Northeast
Utilities System

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June 27, 1996

Docket No. 50-423
B15777
Re: 10CFR 50.36

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

Millstone Nuclear Power Station, Unit No. 3
Special Report - Train B Emergency Diesel Generator Failure

This special report is being submitted pursuant to Technical Specifications 4.8.1.1.3 and 6.9.2. Technical Specification 4.8.1.1.3 requires that a special report be submitted to the NRC within 30 days for any Emergency Diesel Generator (EDG) failure. This Specification also requires information recommended in Regulatory Guide 1.108, Revision 1, Regulatory Position C.3.b, August 1977, to be included in the report.

On May 28, 1996, with the plant in Mode 5, at 0-percent power, the "B" train EDG was operating as part of an Engineered Safety Features Loss of Offsite Power (ESF/LOP) test. The "B" EDG had been placed in an inoperable status in order to conduct the ESF/LOP surveillance test. During the 24-hour test, engine parameters were within normal ranges. The engine tripped due to low lube oil pressure at 1333 hours, after approximately 21 hours of operation.

The engine failure is the first in the last 20 valid tests, and is the second failure in the last 100 valid tests. The current EDG start surveillance test interval is once per 31 days, per the requirements of Technical Specification Table 4.8-1. Since no other failures have occurred in the last 100 tests, the surveillance interval will remain at 31 days.

An Event Review Team was immediately formed and the investigation included an evaluation of potential causes of the trip. It was determined that the initiating event was low lube oil pressure, sensed by a 2 of 3 switch logic, which then actuated the Shutdown Relay (SDR). At the time of the trip Operations was in the process of swapping lube oil strainers. Lube oil header pressure has an expected operating range between 90-100 psig. The last recorded pressure was 92 psig, approximately one-half hour before the diesel trip. Low lube oil pressure will trip the diesel at 50 psig. The investigation was unable to determine a root cause for the low lube oil pressure trip.

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The investigation considered the potential actuating devices which could trip the SDR. There were two ongoing activities that involved the cleaning of an off-service rocker arm lube oil filter, and the restoration of the off-service engine lube oil strainer. These activities were reviewed to determine if they were the cause of the trip. In addition, reviews of electrical schematics, personnel interviews, system tests, inspections, and various instrumented runs of the "B" Diesel were performed to determine if there were any other initiating devices which could duplicate the sequence of events and alarms that were received during this event. None were identified.

As the root cause of the low lube oil pressure trip was not determined, the maintenance procedure for restart after overhaul was used to return the diesel to service. During this test and the 24-hour run for the ESF/LOP testing, additional instruments were installed and additional monitoring was performed. Procedural changes were instituted to reduce the risk of a low lube oil pressure trip during strainer swaps. The "B" Diesel Generator ran successfully through all of these tests and was declared operable on June 2, 1996.

The licensee contact for this special report is R. T. Laudenat, who may be contacted at (860) 444-5248.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

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