

**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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February 3, 1986  
 MP-8685

Dr. Thomas Murley  
 U. S. Nuclear Regulatory Commission  
 Regional Administrator  
 Region I  
 631 Park Avenue  
 King of Prussia, PA 19406

Reference: Facility Operating License No. NPF 49, Docket No. 50-423

Dear Dr. Murley:

Positive Moderator Temperature Coefficient

This Special Report is being submitted within ten days pursuant to plant Technical Specification 3.1.1.3, Action a.3 and 6.9.2. Plant Technical Specification 3.1.1.3 required a Moderator Temperature Coefficient less positive than 0.0k/k/°F for the All rods withdrawn beginning of cycle life (BOL), hot zero THERMAL POWER condition.

During the performance of startup physics testing a Positive Temperature Coefficient was measured for the Millstone Unit 3 Nuclear Power Plant. Measured values are as follows:

<u>ITC</u>	<u>MTC</u>	<u>Control Rod Position</u>	<u>RCS Boron Concentration</u>
-1.03	+0.92	All SHUTDOWN Banks Out All Control Banks Out	1570
-2.5	-.55	Control Bank D Fully Inserted All other Control and Shutdown Banks Fully Withdrawn	1502 ppm
-6.07	-4.12	Control Banks C and D Fully Inserted All other Control and Shutdown Banks Fully Withdrawn	1383 ppm

To prevent the Moderator Temperature Coefficient from becoming positive, Rod Withdrawal Limits and Boron Concentration Limits have been established.

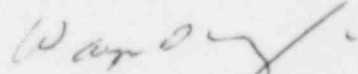
These limits were established in accordance with the fuel vendors recommendations and include a 1 pcm/°F conservatism. It is estimated that the average core burnup at which time the Moderator Temperature Coefficient will be negative for the All rods out Xenon free condition is 5570 MWD/MTU.

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The licensee contact for this Special Report is David McDaniel and may be reached at (203) 444-4389.

Yours truly,

NORTHEAST NUCLEAR ENERGY COMPANY



Wayne D. Romberg  
Station Superintendent  
Millstone Nuclear Power Station

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