



**NRC NEWS**  
**U. S. NUCLEAR REGULATORY COMMISSION**

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No. 96-109

FOR IMMEDIATE RELEASE  
(Thursday, August 1, 1996)

NRC STAFF ISSUES HADDAM NECK INSPECTION REPORT

The Nuclear Regulatory Commission staff has issued a letter and final report on a special NRC team inspection of engineering and licensing activities at Northeast Utilities' Haddam Neck nuclear station in Connecticut.

The team concluded that weaknesses exist in the process that ensures that the plant is maintained in conformance with its licensing bases. In addition, the team found weaknesses in the plant's internal process to identify, evaluate and correct problems. Specifically, the team found that:

--Engineering calculations and analyses relied on to assure the adequacy of the design of key safety systems, such as station batteries, emergency diesel generators, containment air recirculation system and service water system, were incomplete or incorrect.

--Sections of the plant's Updated Final Safety Analysis Report were in error and changes to the report had not been properly evaluated. This document describes a facility's design and operating limits, and provides a safety analysis of its structures, systems and components.

A predecisional enforcement conference will be scheduled at a later date to discuss significant deficiencies and apparent violations of NRC requirements identified during the team's inspection. The decision to hold the predecisional enforcement conference does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. Rather, the purpose is to discuss apparent violations, their causes and safety significance; to provide the licensee an opportunity to point out any errors that may have been made in the NRC inspection report; and to enable the licensee to outline its proposed corrective actions. No decision on the apparent violations will be made at this conference. Those decisions will be made by senior NRC officials at a later time.

When the conference is held it will be open to public observation.

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Attachment: Ltr to NU

EDITORS: A copy of the executive summary of the inspection report is available upon request from the NRC's Office of Public Affairs. The summary and full inspection report have been posted on the Internet at this address: <http://www.nrc.gov/OPA/reports>.

July 31, 1996

Mr. Ted C. Feigenbaum  
Executive Vice President and  
Chief Nuclear Officer  
Northeast Utilities Service Company  
c/o Mr. Terry L. Harpster  
P. O. Box 128  
Waterford, CT 06385

Dear Mr. Feigenbaum:

SUBJECT: SPECIAL INSPECTION OF ENGINEERING AND LICENSING ACTIVITIES AT  
HADDAM NECK (NRC INSPECTION REPORT 50-213/96-201)

On April 26, 1996, the NRC completed a special inspection by the Office of Nuclear Reactor Regulation at your Haddam Neck Station, located in Haddam, Connecticut. The enclosed report presents the results of that inspection.

The special inspection team concluded that weaknesses exist in the implementation of the configuration management and corrective action processes. Configuration management is the integrated management process utilized to ensure (1) that the plant's physical and functional characteristics are maintained in conformance with the plant's design- and licensing-bases; (2) that operating, training, modification, and maintenance processes are consistent with the conditions prescribed by the design- and licensing-bases; and (3) that the plant is operated and maintained within these conditions. For the configuration management program to be effective, design- and licensing-basis information must be readily available in properly controlled documents, utilized in conjunction with the generation of engineering analyses, and updated to ensure that it remains current.

The team identified a number of significant deficiencies in the engineering calculations and analyses relied upon to ensure the adequacy of the design of key safety systems at Haddam Neck. In some cases, design-basis calculations and analyses were not sufficient to confirm that the safety system functional requirements would be met. Some of these errors were longstanding, while others were recently introduced during modifications to the facility. Deficiencies were identified in the calculations and analyses supporting the station batteries, emergency diesel generators (EDGs), containment air recirculation (CAR) system, service water (SW) system, and in the combination of systems and components needed to support the emergency core cooling system (ECCS) transfer from the injection phase to sump recirculation. These deficiencies revealed significant weaknesses in the defense-in-depth principles that the NRC relies upon to ensure that nuclear power plant operation does not jeopardize the health and safety of the public. The team concluded that weaknesses in your configuration management processes and a lack of technical rigor, thoroughness, and attention to detail in the design process, either contributed to or directly caused the identified errors. In addition, design control measures such as supervisory reviews, independent design reviews, and reviews by oversight committees did not identify these deficiencies.

The team identified several errors in the Updated Final Safety Analyses Report (UFSAR). Although quality assurance audits had identified UFSAR discrepancies in the past, evaluations were not conducted to determine the causes of these discrepancies and the programmatic implications. While not having a direct impact on safe plant operation, the identified errors reflected a programmatic weakness in the process for maintaining the accuracy and consistency of the information in the UFSAR. The team also found some instances where commitments to the NRC were not met.

These instances indicated weaknesses in the corrective action processes, as well as the processes utilized to track, maintain, and evaluate changes to commitments.

An effective corrective action process promptly identifies, evaluates significance, tracks, and resolves conditions adverse to quality, especially with regard to determination of the cause of the condition and elimination of both problem recurrence and occurrence of similar problems. The team found several instances involving the failure to identify, evaluate, and correct conditions adverse to quality, and some instances in which planned corrective actions were not promptly initiated. In some instances, the delays in initiating planned corrective actions were significant because the actions included the evaluation of the potential generic implications of these issues for other plant systems and equipment.

The team observed inconsistencies in the implementation of the adverse condition report (ACR) process and found that, in general, the threshold used by the plant engineering staff to prepare an ACR reflected the potential for an operability concern, rather than the potential for an adverse condition. The high threshold led to delays in informing operations of the issues and conducting operability evaluations. Although the ACR process is relatively new, the inspection record indicates that similar implementation problems existed in the previous process.

The team found that self-assessments, quality assurance audits, and third-party reviews were generally effective in identifying issues and conditions adverse to quality. However, line management's responses to findings and recommendations from these processes were often inadequate. In several cases, planned actions in response to audit findings were not entered into the formal tracking system or acted upon for long periods. In addition, findings from third-party audits were not entered into the formal corrective action tracking mechanisms; consequently, management lacked the means to adequately monitor corrective actions in response to those findings.

As a result of these findings, the team concluded that station management has not yet been successful in establishing a comprehensive corrective action program, and further, has not provided sufficient oversight to ensure that the program is being effectively implemented.

The team found process issues at Haddam Neck which are similar to some of those identified at Millstone 1, as documented in the Event Response Team Report, dated February 22, 1996, that is commonly referred to as ACR 7007. As discussed above, the team found that calculations did not exist to support some of the design-bases and the administrative control programs at Haddam Neck have not maintained an accurate UFSAR. In addition, licensee management oversight did not identify and address the patterns of corrective action program implementation problems, as discussed above. Finally, ACR 7007 states that a "general lack of understanding and appreciation for the relationship between 10 CFR 50, design-bases, licensing-bases, industry codes, and NU's administrative programs" existed. The team observed instances that demonstrated a similar lack of understanding by the licensee's staff at Haddam Neck.

Apparent violations of NRC's requirements were identified during this inspection and are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. Accordingly, no Notice of Violation is presently being issued for these inspection findings. In addition, please be advised that the number and

characterization of apparent violations described in the enclosed inspection report may change as a result of further NRC review.

We will contact you to schedule a predecisional enforcement conference to discuss these apparent violations. The enforcement conference will be scheduled approximately 3 weeks following issuance of this inspection report. A predecisional enforcement conference does not mean the NRC has determined that a violation has occurred or that enforcement actions will be taken. This conference is being held to obtain information to enable the NRC to make an enforcement decision, such as a common understanding of the facts, root causes, missed opportunities to identify the apparent violations sooner, correction actions, significance of the issues and the need for lasting and effective corrective action. In addition, this is an opportunity for you to point out any errors in our inspection report and for you to provide any information concerning your perspectives on (1) the severity of the violations, (2) the application of the factors that the NRC considers when it determines the amount of a civil penalty that may be assessed in accordance with Section VI.B.2 of the Enforcement Policy, and (3) any other application of the Enforcement Policy to this case, including the exercise of discretion in accordance with Section VII.

You will be advised by separate correspondence of the results of our deliberations on this matter. No response regarding these apparent violations is required at this time.

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.

As discussed in the enclosed inspection report, some of the issues were still under review at the end of the inspection. My letter to you dated July 24, 1996, and subsequent NRC onsite technical review, addressed two of the unresolved items in this inspection report. These issues were related to the recently identified problems that lead to the plant shutdown on July 23, 1996. Resolution of these open items and related matters will be the subject of separate correspondence.

Should you have any questions concerning this inspection, please contact the NRC Project Manager, Mr. S. Dembek, or the inspection team manager, Mr. M. Virgilio. Messrs. Dembek and Virgilio can be reached at (301) 415-1455 and (301) 415-3226, respectively.

Sincerely,

Original signed by:

William T. Russell, Director  
Office of Nuclear Reactor Regulation

Docket No.: 50-213

License No.: DPR-61

Enclosure:

Inspection Report No. 50-213/96-201

cc w/enclosure:

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State of Connecticut SLO