

September 18, 2007

Mr. David A. Christian  
Sr. Vice President and Chief Nuclear Officer  
Dominion Nuclear Connecticut, Inc.  
Innsbrook Technical Center  
5000 Dominion Boulevard  
Glen Allen, VA 23060-6711

SUBJECT: MILLSTONE POWER STATION, UNIT NOS. 2 AND 3 - ISSUANCE OF  
AMENDMENTS RE: TECHNICAL SPECIFICATION CHANGE REQUEST FOR  
USE OF GENERIC TERMINOLOGY FOR EMERGENCY CORE COOLING  
SYSTEMS CONTAINMENT SUMP STRAINERS  
(TAC NOS. MD2943 AND MD2944)

Dear Mr. Christian:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 300 to Facility Operating License No. DPR-65 for the Millstone Power Station, Unit No. 2 (MPS2), and the enclosed Amendment No. 240 to Facility Operating License No. NFP-49 for the Millstone Power Station, Unit No. 3 (MPS3), in response to your application dated September 1, 2006.

The amendment revises the Technical Specifications Surveillance Requirements 4.5.2.j for MPS2, and the Technical Specifications Surveillance Requirements 4.5.2.d.2 for MPS3, to make editorial changes to replace the terms "trash racks and screens" with the term "strainers."

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/*

John G. Lamb, Senior Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-336  
50-423

Enclosures:

1. Amendment No. 300 to DPR-65
2. Amendment No. 240 to NPF-49
3. Safety Evaluation

cc w/encls: See next page

Millstone Power Station, Unit Nos. 2 and 3

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Dear Mr. Christian:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 300 to Facility Operating License No. DPR-65 for the Millstone Power Station, Unit No. 2, (MPS2) and the enclosed Amendment No. 240 to Facility Operating License No. NFP-49 for the Millstone Power Station, Unit No. 3 (MPS3) in response to your application dated September 1, 2006.

The amendment revises the Technical Specifications Surveillance Requirements 4.5.2.j for MPS2, and the Technical Specifications Surveillance Requirements 4.5.2.d.2 for MPS3, to make editorial changes to replace the terms "trash racks and screens" with the term "strainers."

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cc w/encls: See next page

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OFFICE	LPLI-2/PM	LPLI-2/LA	LPL2-2/LA	SSIB/BC	EMCB/BC (no review areas within EMCB)
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DATE	9/7/07	9/13/07	9/18/07

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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. 300  
License No. DPR-65

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the applicant dated September 1, 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 Title 10 of the *Code of Federal Regulations* (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. 300 , 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 30 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 License  
and Technical Specifications

Date of Issuance: September 18, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 300

FACILITY OPERATING LICENSE NO. DPR-65

DOCKET NO. 50-336

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

Remove

Insert

Page 3

Page 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

Insert

3/4 5-5

3/4 5-5

DOMINION NUCLEAR CONNECTICUT, INC., ET AL.

DOCKET NO. 50-423

MILLSTONE POWER STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 240  
License No. NPF-49

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the applicant dated September 1, 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 Title 10 of the *Code of Federal Regulations* (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. NPF-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 240 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated in the license. Dominion Nuclear Connecticut, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of issuance, and shall be implemented within 30 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 License  
and Technical Specifications

Date of Issuance: September 18, 2007



ATTACHMENT TO LICENSE AMENDMENT NO. 240

FACILITY OPERATING LICENSE NO. NPF-49

DOCKET NO. 50-423

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

Remove

Insert

Page 4

Page 4

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

3/4 5-5

3/4 5-5

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 300 & 240

TO FACILITY OPERATING LICENSE NOS. DPR-65 AND NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.

MILLSTONE POWER STATION, UNIT NOS. 2 AND 3

DOCKET NOS. 50-336 AND 50-423

1.0 INTRODUCTION

By letter dated September 1, 2006, the Dominion Nuclear Connecticut, Inc. (DNC), the licensee, submitted a request for changes to the Millstone Power Station, Unit Nos. 2 (MPS2), and 3 (MPS3), Technical Specifications (TSs). The requested changes would revise the TSs Surveillance Requirements (SR) 4.5.2.j for MPS2, and the TSs SR 4.5.2.d.2 for MPS3, to replace the terms "trash racks and screens" with the term "strainers."

In a letter dated September 13, 2004, the U. S. Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized Water Reactors." The GL identified a potential susceptibility of recirculation flow paths and sump screens to debris blockage. The GL requested that addressees perform an evaluation of the emergency core cooling system (ECCS) and containment spray system (CSS) recirculation functions in light of the information provided in the letter and, if appropriate, take additional actions to ensure system function. Based on results from debris generation and transport analyses, the licensee concluded that replacement of the existing debris screens will be required to meet the applicable regulatory requirements discussed in GL 2004-02.

The proposed revision to SR 4.5.2 is intended to reflect the revised terminology associated with the fall 2006 for MPS2 and the spring 2007 for MPS3 replacements of the existing sump screen and trash racks with a strainer assembly. The licensee has proposed to revise SR 4.5.2 to replace the phrase "trash racks and screens" with the word "strainers."

2.0 EVALUATION

The licensee has proposed a change to SR 4.5.2, which covers the periodic inspection of the containment sump screen assembly and trash racks relied upon by the ECCS and CSS for long-term functionality. The licensee's September 1, 2005, response to GL 2004-02 describes the NRC's requirements regarding the long-term functionality of the ECCS and CSS that are applicable to Millstone Power Station. The regulatory requirements pertinent to the proposed TS change are summarized below.

Enclosure

Paragraph (b)(5) of 10 CFR 50.46, Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors, states: "After any calculated successful initial operation of the ECCS [emergency core cooling system], the calculated core temperature shall be maintained at an acceptably low value and decay heat shall be removed for the extended period of time required by the long-lived radioactivity remaining in the core."

The basis for pressurized-water reactor (PWR) licensees to demonstrate compliance with the above requirement is documented in GL 2004-02. The primary purpose of GL 2004-02 was to request that PWR licensees evaluate the performance of their containment recirculation sumps and implement any modifications necessary to ensure compliance with applicable regulatory requirements on a mechanistic basis in light of the technical issues associated with Generic Safety Issue 191 (GSI-191), "Assessment of Debris Accumulation on PWR Sump Performance." The GL requested that PWR licensees complete actions necessary for compliance with applicable regulatory requirements using the updated information associated with GSI-191 by December 31, 2007. Prior to this date, GL 2004-02 concluded that licensees' compliance with their current licensing bases was sufficient to support continued plant operation.

This safety evaluation reviews the licensee's proposed TS change. Assurance that PWR licensees' proposed sump modifications are adequate in light of the technical issues associated with GSI-191 will be provided separately through the NRC staff's review of GL 2004-02 supplemental responses, through selected sample audit reviews of PWR licensees' sump performance calculations, and through reviews of standardized industry guidance and vendor practices.

## 2.1 Proposed TS Change

### 2.1.1 MPS2

Currently, MPS2 TS SR 4.5.2.j reads as follows:

At least once per 18 months by verifying through visual inspection of the containment sump that each Emergency Core Cooling System subsystem suction inlet is not restricted by debris and the suction inlet **trash racks and screens** show no evidence of structural distress or abnormal corrosion.

The licensee has proposed the following revision to SR 4.5.2.j:

At least once per 18 months by verifying through visual inspection of the containment sump that each Emergency Core Cooling System subsystem suction inlet is not restricted by debris and the suction inlet **strainers** show no evidence of structural distress or abnormal corrosion.

The licensee is replacing the phrase "trash racks and screens" with the word "strainers."

The licensee indicated that the proposed revisions would not fundamentally alter the current inspection practice required by SR 4.5.2.j. Specifically, the licensee will continue to be required to visually inspect the containment sump suction inlet to verify that it is not restricted by debris and that its debris filters show no evidence of structural distress or abnormal corrosion.

### 2.1.2 MPS3

Currently, MPS3 TS SR 4.5.2.d.2 reads as follows:

[At least once per 24 months: ...] A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (**trash racks, screens**, etc.) show no evidence of structural distress or abnormal corrosion.

The licensee has proposed the following revision to SR 4.5.2.d.2:

[At least once per 24 months: ...] A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (**strainers**, etc.) show no evidence of structural distress or abnormal corrosion.

The licensee is replacing the phrase “trash racks and screens” with the word “strainers.”

The licensee indicated that the proposed revisions would not fundamentally alter the current inspection practice required by SR 4.5.2.d.2. Specifically, the licensee will continue to be required to visually inspect the containment sump suction inlet to verify that it is not restricted by debris and that its debris filters show no evidence of structural distress or abnormal corrosion.

### 2.2 Description of the Strainer System for MPS2&3

The strainer systems are constructed of corrosion resistant stainless steel materials. The fins are made of thin corrugated stainless steel perforated with 1/16-inch holes. The strainer size is increased to accommodate the new postulated debris loading and the resulting increased pressure drop across the strainer. The total filtration surface area of the strainer is approximately 6000 square feet for the MPS2 design and is estimated to be approximately 4600 square feet for the MPS3 design. The strainer hole size is decreased from 3/32-inch holes to 1/16-inch round holes to reduce the amount of material that bypasses the strainer fins either by working its way through the holes in the case of fiber or by passing through the holes in the case of small particulate.

### 2.3. Licensee Justification for Proposed TS Change

The licensee’s submittal indicated that the replacement of “trash racks and screens” with “strainers” in SR 4.5.2 provides a more appropriate description of the sump configuration after the installation of a larger strainer assembly to address GL 2004-02.

The licensee stated that the replacement strainer assembly is functionally equivalent to the old trash racks and screen for meeting the requirements of 10 CFR 50.46(b)(5) for long-term

reactor core cooling, and that based upon the sump performance evaluation conducted in response to GL 2004-02, the design function of the trash racks was not considered necessary since the replacement sump strainers have been installed.

## 2.4 NRC Staff Evaluation

In determining the adequacy of the licensee's proposed TS change, the NRC staff's evaluation considered whether the replacement strainer assembly is capable of fulfilling the design functions of the old screen and trash rack configuration under the current licensing basis.

The replacement strainer assembly does not have a trash rack or screen to intercept debris prior to its arrival on the strainer surfaces. Nevertheless, the staff considers the replacement strainer configuration as meeting the intent of the sump performance licensing basis, because the filtration capacity associated with the replacement strainers' large, complex surface is significantly in excess of the filtration capacity associated with the old screen assembly and trash racks. Because of its robust construction, the new strainer does not require use of a trash rack to intercept large debris.

Based upon the above discussion, the NRC staff considers the strainers to be functionally equivalent to the old screen assembly and trash racks under the non-mechanistic current licensing basis for satisfying the requirements of 10 CFR 50.46(b)(5) for long-term reactor core cooling. Consistent with the intent of GL 2004-02, current licensing basis compliance is sufficient until December 31, 2007. No later than this date, the NRC staff has requested that licensees complete modifications to their licensing bases for containment recirculation sump performance to ensure consistency with the mechanistic methodology associated with GSI-191. Assurance that the licensee's replacement strainer design is adequate for satisfying the intent of GL 2004-02 will be provided by the NRC staff's regulatory activities regarding GL 2004-02 and GSI-191, including reviews of licensees' supplemental responses to GL 2004-02, sample audits of licensees' sump performance calculations, and reviews of generic industry guidance and practices. Therefore, the NRC staff considers the licensee's proposed replacement of "trash racks and screens" with "strainers" in SR 4.5.2 to be acceptable.

## 2.5 Summary

The NRC staff has reviewed the licensee's proposed revisions to SR 4.5.2 of the MPS2&3 TS. As described above, the proposed revisions would clarify terminology associated with the strainers and sump configuration. The licensee will continue to be required to visually inspect the containment sump suction inlet with an 18-month frequency for MPS2, and a 24-month frequency for MPS3, to verify that it is not restricted by debris and that its debris filters show no evidence of structural distress or abnormal corrosion. The staff determined that, under the current licensing basis, the replacement strainers are functionally equivalent to the old trash racks and screen assembly for satisfying 10 CFR 50.46(b)(5) for long-term reactor core cooling. In addition, the NRC staff noted that generic review activities associated with GL 2004-02 will provide assurance that PWR licensees' strainer designs are adequate to satisfy applicable regulatory requirements in accordance with the mechanistic criteria associated with GSI-191. Based upon these findings, the NRC staff concludes that the proposed revisions to SR 4.5.2 are acceptable.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Connecticut State official was notified of the proposed issuance of the amendment. The State official agreed with the NRC staff's assessment.

### 4.0 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 62308). 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.

### 5.0 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. Reyes

Date: September 18, 2007