

NORTHEAST UTILITIES

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

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May 22, 1991

Docket No. 50-423

B13821

Re: Inspection 50-423/86-12

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

- References:
- (1) R. W. Starostecki letter to J. F. Opeka, Resident Inspection 50-423/86-12, dated May 14, 1986.
 - (2) J. F. Opeka letter to R. W. Starostecki, Response to IE Inspection No. 50-423/86-12, dated June 19, 1986.
 - (3) E. J. Mroczka letter to U.S. Nuclear Regulatory Commission, 50-423/86-12, dated August 27, 1987.
 - (4) E. J. Mroczka letter to U.S. Nuclear Regulatory Commission, Elimination of Unnecessary Annunciator Windows, dated April 5, 1988.
 - (5) E. J. Mroczka letter to U.S. Nuclear Regulatory Commission, Elimination of Unnecessary Annunciator Windows, August 3, 1989.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3
Elimination of Unnecessary Annunciator Windows

In Reference (1), Northeast Nuclear Energy Company (NNECO) was asked to review the Staff's concern regarding the high number of energized control room annunciators at Millstone Unit No. 3 which could adversely impact the control room operator's ability to respond adequately to abnormal or transient conditions. NNECO responded by describing a program to reduce the number of illuminated annunciators in References (2) and (3).

At the completion of the first refueling outage, NNECO provided the status of the implementation plan to reduce illuminated control room annunciators (Reference [4]). At completion of the second refueling outage, Millstone Unit No. 3 modified alarm logic of three annunciators and setpoints of six annunciators. In addition, setpoints of five additional annunciators, not previously included in the program, were revised by the end of second refueling outage (Item F of Table 1), and installation of a digital loose parts monitor (Item G of Table 1) has reduced the frequency of spurious alarms. In Reference (5), NNECO presented details of modifications made

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during the first and second refueling outages and those planned for the next refueling outage.

The purpose of this letter is to update the status of the implementation plan to reduce illuminated control room annunciators. During the third refueling outage, Millstone Unit No. 3 modified the alarm logic of seven annunciators. This completes the remaining hardware modifications in the original implementation plan. The setpoints for two annunciators that were in the original scope to be revised were not changed. This action was based on our reevaluation of the setpoints for those annunciators and it was determined that the existing setpoints were appropriate and the annunciator windows for these alarm functions are not lit during normal plant operation.

The activities completed during the three refueling outages complete our commitment and program towards reduction of the number of illuminated annunciators at Millstone Unit No. 3 as outlined in References (2) and (3). This action should satisfy the Staff's concern regarding the high number of energized control room annunciators at Millstone Unit No. 3 which could adversely impact the control room operator's ability to respond adequately to abnormal or transient conditions.

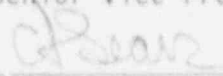
Although this letter documents the completion of our formal commitment to reduce lit annunciators, we remain committed to pursue the few remaining illuminated annunciators. These few illuminated annunciators could be the result of plant operating conditions, corrective maintenance activities, changes in setpoint criteria or design modifications to improve plant reliability. NNECO is aware of the impact of excessive illuminated annunciators on the efficiency of control room operators. To ensure that we continue to monitor the status of illuminated annunciators, NNECO has established an ongoing annunciator review and tracking program to address all main board illuminated annunciators at Millstone Unit No. 3 on a weekly basis and to pursue action to reduce them. Identified design improvements will be given a high degree of attention to ensure modifications/changes are implemented on a priority basis.

If there are any questions regarding this submittal, please contact our licensing representatives.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

FOR: E. J. Mroczka
Senior Vice President

BY: 
C. F. Sears
Vice President

cc: See Page 3

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cc: T. T. Martin, Region 1 Administrator
D. H. Jaffe, NRC Project Manager, Millstone Unit Nos. 1 and 3
W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3

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Millstone Nuclear Power Station, Unit No. 3

Implementation Status
Elimination of Unnecessary Annunciator Windows

May 1991

Table 1
Millstone Nuclear Power Station, Unit No. 3
Implementation Status
Elimination of Unnecessary Annunciator Windows

- A. The following annunciator windows were deleted during the first cycle of operation:

<u>Alarm Location</u>	<u>Function</u>
1. MB1-A-1-5	Containment Instrument Air Compressor A Cooling Water Temperature High
2. MB1-A-2-6A	Containment Instrument Air Compressor A Lube Oil Pressure Low
3. MB1-A-2-6B	Containment Instrument Air Compressor A Discharge Temperature High
4. MB1-A-2-7A	Containment Instrument Air Compressor B Lube Oil Pressure Low
5. MB1-A-2-7B	Containment Instrument Air Compressor B Discharge Temperature High
6. MB1-A-2-8	Containment Instrument Air Header Pressure Low
7. MB1-A-4-5	Containment Instrument Air Compressor B Cooling Water Temperature High
8. MB1-B-1-3	Postaccident Sample Panel Door Open
9. MB1-B-4-4	Chlorine Room Chlorine High
10. MB2-B-3-6A	Sequencer A Door Open
11. MB2-B-3-6A	Sequencer B Door Open
12. MB3-A-4-8	Charging Pump Auxiliary Oil Pump Off
13. MB3-B-4-8B	Boric Acid Batch Tank Temperature Low
14. MB4-C-1-2	Process Protection Set Door Open
15. MB7-1-2-10B	Turbine L.O. Dirty Oil Tank Level Low
16. MB1-C-4-1B	Chiller A Condenser Water Flow Low
17. MB1-C-5-1B	Chiller B Condenser Water Flow Low

- B. Alarm logic of the following annunciators was modified during the first refueling outage:

<u>Alarm Location</u>	<u>Function</u>
1. MB2-B-3-7	Hydrogen Recombiner Train A Trouble
2. MB2-B-3-8	Hydrogen Recombiner Train B Trouble

- C. Alarm logic of the following annunciators were modified. As an interim measure, the illuminated color of these annunciators was changed to green, indicating they may be expected during power operation.

<u>Alarm Location</u>	<u>Function</u>	<u>Schedule</u>
1. MB5-C-3-2A	Auxiliary Feedwater Pump A Lube Oil Pressure Low	Was Modified During 2nd Refueling
2. MB5-C-3-2B	Auxiliary Feedwater Pump B Lube Oil Pressure Low	Was Modified During 2nd Refueling
3. MB6-B-3-6	Turbine Plant Component Cooling Water Heat Exchanger Service Water Outlet Pressure Low	Was Modified During 2nd Refueling
4. MB1-C-1-1B	Containment Recirculation Cooler Service Water Flow High/Low	Was Modified During the 3rd Refueling
5. MB1-C-1-4A	Chiller A Evaporator Outlet Temperature High	Was Modified During the 3rd Refueling
6. MB1-C-1-4B	Chiller A Chiller Water Flow Low	Was Modified During the 3rd Refueling
7. MB1-C-2-4A	Chiller B Evaporator Outlet Temperature High	Was Modified During the 3rd Refueling
8. MB1-C-2-4B	Chiller B Chilled Water Flow Low	Was Modified During the 3rd Refueling

<u>Alarm Location</u>	<u>Function</u>	<u>Schedule</u>
9. MB1-C-3-4A	Chiller C Evaporator Outlet Temperature High	Was Modified During the 3rd Refueling
10. MB1-C-3-4B	Chiller C Chilled Water Flow Low	Was Modified During the 3rd Refueling

- D. Illuminated color of the following annunciators was changed to green during the first refueling outage; these may be expected during power operation. No additional work is planned.

<u>Alarm Location</u>	<u>Function</u>
1. MB4-C-4-1	Source Range Loss of Detector Voltage
2. MB4-C-5-1	Source Range Shutdown Flux High Blocked
3. VP1-A-3-3	Control Building Chiller Condenser A Service Water Flow Low
4. VP1-C-3-3	Control Building Chiller Condenser B Service Water Flow Low
5. VP1-A-1-7	Containment Air Recirculation Fan A Flow Low
6. VP1-C-1-7	Containment Air Recirculation Fan C Flow Low
7. VP1-B-4-9	Containment Air Recirculation Fan B Flow Low
8. VP1-A-2-8	Containment Air Recirculation Cooler A Chilled Water Flow Low
9. VP1-B-2-3	Containment Air Recirculation Cooler C Chilled Water Flow Low
10. VP1-C-2-8	Containment Air Recirculation Cooler B Chilled Water Flow Low

- E. Set points of the following annunciators have were revised:

<u>Alarm Location</u>	<u>Function</u>	<u>Schedule</u>
1. MB3-B-2-4A	Boric Acid Tank A Temperature High	Was Revised by 2nd Refueling
2. MB3-E 2-5A	Boric Acid Tank B Temperature High	Was Revised by 2nd Refueling

	<u>Alarm Location</u>	<u>Function</u>	<u>Schedule</u>
3.	MB3-B-4-4B	Boric Acid Tank A Level Low	Was Revised by 2nd Refueling
4.	MB3-B-4-5B	Boric Acid Tank B Level Low	Was Revised by 2nd Refueling
5.	MB3-B-5-4A	Boric Acid Tank A Low-Low Level	Was Revised by 2nd Refueling
6.	MB3-B-5-5A	Boric Acid Tank B Low-Low Level	Was Revised by 2nd Refueling
7.	MB6-B-3-9	MSR Drain Tank A Level High/Low	Was Not Revised during 3rd Refueling*
8.	MB6-B-4-9	MSR Drain Tank B Level High/Low	Was Not Revised during 3rd Refueling*

- F. Set points of the following annunciators, not previously included in the program, were revised by the end of the second refueling outage:

	<u>Alarm Location</u>	<u>Function</u>
1.	MB4-C-1-8A	Saturation Trouble Train A
2.	MB4-C-1-8B	Saturation Trouble Train B
3.	MB4-C-2-10A	Core Exit Temperature HI Train A
4.	MB4-C-2-10B	Core Exit Temperature HI Train B
5.	MB6-B-4-6	Trashrack Differential Level High

- G. Loose Parts Monitor Trouble (MB1-B-3-5): A new digital loose parts monitor was installed. This was not previously included in the program, but has significantly reduced the frequency of spurious alarms.

* The setpoint were not revised since it was determined that the existing setpoints for the above alarm function were appropriate. In addition, the annunciator windows for these alarm functions are not lit during normal plant operation.