

April 25, 2001

Mr. James F. Mallay  
Director, Regulatory Affairs  
Framatome ANP, Richland, Inc.  
2101 Horn Rapids Road  
Richland, WA 99352

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - FRAMATOME ANP RICHLAND INC., TOPICAL REPORT EMF-2361(P), REVISION 0, "EXEM BWR-2000 ECCS EVALUATION MODEL" (TAC NO. MB0574)

Dear Mr. Mallay:

Framatome ANP, Richland, Inc. (FRA-ANP) submitted Topical Report EMF-2361(P) Revision 0, "EXEM BWR-2000 ECCS Evaluation Model" on November 7, 2000, for staff review. The staff is reviewing the topical report and by letter dated March 5, 2001, additional information was requested in order for the staff to complete its review.

In response to the March 5, 2001, staff request, FRA-ANP furnished the information electronically by a compact disc (CD) containing the codes RELAX, PREHUXY and HUXY, and selected test cases. The staff ran these codes in the NRC computing system to independently verify the code performance in order to reproduce some of the results presented in the subject topical report.

One large-break and one small-break loss-of-coolant accident (LOCA) test cases ran on the NRC system produced the following result:

In both the cases, the results calculated by NRC and FRA-ANP were close (within a few degrees) in the beginning of the transients. However, after about a third of the total transient time elapsed, the results for both the test cases began to significantly diverge, resulting in peak cladding temperatures (PCT) which were approximately 65°F higher for NRC calculated small-break LOCA (SBLOCA), and approximately 10° F lower for NRC calculated large-break LOCA (LBLOCA).

The staff, therefore, requests FRA-ANP to review the test case results and explain the discrepancies, paying particular attention to the differences introduced from the results using FRA-ANP generated static executable. In addition, the staff requests you to address the following concerns:

1. What assurances are there to justify that there are no errors in the computer floating point math performance that is causing the deviations in the results?
2. Considering that the observed discrepancy is significant (PCT difference > 50°F) for one out of the two test cases, what assurances are there that the deviation will not be larger

than 65°F for SBLOCA calculations, possibly in the non-conservative direction, if the staff had pursued more test case runs at NRC? Please provide the rationale for the difference and reasoning for not using the more conservative NRC calculated results (compared to the FRA-ANP calculated) for the licensing basis.

The enclosed request was discussed with your staff on April 19, 2001. A mutually agreeable target date of 30 days from the date of this letter was established. If circumstances result in the need to revise the target date, please call me at the earliest opportunity at (301) 415-1480.

Sincerely,

*/RA/*

N. Kalyanam, Project Manager, Section 1  
Project Directorate IV and Decommissioning  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Project No. 702

Enclosure: Request for Additional Information

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