



**North
Atlantic**

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The Northeast Utilities System

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United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Seabrook Station
Reply to Notice of Violation

North Atlantic Energy Service Corporation (North Atlantic) provides in Enclosure 1 its reply to a Notice of Violation transmitted in a letter dated June 29, 2001. Enclosure 2 summarizes the commitments contained in this response.

Should you have any questions concerning this response, please contact Mr. James M. Peschel, Manager - Regulatory Programs, at (603) 773-7194.

Very truly yours,

NORTH ATLANTIC ENERGY SERVICE CORP.

Ted C. Feigenbaum
Executive Vice President and
Chief Nuclear Officer

cc: H. J. Miller, NRC Region I Administrator
George Wunder, NRC Project Manager, Project Directorate I-2
G.T. Dentel, NRC Senior Resident Inspector

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ENCLOSURE 1 TO NYN-01059

REPLY TO A NOTICE OF VIOLATION

In a letter dated June 29, 2001, the NRC described a final significance determination for a White finding and a Notice of Violation. The finding involved the failure to take adequate corrective actions to address degraded components associated with one of the two Emergency Diesel Generators, (EDG-1-B). The following provides North Atlantic Energy Service Corporation's (North Atlantic) reply to the Notice of Violation.

I. Description of Violation

The following is a restatement of the violation:

During an NRC inspection conducted from November 7, 2000 to January 18, 2001, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to prevent repetition.

Seabrook Station Technical Specification 6.7.1.a states, in part, that written procedures shall be implemented. Seabrook Station Administrative Procedure OE 3.1, "Initiating a Condition Report," Rev. 13, requires initiation of a condition report when an unwanted or unexpected condition occurs.

Contrary to the above, when significant conditions adverse to quality were identified on November 21, 1995 and April 17, 1999, involving degraded components in emergency diesel generator DG-1B, the licensee failed to determine the cause of the condition and failed to take appropriate corrective actions to prevent recurrence. Specifically, during heavy wear, as evidence by an out-of-round wear condition on one liner and a polished appearance and lack of honing (cross-hatch pattern) on the inside bore surface of the other liner. Although the No. 10 degraded cylinder liner was replaced on November 21, 1995, and the No. 11 cylinder liner was replaced on April 17, 1999, using work requests, condition reports were not written. As a result, the licensee failed to determine the cause of the degraded cylinder liners consistent with the diesel generator's importance to safety. Therefore, similar degradation went unnoticed until an actual failure occurred to cylinder No. 7, resulting in the failure of DG-1B on November 1, 2000.

II. Reply to Violation

Reason for Violation

North Atlantic agrees with the violation.

The Notice of Violation identified that condition reports were not written when the Emergency Diesel Generator (EDG) 1-B No. 10 degraded cylinder liner was replaced in November 1995 nor was a condition report written in April 1999 when the No. 11 cylinder was replaced. As a result, the identified degraded conditions were not evaluated for cause, corrective action and extent of condition. Each of these occurrences is addressed below.

In 1995, unexpected or unwanted conditions identified during the conduct of maintenance activities were to be documented in the work package. Upon completion of the task, the packages were reviewed by system engineers for completeness and to determine if additional actions were required, such as initiating an Adverse Condition Report (i.e., the predecessor of the Condition Report).

During the EDG maintenance conducted in 1995, field workers with vendor assistance identified the degraded condition of the No. 10 cylinder liner, which lead to the replacement of the liner. The additional work scope for this activity was documented in the work package. However, due to unclear roles and responsibilities regarding review of work packages and too much reliance on vendor expertise, this information did not trigger follow-up actions when the system engineer reviewed the package for closeout.

During 1996, North Atlantic started to transition to a high volume, low threshold, corrective action program. As a result, significantly more condition reports were written between 1995 (approximately 2,700) and 1999 (approximately 8,100). In the fourth quarter of 1999, North Atlantic again lowered the reporting threshold even further and consolidated other documents into the condition report process resulting in approximately 11,500 condition reports being generated during the year 2000. Consistent with the high volume, low threshold approach, in 1999, condition reports were to be initiated when unexpected or unwanted conditions were identified during the conduct of maintenance. The condition report is the vehicle by which the degraded condition is evaluated for cause, corrective action and extent of condition. The condition report can either be initiated by the Maintenance personnel performing the task or by system engineers who review the work package upon completion of the activity.

Similar to the EDG maintenance conducted in 1995, in 1999 field workers with vendor assistance identified the degraded condition of the No. 11 cylinder liner which lead to the replacement of the liner. The additional work scope for this activity was also documented in the work package. However, a condition report was not initiated by Maintenance personnel during the conduct of the work or the system engineer during the work package closeout review. The failure to initiate a condition report was caused by a lack of reinforcement of programmatic expectations. Additionally, unclear roles and responsibilities regarding review of work packages and too much reliance on vendor expertise contributed to the system engineer not recognizing

that the degraded cylinder liner was a condition that required evaluation of cause and implementation of corrective actions.

III. Corrective Actions that have been or will be taken

1. Maintenance Management has reinforced the corrective action program requirements contained in Chapter 2, Section 1.1.2 of the Operating Experience Manual with Maintenance supervisory personnel. Specifically, this section of the manual requires: "When personnel repairing equipment encounter an unexpected or unwanted condition (e.g., missing part, wrong part, prior workmanship issue, part failure apparently not due to normal wear, etc.), a CR should be initiated for the condition." The Maintenance supervisory personnel are in the process of disseminating this expectation to the Maintenance workers.
2. The Work Management Manual will be revised to reflect the expectation for initiating condition reports for unexpected or unwanted conditions identified during maintenance activities.
3. Maintenance Management has issued an expectation to Maintenance supervisory personnel that when post job debriefs identify unexpected or unwanted conditions a condition report will be initiated. The Maintenance supervisory personnel are in the process of disseminating this expectation to the Maintenance workers.
4. The Work Management Manual will be revised to reflect the expectation that unexpected or unwanted conditions will be reviewed during debriefs to ensure condition reports are initiated as required.
5. The Maintenance Manager has issued an expectation to Maintenance supervisory personnel that the closeout review of work packages shall include comments on task as written by the field technician. This review is a second barrier to ensure that unexpected or unwanted conditions identified during the performance of maintenance activities are documented in a condition report. The Maintenance supervisory personnel are in the process of disseminating this expectation to the Maintenance workers.
6. Roles, responsibilities and expectations for Plant Engineering personnel have been revised as part of continued implementation of the T2000 initiative. Specifically, T2000 was initiated in the summer of 1999 to redefine the roles and responsibilities of the system engineers to allow them to focus their efforts on long term equipment reliability initiatives. The scope of these enhancements has continued to evolve. The system engineer's current focus includes monitoring industry reliability issues, use of operating experience, monitoring equipment performance trends, industry engagement and participation in user groups to validate vendor recommendations, completion of system health reports, development of long term system strategies, and proper use of the corrective action program.

7. The Operating Experience Manual will be revised to provide additional guidance for the Condition Report Review Team to assure that corrective maintenance work requests are accompanied by a condition report.
8. The aforementioned expectations regarding initiating a condition report for unexpected or unwanted conditions identified during the conduct of equipment repair activities, the need for maintenance post job debriefs to address initiation of condition reports for unexpected or unwanted conditions, and the expectation that the Condition Report Review Team assures that corrective maintenance work requests are accompanied by a condition report, have been disseminated to the North Atlantic organization via an Operating Experience message.

IV. Date when full compliance will be achieved

North Atlantic is currently in compliance with 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action."

V. Additional Information

In the June 29, 2001 letter, the NRC requested that North Atlantic describe details of the program to address long term reliability of safety related systems. The following provides the requested information.

Long-term Equipment Reliability is one of the cornerstones of North Atlantic's strategic direction. It is the ability for a system or component to function as designed when called upon. To ensure equipment reliability is sustained, the corrective action process must be integrated with an Equipment Reliability program that consists of the following elements:

- Strong Preventive Maintenance
- Comprehensive Performance Monitoring
- Strong System Engineering Roles and
- Aggressive Life Cycle Management/Aging & Obsolescence

Long-term equipment reliability will be achieved by completing the following milestones:

1. Completion of the Preventive Maintenance Program Technical Basis

An effective Preventive Maintenance (PM) Technical Basis establishes the baseline for preventive maintenance performed at the Station. Once established, this program will be updated based on as-found conditions and equipment trending. This program will be further enhanced by application of risk-informed techniques to establish the optimum maintenance plan.

The evaluation of the PM Technical Basis is in progress for Maintenance Rule systems. The initial focus includes Emergency Diesel Generators, Feedwater system, Switchyard systems, Primary Component Cooling Water system, Service Air system and Instrument Air system.

2. Issuance of the Mid-Cycle System Health Reports

Periodic System Health Reports apprise the Station as to the health of systems. These reports contain information on performance monitoring, Maintenance Rule status, surveillance test results and system walk-down results. The next Mid-Cycle System Health Reports will include additional conclusions from reviewing historic operating experience and corrective action program information.

3. Establishment of system specific Performance Monitoring Plans

System specific performance monitoring plans will establish the performance monitoring parameters and surveillances that are monitored by Engineering to identify adverse conditions at the earliest possible time. These plans will promote application of consistent performance monitoring methodologies.

4. Establishment of Long-Term System Strategies

Long-term Strategic Plans are being established to ensure a focus on longer-term equipment issues that could impact plant reliability over the next ten years and end of life. This focus includes Operating Experience, vendor availability, Human Performance and equipment failures. The plan will outline the necessary actions required to address each issue.

5. Development of Station Equipment Reliability Team

A Station Equipment Reliability Team is being established consisting of management personnel from the Operations, Maintenance, Oversight and Engineering departments. The purpose of the team is to establish and maintain comprehensive management awareness and understanding of equipment reliability issues and establishment of common goals. This team will utilize applicable data, trends, and presentations to allow the members to make informed and collaborative decisions when determining equipment reliability priorities.

ENCLOSURE 2 TO NYN-01059

The following are the commitments North Atlantic is making in this submittal:

- The Work Management Manual will be revised to reflect the expectation for initiating condition reports for unexpected or unwanted conditions identified during maintenance activities.
- The Work Management Manual will be revised to reflect the expectation that unexpected or unwanted conditions will be reviewed during debriefs to ensure condition reports are initiated as required.
- The Operating Experience Manual will be revised to provide additional guidance for the Condition Report Review Team to assure that corrective maintenance work requests are accompanied by a condition report.