

NORTHEAST UTILITIES



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

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December 1, 1989

Docket No. 50-423

B13401

Re: 10CFR50.90

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

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3
Proposed Revision to Technical Specifications
Hydrogen Recombiners

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend its operating license, NPF-49, by incorporating the change identified in Attachment 1 into the Technical Specifications of Millstone Unit No. 3.

Description of Change

The surveillance requirement, 4.6.4.2.b.4, for the hydrogen recombiners is being modified. The existing Technical Specification requires that the 18-month functional test for the hydrogen recombiners be performed using containment air at a flow rate greater than or equal to 50 scfm. The proposed change will require testing with a flow rate above the limit specified in Figure 3.6-2 (a new added figure). This limit is a function of the containment pressure. The Technical Specification Index has been revised to reflect the addition of a new figure.

Discussion

The hydrogen recombiner system is designed to maintain the hydrogen concentration in the containment below 4 volume percent following a design basis accident (DBA). To ensure operability of the system in the event of a single failure of any component, the system is arranged in two redundant 100 percent capacity trains. The parameters presented in Regulatory Guide 1.7 are used in the analysis of hydrogen generation following a DBA. The analysis of hydrogen generation following a DBA and the capability of the DBA hydrogen recombiners or the backup purge system, to maintain a hydrogen concentration below 4 percent volume is described in the Millstone Unit No. 3 Final Safety Analysis Report (FSAR) Section 6.2.5.

During a recent review of hydrogen recombiner surveillance test data and the original calculation for post-DBA hydrogen generation in containment, an inconsistency was revealed. Specifically, the original analysis assumed that 50 scfm of containment air would flow through the system while the containment air was at 9 psia in post-DBA conditions. This assumed flow rate is also

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greater than tested flow rates which have been as low as 42 scfm when containment is between 9 and 10 psia. Therefore, NNECO performed a new calculation and determined that the minimum acceptable flow rate through hydrogen recombiner to be 40.5 scfm. This flow rate will still ensure containment hydrogen concentration remains below 4 volume percent during the accident if the hydrogen recombiners are started within 24 hours of a DBA when the hydrogen concentration of the containment atmosphere is at or below 1.8 volume percent. The proposed change to the surveillance requirement will ensure a performance level of hydrogen recombiners which will keep the containment hydrogen concentration below 4 percent when placed in service within 24 hours of a DBA. The appropriate plant procedures have been revised to ensure that the hydrogen recombiners are placed in service within 24 hours of a DBA. Therefore, it is concluded that the DBA and its consequences as analyzed remain valid. In addition, the Millstone Unit No. 3 FSAR Section 6.2.5 has been revised to reflect this new calculation.

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. The basis for this conclusion is that the three criteria of 10CFR50.92(c) are not compromised. The proposed change does not involve a significant hazards consideration because the change would not:

1. Involve a significant increase in the probability or consequences of an accident previously analyzed. The proposed surveillance requirement will ensure a performance level of hydrogen recombiners which meets the requirement of the design basis analysis. The design basis analysis shows that containment hydrogen concentration remains below 4 percent during a LOCA if the recombiners are started within 24 hours of the accident. The appropriate plant procedures have been modified to ensure that the hydrogen recombiners are placed in service within 24 hours of a LOCA. Therefore, it is concluded that the LOCA and its consequences as analyzed remain valid. Since the proposed change modifies only the flow rate requirement for the hydrogen recombiners, the probability of a LOCA or any other accident is not affected.
2. Create the possibility of a new or different kind of accident from any previously analyzed. The proposed change does not impact the plant response to a LOCA or any other accident. 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 margin of safety. The proposed change does not increase the consequences of any accidents. Also, none of the protective boundaries are adversely affected. The performance level of hydrogen recombiners assured by the proposed surveillance requirements along with the appropriate plant procedure changes maintain the margin of safety as defined in the existing and proposed Technical Specifications.

Moreover, the Commission has provided guidance concerning the application of standards in 10CFR50.92 by providing certain examples (March 6, 1986,

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51FR7751) of amendments that are considered not likely to involve a significant hazards consideration. Although the proposed change is not enveloped by a specific example, the change would not involve a significant increase in the probability or consequences of an accident previously analyzed. The proposed surveillance requirement will ensure a performance level of hydrogen recombiners which meet the requirements of the design basis analysis.

Based upon the information contained in this submittal and the environmental assessment for Millstone Unit No. 3, there are no significant radiological or nonradiological impacts associated with the proposed action, and the proposed license amendment will not have a significant effect on the quality of the human environment.

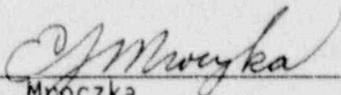
The Millstone Unit No. 3 Nuclear Review Board has reviewed and approved the proposed change and has concurred with the above determinations.

Regarding our proposed schedule for this amendment, we request issuance at your earliest convenience with the amendment effective within 30 days of issuance.

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

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



E. J. Mroczka
Senior Vice President

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

Mr. 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, E. J. Mroczka, who being duly sworn, did state that he is Senior 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.



Notary Public
My Commission Expires March 31, 1993