



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

March 12, 1979

Docket No. 50-309

NOTE TO: Robert W. Reid, Chief, Operating Reactors Branch #4, DOR  
FROM: Chris Nelson, Project Manager, Operating Reactors Branch #4, DOR  
SUBJECT: USE OF STONE & WEBSTER PIPESTRESS CODE FOR THE MAINE YANKEE FACILITY

In response to my phone request of March 9, 1979 Yankee Atomic Power Company provided, by phone on March 12, 1979 the following schedule for resolution of concerns associated with the use of PIPESTRESS code at Maine Yankee:

1. Systems - Systems affected have been identified - They are all those analyzed by S&W including Class I piping attached to reactor coolant piping and Class 2 ECCS piping.
2. Preliminary Analysis - Analyses to categorize piping stress levels as below code allowables; above allowables but below yield; or above yield will be complete by April 2, 1979. S&W transfer to information to key cards will take until March 23, 1979.
3. Final Analysis - No schedule proposed for check of hanger design or final modifications.

A handwritten signature in cursive script that reads "Chris Nelson".

Chris Nelson, Project Manager  
Operating Reactors Branch #4  
Division of Operating Reactors

March 12, 1979

DAILY HIGHLIGHT

QUESTIONABLE PIPE STRESS CODE USED BY STONE & WEBSTER ON FIVE PLANTS

In continuing its followup on an initial Licensing Event Report of October 27, 1978 on Beaver Valley, DOR learned for the first time on March 8, 1979 that Stone & Webster used an unconservative version of its PIPESTRESS code to calculate seismic stresses on safety-related pipes and pipe supports. Algebraic summation was used instead of the accepted techniques of summation of absolute values or taking the square root of the sum of the squares of the absolute values (SRSS). The code version used resulted in predicting stresses significantly lower than would be predicted by currently accepted techniques. Use of a newer code, NUPIPE, considered to be acceptably conservative, yielded unacceptable stresses in two of the three pipe runs then at issue.

Because of the potential generic aspects of this matter, Duquesne Light Company and Stone & Webster were asked to identify whether any other safety related piping systems could have unacceptable stresses when analyzed by NUPIPE or another code acceptable to us. Further, Stone and Webster was also asked to identify any other plants that used the unconservative version of PIPESTRESS to calculate stress levels in safety-related piping. Four other plants are involved: Fitzpatrick, Maine Yankee, and Surry Units 1 and 2.

Efforts were initiated by Stone & Webster on March 9, 1979 to obtain the requested information on an expedited basis. DOR dispatched technical staff to the Stone & Webster Boston offices over the weekend, as did Duquesne Light Company, to monitor this effort. Also on March 9 DOR called the other licensees to inform them of this potential problem and to request that they also inform the NRC of any safety systems that could be adversely affected, the extent of possible overstresses, and the schedule for forwarding this information. A preliminary response from all licensees has been requested by Monday, March 12. At the present time three of the five plants are operating and two are shut down. (Surry Unit 2 is shut down for steam generator replacement. Beaver Valley shut down March 9 and Duquesne Light Company has indicated that the plant will not be restarted without prior notification of DOR).

sent to Rick  
3-12-79  
11:55 am