

Docket No 50-336

January 28, 1985

Dec 014

Mr. W. G. Council, Senior Vice President
Nuclear Engineering & Operations
Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06141

Dear Mr. Council:

SUBJECT: STEAM GENERATOR PRIMARY-TO-SECONDARY LEAK RATE DETERMINATION
AND JUSTIFICATION OF 40% PLUGGING CRITERION FOR DEGRADED SLEEVES
ON MILLSTONE UNIT 2

By letter dated May 25, 1984, you described the actions that have been taken to gain a more accurate determination of the absolute primary-to-secondary leak rate. The method of using isotope analysis of the blowdown system effluents which you used previously was found to be non-conservative. To more accurately determine the primary-to-secondary leakage rate, your letter described the use of the steam air ejector radiation monitors and a reactor coolant system mass balance determination. Even though the leakage rate determination using the new methods has not been quantified due to the improved performance of the steam generators, we believe these changes will result in improved detection.

You have stated that during future periods of steam generator leakage you will arrive at a leakage rate determination by using two diverse methods and will compare these values to a leakage rate calculation based on total primary system mass balance. The primary method of leakage rate determination will use liquid activity from the steam generator blow down. The secondary determination will use gaseous activity from the steam jet air ejectors.

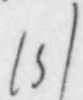
The program has been formalized in a written test procedure to be implemented when leakage exceeds 0.1 gallons per minute. The results will be utilized to determine the most effective and accurate measurement technique. We find this acceptable and consider the confirmatory item closed.

Your letter of May 25, 1984 also provided justification for the 40% plugging criterion for degraded sleeves. Since the 40% plugging limit was intended for degraded tubes, it was necessary to establish that a 40% degraded sleeve is equivalent in strength to a 40% degraded tube.

You have stated that the sleeve design is such that it is not as stiff as the parent tube. As a result, the bending stresses for the sleeve are less than for a tube under both normal operation and accident conditions. You have further demonstrated that a sleeve degraded 40% through wall has a factor of safety of three or more against burst under all conditions specified in Regulatory Guide 1.121.

We find that your justification is acceptable and satisfactorily resolves our concern for plugging limits on sleeving raised in our December 30, 1983 safety evaluation in support of Amendment 89 to DPR-65.

Sincerely,



James R. Miller, Chief
Operating Reactors Branch No. 3
Division of Licensing

cc: See next page

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