

Northeast
Utilities System

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April 28, 1995

Docket No. 50-423
B14783

Re: 10CFR50.90

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

Millstone Nuclear Power Station, Unit No. 3
Proposed Revision to Technical Specifications
Diesel Generator Fuel Oil Sampling Requirements

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating License NPF-49 by incorporating the changes identified in the Attachments into the Technical Specifications of Millstone Unit No. 3. The proposed changes to the Technical Specification will revise the diesel generator (DG) fuel oil testing that is performed on new fuel prior to the addition of the new fuel to the storage tank.

Description of Proposed Changes

The proposed license amendment will modify Technical Specification Surveillance Requirements 4.8.1.1.2.e.1.b, 4.8.1.1.2.e.1.d and 4.8.1.1.2.e.2.

The change to Surveillance Requirement 4.8.1.1.2.e.1.b is an editorial change which will correct the range for the Saybolt viscosity. The surveillance now indicates that the Saybolt viscosity range at 100°F should be greater than or equal to 32.6, but not less than or equal to 40.1. This is an error. The proposed change will delete the word "not" from the surveillance. This will correct the range for the Saybolt viscosity to its proper value of $32.6 \leq \text{Saybolt viscosity} \leq 40.1$. This range is in accordance with ASTM-D975-81.

The proposed change to Surveillance Requirement 4.8.1.1.2.e.1.d replaces the "clear and bright" test required to be performed on new fuel prior to the addition of the new fuel to the storage tank with a "water and sediment" test as recommended by the DG manufacturer, Regulatory Guide 1.137, and ASTM-D975-81.

In addition, Surveillance Requirement 4.8.1.1.2.e.2 is being revised to clarify that a cetane index evaluation can be performed in lieu of a cetane number. The Surveillance

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Requirement will also specify the method by which the cetane index is determined. This requirement is critical to assure DG fast start capability is maintained. The ASTM standard currently being used to measure cetane is ASTM-D975-81. Table 1 of ASTM-D975-81 states that when the cetane number by method of ASTM-D613 is not available, ASTM-D976-80 may be used as an approximation. This method estimates the ASTM cetane number in terms of cetane index. The cetane index is a useful tool for estimating the ASTM cetane number where a test engine is not available for determining this property. The cetane index of distillate fuels is determined from the API gravity and mid-boiling point. Therefore, the cetane index test may be used as a substitute for a cetane number test.

The turnaround time of 30 days for the fuel test results remains unchanged.

Safety Assessment

The proposed correction to Surveillance Requirement 4.8.1.1.2.e.1.b corrects an editorial error and brings the Saybolt viscosity range into conformance with ASTM-D975-81.

The proposed change to use a water and sediment test rather than a clear and bright test will not affect DG operability. The clear and bright test currently performed, in accordance with ASTM-D4176-82, is based on a visual examination and a subjective evaluation of fuel oil quality. It provides a rapid, but non-quantitative, method for determining if the new fuel oil contains any water or particulates. As noted in ASTM-D4176-82, there has been no statistical evaluation of the repeatability and reproduction of the test. In order to pass the test, there must be no observed water or sediment. This requirement leaves little or no room for judgmental tolerances. Performance of a water and sediment test in accordance with ASTM-D1796-83 provides a quantitative method for evaluating water and sediment. The diesel generator manufacturer specifies a maximum water and sediment limit of 0.10 percent by volume of water and sediment. Table 1 of ASTM-D975-81 specifies a maximum limit of 0.05 percent by volume of water and sediment which is one half of that which is recommended by the manufacturer. The proposed change will specify 0.05 percent by volume as the acceptance criterion for evaluating water and sediment in the new fuel. This criterion is more restrictive than that recommended by the manufacturer.

The proposed change to Surveillance Requirement 4.8.1.1.2.e.2 clarifies the testing methodology used by Millstone Unit No. 3 to ensure the DG is able to start and ramp up quickly to accept loads. ASTM-D975-81 indicates that the minimum cetane number is

40. Below this value, especially during cold periods, the DG may not fast start as desired. The method to determine the cetane number is difficult. The calculated cetane index is a useful tool for estimating the ASTM cetane number when a test engine is not available for determining this property. The calculated cetane index (ASTM Method D976-80) formula represents a means for directly estimating the ASTM cetane number of distillate fuels from API gravity and mid-boiling point.

Table 1 of ASTM-D975-81 (Note E) states that when cetane number by method ASTM-D613 is not available, method ASTM-D976-80 may be used as an approximation. Millstone Unit No. 3 currently uses the calculated cetane index as allowed by Table 1 of ASTM-D975-81, and is proposing to modify Surveillance Requirement 4.8.1.1.2.e.2 to clearly specify that a calculated cetane index is permissible.

Significant Hazards Consideration

In accordance with 10CFR50.92, NNECO has reviewed the proposed changes and has concluded that they do not involve a Significant Hazards Consideration (SHC). The basis for this conclusion is that the three criteria of 10CFR50.92(c) are not compromised. The proposed changes do not involve an SHC because the changes would not:

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

The proposed changes: correct a typographical error by providing the appropriate range for the Saybolt viscosity; replace the qualitative clear and bright test with a quantitative water and sediment test for new fuel prior to adding it to the storage tank; and clarify that a calculated cetane index may be performed in lieu of obtaining the cetane number for the fuel. The water and sediment test provides a quantitative method for evaluating water and sediment, and will require a more restrictive limit of 0.05 percent by volume of water and sediment than the 0.10 percent recommended by the manufacturer. The cetane index has been shown to be representative of the cetane number for the fuel. The DG capability to start and operate is enhanced by the proposed changes. Therefore, the changes have no negative effect on the consequences of the previously evaluated accidents.

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

The proposed changes do not alter or affect the design, function, failure mode, or operation of the plant. The proposed changes have no adverse effect on the quality of the fuel oil that is utilized by the DG. The proposed changes are administrative in nature and do not involve any physical alteration to any plant system or change the method by which any safety-related system performs its function. For these reasons, there is no possibility of an accident of a different type than previously evaluated.

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

The proposed changes will assure that the DG fuel oil meets DG manufacturer's quality requirements by the performance of the recommended testing of the DG fuel oil. The proposed changes will not impact 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 an SHC. The proposed change to Section 4.8.1.1.2.e.1.d is enveloped by example (ii). The proposed changes to Surveillance Requirements 4.8.1.1.2.e.1.b and 4.8.1.1.2.e.2 are not enveloped by a specific example. Example (ii) is a change that constitutes an additional limitation, restriction or control not presently included in the technical specifications. The proposed change to Surveillance Requirement 4.8.1.1.2.e.1.d, to replace the clear and bright test with a water and sediment test, provides a quantitative method for evaluating water and sediment. In addition, NNECO is imposing a more restrictive acceptance criterion of 0.05 percent by volume of water and sediment than that recommended by the DG manufacturer.

Environmental Considerations

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

Nuclear Review Board

The Millstone Unit No. 3 Nuclear Review Board has reviewed and approved the proposed changes and has concurred with the above determination.

State Notification

In accordance with 10CFR50.91(b), we are providing the State of Connecticut with a copy of this proposed amendment to ensure their awareness of this request.

Schedule

Regarding our proposed schedule for this amendment, we request issuance at your earliest convenience with the amendment effective as of the date of issuance, to be implemented within 60 days of issuance.

Conclusion

The proposed changes have been reviewed in accordance with 10CFR50.92 and have been determined to not constitute a significant hazards consideration. In addition, the proposed change has been reviewed against 10CFR51.21 and it has been determined that the proposed changes meet the criteria for a categorical exemption for an environmental impact statement.

The marked-up page of the existing Technical Specifications is provided in Attachment 1. The retyped page is provided in Attachment 2 and reflects the currently issued page. Not included are proposed changes transmitted via NNECO's letters of December 9, 1994⁽¹⁾ and December 23, 1994.⁽²⁾ Therefore, NNECO suggests that the NRC Staff check with NNECO for continuity prior to issuance.

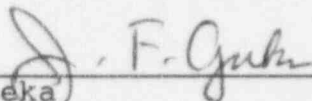
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- (1) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Proposed Revision to Technical Specifications, Diesel Generator Surveillance Requirements," dated December 9, 1994.
- (2) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Proposed Revision to Technical Specifications, Diesel Generator, Full-Load Rejection Test and Fuel Oil System Pressure Test," dated December 23, 1994.

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If you should have any questions on the above or attached, please
contact Mr. R. G. Joshi at (203) 440-2080.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



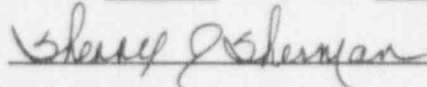
J. F. Opeka
Executive Vice President

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
Monitoring and Radiation Division
Department of Environmental Protection
79 Elm Street
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Subscribed and sworn to before me

this 28th day of April, 1995



Date Commission Expires: Aug 31, 1998