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September 28, 1994

Docket No. 50-423
B14981

Re: 10CFR50.90

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

Millstone Nuclear Power Station, Unit No. 3
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, NPF-49, by incorporating the changes identified in Attachments 1 and 2 into the Millstone Unit No. 3 Technical Specifications. The proposed change revises Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 3 Technical Specifications to permit a more flexible schedule for containment leakage Type A testing. Also, information is being added 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 September 28, 1994.(1)

This submittal is considered a Cost Beneficial Licensing Action by NNECO. Revising the Millstone Unit No. 3 Technical Specifications as proposed and receiving the requested exemptions from Appendix J to 10CFR50 are anticipated to save more than the $100,000 guideline identified by the NRC Staff. The current requirements of the Millstone Unit No. 3 Technical Specifications and Appendix J to 10CFR50, which NNECO is proposing to revise and be exempted from, do not provide a significant or commensurate benefit to public health and safety.

Background

Millstone Unit No. 3 has implemented a testing program to measure containment leakage throughout the life of the plant. The testing program conforms to the requirements of Appendix J to 10CFR50. It includes the performance of Type A tests to measure the overall

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(1) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 3, Request for Exemption from 10CFR50, Appendix J," dated September 28, 1994.

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integrated leakage rate, Type B tests to detect and measure local leakage across pressure-containing or leakage-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. 3 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. 3, there is a difference between the first Appendix J 10-year service period and the plant inservice inspection 10-year period. This difference is a result of a delay between the performance of the initial (i.e., pre-operational) Appendix J, Type A test in July 1985, and the start of the first 10-year inservice inspection period upon commencement of commercial operation of Millstone Unit No. 3 in April of 1986.

The history of the Type A tests performed at Millstone Unit No. 3 is as follows:

- The pre-operational test was conducted in July 1985.

- The first Type A test for this set was conducted on July 5, 1989, during the second refueling outage (48 months after the pre-operational test).

- The second Type A test for this set was conducted on October 12, 1993, during the fourth refueling outage (51 months after the first test. A one-time extension was requested. The NRC concluded that a one-time extension was not necessary, because the plant was shutdown and the required test would be completed prior to restart of the plant.)

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

The Millstone Unit No. 3 Technical Specifications and Appendix J require that the third test of each set be conducted coincident with the shutdown for the 10-year plant inservice inspections. The

inservice inspection period began in April 1986; therefore, it will end in April 1996. However, the inservice inspections for the first 10-year service period will be completed during the fifth refueling outage.

To meet the Appendix J requirements, the third Type A test (i.e., the last Type A test during the first 10-year service period) would have to be conducted during the fifth refueling outage which is scheduled to begin in April 1995. This is 18 months after the second Type A test for the first 10-year service period was conducted.

However, conducting a Type A test during the fifth 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 only be 18 months. Therefore, NNECO would have to conduct an additional test during the following outage (the sixth refueling outage) to satisfy the technical specification requirements.

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. 3 Technical Specifications. Additionally, NNECO is requesting, via a separate submittal, a partial and a schedular 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 during 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. Over the 40-year life of Millstone Unit No. 3, four tests would be eliminated, resulting in a savings of approximately $10 million.

Description of Proposed Change

NNECO proposes to revise Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 3 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 a pressure not less than P_a, 53.27 psia (38.57

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, and by adding a footnote.

The proposed Surveillance Requirement 4.6.1.2.a reads:

"Three Type A tests (Overall Integrated Containment Leakage rate) shall be conducted at approximately equal intervals during shutdown at a pressure not less than P_a, 53.27 psia (38.57 psig) during each 10-year service period.*"

The footnote will state: "The third type A test will be conducted during the sixth refueling outage. As a result, the duration of the first 10-year service period will be extended to the end of the sixth refueling outage."

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

"A partial 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 September 28, 1994.

Attachments 1 and 2 contain the marked-up and retyped pages of the Millstone Unit No. 3 Technical Specifications, including a change to the Bases.

Similar proposed license amendments were submitted by the Pacific Gas and Electric Company (Docket Nos. 50-275 and 323) on February 16, 1994,[2] and the Philadelphia Electric Company (Docket No. 50-352) on November 30, 1993.[3]

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. 3 Technical Specifications, Millstone Unit No. 3 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. 3 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, and by adding a footnote. The proposal maintains the requirement to perform three Type A tests over each 10-year service period. The proposal would create additional flexibility regarding the scheduling of Type A tests by revising the detailed scheduling requirements for Type A testing.

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(2) 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.

(3) 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 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, coupling the Type A testing and inservice inspection requirements offers no benefit, to either safety or the economical operation of Millstone Unit No. 3.

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

The first two Type A tests of the first 10-year service period for Millstone Unit No. 3 have been conducted. The first Type A test in this 10-year service period was conducted on July 5, 1989. The "As-Found" leakage result was 0.2937 weight percent per day and the "As-Left" leakage result was 0.2919 weight percent per day. These values represent 43.5% and 43.2% of the technical specification limit of 0.75 L_a (0.675 weight percent per day, based on an L_a equal to 0.9 weight percent per day). The second Type A test for this 10-year service period was completed on October 12, 1993. The "As-Found" and "As-Left" results were 0.1327 and 0.1313 weight percent per day, respectively. The results were below the technical specification limit of 0.75 L_a (0.4875 weight percent per day, based on an L_a equal to 0.65 weight percent per day). The results of these tests demonstrate that Millstone Unit No. 3 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. 3 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 outages indicates that the leakage has been maintained within the technical specification acceptance criterion, and demonstrates that improvements are continually being made to the Type B and C program. The Type B and C leakage results have decreased over the last three refueling outages. The last Type B and C tests had total "As-Found" and "As-Left" leakage results of 0.099 weight percent per day and 0.084 weight percent per day, respectively. These results were well below the limit of 0.6 L_a (0.39 weight percent per day, based on an L_a equal to 0.65 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 continued to be performed in accordance with the requirements of Surveillance Requirement 4.6.1.2.d. These tests confirm that the leak-tightness of the containment isolation valves and penetrations has been maintained.

Based on the previous Type A, B, and C tests, the Millstone Unit No. 3 containment's structural integrity is considered to be in sound condition. No operations are known to have occurred which would suggest any substantial degradation of these results. Additionally, no structural modifications are planned for the next refueling outage.

The proposed change will extend the surveillance requirement to allow the third Type A test, within the first 10-year service period, to be conducted during the sixth refueling outage. The proposed change 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 proposed change is in keeping with the proposed revision to Appendix J and the draft version of NUREG-1493, "Performance-Based Leak-Test Program."

Based on the above, the proposed revision to Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 3 Technical Specifications does not create any undue risk to the health and safety of the public.

Significant Hazards Consideration

NNECO has reviewed the proposed change in accordance with 10CFR50.92 and concluded that the change does 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 change does not involve a SHC because the change would not:

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 a calculated peak containment internal pressure permitted by the Millstone Unit No. 3 Technical Specifications and FSAR. This assures compliance with the dose limits of 10CFR100.

   The proposed change to Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 3 Technical Specifications will increase the flexibility for scheduling the Type A tests. They do not modify the maximum allowable leakage rate at the calculated peak containment pressure, do not impact the design basis of the containment, and do not change the post-accident containment response.

   The first two Type A tests of the first 10-year service period for Millstone Unit No. 3 have been conducted. The results of these tests demonstrate that Millstone Unit No. 3 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. 3 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 each successive outage indicates that the leakage has been maintained within the technical specification acceptance criterion, and demonstrates that improvements are continually being made to the Type B and C program. The Type B and C leakage results have decreased over the last three refueling outages. This proposal does not request any changes to the requirements for Type B and C testing. The Type B and C tests will continued to be performed in accordance with the requirements of Surveillance Requirement 4.6.1.2.d. These tests confirm that the leak-tightness of the containment isolation valves and penetrations has been maintained.

Based on the previous Type A, B, and C tests, the Millstone Unit No. 3 containment's structural integrity is considered to be in sound condition. No operations are known to have occurred which would suggest any substantial degradation of these results. Additionally, no structural modifications are planned for the next refueling outage.

Based on the above, the proposed change to Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 3 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 proposed change to Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 3 Technical Specifications will increase the flexibility in scheduling the Type A tests. They do not make any physical or operational changes to existing plant structures, systems, or components. In addition, the proposed change does not modify the acceptance criteria 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 proposed change to 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 proposed change to Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 3 Technical Specifications will increase the flexibility for scheduling the Type A tests. They do not modify the maximum allowable leakage rate at the calculated peak containment pressure, do not impact the design basis of the containment, and do not change the post-accident containment response.

Based on the previous Type A, B, and C tests, the Millstone Unit No. 3 containment's structural integrity is considered to be in sound condition. No operations are known to have occurred which would suggest any substantial degradation of these results. Additionally, no structural modifications are planned for the next refueling outage.

Based on the above, the proposed change 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 proposed change to Surveillance Requirement 4.6.1.2.a of the Millstone Unit No. 3 Technical Specifications is not enveloped by any specific example, the proposed change will increase the flexibility in scheduling the Type A tests. The proposed change does not make any physical or operational changes to existing plant structures, systems, or components. In addition, the proposed change does not modify the acceptance criteria 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 proposed change 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 proposed change 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. 3 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.

Schedule Required for NRC Approval

Currently, the next refueling outage is scheduled to begin April 29, 1995. NNECO requests that this proposed license amendment be reviewed and approved prior to the start of this refueling outage for Millstone Unit No. 3.

Additionally, this submittal is considered a Cost Beneficial Licensing Action by NNECO. Revising the Millstone Unit No. 3

Technical Specifications as proposed and receiving the requested exemptions from Appendix J to 10CFR50 are anticipated to save more than the $100,000 guideline identified by the NRC Staff. The current requirements of the Millstone Unit No. 3 Technical Specifications and Appendix J to 10CFR50, which NNECO is proposing to revise or be exempted from, do not provide a significant or commensurate benefit to public health and safety.

If the NRC Staff should have any questions or comments regarding this submittal, please contact Mr. R. G. Joshi at (203) 440-2080. 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

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Executive Vice President

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Subscribed and sworn to before me
this 28th day of September, 1994

Lorraine J. D'Amico

Date Commission Expires: 3/31/98