



Northeast
Utilities System

107 Seiden Street, Berlin, CT 06037

Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270
(203) 665-5000

May 2, 1994

Docket No. 50-245
B14831

Re: GL 89-10, Supplement 3

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Millstone Nuclear Power Station, Unit No. 1
Modifications to Generic Letter 89-10, Supplement 3

The purpose of this letter is to provide information to the NRC Staff as a followup to discussions during NRC Inspection No. 50-245/94-05 of the motor-operated valve (MOV) program at Millstone Unit No. 1. This information consists of an update regarding modifications made by Northeast Nuclear Energy Company (NNECO) to certain MOVs during the Millstone Unit No. 1 Cycle 14 refueling outage which commenced January 15, 1994. The MOVs of interest are those covered by Supplement 3 to Generic Letter (GL) 89-10, which were identified by NNECO in a letter dated September 17, 1991.⁽¹⁾

Supplement 3 to GL 89-10 identified the possibility of deficiencies in MOVs used to provide containment isolation in the high pressure coolant injection (HPCI), reactor core isolation cooling (RCIC), reactor water cleanup (RWCU), and other comparable systems such as the isolation condenser (IC), at boiling water reactor (BWR) plants. This concern was based on results of NRC-sponsored dynamic valve tests and on data provided to the NRC Staff by the BWR Owners' Group.

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- (1) E. J. Mroczka letter to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 1, Additional Information, Safety-Related Motor-Operated Valve Testing and Surveillance," dated September 17, 1991.

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In Information Notice 93-88,⁽²⁾ the Staff identified preliminary results of the Electric Power Research Institute (EPRI) MOV Performance Prediction Methodology (PPM), which is intended to allow determination of an MOV's capabilities based on a combination of analytical prediction and static diagnostic tests of the MOV. As part of EPRI's program, dynamic tests of typical MOVs were performed under break flow conditions. Such dynamic testing cannot be accomplished on the installed valves at a BWR plant.

NNECO assessed the relevance of EPRI's dynamic test data and determined that the 0.3 valve factor (V_f) criteria in the Northeast Utilities MOV Program was too low for large, single disc gate valves with a break isolation function. An expedited operability assessment of the Millstone Unit No. 1 Supplement 3 MOVs, utilizing an interim $V_f = 0.4$, was then completed.

This assessment resulted in two RWCU system valves, 1-CU-2 and 1-CU-3, being declared inoperable, as documented in Licensee Event Report 93-025-00.⁽³⁾ These two valves were temporarily modified for higher actuator thrust, utilizing torque switch bypass until the port is closed, to ensure flow isolation. The valves were then declared operable.

During the refueling outage, design changes were implemented, as listed in Attachment 1, on all Millstone Unit No. 1 Supplement 3 MOVs. This was done to increase actuator thrust output to be consistent with the "best available information," achieving as-left V_f capability greater than 0.6 for all valves except 1-CU-3. A lesser V_f , justified by use of valve-specific internal dimensions, analysis based upon the EPRI PPM methodology, and other applicable test data, was implemented for 1-CU-3.

GL 89-10, Supplement 3 also called for licensees to address the valves' containment isolation role. Each Supplement 3 valve with a containment isolation function was evaluated utilizing its differential pressure as used in local and integrated leak rate testing to demonstrate compliance with 10CFR50 Appendix J. The torque switch setpoint was then established to assure complete, leak-tight closure. Actual Appendix J local leak rate testing for these and other containment isolation valves, and an

(2) NRC Information Notice 93-88, "Status of Motor-Operated Valve Performance Prediction Program by the Electric Power Research Institute," dated November 30, 1993.

(3) D. B. Miller, Jr. letter to U.S. Nuclear Regulatory Commission, dated January 3, 1994, forwarding LER 93-025-00.

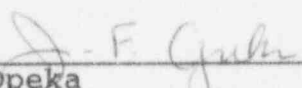
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May 2, 1994

Appendix J containment integrated leak rate test, were successfully performed during this outage following the valve modifications.

We trust this informational update will be of use to the NRC Staff in its assessment of the Millstone Unit No. 1 MOV Program. If you have further questions, please contact Mr. Timothy G. Murray at (203) 665-5975.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



J. F. Opeka
Executive Vice President

cc: T. T. Martin, Region I Administrator
J. W. Andersen, NRC Acting Project Manager, Millstone Unit
No. 1
P. D. Swetland, Senior Resident Inspector, Millstone Unit
Nos. 1, 2, and 3

Docket No. 50-245
B14831

Attachment 1

Millstone Nuclear Power Station, Unit No. 1

Modifications to GL 89-10, Supplement 3
Motor-Operated Valves

May 1994

Millstone Nuclear Power Station, Unit No. 1
 Modifications to GL 89-10, Supplement 3
 Motor-Operated Valves

MOV No.	Design V_f	TSB*	GEAR CHANGE	NEW ACTUATOR	NEW MOTOR	OTHER
1-CU-2	0.6	Yes	—	—	Yes	
1-CU-3	0.5	Yes	Yes	—	Yes	Dimensions, Analysis & Test Data used to Justify V_f
1-CU-28	0.6	Yes	Yes	Yes	Yes	
1-IC-1	0.6	Yes	—	—	—	
1-IC-2	0.6	Yes	Yes	—	—	Ball Screw Mod to Actuator
1-IC-3	0.6	Yes	—	—	—	
1-IC-4	0.6	Yes	Yes	Yes	Yes	

* TSB = Torque Switch Bypass; the close torque switch is bypassed until flow isolation is achieved.



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*Kay -
Please change date
concluding attachment
right away. JFO want
be here after
lunch. Jim*

April 29, 1994

Docket No. 50-245
B14831

Re: GL 89-10, Supplement 3

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Modifications to
Millstone Nuclear Power Station, Unit No. 1
* Generic Letter 89-10, Supplement 3
~~Safety-Related Motor-Operated Valve Testing and Surveillance~~

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April 1994

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