

Northeast
Utilities System

107 Selden Street, Berlin, CT 06037

Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270
(203) 665-5000

November 21, 1995

Docket No. 50-423
B15435

Re: 10CFR50.90

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

Millstone Nuclear Power Station, Unit No. 3
Proposed Technical Specifications Revision
Source Check Definition

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend its Operating License, NPF-49, by incorporating the attached changes into the Technical Specifications of Millstone Unit No. 3. The proposed changes affect Technical Specification Section 1.33 and Bases Sections 3/4.3.3.9 and 3/4.3.3.10. Additionally, a change to the Bases Section 3/4.11.2.1 is included.

Description of Proposed Change

The proposed changes clarify the definition of source check in the Technical Specifications Section 1.33. The liquid and gaseous effluent radiation monitors at Millstone Unit No. 3 are equipped with an internal light emitting diode (LED). The LED was designed to be used for the source check. However, due to a past concern regarding the acceptability of using the LED for the source check, an external ionizing radiation source is presently used. In a memo dated December 6, 1990,⁽¹⁾ the NRC provided a Safety Evaluation Report (SER) in which it accepted the source check method that uses the LED given that the following three conditions are met:

1. The effluent monitors are used only for detecting radiation which activates an alarm setpoint and are not used as the primary means of quantifying effluent releases.
2. When monitored activity is sufficiently high, the monitor reading is cross-checked with grab sample results.

(1) U.S. Nuclear Regulatory Commission memo from L. J. Cunningham to J. H. Joyner, D. M. Collins, L. R. Greger, A. B. Beach, and G. P. Yuhas, "Relaxation of the Definition of Source Check Under the Licensee's ODCM," dated December 6, 1990.

280022

Aool
11/

3. Except for the use of an LED and grab sample cross-checks when activity is sufficiently high, there are no other practical means of source checking the effluent radiation monitors.

These three conditions apply to Millstone Unit No. 3. The Bases Sections 3/4.3.3.9 and 3/4.3.3.10 are revised to reflect these three required conditions along with a reference to the NRC's memo.

Additionally, the proposed change to the Bases Section 3/4.11.2.1 removes the reference to the milk pathway in the method for calculating the instantaneous release rate limit for iodines, particulates, and tritium. The limiting condition for operation related to offsite dose rate due to radiological materials released from the site is found in Technical Specification Section 3.11.2.1. It includes a dose rate limit due to inhalation for iodines, particulates, and tritium. The "inhalation pathway" is also used in the NUREG-1301, "Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Pressurized Water Reactors, Generic Letter 89-01, Supplement No. 1," in its sample Bases Section 3/4.11.2.1. However, the Millstone Unit No. 3 Technical Specification Bases Section 3/4.11.2.1 refers to the "cow-milk-child pathway" in the method for calculating the release rate limit. The change to the Bases Section 3/4.11.2.1 replaces the reference to the "cow-milk-child pathway" with "inhalation pathway" to make it consistent with Section 3.11.2.1. This proposed change affects only the Bases Section, therefore, it was reviewed under the provisions of 10CFR50.59 and was approved by the Millstone Unit No. 3 Plant Operations Review Committee. This change is being submitted to the NRC for information only.

Safety Assessment

A source check is currently performed with an ionizing radiation source, however, it is impractical for several reasons. To perform the surveillance with an ionizing radiation source, the detectors have to be pulled from the monitor which requires a significant amount of time to perform. Also, pulling the detector creates possible hardware problems due to increased handling. Furthermore, handling of a radioactive source leads to personnel exposure and an increased risk of contamination due to a leaking source.

In regards to the concern that using the LED will not detect a scintillator-only failure, a review of the following potential failure modes has been performed:

1. Decoupling of the scintillator from the light pipe.

The decoupling failures which are already addressed in the NRC's SER is determined to be not credible since the two

joining components are permanently attached with an optical grade epoxy.

2. Reduced light transmission through the scintillator due to cracking of the scintillator or opaqueness due to aging of the scintillator.

Cracking of the scintillator may occur due to a mechanical shock or thermal stress. However, the magnitude of mechanical shock needed to crack the scintillator would also damage the photomultiplier tube allowing detection of the monitor's inoperability. Thermal stress is not credible since the environment of the monitor does not include rapid temperature changes. Development of opaqueness due to aging is not probable since the life of the detector assembly is shorter than the time required for a significant opaqueness to develop.

3. Coating of the detector window with foreign material (applicable only to the gaseous effluent monitors that use beta detectors).

Coating of the detector window is not credible for the gaseous effluent monitors due to absence of any material in the vent that could coat the window. Some coating may occur in the liquid effluent monitors, however, since they use gamma detectors.

Thus, a scintillator-only failure is not credible at Millstone Unit No. 3.

The changes to include the LED in the source check definition only adds flexibility to the surveillance of the monitor. It does not change the requirements to perform surveillances of the monitors. Therefore, the proposed changes are safe.

The proposed change to the Bases Section 3/4.11.2.1 eliminates the reference to the milk pathway in the method for calculating the instantaneous release rate limit for iodines, particulates, and tritium since only the inhalation pathway is needed to be considered for the instantaneous release rate limit. This is consistent with the wording in Technical Specification Section 3.11.2.1 and with the requirements of the standard Radiological Effluent Technical Specifications (RETS). The need to only consider inhalation is also consistent with the instantaneous release rate limit that existed in the previous Environmental Technical Specifications (ETS) prior to the switch to RETS in 1986.

The ETS were based on the concentration limits of 10CFR20 Appendix B, Table II. These limits are based on the inhalation pathway only.

The dose to the public from all pathways will continue to be maintained less than the 10CFR50 Appendix I limits which are much more restrictive than the 10CFR20 limits. The RETS and the Offsite Dose Calculation Manual requirements for integrated dose over a quarter or year must include the milk, vegetation, and other pathways. Hence, the proposed change does not allow an increase in the integrated dose. The proposed change to Bases Section does not involve an unreviewed safety question and is safe.

Significant Hazards Consideration

Pursuant to 10CFR50.92, NNECO has reviewed the proposed changes to Specification 1.33 and Bases Sections 3/4.3.3.9 and 3/4.3.3.10. NNECO concludes that these changes do not involve a significant hazards consideration since the proposed changes satisfy the criteria in 10CFR50.92(c). That is, the proposed changes do not:

1. Involve a significant increase in the probability or consequences of an accident previously analyzed.

The proposed changes to the definition of source check clarifies the source check for the liquid and gaseous effluent radiation monitors. These monitors do not provide a safety function and only serve to provide radiological information to plant operators, therefore, the changes will not increase the probability or consequences of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any previously analyzed.

The proposed changes to the definition of source check have no effect on the ability of the monitors to perform their designed function. The clarification to the surveillance do not involve any physical modifications to any equipment, structures, or components. The monitors already have the internal LEDs which were originally used to perform the source check. The proposed changes have no impact on design basis accidents, and the changes will not modify plant response or create a new or unanalyzed event.

3. Involve a significant reduction in the margin of safety.

The proposed changes to the definition of source check do not have any impact on the protective boundaries and, therefore,

have no impact on the safety limits for these boundaries. The instrumentation associated with these changes do not provide a safety function and only serve to provide radiological information to plant operators. The instrumentation has no affect on the operation of any safety-related equipment. As such, these changes have no impact on the margin of safety.

Moreover, the Commission has provided guidance concerning the application of standards in 10CFR50.92 by providing certain examples (51FR7751, March 6, 1986) of amendments that are considered not likely to involve a significant hazards consideration. The proposed changes described herein resemble example (i), a purely administrative change to technical specifications, which for example include a change to achieve consistency throughout the technical specifications, correction of an error, or a change in nomenclature. The editorial changes have no effect on the protective boundaries or the margin of safety.

Attachment 1 is a copy of the marked-up version of the appropriate sections of the current Technical Specifications. Attachment 2 is the retyped Technical Specification sections.

NNECO has reviewed the proposed license amendment against the criteria of 10CFR51.22 for environmental considerations and concludes that the changes do not increase the types and amounts of effluent that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Thus, NNECO concludes that the proposal satisfies 10CFR51.22(c)(9) for a categorical exclusion from the requirements for an environmental impact statement.

The Nuclear Safety Assessment Board has reviewed the proposed changes to the Technical Specification Sections and concurs with the above determinations. In accordance with 10CFR50.91(b), NNECO is providing the State of Connecticut with a copy of this proposed license amendment.

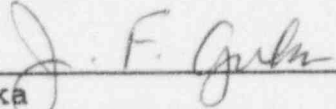
Since this proposed license amendment is not required to support continued safe operation, NNECO is requesting NRC review and approval at your earliest convenience with the amendment to be implemented within 60 days of issuance.

U.S. Nuclear Regulatory Commission
B15435/Page 6
November 21, 1995

There are no commitments contained within this letter. If the NRC Staff should have any questions or comments regarding this submittal, please contact Mr. R. G. Joshi at (860) 440-2080.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



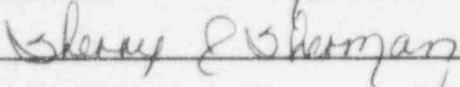
J. F. Opeka
Executive Vice President

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

Mr. Kevin T.A. McCarthy, Director
Bureau of Air Management
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

Subscribed and sworn to before me

this 21st day of November, 1995



Date Commission Expires: 8/31/98

Docket No. 50-423
B15435

Attachment 1

Millstone Nuclear Power Station, Unit No. 3

Proposed Technical Specifications Revision
Source Check Definition

Marked-up Version of Current Technical Specifications

November 1995