



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

April 24, 1992

Central
File
50-336

MEMORANDUM FOR: Commissioner Rogers

FROM: James M. Taylor
Executive Director for Operations

SUBJECT: COMMISSIONER'S QUESTION CONCERNING THE RE-ANALYSIS
OF THE MILLSTONE UNIT 2 MAIN STEAM LINE BREAK

I am responding to your question concerning the condition of Millstone 2 operating outside the design basis since initial licensing in 1975. At Millstone 2, the Northeast Nuclear Energy Company (the licensee) found that, in the event of a postulated main steam line break accident at full power with the continued injection of feedwater (due to failure of a feedwater regulating valve), the containment design pressure and temperature could be exceeded. On February 11, 1992, the NRC addressed this subject in a letter to the licensee. Your question regarding this letter was the following:

What was the basis for originally accepting this condition at the time of licensing?

At the time of licensing, the staff reviewed only the analysis provided by the licensee. The analysis should have been for the worst case steam line break, that is, the case which resulted in the highest containment pressure or temperature. The staff did not independently review alternative main steam line break scenarios that would have identified a different worst case accident. Accordingly, the licensee's omission of the postulated main steam line break accident at full power with continued injection of feedwater was not identified by the staff.

The staff does not, in general, reverify the analyses performed by the licensee to determine the bounding case of a design basis accident. The staff reviews the parameters for the case presented by the licensee as most limiting to ensure that the licensee has selected appropriately conservative values.

At the time of licensing Millstone 2, the licensee made a basic error by limiting the parametric study to zero power cases. The licensee erroneously assumed that since the inventory of the steam generator was maximized at zero power, this would result in the bounding case.

In 1980, the NRC issued IE Bulletin 80-04, "Analysis of a PWR Main Steam Line Break With Continued Feedwater Addition," in which the staff addressed analyses of steam line breaks specifically. The staff issued this Bulletin

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because three licensees had found deficiencies in their main steam line break analyses when they considered continued feedwater addition including auxiliary feedwater. The staff considered the actions required by the Bulletin adequate to address these concerns.

The licensee for Millstone 2 submitted its evaluation in response to the Bulletin on March 5, 1980. This response stated that the staff's concerns were addressed by a previous reevaluation of their main steam line break analysis that had been prepared in response to a staff request for information on automatic initiation of the auxiliary feedwater system. In the analysis the additional mass releases to the containment due to auxiliary feedwater addition were added to the FSAR case and shown to have no impact on the peak containment pressure and temperature. Since this study was aimed at only assessing the impact of the new automatic initiation system, the original FSAR assumptions were not reevaluated and therefore the bounding transient were not evaluated. The staff in an October 7, 1982 letter to the licensee accepted this response based on a Safety Evaluation and a Technical Evaluation Report from our contractor, the Franklin Research Center.

In order to address this latest finding at Millstone 2 on a generic basis, the NRC informed the rest of the industry of this erroneous re-evaluation in Information Notice 91-69, "Errors in Main Steam Line Break Analyses For Determining Containment Parameters." Original Signed By:

James M. Taylor
 James M. Taylor
 Executive Director
 for Operations

cc: The Chairman
 Commissioner Curtiss
 Commissioner Remick
 Commissioner de Planque
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OR THE ASSOCIATE DIRECTORS OF NRR. YOU MUST THEN CALL EITHER EILEEN TANA (22012)
OR CELESTE SMYRE (21219) AND GIVE THEM THE REQUESTED EXTENSION DATE AND THE REASON.
WE WILL THEN NOTIFY THE EDO'S OFFICE TO GET THE DUE DATE CHANGED. THANK YOU.

Due Date 3/17/92