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July 30, 1980

B.3.2.1
WMY 80-114

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Office of Nuclear Reactor Regulation

Reference: (a) License No. DPR-36 (Docket No. 50-309)
(b) USNRC letter to YAEC, dated June 26, 1980, Subject: Prediction Requirements of LOFT Small Break Test L3-6
(c) RELAP5/MOD0, R. J. Wagner et. al., CDAP-TR-057, May 1979

Subject: LOFT Small Break Test L3-6 Prediction Requirements

Dear Sir:

Maine Yankee Atomic Power Company concurs with the LOFT L3-6 analysis approach outline in Reference (b).

Maine Yankee has concluded that the best available code for use in small break LOFT analysis and plant specific small break ECCS performance analysis in general is RELAP5. We intend to seek NRC approval to perform small break ECCS analyses with a RELAP5 evaluation model (EM). Further, we believe the reactor coolant pump trip question is best resolved through use of RELAP5 in best estimate mode. Discussions with your staff indicate enthusiasm for development and application of RELAP5 for these purposes.

We, therefore, intend to analyze L3-6 using RELAP5 and to make code lock up and post-test analysis submittals as requested in Reference (b).

At the same time, we feel obligated to demonstrate the capability of the small break models currently used for licensing and engineering calculations (RELAP4 mod 3 EM and BE, respectively).

We also intend to analyze L3-6 using our currently approved small break models in both EM and BE modes. We will make appropriate pre-test code lockup and post-test analysis submittals as requested in Reference (b).

We expect that RELAP 4 and mod 3 EM will conservatively predict the results of L3-6. At this point, we expect that RELAP4 mod 3 BE methods will provide less satisfactory results than can be obtained by application of RELAP5 with its superior physical models.

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Our immediate intent in pursuing this somewhat more arduous than required course of action is twofold. First, we want to demonstrate the conservatism of the evaluation models which support plant operation. Second, we wish to demonstrate that RELAP5 is more suitable for addressing engineering questions than the current licensing model used in the BE mode.

In the long run, there is an economic incentive for licensing the faster running RELAP5 for production small break analyses and a powerful incentive to take advantage of its improved physical models to demonstrate margins to LOCA limits.

Finally, it remains to be shown on a plant specific basis whether it is desirable or necessary to automatically (or otherwise) trip reactor coolant pumps upon a LOCA. The reactor coolant pump trip question has the potential for significant safety and economic impact and should, therefore, be addressed in a deliberate manner using improved analysis methods when feasible.

We trust this information indicates our intent in a timely and useful manner and is responsive to Reference (b). If there are any questions, please contact us.

Very truly yours,

MAINE YANKEE ATOMIC POWER COMPANY

W. P. Johnson
Vice President

RHG/jgh