

NORTHEAST UTILITIES



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

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July 18, 1984

Docket No. 50-423
B11270

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

- Reference:
- (1) B. J. Youngblood letter to W. G. Council, Additional Draft SER Sections for Millstone Nuclear Power Station, Unit No. 3, dated February 24, 1984.
 - (2) W. G. Council letter to B. J. Youngblood, Millstone Nuclear Power Station, Unit No. 3, Summary/Submittal of Responses to PSB Electrical Draft SER Items, dated June 12, 1984.
 - (3) W. G. Council letter to B. J. Youngblood, Millstone Nuclear Power Station, Unit No. 3, Summary/Submittal of Responses to PSB Electrical Draft SER Items, dated July 2, 1984.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3
Submittal of a Revised Response to a PSB Electrical Draft SER Item

Reference (1) included the PSB Electrical Draft SER write-up which identified several open items with regard to information provided within our OL application.


References (2) and (3) provided responses and revised responses to these open items. We are now providing a second revised response to Item 218, Q430.38, SER Section 8.3.3.3.10, Transformers Used as Isolation Devices. See the Attachment.

If you have any questions, please contact our Licensing representative directly.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY
et. al.

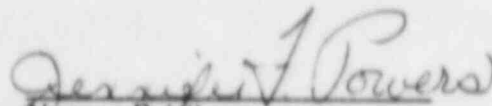
BY NORTHEAST NUCLEAR ENERGY COMPANY
Their Agent


W. G. Council
Senior Vice President

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

Then personally appeared before me W. G. Council, who being duly sworn, did state that he is Senior 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.


Notary Public
My Commission Expires March 31, 1989

Question No. Q430.38 (SRP Sections 8.3.1 and 8.3.2)

Non-Class IE NSSS loads are connected to the Class IE 120 V vital ac buses through transformers. You have stated that these transformers are qualified as isolation devices. Provide test results and/or analysis that demonstrates that any failure or combination of failures (including hot short) in the non-safety circuits will not cause unacceptable influence on any Class IE circuits. In addition, provide a description of the non-Class IE load with respect to its size and the capacity and capability of the Class IE system to supply the non-Class IE load.

Response:

Testing was performed to demonstrate the adequacy of the transformers as isolation devices in accordance with the requirements of Regulatory Guide 1.75, Position 1.⁽¹⁾ This testing was performed with the station inverter as the power source for the isolation transformer. A short circuit was applied to the output of the isolation transformer. The failure criteria for this testing was either shutdown of the inverter, or unacceptable deviation from the specified inverter output requirements. The inverter exhibited no unacceptable deviation from required output and did not current-limit or shutdown. These isolation transformers are protected by Class IE fuses located in the Class IE 120 V ac vital buses (refer to FSAR Figure 8.3-3). In addition, these isolation transformers are Class IE and equipped with ac input circuit breakers. As indicated, two series connected and physically separated Class IE interrupting devices (fuse, circuit breaker) have been provided.

The output circuits of these transformers are run in dedicated conduit up to the non-vital 120 V ac buses. The non-vital bus is equipped with feeder circuit fuses. The output of the isolation transformers are also fused. These features minimize the possibilities of an uncleared fault or hot short from challenging the isolation transformers. In any case, the design features of the isolation transformers, as demonstrated in the above referenced testing, precludes unacceptable influence on the Class IE system.

The non-Class IE loads are limited to control and instrument application only and are included in the design of the Class IE system. The capacity and capability of the Class IE system is discussed in Sections 8.3.1.1.2 and 8.3.1.1.3.

A field test will be performed to fault 120 V ac black circuits supplied from Class IE vital ac buses via isolation transformers to demonstrate no adverse affect to Class IE loads connected to the vital bus buses. A hot short test with a 125 V dc circuit sharing the same "C" cable tray section will also be performed to show acceptable isolation exists to protect Class IE loads from faults or hot shorts of non-Class IE circuits. If this field verification fails to demonstrate Class IE loads are adequately protected, one of the following alternatives will be implemented:

- o the non-Class IE cables will be routed independently to achieve separation
- o the non-Class IE loads will be removed from the Class IE 120V ac buses

Note:

1. The test results demonstrating the adequacy of the isolation transformers as isolation devices are contained in the following:
 - a) Notes of Conference, Purchase Order No. 2421.500-608, isolation tests, issue dated January 22, 1982.
 - b) Notes of Conference, Purchase Order No. 2421.500-608, Testing with Inverter, issue date February 2, 1982.
 - c) Power Conversion Products Inc., letter dated September 12, 1982.