

DEC 28 1992

Docket No. 50-423
License No. NPF-49
EA 92-166

Mr. J. Opeka, Executive Vice
President - Nuclear
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Opeka:

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL
PENALTY - \$62,500
(NRC Inspection Report No. 50-423/92-23)

This letter refers to the NRC inspection conducted on August 18 through September 14, 1992, at the Millstone Nuclear Power Station, Unit 3, Waterford, Connecticut. The inspection report was sent to you on October 7, 1992. The inspection was conducted to review the circumstances associated with an event that occurred at Unit 3 involving the degradation of the auxiliary building filter system (ABFS) in violation of a technical specification (TS) limiting condition for operation (LCO), as well as the inadequate testing of the ABFS and supplementary leak collection and release system (SLCRS) to assure that these systems would perform their design function following an accident. As a result of this review, violations of NRC requirements were identified. On October 22, 1992, an enforcement conference was conducted with Mr. S. Scace and other members of your staff to discuss the event, its related violations, their causes and your corrective actions.

In July 1992, an open auxiliary building ventilation duct access door on the common suction plenum of both auxiliary building filters was identified. During the subsequent investigation of this event, your staff determined that the variable inlet vanes (VIVs) to the filter exhaust fans were normally set at 20 percent open, rather than the automatic modulating mode in which system operability testing is conducted. During initial pre-operational testing prior to startup of the facility in 1986, your staff determined that in order to maintain system performance, the VIVs should be placed at 20 percent open in the winter, and 100 percent open in the summer instead of placing the VIVs in automatic control as designed.

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After your staff reviewed this issue, the VIVs were set to 100 percent open on July 11, 1992, based on engineering judgement that this position was superior to the 20 percent open position. Subsequent testing revealed that neither filter fan would have operated during an accident with the VIVs fixed at the 100 percent open position, as existed between July 11 and August 24, 1992. This condition constituted a violation of a technical specification (Violation I.A). Further, the testing also revealed that the exhaust fans would not have started reliably since initial plant startup with the VIV fixed at 20 percent open.

In addition to Violation I.A, the review of this event also identified a deficiency in the operability testing of the ABF and SLCR systems. Since initial startup, operability testing of these systems was conducted by placing the VIVs in the automatic control mode, which was different than the normal operating mode, and therefore different than the configuration that would exist during an accident. Therefore, the testing failed to identify that the systems would not function as designed following a design basis accident since having the VIVs fixed at the 20 or 100 percent limit could result in the filter exhaust fans tripping when actuated by an accident signal. (In the automatic mode, the VIVs modulate to maintain inlet plenum pressure to prevent the filter fans from tripping.)

In addition, the ability of the SLCRS to draw and maintain a vacuum in the structures surrounding the primary containment following a design basis accident had not been tested with the ABFS aligned to its accident configuration. Subsequent testing of the SLCRS indicated that under accident conditions, the system could not draw a vacuum in the required time (i.e., 50 seconds), due to the timing delays designed into the ABFS fan control circuitry. The failure to test properly ABFS and SLCRS so as to verify that these systems would perform their design function constitutes a violation of the NRC requirements set forth in 10 CFR Part 50, Appendix B, Criterion XI, Test Control (Violation I.B).

The NRC recognizes the complexity of the ABFS/SLCRS relationship. Nevertheless, the NRC is concerned that since initial startup, your staff was not fully aware of the ABFS design basis and operating parameters and their adverse impact on the SLCRS operation. This concern is heightened by the fact that prior to initial plant startup you had documented the inability of the ABFS exhaust fans to operate properly in the automatic mode as an outstanding design deficiency. Furthermore, there were several opportunities for identification of this safety issue, including each time the surveillance test was performed. However, your staff did not adequately evaluate the potential safety significance of the system's operating limitations. In addition, we are concerned that your operating staff did not adequately resolve the question of the plenum door's status after two notifications of the open plenum door, which were made in the days immediately prior to its final identification and resolution. We are concerned that this failure may be indicative of a problem regarding the response to deficient conditions. Therefore, your response to this action should address the issue of the inadequate follow-up of these two notifications.

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The ABFS is designed to control the release of radioactive material from the charging pump and reactor plant component cooling water system areas in the auxiliary building by directing these releases through a filtered path. The SLCRS is designed to filter radioactivity that leaks into structures surrounding the primary containment following a design basis event and thereby mitigate their release into the environment. The two systems work together to draw and maintain a vacuum inside the secondary containment enclosures within the time frame assumed in the accident analysis. As a result of the ABFS and the SLCRS performance degradation, the radiological releases to the atmosphere in the event of a design basis loss of coolant accident could potentially have approached the 10 CFR Part 100 limits. 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).

The NRC recognizes that subsequent to the identification of the violations, a thorough investigation was conducted and actions were initiated to prevent recurrence. These corrective actions, which were described either during the inspection or at the enforcement conference, included: (1) establishing an internal task force to determine the cause of the event; (2) shutdown of the unit on September 29, 1992, as a result of declaring the SLCRS inoperable; (3) performing further evaluation of ABFS/SLCRS performance/operation to resolve the system deficiencies; (4) identifying design and equipment modifications necessary to establish satisfactory system operation; (5) initiating a series of special in-service tests (IST) to test the original and redesigned systems, and revising the integrated surveillance procedure as appropriate; and (6) long-term efforts as part of the Performance Enhancement Program (PEP), including completion of a procedure upgrade program, development of a system engineering program, and reduction of the engineering backlog.

Notwithstanding those corrective actions, to emphasize the importance of: (1) proper control of equipment at the facility to assure that systems designed to mitigate serious safety events are able to perform their safety function and are operated in accordance with the Technical Specifications; and (2) establishing a quality testing program to demonstrate that systems will function satisfactorily in service, 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 issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the amount of \$62,500 for the violations set forth in Section I of the enclosed Notice.

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The base civil penalty amount for a Severity Level III problem is \$50,000. The escalation and mitigation factors set forth in the enforcement policy were considered and, on balance, the base civil penalty was escalated by 25 percent to \$62,500. The violations were identified by your staff; therefore, 50 percent mitigation of the base civil penalty on this factor is warranted. Your ultimate corrective actions, including the shutdown of the unit, were prompt and placed the plant in compliance with the regulations; therefore, 25 percent mitigation of the base civil penalty on this factor is warranted. The full 50 percent mitigation under this factor was not warranted since your root cause analysis of the problems leading up to the unit shutdown was not considered to be comprehensive or aggressive. For example, upon initial discovery of VIVs being improperly set, the corrective action was to reset them to a position that was not supported by the design basis.

No escalation or mitigation was deemed warranted based on your overall past performance. This determination was made after considering your overall performance documented in the latest Systematic Assessment of Licensee Performance report and a recent enforcement history that includes only one Severity Level III violation that impacted the same performance areas. The base civil penalty was increased by 100 percent based on your prior opportunities to identify and correct the violations associated with the event. Specifically, each time the surveillance on the ABFS was performed questions should have been raised as to why the VIVs were placed in automatic to verify system performance, but upon completion of the testing were returned to a fixed position. Additionally, the NNECO engineering concern about the VIVs, identified during the May 19, 1992, performance of IST 3-92-014, represented another opportunity to identify the problem earlier. Finally, the two earlier reports of the open plenum door also represented prior opportunities. The other factors were considered and no further adjustment was deemed appropriate.

In addition to the violations described above, another violation, which is described in Section II of the enclosed Notice, was discussed during the enforcement conference. The violation involved the degradation of hydrogen recombiner system for a period of about 90 days due to inadequate work control of a lifted lead during maintenance, and the failure of your staff to perform a maintenance retest prior to returning the system to service. While the safety significance of this event was minimal because this condition likely would have been identified and corrected for this manually initiated system, the NRC is nonetheless concerned with the breakdown of the work control process within your organization that allowed this failure to occur.

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You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC 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," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

The responses directed by this letter and the enclosed Notice 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. No. 96-511.

Sincerely,

Original Signed By

Thomas T. Martin
Regional Administrator

Enclosure: Notice of Violation and Proposed Imposition of Civil Penalty

cc w/encl:

W. Romberg, Vice President, Nuclear Operations
S. Scace, Nuclear Station Director
C. Clement, Nuclear Unit Director
R. Kacich, Manager, Nuclear Licensing
D. Nordquist, Director of Quality Services
G. Garfield, Esquire
N. Reynolds, Esquire
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Senior Resident Inspector
State of Connecticut SLO Designee
K. Abraham, PAO-RI (2)

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