

September 20, 2006

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

SUBJECT: PILGRIM NUCLEAR POWER STATION - ISSUANCE OF AMENDMENT RE:
REVISED REACTOR COOLANT SYSTEM LEAKAGE DETECTION
INSTRUMENTATION REQUIREMENTS AND ACTIONS (TAC NO. MC7255)

Dear Mr. Kansler:

The Commission has issued the enclosed Amendment No. 225 to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station. This amendment is in response to your application dated June 2, 2005, as supplemented on June 14, 2006.

The amendment relocates and revises the Technical Specifications (TSs) associated with the station reactor coolant system leakage detection instrumentation requirements and actions. These changes are consistent with the Standard TSs for Boiling Water Reactors (NUREG-1433 Revision 3).

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

Sincerely,

/RA/

James J. Shea, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-293

Enclosures:

1. Amendment No. 225 to License No. DPR-35
2. Safety Evaluation

cc w/encls: See next page

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

Amendment No. 225
License No. DPR-35

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by Entergy Nuclear Operations, Inc. (the licensee) dated June 2, 2005, as supplemented on June 14, 2006, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 225, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Richard J. Laufer, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the License
and Technical Specifications

Date of Issuance: September 20, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 225

FACILITY OPERATING LICENSE NO. DPR-35

DOCKET NO. 50-293

Replace the following page of the Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Remove
3

Insert
3

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

Remove
3/4.6-4
3/4.6-5
3/4.6-6

Insert
3/4.6-4
3/4.6-5
3/4.6-6

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 225 TO FACILITY OPERATING LICENSE NO. DPR-35

ENTERGY NUCLEAR GENERATION COMPANY

ENTERGY NUCLEAR OPERATIONS, INC.

PILGRIM NUCLEAR POWER STATION

DOCKET NO. 50-293

1.0 INTRODUCTION

By letter dated June 2, 2005, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML051720406) as supplemented on June 14, 2006 (ADAMS Accession No. ML061720084), Entergy Nuclear Operations, Inc. (the licensee) submitted a request for changes to the Pilgrim Nuclear Power Station (Pilgrim) Technical Specifications (TSs). The amendment relocates and revises the TSs associated with the station reactor coolant system leakage detection instrumentation requirements and actions. These proposed changes are consistent with the Standard Technical Specifications (STS) for Boiling Water Reactors (BWRs) (NUREG-1433, "STS General Electric Plants, BWR/4," Revision 3). The supplement dated June 14, 2006, provided additional information that did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on May 23, 2006 (71 FR 29676).

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR 50.36)(c)(2)(ii) states that a technical specification limiting condition for operation (LCO) of a nuclear reactor must be established for each item meeting one or more of the following criteria:

- Criterion 1. Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.
- Criterion 2. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- Criterion 3. A structure, system, or component 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.

- Criterion 4. A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

The Nuclear Regulatory Commission (NRC) staff and nuclear steam supply owners groups developed the STS that established models of the Commission's policy for TSs, and improved the format and clarity of the specifications. NUREG-1433, Revision 3, was approved and issued for use by the NRC on June 30, 2004. Many nuclear power plants such as Pilgrim have relocated various specifications that are not required explicitly by 10 CFR 50.36 to other licensing basis documents such as a plants Final Safety Analysis Report (FSAR) utilizing the STS as a model.

Generic Letter (GL) 88-01, "NRC POSITION ON IGSCC IN BWR AUSTENITIC STAINLESS STEEL PIPING," Supplement 1, position (3) states that manual leak rate measurements can be acceptable alternatives during the period (30 days) when the drain sump monitoring system is being restored, provided the licensee demonstrates their suitability with regard to accuracy and inspectability.

The NRC staff reviewed the licensee's proposed changes for compliance with 10 CFR 50.36, for adherence with GL 88-01, and with the precedent as established in the STS.

3.0 TECHNICAL EVALUATION

3.1 Proposed Changes to the Pilgrim TS Requirements

The licensee's submittal contains the following proposed changes:

- 3.1.1 Revision of TS 4.6.C.1 to eliminate "by monitoring the coolant leakage detection systems required to be operable by 3.6.C.2."
- 3.1.2 Revision of TS 3.6.C.2.a.1 and 4.6.C.2.a by adding the limitation "floor drain" such that the requirement reads "drywell floor drain sump monitoring system." The Bases are also clarified consistent with this change, which results in relocating the drywell equipment drain sump portion of the monitoring system from the TS requirements to the FSAR. Additional editorial changes to revise "one" and "each" to "the."
- 3.1.3 Revision of TS 3.6.C.2.b.1 to replace "At least one drywell sump monitoring system shall be Operable;" with the following insert: "With the drywell floor drain monitoring system required by 3.6.C.2.a.1 inoperable, restore it to Operable status within 30 days."
- 3.1.4 Revision of TS 3.6.C.2.b.2 to change the allowed restoration time from "31" days to "30" days and replace "At least one gaseous or particulate radioactivity monitoring channel must be operable; otherwise..." with the following insert: "With both the gaseous and particulate radioactivity monitoring channels required by 3.6.C.2.a.2 and 3.6.C.2.a.3 inoperable,"

Additionally in TS 3.6.C.2.b.2, replace "provided grab samples are obtained and analyzed" with "provided drywell atmosphere grab samples are analyzed" and reword "..., or be in Hot Shutdown..." to read "...; otherwise, be in Hot Shutdown...." Also, the

specified grab sample frequency is changed from every 24 hours to every 12 hours.

- 3.1.5 Revision of TS 3.6.C.2.c to include an intermediate shutdown requirement by adding "...in Hot Shutdown within the next 12 hours and..." Additionally, add "the following" before "24 hours" such that TS 3.6.C.2.c reads as follows:

"With no required leakage detection systems Operable, be in Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours."

- 3.1.6 Revision of the frequency for TS Surveillance Requirement 4.6.C.2.b.1 to perform an instrument check from at least once "per day," to at least once "every 12 hours."

3.2 Staff Evaluation of Proposed Changes

3.2.1 Proposed Revision of TS 4.6.C.1

Since the drywell equipment drain sump monitoring system is being deleted from the TS (proposed change 3.1.2), the reference in TS 4.6.C.1 to TS 3.6.C.2 would be incomplete. Deletion of the phrase in TS 4.6.C.1 is considered an editorial change that is consistent with proposed change 3.1.2, enhances clarity and avoids potential misinterpretation. The resulting TSs would be consistent with the STS.

3.2.2 Proposed Revision of 3.6.C.2.a.1 and 4.6.C.2.a

The proposed revision to TS 3.6.C.2.a.1 and TS 4.6.C.2.a and its Bases results in removing requirements for the drywell equipment drain sump portion of the monitoring system from the TSs and relocating these requirements to the Pilgrim FSAR. The licensee states that the equipment drain sump monitoring instrumentation does not meet any of the criteria set forth in 10 CFR 50.36(c)(2)(ii).

The equipment drain sump monitoring instrumentation is not "instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary." This function is met by monitoring the unidentified leakage using the drywell floor drain sump monitoring equipment as well as the containment atmospheric monitoring instrumentation. The equipment drain sump monitoring instrumentation is used to monitor the leakage from known sources. The equipment drain sump monitoring instrumentation are not used as an initial condition of a design-basis accident or transient analysis that either assumes the failure of, or presents a challenge to, the integrity of a fission product barrier. The equipment drain sump monitoring instrumentation are not used as part of the primary success path which functions or actuates to mitigate a design-basis accident or transient. Operating experiences or probabilistic safety assessments have not shown the equipment drain sump monitoring instrumentation to be significant to public health and safety.

TS 4.6.C.1 requires the licensee to demonstrate that the drywell leakage is within specified limits. In order to comply with this requirement, the licensee currently uses the drain sump monitoring instrumentation to monitor identified leakage. By letter dated May 18, 2006 (ADAMS

Accession No. ML061210172), the NRC staff requested the licensee to explain how the total leakage limits as specified in TS 3.4.C.1.a.3 would be verified during plant operation. By letter dated June 14, 2006, the licensee responded that the drywell equipment drain sump will continue to be used to verify total leakage is within limits. In addition, the licensee stated that Pilgrim will use manual leak rate determination methods consistent with position (3) described in the NRC GL 88-01, Supplement 1.

The proposed relocated TSs are not required to be in TSs under 10 CFR 50.36 and do not meet any of the four criteria in the regulation. They are not needed to obviate the possibility that an abnormal situation or event will give rise to an immediate threat to the public health and safety. The NRC staff has also concluded that appropriate controls have been established for the specification, information, and requirements that are being relocated to the Pilgrim UFSAR. The relocation is the subject of a licensing commitment established in the licensee's submittal on June 2, 2005. Following implementation, the NRC will audit the removed provisions to ensure that an appropriate level of control has been achieved.

The NRC staff has concluded that, in accordance with the above, sufficient regulatory controls exist under the regulations, particularly 10 CFR 50.59. Accordingly, these specifications related to the equipment sump LCO may be relocated from Pilgrim TSs and placed in the Pilgrim FSAR Appendix B.2.

The licensee's submittal also stated that the equipment drain sump monitoring instrumentation functional test and calibration requirements specified in TS 4.6.C.2.a will be relocated to the FSAR. Additionally, changes from "one" and "each" to "the" drywell floor drain sump monitoring system are considered editorial changes that enhanced clarity without introducing any technical change. The resulting TSs will also be consistent with STS.

3.2.3 Proposed Revision of TS 3.6.C.2.b.1

Current TS 3.6.C.2.b.1 does not allow any repair time on discovery of the required drywell sump monitoring system being inoperable; requiring the plant to be in Hot Shutdown within 12 hours and Cold Shutdown within the following 24 hours. The licensee's proposed revision of TS 3.6.C.2.b.1 would provide a 30-day restoration time for the drywell sump monitoring system. This 30-day restoration time will add flexibility without a reduction in safety, which may allow for avoiding unnecessary plant shutdown transients.

TS 4.6.C.1 continues to require demonstration that drywell leakage is within limits once every 8 hours. By letter dated May 18, 2006, the NRC staff requested the licensee to explain how the total leakage limits as specified in TS 3.4.C.1.a.3 would be verified when the drain sump is inoperable. The licensee stated in its June 14, 2006, submittal that they will use manual leak rate determination method consistent with position (3) described in GL 88-01 Supplement 1. This method is valid for Pilgrim because sump volume is known and the sump has installed level instruments that can be used to calculate leak rates. The staff finds that the resulting TSs will be consistent with the STS.

3.2.4 Proposed Revision of 3.6.C.2.b.2

TS 3.6.C.2.b.2 allows a 31-day repair time on discovery that the required gaseous or particulate radioactivity monitoring channel is inoperable provided drywell atmosphere grab samples are analyzed every 24 hours.

The licensee proposes to make this repair time and grab sample frequency more restrictive by requiring restoration within 30 days provided grab samples are obtained and analyzed every 12 hours. The licensee stated that the proposed change will not impose an undue burden on the operating staff. This proposed change is consistent with that provided in the STS.

Additionally in TS 3.6.C.2.b.2, the licensee proposes to make several editorial changes for greater consistency with the STS. These editorial changes consist of replacing "provided grab samples are obtained and analyzed" with "provided drywell atmosphere grab samples are analyzed" and rewording "..., or be in Hot Shutdown..." to read "...; otherwise, be in Hot Shutdown...". These editorial changes involve no technical or administrative impact.

3.2.5 Proposed Revision of TS 3.6.C.2.c

The licensee proposed changes to TS 3.6.C.2.c, makes the TS more restrictive by also including an intermediate shutdown step, such that TS 3.6.C.2.c reads as follows:

"With no required leakage detection system Operable, be in Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours."

Each of the required actions throughout TS 3.6.C (i.e., 1.b, 1.c, 2.b.1, and 2.b.2), when imposing a requirement to proceed to Cold Shutdown, include an intermediate shutdown requirement "...be in Hot Shutdown within the next 12 hours." The proposed change to TS 3.6.C.2.c will provide consistency between shutdown requirements associated with reactor coolant leakage and leakage detection systems. This change is also consistent with actions provided in the STS, for Specification 3.4.6 Action E.

3.2.6 Proposed Revision of TS 4.6.C.2.b.1

Current TS Surveillance Requirement 4.6.C.2.b.1 requires an instrument check at a frequency of at least once per day. The licensee's proposed change makes this frequency more restrictive by requiring the instrument check to be performed at least once every 12 hours. The licensee stated that this change will not impose an undue burden on the operating staff. This proposed change is to require an instrument check frequency consistent with that provided in the STS.

The NRC staff finds that the changes and the TS relocation as discussed above are in compliance with the requirements of 10 CFR 50.36 and are consistent with the STS. Therefore, the staff finds that all the proposed changes are acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility

component located within the restricted area as defined in 10 CFR Part 20 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 (71 FR 29676). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Hernandez

Date: September 20, 2006

Pilgrim Nuclear Power Station

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