

NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

General Offices • Selden Street, Berlin, Connecticut

P.O. BOX 270
HARTFORD, CONNECTICUT 06141-0270
(203) 665-5000

August 11, 1988

Docket No. 50-423

B12987

Re: 10CFR50.12 and 50.90

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

- References:
- (1) F. M. Akstulewicz letter to E. J. Mroczka, Exemption from Certain Requirements of 10CFR50 Appendix J, dated September 29, 1987.
 - (2) M. L. Boyle letter to E. J. Mroczka, Exemption from the Requirements of Appendix J to 10CFR50 Paragraph III.A.3, dated October 15, 1987.
 - (3) D. H. Jaffe letter to E. J. Mroczka, Change to Technical Specifications and Exemption from the Requirements of Appendix J to 10CFR50, Paragraph III.A.3, dated February 11, 1988.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3
Proposed Revision to Technical Specifications and
Exemption from the Requirements of Appendix J to
10CFR50, Paragraph III.A.3 - Containment Leakage

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating License No. NP7-49 by incorporating the changes identified in Attachment i into the plant Technical Specifications for Millstone Unit No. 3. In addition, pursuant to 10CFR50.12, NNECO hereby requests an exemption from 10CFR50, Appendix J, Paragraph III.A.3, which requires that all containment integrated leakage rate tests be performed in accordance with ANSI N45.4 - 1972, "Leakage Rate Testing of Containment Structures for Nuclear Reactors."

Description of the Proposed Technical Specification Changes

The proposed changes to the Millstone Unit No. 3 Technical Specification Section 4.6.1.2 will add an alternate means of analyzing containment integrated leakage rate test results (the mass point method per ANSI/ANS 56.8 - 1981). The proposed changes would also permit continued use of the analytical technique of ANSI N45.4 - 1972 (the total time method).

8808250017 880811
PDR ADOCK 05000423
P PDC

AP17
11
w/check #150
#065527

Discussion on Exemption Request

The Code of Federal Regulations, 10CFR50.54(0), specifies that primary reactor containments for water-cooled power reactors shall comply with Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." Paragraph III.A.3 of Appendix J incorporates by reference the American National Standard ANSI N45.4 - 1972, "Leakage Rate Testing of Containment Structures for Nuclear Reactors." This standard requires that containment leakage calculations for containment integrated leakage rate tests (CILRTs) be performed using either the total time method or the point-to-point method. Since the issuance of ANSI N45.4 - 1972, a more accurate method of determining containment leakage rates, the mass point method was developed as described in ANSI/ANS 56.8 - 1981, "Containment System Leakage Testing Requirement." A proposed revision to 10CFR50, Appendix J, which has been published for public comment (51FR39538, dated October 29, 1986), refers to a proposed Regulatory Guide (MS 021-5, October 1986), which endorses, with exceptions, the ANSI/ANS 56.8 - 1981 standard and the mass point method. In order to utilize the mass point method as an alternate method to perform surveillance 4.6.1.2, an exemption from 10CFR50, Appendix J, Section III.A.3 is required. Therefore, pursuant to 10CFR50.12 NNECO, on behalf of Millstone Unit No. 3, requests an exemption to allow use of the mass point method for calculating containment leakage rates. Similar exemption requests have previously been approved by the NRC for the Haddam Neck Plant (Reference (1)) and Millstone Unit Nos. 1 and 2 (References (2) and (3), respectively.)

The Commission's regulations, specifically, 10CFR50.12(a), provide that exemptions may be granted from regulations in 10CFR50 provided that they are "authorized by law, will not present undue risk to the public health and safety, and are consistent with the common defense and security."

Based on the information provided in Attachment II, NNECO concludes that an exemption from the requirements of 10CFR50, Appendix J, Section III.A.3 is justified pursuant to 10CFR50.12(a)(1) and 10CFR50.12(a)(2)(ii). That is, the exemption:

- o is authorized by law;
- o will not present undue risk to public health and safety; and
- o is consistent with the common defense and security of the United States.

Special circumstances are present in this case in that application of the regulation is not necessary to achieve the underlying purpose of the rule. The mass point method will satisfy the accuracy requirements of 10CFR50, Appendix J, Section III.A.3 for type A tests.

We desire the flexibility to use either the mass point method or the total time method for calculating the containment leakage rate during the CILRT to be performed during the 1989 refueling outage. Therefore, we respectfully request NRC Staff approval of the request by April 1989.

Safety Assessment

The present Technical Specifications include a reference to the provisions of ANSI N45.4 - 1972. The proposed changes only add the mass point method as an alternative means of analyzing containment integrated leak rate test results. It has been recognized by the professional community that the mass point method is an acceptable means for calculation of containment leakage in addition to the point-to-point and total time methods, which are referenced in ANSI N45.4 - 1972 and endorsed by the present regulations. The mass point method calculates the mass of air inside containment and plots it as a function of time. A linear regression line is plotted through the mass-time points using a least square fit. On the other hand, the total-time method calculates a series of time-weighted leakage rates, based upon differences between an initial data point and points occurring later in time. The adequacy of this method is sensitive to the initial data point. Any perturbations, such as fluctuations in containment air temperature, ingassing or outgassing, or instrument error, can affect the validity of the initial data point and down stream leakage calculations.

In the point-to-point method, the leak rates are based on the mass difference between each pair of consecutive points which are then averaged to yield a single leakage rate estimate. Mathematically, this can be shown to be the difference between the air mass at the beginning of the test and the air mass at the end of the test expressed as a percentage of the containment air mass. It follows from the above, the mass point method has some advantages when it is compared with the other methods.

ANSI/ANS 56.8 - 1981, which was intended to replace ANSI N45.4 - 1972, specifies the use of the mass point method, to the exclusion of the two older methods. However, the proposed Technical Specification changes will retain the total time method and only add the mass point method as an alternative means of analyzing containment integrated leak rate test results.

Significant Hazards Consideration

NNECO has reviewed the proposed changes in accordance with 10CFR50.92 and concluded that they do not involve a significant hazards consideration because the changes would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed changes will provide the plant the flexibility to use the total time method or the mass point method for calculating containment leakage rates and the proposed changes are strictly administrative in nature. Therefore, it is concluded that previously analyzed accidents are not affected.

2. Create the possibility of a new or different kind of accident from any previously evaluated. Since there are no changes in the way the plant is operated, the potential for an unanalyzed accident is not created. No new failure modes are introduced.
3. Involve a significant reduction in a margin of safety. The proposed changes do not have any adverse impact on the protective boundaries. Since the proposed changes also do not affect the consequences of an accident previously analyzed, there is no reduction in a margin of safety.

Moreover, the Commission has provided guidance concerning the application of standards in 10CFR50.92 by providing certain examples (March 6, 1986, FR7751) of amendments that are considered not likely to involve a significant hazards consideration. The proposed changes are enveloped by example (i), a purely administrative change to the Technical Specifications; for example, a change to achieve consistency throughout the Technical Specifications, correction of an error or change in nomenclature. NNECO considers these changes to be enveloped by example (i), presuming issuance of the exemption for Millstone Unit No. 3 based on discussions with the NRC Staff, and based upon the fact that identifiable exemptions have recently been issued for the Haddam Neck Plant and Millstone Unit Nos. 1 and 2. With the issuance of the requested exemption, this proposed change would serve to bring consistency between 10CFR50 requirements (as amended by the exemption) and the Technical Specifications. The proposed changes requested herein add the mass point method (As per ANSI/ANS 56.8 - 1981) as an alternative means of analyzing containment integrated leak rate test results and permit continued use of the analytical technique of ANSI N 45.4 - 1972 (the total time method).

Based upon the information contained in this submittal, there are no significant radiological or non-radiological impacts associated with the proposed action, and the proposed license amendment will not have a significant effect on the quality of the human environment.

As stated above, we desire to use the mass point method as an alternative means for calculating the containment leakage rate during the CILRT to be performed during the 1989 refueling outage, presently scheduled for June, 1989. We respectfully request the NRC Staff approval of the proposed exemption and license amendment by the end of April 1989.

The Millstone Unit No. 3 Nuclear Review Board has reviewed and approved the proposed changes and has concurred with the above determinations.

In accordance with 10CFR50.91(b), we are providing the State of Connecticut with a copy of this proposed amendment.

U.S. Nuclear Regulatory Commission
B12987/Page 5
August 11, 1988

Pursuant to the requirements of 10CFR170.12(c), enclosed with this amendment request is the application fee of \$150.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

E J Mroczka

E. J. Mroczka
Senior Vice President

W D Romberg

By: W. D. Romberg
Vice President

cc: W. T. Russell, Region I Administrator
D. H. Jaffe, NRC Project Manager, Millstone Unit No. 2 and (Acting) 3
W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3

Kevin McCarthy, Director
Radiation Control Unit
Department of Environmental Protection
Hartford, CT 06116

STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me, W. D. Romberg, who being duly sworn, did state that he is Vice President of Northeast Nuclear Energy Company, a Licensee herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Licensees herein, and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Lerrain J. Amico
Notary Public

My Commission Expires March 31, 1993