

NORTHEAST UTILITIES

THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

General Offices • Selden Street, Berlin, Connecticut

P.O. BOX 270
HARTFORD, CONNECTICUT 06141-0270
(203) 665-5000

September 20, 1985

Docket No. 50-423
B11728

Director of Nuclear Reactor Regulation
Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Reference: J. F. Opeka letter to B. J. Youngblood, Millstone Nuclear Power Station, Unit No. 3, Response to Safety Evaluation Report (SER) Open Item No. 2.2, dated June 7, 1985.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3
Request for Additional Information
Revised Response to SER Open Item 2.2

In a telephone conversation on September 5, 1985 your Mr. A. Ungaro, of the Power Systems Branch, requested additional information and clarification needed to close SER Open Item 2.2. In subsequent conversations (September 10 and 12, 1985), Mr. Ungaro was informed that previously docketed responses addressed his concerns (response to Question 430.19, Revision 1, dated July 1984 and response to SER Licensing Condition No. 6 dated January 24, 1985). Mr. Ungaro agreed that these responses provided the needed information and requested that our response to SER Open Item 2.2 (Reference) be revised to include this information, as applicable.

Attached is the revised response to SER Open Item No. 2.2. We trust the information provided herein will fully resolve the Staff's concerns, however, if

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you have any further questions please contact our licensing representative directly.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY
et. al.

BY NORTHEAST NUCLEAR ENERGY COMPANY
Their Agent

J. F. OPEKA

J. F. Opeka
Senior Vice President

E. J. Mroczka

By: E. J. Mroczka
Vice President

cc: Ms. E. L. Doolittle, NRC Project Manager
Mr. A. Ungaro, Power Systems Branch

STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me E. J. Mroczka, who being duly sworn, did state that he is Vice President of Northeast Nuclear Energy Company, an Applicant herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Applicants herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Shelia M. Oates
Notary Public

My Commission Expires March 31, 1986

SER Open Item 2.2 - Diesel Generator Load Acceptance Test After Operation at No Load

SER Section 8.3.1.11 requests that the applicant provide additional information regarding no load operation of the emergency diesel generator units.

Response

In a telephone communication with the NRC Staff on February 8, 1985, the above issue was discussed. It was agreed upon that an actual test run of the diesel generators to show the capability of operation after extended no load operation is not necessary. However, NNECO was advised that additional information on how the deleterious effects of such operation will be minimized is required.

Correspondence with the diesel engine manufacturer indicates that there exists no mechanical limitation within the engine or any of its supportive systems which would limit operation over extended periods of time at rated speed between no load and rated load with the exception of the possible accumulation of combustion and lube oil products in the exhaust system, at the lower loads. Based on the results of a thorough study, the manufacturer suggests that for the PC2 model engine, if a unit is to be operated for periods of time extending over 24 hours and the loads were such that they did not exceed 20% of the engine rating, the engine should be run at above 50% load for at least 1 hour in each 24 hour period in order to minimize the accumulation of combustion or lubrication products in the exhaust system. If these guidelines are adhered to, the manufacturer indicates that there will be no degradation of the engine's ability to accept and carry load after operation at full speed, no load conditions.

NNECO was also requested to provide a maximum time limit that a diesel generator unit will be operated in an unloaded condition. It is estimated that 4 hours is the maximum time that any diesel generator would remain operating and unloaded. The basis of this estimate is a diesel generator start due to an Engineered Safeguards Feature Actuation, without a concurrent loss of off-site power, and the assumption that the diesel generator unit would only remain operating until plant conditions had stabilized, thus permitting a return to the standby mode. Since the diesel engine manufacturer has indicated that the engine is capable of running twenty-four (24) hours at no load without degradation of the engine's load acceptance or load carrying capability, we can be assured of full load acceptance after 4 hours operation at no load, if required.

NNECO has stated (response to SER License Condition No. 6) that the ambient temperature of the diesel generator rooms shall not be permitted to drop below a temperature where the manufacturer has indicated that there could potentially be any degradation of the engine's load acceptance capability. Therefore, temperature variations at the site will have no effect on the diesel generator's load acceptance capability.

As a means of addressing the possibility of unforeseen extended operation in the no load or light load condition, NNECO will require in the plant operating procedures that:

1. During extended no load and light load operation (less than 20% of full load), the diesel generator unit will be loaded to a minimum of 50% of full load for 1 hour following each 24 hour period of continuous operation.

2. During periodic testing, the diesel units will be loaded to a minimum of 20% full load as recommended by the manufacturer.
3. During troubleshooting and accident conditions, no load operation will be minimized. If these operations take place over an extended period of time (i.e., up to 24 hours), the deleterious buildup of combustion and exhaust products will be cleared by loading the unit in accordance with Item (1) above.