTIVE ACTION

An action initiated by the protection system when a limit is reached. A PROTECTIVE ACTION can be at a channel or system level.

## PROTECTIVE FUNCTION

A system PROTECTIVE ACTION which results from the PROTECTIVE ACTION of the channels monitoring a particular plant condition.

## REACTOR POWER OPERATION

REACTOR POWER OPERATION is any operation with the mode switch in the "Startup" or "Run" position with the reactor critical and above 1% design power.

## REACTOR VESSEL PRESSURE

Unless otherwise indicated, REACTOR VESSEL PRESSURES listed in the Technical Specifications are those measured by the reactor vessel steam space detectors.

## REFUELING INTERVAL

REFUELING INTERVAL applies only to In-service Code Testing Program surveillance tests. For the purpose of designating frequency of these code tests, a REFUELING INTERVAL shall mean at least once every 24 months.

## REFUELING OUTAGE

REFUELING OUTAGE is the period of time between the shutdown of the unit prior to a refueling and the startup of the plant after that refueling. For the purpose of designating frequency of testing and surveillance, a REFUELING OUTAGE shall mean a regularly scheduled outage; however, where such outages occur within 11 months of completion of the previous REFUELING OUTAGE, the required surveillance testing need not be performed until the next regularly scheduled outage.

## SAFETY LIMIT

The SAFETY LIMITS are limits below which the reasonable maintenance of the cladding and primary systems are assured. Exceeding such a limit is cause for unit shutdown and review by the Nuclear Regulatory Commission before resumption of unit operation. Operation beyond such a limit may not in itself result in serious consequences, but it indicates an operational deficiency subject to regulatory review.

## SECONDARY CONTAINMENT INTEGRITY

SECONDARY CONTAINMENT INTEGRITY means that the reactor building is intact and the following conditions are met:

1. At least one door in each access opening is closed.
2. The standby gas treatment system is operable.
3. All automatic ventilation system isolation valves are operable or secured in the isolated position.

## SIMULATED AUTOMATIC ACTUATION

SIMULATED AUTOMATIC ACTUATION means applying a simulated signal to the sensor to actuate the circuit in question.

## SOURCE CHECK

A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.

## STAGGERED TEST BASIS

A STAGGERED TEST BASIS shall consist of: (a) a test schedule for  $n$  systems, subsystems, trains, or other designated components obtained by dividing the specified test interval into  $n$  equal subintervals; (b) the testing of one system, subsystem, train or other designated components at the beginning of each subinterval.

## TOTAL PEAKING FACTOR

The ratio of the fuel rod surface heat flux to the heat flux of an average rod in an identical geometry fuel assembly operating at the core average bundle power

## TRANSITION BOILING

TRANSITION BOILING means the boiling regime between nucleate and film boiling. TRANSITION BOILING is the regime in which both nucleate and film boiling occur intermittently with neither type being completely stable.

## TRIP SYSTEM

A TRIP SYSTEM means an arrangement of instrument channel trip signals and auxiliary equipment required to initiate action to accomplish a protective trip function. A TRIP SYSTEM may require one or more instrument channel trip signals related to one or more plant parameters in order to initiate trip system action. Initiation of protective action may require the tripping of a single trip system or the coincident tripping of two trip systems.

The NRC staff reviewed the TS definitions proposed for deletion and concludes that all of the terms listed above are only meaningful to a reactor that is authorized to operate. Therefore, since Pilgrim is permanently shut down and defueled, the NRC staff finds the deletion of these definitions from the TS acceptable.

#### 4.4.3.2 Definitions Proposed for Revision

The licensee proposed to revise the following definitions in TS Section 1.0:

##### IMMEDIATE

The current definition of IMMEDIATE states:

IMMEDIATE means that the required action will be initiated as soon as practicable considering the safe operation of the unit and the importance of the required action.

The licensee proposed the following definition for IMMEDIATE:

IMMEDIATE means that the required action will be initiated as soon as practicable considering the safe maintenance of the facility and the importance of the required action.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

##### LIMITING CONDITIONS FOR OPERATION (LCO)

The current definition of LCO states:

The LIMITING CONDITIONS FOR OPERATION specify the minimum acceptable levels of system performance necessary to assure safe startup and operation of the facility. When these conditions are met, the plant can be operated safely and abnormal situations can be safely controlled.

Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO.

The licensee proposed the following definition for LCO:

The LIMITING CONDITIONS FOR OPERATION specify the minimum acceptable levels of system performance necessary to maintenance of the facility. When these conditions are met, the facility can be maintained safely and abnormal situations can be safely controlled.

Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be considered a failure to meet the LCO.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### SURVEILLANCE FREQUENCY

The current definition of SURVEILLANCE FREQUENCY states:

Each Surveillance Requirement shall be performed within the specified SURVEILLANCE INTERVAL with a maximum allowable extension not to exceed 25 percent of the specified SURVEILLANCE INTERVAL.

The SURVEILLANCE FREQUENCY establishes the limit for which the specified time interval for Surveillance Requirements may be extended. It permits an allowable extension of the normal surveillance interval to facilitate surveillance schedule and consideration of plant operating conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outages.

This limitation of this definition is based on engineering judgment and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the Surveillance Requirements. This provision is sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

The licensee proposed the following definition for SURVEILLANCE FREQUENCY:

Each Surveillance Requirement shall be performed within the specified SURVEILLANCE INTERVAL with a maximum allowable extension not to exceed 25 percent of the specified SURVEILLANCE INTERVAL.

The SURVEILLANCE FREQUENCY establishes the limit for which the specified time interval for Surveillance Requirements may be extended. It permits an allowable extension of the normal surveillance interval to facilitate surveillance schedule and consideration of facility conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified.



This limitation of this definition is based on engineering judgment and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the Surveillance Requirements. This provision is sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### SURVEILLANCE INTERVAL

The current definition of SURVEILLANCE INTERVAL states:

The SURVEILLANCE INTERVAL is the calendar time between surveillance tests, checks, calibrations, and examinations to be performed upon an instrument or component when it is required to be operable. These tests may be waived when the instrument, component, or system is not required to be operable, but the instrument, component, or system shall be tested prior to being declared operable. The operating cycle interval is 24 months and the 25% tolerance of the definition of "SURVEILLANCE FREQUENCY" is applicable. The refueling interval is 24 months and the 25% tolerance specified in the definition of "SURVEILLANCE FREQUENCY" is applicable.

The licensee proposed the following definition for SURVEILLANCE INTERVAL:

The SURVEILLANCE INTERVAL is the calendar time between surveillance tests to be performed to confirm that a parameter is within limits.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.4 TS Section 2.0, "Safety Limits"

The licensee proposed to delete this section and state that Section 2.0 is "Not Used."

The fuel cladding, RPV, and primary system piping are the principal barriers to prevent the release of radioactive materials to the environs during operations. TS 2.1 establishes Safety Limits to protect the integrity of these barriers during normal plant operations and anticipated transients. TS 2.2 defines the actions to take if there is a non-compliance with a safety limit. Pursuant to 10 CFR 50.36(c)(1), safety limits are limiting parameters necessary to protect the physical barriers that guard against the uncontrolled release of radioactivity from a nuclear

reactor. Safety limits do not apply to a reactor in a permanently shutdown and defueled condition.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.5 TS Section 3.0, "Limiting Condition for Operation (LCO) Applicability"

The licensee proposed to delete this section and state that Section 3.0 is "Not Used."

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.6 TS Section 3/4.1, "Reactor Protection System"

The licensee proposed to delete TS 3/4.1.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.7 TS Section 3/4.2, "Protective Instrumentation"

The licensee proposed to delete TS 3/4.2.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.8 TS Section 3/4.3, "Reactivity Control"

The licensee proposed to delete TS 3/4.3.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license

description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.9 TS Section 3/4.4, "Standby Liquid Control System"

The licensee proposed to delete TS 3/4.4.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.10 TS Section 3/4.5, "Core and Containment Cooling Systems"

The licensee proposed to delete TS 3/4.5.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.11 TS Section 3/4.6, "Primary System Boundary"

The licensee proposed to delete TS 3/4.6.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.12 TS Section 3/4.7, "Containment Systems"

The licensee proposed to delete TS 3/4.7.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.13 TS Section 3/4.8, "Plant Systems"

The licensee proposed to delete TS 3/4.8.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.14 TS Section 3/4.9, "Auxiliary Electrical System"

The licensee proposed to delete TS 3/4.9.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.15 TS Section 3/4.10, "Core Alterations"

The licensee proposed to change TS 3/4.10 to state:

### LIMITING CONDITION FOR OPERATION

#### 3.10 SPENT FUEL STORAGE

Applicability:

Applies to the safe storage of spent fuel.

Objective:

To ensure that safe storage of spent fuel.

Specification:

A. Not Used

B. Not Used

C. Spent Fuel Pool Water Level

Whenever irradiated fuel is stored in the spent fuel pool, the pool water level shall be maintained at or above 33 feet.

## SURVEILLANCE REQUIREMENTS

### 4.10 SPENT FUEL STORAGE

**Applicability:**

Applies to the parameter which monitors the storage of spent fuel.

**Objective:**

To verify that spent fuel is being stored safely.

**Specification:**

A. Not Used

B. Not Used

C. Spent Fuel Pool Water Level

Whenever irradiated fuel is stored in the spent fuel pool, the water level shall be recorded daily.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.16 TS Section 3/4.11, "Reactor Fuel Assembly"

The licensee proposed to delete TS 3/4.11.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.17 TS Section 3/4.12, "Fire Protection"

The licensee proposed to delete TS 3/4.12.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.18 TS Section 3/4.13, "Inservice Code Testing"

The licensee proposed to delete TS 3/4.13.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.4.19 TS Section 3/4.14, "Special Operations"

The licensee proposed to delete TS 3/4.14.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.5 TS Section 4.0, "Design Features"

The licensee's proposed changes to the current TS section are detailed in Attachment 2 to the LAR dated September 13, 2018.

##### 4.5.1 TS 4.2

The current TS 4.2 states:

Deleted

The licensee proposed to replace "Deleted" with "Not Used."

This is an editorial change that does not make any technical changes. Therefore, the NRC staff finds this change acceptable.

##### 4.5.2 TS 4.3, "Fuel Storage"

The current TS 4.3 states, in part:

Fuel Storage

###### 4.3.1 Criticality

4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:

- a. Fuel assemblies having a maximum k-infinity of 1.32 for standard core geometry, calculated at the burnup of maximum bundle

reactivity, and an average U-235 enrichment of 4.6 % averaged over the axial planar zone of highest average enrichment; and

- b.  $K_{eff} \leq 0.95$  if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 10.3.5 of the FSAR.

4.3.1.2 The new fuel storage racks are designed and shall be maintained with:

- a.  $K_{eff} \leq 0.95$  if fully flooded with water, which includes an allowance for uncertainties as described in Section 10.2.5 of the FSAR;
- b.  $K_{eff} \leq 0.90$  when dry, which includes an allowance for uncertainties as described in Section 10.2.5 of the FSAR; and
- c. A nominal 6.60 inch center to center distance between fuel assemblies placed in storage racks.

The licensee proposed to change TS 4.3 to state, in part:

#### Spent Fuel Storage

##### 4.3.1 Criticality

4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:

- a. Fuel assemblies having a maximum k-infinity of 1.32 for standard core geometry, calculated at the burnup of maximum bundle reactivity, and an average U-235 enrichment of 4.6 % averaged over the axial planar zone of highest average enrichment; and
- b.  $K_{eff} \leq 0.95$  if fully flooded with unborated water, which includes an allowance for uncertainties as described in the applicable section of the FSAR.

##### 4.5.2.1 Editorial Changes to TS Title and TS 4.3.1.1

The proposed addition of the word "Spent" to the title "Fuel Storage," the proposed deletion of "Section 10.3.5," and the proposed replacement of it with "the applicable section" are editorial in nature and do not make any technical changes. Therefore, the NRC staff finds these changes acceptable.

##### 4.5.2.2 Deleting TS 4.3.1.2

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Pilgrim will not have any new fuel after it is in the permanently shutdown and defueled condition. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.5.2.3 Nuclear Criticality Safety Analysis Supporting TS 4.3.1.1

As stated in Section 2.0 of this safety evaluation, in ENOI's response to GL 2016-01, as supplemented, ENOI identified that 2016 testing on the Boraflex installed in the SFP at Pilgrim showed that some of the Boraflex was no longer bounded by the nuclear CSA of record. As such, the NRC staff requested that the licensee provide an analysis that demonstrates any controls that the licensee has implemented will ensure that the Pilgrim SFP will meet the regulatory requirements for sub-criticality for the entire service life of the Pilgrim SFP. In its July 16, 2019, response, the licensee indicated that a new nuclear CSA was performed which supports maintaining Keff of fuel stored in the Boraflex SFP racks less than 0.95 and no longer takes credit for the neutron absorption properties of the boron present in the Boraflex storage racks. This new CSA was provided as Enclosures 1 (proprietary) and 2 (non-proprietary) to the licensee's July 16, 2019, supplement.

The licensee has implemented compensatory measures based on an analysis that assumes there is no Boraflex present. The licensee performed three separate evaluations for its Boraflex rack modules. Evaluations 1 and 2 are typical peak reactivity approaches used for boiling-water reactor SFP nuclear criticality analysis. Evaluation 3 takes burnup credit for depletion past the point of peak reactivity.

While the licensee's July 16, 2019, letter was submitted as a response to the NRC staff's request for additional information, it was not submitted as a proposed amendment in accordance with 10 CFR 50.90. Similar to the NRC staff's September 26, 2018, GL 2016-01 closeout letter, the staff finds the interim corrective actions taken to be adequate, however, the licensee-identified non-conservative TS still needs to be resolved per AL 98-10.

#### 4.6 TS Section 5.0, "Administrative Controls"

The licensee's proposed changes to the current TS section are detailed in Attachment 2 to the LAR dated September 13, 2018.

##### 4.6.1 TS 5.2.2, "Facility Staff"

The current TSs 5.2.2.e, g, and i state: "Deleted."

The licensee proposed to replace "Deleted" with "Not Used" for these TSs.

This is an editorial change that does not make any technical changes. Therefore, the NRC staff finds this change acceptable.

##### 4.6.2 TS 5.4.1, "Procedures"

The current TSs 5.4.1.b states: "Deleted."

The licensee proposed to replace "Deleted" with "Not Used" for this TS.

This is an editorial change that does not make any technical changes. Therefore, the NRC staff finds this change acceptable.



#### 4.6.3 TS 5.5.1, "Offsite Dose Calculation Manual (ODCM)"

The licensee proposed changes to the numbering and alignment of TS 5.5.1 subsections.

These are editorial changes that do not make any technical changes. Therefore, the NRC staff finds these changes acceptable.

#### 4.6.4 TS 5.5.5, "Component Cyclic or Transient Limit"

The current TS 5.5.5 states:

This program provides controls to track the FSAR Section C.3.4.1, cyclic and transient occurrences to ensure that components are maintained within the design limits.

The licensee proposed to delete TS 5.5.5 and replace it with "Not Used."

This TS pertains to reactor support systems that are not required to perform a function in the permanently shutdown and defueled condition. Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.6.5 TS 5.5.7, "Configuration Risk Management Program (CRMP)"

The current TS 5.5.7 states:

CRMP provides a proceduralized risk-informed assessment to manage the risk associated with equipment inoperability. The program applies to technical specification structures, systems, or components for which a risk-informed allowed outage time has been granted.

The CRMP includes the following elements:

- a. Provisions for the control and implementation of a Level 1 at power internal event PRA-informed methodology. The assessment is capable of evaluating the applicable plant configuration.
- b. Provisions for performing an assessment prior to entering the LCO Action Statement for preplanned activities.
- c. Provisions for performing an assessment after entering the LCO Action Statement for unplanned entry into the LCO Action Statement activities.
- d. Provisions for assessing the need for additional actions after the discovery of additional equipment out of service conditions while in the LCO Action Statement.

- e. Provisions for considering other applicable risk significant contributors such as Level 2 issues and external events, quantitatively or qualitatively.

The licensee proposed to delete TS 5.5.7.

The CRMP is proposed for elimination since the LCO 3.10.C does not rely on the operability of any active equipment or systems. LCO 3.10.C establishes a minimum water level in the spent fuel pool to ensure that an assumption in the analysis of the FHA is met. Thus, the CRMP is not needed in the permanently shutdown and defueled condition. Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.6.6 TS 5.5.8, "Control Room Envelope Habitability Program"

The current TS 5.5.8 states:

A Control Room Envelope (CRE) Habitability Program shall be established and implemented to ensure that CRE habitability is maintained such that, with an OPERABLE Main Control Room Heating, Ventilation and Air Conditioning System, CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under design basis accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem whole body or its equivalent to any part of the body 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

- a. The definition of the CRE and the CAE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197. "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.
- d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one subsystem of the MCREC System, operating at the flow rate required by the VFTP, at a Frequency of 24 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 24 month assessment of the CRE boundary.

- e. The quantitative limits on unfiltered air leakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air in leakage measured by the testing described in paragraph c. The unfiltered air leakage limit for radiological challenges is the leakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air leakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.
- f. Each Surveillance Requirement shall be performed within the specified SURVEILLANCE INTERVAL with a maximum allowable extension not to exceed 25 percent of the specified SURVEILLANCE INTERVAL. The SURVEILLANCE INTERVAL requirement is applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered leakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

The licensee proposed to delete TS 5.5.8.

Following 46 days of radiological decay after permanent cessation of operations, the analysis of the FHA demonstrates that the CRE is not required for providing airborne radiological protection for the control room operators.

Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. It has also been greater than 46 days since permanent cessation of operations. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.6.7 TS 5.5.9, "Reactor Coolant System (RCS) Pressure and Temperature Limits Report (PTLR)"

The current TS 5.5.9 states:

- a. RCS pressure and temperature limits for heatup, cool-down, low temperature operation criticality and hydrostatic testing as well as heatup

and cool-down rates shall be established and documented in the PTLR for the following:

- i) Limiting conditions for Operation Section 3.6.A.2
- b. The analytical methods used to determine the RCS pressure and temperature limits shall be those previously reviewed and approved by the NRC, specifically those described in the following document:
  - i) SIR-05-044-A "Pressure-Temperature Limits Report Methodology for Boiling Water Reactors", April 2007
- c. The PTLR shall be provided to the NRC upon issuance for each reactor vessel fluence period and for any reason or supplement thereto.

The licensee proposed to delete TS 5.5.9.

The PTLR does not apply in the permanently shutdown and defueled condition. Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

#### 4.7 TS 5.6, "Reporting Requirements"

##### 4.7.1 TS 5.6.4, "Not Used"

The current TS 5.6.4 states "Not Used."

The licensee proposed to delete TS 5.6.4.

This is an editorial change that does not make any technical changes. Therefore, the NRC staff finds this change acceptable.

#### 4.7.2 TS 5.6.5, "Core Operating Limits Report (COLR)"

The current TS 5.6.5 states:

- a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:
  1. Table 3.1.1 - APRM High Flux trip level setting
  2. Table 3.2.C -APRM Upscale trip level setting
  3. 3.11.A - Average Planar Linear Heat Generation Rate (APLHGR)
  4. 3.11.B - Linear Heat Generation Rate (LHGR)
  5. 3.11.C -Minimum Critical Power Ratio (MCPR)
  6. 3.11.0 - Power/Flow Relationship During Power Operation
- b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:
  1. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel," (through the latest NRC approved amendment at the time the reload analyses are performed as specified in the COLR).
- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as shutdown margin, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

The licensee proposed to delete TS 5.6.5.

The COLR does not apply in the permanently shutdown and defueled condition. Since the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel have been docketed, pursuant to 10 CFR 50.82(a)(2), the Pilgrim license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel, and this proposed change would provide accuracy in the 10 CFR Part 50 license description. Therefore, the proposed change is consistent with 10 CFR 50.82(a)(2) and is acceptable to the NRC staff.

## 5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the NRC notified the Commonwealth of Massachusetts official of the proposed issuance of the amendment on September 24, 2019. The official had no comments.

## 6.0 ENVIRONMENTAL CONSIDERATION

The amendment relates, in part, to changes in recordkeeping, reporting, or administrative procedures or requirements. The amendment also relates, in part, to changing requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. 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 (83 FR 55572; November 6, 2018). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and 51.22(c)(10). 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.

## 7.0 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) there is reasonable assurance that 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.

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Date: October 28, 2019

SUBJECT: PILGRIM NUCLEAR POWER STATION - ISSUANCE OF AMENDMENT  
 NO. 250 RE: PERMANENTLY DEFUELED TECHNICAL SPECIFICATIONS  
 (EPID L-2018-LLA-0268) DATED OCTOBER 28, 2019

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