

JAN 31 1992

Docket No. 50-423

Mr. John F. Opeka  
Executive Vice President - Nuclear  
Northeast Nuclear Energy Company  
P. O. Box 270  
Hartford, Connecticut 06141-0270

Dear Mr. Opeka:

Subject: Inspection 50-423/91-16

Dear Mr. Opeka:

This refers to your letter dated December 20, 1991, in response to our letter dated November 1, 1991.

Thank you for informing us of the corrective and preventive actions documented in your letter. These actions will be examined during a future inspection of your licensed program.

In your letter you indicated that you have increased the resources committed to the Nuclear Plant Reliability Data System and that NNECo management systematically reviews failure data quarterly to identify recurring equipment problems. The NRC considers this increased commitment to be an important step towards preventing repetitive hardware problems.

Your response informing us of Haddam Neck corrective actions being addressed in a separate letter has been noted.

Your cooperation with us is appreciated.

Sincerely,

Original Signed By

Edward C. Wenzinger, Chief  
Projects Branch 4  
Division of Reactor Projects

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PDR ADOCK 05000423  
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JEO

cc w/o copy of licensee letter:

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S. E. Scaee, Nuclear Station Director  
C. H. Clement, Nuclear Unit Director  
R. M. Kacich, Manager, Nuclear Licensing  
D. O. Nordquist, Director of Quality Services

cc w/cy of licensee letter:

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Northeast Nuclear Energy Company

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Region 1 Docket Room (with concurrences)  
Management Assistant, DRMA (w/o encl)

bcc w/cy of licensee ltr:  
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A. Asars, SRI, Haddam Neck  
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RI:DRP  
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Wenzinger  
1/31/92

# NORTHEAST UTILITIES



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

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December 20, 1991

Docket No. 50-423  
A09987

Re: 10CFR2.201

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

Reference: C. W. Hehl letter to J. F. Opeka, Millstone Unit 3 Inspection  
91-16, dated November 1, 1991.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3  
Reply to Notice of Violation  
Inspection Report No. 50-423/91-16

In a letter dated November 1, 1991 (Reference), the NRC Staff transmitted the results of an inspection conducted on August 1 through September 23, 1991, at Millstone Unit No. 3. The NRC Staff identified one Severity Level IV violation related to pressurizer power operated relief valve control system operability and consequent technical specification violation. On November 26, 1991, the Staff granted Northeast Nuclear Energy Company's (NNECO) verbal request for an extension for response to the NOV until December 20, 1991. Corrective actions have been taken since this event to ensure procedure compliance and understanding of requirements. These corrective actions are described in detail in Attachment 1.

In addition, in the referenced letter, the NRC requested that the actions taken to prevent additional repetitive personnel and hardware problems at all of our units be addressed. The personnel issue is addressed in the response to the Notice of Violation. The hardware issue noted in the inspection report was the number of repetitive failures of the emergency diesel generator starting air compressors and a number of repetitive DC grounds. The corrective actions are described in Attachment 2. The application of corrective actions, as described in Attachments 1 and 2, to the Haddam Neck plant will be addressed in a separate letter by the end of February 1992.

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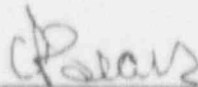
U.S. Nuclear Regulatory Commission  
A09987/Page 2  
December 20, 1991

If you have any questions regarding the information contained in this letter,  
please contact us.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

FOR: J. F. Opeka  
Executive Vice President

BY:   
\_\_\_\_\_  
C. F. Sears  
Vice President

cc: T. T. Martin, Region I Administrator  
V. L. Rooney, NRC Project Manager, Millstone Unit No. 3  
W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2,  
and 3  
C. W. Hehl, Director, Division of Reactor Projects, Region I

Docket No. 50-423  
A09987

Attachment 1

Millstone Nuclear Power Station, Unit No. 3

Reply to Notice of Violation

December 1991



Millstone Nuclear Power Station, Unit No. 3  
Reply to Notice of Violation

A. Restatement of Violation

Technical Specification 6.8.1 requires that procedures covering the activities in Regulatory Guide 1.33 be established and implemented. Station administrative procedures ACP 2.02B, "Retests," and ACP 2.02C, "Work Orders," were written pursuant to the above. ACP 2.02B requires (Step 6.2.1) that the department supervisor assure that retests be specified, based on the work scope, to verify system operability. ACP 2.02C requires (Step 6.2.21), when work activity exceeds the originally approved work scope, that the new job scope be documented and evaluated by the department supervisor. Work Order 91-00527 implemented the above controls for a wiring modification on the arming switch for pressurizer power operated relief valve (PORV) 3RCS\*PCV455A.

Contrary to the above, on March 25, 1991, work beyond the approved scope of AWO 91-00527 was performed on the control switch for PORV 3RCS\*PCV455A, rendering the valve inoperable. The new work scope was not documented and the work supervisor was not contacted to reestablish retest requirements. This action caused the PORV to be inoperable during plant operation from April 1 through June 24, 1991, in violation of Technical Specifications 3.4.9.3.b and 3.4.4.b.

B. Reasons for Violation

On July 24, 1991, the power operated relief valve (PORV) 3RCS\*PCV455A was discovered to be inoperable during a slave relay test. The plant was operating normally at full power. It was found that the PORV "open/auto/close" switch had the automatic position and close position reversed.

On March 25, 1991, work was initiated to correct an annunciator design problem associated with the "arm/block" switch for the PORV. In the process of the work, Electrician A mistakenly removed the PORV "open/auto/close" switch. Electrician A stopped work when he realized the switch wiring did not agree with the schematics. When he replaced the switch, the contact block was installed 180° from the normal position. Electrician A left a note for the day shift requesting they resolve the anomaly between the switch and schematic. Electrician B continued the work and removed the switch by the switch collar which could not have reversed the leads. Realizing that the switch was incorrect and incorrectly assuming that Electrician A had removed the switch in the same manner Electrician B restored the switch and continued on to the next switch.

The root cause of the event was that neither electrician considered their actions to be outside the approved workscope. Electrician A was



intending to place the work in a stable condition for resolution by the next shift. However, he did not explicitly state the actions which he had taken. Electrician B did not consider lowering and replacing the switch to be an expansion of work scope. Both actions were not in accordance with the station policy for documenting work performed.

C. Corrective Steps Taken and Results Achieved

Immediately following identification of the problem with the PORV "open/auto/close" switch for PORV 3RCS\*PCV455A, Northeast Nuclear Energy Company (NNECO) declared the PORV inoperable. As required by Technical Specifications, its associated block valve was immediately closed and within one hour power was removed from the associated block valve.

Within 30 hours of the discovery, the PORV switch was replaced, the circuit was tested for proper operation, the associated block valve reopened and the PORV was returned to an operable status.

An analysis of the event indicated that the PORV switch was incorrectly restored. The PORV would not have responded to high pressure in the reactor coolant system in an automatic mode with the switch installed incorrectly. During the period that the switch was incorrectly wired, the plant operated in modes where technical specifications required both trains of PORVs to be operable when the cold overpressure protection function was not fully satisfied. The event was reported by Licensee Event Report 91-016 on July 24, 1991.

In addition, NNECO's corrective actions consisted of counseling the electricians and incorporating the event into departmental training.

D. Corrective Steps Which will be taken to Avoid Future Violations

The following action will be taken to ensure all individuals who perform work at Millstone Nuclear Power Station realize the requirements for work outside a specific approved task and that they stop and assure that the work order is corrected and properly reviewed by all required levels of supervision.

This specific example will be discussed in the Maintenance, Instrument and Controls and support groups of all the Millstone units by department supervision to ensure that job supervisor understand the expectation of management to stop and expand the work scope to restore from a mistake if one is made. This discussion will be led by the department supervisors so that the event is related to the type of work performed by each group. This action will be completed by February 4, 1992.

In addition, NNECO has taken actions to address some of the broader implications of this event--particularly as it relates to communications

among maintenance personnel during shift turnovers and adherence to administrative requirements at all three Millstone units.

1. NNECO has undertaken an extensive program to ensure procedure compliance. This effort was started in August 1991. This is part of the performance improvement program as previously described to some members of your staff at the NRC/NU counterparts meeting of November 13, 1991.
2. Procedure compliance and understanding of requirements is being reinforced by an observation program. This effort is a combined review by plant supervisors and quality assurance engineers to observe ongoing work activities for compliance with all station procedures. This program reinforces the management commitment to procedure compliance as well as increasing the understanding of station requirements. This program is ongoing.
3. The lessons learned from this event will be incorporated into training of our technical and physical workers. The training program will incorporate the lessons learned by February 1992. The lesson learned training program is a periodic program given to each unit prior to the commencement of that unit's refueling outage.

E. The Date When Full Compliance will be Achieved

NNECO is presently in full compliance with all requirements pertinent to this violation. Full compliance was achieved when the block valve was opened and the PORV was returned to service to an operable status on June 26, 1991.

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Attachment 2

Actions taken to prevent Additional Repetitive  
Personnel and Hardware Problems at  
Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

December 1991

Actions Taken to Prevent Additional Repetitive  
Personnel and Hardware Problems at  
Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

In the referenced inspection report, the NRC identified repetitive equipment problems involving the air compressors for the emergency diesel generator air receivers and DC Grounds caused by wetting of the hypochlorite injection valves in the service water systems. The NRC also requested that these repetitive equipment problems be addressed for all the Millstone units. Specific actions taken to correct the repetitive problems at Millstone Unit No. 3 and application of these corrective actions regarding these issues at the three Millstone units are described below.

A. Diesel Generator Air Compressor Problem

Millstone Unit No. 3 experienced a large number of problems on the emergency diesel generator starting air compressors. Since last year, Northeast Nuclear Energy Company (NNECO) has increased the resources committed to the Nuclear Plant Reliability Data System (NPRDS). Specifically, six individuals were assigned to gather the failure data related to the diesel generator air compressors and prepare a report for management information and action. The reports already generated showed these specific compressors to have a significantly higher failure rate than the rest of the industry. Subsequently, several methods of reducing the failure rates have been attempted. As an example, just recently, two of the four compressors have been replaced with new compressors. In addition, the other two compressors have been rebuilt with several modifications including heavier duty compressor heads. The individual engineer assigned for this system has been working with the plant maintenance department and other utilities to identify the possible causes of failures.

The specific issue related to emergency diesel generator starting air compressor failures has been shared with the other Millstone units. Based on the information available, we have determined that the other Millstone units have not experienced a similar high failure rate for the diesel generator air compressors. This historical data on other units does not provide any specific solution to this problem.

B. DC Ground Problem

Millstone Unit No. 3 experienced several DC grounds caused by wetting of hypochlorite valves. These valves are located in a vault with no installed drain sump and no remote annunciator for flooding. No remote indication was therefore available for leaks which could cause wetting of the components in the area. Only equipment located in this vault are DC solenoid actuated, air operated valves which fail to their safety related position. The direct shorting out of these valves would not pose a

significant impact to safety, since the DC circuits which supplied the valves are protected by fuses.

The DC grounds caused by wetting of the hypochlorite valves have been recognized by NNECO management as an ongoing problem. A plant modification has been initiated to install a level alarm in the area where hypochlorite valves are located. Water level on the floor will cause a trouble annunciator to indicate in the control room. This alarm installation is scheduled to be completed on February 4, 1992. In addition, access to this area has been improved by the construction of an access portal in the place of the original concrete plug. Also, the valves located near the floor of this area have been removed. This will further reduce the likelihood of DC ground problems. The only other valves in this area are located about 14 feet above the floor.

The combination of the annunciator circuit, increased margin until system leakage can effect an electrical circuit, the improvements in service water leak integrity, and easier personnel access for system checks should reduce the occurrences of DC grounds to an insignificant number.

This issue has been reviewed with the other Millstone units. There are no other similar locations containing vital electric equipment at the other Millstone units. The area where these DC grounds occurred is unique to Millstone Unit No. 3.

NNECO management systematically reviews failure data quarterly to identify recurring equipment problems. Corrective action is assigned to address any problems noted. In both cases discussed, NNECO was aware of the issues and had initiated corrective action. In some cases the corrective action process is an iterative process that implements a solution, evaluates the results and implements another solution, if required. For the issues discussed, we concur that this process did not meet our expectations for resolving such issues. The organizational changes effective in June 1991 will permit the plant technical support staff to focus more on these types of performance issues than in the past. We believe this change is currently having positive effects and will become fully effective in 1992.