



Northeast  
Utilities System

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August 1, 1994

Docket No. 50-245  
B14910

Mr. Wayne D. Lanning  
Deputy Director, Division of  
Reactor Projects  
U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

Dear Mr. Lanning:

Millstone Nuclear Power Station, Unit No. 1  
Maintenance Activities

The purpose of this letter is to provide Northeast Nuclear Energy Company's (NNECO's) response to your letter dated June 1, 1994.<sup>(1)</sup> The NRC Staff requested that NNECO submit the results of our review and disposition of several maintenance activity matters at Millstone Unit No. 1. As you requested, we note that this letter does not contain any personal privacy, proprietary, or safeguards information and may, therefore, be placed in the NRC Public Document Room. It should be noted that we have not specifically reiterated the concerns listed in the attachment to your June 1, 1994, letter, as this was identified as 10 CFR 2.790 material.

SUMMARY

NNECO has completed several internal reviews in order to meaningfully address and resolve all of the issues described within your June 1, 1994, letter. As a result of our review of these issues, several areas have been identified which warrant improvement, and NNECO has initiated activities which we believe will prevent similar occurrences and will enhance the overall quality of activities at Millstone Unit No. 1. While these issues have resulted in improvement in the conduct of work practices, it has been confirmed that nuclear safety was not compromised by any of the evolutions addressed herein. We also note that NNECO had been actively pursuing resolution of these issues prior to receipt of your June 1, 1994, letter. All of the specific examples of

(1) W. D. Lanning letter to J. F. Opeka regarding maintenance activity matters at Millstone Unit No. 1, dated June 1, 1994.

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discrepancies cited in the referenced letter have been investigated and corrected where appropriate.

## DISCUSSIONS

### Response to Issue No. 1

Based on the results of an internal review of maintenance matters, the Millstone Unit No. 1 Work Planning and Control Department is currently tasked with development of a strategy for eliminating automated work order (AWO) process problems. The Work Planning and Control Department was developed with, among other goals, the expectation of strengthening work control processes. Additionally, improvements in associated procedures and work control processes have been implemented. Inclusion of a Quality Assessment Services (QAS) Department individual within the Work Planning and Control organization is also expected to result in improvements in attention to detail in work control processes.

The examples specified in the June 1, 1994, letter have been reviewed by station management and dispositioned as appropriate. Discrepancies involving administrative errors in the work control process have been corrected, such as missing signatures, equipment tagging, etc. Specifically, at the written request of the Millstone Unit No. 1 Unit Director, the Millstone Unit No. 1 Maintenance Department Manager completed a thorough review of all maintenance issues which were previously brought to his attention, and examples "a", "b", and "d" of the enclosure to the June 1, 1994, letter were among them. Item "a" consisted of improper review of work packages prior to issuance which resulted in missing signatures. These errors were identified and corrected prior to commencing work. The investigation into item "b" verified that a tag was omitted from the Clearance Verification Sheet. This error was also corrected prior to commencing work. The breaker in question was tagged in the proper position. The investigation also confirmed that tags are required to be verified only once each shift. However, as a matter of practice, tags may be verified more often if desired. Item "d" was investigated and responded to the NRC by a letter dated June 6, 1994. The conclusion was there were no station tagging violations. Nevertheless, NNECO will be taking action to address the lessons learned from these matters.

Item "c" was investigated and walked down by an NRC inspector and a Maintenance Electrical Supervisor. It was determined that the first issue, a tagging verification signature was missed, warranted corrective action, although no safety issues were identified. The second issue, incorrect ground installation, was reviewed and it

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was concluded that it was physically impossible to install the ground of the identified pump backwards.

Item "e", inadequate tagging for lighting fixtures, was the result of confusion over who has responsibility for ensuring the proper work site (lighting fixture) is tagged. Because of the difficulty in identifying lighting circuits, the responsible individuals incorrectly relied on each other for verifying tagging adequacy. This resulted in no verification and the incorrect circuit was tagged. However, because the error was detected during a pre-job walkdown, the error was corrected prior to commencement of the work activity.

On a more global front, Millstone Unit No. 1 is currently developing a process in which a "paper traveler" will accompany all AWOs from origination through the appropriate cycle, job implementation, and final closeout review. The intent of this is to solicit written feedback to management of any problems or concerns identified in the AWO or work performance process. Implementation of this feature is designed to identify and help address the underlying root cause(s) of the five items noted, and is expected to result in enhancements in these processes.

#### Response to Issue No. 2

A review of AWOs associated with the 480 volt Motor Operated Valve modifications did not reveal any problems with the conduct of the maintenance, including the concern that unqualified personnel performed work. Additionally, the electrical foreman responsible for the work in question stated that the personnel assigned were properly qualified and supervised.

Following receipt of the allegation, QAS performed a scheduled audit of the training and qualification records of maintenance personnel. Their findings were that, although some weaknesses were noted throughout the site, there were no findings regarding unqualified individuals performing work without adequate supervision in the Millstone Unit No. 1 Maintenance Department. QAS confirmed that work was being assigned to qualified craft and maintenance personnel and, therefore, the qualification program was being appropriately implemented. While various self-assessment activities will remain active in this area, we were not able to identify any specific deficiency that could be described as stated in Issue No. 2.

Response to Issue No. 3

The permanent turbine building closed cooling water/reactor building closed cooling water (TBCCW/RBCCW) cross-tie piping was installed via an early release for construction while the unit was operating immediately prior to the Cycle 14 refueling outage (RFO). As allowed by Nuclear Group Procedure (NGP) 3.03, the early release for construction requires a safety assessment and Unit Director approval prior to start of construction. Thus, during the initial phase of the cross-tie piping modification, a safety assessment and Unit Director approval were completed, but a 10CFR50.59 safety evaluation was not yet prepared. A 10CFR50.59 safety evaluation was completed as required by NGP 3.12 prior to placing the cross-tie into service. The cross-tie was placed into service during the Cycle 14 RFO when portions of the service water system were taken out of service for modifications/repairs.

The 10CFR50.59 safety evaluation associated with Plant Design Change Record (PDCR) 1-55-93, "RBCCW/TBCCW cross-connect piping," addressed the following:

- Use of a non-safety related system (TBCCW) to remove decay heat from either the reactor vessel or spent fuel pool.
- Prevention of inadvertent use of cross-connect piping during normal power operations.
- Affect of cross-connect piping on RBCCW and TBCCW during normal power operations.
- Ability of the RBCCW system to perform other functions than decay heat removal when the cross-connect piping is in use.
- The potential unmonitored release of radioactively contaminated water to the environment via the cross-connect through a leak in the TBCCW heat exchanger into the service water (SW) system.
- Compliance with Appendix R Shutdown Analysis during installation of the cross-connect piping.
- The use of the cross-connect to help mitigate the loss of RBCCW system flow during reactor power operations.
- The use of the cross-connect to help mitigate the loss of SW system flow during reactor power operations.
- Establishing proper system operation to ensure the proposed modification will not "run out" the TBCCW pump when the cross-tie is in service.



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- Impact of a full core offload.

Malfunctions evaluated were the loss of TBCCW flow and loss of normal electrical power.

The safety evaluation concluded that there was no impact on previously-evaluated accidents, no potential for a new unanalyzed accident, or no decrease in the margin of safety as defined in the basis of any technical specification.

The safety evaluation was prepared in accordance with the requirements of 10CFR50.59 and was also reviewed and approved by the Plant Operations Review Committee and Millstone Unit No. 1 Nuclear Review Board. Additionally, the PDCR and associated safety evaluation were reviewed by the Safety Analysis Branch and it was determined that this change did not constitute an unreviewed safety question and an integrated safety evaluation was not required.

The second issue regarding the accuracy of the information contained in LER 93-011-00 has also been reviewed to determine whether any actions are required. LER 93-011-00 concerns Millstone Unit No. 1's ability to maintain the bulk pool temperature below 150°F for spent fuel discharges during refueling, consistent with the plant's design basis. Analyses showed that with a full core offload and a single active failure, the pool bulk temperature would exceed 150°F. Hence, this condition was determined to be reportable and the LER was issued. The use of the RBCCW/TBCCW cross-tie was not specifically discussed in the subject LER since the condition reported in the LER would have been reportable regardless of the use of RBCCW/TBCCW cross-tie.

Hence, our conclusions are that a valid 10CFR50.59 evaluation was performed to effect the cross-tie previously described and that the information provided in LER 93-011-00 is correct. Nonetheless, opportunities for further improvement were previously identified, and these are being pursued.

#### Response to Issue No. 4

While performing procedure MP 701.2 "Reactor Vessel Head Tensioning" the required elongation of 0.044"  $\pm$  0.002" was not achievable utilizing hydraulic tensioner pressure of 7,000 psig, as was outlined in the procedure. A Plant Information Report (PIR) was initiated on March 23, 1994, upon discovery of this procedural inadequacy for reactor vessel head stud tensioning. A contract employee from General Electric (GE) assisted in resolution of this issue and it was determined by a GE evaluation that increasing the tensioner hydraulic pressure from 7,000 psig to 8,000 psig in 200

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psig increments would be acceptable and would not affect the integrity of the reactor vessel head studs. Subsequent to this determination, a procedure change to MP 701.2 was issued reflecting a hydraulic tensioner pressure increase to 8,000 psig and the job was then successfully completed.

The fact that this scenario occurred during previous outages was considered during discussions with GE, and it was determined that the increased hydraulic pressure did not result in any adverse impacts to the reactor vessel head studs. The issue of the evaluation taking two days to complete has no safety significance since the unit was shutdown for refueling at the time and no work on the equipment was being performed during the two days. Therefore, NNECO believes that the above course of action was appropriate.

NNECO acknowledges that the Maintenance Department had previously performed stud tensioning outside of the procedure guidelines. It is worthy of note that the questioning attitude displayed by station mechanics during the Cycle 14 RFO resulted in discovery of the problem which lead to proper evaluation and procedure changes. A memorandum was issued to all Millstone Unit No. 1 personnel from the Unit Director which emphasized the need to perform work right the first time. The memo also commended the questioning attitude of the mechanics and reiterated the importance of procedural compliance as well as questioning and, where appropriate, changing inadequate procedures.

We understand that procedure compliance is an issue which warrants continued management attention. Various actions are underway which show that such attention is being applied to this important area.

### Conclusion

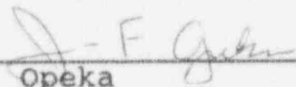
The above issues have received significant attention at Millstone Unit No. 1 and NNECO believes that all of the specific examples cited have been adequately resolved. Additionally, NNECO acknowledges that overall enhancements within the Maintenance Department and with the work control processes are warranted, and we have been implementing changes as appropriate. We believe that the increased communication of management's expectations regarding attention to detail and procedural compliance will help us achieve our goal of performance excellence.

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Please contact Mr. Peter J. Miner at (203) 665-3296, if there are further questions regarding this matter.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

  
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Executive Vice President

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