

February 28, 2007

Mr. David A. Christian
Sr. Vice President and Chief Nuclear Officer
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SUBJECT: MILLSTONE POWER STATION, UNIT NO. 3 - ISSUANCE OF AMENDMENT
RE: AUXILIARY FEEDWATER SYSTEM ALLOWED OUTAGE TIME
(TAC NO. MD0029)

Dear Mr. Christian:

The Commission has issued the enclosed Amendment No. 235 to Facility Operating License No. NPF-49 for the Millstone Power Station, Unit No. 3, in response to your application dated February 7, 2006, as supplemented by letters dated August 14, 2006, and January 2, 2007. The amendment makes a change to the Technical Specifications to increase the allowed outage time from 72 hours to 7 days for the inoperability of the steam supply to the turbine-driven auxiliary feedwater (AFW) pump or the inoperability of the turbine-driven AFW under certain operating mode restrictions.

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/ G. E. Miller for

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

Docket No. 50-423

Enclosures:

1. Amendment No. 235 to NPF-49
2. Safety Evaluation

cc w/encls: See next page

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Official Record Copy

Millstone Power Station, Unit No. 3

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DOMINION NUCLEAR CONNECTICUT, INC.

DOCKET NO. 50-423

MILLSTONE POWER STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 235
License No. NPF-49

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Dominion Nuclear Connecticut, Inc. (the licensee) dated February 7, 2006, as supplemented on August 14, 2006, and January 2, 2007, 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. 235, 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 License and Technical
Specifications

Date of Issuance: February 28, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 235

FACILITY OPERATING LICENSE NO. NPF-49

DOCKET NO. 50-423

Replace the following page of Facility Operating License No. NPF-49 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Remove

4

Insert

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

3/4 7-4

3/4 7-5

Insert

3/4 7-4

3/4 7-5

3/4 7-5a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 235

TO FACILITY OPERATING LICENSE NO. NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.

MILLSTONE POWER STATION, UNIT NO. 3

DOCKET NO. 50-423

1.0 INTRODUCTION

By letter dated February 7, 2006 (Agencywide Documents Access and Management System Accession Number ML060460361), as supplemented by letters dated August 14, 2006, and January 2, 2007 (Accession Numbers ML062270634 and ML070030072, respectively), Dominion Nuclear Connecticut, Inc. (DNC, the licensee) submitted a request for changes to the Millstone Power Station, Unit No. 3 (MPS3) Technical Specifications (TSs) to the Nuclear Regulatory Commission (NRC or the Commission). The license amendment request (LAR) proposed to revise Section 3.7.1.2 of the current custom TSs (CTSs) for MPS3 to increase the allowed outage time from 72 hours to 7 days for the inoperability of the turbine-driven auxiliary feedwater (AFW) pump under certain conditions, and makes other minor changes. The proposed changes are based on the NRC-approved TS Task Force Change Traveler (TSTF) 340, Revision 3, and TSTF 439, Revision 2.

The supplements dated August 14, 2006, and January 2, 2007, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on April 11, 2006 (71 FR 18372).

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix A, General Design Criterion (GDC) 34 and GDC 44 reflect the design basis for the MPS3 AFW system with respect to decay heat removal. GDC 34 specifies, in part, that the system safety function shall be to transfer fission product decay heat and other residual heat from the reactor core at a rate such that specified acceptable fuel design limits and the design conditions of the reactor coolant pressure boundary are not exceeded. GDC 44 for cooling water specifies, in part, that a system to transfer heat from structures, systems, and components important to safety, to an ultimate heat sink shall be provided. Both GDCs specify that suitable redundancy in components and features, interconnections, and isolation capabilities shall be provided

TS Limiting Conditions for Operation (LCOs) are defined by 10 CFR 50.36(c)(2)(i) as the lowest functional capability or performance levels of equipment required for safe operation of the facility. Further, when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial actions permitted by the TS until the condition can be met.

10 CFR 50.36(c)(3) states that Surveillance Requirements (SRs) are requirements related to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

3.0 TECHNICAL EVALUATION

System Description

The MPS3 AFW systems consist of two motor-driven AFW pumps and one steam turbine driven AFW (TDAFW) pump. The TDAFW pump has a capacity of 1150 gpm at 2975 feet total developed head (tdh) and the two motor-driven pumps have a 575 gpm capacity each at 2975 feet tdh. The motor-driven AFW pumps automatically start upon receipt of an automatic AFW actuation signal. The TDAFW pump starts automatically by a different set of actuation signals. Both can be started remotely by operator action at the main control board or at the steam supply board or the switchgear, as appropriate. The MPS3 TDAFW pump design includes three steam supplies, one each from the A, B, and D steam generators (SGs). Each of the TDAFW pump steam supply lines is sized to provide 100 percent of the steam flow that is necessary for operating the TDAFW pump at full capacity. The AFW pumps normally take suction from the demineralized water storage tank (DWST).

The AFW system supplies feedwater to the SGs to remove decay heat from the reactor coolant system upon a loss of normal feedwater, assuming the worst case single failure. In addition, the AFW system is an important mitigation system for other accidents, such as a small-break loss-of-coolant accident. The AFW system also supplies feedwater to the SGs during normal unit startup, shutdown, and hot standby conditions. In order for the AFW system to satisfy flow requirements for the most limiting accident analyses assuming a single failure, at least three independent SG AFW pumps and associated flow paths shall be operable: with two motor-driven feedwater pumps and one steam-driven pump.

Additional clarifications about the operation of the system were provided during a conference call on November 9, 2006. The conference call was documented in a letter to the NRC, dated January 2, 2007, which included revised changes to the AFW TSs. A description of each proposed change and the NRC staff's evaluation follows.

MPS3 TS 3.7.1.2, Proposed Condition A

The licensee proposed a new Condition A that addresses the inoperability of the TDAFW pump due to one of the two required steam supplies being inoperable. The allowed outage time for this condition is set to 7 days, consistent with the TSTFs. If operability is not restored in the allowed time, the licensee must transition to Mode 3 within the next 6 hours and continue to Mode 4 within the following 12 hours, which also is consistent with the TSTFs. The format is modified to be more consistent with the current revisions of the MPS3 CTS.

During the November 2006 conference call, the licensee agreed to re-word the condition to ensure no possible conflict with the operable condition requirements of the steam supply was created. While only one supply is physically required to power the TDAFW pump over its entire range, two are required for the steam supply to be considered operable and, therefore, the pump to be considered operable. This is due to the fact that certain events that require operation of the AFW system for mitigation may also result in loss of one steam supply, such as a high-energy line break that results in depressurization of the associated SG.

The 7-day allowed outage time is acceptable based on the full capability of the single steam supply and the low probability of a design-basis accident event requiring AFW system operation that causes the coincident loss of the remaining steam supply. The required time to transition to Modes 3 and 4 are consistent with an orderly shutdown.

The proposed change extends the allowed outage time for the given condition while ensuring safe operation of the facility with respect to the AFW system. Therefore, the proposed TS revision will continue to meet 10 CFR 50.36(c)(2)(i) and is therefore acceptable to the NRC staff.

MPS3 TS 3.7.1.2, Proposed Condition B

A new Condition B is proposed that is only applicable immediately after a refueling outage when Mode 2 has not been entered. The allowed outage time of the TDAFW for this condition is set to 7 days, consistent with the TSTFs. If operability is not restored in the allowed time, the licensee must transition to Mode 4 within the following 12 hours, which also is consistent with the TSTFs. The format is modified to be internally consistent with the MPS3 CTS.

In this specific, well-defined condition, the decay heat produced by the fuel in the reactor vessel is very low because approximately one-third of the fuel is new and the remaining fuel has decayed for many days. A single motor-driven AFW pump provides adequate feed to the SGs to remove the limited decay heat present in this well-defined situation. The proposed 7-day allowed outage time is acceptable because the motor-driven AFW system would be able to perform its function for most postulated events, and would only be challenged by very low probability events, such as an extended station blackout condition. Additionally, the required time to transition to Modes 4 is consistent with an orderly shutdown.

The proposed change extends the allowed outage time for the given condition while ensuring safe operation of the facility with respect to the AFW system. Therefore, the proposed TS revision will continue to meet 10 CFR 50.36(c)(2)(i) and is therefore acceptable to the NRC staff.

MPS3 TS 3.7.1.2, Proposed Condition C

A new Condition C is proposed for when one AFW pump is inoperable due to reasons other than those described in Condition A or B and the plant is in MODE 1, 2, or 3. Proposed Action C requires restoration of the pump to operable status within 72 hours. If unable to restore to the pump to operable status, then the plant must transition to Mode 3 within the following 6 hours and Mode 4 within the following 12 hours. These requirements are generally consistent

with the existing Condition A of TS 3.7.1.2 in the MPS3 CTS. The new condition action statement extends the time to cool down to Mode 4, after reaching Mode 3, from 6 hours to 12 hours. This time frame is consistent with an orderly shutdown.

The proposed change is consistent with the current MPS3 TSs, with the exceptions evaluated for Conditions A and B. The allowed outage time for the given condition will continue to ensure safe operation of the facility with respect to the AFW system. Thus, the proposed TS revision will continue to meet 10 CFR 50.36(c)(2)(i) and is therefore acceptable to the NRC staff. Therefore, the change is acceptable.

MPS3 TS 3.7.1.2, Proposed Condition D

A new Condition D is proposed for when two AFW pumps are inoperable in Modes 1, 2, or 3. Proposed Condition D requires the plant to transition to Mode 3 within 6 hours. These requirements are consistent with the existing Condition B of TS 3.7.1.2 in the MPS3 CTS. If the inoperability continues, the plant must continue to Mode 4 within the following 12 hours. The new condition action statement extends the time to cool down to Mode 4, after reaching Mode 3, from 6 hours to 12 hours.

The proposed change maintains the currently required actions for the given condition while extending the required time to reach Mode 4 from 3 to 6 hours. The NRC staff has reviewed this change and finds that the proposed TS will continue to ensure safe operation of the facility with respect to the AFW system. Therefore, the proposed TS revision will continue to meet 10 CFR 50.36(c)(2)(i) and is therefore acceptable to the NRC staff.

MPS3 TS 3.7.1.2, Proposed Condition E

Proposed Condition E directs that no Mode changes be initiated with three AFW pumps inoperable. It is applicable in Modes 1, 2, or 3. It requires immediate action be undertaken to restore at least one pump to operable status and suspends all other LCOs that would require a mode change until one pump is restored to operable status. It is identical to existing Condition C of TS 3.7.1.2 in the MPS3 CTS. Therefore, the change is acceptable.

MPS3 TS 4.7.1.2.1 Proposed Surveillance Requirements

The 31-day requirement to verify the position of the valves in the AFW and Steam Supply flow path is reworded by replacing the required verification of all control and isolation valves being open with an allowance that they may be closed if they are capable of being manually realigned to the AFW mode of operation.

This change requires verification of AFW system operability at the same frequency as the current TSs. The allowance for the system to be considered operable in the situation where control and isolation valves are out of alignment, provided they can be manually realigned, would continue to allow the system to perform its design function. The NRC staff has reviewed the proposed SR and finds that it will continue to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met, thus meeting 10 CFR 50.36(c)(3). The proposed change is therefore acceptable.

4.0 SUMMARY

Based on the information provided and considerations discussed above, the NRC staff finds that the proposed revision to MPS3 TS 3.7.1.2 will continue to meet 10 CFR 50.36(c)(2)(i) and 10 CFR 50.36(c)(3) and are therefore acceptable.

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 7.0 of this Safety Evaluation.

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to 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 change 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 18372). Accordingly, the amendment meets the eligibility criteria for categorical exclusion as 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 NRC staff concludes 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 activity will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not inimical to the common defense and security or health and safety of the public.

Principal Contributor: T. Herrity

Date: February 28, 2007