July 29, 2005

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

SUBJECT: PILGRIM NUCLEAR POWER STATION - ISSUANCE OF AMENDMENT RE: REVISED ACTION FOR SCRAM DISCHARGE VOLUME VENT AND DRAIN VALVES (TAC NO. MC5422)

Dear Mr. Kansler:

The Commission has issued the enclosed Amendment No. 216 to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated December 14, 2004.

The amendment revises TS 3.3.G, "Scram Discharge Volume (SDV)," for the condition of having one or more SDV vent or drain lines with inoperable valves. A notice of availability for this TS improvement using the consolidated line item improvement process was published in the *Federal Register* on April 15, 2003 (68 FR 18294).

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, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-293

Enclosures: 1. Amendment No. 216 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. 216
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 December 14, 2004, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter1;

   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. 216, 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/

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

Attachment: Changes to the Technical Specifications

Date of Issuance: July 29, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 216

FACILITY OPERATING LICENSE NO. DPR-35

DOCKET NO. 50-293

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

Remove	Insert
i	i
3/4.3-12	3/4.3-12
B 3/4.3-34	B 3/4.3-34
- - - -	B 3/4.3-34a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 216 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 December 14, 2004 (ADAMS Accession No. ML043560151) Entergy Nuclear Operations, Inc. (the licensee) submitted a request for changes to the Pilgrim Nuclear Power Station (PNPS) Technical Specifications (TSs). The changes are similar to the changes included in TSs Task Force (TSTF) change traveler TSTF-404 (Revision 0) that has been approved generically for the Boiling Water Reactor/4 (BWR) Standard Technical Specifications (STS), NUREG-1433. A notice announcing the availability of this proposed TS change using the consolidated line item improvement process was published in the *Federal Register* on April 15, 2003 (68 FR 18294).

2.0 REGULATORY EVALUATION

Nuclear Regulatory Commission (NRC or the Commission) regulations and review standards such as Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, include specific requirements for reactor protection and reactivity control systems. The reactor protection systems for BWRs use a hydraulic system to insert control rods into the reactor core. During an actuation of the reactor protection system (a scram), water is exhausted from the control rod drive mechanisms to the scram discharge volumes (SDVs). Proper maintenance and operation of the SDVs in terms of instrumentation and limiting water volumes are essential for assuring the reliability of the reactor protection system (see NRC Bulletin 80-17, "Failure of Control Rods to Insert During a Scram at a BWR," related Orders to specific facilities, and information provided in plant final safety analysis reports and TS Bases). Maintaining the SDVs to ensure that accumulated water does not hamper or slow the insertion of control rods requires vent and drain valves. The vent and drain valves isolate during a scram to limit the amount of coolant discharged so that adequate core cooling is maintained and offsite doses remain within regulatory limits.

Specific regulatory requirements for SDV vent and drain valves for PNPS are defined in TS 3.3.G, “Scram Discharge Volume”. The existing Limiting Condition for Operation 3.3.G requires that each SDV vent and drain valve be operable. The operability of all SDV vent and drain valves ensures that the SDV vent and drain valves will close during a scram to contain

reactor water discharged to the SDV piping. Since the vent and drain lines are provided with two valves in series, the single failure of one valve in the open position will not impair the isolation function of the system. Additionally, the valves are required to open on scram reset and during plant operation to control the amount of water accumulating in the SDV. If one or more SDV vent and drain lines have a single valve that is inoperable, the existing required action (Action A) is for the plant to be in hot shutdown within 12 hours.

In the STS and many TSs for plants similar to PNPS, if one or more SDV vent or drain lines have both valves inoperable, the associated line must be isolated within 8 hours. In this condition, the plants are allowed to operate indefinitely. A note associated with the required action clarifies that the valves may be opened under administrative controls to allow draining of the SDV. However, the STS and other plant TSs required restoration of a single inoperable valve within 7 days or be in hot shutdown within 12 hours. The existing SDV vent and drain valve required actions in the STS and many plant-specific TSs were inconsistent in that, although the operational and safety concerns are similar for having one or both valves in a line being inoperable, the actions for a single inoperable valve do not allow for the isolation of the line and administrative controls to support the draining of the SDV. This prompted the industry to submit TSTF-404 and subsequent incorporation of the change into the STS.

The proposed change would revise the required actions to be more consistent with the safety significance of inoperable valves in an SDV line. Although the existing PNPS TSs differ somewhat from the STS, the proposed changes reflect the incorporation of the approved TSTF-404 specification into the PNPS TSs.

3.0 TECHNICAL EVALUATION

The proposed changes to TS 3.3.G are to replace the current action requirement (be in hot shutdown within 12 hours if any SDV drain or vent valves are made or found inoperable) with Actions consistent with TSTF-404. These are:

A. With one or more SDV vent or drain lines with one valve inoperable, isolate* the associated line within 7 days.

B. One or more SDV vent or drain lines with both valves inoperable, isolate* the associated line within 8 hours.

C. Otherwise, be in HOT SHUTDOWN within the next 12 hours.

(*) An isolated line may be unisolated under administrative control to allow draining and venting of the SDV.

With one SDV vent or drain valve inoperable in one or more lines, the isolation function would be maintained since the redundant valve in the affected line would perform its safety function of isolating the SDV. The current ACTION statement requires the plant to be in hot shutdown within 12 hours if any SDV vent or drain valve is found or made inoperable. The proposed changes are to allow for the isolation of the affected line and continue operation. For a single inoperable valve, the revised Required Action A requires the affected line to be isolated within 7 days (or restore the inoperable valve), or the plant is required to proceed to MODE 3 in the next 12 hours. The 7-day completion time (CT) is acceptable because of the low probability of

the concurrent events of a scram within the 7 days of the CT and a failure of the redundant valves. Alternately, if the inoperable valve was initially closed, there would be ample time and warning available to drain the SDV before an automatic scram would occur due to SDV high level. The proposed addition of Required Action B to address both valves being inoperable in a vent or drain valve is likewise acceptable in that isolation of the affected line provides the safety function and the shorter completion time (8 hours versus 7 days) reflects the increased importance of addressing the problem when multiple valves are inoperable.

The allowance to administratively open a line that is isolated to comply with the actions (to permit draining and venting the SDV) allows any accumulated water in the line to be drained, to preclude a reactor scram on SDV high level. A reactor scram is initiated if the SDV water level in the instrument volume exceeds a specified setpoint. The setpoint is chosen so that all control rods are inserted before the SDV has insufficient volume to accept a full scram. Regarding the isolation of the SDV, the remaining operable SDV vent and drain valves would close automatically on a scram signal to isolate the lines. Alternatively, if both valves in a line were inoperable (and opened under this provision), the reactor coolant release could be terminated by resetting the scram from the control room, or by manually closing the valves. Resetting the scram automatically closes the scram outlet valves, isolating the control rod drive discharge path to the SDV. Based on the low probability of an event occurring during the defined CT associated with this condition, the subsequent isolation of the affected lines, and the ability to open and drain the lines before an automatic scram due to SDV high water level, the proposed changes maintain the necessary safety features and are, therefore, acceptable.

The licensee included in the application changes to the Bases Section for TS 3.3.G for information. The actual changes to the Bases Section will be made in accordance with the Bases Control Program. The NRC staff agrees that the TS Bases Control Program is the appropriate process for updating the affected TS Bases pages.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (70 FR 29792; May 24, 2005). 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: W. Reckley

Date: July 29, 2005

Pilgrim Nuclear Power Station

cc:

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