

**NORTHEAST UTILITIES**



THE CONNECTICUT LIGHT AND POWER COMPANY  
THE HARTFORD ELECTRIC LIGHT COMPANY  
WESTERN MASSACHUSETTS ELECTRIC COMPANY  
SOUTHERN WATER POWER COMPANY  
NORTHEAST ELECTRIC SERVICE COMPANY  
NORTHEAST NUCLEAR ENERGY COMPANY

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January 12, 1982

Docket No. 50-336  
B10384



Director of Nuclear Reactor Regulation  
Attn: Mr. Robert A. Clark, Chief  
Operating Reactors Branch #3  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

- References:
- (1) W. G. Council letter to R. A. Clark, dated October 15, 1981.
  - (2) E. J. Mroczka letter to R. C. Haynes, dated December 28, 1981.
  - (3) W. G. Council letter to R. A. Clark, dated December 2, 1981.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 2  
Steam Generator Inspections

In accordance with Technical Specification requirements and those commitments contained in Reference (1), Northeast Nuclear Energy Company (NNECO) initiated inservice inspections of both steam generators at Millstone Unit No. 2 during the current refueling outage. Preliminary inspection results as reported in Reference (2) indicate an elevated frequency of eddy current indications in the steam generator tubes between the tube sheet and the first support. Eddy-current indications are defined as greater than 20% tube wall degradation.

The results of the eddy-current examinations as of January 10, 1982 are summarized in Table 1.

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In general, the indications exhibited the following characteristics:

- o located in the sludge pile as indicated by location in the tube bundle and by elevation in the tube
- o identified at varying elevations between the tube sheet and first tube support
- o located in both hot leg and cold leg tubes
- o single indications
- o axial extent of indications less than 1/4 inch

The eddy-current signals were evaluated and compared to signals associated with ASME standard defects and pits. Based on these evaluations in conjunction with the characteristics of the indications described above, NNECO concludes that the indications identified at Millstone Unit No. 2 are pits, located at one axial position on each defected tube.

The frequency of the indications has required NNECO to enter Category C-3 in Table 4.4-6 of the Millstone Unit No. 2 Technical Specifications for both Steam Generators. Category C-3 in Table 4.4-6 requires an inspection of all tubes in the affected Steam Generator. This translates to in excess of 8000 tubes per Steam Generator at Millstone Unit No. 2.

No imperfections were identified in the peripheral regions of the tube bundle during the inspections of the original tube sample. Considerably less sludge is found in these regions (Figures A and B). It is NNECO's desire to delete this area of the tube bundle from the inspections required by Table 4.4-6. This approach is consistent with Technical Specification Surveillance Requirement 4.4.5.1.2.C.

As additional proof of the validity of this approach, NNECO has performed a 100% eddy-current examination of a representative portion of the steam generator tube bundle to determine the extent of the area affected by pitting. The test region extended from the area of greatest imperfection density and sludge buildup to the outer perimeter of the tube bundle. Eddy-current examinations were performed from both the hot leg and cold leg side of approximately 900 tubes. In addition, other areas along the hot leg/cold leg divider plate as well as along the stay cylinder were also inspected. No indications were found in the regions which NNECO proposes to delete from the inspection program. This unaffected region is depicted in Figures 1-4 of the attached proposed Technical Specification change.

Therefore, pursuant to 10CFR50.90, NNECO hereby proposes to amend its operating license, DPR-65, to incorporate the attached proposed changes into the Millstone Unit No. 2 Technical Specifications. The one-time proposed changes will apply only to those inspections conducted during the Cycle 5 refueling outage and are intended to limit the additional steam generator tube inspections to the Affected Areas of the tube bundle. The unaffected areas defined by Figure 1-4 of the attached change represent approximately 2000 tubes per steam generator.

This proposed change is supported by both the results of the eddy-current examinations conducted to date as well as the nature of the indications as being associated with the sludge pile. NNECO has defined a conservative area of the tube bundle where 100% eddy-current examinations will be performed during the current refueling outage. This area is depicted in the attached Figures 1-4, as noted above.

A high degree of confidence exists that the proposed area to be 100% inspected by eddy-current techniques bounds that area of the tube bundle where tube pitting is suspected to have occurred. In the unlikely event that imperfections exist in the region proposed not to be inspected, potential tube degradation and failure would result in a small pin hole tube leak before break failure. The consequences of steam generator tube leakage are readily detectable by existing primary to secondary leak detection methods at the Plant. Prompt corrective action upon detection of primary to secondary leakage is assured by Technical Specifications 3/4.4.6.2 and 4.4.5.1.3.C.

NNECO has reviewed the aforementioned proposed changes pursuant to 10CFR50.59 and has determined that the proposed changes do not constitute an unreviewed safety question. The basis for this determination is that the reduced inspection does not increase the probability of occurrence or consequences of an accident previously evaluated in the safety analysis report. The potential consequences of a steam generator tube leak in the uninspected area are bounded by the results of current analyses performed in support of Plant operation. An accident or malfunction different than any previously evaluated in the safety analysis report is not created by the proposed license amendment and the margin of safety as defined in the Bases of the Technical Specifications is not reduced.

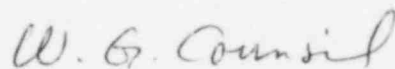
The Millstone Unit No. 2 Nuclear Review Board has reviewed and approved the attached proposed change and has concurred in the above determination.

NNECO has reviewed the proposed license amendment pursuant to the requirements of 10CFR170 and has determined that this change constitutes a Class III license amendment. Furthermore, NNECO has determined that this amendment can be treated in conjunction with the Cycle 5 reload for which a Class IV license amendment fee has previously been submitted in Reference (3).

We trust you find this information sufficient for the Staff to concur in the changes identified. We remain available to expedite Staff review and issuance of the attached proposed license amendment.

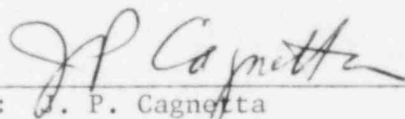
Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



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W. G. Council  
Senior Vice President



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By: J. P. Cagnetta  
Vice President Nuclear and  
Environmental Engineering

STATE OF CONNECTICUT )

) ss. Berlin

COUNTY OF HARTFORD )

January 12, 1982

Then personally appeared before me J. P. Cagnetta, who being duly sworn, did state that he is Vice President of Northeast Nuclear Energy Company, a Licensee herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Licensees herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Sheila M. Oates  
Notary Public

My Commission Expires March 31, 1986