

February 21, 1992

Docket No. 50-423
License No. NPF-49
EA 92-008

Northeast Nuclear Energy Company
ATTN: J. Opeka
Senior Vice President - Nuclear
Engineering and Operations
Post Office Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Opeka:

Subject: NOTICE OF VIOLATION
(NRC Inspection Report No. 50-423/91-15)

This letter refers to the NRC inspection conducted between November 27 and December 20, 1991, at the Millstone Nuclear Power Station, Unit 3, Waterford, Connecticut. The inspection report was sent to you on January 10, 1992. The inspection was conducted to review the circumstances associated with an event which occurred at Unit 3 involving the disabling of the Supplemental Leak Collection and Release System (SLCRS), following a June 9, 1991 reactor trip, in violation of a technical specification limiting condition for operation, as well as the failure to promptly identify and correct this condition adverse to safety. The event, and the associated violations of NRC requirements, were identified by your staff and reported to the NRC on August 7, 1991. On January 22, 1992, an enforcement conference was conducted with Mr. W. Romberg and other members of your staff to discuss the event, its related violations, their causes and your corrective actions.

The event, which occurred while the reactor was at 100 percent power involved a trip of both the reactor and turbine when the plant experienced a full load reject upon the opening of two switchyard breakers because of a pilot wire relay failure. This resulted in the partial loss of electrical power to systems supplied by non-vital 4160 AC, including a number of secondary plant loads. It has been postulated, by your staff, that following the trip, steam from the main condenser entered the common SLCRS discharge duct, via the main air ejectors, and melted the fusible links for the Train "A" and Train "B" fire dampers which caused the fire dampers to close. This resulted in the disabling of both trains of the SLCRS, which is required to be operable by Technical Specifications while the plant is operated in other than a cold shutdown condition.

Although the post-trip review, following the load reject event on June 9, 1991, did not identify this condition, a problem with system air flow on the "B" train of the SLCRS was discovered during a routine surveillance test eight days later. Your subsequent investigation revealed that a fire damper in the discharge duct was closed, stopping the flow of air, as a result of the failed fusible link.

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At that time, your staff believed that the failure mode for the fusible link was mechanical in nature, and they replaced the link, returning the "B" train to an operable status. The NRC is concerned in this case because, given the unknown cause of what you thought was a mechanical failure, you did not check to see if you had a similar problem on the "A" train. If you had checked the "A" train, you would have identified that a similar common cause/common mode failure had also rendered the "A" train inoperable. As a result, "A" train remained inoperable until July 2, 1991 when a surveillance was performed on that train. The failure to promptly identify and correct a condition adverse to quality constitutes a violation of the NRC requirements set forth in 10 CFR Part 50, Appendix B, Criterion XVI.

With respect to the load reject event, the NRC is concerned that the loss of power to the non-vital 4160 AC loads was a result of deletion of the offsite fast transfer scheme during the February-March 1991 refuel outage. The safety evaluation for this modification indicated that the deletion of the fast transfer scheme would result in the loss of the non-vital loads; however, the evaluation did not fully explore how the loss of these non-vital loads would affect plant operations. In addition, the modification did not undergo a mechanical system design review, since the modification was thought to be primarily electrical in nature, even though it affected a number of interrelated systems. It is our understanding that in the future, your evaluation will appropriately consider both the electrical and mechanical impacts of modifications.

The SLCRS is designed to filter radioactive particulates which leak into structures surrounding the primary containment following a design basis event and thereby prevent their release into the environment. The NRC recognizes that although the SLCRS was inoperable, the safety significance was minimized by the fact that the auxiliary building ventilation system (a system required by Technical Specifications) remained available to mitigate the consequences of a design basis event. That system would provide a filtered discharge path for buildings within the SLCRS boundary, via common ductwork and building interconnections, and would limit a radiological release to amounts within the 10 CFR Part 100 limits. Nonetheless, the violations resulting from this event indicate weaknesses in your programs for prompt identification and correction of safety significant deficiencies. Therefore, the violations have been categorized in the aggregate as a Severity Level III problem in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, (Enforcement Policy) (1991). The violations demonstrate the importance of (1) meticulous attention to detail during the investigation and review of system failures at the facility, to ensure that appropriate corrective actions are initiated, and (2) proper control of equipment at the facility to assure the reactor is operated and maintained safely and in accordance with the Technical Specifications.

The NRC also recognizes that subsequent to your identification of the common cause/common mode failure of the SLCRS on July 8, 1991, a thorough investigation was conducted and comprehensive actions were promptly initiated to prevent recurrence. These corrective actions, which were described either during the inspection or at the enforcement conference, included: (1) replacing the original fusible links with links rated for higher temperatures; (2) revising the plant

incident report (PIR) procedure to require an initial investigation for adverse trends within a few days of an incident, including for failures of surveillance tests; (3) plans for incorporating the lessons learned from this event into a special training session for appropriate personnel; (4) revising the plant design change record (PDCR) process to ensure that a mechanical systems design review is performed; (5) revising the station procedure on post-trip reviews to include a multi-discipline team review of a trip, and a critique from all individuals involved in a trip; and (6) revising the Millstone Unit 3 post-trip procedure to include additional data to be collected, and to address important control and secondary systems. In addition, a loss of power task force continues to study the efficacy of the fast transfer modification with the potential for additional procedural or hardware changes.

Although a civil penalty is normally issued for a Severity Level III problem, I have been authorized, after consultation with the Director, Office of Enforcement, and the Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research, to mitigate the penalty in its entirety and issue the enclosed Notice of Violation (Notice) for the violations. In deciding to mitigate the penalty, the escalation and mitigation factors set forth in the Enforcement Policy were considered in the manner described below. Notwithstanding the fact that the event and the associated violations were identified and reported to the NRC, by your staff, adjustment of the base civil penalty on this factor is not warranted, since there was an earlier opportunity to discover these violations that were missed by your staff. Your corrective actions, subsequent to the identification of the common cause/common mode failure, on July 8, 1991, were prompt and comprehensive, and therefore, 50% mitigation of the base civil penalty on this factor is warranted. While we recognize that you have been subject to escalated action for inadequate corrective action since this event, your performance prior to the event was good, as evidenced by no violations being issued for similar problems in the two years prior to this event, and therefore, 50% mitigation of the base civil penalty on this factor is warranted. Full 100% mitigation is not warranted for this factor in light of your Category II ratings in the engineering/technical support, and safety assessment/quality verification areas during the last SALP period. Since this case did not involve prior notice, or multiple examples, no adjustment of the civil penalty on these factors is warranted. Although the condition adverse to quality did exist for at least 21 days, with one or both trains of SLCRS being inoperable, no escalation based on the duration factor is warranted because this fact was a consideration in the decision to categorize the violations as a Severity Level III problem.

In addition to the violations set forth in the Notice, another issue was raised in the inspection report which was not identified as an apparent violation. This issue involved the failure of the control room operators to run both diesel generators within one hour of a loss of an offsite power source, while restoring plant equipment during the plant recovery from the load reject event. Although this failure constitutes a violation of TS 3.8.1.1.a, the violation is not being cited because the criteria specified in Section V.G of the Enforcement Policy were satisfied; i.e., it was of minor safety significance, the violation was identified, reported and corrected by your staff; and would normally be classified at a Severity Level IV violation.


You are required to respond to the enclosed Notice and, in preparing your response, you should follow the instructions specified therein. In your response, you should document the specific actions taken and any additional actions you took to prevent recurrence. After reviewing your response to this Notice, in addition to your proposed corrective actions, and the results of future inspections, the NRC will determine whether further enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosure will be placed in the NRC's Public Document Room.

The responses directed by this letter and the enclosure are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. 96-511.

Sincerely,

ORIGINAL SIGNED BY
WILLIAM F. FOSTER

 Thomas T. Martin
Regional Administrator

Enclosure: Notice of Violation

cc:

W. D. Romberg, Vice President, Nuclear Operations
S. E. Scace, Nuclear Station Director
C. H. Clement, Nuclear Unit Director
R. M. Kacich, Manager, Nuclear Licensing
D. O. Nordquist, Director of Quality Services
Gerald Garfield, Esquire
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