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October 18, 1994

Docket No. 50-336
B15013

Re: 10CFR50.90

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Millstone Nuclear Power Station, Unit No. 2
Proposed Revision to Technical Specifications
Containment Leakage Type A Test Schedule

Introduction

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend its Operating License, DPR-65, by incorporating the changes identified in Attachments 1 and 2 into the Millstone Unit No. 2 Technical Specifications. One of the proposed changes revises Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications to permit a more flexible schedule for containment leakage Type A testing. The other proposed change adds information to Bases Section 3/4.6.1.2. In conjunction with this letter, NNECO is requesting a partial and a schedular exemption from the requirements of Section III.D.1.(a) of Appendix J to 10CFR50. These requests have been transmitted via a separate letter dated October 18, 1994.⁽¹⁾

The flexibility provided by the proposed changes to the Millstone Unit No. 2 Technical Specifications and the requests for exemption from the requirements of Section III.D.1.(a) of Appendix J to 10CFR50 is consistent with the intent of the proposed revision to Appendix J and the draft version of NUREG-1493, "Performance-Based Leak-Test Program."

Background

Millstone Unit No. 2 has implemented a testing program to measure containment leakage throughout the life of the plant. The testing program was developed to conform to the requirements of Appendix J to 10CFR50. It includes the performance of Type A tests to measure the overall integrated leakage rate, Type B tests to detect and measure local leakage across pressure-containing or leakage-

(1) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, Request for Exemption from 10CFR50, Appendix J," dated October 18, 1994.

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limiting boundaries other than valves, and Type C tests to measure containment isolation valve leakage rates.

The Type A testing is conducted in accordance with Section III.D.1.(a) of Appendix J to 10CFR50. This section states, in part, "... a set of three Type A tests shall be performed, at approximately equal intervals during each 10-year service period. The third test of each set shall be conducted when the plant is shutdown for the 10-year plant inservice inspections."

Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications requires three Type A tests be conducted at an interval of 40 ± 10 months (during shutdown) for each 10-year service period. Additionally, the surveillance requirement states that the third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection.

At Millstone Unit No. 2, there was a difference of approximately eight months between the Appendix J 10-year service period and the plant inservice inspection 10-year period for the first 10-year service interval. This difference was a result of a delay between the performance of the initial (i.e., pre-operational) Appendix J, Type A test on April 15, 1975, and the start of the first 10-year inservice inspection period upon commencement of commercial operation of Millstone Unit No. 2 in December 1975.

For the second 10-year service period, a difference between the Appendix J 10-year service period and the plant inservice inspection 10-year period still exists. The second 10-year Appendix J service period began in June 1985, and the second 10-year inservice inspection period began in December 1985.

The history of the Type A tests performed at Millstone Unit No. 2 for the current (second) 10-year service period is as follows:

- The first Type A test for the second 10-year service period was conducted on February 8, 1988, with successful results.
- The second Type A test for the second 10-year service period was conducted on December 24, 1992, with successful results. The Millstone Unit No. 2 Technical Specifications were amended to extend for one time the interval between performances of Type A tests from 50 months to approximately 56 months. However, the second Type A test was not conducted until approximately 58 months after the first Type A test for the second 10-year service period. An additional extension was not requested, because the plant was shutdown and the surveillance was going to be performed prior to restart.

Additionally, a timeline for the second 10-year service period is provided as Attachment 3.

To meet the requirements of Appendix J and Surveillance Requirement 4.6.1.2.a to perform three Type A tests within a 10-year service period, NNECO will have to conduct the third Type A test for the second 10-year service period during the twelfth refueling outage which began in October 1994.

However, conducting a Type A test during the twelfth refueling outage would not satisfy the requirement of Surveillance Requirement 4.6.1.2.a to conduct tests within a window of 40 ± 10 months (30-50 months), since the interval would be less than 30 months from the previous test. Also, Appendix J requires that three Type A tests be conducted at approximately equal intervals during each 10-year service period. Conducting the third test during the twelfth refueling outage would not satisfy this requirement of Appendix J. To satisfy these requirements, NNECO would have to conduct an additional test during the following outage (the thirteenth refueling outage).

To resolve these inconsistencies and to eliminate the need to perform an additional Type A test for each 10-year service period, NNECO is proposing to revise Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications. Additionally, NNECO is requesting, via a separate submittal, a partial and a scheduler exemption from Section III.D.1.(a) of Appendix J to 10CFR50. These actions will not only eliminate unnecessary testing and permit more flexible scheduling of Type A testing, they will reduce personnel radiation exposure. Personnel are exposed to radiation when they align the various equipment and valves in preparation for, during, and following the test. Elimination of each unnecessary test will save approximately \$2.5 million. This is an approximation of the cost associated with equipment, personnel, and refueling outage critical path time.

Description of Proposed Changes

NNECO proposes to revise Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications to provide a more flexible schedule for Type A tests. Also, information is being added to Bases Section 3/4.6.1.2.

Currently, Surveillance Requirement 4.6.1.2.a reads:

"Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10 month intervals during shutdown at P₁ (54 psig) during each 10-year service period.

The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection."

NNECO is proposing to revise Surveillance Requirement 4.6.1.2.a by replacing the requirement to conduct tests at intervals of 40 ± 10 months with a requirement to conduct the tests at approximately equal intervals during each 10-year service period, by deleting the requirement to conduct the third Type A test of each set during the shutdown for the 10-year plant inservice inspection, by deleting the current footnote, and by adding a new footnote.

The proposed revision to Surveillance Requirement 4.6.1.2.a reads:

"Three Type A tests (Overall Integrated Containment Leakage Tests) shall be conducted at approximately equal intervals during shutdown at a pressure not less than P_s , 54 psig, during each 10-year service period."

The footnote will state: "The third Type A test for the second 10-year period shall be conducted during the thirteenth refueling outage. As a result, the duration of the second 10-year service period will be extended to the end of the thirteenth refueling outage."

NNECO is proposing to add the following information to Bases Section 3/4.6.1.2.

"An exemption has been granted from the requirements of 10CFR50, Appendix J, Section III.D.1.(a). The exemption removes the requirement that the third Type A test for each 10-year period be conducted when the plant is shutdown for the 10-year plant inservice inspection (Reference License Amendment No. ____)."

This information assumes that the NRC will grant NNECO's request for an exemption from Section III.D.1.(a) of Appendix J to 10CFR50 submitted on October 18, 1994.

Attachments 1 and 2 contain the marked-up and retyped pages of the Millstone Unit No. 2 Technical Specifications, including a change to the Bases.

Similar proposed license amendments have been submitted by NNECO (on behalf of Millstone Unit No. 3),⁽²⁾ the Pacific Gas and Electric Company (Docket Nos. 50-275 and 50-323),⁽³⁾ and the Philadelphia Electric Company (Docket No. 50-352).⁽⁴⁾

Safety Assessment

The purpose of the Type A test (overall integrated containment leakage rate test) is to assure that the total leakage from containment does not exceed the maximum allowable leakage rate specified in the Millstone Unit No. 2 Technical Specifications, Millstone Unit No. 2 Final Safety Analysis Report (FSAR), and Appendix J to 10CFR50. The maximum allowable containment leakage rate is an input to the calculation which determines the maximum allowable offsite dose during a design basis accident. The maximum allowable offsite dose must comply with the requirements of 10CFR100.

Currently, Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications requires that three Type A tests be conducted at intervals of 40 ± 10 months per each 10-year service period. Additionally, it requires that the third test of each set be conducted during the shutdown for the 10-year plant inservice inspection.

NNECO is proposing to revise Surveillance Requirement 4.6.1.2.a by replacing the requirement to conduct tests at intervals of 40 ± 10 months with a requirement to conduct the tests at approximately equal intervals during each 10-year service period, by deleting the requirement to conduct the third Type A test of each set during the shutdown for the 10-year plant inservice inspection, by deleting

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- (2) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 3, Proposed Revision to Technical Specifications, Containment Leakage Type A Test Schedule," dated September 28, 1994.
 - (3) G. M. Ruegar letter to the U.S. Nuclear Regulatory Commission, "Diablo Canyon Units 1 and 2, License Amendment Request 94-03, Revision of Technical Specification 4.6.1.2 - Revise Containment Leakage Type A Test Schedule, and Exemption Request from Requirements of 10CFR50, Appendix J," dated February 16, 1994.
 - (4) G. A. Hunger, Jr., letter to the U.S. Nuclear Regulatory Commission, "Limerick Generating Station, Unit 1, Technical Specifications Change Request and Request for Exemption," dated November 30, 1993.

the current footnote, and by adding a new footnote. The proposal maintains the requirement to perform three Type A tests over each 10-year service period, and it creates additional flexibility regarding the scheduling of Type A tests by revising the detailed scheduling requirements for Type A testing. However, this proposal, in conjunction with the request for a scheduler exemption submitted on October 18, 1994, will extend the second 10-year service period.

The 10-year plant inservice inspection is the series of inspections performed every 10 years in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and Addenda, as required by 10CFR50.55a. The inservice inspection examinations are performed throughout the 10-year inspection intervals. Type A testing and 10-year inservice inspection programs are independent of each other and provide surveillances for different plant characteristics. The Type A testing assures the required leak tightness of the containment per Appendix J to 10CFR50. The 10-year inservice inspection program provides assurance of the integrity of plant structures, systems, and components and verifies the operational readiness of pumps and valves in compliance with 10CFR50.55a. Therefore, the coupling of Type A testing and inservice inspection requirements offers no benefit to either safety or the economical operation of Millstone Unit No. 2.

The proposed change to Surveillance Requirement 4.6.1.2.a does not modify the maximum allowable leakage rate at the design containment pressure. Additionally, the proposed change does not impact the design basis of the containment, nor does it change the post-accident containment response.

The first two Type A tests of the second 10-year service period for Millstone Unit No. 2 have been conducted. The first Type A test in this 10-year service period was conducted on February 8, 1988. The "As-Found" leakage result was 0.201 weight percent per day and the "As-Left" leakage result was 0.138 weight percent per day. These values represent 53.6% and 36.8% of the technical specification limit of 0.75 L_d (0.375 weight percent per day, based on an L_d equal to 0.5 weight percent per day). The second Type A test for this 10-year service period was completed on December 24, 1992. The "As-Found" and "As-Left" results were 0.2809 and 0.2577 weight percent per day, respectively. These values represent 74.9% and 68.7% of the technical specification limit of 0.75 L_d (0.375 weight percent per day, based on an L_d equal to 0.5 weight percent per day). The results of these tests demonstrate that Millstone Unit No. 2 has maintained control of containment integrity by maintaining margin between the acceptance criterion and the "As-Found" and "As-Left" leakage rates.

Historically, Type A tests have a relatively low failure rate where Type B and C testing (local leakage rate tests) could not detect the leakage path. Most Type A test failures are attributed to failures of Type B or C components (containment penetrations and isolation valves). Type B and C components are tested per Surveillance Requirement 4.6.1.2.d of the Millstone Unit No. 2 Technical Specifications. These tests are required to be conducted at intervals no greater than 24 months, and the acceptance criterion for the combined leakage rate for all penetrations and valves subject to the Type B and C tests is 0.6 L_a. These local leakage rate tests provide assurance that containment integrity is maintained. The relatively low "As-Left" Type B and C total leakage resulting from the previous tests indicates that the leakage has been maintained within the technical specification acceptance criterion. The last Type B and C tests had total "As-Found" and "As-Left" leakage results of 0.049 weight percent per day and 0.008 weight percent per day, respectively. These values represent 16.3% and 2.7% of the technical specification limit of 0.6 L_a (0.3 weight percent per day, based on an L_a equal to 0.5 weight percent per day). This proposal does not request any changes to the requirements for Type B and C testing. The Type B and C tests will continue to be performed in accordance with the requirements of Surveillance Requirement 4.6.1.2.d. However, on September 26, 1994,⁽⁵⁾⁽⁶⁾ NNECO submitted a request for a one-time technical specification change and a request for a schedular exemption from Appendix J to 10CFR50 regarding the schedule for Type B and C testing. The NRC verbally granted enforcement

(5) J. F. Opeka letter to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, Proposed Revision to Technical Specifications and Request for Enforcement Discretion from the Action Statements for Limiting Conditions for Operation 3.6.1.1 and 3.6.1.2," dated September 26, 1994.

(6) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, 10CFR50, Appendix J, Request for Schedular Exemption from Type B and C Test Requirements," dated September 26, 1994.

discretion on September 24, 1994, and written enforcement discretion on September 30, 1994.⁽⁷⁾ The schedular exemption request was granted on October 12, 1994.⁽⁸⁾

The previous Type A, B, and C tests demonstrate that Millstone Unit No. 2 has maintained control of containment integrity by maintaining a conservative margin between the acceptance criterion and the "As-Found" and "As-Left" leakage results. Based on this, the Millstone Unit No. 2 containment's structural integrity is considered to be in sound condition. No operations are known to have occurred which would suggest any significant degradation of these results.

The proposal will extend the surveillance requirement to allow the third Type A test of the second 10-year service period to be conducted during the thirteenth refueling outage. The proposal will allow more flexibility in scheduling Type A tests to accommodate 18-month or 24-month fuel cycles. The surveillance requirement flexibility provided by the proposal is in keeping with the proposed revision to Appendix J and the draft version of NUREG-1493.

Based on the above, the proposed revision to Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications does not create any undue risk to the health and safety of the public.

Significant Hazards Consideration

NNECO has reviewed the proposed changes in accordance with 10CFR50.92 and concluded that the changes do not involve a significant hazards consideration (SHC). The basis for this conclusion is that the three criteria of 10CFR50.92(c) are not compromised. The proposed changes do not involve a SHC because the changes would not:

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- (7) C. L. Miller letter to J. F. Opeka, "Notice of Enforcement Discretion Related to Extending the Surveillance Requirements of Type B and C Tests for Millstone Nuclear Power Station, Unit No. 2 - Technical Specification 3.6.1.1 and 3.6.1.2 (TAC M90457)," dated September 30, 1994.
- (8) G. S. Vissing letter to J. F. Opeka, "Millstone Nuclear Power Station, Unit No. 2 - Exemption to 10FR50, Appendix J (TAC No. M90458)," dated October 12, 1994.

1. Involve a significant increase in the probability or consequences of an accident previously analyzed.

Type A tests are performed to ensure that the total leakage from containment does not exceed the maximum allowable primary containment leakage rate at the design pressure. This ensures compliance with the dose limits of 10CFR100.

The proposal to revise Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications will increase the flexibility for scheduling the Type A tests. It does not modify the maximum allowable leakage rate at the design containment pressure, does not impact the design basis of the containment, and does not make any physical or operational changes to existing plant structures, systems, or components.

The first two Type A tests of the second 10-year service period for Millstone Unit No. 2 have been conducted. The results of these tests demonstrate that Millstone Unit No. 2 has maintained control of containment integrity by maintaining margin between the acceptance criterion and the "As-Found" and "As-Left" leakage rates.

Historically, Type A tests have a relatively low failure rate where Type B and C testing (local leakage rate tests) could not detect the leakage path. Most Type A test failures are attributed to failures of Type B or C components (containment penetrations and isolation valves). Type B and C components are tested per Surveillance Requirement 4.6.1.2.d of the Millstone Unit No. 2 Technical Specifications. These tests are required to be conducted at intervals no greater than 24 months, and the acceptance criterion for the combined leakage rate for all penetrations and valves subject to the Type B and C tests is 0.6 L_a. These local leakage rate tests provide assurance that containment integrity is maintained. The relatively low "As-Left" Type B and C total leakage resulting from the past outage indicates that the leakage has been maintained within the technical specification acceptance criterion. The Type B and C tests will continue to be performed in accordance with the requirements of Surveillance Requirement 4.6.1.2.d. However, on September 26, 1994, NNECO submitted a request for a one-time technical specification change, request for enforcement discretion, and a request for a scheduler exemption from Appendix J to 10CFR50 regarding the schedule for Type B and C testing. The NRC verbally granted enforcement discretion on September 24, 1994, and written

enforcement discretion on September 30, 1994. The schedular exemption request was granted on October 12, 1994.

The previous Type A, B, and C tests demonstrate that Millstone Unit No. 2 has maintained control of containment integrity by maintaining a conservative margin between the acceptance criterion and the "As-Found" and "As-Left" leakage results. Based on this, the Millstone Unit No. 2 containment is considered to be in sound condition. No operations are known to have occurred which would suggest any substantial degradation of these results.

Based on the above, the proposal to revise Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications does not involve a significant increase in the probability or consequences of an accident previously analyzed.

2. Create the possibility of a new or different kind of accident from any previously analyzed.

The proposal to revise Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications will increase the flexibility in scheduling the Type A tests. It does not make any physical or operational changes to existing plant structures, systems, or components. In addition, the proposal does not modify the acceptance criterion for the Type A tests. Maintaining the leakage through the containment boundary to the atmosphere within a specific value ensures that the plant complies with the requirements of 10CFR100. The containment boundary serves as an accident mitigator; it is not an accident initiator. Therefore, the proposal to revise Surveillance Requirement 4.6.1.2.a does not create the possibility of a new or different kind of accident from any previously analyzed.

3. Involve a significant reduction in the margin of safety.

The proposal to revise Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications will increase the flexibility for scheduling the Type A tests. It does not modify the maximum allowable leakage rate at the design containment pressure, does not impact the design basis of the containment, and does not make any physical or operational changes to existing plant structures, systems, or components.

The first two Type A tests of the second 10-year service period for Millstone Unit No. 2 have been conducted. The

results of these tests demonstrate that Millstone Unit No. 2 has maintained control of containment integrity by maintaining margin between the acceptance criterion and the "As-Found" and "As-Left" leakage rates. Additionally, the results of the last Type B and C tests had significant margin with respect to the acceptance criterion. Based on the previous Type A, B, and C tests, the Millstone Unit No. 2 containment is considered to be in sound condition. No operations are known to have occurred which would suggest any substantial degradation of these results.

Based on the above, the proposal does not involve a significant reduction in the margin of safety.

The Commission has provided guidance concerning the application of the standards of 10CFR50.92 by providing certain examples (51 FR 7751, March 6, 1986) of amendments that are not considered likely to involve a SHC. While the proposal to revise Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 2 Technical Specifications is not enveloped by any specific example, the proposed change will increase the flexibility in scheduling the Type A tests. The proposal does not make any physical or operational changes to existing plant structures, systems, or components. In addition, it does not modify the acceptance criterion for the Type A tests. Maintaining the leakage through the containment boundary to the atmosphere within a specific value ensures that the plant complies with the requirements of 10CFR100.

Environmental Considerations

NNECO has reviewed the proposed license amendment against the criteria of 10CFR51.22 for environmental considerations. The proposal does not increase the types and amounts of effluents that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, NNECO concludes that the proposal meets the criteria delineated in 10CFR51.22(c)(9) for a categorical exclusion from the requirements for an environmental impact statement.

Nuclear Review Board Review

The Millstone Unit No. 2 Nuclear Review Board has reviewed and concurred with the above determinations.

State Notification

In accordance with 10CFR50.91(b), we are providing the State of Connecticut with a copy of this proposed amendment to ensure that they are aware of this request.

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Schedule Required for NRC Approval

The twelfth refueling outage began in October 1994. NNECO requests that this proposed license amendment be reviewed and approved prior to the conclusion of this refueling outage. Millstone Unit No. 2's twelfth refueling outage is scheduled to be completed on December 7, 1994.

If the NRC Staff should have any questions or comments regarding this submittal, please contact Mr. R. S. Peterson at (203) 440-2074. We will provide any additional information the NRC Staff may need to respond to this request, and we appreciate your efforts in support of this request.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

BY:

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Subscribed and sworn to before me

this 18 day of October, 1994

Charles C. Lambert

Date Commission Expires: January 31, 1998