



Northeast
Utilities System

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June 6, 1995

Docket No. 50-336
B15262

Re: ESAS

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Millstone Nuclear Power Station, Unit No. 2
Engineered Safeguards Actuation System
Modification and Upgrade Activities

The purpose of this letter is to commit Northeast Nuclear Energy Company (NNECO) to a meeting with the NRC Staff to discuss activities related to the design modification and upgrade of the Engineered Safeguards Actuation System at Millstone Unit No. 2. The meeting will take place at the Millstone Nuclear Power Station and will occur prior to the startup of Millstone Unit No. 2.

The Engineered Safeguards Actuation System (ESAS) is a safety-grade system. It is designed to continuously monitor Millstone Unit No. 2 for accident conditions and to actuate those systems needed to protect the public from the release of radioactivity. The ESAS accomplishes this function by actuating components that cool the reactor core, depressurize the containment, and filter any containment leakage. Additionally, the ESAS starts the emergency diesel generator(s) in the event that normal A.C. electrical power becomes unavailable.

Due to problems identified in 1992, NNECO initiated a plant design change to modify and upgrade the ESAS at Millstone Unit No. 2. The modifications involved the auctioneering of power supplies for the four ESAS sensor cabinets, installation of new power supplies for the two actuation cabinets, and reconfiguring the logic for a Sump Recirculation Actuation Signal. This work was planned for the Cycle 12 refueling outage.

The upgrade of the ESAS also included installing noise suppression diodes and resistors to eliminate noise problems and replacing the resistors in the Under Voltage trip modules to eliminate measurement bias error. The sum of the changes are designed to make the ESAS more reliable in the performance of its intended safety function.

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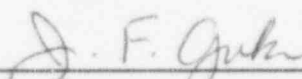
Initial installation of the new ESAS equipment at Millstone Unit No. 2 began in 1994. The new equipment was fabricated with solid-state components and replaces outdated equipment that was no longer available. Extensive electromagnetic interference and radio frequency interference noise testing was performed during Cycle 11 and during the Cycle 12 refueling outage. Noise suppression devices and methods were employed to separate noise sensitive wiring from noise-generating wiring.

During the current (Cycle 12) refueling outage, additional modifications and upgrades to the ESAS were completed. During testing, signal noise problems continued to be observed. Specifically, in May 1995, the ESAS sequencer failed to function properly during a Loss of Normal Power (LNP) test for Facility 1. Identical equipment already installed in Facility 2 had successfully passed an LNP test in March 1995. NNECO mobilized an engineering team to troubleshoot the ESAS problems, and a separate team to perform an extensive design review of the ESAS modification. These reviews successfully determined the root cause of the sequencer problem, and identified an additional problem with the original design whereby a safety injection actuation signal subsequent to an LNP could result in starting loads out of sequence. At this time, these problems have been corrected and tests performed on Facility 1 such that the modified and upgraded ESAS will perform its intended safety function. The same work on Facility 2 is currently in progress.

In a telephone conference on May 26, 1995, the NRC Staff requested that a meeting be held to review the history, discuss specific details, and review the recent activities related to the ESAS modifications on Millstone Unit No. 2 prior to plant startup. We agreed to this meeting and look forward to the opportunity to present this information to the NRC. Mr. M. Robles, Jr. at (203) 440-2073 will be contacting Region I personnel to finalize the meeting date and agenda.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



J. F. Opeka
Executive Vice President

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