

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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March 13, 1991

Docket No. 50-336

A09341

Re: 10 CFR 2.201

Director, Office of Enforcement
U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Gentlemen:

Millstone Nuclear Power Station, Unit No. 2
Reply to Notice of Violation (EA 90-219)

By letter dated February 11, 1991, ⁽¹⁾ the NRC transmitted a Notice of Violation (NOV) and Proposed Imposition of Civil Penalty (\$50,000) relating to NRC Inspection Report No. 50-336/90-22. The Inspection Report and NOV addressed two incidents in October 1990 during which containment integrity requirements were violated.

Pursuant to 10 CFR 2.201, Northeast Nuclear Energy Company (NNECO) is providing its response to the subject NOV. The response to the NOV is provided as Attachment 1. Also enclosed is a check for the full amount of the Proposed Civil Penalty.

The two events cited in the subject violation occurred during the Millstone Unit No. 2 refueling outage completed late last year and were the result, at least in part, of personnel errors. As NNECO discussed at the enforcement conference regarding this matter, NNECO views all personnel errors as preventable. NNECO consistently emphasizes, and will continue to emphasize, its expectations of high-quality work, the importance of strict attention to detail, and the requirement of strict procedural adherence. We provided to the NRC during the enforcement conference a description of some of our comprehensive and innovative efforts to enhance personnel performance at Millstone Station.

- (1) Letter, T. T. Martin to E. J. Mroczka, "Notice of Violation and Proposed Imposition of Civil Penalty - \$50,000 (NRC Inspection Report No. 50-336/90-22)." dated February 11, 1991.

The NRC, in transmitting the subject NOV, indicates its view that our root-cause analysis was insufficient and that corrective actions were, as a result, narrowly focused. NNECO acknowledges that the Licensee Event Report did not address the event duration and regulatory implications of that duration, but does not agree with the Staff's conclusion regarding the root-cause analysis and corrective actions. From the outset, we have evaluated this event from both an operations and an overall personnel performance perspective. NNECO continues to believe that for each of these incidents, the root cause was an isolated error by an operator who had sufficient training and awareness such that the errors should not have occurred. As discussed in Attachment 1, other operators may have had opportunities to prevent these errors or to discover the errors sooner; however, the fundamental responsibility in each case fell on the individual supervising control operator.

Given our view of the root cause of this event, NNECO's assessment of corrective actions was anything but narrow. NNECO addressed extensively its measures to prevent other personnel errors from occurring, and did not limit those measures to errors by Operations personnel. In addition, in recognition of the fact that opportunities to prevent these errors, or at least to identify them sooner, did exist, we included as corrective measures operational enhancements. As discussed at the enforcement conference, we are performing or developing preoutage refresher training as well as self-verification training, status board improvements to address configuration control during outages, and enhanced shift surveillances which will include containment integrity considerations. It is our intent that these measures will address, among other issues, the concerns voiced by the NRC in transmitting the subject NOV.

We recognize that at the enforcement conference our presentation and responses to certain NRC Staff questions may have created the impression that our analysis and corrective actions addressed only individual performance issues and neglected operational teamwork issues. This was not our intent. NNECO recognizes and emphasizes the importance of teamwork in nuclear operations and has devoted significant resources to this topic. Many of the actions being taken to respond to this event are also intended to promote communications and teamwork.

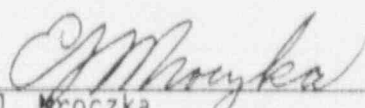
In total, NNECO has been very responsive to this matter and has from the start broadly defined its corrective actions and actions to prevent recurrence. Although, as recognized by the NRC, neither of these two incidents inherently involved either actual or potential safety significance, we have viewed the issues from the broadest regulatory perspective and developed our response accordingly. We believe the steps that have been and are being taken, once the results have been fully integrated, responsibly address the NRC's stated concerns.

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If there are any questions concerning the information contained in this
submittal, please contact us.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

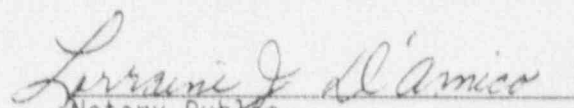


E. J. Mroczka
Senior Vice President

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

STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me, E. J. Mroczka, who being duly sworn, did
state that he is Senior Vice President of Northeast Nuclear Energy Company, a
Licensee herein, that he is authorized to execute and file the foregoing
information in the name and on behalf of the Licensee herein, and that the
statements contained in said information are true and correct to the best of
his knowledge and belief.



Notary Public
My Comm. Expires March 2, 1993

Docket No. 50-336
A09341

Attachment 1

Millstone Nuclear Power Station, Unit No. 2

Reply to Notice of Violation (EA 90-219)

March 1991

Millstone Nuclear Power Station, Unit No. 2
Reply to Notice of Violation (EA 90-219)

Restatement of Violation

Technical Specification Limiting Condition for Operation (LCO) 3.9.4, Containment Penetrations, requires, in part, that during core alterations, each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either closed by an isolation valve, blind flange, manual valve, or special device, or be capable of being closed by an automatic containment purge valve. Technical Specification LCO Action Statement 3.9.4 specifies that when this specification is not satisfied, all operations involving core alterations are to be immediately suspended.

Technical Specification LCO 3.9.10, Containment Purge Valve Isolation System (CPVIS), requires that the CPVIS be operable whenever the reactor is in the refueling mode of operation (Mode 6). Technical Specification LCO Action Statement 3.9.10 requires that when the CPVIS is inoperable, the licensee must either close each of the penetrations providing direct access from the containment atmosphere to the outside atmosphere or suspend all operations involving core alterations or fuel movement within the containment building.

Contrary to the above:

1. Between 6:45 and 8 p.m. on October 2, 1990, while core alterations were taking place, a direct access path from the containment atmosphere to the outside atmosphere existed through the No. 1 steam generator atmospheric dump valve, which would not automatically close, and an open steam generator manway.
2. Between 4:25 a.m. on October 6, 1990, and 2:55 p.m. on October 9, 1990, while core alterations were being performed, a direct access path from the containment to the outside atmosphere existed through both the supply and exhaust lines of the containment purge system and, at the time, both the isolation valves in the exhaust line and one isolation valve in the supply line were not capable of being automatically closed. Specifically, the inlet valve (Valve 2-AC-6) on the exhaust line had been physically removed for maintenance prior to 4:25 a.m. on October 6, 1990, and the outlet valve (Valve 2-AC-7) on the exhaust line and the inlet valve (Valve 2-AC-4) on the supply line were opened at 4:25 a.m. on that date even though their automatic closing function was disabled prior to that time when the associated actuation cabinet was de-energized for troubleshooting.

Reasons for Violation

1. Open Atmosphere Dump Valve for Steam Generator No. 1

Northeast Nuclear Energy Company (NNECO) acknowledges that the cited temporary loss of containment integrity through the atmosphere dump valve (ADV) for Steam Generator No. 1 (SG1) occurred, in violation of Technical Specification 3.9.4, during the course of the last Millstone Unit No. 2 refueling outage. This violation resulted from the personnel error of a supervising control operator (SCO) who improperly cleared a tag on the ADV manual isolation valve that required the valve to remain closed.

Technical Specification 3.9.4 requires, prior to movement of fuel in an outage, that the integrity of containment be established and maintained to mitigate the potential consequences of a postulated accident that involves the drop of an irradiated fuel bundle within containment. To satisfy the containment integrity requirements of Technical Specification 3.9.4, the equipment hatch must be installed, one door of the personnel air lock must be closed, and all containment penetrations must be secured or capable of automatic isolation. Those requirements also necessitate that no vent path be established through the steam generators in the course of work on the generators.

To ensure the integrity of containment when the secondary manway to SG1 was removed for maintenance work on the generator, the manual isolation valve for the ADV for SG1 was tagged for closure on September 25, 1990. The tag order was placed to indicate that the ADV was to remain closed for containment integrity in the course of maintenance work on SG1. Operating Procedure (OP) 2316A also advises that the ADV should not be opened in the course of fuel movement to ensure compliance with the containment integrity requirements of Technical Specification 3.9.4.

On October 2, 1990, SG1 was to be drained. With the exception of the above restrictions, OP 2316A allows for opening the ADV for SG1 to establish a drain vent path. Focusing on this evolution alone, an SCO cleared the tag on the ADV manual isolation valve. This was a mistake because the operator had been made aware at shift turnover that the secondary manway on SG1 was open.

The SCO also failed to apply the OP 2316A advice that the ADV not be opened in the course of fuel movement. At 6:45 p.m., the plant equipment operator opened the ADV at the direction of the SCO, resulting in the violation of the containment integrity requirements of Technical Specification 3.9.4.

At 7:50 p.m., the duty outage coordinator (a shift supervisor and licensed senior reactor operator) observed that the ADV was open and realized that the plant was not in compliance with its applicable

containment integrity requirements. All fuel movement was halted immediately, and the ADV was closed by 8 p.m.

NNECO has conducted a thorough root-cause analysis of this event. As described above, NNECO believes that the event was directly caused by the error of the SCO who inappropriately cleared the tag that required the ADV manual isolation valve to remain closed. NNECO expects that an SCO, prior to clearing safety tagging of any type, will understand the purpose of that tagging and will--before proceeding--establish that all associated work has been completed. NNECO also expects that a properly trained senior reactor operator qualified for the SCO position will recognize the need to maintain the integrity of the secondary systems when the steam generator secondary manways are removed during periods of fuel-handling operations. (As discussed in Section 3 below, NNECO has concluded that this SCO's training was sufficient and that the personnel error was not the result of training inadequacies.) Removal of the tag and opening the ADV was contrary to OP 2316A and led to the violation of the containment integrity requirements of Technical Specification 3.9.4.

NNECO has also reviewed this incident from an operations perspective and concluded that the reactor operator had an opportunity to prevent the violation. NNECO has found that in this incident the reactor operator on duty, although not directly involved in the evolution, did not critically evaluate the evolution. The status of the manways was discussed at shift turnovers and briefings. The reactor operator was also aware of the pumping down of SG1 and the SCO's directions to the plant equipment operator to open the ADV. NNECO expects all licensed operators to maintain awareness of plant conditions and evolutions conducted on shift and to critically evaluate these activities. Accordingly, with more aggressive teamwork, the error might have been prevented. However, as discussed below, the fundamental responsibility remained with the SCO. Nonetheless, as also discussed below, actions such as improved preoutage refresher training are being implemented to address the operational aspects of this incident.

2. Inoperable Containment Purge Valve Isolation System

NNECO acknowledges that the cited violation of Technical Specifications 3.9.10 and 3.9.4, involving the loss of automatic isolation capability for Containment Purge Isolation Valves 2-AC-4 and 2-AC-7, occurred. This violation also resulted from personnel error as discussed below. The circumstances leading to this violation were as follows.

On October 9, 1990, at 2:55 p.m., the plant experienced an inadvertent containment purge valve isolation signal. The signal was precipitated by the momentary failure of a containment gaseous radiation monitor which suffered a temporary loss of power. The radiation monitor is designed to actuate containment purge isolation on either (a) a high radiation signal or (b) a loss of power.

The actuation signal resulted in the automatic closure of one containment purge isolation valve (Valve 2-AC-5). A second valve (Valve 2-AC-6) had been removed for maintenance. The other two containment purge isolation valves (Valves 2-AC-4 and 2-AC-7) were closed manually by plant operators within 48 seconds after actuation.

Under Technical Specifications 3.9.10 and 3.9.4, the containment purge isolation valves are required to close automatically if containment purge is operating, in the course of fuel movement, upon an engineered safety features actuation. However, the actuation cabinet for Valves 2-AC-4 and 2-AC-7 had been removed from service for modification; specifically, the cabinet was de-energized to add an automatic test inserter power supply switch. Thus, these two valves could not automatically actuate on an actuation signal.

The actuation cabinet was tagged out of service of October 5, 1990, at approximately 10:27 p.m., and Valves 2-AC-4 and 2-AC-7 were opened at 4:25 a.m. on October 6, 1990. These are the inlet valve on the supply line and the outlet valve on the exhaust line. The actuation cabinet remained de-energized until October 9, 1990, at 8:33 p.m. In the interim, following opening of the valves, Valves 2-AC-4 and 2-AC-7 could not automatically isolate in violation of the technical specifications. A direct access path from the containment atmosphere to the outside atmosphere existed (while the reactor was in the refueling mode and core alterations were occurring).

NNECO has identified the primary cause of this incident to be the failure of Operations personnel to adequately consider plant technical specifications prior to initiating containment purge. In removing the actuation cabinet for Valves 2-AC-4 and 2-AC-7 for modifications, automatic isolation capability for the valves had been defeated. The responsible SCO, prior to directing licensed activities such as opening of the purge valves on October 6, 1990, should have verified that all technical specifications were satisfied. In addition, in this instance, other licensed operators on shift, but not directly involved, were apparently insufficiently critical of evolutions conducted while they were on shift.

Because this condition existed for approximately three days (from 4:25 a.m. on October 6, 1990, to approximately 2:55 p.m. on October 9, 1990), it existed through several operating shifts without being identified. This occurred primarily due to the failure of the evening shift SCO on October 6, 1990 (a different individual from the SCO who authorized opening of the purge valves), to log that the actuation cabinet for Valves 2-AC-4 and 2-AC-7 had been taken out of service or that Technical Specification Action Statement 3.9.10 had been entered. This made identification of the violation during subsequent shifts very unlikely. At the time there was no facility dependence information in separate turnover sheet entries "Act Cab 5 DC emerg" and "2-AC-6 removed, CTMT purge on."

NNECO also submits that it is not normal practice for technical specification requirements to be invoked by use of the safety tagging system. However, a creative approach to the tagging for the actuation cabinet modification could have resulted in Valves 2-AC-4 and 2-AC-7 being red-tagged closed.

3. Assessment of Operational Issues

Both of these incidents directly resulted from personnel errors by one SCO. In addition, these incidents have led the NRC to question whether NNECO's operating crews were sufficiently aware of plant conditions that existed on their shifts and whether they were sufficiently critical of plant evolutions that were being conducted around them (albeit, without their direct involvement). Such teamwork could have prevented the errors or detected the second error sooner. However, in NNECO's organizational structure for operating shifts, ultimate responsibility for the incidents must lie with the individuals immediately responsible for the plant activities involved. It is this conclusion that forms the basis for NNECO's root-cause assessment discussed above (i.e., that root cause was personnel error).

NNECO believes that measures to sensitize operators regarding these concerns are warranted. However, we also believe that adequate teamwork on shifts currently exists, as evidenced by the several thousand work activities successfully completed during the refueling outage and the smooth unit restart. In total, this record is a credit to the teamwork and attention to detail normally demonstrated by the operators and other personnel.

The outage organization employed during the last Millstone Unit No. 2 refueling outage has now been utilized through three refueling outages and one midcycle outage. Each outage crew is supervised by an outage coordinator (an individual who holds a senior reactor operator (SRO) license), and two or more SRO-licensed SCO's. The outage coordinator participates with the shift supervisor in plant management meetings, and works closely with the shift supervisor to provide an operations perspective on outage planning activities. The outage crew SCOs maintain a dialogue with the operating shift SCO concerning outage work in progress and support plant operators. All outage activities which implicate operations are explained to, and approved by, the shift supervisor and operating shift SCO.

The shift supervisor has overall responsibility for the safe operation of the unit. The operating shift SCO reports to the shift supervisor and is responsible for supervising the activities of the reactor operators at the controls and the activities of the plant equipment operators. Within this hierarchy, plant management expects a unified, or team, effort to safely operate the plant, to maintain compliance with technical

specifications, and to control outage activities in accordance with approved plans. In particular, management expects that:

- a. The shift supervisor will maintain an overview of the operational condition of the plant and will--generally speaking--direct unit operation in conformance with approved procedures and technical specifications.
- b. The SCO will implement plant operations, in accordance with applicable technical specifications, as approved by the shift supervisor and through the reactor operator(s) and plant equipment operators assigned to his shift.
- c. Outage crews will function as an operations service group to support plant operations and approved maintenance activities.

In total, the operating shift arrangement and outage crew setup have proven extremely effective through past outages. Particular notice has also been drawn by our reduced inventory (operating shift) operations and by our use of a backup senior reactor operator (an outage crew supervisor) to provide dedicated attention to critical path start-up operations. At no time have conflicting responsibilities or miscommunication between the two groups been the cause of a significant operational event.

While NNECO's team approach does incorporate a certain amount of dual verification of activities, and certainly encourages general awareness (and critical evaluation) of plant activities being conducted by others, management also has assigned each team member with discrete responsibilities. Individuals are trained to carry out these responsibilities and will be held accountable for errors. While a team concept certainly can help prevent errors and identify errors quickly after they have occurred, a team concept cannot ensure dual verification of all actions.

In these two incidents NNECO agrees that more questioning of activities by individuals on shift, but not involved in the plant evolutions, could have prevented the errors or, in the second case, lead to earlier detection. However, responsibility for these errors remains with the individual assigned with the discrete responsibility. NNECO believes that the teamwork being exhibited on crews at Millstone Unit No. 2 is sufficient and that a lack of teamwork is not a root cause of the violation.

In retrospect, we recognize that our presentation at the enforcement conference on January 15, 1991, as well as our responses to questions asked by Mr. Hehl and others, may have created the impression that our expectations and corrective actions addressed solely individual performance and neglected team performance issues. This could not be farther from the truth. NNECO has long recognized and emphasized the importance of teamwork in accomplishing the various tasks of nuclear power operations. Our activities to enhance teamwork in the operations area are

typified by our aggressive response to the Control Room Teamwork Development Course developed by the National Academy for Nuclear Training. Northeast Utilities was among the first utilities to commit training resources to this important program. All three Millstone units have participated in this program. In fact, four Millstone Unit No. 2 control room crews and one composite group composed of Millstone Unit No. 2 licensed operators and the Operations manager attended the program during the 1990 refueling outage. The SCO involved in the two containment integrity issues attended teamwork training with members of his operating shift during the week of October 15, 1990, subsequent to the occurrence of these events.

Additionally, many of the actions described by the Millstone Unit No. 2 Operations manager at the enforcement conference were in fact team-oriented. Meetings with Operations Department supervisors conducted in October and December 1990 emphasized the supervisory responsibility to nurture teamwork and a mutually supportive atmosphere to prevent personnel errors. Operations personnel also have been encouraged, through morning meeting notes, department meetings, and shift briefings to "back each other up: operate error-free!" Simulator evaluations conducted by the Millstone Unit No. 2 Operations manager routinely include an evaluation of command and control, communications, and teamwork. And, as discussed below, NNECO is implementing measures such as preoutage refresher training that will remind crews on this subject and increase their awareness of the personnel errors made in these incidents. In general, we believe that teamwork and individual attention to detail are given balanced emphasis in our management of nuclear plant operations.

Given that the same SCO was involved in both of these incidents, NNECO has also assessed training as a potential root cause or contributory factor. However, NNECO concludes that the training qualifications of this individual were adequate.

At the enforcement conference we indicated that we had not conducted a review of the SCO's training records, but that no training deficiency was indicated. We wish to clarify this response to more clearly indicate that no training assessment was conducted because the Millstone Unit No. 2 Operations manager had personal knowledge at the time of the incidents that the individual's training performance was satisfactory and improving (positive trend). During four simulator evaluations in 1990 and two in the second half of 1989, the Operations manager had noted improving performance by the SCO in question, with supporting comments indicating examples of excellent communications and teamwork. The individual had never experienced difficulty with written examinations. Thus, it was with full knowledge of the individual's training performance that the Operations manager chose not to conduct a training records review. In other instances, where appropriate, we have reviewed individual or collective training performance to evaluate trends or emerging deficiencies.

Corrective Steps Taken and Results Achieved

1. Open Atmosphere Dump Valve for Steam Generator No. 1

When it was discovered that the open ADV violated the containment integrity requirements of Technical Specification 3.9.4, NNECO immediately halted the movement of fuel and closed the ADV. NNECO subsequently evaluated the event thoroughly and documented that there was no radiological source term during the 75 minutes in which the open ADV compromised the integrity of containment. NNECO also took the following short-term corrective actions:

- a. NNECO specifically counseled the SCO involved in this incident regarding his error. He recognized his error and the importance of maintaining an overview of integrated plant operations during intense maintenance periods. As discussed above, at no time during the initial comprehensive interviews or during subsequent discussions with this SCO, has there been any evidence or suggestion of inadequate training.
- b. NNECO also promptly revised OP 2316A. The caution in the procedure advising that the ADV be closed during the course of fuel movement has been inserted before the applicable step in the instructions on the use of the ADV to drain a steam generator. This human factors improvement will give the caution more emphasis in circumstances such as those that lead to this violation.
- c. Finally, following the second event discussed above, NNECO counseled its supervisors on the need for meticulous attention to detail in the course of extensive maintenance work and evolutions in plant conditions. Shortly thereafter, Inspection Report No. 50-336/90-22 observed that the NRC "inspector reviewed the licensee's responses and determined that they adequately addressed the root cause."

2. Inoperable Containment Purge Valve Isolation System

Within 48 seconds after the inadvertent containment purge valve isolation signal on October 9, 1990, Valves 2-AC-4 and 2-AC-7 were closed manually by plant operators. Those containment purge isolation valves remained closed until their actuation cabinet was returned to service on October 9, 1990 (at 8:33 p.m.). NNECO subsequently evaluated the event thoroughly and documented it in two plant information reports and a Licensee Event Report to the NRC. NNECO also initiated the following corrective actions:

- a. As noted above, NNECO immediately counseled its supervisors (including the SCO involved in both incidents) on the need for meticulous attention to detail in the course of extensive maintenance work and evolutions in plant conditions. In this instance, the responsible

operators were instructed that they should have ensured the capability of the containment purge isolation valves to close automatically in the course of fuel movement upon an isolation signal.

- b. Information available on turnover sheets regarding the actuation cabinets and system status was not such that the details of technical specification compliance on automatic isolation was immediately apparent. Accordingly, as is discussed further below, NNECO began developing such measures as status board improvements, preoutage refresher (significant events) training, and enhanced shift surveillances for key items such as containment purge valves to reduce the likelihood of future similar events. In addition, NNECO is also performing self-verification training. These actions will help to prevent recurrence of both containment integrity incidents.

Corrective Steps to Prevent Future Similar Violations

As discussed above, NNECO has already taken several short-term corrective steps to address the two specific incidents cited in the subject Notice of Violation. These short-term actions immediately established compliance with technical specifications and should serve to prevent similar containment integrity incidents from occurring again. (1)

However, NNECO was from the outset attuned to common elements in these two minor incidents and the broader regulatory implications. NNECO is developing and/or already implementing measures to address operational issues raised by the events and the broader issues of personnel performance at Millstone Station.

Also discussed below is a concern raised by the NRC regarding the adequacy of Millstone Licensee Event Reports.

1. Operational Issues

These two incidents suggest a need for increased awareness by operations personnel of existing plant conditions and evolutions conducted during shifts, increased sensitivity to technical specification requirements, and improved preoutage refresher training to foster better awareness and

(1) Based upon discussions with the NRC Staff, it is our understanding that the first sentence in the last paragraph on page 2 of the NRC's letter dated February 11, 1991, transmitting the subject NOV and proposed Imposition of Civil Penalty, should have stated: "The NRC recognizes that prior to the inspection, actions were initiated to correct these violations and prevent recurrence." The actual statement contains the word "subsequent" in lieu of "prior."

increased critical evaluation of plant activities. Accordingly, NNECO will be implementing the following measures in the Operations area.

First, NNECO is developing status board improvements for outages to increase awareness of plant conditions in the control room in order to better maintain configuration control. In addition, NNECO is evaluating enhanced shift surveillances (or shift checks) to address operability requirements and containment integrity.

Second, NNECO has been performing self-verification training of Operations personnel. This training is intended to foster attention to detail as well as an emphasis on quality job performance.

Finally, NNECO has in the past conducted preoutage briefings to discuss cautions and other special circumstances that plant personnel need to know prior to a busy work period. For Operations personnel, NNECO is expanding upon this idea by developing preoutage refresher training. This training will emphasize the need for attention to procedures, the expectation for full consideration of technical specification requirements, and the importance of awareness and critical evaluation of all plant evolutions. This training will also again emphasize the importance of teamwork and a mutually supportive atmosphere to prevent operating errors.

2. Personnel Performance Enhancements

NNECO has also been aggressive in addressing personnel performance at Millstone Station. NNECO is emphasizing the need for meticulous attention to detail, particularly during outages. NNECO is well aware that with the evolution to shorter critical path refueling outages, its philosophy of error-free operations, attention to detail, and dual verification of work activities is of increased importance. The matter has received the highest management attention and emphasis.

For example, prior to the next Millstone Unit No. 2 refueling outage, plant management will put together a case study of events caused by personnel errors during the past outage. This study will be presented to employees to emphasize how easy it can be to make an error, but how easy it is to prevent errors by attention to detail. NNECO believes strongly in the management approach of emphasizing that employees learn from past mistakes.

Also, as discussed above, NNECO has in the past conducted preoutage briefings to discuss cautions and other special circumstances that plant personnel need to know prior to a busy work period. Preoutage briefings will be expanded to include personnel error issues, particularly past error-related events (including the containment integrity issues cited in the subject NOV). This should help personnel be more aware of outage experience and responsibilities.

Finally, and most comprehensively, for several months (and prior to the NRC's concern regarding the cited incidents) NNECO has been developing a broad program at Millstone Station to address personnel performance issues. The program will identify and emphasize key components of personnel performance, management expectations, and expectations for management. Once developed, this innovative program will involve an interactive process between management and employees. Quality work is an important objective of the effort.

In total, Millstone Unit No. 2 management has expended considerable effort reviewing and analyzing these events and is confident that the actions taken or planned, which will be continually reinforced in the future, will minimize recurrence of similar events.

3. Licensee Event Reports

In transmitting the subject NOV, the NRC requested that NNECO "include in [its] response a description of what actions . . . [it is] taking to provide assurance that . . . corrective actions and LERs will be complete." In this regard, NNECO believes that the NRC is referring to Licensee Event Report 90-16, dated November 5, 1990, addressing the violation related to automatic containment purge isolation capability.

NNECO acknowledges that this Licensee Event Report did not adequately reflect the duration of the violation (which existed from October 6 through October 9, 1990). As a result, the Licensee Event Report did not adequately address the regulatory implications, at least from the perspective of whether the violation could have been identified more promptly by Operations personnel. (NNECO does not agree that, as suggested by the NRC, that the LER failed to address the actual safety significance and potential consequences of the event. Those matters are addressed and are not affected by the duration of the event.) However, NNECO concludes that this omission--and lack of thoroughness--was an administrative error in preparation of the Licensee Event Report only. NNECO, in this instance, had made the NRC aware by discussions with the resident inspector of the duration of the violation. The Millstone Unit No. 2 Operations manager understood the operational significance of the event, and actions to address the event from this perspective were considered by NNECO and were subsequently discussed at the enforcement conference.

NNECO submitted revised LER 90-016-01 on February 26, 1991, to more clearly address the event duration. NNECO has also been sensitized by this NOV to the need for thorough Licensee Event Reports. We will ensure that Licensee Event Reports are more complete in the future, particularly with respect to the discussion of event duration, root causes, and safety assessment.

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Date When Full Compliance Will Be Achieved

NNECO presently is in full compliance with respect to these issues.

For the incident related to the ADV on SG1, full technical specification compliance was established on October 2, 1990, by closing the ADV within approximately 10 minutes from identification of the issue.

For the incident related to CPVIS, technical specification compliance was achieved on October 9, 1990, by closing the two relevant valves manually within 48 seconds after an inadvertent containment purge valve isolation signal identified the problem.