August 16, 1988

Docket No. 50-423

Mr. Edward J. Mroczka
Senior Vice President
Nuclear Engineering and Operations
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Mroczka:

SUBJECT: MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3, INSERVICE INSPECTION (TAC NO. 60385)

We are in the process of reviewing the Inservice Inspection Program for Millstone Unit 3. In order that we may complete our review, we request that you respond to the enclosed request for additional information within 60 days following receipt of this letter.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than 10 respondents; therefore, CMB clearance is not required under P.L. 96-511.

Sincerely,

original signed by

David H. Jaffe, Project Manager
Project Directorate I-4
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosure:
Request for Additional Information

cc w/enclosure:
See next page

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NORTHEAST NUCLEAR ENERGY COMPANY
MILLSTONE NUCLEAR POWER STATION UNIT NO. 3
(TAC No. 60385)

Request for Additional Information
First 10-Year Interval Inservice Inspection Program Plan

I. Scope/Status of Review

Throughout the service life of a water-cooled nuclear power facility, 10 CFR 50.55a(g)(4) requires that components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 meet the requirements, except design and access provisions and preservice examination requirements, set forth in ASME Code Section XI, "Rules for Inservice Inspection of Nuclear Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. This section of the regulations also requires that inservice examinations of components and system pressure tests conducted during the initial 120-month inspection interval shall comply with the requirements in the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) on the date 12 months prior to the date of issuance of the operating license, subject to the limitations and modifications listed therein. The components (including supports) may meet requirements set forth in subsequent editions and addenda of this Code which are incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein. The licensee, Northeast Nuclear Energy Company, has prepared the Inservice Inspection (ISI) program plans to meet the requirements of the 1983 Edition, Summer 1983 Addenda (83S83) of the ASME Code Section XI.

Your letter dated May 22, 1986, submitted an inservice inspection (ISI) program and relief requests for the first 10-year inspection interval of Millstone Unit 3. An additional first-interval relief request was submitted March 18, 1987.

II. Additional Information Required

Based on a review of the program and relief requests submitted, information and/or clarifications are required in order to complete the review of the ISI Program plan.

1. Section 5.0 of the ISI plan states that the first 10-year ISI plan sheets are being prepared but have not been provided with the ISI plans. Sections 5.1.A through M in the plan provide a description of the information that the sheets will contain. Please provide this information as it is required for the staff to review your ISI program. In addition, Item M of Section 5.1 relates examinations to refueling outages. Code Tables IWB-2412-1, IWC-2412-1, and IWD-2500-1, and Paragraph IWF-2410 define requirements for the percentage of examinations that can be completed for each of the three periods during the inspection interval. Please define which refueling outages are in which inspection period.

   If the inspection plan sheets are not available at this time, provide the following information in order to evaluate your examination sample and schedule:

   (a) total population of each Section XI item number subject to examination,

   (b) total number of examinations of each Section XI item number during each of the three inspection periods (IWB- and IWC-2412-1) for the first 10-year interval,

   (c) examination method(s),

   (d) for Class 1 and 2 piping welds, provide the above information by system.

2. The staff cannot verify that the examination requirements for component supports under Subsection IWF are being met. The ISI program plan should contain a narrative on the examination of component supports that explains the basis of the program. The component supports should be separated by Code Class and an estimate of the sample size versus the entire population provided.

3. Provide isometric drawings showing ID numbers from the ISI program plan for welds, components, and component supports. Also provide applicable piping and instrument diagrams to allow evaluation of the multiple train concept when used. (IWB, IWC, and IWD allow weld examination based on minimum weld sampling size or similar multiple system design.)

4. Paragraphs 2.1.1, 2.2.1, 2.3.1, and 2.4.1 of the plan restate the paragraphs from ASME 83S83 and Code Case N-408 which relate to exemptions, but there are no references to specific applications at MP-3. In addition, exemption criteria for Class 2 Residual Heat Removal, Emergency Core Cooling, and Containment Heat Removal piping are not mentioned in the plan. The application of exemptions to development of the MP-3 ISI program should be clarified and documented in the plan.

   Please provide a listing of systems, subsystems, components, or zones exempted from inspection for each class. Also provide a narrative to explain how each exemption was applicable to the MP-3 ISI program.

5. In Paragraph 2.2.3 of the plan, you give augmented inservice inspection requirements which you are applying at MP-3, and you list the overall systems affected by augmented ISI requirements. Please provide a listing of all welds being examined in the augmented ISI program, with identification numbers so that they can be located on the zone isometric drawings. Please provide a copy of the January 1985 NRC authorization cited in Section 2.2.3.2 for surface examination only of Break Exclusion Area (BEA) welds.

6. Sections 2.1.4.2, 2.2.4.2, and 2.3.3.2 of the MP-3 plan state that the boundaries subject to system pressure tests, as well as the test programs, are included in the In-Service Test Program for MP-3. System pressure tests are part of the Inservice Inspection program as required by examination Categories B-P, C-H, D-A, D-B, and D-C in ASME 83S83. Please provide a section in the ISI plan that contains complete system pressure test boundaries and a test program that indicates test pressures, test temperatures, design and operating pressure of the systems to be tested, and any safety or relief valve settings in the system to be tested.

7. The MP-3 ISI plan does not specify repair procedures to be used if repairs are found to be necessary during the ISI program. Please provide a section of the ISI plan that describes repair procedures that will be used in conjunction with the ISI program.

8. Detailed examination procedures are not reviewed as part of the ISI Plans. However, you should provide a list of applicable examination procedures in the ISI program plan as well as a list of calibration blocks, including drawings, material specifications, and sizes.

9. Safety Evaluation Report Supplement 3 requires that welds in thick-wall centrifugally cast stainless steel piping be selected for inservice inspection in order to optimize the effectiveness of the examination. This was to be implemented by selecting welds that shoe the best acoustical properties and have the best access for ultrasonic examination of the weld and required volume.

   Please provide a description of the methodology used to select welds for examination in the thick-wall cast stainless steel piping components. Please also verify that the examination procedures developed for these welds during PSI are still applicable for ISI.

10. Relief Request IR-1 requests relief from performing volumetric examinations of the inaccessible portions of pressure-retaining welds in the reactor vessel. Please provide the following information:

(a) The table attached to relief request IR-1 specifies figures which are not included in the review copy of the ISI program. Please provide Figures 1A and 1B for Weld 5, Figure 2 for Welds 15, 16, 17, and 18 (Bottom head meridional welds), and Figure 3 for Welds 6, 7, and 8 (upper shell longitudinal welds). Please also estimate the percentage of the Code-required examination that will be completed on the upper shell longitudinal welds.

(b) It is not clear from the information provided in Relief Request IR-1 what examinations the licensee proposes to perform for reactor vessel nozzle inside radius sections. For example, in the table attached to this relief request, what is meant by "A. Remote: - From nozzle bore TR 7 & 8 (60^{o})" and "B. Manual: To examine edge for corner flaw"? The comments in this table go on to state that "the utility may elect to (1) apply contact examination methodology in-service if a high degree of assurance exists that such methods will provide meaningful results; (2) seek relief from volumetric examination and perform visual examination instead (End of interval exam)".

Please clarify the examinations that will be performed on the reactor vessel nozzle inside radius sections and what relief, if any, is being sought.

(c) Relief Request IR-1 lists Item B1.30, reactor vessel shell-to-flange weld as requiring relief. However, the matrix attached to the relief request states that no limitations to inservice inspection are expected for this weld. Please clarify what relief is being requested for the reactor vessel shell-to-flange weld.

11. Relief Request IR-3 makes reference to an attached sketch detailing obstructions to steam generator welds which was not supplied in the review copy of the ISI program. Please supply this sketch. Please also supply a sketch detailing the obstructions to examination of weld 03-007-SW-F, pressurizer shell-to-lower head weld.

12. Relief Requests IR-5 and IR-8 request relief from performing 100% volumetric examinations of the nozzle-to-vessel welds and the nozzle inside radius sections for key nozzles in the steam generators and pressurizer. Please indicate the sources of examination methods that have been explored in attempting to find suitable methods for examination of these nozzle-to-vessel welds and nozzle inner radius sections. Please also indicate which nozzles in the steam generators and pressurizer are subject to thermal fatigue mechanisms.

13. The staff is using the submittals listed in Attachment 1 to review the first interval ISI plan and relief requests for Millstone 3. Please confirm that these submittals contain the most current version of all ISI documents related to the first-interval ISI plan or provide copies of the current documents.

ATTACHMENT 1

REVIEW DOCUMENTS

1. W. G. Counsil (NNEC) to B. J. Youngblood (NRC), May 1, 1984; response to Materials Engineering Branch request for information concerning the recording and investigation of crack indications.

2. W. G. Counsil (NNEC) to B. J. Youngblood (NRC), May 9, 1984; response to Materials Engineering Branch request for information concerning compliance with Regulatory Guide 1.150.

3. U.S. Nuclear Regulatory Commission, Safety Evaluation Report Related to the Operation of Millstone Nuclear Power Station, Unit No. 3, NUREG-1031, July 1984.

4. W. G. Counsil (NNEC) to B. J. Youngblood (NRC), December 13, 1984; response to Materials Engineering Branch request for information concerning volumetric examination of Class 2 piping welds.

5. J. F. Opeka (NNEC) to B. J. Youngblood (NRC), May 7, 1985; response to Materials Engineering Branch request for information concerning ultrasonic inspection technique for centrifugally cast pipe.

6. J. F. Opeka (NNEC) to B. J. Youngblood (NRC), July 1, 1985; provides additional information concerning UT technique for centrifugally cast pipe.

7. J. F. Opeka (NNEC) to B. J. Youngblood (NRC), July 2, 1985; provides additional information concerning UT technique for centrifugally cast pipe.

8. U.S. Nuclear Regulatory Commission, Safety Evaluation Report Related to the Operation of Millstone Nuclear Power Station, Unit No. 3, NUREG-1031, Supplement 2, September 1985.

9. J. F. Opeka (NNEC) to B. J. Youngblood (NRC), September 18, 1985; request for exemption from Code volumetric examination requirements for embedded containment recirculation spray system piping.

10. J. F. Opeka (NNEC) to B. J. Youngblood (NRC), September 30,, 1985; preservice inspection of piping welds in the break exclusion area.

11. U.S. Nuclear Regulatory Commission, Safety Evaluation Report Related to the Operation of Millstone Nuclear Power Station, Unit No. 3, NUREG-1031, Supplement 3, November 1985.

12. U.S. Nuclear Regulatory Commission, Safety Evaluation Report Related to the Operation of Millstone Nuclear Power Station, Unit No. 3, NUREG-1031, Supplement 4, November 1985.

13. J. F. Opeka (NNEC) to B. J. Youngblood (NRC), November 19, 1985; proposed requests for relief from preservice inspection.

14. J. F. Opeka (NNEC) to V. S. Noonan (NRC), December 23, 1985; formal submittal of requests for relief from preservice inspection.

15. U.S. Nuclear Regulatory Commission, Safety Evaluation Report Related to the Operation of Millstone Nuclear Power Station, Unit No. 3, NUREG-1031, Supplement 5, January 1986.

16. J. F. Opeka (NNEC) to V. S. Noonan (NRC), April 1, 1986; revised PSI relief requests PR-4 and PR-12 identifying additional welds requiring relief.

17. J. F. Opeka (NNEC) to V. S. Noonan (NRC), May 22, 1986; first interval Inservice Inspection Program.

18. E. J. Mroczka (NNEC) to NRC, March 18, 1987; request for relief from inservice inspection requirements for integrally welded attachments to vessels.

19. NRC Memo, C. Y. Cheng and L. B. Marsh to J. P. Durr, August 10, 1987; review of licensee's interpretation of 10 CFR 50.55a(g)(4)(iv) in applying the ASME 1983 Edition, Summer 1983 Addenda Code to the first interval ISI program for Millstone 3.