

YANKEE ATOMIC ELECTRIC COMPANY

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November 28, 1990
BYR 156/90

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

- References:
- (a) License No. DPR-3 (Docket No. 50-29)
 - (b) USNRC Bulletin 88-11, "Pressurizer Surge Line Thermal Stratification"
 - (c) Letter, YAEC to USNRC, "Bulletin No. 88-11, Pressurizer Surge Line Thermal Stratification," dated June 1, 1989
 - (d) Westinghouse Electric Corporation, WCAP-12277, "Westinghouse Owners Group Bounding Evaluation for Pressurizer Surge Line Thermal Stratification"
 - (e) Westinghouse Electric Corporation, WCAP-12639, "Westinghouse Owners Group Pressurizer Surge Line Thermal Stratification Generic Detailed Analysis, Program MCHP-1091 Summary Report"

Subject: Request for Schedule Extension for Action Item 1.d of USNRC Bulletin 88-11

Dear Sirs:

Action Item 1.d of Bulletin 88-11 requests that licensees update their analyses of record to incorporate the effects of thermal stratification on the pressurizer surge line. The bulletin also requests that this item be completed no later than two years after the receipt of the bulletin. For Yankee, the completion date would be January 3, 1991.

A short extension is requested to allow Yankee to incorporate the most recent surge line thermal and displacement data into our detailed analysis. The thermal monitoring data was obtained starting November 6, 1990 during the plant heatup following the June 1990 refueling/maintenance outage.

The detailed analysis will include the effects of thermal stratification and striping. Also, a fatigue evaluation in accordance with the 1986 ASME Boiler and Pressure Vessel Code will be performed. This analysis will be completed by March 1, 1991. A letter to include a description of the analytical techniques used and a summary of results, as requested by Item 3 of the bulletin reporting requirements, will be submitted on or before March 15, 1991.

YNPS is currently operating under the Justification for Continued Operation (JCO) submitted via Reference (c). The JCO allows continued operation for ten heatup/cool-down cycles from the date of the letter (June 1, 1989). Since that date, the plant has experienced five heatup/cool-down cycles.

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The surge line is a 4" line supported by three spring hangers. There are no rigid supports, pipe whip restraints, or other restrictions to thermal movement. This layout will minimize thermally-induced stresses.

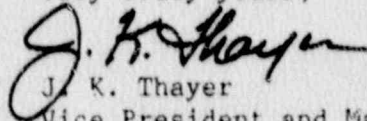
Thermal monitoring of the surge line has been performed. To date, the maximum observed temperature differential (ΔT) between the top and bottom of the pipe has been less than 150°F. This compares favorably with the 300°F+ observed at other plants.

The Reference (e) evaluation qualified the YNPS surge line for ASME Equations 12 and 13, and thermal stress ratchet limits. The surge line was not qualified for fatigue for a design life of 40 years including 200 heatup/cool-down cycles. The evaluation does show that the surge line could be qualified for fatigue for a design life of 40 years including approximately 100 heatup/cool-down cycles. In 30 years of operation, YNPS has experienced only 59 heatup/cool-down cycles. It should also be noted that the heatup/cool-down transients used in Reference (e) were based on a maximum ΔT of 304°F. As stated above, the maximum observed ΔT at YNPS has been less than 150°F.

We fully expect that the detailed analysis will qualify the surge line for the design life of the plant. This is based on the discussions above regarding the flexible layout of the piping and supports, the favorable results of the evaluations performed for the Westinghouse Owners Group (References (d) and (e)), and on the results of the thermal monitoring of the line.

We trust that the information provided herein is satisfactory. If there are any questions, please do not hesitate to contact us.

Very truly yours,



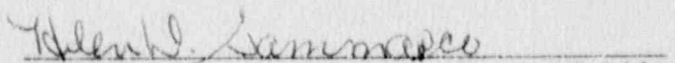
J. K. Thayer
Vice President and Manager of Operations

JKT/gjt/WPP78/114

cc: USNRC Region I
USNRC Resident Inspector - YNPS
Regional Administrator, USNRC Region I

COMMONWEALTH OF MASSACHUSETTS)
WORCESTER COUNTY)

Then personally appeared before me, J. K. Thayer, who, being duly sworn, did state that he is Vice President and Manager of Operations of Yankee Atomic Electric Company, that he is duly authorized to execute and file the foregoing document in the name and on the behalf of Yankee Atomic Electric Company and that the statements therein are true to the best of his knowledge and belief.



Helen D. Sammarco Notary Public
My Commission Expires November 7, 1991