

# 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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April 15, 1993

Docket No. 50-423  
B14430

Re: 10CFR50.90

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

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3  
Proposed Revision to Technical Specifications  
Steam Generator Surveillance Requirements

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating License NPF-49 by incorporating the attached proposed changes into the Technical Specifications of Millstone Unit No. 3.

Description of the Proposed Change

As a result of an unusually long maintenance outage (service water system work and erosion/corrosion work) during 1991 and two limited outages in 1992, NNECO has rescheduled the start of the Millstone Unit No. 3 refueling outage from November 1992 to July 31, 1993. Note that subsequent unanticipated events may further change the actual start date.

The due date for completion of various surveillance requirements, including a 25 percent allowance per Specification 4.0.2, will occur prior to the 1993 refueling outage. Successful completion of these surveillance requirements is necessary to satisfy technical specification requirements.

In a letter dated February 26, 1993,<sup>(1)</sup> NNECO informed the Staff that after a thorough review of the 18-month technical specification surveillances, four groups of surveillances have been identified which would require an extension from the existing technical specification requirements in order to avoid an unnecessary plant shutdown prior to the start of the fourth refueling outage. The first group of surveillances subject to the one-time extension have been

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(1) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "18-Month Technical Specification Surveillance (TAC No. M85470)," dated February 26, 1993.

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submitted in a letter dated March 30, 1993.<sup>(2)</sup> The second group of extensions, related to a biennial position indication test of certain valves, was submitted by letter dated April 13, 1993.<sup>(3)</sup> The proposed changes included herein represents the third group of surveillances that require an extension as noted in NNECO's letter dated February 26, 1993.

The proposed changes would revise the Technical Specifications Section 4.4.5.3(a) to include a footnote. The proposed footnote would extend the surveillance related to the steam generator inspection, due no later than August 21, 1993, to the end of the next refueling outage or no later than September 30, 1993, whichever is earlier. Attachment 1 provides marked up pages of the proposed changes to the Millstone Unit No. 3 Technical Specifications, and Attachment 2 provides the retyped pages of the Millstone Unit No. 3 Technical Specifications.

#### Safety Assessment

The change request was prompted by extended periods of unit downtime during the current fuel cycle (Cycle 4) and the resulting possibility that the 24 (+25 percent) calendar month limit may be exceeded prior to the scheduled refueling outage. This amendment does not change the bases of the technical specification.

Steam generator (SG) tubes are part of the reactor coolant system pressure boundary. SG tube surveillance requirements, including inspection interval limits, were established to ensure that the structural integrity of that portion of the reactor coolant system will be maintained. The concern associated with extending the inspection interval is that it could allow tube degradation to progress further and potentially deviate from the guidance of Regulatory Guide (RG) 1.121.

Three inservice inspections of the Millstone Unit No. 3 SG tubes have been performed to date. Wear adjacent to antivibration bars (AVB) in the U-bend region of the tube bundle is the only active damage mechanism affecting the SG tubes. (This is referred to as AVB wear.) To date, 80 tubes (0.36 percent) have experienced reportable AVB wear and nine tubes have been plugged for this reason. AVB wear is the result of tube/AVB impact caused by vibration of the U-bend portion of the tube bundle. The vibration is flow-induced and only occurs while the unit is operating. Consequently, AVB wear progresses only while the unit is operating. Extending the calendar duration of Cycle 4 by 37

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- (2) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "One-Time Extension to Various 18-Month Surveillance Requirements," dated March 30, 1993.
- (3) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Request for Relief from Performing Inservice Test in Accordance with ASME Code Section XI," dated April 13, 1993.

days has no effect on the extent or severity of AVB wear in the SGs since the total operating time during Cycle 4 will not be extended by this amendment. With no change in the extent of AVB wear or severity, a deviation due to AVB wear of RG 1.121 will not occur.

The possibility that primary-side or secondary-side corrosion mechanisms may develop to a level that deviates from RG 1.121 must also be considered. The superior design characteristics of Millstone Unit No. 3's Westinghouse Model F SGs are an important consideration in assessing this issue. Most notable among them is the selection of thermally treated Inconel 600 tube material, thermal stress relief of short row U-bends, full depth hydraulic tubesheet expansion, and the use of Type 405 stainless steel tube support plates. Each of these characteristics precludes or minimizes the threat of primary-side and secondary-side corrosion phenomena that have occurred in SGs of previous designs. Millstone Unit No. 3 SG chemistry is consistently maintained well within industry guidelines, and sludge lancing has been performed during each refueling outage. No indications of corrosion have been identified during any of the inspections performed. In consideration of these facts, the possibility that corrosion mechanism(s) would develop to a level that deviates from RG 1.121, as a result of extending the inspection interval by 37 calendar days, is considered negligible.

Technical Specification 3/4.4.6 limits leakage through any one SG not isolated from the reactor coolant system to 500 gallons per day (GPD). This limit ensures that SG tube integrity is maintained in the event of a main steam line break or under loss-of-coolant accident (LOCA) conditions. SG leakage is monitored continuously with steam jet air ejector monitors and periodically via grab samples. Millstone Unit No. 3's indicated leakage level has consistently remained below 0.08 GPD since initial startup.

#### Significant Hazards Consideration

In accordance with 10CFR50.92, NNECO has reviewed the attached 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 a SHC because the changes would not:

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

The addition of the footnote to extend the surveillance due date will not involve a significant increase in the probability or consequences of an accident previously evaluated. Since the change will not increase the likelihood that a tube or tubes will deviate from the guidance of RG 1.121, the change cannot increase the probability or consequence of an accident.

Wear adjacent to AVBs has been shown to occur only during operation of the SGs. This extension time will not increase the total operating time during Cycle 4. Therefore, there is no effect on the extent and severity of AVB wear in the SGs. The superior design characteristics of the SGs minimizes the threat of primary- and secondary-side corrosion. No indications of corrosion have been identified in inspections performed so far. Also, SG leakage levels have consistently remained below .08 GPD (technical specification limit allows 500 GPD) since startup, thereby reinforcing the statement of superior SG design characteristics.

2. The proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

There are no new failure modes associated with the proposed change. Since the plant will continue to operate as designed during the surveillance extension period, the proposed change will not modify the plant response and will not create a new accident.

3. The proposed changes do not involve a significant reduction in the margin of safety.

The proposed changes do not have any adverse impact on the margin of safety afforded the SG tubes. Neither RG 1.121 margins of safety nor any other safety margins will be affected by this change. As discussed previously, virtually all tube degradation is halted while the SGs are not operating.

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 changes proposed herein are not enveloped by a specific example. As described above, the proposed changes do not constitute an SHC since the only active damage mechanism affecting the SG tubes is wear adjacent to an antivibration bar. The wear will not be increased by the changes since the total operating time will not be extended by this amendment. Therefore, NNECO has concluded that the proposed change is acceptable and does not constitute an SHC.

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

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




U.S. Nuclear Regulatory Commission  
B14430/Page 5  
April 15, 1993

The proposed amendment will allow the 24-month surveillance requirement for inspection of SG tubes to be performed during the fourth refueling outage, presently scheduled to begin on July 31, 1993. NNECO hereby requests the NRC Staff to process and issue this proposed amendment prior to August 21, 1993, to be effective upon issuance. We will, of course, promptly provide any additional information the Staff may need to respond to this request.

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

Very truly yours,

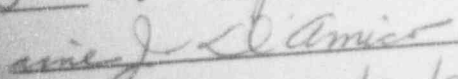
NORTHEAST NUCLEAR ENERGY COMPANY

  
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

scribed and sworn to before me

15<sup>th</sup> day of April, 1993



Commission Expires: 3/31/98

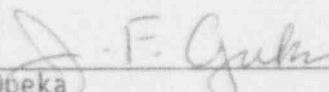
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this 15<sup>th</sup> day of April, 1993

  
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Lorraine J. St. Amico

Date Commission Expires: 3/31/98