Docket File

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

April 9, 1991

Docket No. 50-423

Mr. Edward J. Mroczka
Senior Vice President
Nuclear Engineering and Operations
Connecticut Yankee Atomic Power Company
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Mroczka:

SUBJECT: MILLSTONE UNIT 3 - NRR TEMPORARY WAIVER OF COMPLIANCE RELATED TO REVISED FLOW SURVEILLANCE REQUIREMENT FOR THE HYDROGEN RECOMBINERS (TAC NO. 75 28)

By letter dated April 5, 1991, as supplemented by letter dated April 8, 1991, Northeast Nuclear Energy Company (NNECO) requested a Temporary Waiver of Compliance (TWC) and an emergency license amendment to Operating License NPF-49. The TWC and emergency license amendment would revise Technical Specification 4.6.4.2.b.4, "Electric Hydrogen Recombiners" and the associated Figure 3.6-2 to provide revised flow surveillance acceptance criteria for the hydrogen recombiners.

Millstone Unit 3 is provided with two 100 percent capacity electric hydrogen recombiners which are designed to process the post-LOCA containment atmosphere to maintain the hydrogen concentration at a safe level (below 4 percent).

On March 26, 1991, as a part of the 18-month surveillance test, a functional test of the Millstone Unit No. 3 hydrogen recombiner (A) was performed using the acceptance criterion included in TS 4.6.4.2.b.4. The test results indicated that the hydrogen recombiner was capable of delivering a flow rate of approximately 74.5 scfm at a containment pressure of 14.77 psia. This represents a failure to meet the acceptance criterion of TS Figure 3.6-2, which is a pressure dependent flow curve, by approximately 2 scfm. On April 2, 1991, NNECO performed the same test on hydrogen recombiner (B). The test results indicate that the hydrogen recombiner (B) is capable of delivering a flow rate of approximately 72.8 scfm at 14.725 psia whereas the required flow rate at that pressure is 75 scfm.

Based on these test results, NNECO could not verify the operability of both the hydrogen recombiners using the acceptance criterion included in Figure 3.6-2. Therefore, on April 2, 1991, NNECO informed the staff of the current situation and NNECO's plan to request that the NRC staff process a license amendment on an emergency basis.

Since the issuance of TS Figure 3.6-2 on March 2, 1990 (License Amendment 47), new technical information has been received, by NNECO, from the blower manufacturer, M-D Pneumatics, which indicates that the information used to

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generate Figure 3.6-2 was not appropriate and was overly conservative. This has resulted in the recent test failures. Figure 3.6-2 was developed using generic information for this type of blower. NNECO's letter of April 5, 1991, as supplemented by letter dated April 8, 1991, proposed that the following footnote be added to TS Figure 3.6-2:

> Until September 30, 1991, a flow rate of 72.4 scfm or greater at a pressure of 14.5 to 14.8 psia is acceptable in lieu of the values indicated by Figure 3.6-2.

Each hydrogen recombiner has been demonstrated to deliver in excess of 72.4 scfm within the required pressure range. As indicated by FSAR Figure 6.2-51, only a single hydrogen recombiner capable of providing 40 scfm at 11.2 psia is required to maintain post-LOCA containment hydrogen concentration below 4 percent while TS 3.6 .2 requires both hydrogen recombiners to be operable. Consequently a substa al margin exists. The proposed flow acceptance criteria is an interim measure chat will allow the NRC staff additional time to consider a long term solution regarding these acceptance criteria.

Based upon the above, the NRC staff concludes that the proposed, revised hydrogen recombiner flow acceptance criteria will assure that sufficient flow can be produced to meet the system requirements as specified in the FSAR. Your April 5, 1991 request, as supplemented by letter dated April 8, 1991, provides an acceptable level of safety and does not present any undue risk to the health and safety of the public.

This letter grants a temporary waiver of compliance with regard to Technical Specification 4.6.4.2.b.4 and will be in effect while we complete the processing of an emergency license amendment. It is our expectation that NNECO will take prompt action to effect a long-term solution to resolving hydrogen recombiner flow acceptance criteria.

Sincerely,

/s/

Jose A. Calvo, Assistant Director
for Region I Reactors
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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