



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 175

TO FACILITY OPERATING LICENSE NO. DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY

THE CONNECTICUT LIGHT AND POWER COMPANY

THE WESTERN MASSACHUSETTS ELECTRIC COMPANY

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

1.0 INTRODUCTION

By letter dated April 14, 1994, as supplemented by letter dated April 20, 1994, the Northeast Nuclear Energy Company (NNECO or the licensee) requested an amendment to change the Technical Specifications (TS) for the Millstone Nuclear Power Station, Unit No. 2. The proposed amendment would revise the Surveillance Requirements (SR) 4.6.5.1, 4.7.6.1 and 4.9.15 of TS 3/4.6.5.1, "Enclosure Building Filtration System" (EBFS), 3/4.7.6.1, "Control Room Emergency Ventilation System" (CREVS) and 3/4.9.15, "Storage Pool Area Ventilation System - Fuel Storage" (SPAVS), respectively. Specifically, the proposed revision of the above SR would change the laboratory testing protocol for the charcoal absorbers of the above systems from the Standard ANSI N509-1976 implied in the existing TS to the Standard ASTM D3803-89. It should be noted that the SPAVS uses the EBFS when the pool area ventilation exhaust has to be filtered prior to its release to the environs. Additionally, the proposed amendment would make an administrative change in the existing TS page 3/4 9-17 to correct a wrong reference in this page (by replacing the reference to Regulatory Position C.5.a of Regulatory Guide (RG) 1.52, Revision 2 by Regulatory Position C.6.a of RG 1.52, Revision 2). Also the proposed amendment includes proposes changes to the BASES of TS 3/4.6.5.1 and 3/4.9.14 and 3/4.9.15 to explain the basis for the choice of the filter efficiency in the test acceptance criterion for the charcoal absorbers in the EBFS.

2.0 BACKGROUND AND DISCUSSION

On April 14, 1994, NNECO requested the NRC to exercise its discretion not to enforce compliance associated with the Limiting Conditions for Operation (LCO) for the Millstone Unit 2 CREVS, TS 3/4.7.6.1, and the EBFS, TS 3/4.6.5.1, until a proposed license amendment is issued. The proposed license amendment would change the laboratory testing protocol for the charcoal absorbers in the CREVS and EBFS as mentioned above.

Because the present TS requires a test on carbon samples of charcoal absorbers that the licensee's vendor could not perform, the TS warrants changes to allow testing of carbon samples in accordance with a standard that is more accurate, capable of performance and acceptable to the NRC. The plant was operating and during a review of the recent ventilation system testing, the licensee's Quality Services Department discovered a discrepancy in the references identified in the vendor test procedure as compared to the Millstone Unit 2 TS requirements. Further, on April 12, 1994, the licensee discovered that the vendor's test equipment could not support the laboratory test required by the testing standard currently referenced in the Millstone Unit 2 TS. The in-place charcoal for the "B" facility of the CREVS and the EBFS were conservatively determined to be inoperable because the surveillance performed on these units had been satisfied utilizing a standard (ASTM Standard D3803-79/86) not specified in the Millstone Unit 2 TS. Thus the licensee immediately declared the affected facilities inoperable and entered the 7-day action statement. The action statements require the affected systems to be restored to an operable status within 7 days or the plant be placed in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

During discussions with the NRC staff, the licensee agreed to perform a laboratory test of the charcoal samples in accordance with the requirements of ASTM Standard D3803-89 (the most recent and acceptable standard) prior to the expiration of the 7-day action statement and to modify the request for license amendment to require the laboratory tests of charcoal canisters in accordance with the ASTM Standard D3803-89 with applicable test conditions and acceptance criteria (i.e., temperature, relative humidity and allowable penetration percentage) being specified.

The NRC staff granted orally on April 15, 1994, NNECO's request for enforcement discretion associated with the LCO for the Millstone Unit 2 CREVS (TS 3.7.6.1) and the EBFS (TS 3.6.5.1). The discretionary action would be effective until a decision by the staff regarding the proposed amendment could be issued. This enforcement discretion was confirmed by the NRC letter to NNECO dated April 21, 1994.

Due to the fact that the time necessary to process the application for amendment would be longer than the remaining time of the 7-day action statement, exigent action is necessary in order to reduce the time of enforcement discretion which was granted until the license amendment is issued.

3.0 EVALUATION

The in-place charcoal for the "B" facility of the CREVS was partly changed in February 1993 and the in-place charcoal for "B" facility of the EBFS was changed in July 1992. The in-place charcoal for the "B" facility of the CREVS and the EBFS were tested on January 18, 1993, and March 18, 1993, respectively, by the laboratory ASTM Standard D3803-79/86. The existing TS implies that the laboratory test should be performed in accordance with the

ANSI Standard N509-1976 since this standard is referenced in Table 2 of RG 1.52 and the RG is referenced in the existing TS. Based on these test dates, the next 18-month surveillance for the "B" facility of the CREVS and the EBFS would be due on December 2, 1994, and February 2, 1995, respectively. These dates include the 25% grace period permitted by the TS. Since the charcoal for both systems was last tested in accordance with a standard not in strict compliance with the TS, the licensee declared both systems inoperable and entered their respective TS 7-day action statements.

The in-place charcoal for the "A" facility of the CREVS and EBFS was installed on November 20, 1992, and November 13, 1992, respectively. Based on these installation dates, the 18-month surveillances for the in-place charcoal for the "A" facility of the CREVS and EBFS would be due October 5, 1994, and September 28, 1994, respectively. These dates include the 25% grace period permitted by the Millstone Unit 2 TS. Thus no testing of the currently installed charcoal for the "A" facility of the CREVS and EBFS had been performed.

The licensee's vendor performing the laboratory tests determined that the ANSI Standard N509-1976 should not be used because the test produces a high failure rate which occurs when the filter bed becomes wet as a result of the required drastic time/temperature/relative humidity change and the NRC has recommended that utilities test charcoal in accordance with ASTM Standard D3803-89 because this standard is the more technically correct test standard. Also, it was discovered that the vendor's test equipment could not support test conditions required by the outdated testing standard.

The licensee first proposed to perform the laboratory test on the charcoal samples utilizing the ASTM Standard D3803-89. The staff indicated that this would be acceptable with certain test conditions and acceptance criteria specified (30°C, 95% relative humidity, and 1% penetration). By letter dated April 20, 1994, the licensee proposed to utilize the ASTM Standard D3803-89 with test conditions of 30°C and 95% relative humidity within the tolerances specified in ASTM D3803-89 and a removal efficiency of greater than or equal to 95%. This means that the laboratory test will have to demonstrate that the removal efficiency for methyl iodide, i.e., the organic form of radioiodine, by the charcoal absorber test sample is at least 95%. ASTM D3803 standards require demonstration of removal efficiency for methyl iodide since charcoal removal of the organic form of radioiodine is more limiting than the removal of the elemental form of radioiodine. Design basis accident (DBA) analyses provided in the NRC Safety Evaluation (SE) for Millstone Unit 2 assume removal efficiencies of 90% and 70% for elemental and organic forms of radioiodine, respectively, for the EBFS charcoal absorbers. Therefore, a removal efficiency of at least 95% of methyl iodide demonstrated by laboratory testing of EBFS charcoal absorber test sample would assure that the EBFS charcoal absorbers would have the capability to perform their intended safety function throughout an operating cycle (18 month plus 25% of 18 months). This provides reasonable assurance that at the end of the operating cycle, the EBFS charcoal absorbers would have removal efficiencies of at least as great as those assumed in the DBA analyses for these absorbers in the staff's SE for

Millstone Unit 2. Regarding the removal efficiency for the CREVS charcoal absorbers, the staff notes that the proposed amendment does not change the SR 4.7.6.1 as it relates to the test removal efficiency (95%) specified for these absorbers. The staff has determined that the acceptance criterion on laboratory tests provide sufficient margin and, therefore, is acceptable.

The staff has reviewed the proposed administrative change in TS page 3/4 9-17 and finds it acceptable.

Therefore, the staff has determined that the licensee's proposed changes to the TS are acceptable.

The staff has reviewed the proposed changes to the BASES for TS 3/4.6.5.1 and 3/4.9.14 and 3/4.9.15 and has determined that minor modifications as indicated in Section 4.0 below are appropriate.

4.0 TECHNICAL SPECIFICATION CHANGES

The following SR changes have been proposed. The staff finds these changes acceptable.

- (1) For SR 4.6.5.1.b.2, 4.6.5.1.c, 4.9.15.b.2 and 4.9.15.c the following footnote would be added:

"ASTM D3803-89 shall be used in place of ANSI N509-1976 as referenced in table 2 of Regulatory Guide 1.52. The laboratory test of charcoal should be conducted at a temperature of 30°C and a relative humidity of 95% within the tolerances specified by ASTM D3803-89. The charcoal sample shall have a removal efficiency of $\geq 95\%$."

- (2) For SR 4.7.6.1.c.2 and 4.7.6.1.d the following footnote would be added:

"ASTM D3803-89 shall be used in place of ANSI N509-1976 as referenced in table 2 of Regulatory Guide 1.52. The laboratory test of charcoal should be conducted at a temperature of 30°C and a relative humidity of 95% within the tolerances specified by ASTM D3803-89."

(The current TS specify that the carbon sample shall have a removal efficiency of $\geq 95\%$.)

- (3) For SR 4.9.15.b.2 the reference to Regulatory Position C.5.a of Regulatory Guide 1.52, Revision 2, would be changed to Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2.

Regarding the BASES Sections 3/4.6.5.1 and 3/4.9.14 and 3/4.9.15, the staff considers the following additional statement to the existing BASES to be appropriate:

"The laboratory testing requirement for the charcoal sample to have a removal efficiency of $\geq 95\%$ is more conservative than the elemental and organic iodine removal efficiencies of 90% and 70%, respectively, assumed in the DBA analyses for the EBFS charcoal absorbers in the Millstone Unit No. 2 Final Safety Analysis Report. A removal efficiency acceptance criterion of $\geq 95\%$ will ensure that the charcoal has the capability to perform its intended safety function throughout the length of an operating cycle."

The staff will act on the BASES Sections 3/4.6.5.1 and 3/4.9.14 and 3/4.9.15 when the licensee revises and submits appropriate BASES

5.0 EXIGENT CIRCUMSTANCES

In accordance with the TS, carbon samples from the charcoal absorbers of the CREVS and EBFS are required to be periodically tested in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978 and must meet the testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978. The regulatory guide specifies that testing should be performed in accordance with ANSI Standard N509-1976. NNECO informed the NRC that on April 12, 1994, it had determined that the most recent tests on carbon samples from the charcoal absorbers of the "B" facility of the CREVS and EBFS were performed in accordance with ASTM Standard D3803-79/86 and not in accordance with ANSI Standard N509-1976. Thus the licensee immediately declared the affected facilities inoperable and entered the 7-day action statement. The action statements require the affected systems to be restored to an operable status within 7 days or the plant be placed in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

The licensee's vendor performing the laboratory tests determined that the ANSI Standard N509-1976 should not be used because the test produces a high failure rate which occurs when the filter bed becomes wet as a result of the required drastic time/temperature/relative humidity change and the NRC has recommended that utilities test charcoal in accordance with ASTM Standard D3803-89 because this standard is the more technical correct test standard. Also, it was discovered that the vendor's test equipment could not support test conditions required by the outdated testing standard.

By letter dated April 14, 1994, as supplemented by letter dated April 20, 1994, the licensee requested an amendment to change the TS for the Millstone Unit 2. In addition, NNECO requested the the NRC staff process the license amendment request on an emergency basis. The proposed amendment would revise the TS to change the laboratory testing protocol for the charcoal absorbers for the CREVS (TS 3.7.6.1) and the EBFS (TS 3.6.5.1). Also the letter dated April 14, 1994, requested the NRC to exercise its discretion associated with the Limiting Condition for Operations of the CREVS and EBFS (TS 3.7.6.1 and 3.6.5.1) to be effective until a license amendment is issued. The licensee committed to perform laboratory tests on carbon samples from the charcoal absorbers of the "B" facility of the CRVS and EBFS utilizing the acceptable

ASTM Standard D3803-89 with acceptable testing conditions and acceptance criteria before the expiration of the 7-day action statement.

The NRC staff granted orally on April 15, 1994, NNECO's request for enforcement discretion associated with the LCO for the Millstone Unit 2 CREVS (TS 3.7.6.1) and the EBFS (TS 3.6.5.1). The discretionary action would be effective until a decision by the staff regarding the proposed amendment could be issued. This enforcement discretion was confirmed by the NRC letter to NNECO dated April 21, 1994.

The staff determined that the request for amendment did not warrant an emergency basis but due to the fact that the time necessary to process the application for amendment would be longer than the remaining time of the 7-day action statement, exigent action was necessary in order to reduce the time of enforcement discretion which was granted until the license amendment is issued.

The staff concluded that the exercise of enforcement discretion in this instance, involved minimum safety impact and was satisfied that it was warranted from a public health and safety perspective.

The NRC staff does not believe that NNECO has abused the exigency provisions of 10 CFR 50.91(a)(6) in this instance. In accordance with 10 CFR 50.91(a)(6) the Commission has determined that exigent circumstances exist warranting prompt action, the situation could not have been avoided, and the licensee and the Commission must act quickly and time does not permit the Commission to publish a Federal Register notice allowing 30 days for prior public comment. The Commission has also determined that the amendment, as discussed in Section 6.0, does not involve a significant hazards consideration.

6.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission has made a final determination that the amendment involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92(c), this means that the operation of the facility in accordance with the proposed amendment would not (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) Involve a significant reduction in a margin of safety.

The Commission has evaluated the proposed changes against the above standards as required by 10 CFR 50.91(a) and has concluded that the changes do not:

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

NNECO's proposal to revise Millstone Unit 2 Technical Specifications 4.6.5.1.b.2., 4.6.5.1.c, 4.7.6.1.c.2, 4.7.6.1.d, 4.9.15.b.2, and 4.9.15.c will permit carbon samples to be tested in accordance with ASTM D3803-89 versus ANSI N509-1976. ASTM Standard D3803-89 is used industry wide, and is acknowledged by the NRC as an acceptable method for the testing of activated charcoal bed filters. In addition, testing in accordance with ASTM Standard D3803-89 yields more accurate results than testing in accordance with ANSI N509-1976. The removal efficiency requirement is not affected by the proposed changes.

NNECO's proposal to correct the reference to Regulatory Position C.6.a in TS 4.9.15.b.2 is an editorial correction.

Based on the above, the proposed changes do not involve an increase in the probability or consequences of an accident previously analyzed.

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

The proposed changes to Millstone Unit 2 Technical Specifications 4.6.5.1.b.2, 4.6.5.1.c, 4.7.6.1.c.2, 4.7.6.1.d, 4.9.15.b.2, and 4.9.15.c do not involve any physical modifications to any equipment, structures, or components, nor do they involve any changes to any plant operating procedures. The only change would be to use a more reliable method to determine filter efficiency at the laboratory.

NNECO's proposal to correct the reference to Regulatory Position C.6.a in TS 4.9.15.b.2 is an editorial correction.

Thus, the proposed changes do not create the possibility of a new or different kind of accident from any previously analyzed.

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

The proposed changes to Millstone Unit 2 Technical Specifications 4.6.5.1.b.2, 4.6.5.1.c, 4.6.5.1.c.2, 4.7.6.1.d, 4.9.15.b.2, and 4.9.15.c do not modify the requirement for carbon sample removal efficiency, do not involve a change in any safety limits, setpoints, or design margins, and do not affect any protective boundaries. Additionally, the proposed test methodology has been determined to be more accurate.

NNECO's proposal to correct the reference to Regulatory Position C.6.a in TS 4.9.15.b.2 is an editorial correction .

Therefore, the proposed changes do not involve a reduction in the margin of safety.

7.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Connecticut State official was notified of the proposed issuance of the amendment. The State official had no comments.

8.0 ENVIRONMENTAL CONSIDERATION

The amendment changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (59 FR 23085). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

9.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: T. Chandrasekaran
G. Vissing

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