

NORTHEAST UTILITIES



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NORTHEAST UTILITIES SERVICE COMPANY
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May 12, 1988

Docket No. 50-336

B12904

Re: ISI Program

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Millstone Nuclear Power Station, Unit No. 2
Additional Information on ISI Program (TAC No. 59265)

In a letter dated December 9, 1987,⁽¹⁾ the NRC Staff requested additional information on Northeast Nuclear Energy Company's (NNECO) Inservice Inspection Program for Millstone Unit No. 2. The information was required to be submitted to the Staff within 60 days of the request (i.e., February 12, 1988).

During telephone conversations with the Project Manager for Millstone Unit No. 2, NNECO requested additional time to prepare our submittal in order to provide a complete and accurate response to the questions and comments of the December 9, 1987 letter. The revised due date for NNECO's response to the request for additional information was agreed to be May 15, 1988. This agreement was documented in a letter dated January 8, 1988.⁽²⁾

Attachment 1 to this letter consists of NNECO's responses to NRC Staff questions posed in the December 9, 1987 letter. Attachment 2 consists of revised sections of the Millstone Unit No. 2 Inservice Inspection Program.

NNECO believes the information contained in Attachments 1 and 2 is fully responsive to the Staff's concerns.

(1) D. H. Jaffe letter to E. J. Mroczka, "Millstone Nuclear Power Station, Unit No. 2 Inservice Inspection (TAC No. 59265)," dated December 9, 1987.

(2) E. J. Mroczka letter to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, Additional Information on ISI Program (TAC No. 59265)," dated January 8, 1988.

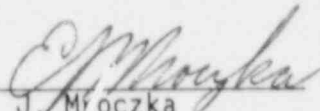
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Please contact us if you have any questions.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY


E. J. Mroczka
Senior Vice President

cc: W. T. Russell, Region I Administrator (Without Drawings)
D. H. Jaffe, NRC Project Manager, Millstone Unit No. 2
W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3
(Without Drawings)

Docket No. 50-336
B12904

Attachment 1

Millstone Nuclear Power Station
Unit No. 2
Additional Information on ISI Program

May 1988

ATTACHMENT 1

NNECO RESPONSE TO NRC
REQUEST FOR ADDITIONAL INFORMATION

NRC Comment

1. In the MP2 plan, many procedures are specified, others are referenced as "special," and some have been left blank, giving no reference. While the review of examination procedures is a region function, they should be specified in the plan for completeness and as a reference for the Regional Office. Please describe all "special" procedures and reference all other procedures. For procedures that have not been finalized, please provide both a reference and an estimated date for final completion.

NNECO Response

All known examination procedures have been identified, or the program plan annotated to identify the most probable source of the procedure. The attached revision to Section 4.2 contains these changes.

Where procedure references were left blank or identified as "special," the procedures to be used were not yet developed or were examinations which vendors would perform. Station Procedure #SP21144 has been listed in the program for all in-vessel visual examination items. For the in-vessel ultrasonic examinations, the term "special" has been replaced with the word "vendor." There are several remote ultrasonic inspection companies available, and these exams will be performed at or near the end of the second ten-year interval. Thus, the vendor procedure number cannot be established at this time since the contract for these exams has not been awarded. During the first period in-vessel UT exams, Nuclear Energy Services (NES) was the UT inspection vendor, and their procedure number 83A4076 has been added to the items they examined.

NRC Comment

2. In addition to providing the basis for the extent of the examination sample, the ASME Code provides guidelines for implementing the inspections during each 10-year interval. Please provide an overall narrative description of the method used to meet the requirements of Sections IWB-2412, IWC-2412, IWB-2420, IWC-2420, and IWF-2420 for each examination category. (see Paragraphs 8, 13a, and 14 for additional discussion.)

NNECO Response

The methods used to meet the ASME Code guidelines for implementing inspections during the second ten-year interval have been revised and clarified and are included in the attached revised Sections 4.1 (Class 1), 5.1 (Class 2), and 7.1 (IWF supports). To the extent practical, NNECO will schedule examinations to meet the "ten-year interval between exams" intent of IWB-2420, IWC-2420, and IWF-2420.

For Code Categories B-J, C-F, and C-G, NNECO will base selection and quantity of welds examined on the requirements of the 1974 Edition, Summer 1975 Addenda of ASME Section XI. Items not previously examined will be chosen. The percentage requirements of Table IWB-2412-1 of the 1980 Edition, Winter 1981 Addenda will be met.

The responses to comments #8, #13, and #14 contain additional information relative to this subject.

NRC Comment

3. Paragraph 1.0 of the Introduction states that the applicable code for developing the MP2 ISI program is the ASME Boiler and Pressure Vessel Code, Section XI, 1980 Edition, with addenda through Winter 1981 Addenda (ASME 80.81W). Paragraph 1.3 of the Introduction states that ASME 74S75 will continue to be used for extent of examination of Class 1, Category B-J and Class 2, Category C-F and C-G pipe welds.

Please list any ASME Code cases that have been applied in developing the MP2 ISI plan in conjunction with the stated codes, and describe specifically where and how the code cases have been applied.

NNECO Response

Code cases have not been applied to the development of this program plan. That is, no code cases have been used to develop the extent, frequency, or scope of the examinations specified in this plan.

Code cases, approved by the NRC in Regulatory Guide 1.147, which apply to examination techniques, methods, and calibrations may be applied. Since these code cases do not affect the information provided in this program plan and are subject to change with the improvement of examination techniques and methods, they have not been listed. Any such code cases, implemented during the performance of examinations specified in this plan, will be subject to prior NRC approval.

NRC Comment

4. Applicable ASME Section XI Exemptions Employed at Millstone Unit 2

This section restates the paragraphs from ASME 80.81W which relate to exemptions with very few references to specific applications at MP2. The section also acknowledges that the exemptions stated in IWC-1220, Table IWC-2520, Categories C-F and C-G, and Paragraph IWC-2411 in ASME 74S75 will be applied. The application of the stated and implied exemptions to development of the MP2 ISI program should be clarified and documented in the plan. For example, the system classification diagrams given in Section 3.0 include a much broader range of piping and systems within Class 1 and 2 than is scheduled for inspection in Sections 4.0 and 5.0. Presumably, many piping systems, subsystems, and components were exempted from inspection through application of Code exemptions.

Please provide a listing of systems, subsystems, components, or zones exempted from inspection for each class because the sample of welds selected for examination cannot be determined without this information. Also, please provide supporting information to explain each exemption based on Code requirements.

NNECO Response

NNECO's intention in Section 3.0, "Boundary Diagrams Plus Piping and Instrumentation Drawings," was to show all systems included in the total ISI/IST program. This appeared appropriate since the program is the summation of all code-required examinations and tests. Further, the boundary diagrams were principally designed to show the boundaries of the program and were not intended to include every line within the boundary. When used in conjunction with piping and instrument diagrams and the isometric sketches of Sections 4.3, 5.3, and 7.3, they present a composite picture of the ISI/IST program presented in the program plan.

Exemptions used in developing the program are as follows:

- o IWB-1220(a) - No piping or components are considered exempt under this paragraph.
- o IWB-1220(b) - Piping 1" Diameter and Smaller - This exemption was applied to all Class 1 piping 1" diameter and smaller.
- o IWB-1220(c) - Reactor Vessel Head Connections 2" In Diameter and Smaller Made Inaccessible By Control Rod Drive Penetrations - This exemption was applied to reactor vessel head connections 2" diameter and smaller made inaccessible by control rod drive penetrations.

- o IWC-1220(a) - Components of systems or portions of systems that, during normal plant operating conditions, are not required to operate or perform a system function but remain flooded under static conditions at a pressure, or at least 80 percent of the pressure, that the component or system will be subjected to when required to operate. This exemption was applied to the safety injection suction piping.
- o IWC-1220(b) - Components of systems or portions of systems, other than residual heat removal systems and emergency core cooling systems, that are not required to operate above a pressure of 275 psig (1,900 kPa) or above a temperature of 200°F (93°C). This exemption was applied to the feedwater system suction piping and Class 2 portions of the reactor building closed cooling water system.
- o IWC-1220(c) - Component connections (including nozzles in vessels and pumps), piping and associated valves, and vessels and their attachments that are 4" nominal pipe size and smaller. This exemption was applied to all Class 2 piping systems that have 4" nominal pipe size and smaller.

A line-by-line list of exempt piping is not available. During program development, no effort was expended to develop a list of exempt piping. Rather, the approach taken was to list, in the program plan, only those portions of systems which require examination or testing. Since the examination sample is chosen from nonexempt components, the list in Sections 4.2, 5.2, and 7.2, in conjunction with the methodology specified in Sections 4.1, 5.1, and 7.1 and the isometric drawings in Sections 4.3, 5.3, and 7.3, should provide sufficient information to assure that the proposed examination program meets all regulatory requirements.

NRC Comment

5. Category B-A (Shell and Bottom Head Welds in Reactor Vessel)

This section lists the 20 reactor vessel shell and bottom head welds in Category B-A "for information," but does not specify which welds will be examined in the second interval. Please state, specifically, which Category B-A reactor vessel shell and bottom head welds (including code item number) will be examined during the second interval to meet the requirements in Table IWB-2500-1 of ASME 80.81W.

NNECO Response

Section 4.1 of the submittal has been revised to include the total population of Category B-A, Pressure Retaining Welds In the Reactor Vessel. We have also included the code item number of the specific welds scheduled to be examined during the second ten-year interval to meet or exceed the requirements of Table IWB-2500-1 of the 1981 Winter Addenda of Section XI of the ASME Code.

NRC Comment

6. Category B-A (Welds in RV Head)

This section lists the eight reactor vessel head welds in Category B-A "for information," but does not specify which welds will be examined for the second interval. Please state, specifically, which reactor vessel head welds (including code item number) will be examined during the second interval to meet the requirements in Table IWB-2500-1 of ASME 80.81W.

NNECO Response

Section 4.1 of the submittal has been revised to include the total population of Category B-A, Pressure Retaining Welds In the Reactor Vessel. We have also included the code item number of the specific welds scheduled to be examined during the second ten-year interval to meet or exceed the requirements of Table IWB-2500-1 of the 1981 Winter Addenda of Section XI of the ASME Code.

NRC Comment

7. Category B-B (Welds in Steam Generators - Primary Side)

The note indicated by "*" in this section of the MP2 ISI plan states that the "code does not consider Combustion Engineering (CE) design steam generators with tubesheet-to-tubesheet extension weld." The examination requirements for Category B-B, Item B2.40, Tubesheet-to-Head Welds, are shown in Figure IWB-2500-6 of ASME 80.81W. Design A in this figure is representative of the CE steam generator design and shows that the required examination volume (ABCD) includes the circumferential weld on each side of the extension ring and any meridional welds in the extension ring. Accordingly, circumferential welds BHC-2 and BHC-3, as well as meridional welds in the extension ring (BHV-1, 3, 5, 7) are all included in the examination volume for Item B2.40.

Unless there is additional technical information to support your conclusion that the weld is exempt from examination, please specify the examination of the steam generator primary side to meet the requirements of Category B-B of the Code; i.e., in addition to the tubesheet weld area, the scheduled examinations must also include: (a) a circumferential weld in the SG head such as BHC-1 (stay cylinder base to hemisphere) and (b) a meridional head weld such as BHM-3 already scheduled.

NNECO Response

Northeast Nuclear Energy Company acknowledges the comment that circumferential welds BCH-2 and BCH-3, as well as meridional welds in the extension ring (BHV-1, 3, 5, and 7) are all included in the examination volume for Code Item Number B2.40.

The welds listed below have been included to meet the requirements of Category B-B, Item Numbers B2.31, B2.32, and B2.40, when examining the primary head of the steam generator #2 at Millstone Point Unit #2.

<u>Code Item No.</u>	<u>Weld No.</u>	<u>Planned Second Interval Exam Date</u>
B2.31	SG-2-BHC-1	1995
B2.32	SG-2-BHM-3	1988
B2.40	SG-2-BHC-2	1989
B2.40	SG-2-BHC-3	1988
B2.40	SG-2-BHV-1	1989
B2.40	SG-2-BHV-3	1989
B2.40	SG-2-BHV-5	1989
B2.40	SG-2-BHV-7	1989

NRC Comment

8. Category B-F (Dissimilar Metal Welds)

Of the 28 Category B-F welds scheduled for examination, almost 30 percent are being examined in a different period of the second inspection interval than they were in the first interval. The ASME Code requires, within the limits of practicality (IWB-2420), that examination sequences established in the first interval be maintained in subsequent intervals such that the time interval between repeated inspections from inspection interval to inspection interval is approximately ten years.

Please provide justification for the significant changes in the sequence of Category B-F examinations in the second interval.

NNECO Response

As stated in response to comment #2, Section 4.1 has been revised to meet the "ten-year interval between exams" intent of IWB-2420, IWC-2420, and IWF-2420. There are several welds during the first interval that had been examined by the required volumetric and surface examinations on different dates. The majority of these welds were examined by the liquid penetrant (LP) method surface examination during the first interval and then volumetrically examined (UT) during the 1986 second interval refueling outage for first interval credit. NNECO has elected to use the 1985 conclusion date of the first interval as the date to establish the ten-year interval between exams for second interval scheduling

purposes. In addition, to facilitate orderly work progress, level workloads, and minimize personnel radiation exposure, some welds have been selected for examination in less than ten years from their original examination. Where this option is adopted, subsequent examinations will, to the extent practical, adhere to the "ten-year interval between exams," intent of IWB-2420, IWC-2420, and IWF-2420, using the new examination year as the starting date.

For Category B-F, specific weld identification, first interval examination dates, and second interval scheduled examination periods, see revised Sections 4.1 and 4.2 enclosed.

NRC Comment

9. Category B-J (Pressure Retaining Welds in Piping)

The plan indicates that ASME 74S75 is being used to determine the extent of examination of Class 1 pipe welds in accordance with 10CFR50.55a(b)(2)(ii). ASME 74S75 requires that the extent of examinations performed each interval include (i) 25 percent of circumferential joints (including any adjoining one-foot sections of longitudinal welds) and (ii) 25 percent of the pipe branch connection joints. Longitudinal welds covered under Items B9.12 and B9.22 are required to be examined only if the longitudinal weld intersects a circumferential weld to be examined under Items B9.11 and B9.21. The longitudinal welds are not to be included in the calculation of the percentage of welds examined.

The plan gives a calculation of the number of examinations per interval, per period, and per refueling outage for each item under Category B-J, but no specific welds are identified for examination either in the narrative on pages 17-18 or Section 4.2.

Please provide the following additional information:

- (a) Explain the application of exemption criteria (IWB-1220) to determine the overall extent of piping which includes Category B-J welds.
- (b) Describe the development and selection of the examination sample for each item under Category B-J to show the size and distribution of the sample.
- (c) For each code item under Category B-J, indicate the total population of the item, the examination sample for the second interval, and the specific welds to be examined in the second interval. Specifically, provide documentation to support the number of welds specified in the plan for the following code items:
 - (i) B9.11 - 64 welds
 - (ii) B9.21 - 47 welds
 - (iii) B9.40 - 16 welds

Confirm that the required longitudinal welds will be examined, but not included in the weld count for Items B9.11 and B9.21.

- (d) Items B9.31 and B9.32, branch pipe connection welds greater or less than 4-inch nominal diameter, respectively, have been combined in the plan to give a total of 15 branch pipe welds, five greater than 4-inch nominal diameter, and ten smaller than 4-inch nominal diameter. Four branch welds are to be examined each interval. Define the number of branch welds in piping larger than 4-inch nominal diameter for examination.
- (e) The plan indicates that 64 Class 1, Category B-J, circumferential welds will be examined during the second interval. In RR#3, relief is requested in the examination of 29 of these welds. Please explain the method used to select the Category B-J welds in order to minimize the number of welds for which relief is requested.

NNECO Response

The methodology of examination selection has been revised and clarified in response to this comment and is included in the attached revised Section 4.1.

The revised second interval ten-year ISI program summary list 635, Category B-J welds. This population consists of:

252 welds listed under Code Item Number B9.11
128 welds listed under Code Item Number B9.12
178 welds listed under Code Item Number B9.21
0 welds listed under Code Item Number B9.22
6 welds listed under Code Item Number B9.31
9 welds listed under Code Item Number B9.32
62 welds listed under Code Item Number B9.40

- a. Exemptions used in developing the program are as follows:
 - o IWB-1220(b) - Piping 1" Diameter and Smaller - This exemption was applied to all Class 1 piping 1" diameter and smaller.
 - o IWB-1220(c) - Reactor Vessel Head Connections 2" Diameter and Smaller Made Inaccessible By Control Rod Drive Penetrations - This exemption was applied to reactor vessel head connections 2" diameter and smaller made inaccessible by control rod drive penetrations.
- b. The methodology for selection of the examination sample is detailed in the revised and clarified Section 4.1 attached.

- c. The revised and clarified Section 4.1 contains the requested information. This methodology identifies, by code item number and pipe size, the number of examinations to be performed in each interval.

Section 4.2 contains detailed examination information including the currently scheduled examination period for each weld. Examinations marked NA are not scheduled for examination in the second interval.

To the extent practical, this schedule of exams will be followed. However, the need to minimize personnel radiation exposure, improve inspection efficiency, or avoid impact on plant controlling work efforts may require rescheduling of certain examination dates without prior notification to the NRC. The methodology specified in Section 4.1 will not be changed without prior notification to the NRC. Schedule changes will be reported for information in the in-service inspection summary report submitted after each refueling outage.

The required longitudinal welds will be examined in conjunction with their associated circumferential welds but not included in the weld count for items B9.11 or B9.21.

- d. The revised and clarified Section 4.1 (attached) contains the requested information. This methodology identifies, by code item number and pipe size, the number of examinations to be performed in each period.
- e. Relief Request #RR-3 listed 29 welds which preservice examinations indicated could not be examined to the full extent required because of accessibility restrictions. Specifically, examinations are only possible from one side of the weld. Relief was requested from the requirement to examine the welds from both sides. No relief was requested from any other code requirements for examination of these welds. These welds have been included in the available sample population for examination selection on the same basis as any other weld of the same code item number and pipe size. There will be no selective inclusion or exclusion of these welds. NNECO reserves the specific weld choice for each outage to the time period immediately before each refueling outage. The specific welds chosen for each outage and the results will be included in the inservice inspection summary report submitted following each refueling outage.

Review of Section 4.2 shows that 11 of 29 welds included in Relief Request RR#3 are currently scheduled for examination in the second interval. By the end of the second interval 15 of the 29 welds included in Relief Request RR#3 will have been examined. This is consistent with the intent of Table IWB-2500 (B-J Category) of the ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition, Summer 1975 Addenda. However, the need to minimize personnel radiation exposure, improve inspection efficiency, or avoid impact on plant controlling work efforts may require rescheduling of certain examinations. NNECO reserves the right to change the

planned examination dates without prior notification to the NRC. The methodology specified in Section 5.1 will not be changed without prior notification to the NRC. In addition, approximately half of the welds will have been examined by the end of the second interval. Schedule changes will be reported for information in the inservice inspection summary report submitted after each refueling outage.

NRC Comment

10. Category B-K-1 (Integral Attachments for Piping, Pumps, and Valves)

The only items in Category B-K-1 of the MP2 plan are the 16 welded attachments to the primary coolant pumps. C-E plant designs have included welded attachments to Class 1 piping, such as safety injection piping, that are covered by Category B-K-1 requirements. Please confirm that all items in this category have been listed.

NNECO Response

A complete review of all Class 1 piping system component supports identified three additional integrally welded attachments (Code Item B10.10) which should have been included. Other integrally welded attachments do not meet the required base material design thickness of 5/8" or more as specified in Table IWB-2500-1, Note 3. The three items identified have been included in the revised Section 4.1 and 4.2 attached.

NRC Comment

11. Category B-P (System Pressure Tests for all Class 1 Components)

The only items identified for examination under Category B-P in the component listing of Section 4.2 are the pressurizer nozzles in Item B15.20 (system leakage on the pressure retaining boundary of the pressurizer). Please provide a description of other items to be examined under Category B-P.

NNECO Response

All Class 1 pressure boundary components will be examined under Category B-P. Since these components are listed elsewhere in the program plan, no attempt has been made to re-list them under Category B-P. The pressurizer nozzles previously listed under Item B15.20 have been transferred to their correct location under Item B4.20 (Category B-E).

The required leakage tests are conducted by pressurizing the system to the test pressure then doing a system walkdown using the Piping and Instrument Diagram, ISI Isometric Drawings, and the ISI Boundary Diagram. All piping and components including instrumentation

lines are visually examined for leakage. While an item-by-item list is not used, the method used to perform the examination assure that all leakage, including minor packing gland leakage, is identified.

NRC Comment

12. Category C-A (Pressure Retaining Welds in Pressure Vessels)

Weld 2-SC-1A is listed as an Item C1.20 head circumferential weld in Section 5.1 under steam generators. This weld is not included on the component list in Section 5.2 nor is it shown on the drawing in Section 5.3. Please clarify the weld designation 2-SC-1A and its location.

NNECO Response

Welds 1-SC-1A and 2-SC-1A in steam generators 1 and 2, respectively, are located between the stay cylinder tube (extending through the Class 1 tubesheet) and the dome of the stay cylinder.

The welds were originally listed in Section 5.2, erroneously as welds 1-SC-1 and 2-SC-1. We have corrected this listing by adding the "A" designation to each weld number.

The Code Item Number C1.20, Head Circumferential Weld, has also been revised to Code Item Number C1.30, Tubesheet-To-Shell weld, to appropriately illustrate the characteristics of the weld design. Refer to revised Sections 5.1 and 5.2 for the corrected listings of these two welds.

Revised steam generator, drawings 25203-20163 and 25203-20164, indicating the correct weld number designation and location of these welds are included.

NRC Comment

13. Category C-B (Pressure Retaining Nozzle Welds in Vessels)

(a) Note 3 on Table IWC-2500-1 under Category C-B requires that the nozzles selected initially for examination be examined over the service lifetime of the component. One feedwater nozzle on SG 1 and one main steam nozzle on SG 2 were examined during the first interval. For the second interval, examination of both nozzles on SG #2 is proposed. Please explain why MS-1 on SG #1 has been selected rather than MS-1 on SG #2.

(b) The Code requires that nozzle welds included under Item C2.20 must be examined with both surface and volumetric methods. Only surface examination appears to be scheduled for the nozzle welds of the shutdown heat exchangers. Please explain the reason that both the surface and volumetric examinations are not included.

NNECO Response

- a. Our original intention was to adhere to Note 4 of Table IWC-2500-1, Category C-B, Item Number C2.21. However, we will comply with Note 3 of Table IWC-2500-1 and reexamine the main steam weld SG-2-MS-1, on a ten-year interval between examinations. The specific code item number, C2.21, has been added to replace the general heading number of C2.20.
- b. The requirement to perform volumetric examinations of the shutdown heat exchanger nozzle welds was inadvertently left out of the original second interval ten-year ISI program summary. The volumetric examinations of Table IWC-2500-1, Category C-B, Item C2.21, have been added to the shutdown heat exchanger nozzle welds. The applicable welds will be volumetrically examined in accordance with Figure IWC-2500-4b, nozzle to vessel welds, exam volume "C-D-E-F" as shown in the 1980 ASME Section XI Code including the 1981 winter addenda.

Refer to enclosed revised Sections 5.1 and 5.2 of the second interval ten-year ISI program summary for the specific details relative to these welds.

NRC Comment

14. Category C-C (Integral Attachments for Vessel Piping, Pumps, and Valves)

In reviewing Category C-C of the plan, some differences have been identified between the zone drawing, the examination sample (Section 5.1), and the component list (Section 5.2). For example, Component No. 312012 is listed for examination in the first period of the second interval in Section 5.1, but this component is not listed in Section 5.2. Component No. 307009 is listed in Sections 5.1 and 5.2 under Item C3.20 (integrally welded piping attachment), but Drawing 25203-20160 for Zone 2-15 does not indicate that 307009 is an integrally welded attachment. Several welded attachments to the piping, such as 404024, 407005, 507001, 504001, 304029, 312016, 4120166, 412009, and 312003 are shown on the zone isometric drawings for Zones 2-15 and 2016, but are not included in either the examination sample in Section 5.1 or in the component list in Section 5.2.

Please clarify the specification and selection of the examination sample under Category C-C. Please explain the basis for not including in the component listing (Section 5.2) or in the examination sample (5.1) all welded attachments to the pressure boundary, as identified in the zone drawings.

NNECO Response

The enclosed revised Sections 5.1, 5.2, and 5.3 reflect the results of a complete review of Category C-C, Integral Attachments for Vessels, Piping, Pumps, and Valves.

Section 5.1 lists the percentage of C3.20 items to be examined this interval. Section 5.2 contains the complete listing of Category C-C, Item 3.20 supports. Section 5.3 includes a facsimile of the isometric drawings that will be revised to indicate only those supports with welded attachments that meet the requirements of Note 1 of Table IWC-2500-1.

Both steam generator key lock supports and hydraulic snubber supports (Code Item C3.10) have been included in Section 5.2. However, in Section 5.1, Methodology of Weld Selections, only those items associated with Steam Generator #1 have been listed. The required examination of Category C-C will be performed on this steam generator in accordance with Notes 2 and 3 of Table IWC-2500-1.

NRC Comment

15. Categories C-F and CF/CG (Pressure Retaining Welds in Piping)

The plan indicates that 74S75 is being used to determine the extent of examination for Categories C-F and C-G in all Class 2 piping. The information required to complete the review is essentially the same as described for Category B-J in Paragraph 9 above. Please provide the same general information as requested in (a), (b), and (c) of Paragraph 9.

NNECO Response

- a. The methodology of examination selection has been revised and clarified in response to this comment and is included in the attached revised Section 5.1.

The revised second interval ten-year ISI program summary list 582, Category C-F, Welds. This population consists of:

421 welds listed under Code Item Number C5.11
161 welds listed under Code Item Number C5.12

The total population listed above also includes the Category C-G welds originally listed under that category during the first interval ten-year ISI program summary.

b. Exemptions used in developing the program are as follows:

- o IWC-1220(a) - Components of systems or portions of systems that, during normal plant operating conditions, are not required to operate or perform a system function but remain flooded under static conditions at a pressure of at least 80 percent of the pressure that the component or system will be subjected to when required to operate. This exemption was applied to the safety injection system suction piping.
- o IWC-1220(b) - Components of systems or portions of systems, other than residual heat removal systems and emergency core cooling systems, that are not required to operate above a pressure of 275 psig (1,900 kPa) or above a temperature of 200°F (93°C). This exemption was applied to the feed-water system suction piping and Class 2 portions of the reactor building closed cooling water system.
- o IWC-1220(c) - Component connections (including nozzles in vessels and pumps), piping, and associated valves and vessels and their attachments that are 4" nominal pipe size and smaller. This exemption was applied to all Class 2 piping systems that have 4" nominal pipe size and smaller.

The methodology for selection of the examination sample is detailed in the revised and clarified Section 3.1 attached.

- c. The revised and clarified Section 5.1 contains the requested information. This methodology identifies, by code item number and pipe size, the number of examinations to be performed in each interval. Section 5.2 contains detailed examination information including the currently scheduled examination by period for each weld. Items marked NA are not scheduled for examination in the second interval.

To the extent practical, this schedule of exams will be followed. However, the need to minimize personnel radiation exposure, to avoid impact on plant operating work efforts may require rescheduling of certain examinations. NNECO reserves the right to change the program dates without prior notification to the

NRC. The methodology specified in Section 5.1 will not be changed without prior notification to the NRC. Schedule changes will be reported for information in the Inservice Inspection Summary Report submitted after each refueling outage.

NRC Comment

16. (Category IWF (Component Supports))

The ISI Program includes a selection and schedule for 578 component support examinations, including 115 Class 1 supports, 96 Class 2 supports, and 367 Class 3 supports. The supports have not been classified according to Code Category F-A, F-B, and F-C.

- (a) Please revise the component listing (Section 7.3) to include category and item number.
- (b) Please provide a brief narrative of the basic concepts used for determining the examination sample, including the application of exemption criteria.

NNECO Response

- (a) NNECO has reviewed the Category IWF supports to assure the Section 7.3 listings are complete. The support listings have not been revised to include category and item numbers for each support. Many supports are of a complex design and include more than one of the IWF-2500-1 examination categories and item numbers. Assignment to a specific category or item number would, in many cases, be completely arbitrary. Since the examination requirements, methods, and frequency are identical for all categories, no significant purpose is served by attempting to identify a category or item number for each support. It should be noted that the 1987 Addenda has deleted the F-A, F-B, and F-C categories, and item numbers now represent examination attributes and serve no possibility of identifying a specific support to an individual item number.

There are 1120 component supports included in the program. There are 212 Class 1 supports, 178 Class 2 supports, and 730 Class 3 supports. In accordance with the methodology described in Section 7.0, NNECO has scheduled the following sample size for examination during the second interval.

117 Class 1 supports (55%)
96 Class 2 supports (54%)
374 Class 3 supports (51%)

This represents a total examination commitment of 587 supports (52%).

- (b) The methodology of component support selection listed in Section 7.1 (Class 1), Section 7.3 (Class 2), and Section 7.5 (Class 3) defines the basic concepts used in determining the examination sample size of the various systems. In selecting the component support sample size, NNECO took a conservative approach and chose to examine a larger percentage than is required by Code.

Since there are no Code exemptions listed under IWF-1230, NNECO has used the same exemption criteria as listed in the reply to NRC Question 4 for the Class 1 and Class 2 IWF supports selection with the additional exemptions for the Class 3 IWF supports selection listed below:

- o IWD-1220.1 Integral attachments of supports and restraints to components that are 4-inch nominal pipe size and smaller within the system boundaries of examination Categories D-A, D-B, and D-C of Table IWD-2500-1 shall be exempt from the visual examination VT-3, except for power auxiliary feedwater systems.

- o IWD-1220.2 Integral attachments of supports and restraints to components exceeding 4-inch nominal pipe size may be exempt from the visual examination VT-3 of Table IWD-1 provided:
 - The components are located in systems (or portions of systems) whose function is not required in support of reactor residual heat removal and emergency core cooling.

 - The components operate at a pressure of 275 psig or less and at a temperature of 200°F (93°C) or less.