

NORTHEAST UTILITIES



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February 29, 1980

Docket No. 50-336

Director of Nuclear Reactor Regulation
Attn: Mr. R. Reid, Chief
Operating Reactors Branch #4
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

References: (1) R. Reid letter to W. G. Council dated May 12, 1979.
(2) W. G. Council letter to R. Reid dated March 22, 1979.
(3) W. G. Council letter to R. Reid dated August 31, 1979.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 2
Charging Pumps

Millstone Nuclear Power Station, Unit No. 2 is equipped with three (3) positive displacement charging pumps as part of the Chemical and Volume Control System (CVCS). These pumps are designed to perform various functions, one of which is to inject concentrated boric acid into the Reactor Coolant System (RCS) under emergency conditions.

A percentage of this charging flow has been taken credit for in Millstone Unit No. 2, Small Break Loss-of-Coolant Accident Analysis as authorized by the NRC Staff in Reference (1). Presently, one half of the capacity of one charging pump, 22 gpm, is taken credit for in the Millstone Unit No. 2 Small Break LOCA Analysis as documented in References (2) and (3). The design capacity of the charging pumps utilized at Millstone Unit No. 2 is 44 gpm as reported in the FSAR. This is the rated flow at ideal conditions. Recent in-service inspections (ISI) have shown that under test conditions, these pumps deliver approximately 43 gpm.

Northeast Nuclear Energy Company (NNECO) has reviewed the discrepancy pursuant to the reporting requirements of the Millstone Unit No. 2 Technical Specifications Section 6.9.1.8 and 10CFR50, Appendix K. For the purposes of performing this evaluation, a conservative value of 41.4 gpm was assumed for assessing the impact on existing Small Break LOCA Analysis.

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The flow rate of 41.4 gpm is the minimum acceptable flow rate permitted by the ISI program for these pumps. The QA Category 1 evaluation performed concerned the sensitivity of Peak Clad Temperature (PCT) to small changes in high pressure flow in the Small Break LOCA Analysis.

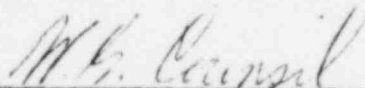
The results of the sensitivity study demonstrate that the expected change in PCT due to the smaller flow rate, assumed to be delivered from the charging pumps, would be less than 10°F. It is also noted that for the worst-case break size of 0.1 ft², the calculated PCT is 1971°F, well below the 2200°F limit. This calculated peak occurs approximately twenty four (24) minutes after the start of the accident. The above discrepancy results in the loss of only 31 gallons during the period of interest.

Based on this engineering evaluation, NNECO has determined that the change in PCT as a result of the smaller charging pump flow rate is not termed significant pursuant to Technical Specification 6.9.1.8, as clarified by 10CFR50, Appendix K, Paragraph 1b, and as such, is not reportable.

It is NNECO's intention to have future ECCS safety analyses performed utilizing a more conservative bounding value for charging pump flow rate. A reanalysis for both small and larger break LOCA will be performed for the upcoming reload, the results of which will be reported in the reload submittals scheduled for docketing on April 1, 1980. This letter is provided for informational purposes.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



W. G. Council
Vice President