

December 27, 2000

Mr. R. G. Lizotte
Master Process Owner - Assessment
c/o Mr. David A. Smith
Northeast Nuclear Energy Company
P. O. Box 128
Waterford, CT 06385-0128

SUBJECT: MILLSTONE NUCLEAR POWER STATION, UNIT NOS. 2 AND 3 - ISSUANCE
OF AMENDMENT RE: REACTIVITY CONTROL SYSTEMS (TAC NOS. MA9329
AND MA9330)

Dear Mr. Lizotte:

The Commission has issued the enclosed Amendment Nos. 253 and 191 to Facility Operating License Nos. DPR-65 and NPF-49 for the Millstone Nuclear Power Station, Unit Nos. 2 and 3, respectively, in response to your application dated June 26, 2000.

The amendments revise technical specifications (TSs) 3/4.1.3.1, "Reactivity Control Systems, Movable Control Assemblies, Full Length CEA Position" for Millstone Unit 2 and 3/4.1.3.1, "Reactivity Control Systems, Movable Control Assemblies, Group Heights" for Millstone Unit 3. Specifically, the changes would revise the frequency of determining the operability of each rod not inserted fully in the core from once every 31 days to once every 92 days for Units 2 and 3. These changes implement the recommendation of U.S. Nuclear Regulatory Commission (NRC) Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation." In addition, the surveillance requirement associated with the frequency of testing the Control Element Assembly Deviation Circuit included in TS 3/4.1.3.1 for Unit 2 will be revised from once every 31 days to once every 92 days. This change is consistent with the NRC-Nuclear Energy Institute Technical Specification Task Force, 127, Rev. 1, changes to NUREG-1432, "Standard Technical Specifications - Combustion Engineering Plants," Revision 1, dated April 1995.

R. Lizotte

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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/

Jacob I. Zimmerman, Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-336 and 50-423

Enclosures: 1. Amendment No. 253 to DPR-65
2. Amendment No. 191 to NPF-49
3. Safety Evaluation

cc w/encls: See next page

R. Lizotte

- 2 -

December 26, 2000

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

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cc w/encls: See next page

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Millstone Nuclear Power Station
Units 2 and 3

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Millstone Nuclear Power Station
Units 2 and 3

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NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

DOCKET NO. 50-336

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 253
License No. DPR-65

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Northeast Nuclear Energy Company, et al. (the licensee) dated June 26, 2000, 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. 253, 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

B. C. Buckley for

James W. Clifford, 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: December 27, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 253

FACILITY OPERATING LICENSE NO. DPR-65

DOCKET NO. 50-336

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

Insert

3/4 1-22

3/4 1-22

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

DOCKET NO. 50-423

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 191
License No. NPF-49

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Northeast Nuclear Energy Company, et al. (the licensee) dated June 26, 2000, 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. NPF-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 191, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated in the license. The licensee 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 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

B. C. Buckley for

James W. Clifford, 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: December 27, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 191

FACILITY OPERATING LICENSE NO. NPF-49

DOCKET NO. 50-423

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

Insert

3/4 1-21

3/4 1-21

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 253 AND 191

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

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

MILLSTONE NUCLEAR POWER STATION, UNIT NOS. 2 AND 3

DOCKET NOS. 50-336 AND 50-423

1.0 INTRODUCTION

By letter dated June 26, 2000, the Northeast Nuclear Energy Company, et al. (NNECO/licensee), submitted a request for changes to the Millstone Nuclear Power Station, Unit Nos. 2 and 3 (MP2 and MP3) Technical Specifications (TSs). The requested changes would revise TSs 3/4.1.3.1, "Reactivity Control Systems, Movable Control Assemblies, Full Length CEA Position" for MP2 and 3/4.1.3.1, "Reactivity Control Systems, Movable Control Assemblies, Group Heights" for MP3. Specifically, the changes would revise the frequency of determining the operability of each rod not inserted fully in the core from once every 31 days to once every 92 days for MP2 and MP3. These changes implement the recommendation of U.S. Nuclear Regulatory Commission's (NRC) Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation." In addition, the surveillance requirement associated with the frequency of testing the Control Element Assembly Deviation Circuit which is also contained in TS 3/4.1.3.1 for MP2 will be revised from once every 31 days to once every 92 days for Unit 2. This change is consistent with the NRC-Nuclear Energy Institute Technical Specification Task Force (TSTF) 127, Rev. 1, changes to NUREG-1432, "Standard Technical Specifications - Combustion Engineering Plants," Revision 1, dated April 1995.

2.0 BACKGROUND

NUREG-1366, "Improvements to Technical Specification Surveillance Requirements," December 1992, reported the TS line-item improvements that were identified by the NRC staff. The TS improvements were based on an NRC study of surveillance requirements (SR) and included information provided by licensee personnel that plan, manage, and perform surveillances. The study included insights from a qualitative risk assessment of SRs based on the standard TSs for Westinghouse plants and the TS for the Edwin I. Hatch Nuclear Plant, Unit 2. The staff examined operational data from licensee event reports, the nuclear plant reliability data system and other sources to assess the effect of TS SRs on plant operation. The staff evaluated the effect of longer surveillance intervals to reduce the possibility for plant transients, wear on equipment, personnel radiation exposure, and burden on personnel resources. Finally, the staff considered surveillance activities for which the safety benefits are

small and not justified when compared to the effects of these activities for which the safety benefits are small and not justified when compared to the effects of these activities on the safety of personnel and the plant. The NRC staff issued guidance on the proposed TS changes to all holders of operating licenses or construction permits for nuclear power plants in GL 93-05, September 27, 1993.

3.0 EVALUATION

NNECO has proposed to modify TS SRs for MP2 and MP3 as discussed below.

3.1 TS SR 4.1.3.1.2

TS SR 4.1.3.1.2 for MP2 and MP3 would be revised by decreasing the frequency for determining the operability of each rod that is not fully inserted in the core from once every 31 days to once every 92 days during MODES 1 and 2. The licensee's proposed change is to the surveillance frequency only, and does not change the way the surveillance is performed.

The MP2 and MP3 TSs currently require the rods to be tested once every 31 days, at power, to assure that they are not stuck so that if a scram signal opens the trip breakers, the rods will drop into the core. This test is performed to determine if the control rods are movable. The control rods may be immovable either because of an electrical problem in the control rod drive circuitry or because the control rod is mechanically stuck. The TSs allow operation with an immovable control rod as long as the control rod can be tripped and the requirements for rod misalignment and rod insertion limits are met.

Industry experience, as reported in NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," reveals the following:

- 1) The purpose of pressurized water reactor (PWR) control rod movement tests is to detect rods that cannot move.
- 2) Most stuck rods are discovered during plant startup, during initial pulling of the rods, or during drop testing.
- 3) Control rod tests at power cause reactor trips, dropped rods, and unnecessary challenges to safety systems.

The report also recommended changing the pressurized water reactor (PWR) control rod movement tests to quarterly. This frequency change is also consistent with the frequency specified in NUREG-1431, "Standard Technical Specifications," Revision 1, and GL 93-05, "Line Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation."

In addition, industry operating data show that the frequency of stuck control rods is very low and that, when a rod has stuck, the condition of the reactor has remained within the bounds of the accident analysis even with the assumption that the single highest worth control rod does not trip.

NNECO performed specific evaluations of the effect of changing the frequency of rod movement test from 31 to 92 days for MP2 and MP3 and determined that the change had no adverse impact on the core damage frequency at these units. As noted above, the review of industry operating data shows that the control rod exercise test has the potential for causing dropped rods or a reactor trip. In addition, industry operating data show that most stuck rods are not found by performing this test, but rather are found either at the beginning of a cycle while withdrawing the control rods before making the reactor critical or during low-power physics testing. Therefore, the proposed testing period will reduce the potential for causing dropped rods or a reactor trip, and prevent unnecessary challenges to safety systems without diminishing the capability of detecting mechanical binding of control rods. The granting of this amendment is consistent with NUREG-1366, NUREG-1431, and GL 93-05, which suggest a quarterly or 92-day interval for control rod drive mechanism exercising. Based on the above, the staff has concluded that the proposed changes are acceptable.

3.2 TS SR 4.1.3.1.3

TS SR 4.1.3.1.3 for MP2 would be revised by decreasing the frequency for determining the operability of the control element assembly deviation circuit from once every 31 days to once every 92 days during MODES 1 and 2. This surveillance is typically performed in conjunction with SR 4.1.3.1.2 which tests the control element assembly (CEA) freedom of movement (trippability). The typical sequence of events for testing one CEA is to verify that the Deviation Circuit is OPERABLE, and then verify the CEA freedom of movement. These steps are then repeated for each individual CEA. Therefore, the CEA freedom of movement test and the Deviation Circuit verification are performed in conjunction. The frequency for the two SRs should be consistent, i.e. every 92 days.

TSTF-127 concludes that since the Deviation Circuit operability verification requires movement of each CEA and is performed in conjunction with the CEA freedom of movement test (SR 4.1.3.1.2), the frequencies of these tests should be consistent. The decrease in surveillance frequency will reduce the reactor trips and the unnecessary challenges to the safety systems associated with the performance of the surveillance. Also in support of the increased surveillance interval is that the Deviation Circuit has had an excellent testing history. The staff has concluded that the proposed change is acceptable because the decrease in surveillance frequency will reduce the frequency for the potential for causing dropped rods or a reactor trip and prevent unnecessary challenges to safety systems associated with the surveillance without diminishing the reliability of the deviation circuit. In addition, the increase in surveillance interval for the Deviation Circuit is consistent with TSTF-127.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change 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 change

surveillance requirements. The staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (65 FR 46011). Accordingly, these amendments meet 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 these amendments.

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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: A. Wang

Date: December 27, 2000