

**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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January 29, 1991

Docket No. 50-336  
B13700

Re: Generic Letter 89-13

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

- References:
- (1) J. G. Partlow letter to All Holders of Operating Licenses or Construction Permits for Nuclear Power Plants, Service Water System Problems Affecting Safety-Related Equipment (Generic Letter 89-13), dated July 18, 1989.
  - (2) E. J. Mroczka letter to W. T. Russell, Haddam Neck Plant, Millstone Unit Nos. 1, 2, and 3, Service Water System--Generic Letter 89-13, dated January 25, 1990.
  - (3) E. J. Mroczka letter to U.S. Nuclear Regulatory Commission, Service Water System--Generic Letter 89-13 (TAC No. 74026), dated June 1, 1990.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 2  
Service Water System--Generic Letter 89-13 (TAC No. 74026)

On July 18, 1989, the NRC issued Generic Letter (GL) 89-13 (Reference (1)) which requires each licensee to supply information about their respective safety-related service water systems to assure the NRC of compliance with the General Design Criteria related to the service water system and confirm that the safety functions of their respective service water systems are being met.

Specifically, GL 89-13 recommends that licensees: (1) conduct surveillance and control programs to reduce flow blockage problems from biofouling, (2) conduct a heat transfer testing program on safety-related heat exchangers in open-cycle systems, (3) establish a routine inspection and maintenance program for open-cycle system piping and components, (4) confirm that the service water system will perform its intended function in accordance with the licensing basis for the plant, and (5) confirm the adequacy of relevant maintenance practices, operating and emergency procedures, and training. The NRC also requested, within 180 days of receipt of Reference (1), that each licensee advise the NRC whether it has established programs to implement recommendations identified in GL 89-13 or pursued an equally

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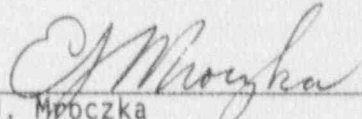
effective alternative course of action and a schedule for implementation for each of the recommendations identified in GL 89-13. By letter dated January 25, 1990 (Reference (2)), Northeast Nuclear Energy Company (NNECO), on behalf of Millstone Unit No. 2, provided a response and a schedule for implementation to each of the five recommended actions identified in GL 89-13.

GL 89-13 also asked licensees to inform the NRC that all of the recommended actions or their justified alternatives have been implemented. By letter dated June 1, 1990 (Reference (3)), NNECO provided a revised schedule for the implementation of Item 4 of GL 89-13. Specifically, it was indicated that Item 4 of GL 89-13 will be completed prior to the startup from the Cycle 11 refueling outage for Millstone Unit No. 2, currently scheduled for spring, 1992. With regard to Item 1, NNECO indicated in Reference (2) that the program to reduce flow blockage problems from biofouling was in place and no further action is required. For Item 3, it was indicated that Millstone Unit No. 2 has a formal program for the inspection and maintenance of service water piping and components with respect to corrosion and erosion deterioration. NNECO hereby confirms that the testing and activities related to Items 2 and 5 were accomplished on schedule during the 1990 refueling outage. Attachment 1 summarizes those activities and testing completed. It is noted that results are documented and retained in plant records.

We trust you find this information satisfactory and responsive. As always, we are available to address any questions the NRC Staff may have.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

  
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E. J. Mroczka  
Senior Vice President

cc: T. T. Martin, Region I Administrator  
G. S. Vissing, NRC Project Manager, Millstone Unit No. 2  
P. Habighorst, Resident Inspector, Millstone Unit No. 2  
W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2,  
and 3

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Attachment 1

Response to Recommended Actions  
(Generic Letter 89-13)

Millstone Unit No. 2

January 1991

Response to Recommended Actions  
(Generic Letter 89-13)  
Millstone Unit No. 2

Item 2

Conduct a heat transfer testing program on safety-related heat exchangers in open-cycle systems.

Response

The proposed program for monitoring Millstone Unit No. 2 service water heat exchangers as defined in Generic Letter (GL) 89-13 was provided in Reference (1).

A. Water-to-Water Heat Exchangers:

1. Reactor Building Closed Cooling Water (RBCCW)

a. Baseline Testing

Sufficient heat load was not available to do a baseline test of these heat exchangers during the refueling outage. Due to system configuration and heat load available, the performance of the baseline was impractical. However, temperature and flow data was collected during a down power prior to the 1990 refueling outage while there was a significant heat load on the RBCCW system. The measured heat transfer values will be extrapolated to verify the design value using a computer model. A heat exchanger performance model of the service water system is being developed. Expected completion of the model development is April 1, 1991 with completion of the extrapolated values expected by June 1, 1991.

b. Subsequent Monitoring

In Reference (1), a subsequent monitoring program for the RBCCW was provided. Based on that program, no other testing is required.

2. Diesel Generators

a. Baseline Testing

In Reference (1), it was indicated that an initial heat transfer analysis will be performed using temperature and flows under an in-service test. In lieu of this approach, a review of existing surveillance procedures used for loading the diesel generator for normal operating conditions and accident conditions was performed. NNECO concludes that



these surveillance procedures adequately verify the design basis condition for these heat exchangers.

The heat exchangers on the diesel generator will not be scheduled for testing other than the normal monthly surveillance runs of the diesels. Since credit is taken for frequent regular maintenance of the heat exchangers as permitted in the generic letter, the cleaning and inspection plan already in place along with the operational run of the diesel generators provides assurance that these heat exchangers will perform their design function.

b. Subsequent Monitoring

In Reference (1), a subsequent monitoring program for the diesel generator heat exchangers was presented. Based on that program, no other testing is required.

B. Air-to-Water Heat Exchangers

i. Switchgear Coolers

a. Baseline Testing

An In-Service Test (IST 90-7) was conducted to collect data at full power operation. The heat load in each room is higher at 100% power than that which the coolers expect to see during an accident. The results of this test indicates that all of the heat exchangers were capable of maintaining the temperature of the room below the FSAR limit. This provides assurance that these heat exchangers will perform their design functions.

b. Subsequent Monitoring

Since 100% power operation provides a heat load greater than that which the coolers will see under accident conditions, in lieu of a semi-annual heat load test, weekly test data will be collected and trended to ensure that proper heat transfer and adequate flows are maintained. If a negative performance trend is observed, the heat exchangers will be inspected and cleaned.

Since credit is taken for frequent regular maintenance of the heat exchangers as permitted in the generic letter, the cleaning and inspection plans already in place provides assurance that these heat exchangers will perform their intended design function.

Based upon the described monitoring and inspection program, no other testing or monitoring is required.

C. Compressor-to-Water Heat Exchangers

1. Vital Chillers

a. Baseline Testing

An In-Service Test (IST 90-6) was conducted to collect data at full power operation. The heat load in each room is higher at 100% power than what is expected to be seen during an accident. The results of this test indicates that both of the heat exchangers are capable of removing the heat load of the compressors to maintain the temperature of each room below the FSAR limit. This provides assurance that these heat exchangers will perform their design function.

b. Subsequent Monitoring

The next semi-annual heat load test is scheduled for May 1991. The results of this next test will assist in determining the frequency of subsequent tests.

Since credit is taken for frequent regular maintenance of the heat exchangers as permitted in the generic letter, the cleaning and inspection plan already in place provides assurance that these heat exchangers will perform their intended design function.

In Reference (1), a subsequent monitoring program for the diesel generator heat exchangers was presented. Based on that program and the information presented above, no other testing is required.

Item 5

Confirm the adequacy of relevant maintenance practices, operating and emergency procedures and training.

Response

The adequacy of training activities related to GL 89-13 was addressed in Reference (1). The results of this review indicated that the training is adequate to ensure that plant personnel, using approved procedures, are able to effectively operate the service water system such that safety-related equipment cooled by the system will function as intended.

The appropriate maintenance practices, operating and emergency operating procedures were reviewed to ensure that the plant personnel are able to

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effectively operate, repair and maintain the service water system. NNECO believes that there is sufficient direction in these procedures in conjunction with the training provided to ensure that plant personnel are able to effectively maintain and repair the service water system equipment. The results of the review are documented and retained in the plant records.

Reference: (1) E. J. Mroczka letter to W. F. Russell, Haddam Neck Plant, Millstone Unit Nos. 1, 2, and 3, Service Water System--Generic Letter (GL) 89-13, dated January 25, 1990.