

# NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY  
WESTERN MASSACHUSETTS ELECTRIC COMPANY  
HOLYOKE WATER POWER COMPANY  
NORTHEAST UTILITIES SERVICE COMPANY  
NORTHEAST NUCLEAR ENERGY COMPANY

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November 22, 1985

Docket No. 50-423  
B11896

Director of Nuclear Reactor Regulation  
Mr. B. J. Youngblood, Chief  
Licensing Branch No. 1  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Youngblood:

Millstone Nuclear Power Station, Unit No. 3  
Clarification of Stress Allowable

Northeast Nuclear Energy Company (NNECO) hereby provides a change to FSAR Table 3.9B-10 (attached) which clarifies the stress allowable to be used with ASME Equation 9 for the emergency condition.

This change was discussed with the Staff in a telephone conversation on November 21, 1985 and found to be acceptable.

If you have any questions regarding this information, please contact our licensing representative directly.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY  
et. al.

BY NORTHEAST NUCLEAR ENERGY COMPANY  
Their Agent

J. F. Opeka  
J. F. Opeka  
Senior Vice President

C. F. Sears  
By: C. F. Sears  
Vice President

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STATE OF CONNECTICUT   )  
                                  ) ss. Berlin  
COUNTY OF HARTFORD    )

Then personally appeared before me C. F. Sears, who being duly sworn, did state that he is Vice President of Northeast Nuclear Energy Company, an Applicant herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Applicants herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

*Lorraine J. L'Amico*  
Notary Public  
My Commission Expires March 31, 1988

MHPS-3 FSAR

TABLE 3.9B-10

ASME III CLASS 1  
STRESS AND FATIGUE ANALYSIS REQUIREMENTS PER NB3650

	Normal and Upset Conditions	Emergency Conditions	Faulted Conditions
Primary Stress Intensity (Equation 9)	$B_1 \left( \frac{P D_o}{2t} \right) + B_2 \left( \frac{D_o}{2I} \right) M_1 \leq 1.5 S_m$	$\leq 2.25 S_m$ but not greater than $1.8 S_y$	$\leq 3.0 S_m$
Primary and Secondary Stress Range (Equation 10)	$S_n = C_1 \left( \frac{P D_o}{2t} \right) + C_2 \left( \frac{D_o}{2I} \right) M_1 + \frac{1}{2(1-\nu)} E \alpha  \Delta T_1 $ $+ C_3 E_{ab}  \alpha_a T_a - \alpha_b T_b  \leq 3 S_m$	N/R	N/R
Peak Stress Range (Equation 11)	$S_p = K_1 C_1 \left( \frac{P D_o}{2t} \right) + K_2 C_2 \left( \frac{D_o}{2I} \right) M_1 + \frac{1}{2(1-\nu)} K_3 E \alpha  \Delta T_1 $ $+ K_3 C_3 E_{ab}  \alpha_a T_a - \alpha_b T_b  + \frac{1}{1-\nu} E \alpha  \Delta T_2 $	N/R	N/R
Thermal Expansions Range (Equation 12)	$S_e = C_2 \left( \frac{D_o}{2I} \right) M_1 \leq 3 S_m$	N/R	N/R
Primary and Secondary Membrane, and Bending Stress (Equation 13)	$C_1 \left( \frac{P D_o}{2t} \right) + C_2 \left( \frac{D_o}{2I} \right) M_1 + C_3 E_{ab}  \alpha_a T_a - \alpha_b T_b  \leq 3 S_m$	N/R	N/R
Alternating Stress (Equation 14)	$S_{alt} = 1/2 K_e S_p$	N/R	N/R
Usage Factor	$U = \frac{\text{Actual No. Cycles}}{\text{Allowable No. Cycles}} \quad EU \leq 1.0$	N/R	N/R

NOTES:

Nomenclature is as described in ASME Section III, NB-3600.

$B_1 = .5$  may be used in lieu of 1.0 for branch connections, curved pipe/elbows, and tees.

$C_1$  and  $K_1$  indices may be derived from NUREG CR-0778, June 1979.