

January 30, 2007

Mr. David A. Christian
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SUBJECT: MILLSTONE POWER STATION, UNIT NO. 2 - ISSUANCE OF AMENDMENT
RE: REVISION TO TECHNICAL SPECIFICATIONS, PRESSURIZER WATER
LEVEL LIMITS (TAC NO. MD0527)

Dear Mr. Christian:

The Commission has issued the enclosed Amendment No. 296 to Facility Operating License No. DPR-65 for the Millstone Power Station, Unit No. 2, in response to your application dated March 17, 2006.

The amendment revises Technical Specification 3.4.4, "Reactor Coolant System Pressurizer," by replacing the existing maximum and minimum pressurizer water volume and water level limits with a maximum water level limit.

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/
Victor Nerses, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-336

Enclosures:

1. Amendment No. 296 to DPR-65
2. Safety Evaluation

cc w/encls: See next page

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ADAMS Accession Number: ML062920334

TS(s): ML070310146

Package: ML062920332

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Millstone Power Station, Unit No. 2

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DOMINION NUCLEAR CONNECTICUT, INC.

DOCKET NO. 50-336

MILLSTONE POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 296
License No. DPR-65

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Dominion Nuclear Connecticut, Inc., the licensee, dated March 17, 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 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.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-65 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 296 , 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 of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: January 30, 2007

ATTACHMENT TO LICENSE AMENDMENT NO.296

FACILITY OPERATING LICENSE NO. DPR-65

DOCKET NO. 50-336

Replace the following page of Facility Operating License No. DPR-65 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 page of the Appendix A, Technical Specifications, with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove
3/4 4-4

Insert
3/4 4-4

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 296
TO FACILITY OPERATING LICENSE NO. DPR-65
DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION, UNIT NO. 2
DOCKET NO. 50-336

1.0 INTRODUCTION

By application dated March 17, 2006, Dominion Nuclear Connecticut, Inc. (DNC or the licensee) requested Nuclear Regulatory Commission (NRC or the Commission) approval of changes to the Millstone Power Station, Unit No. 2 (MPS2) Technical Specifications (TSs). The amendment revises Technical Specification 3.4.4, "Reactor Coolant System Pressurizer," by replacing the existing maximum and minimum pressurizer water volume and water level limits with a maximum water level limit.

2.0 REGULATORY EVALUATION

The following regulatory requirements and guidance are applicable to the proposed TS changes discussed in the license amendment application.

General design criterion (GDC) 15, "Reactor Coolant System Design," in Appendix A to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50 states that the reactor coolant system (RCS) and associated auxiliary, control and protection systems be designed with sufficient margin to assure that the design conditions of the reactor coolant pressure boundary (RCPB) are not exceeded during any condition of normal operation, including the effects of anticipated operational occurrences (AOOs).

Additionally, the Commission's regulatory requirements related to the content of TSs are set forth in 10 CFR 50.36, "Technical Specifications." Specifically, 10 CFR 50.36(c)(2)(ii) sets forth four criteria to be used in determining whether a limiting condition for operation (LCO) is required to be included in TSs. The criteria are:

Criterion 1 - Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure;

Criterion 2 - A process variable, design feature, or operating restriction that is an initial condition of a design basis accident (DBA) 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 components (SSC) that is part of the primary success path and which functions or actuates to mitigate a DBA or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; and

Criterion 4 - An SSC which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

Following the 10 CFR 50.36 requirements, the Combustion Engineering (CE) Owners' Group developed Standard TSs (STs) documented in NUREG-1432, "Standard Technical Specifications for Combustion Engineering Plants," which is applicable to CE-designed plants, including MPS2.

The licensee's proposed change to the pressurizer level limits in TS 3.4.4a for MPS2 would remove ambiguity relative to parameters being monitored to support continuous plant operation. The NRC staff's evaluation of the TS changes was based on the results of the analysis of record in meeting the GDC 15 requirements, consistency with the NUREG-1432 guidance, and compliance with the screening criteria specified in 10 CFR 50.36.

3.0 TECHNICAL EVALUATION

The pressurizer for MPS2 was designed to:

- (1) provide sufficient water volume in the pressurizer to prevent uncovering the heaters as a result of a reactor trip or a loss-of-load accident;
- (2) provide sufficient steam volume to accept the reactor coolant insurge resulting from loss-of-load, without the water level reaching the safety and power-operated-relief-valve nozzles;
- (3) maintain RCS pressure such that the minimum pressure during operating transients is above the setpoint for the safety injection actuation signal;
- (4) provide sufficient water volume to prevent pressurizer heaters from being uncovered by the outsurge following a 10-percent step load decrease, or a 5-percent per minute ramp decrease; and
- (5) contain sufficient steam volume to yield acceptable pressure response to normal system volume changes during load change transients.

To satisfy the design purposes of the pressurizer discussed above, the licensee determined the upper and lower limits of the pressurizer water volume, and specified the limits in the current TS 3.4.4a, which stated that

- a. A water volume greater than or equal to 525 cubic feet (35%) but less than or equal to 1050 cubic feet (70%), and...

The licensee proposed to revise the current TS 3.4.4a to the following:

- a. Pressurizer water level \leq 70%, and...

The word "volume", in Surveillance Requirement (SR) 4.4.4.1, was proposed to be replaced with the word "level," to maintain consistency with the proposed TS changes.

The proposed TS 3.4.4a involved two changes:

- (1) to convert the pressurizer water volume upper limit of 1050 cubic feet to 70% of the pressurizer level indication, and
- (2) to delete the pressurizer water volume low limit of 525 cubic feet (35%).

The NRC staff reviewed the proposed changes and provided its evaluation in the following sections.

3.1 Pressurizer Water Level Upper Limit

TS 3.4.4a set an upper limit of 1050 cubic feet (70%) for pressurizer water volume. Since control room instruments indicated pressurizer water volume in percent, not in cubic feet, the licensee replaced the upper limit of 1050 cubic feet with an upper limit of 70% as read on the pressurizer level indicator. The upper pressurizer level limit was determined to prevent filling the pressurizer during AOOs, assuring that power-operated relief valves or pressurizer safety valves could control pressure by steam relief rather than water relief, thereby preventing a challenge to the integrity of a fission product barrier. As documented in Final Safety Analysis Report Chapter 14, the limiting AOOs analyzed with respect to pressurizer overfill was the loss of main feedwater (LMFW) event. The value of the initial pressurizer water level assumed in the LMFW event was 70% with an additional allowance for instrument inaccuracy.

The NRC staff found that: (1) the proposed upper limit of 70% for the pressurizer level was specified in the current TS; (2) the limit adequately reflected the value for the initial pressurizer water level used in the analysis of record for the limiting (LMFW) event that addressed the pressurizer overfill issue in meeting the GDC 15 requirements; and (3) the percentage used for the pressurizer water volume limit was consistent with NUREG-1432 that used the percentage for the maximum pressurizer level as specified in STS 3.4.9. Therefore, the NRC staff concluded that the proposed upper limit for the pressurizer level was acceptable.

3.2 Deletion of the Pressurizer Water Volume Low Limit of 525 Cubic Feet

TS 3.4.4a set a low limit of 525 cubic feet (35%) for pressurizer water volume. The current low pressurizer limit was determined to prevent uncovering the pressurizer heaters in order to maintain steady state operation. The licensee indicated that maintaining steady state operation with pressurizer heaters uncovered was not feasible, as RCS subcooling could not be maintained at the desired level in the long term due to heat loss. Since the current low pressurizer level limit was not an initial condition of a design-basis event, and deletion of the low limit would not affect the analysis of record for the design-basis events, the licensee proposed to delete the low limit for the pressurizer water limit from TS 3.4.4a.

Based on its review, the NRC staff found that the proposed deletion was consistent with NUREG-1432 in the TS format, upper limit requirements, and unit used for the upper pressurizer level limit. Specifically, Section 3.4.9, "Pressurizer," of NUREG-1432, stated that:

The pressurizer shall be OPERABLE with:

- a. Pressurize water level < [60]% and...

The number in the bracket is a plant-specific number for the maximum pressurizer level. There is no requirement for a low pressurizer level limit, and the unit used in the pressurizer level upper limit is "%."

In addition, the NRC staff found that the deletion of the low pressurizer level limit from TS 3.4.4a satisfied the four screening criteria specified in 10 CFR 50.36(c)(2)(ii) for TS LCO, since the low limit was

- (1) not an installed instrumentation used to detect and indicate a significant abnormal degradation of the RCPB (Criterion 1);
- (2) not a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient analysis (Criterion 2);
- (3) not an SSC that is part of the primary success path and which functions or actuates to mitigate a DBA or transient (Criterion 3);
- (4) not an SSC which operating experience or probabilistic risk assessment has shown to be significant to public health and safety (Criterion 4).

Therefore, the NRC staff concluded that the proposed deletion of the low limit for the pressurizer level from TS 3.4.4a was acceptable .

3.3 SR 4.4.4.1

The licensee proposed to replace the word "volume" in SR 4.4.4.1 with the word "level" to maintain consistency with the proposed TS 3.4.4a. The NRC staff determined that the change was an editorial change in nature and, therefore, was acceptable.

4.0 SUMMARY

Based on the considerations discussed in Section 3 above, the NRC staff determined that: (1) the proposed upper limit for the pressurizer level adequately reflected the analysis of the record for the limiting (LMFW) event that satisfied the GDC 15 requirements; (2) the proposed deletion of the low limit for the pressurizer level did not affect the analysis of record for design-basis events; (3) the proposed TS change was consistent with Section 3.4.9 of NUREG 1432 in the TS format and requirements for an upper pressurizer level limit; and (4) the TS change satisfied the four screening criteria specified in 10 CFR 50.36(c)(2)(ii) for TS LCOs. Therefore, the NRC staff concluded that the proposed TS 3.4.4a and associated SR 4.4.4.1 relating to the limit for the pressurizer level were acceptable for MPS2 operation.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Connecticut State official was notified of the proposed issuance of the amendment. The Connecticut State official agreed with the NRC staff's conclusion as stated in Section 7 of this Safety Evaluation.

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes requirements 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 (71 FR 65141). 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.

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) 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: S. Sun

Date: January 30, 2007