

February 7, 2007

10 CFR 50.55a

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Gentlemen:

In the Matter of) Docket No. 50-390
Tennessee Valley Authority)

**WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - UPDATED INSERVICE
INSPECTION (ISI) PROGRAM FOR SECOND 10-YEAR INTERVAL AND
REQUESTS FOR RELIEF NOS. PDI-2, PDI-4 AND SNBR-1**

- References:
- 1) TVA letter to NRC dated August 23, 2001, "Browns Ferry Nuclear Plant (BFN), Units 2 and 3, Sequoyah Nuclear Plant (SQN), Units 1 and 2, and Watts Bar Nuclear Plant (WBN), Unit 1 - American Society of Mechanical Engineers (ASME) Section XI, Inservice Inspection (ISI) Program Request for Relief - No. PDI-2 Replacement Submittal"
 - 2) NRC letter to TVA dated September 19, 2001, "Browns Ferry Nuclear Plant, Units 2 and 3, Sequoyah Nuclear Plant, Units 1 and 2, and Watts Bar Nuclear Plant, Unit 1 - American Society of Mechanical Engineers Section XI, Inservice Inspection Program Request for Relief Nos. PDI-1 and PDI-2 (TAC Nos. MB1260, MB1263-1268)"
 - 3) TVA letter to NRC dated February 23, 2005, "Browns Ferry Nuclear Plant (BFN), Units 2 and 3, Sequoyah Nuclear Plant (SQN), Units 1 and 2, and Watts Bar Nuclear Plant (WBN), Unit 1 - American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Relief Request to Use ASME Section XI, Appendix VIII and Performance Demonstration Initiative (PDI) for Reactor Vessel Flange Welds-PDI-4"

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- 4) NRC Letter to TVA dated August 2, 2005, "Browns Ferry Nuclear Plant Units 1, 2 and 3, Sequoyah Nuclear Plant Units 1 and 2, and Watts Bar Nuclear Plant Unit 1 - Inservice Inspection Program Relief Request PDI-4 (TAC Nos. MC6232, MC6233, MC6234, MC6235, MC6236, and MC6237)"
- 5) TVA letter to NRC dated February 7, 1996, "Watts Bar Nuclear Plant (WBN) - 10 CFR 50.55(a)(3) Request for Relief from Certain American Society of Mechanical Engineers (ASME) Section XI Requirements for Snubbers"
- 6) NRC letter to TVA dated August 11, 1997, "Evaluation of Inservice Inspection Program Snubber Relief Request for the Watts Bar Nuclear Plant (TAC NO. M94762)"

Pursuant to 10 CFR 50.55(a)(3)(i), TVA is submitting three relief requests for WBN's second 10-year ISI interval.

Enclosure 1 contains relief request PDI-2 which proposes an alternative to ASME Section XI 2001 Edition through the 2003 Addenda, Examination Category B-D, Full Penetration Welded Nozzles in Vessels - Inspection Program B, Items No. B3.90, Examination Requirements/Figures IWB-2500-7, for the examination volumes of the Class 1 reactor vessel pressure retaining nozzle-to-vessel welds. TVA submitted a similar request for relief for the WBN first 10-year ISI interval (Reference 1) which was approved in the Reference 2 letter.

Enclosure 2 contains relief request PDI-4 which proposes an alternative to ASME Section XI, paragraph IWA-2232 of the ASME Section XI 2001 Edition through the 2003 Addenda, for use of Appendix VIII and Performance Demonstration Initiative (PDI) methodologies for performance of the ultrasonic examination of reactor pressure vessel shell-to-flange welds in lieu of the requirement of Appendix I and the associated Article 4 of ASME Section V. TVA Submitted a similar request for relief for the WBN first 10-year ISI interval (Reference 3) which was approved in the Reference 4 letter.

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Enclosure 3 contains relief request SNBR-1 which proposes an alternative to the ASME Section XI requirements related to examination and testing of snubbers. TVA proposes to continue to perform the snubber examination and testing plans currently defined in the WBN Unit 1 Technical Requirements Manual (TR 3.7.3). The proposed relief is a continuation of the previously approved relief request from WBN's first 10-year inspection interval. TVA Submitted a similar request for relief for the WBN first 10-year ISI interval (Reference 5) which was approved in the Reference 6 letter.

Enclosure 4 provides an information copy of WBN's updated ISI program for the second 10-year inspection interval. This program has been updated to comply with the 2001 Edition and the 2003 Addenda of the ASME Section XI Code. Pursuant to 10 CFR 50.55a(g)(4)(ii), ISI programs are required to be updated every 10 years to meet the requirements of the latest NRC approved Edition and Addenda of ASME Section XI which is in effect 12 months prior to the start of the next 120-month inspection interval. TVA plans to submit future requests for relief for WBN's ISI program as ISIs are performed and limitations identified during WBN's second 10-year inspection interval.

WBN Unit 1 will start the second 10-year ISI interval on May 27, 2007. TVA will provide the new Request for Alternative for the WBN Unit 1 second 10-year ISI interval Risk-Informed Inservice Inspection (RI-ISI) program by a separate transmittal. The second ten-year ISI program submitted by this letter does not include the RI-ISI methodology/results.

There are no regulatory commitments associated with this submittal. If you have any questions concerning this matter, please call me at (423) 365-1824.

Sincerely,

Original signed by

J. D. Smith
Manager, Site Licensing
and Industry Affairs (Acting)

Enclosure
cc: See Page 4

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Enclosures

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M:\SUBMIT\

ENCLOSURE 1

**TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT (WBN)
UNIT 1
AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
SECTION XI INSERVICE INSPECTION (ISI) PROGRAM
SECOND TEN-YEAR INSERVICE INSPECTION INTERVAL
REQUEST FOR RELIEF PDI-2**

TVA requests approval for an alternative to ASME Section XI 2001 Edition through the 2003 Addenda, for the Second 10-year interval at Watts Bar Unit 1. Specifically, Examination Category B-D, Full Penetration Welded Nozzles in Vessels - Inspection Program B, Items No. B3.90, Examination Requirements/Figures IWB-2500-7, requiring the examination coverage of $\frac{1}{2}t$ beyond the edge of the weld, change to $\frac{1}{2}$ " beyond the edge of the weld.

EXECUTIVE SUMMARY:

Watts Bar Unit 1 ISI program requirements for the examination volumes of the Class 1 reactor vessel pressure-retaining nozzle-to-vessel welds (Examination Category B-D, Items No. B3.90 - Inspection Program B) are shown in Figures IWB-2500-7(a) through (b) of the ASME Section XI Code 2001 Edition, 2003 Addenda. These figures require that licensees perform examinations of the weld volumes and the adjacent vessel or nozzle base metal material regions equivalent to one-half ($\frac{1}{2}$) the vessel shell thickness beyond the end of the weld's boundary.

The extent of the examination volume for a given nozzle-to-vessel weld dictates the exam time and the amount of radiation dose exposure of the personnel involved. Historical improvements in the ultrasonic examination techniques and the qualifications of the examiners in accordance with the Section XI Appendix VIII has reduced the necessity of having the nozzle-to-vessel weld exam volumes be as large as currently required in Figures IWB-2500-7 (a) through (d). TVA proposes to reduce the required examination volume's extent (next to the widest part of the weld) from one-half of the shell thickness to one-half ($\frac{1}{2}$) inch beyond the boundary of the weld.

The reduction of the exam volume in lieu of the current ASME Section XI Code required examination volumes will result in a reduction of examination time and the associated examination personnel radiation exposure while maintaining an acceptable level of quality and safety. Except for the proposed reduced

examination volumes, TVA will continue to perform the volumetric examinations in accordance with the other specific aspects and requirements of the ASME Code for these exams. Accordingly, pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested to use the reduced examination volumes in lieu of the requirements shown in ASME Section XI Figures, IWB-2500-7 (a) through (d).

SYSTEM/COMPONENT(S) FOR WHICH RELIEF IS REQUESTED:

ASME Class 1, Reactor Pressure Vessel (RPV) Pressure-retaining Nozzle-To-Vessel welds.

ASME SECTION XI CODE EDITION/ADDENDA:

The applicable ASME Section XI Code of Record for the second Watts Bar Unit 1 inservice inspection interval is the 2001 Edition with addenda through the 2003 Addenda with amendments specified in 10CFR50.55a.

CODE REQUIREMENTS:

In accordance with the Watts Bar Unit 1 ISI Program, the ASME Section XI Code-of-Record rules for Inservice Inspection of Nuclear Power Plant Components; the requirements for nozzle-to-vessel weld examination volume shown in Section XI, Subsection IWB, Examination Category B-D Full Penetration Welds of Nozzles in Vessels - Inspection Program B, Code Item Number B3.90, with Figures IWB-2500-7(a) and IWB-2500-7(b) are applicable.

REQUIREMENT FROM WHICH RELIEF IS REQUESTED:

The specific Code requirement from which relief is requested is the requirement to perform the volumetric examination of the indicated nozzle-to-vessel welds in accordance with the examination volume requirements shown in ASME Section XI Subsection IWB, Figures IWB-2500-7(a) and (b). Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested to perform the Code examination on a reduced volume of ½ inch beyond the widest part of the boundary of the deposited weld material in lieu of the requirements of ASME Section XI Figures IWB-2500-7(a) and IWB-2500-7(b). When performing the examinations of nozzle-to-vessel welds, TVA will comply with the special requirements imposed in 10 CFR 50.55a(b)(2)(xv)(K)(1) and 10 CFR 50.55a(b)(2)(xv)(K)(2). These requirements dictate that the examination scanning processes must also be performed in such a manner to detect flaws oriented axially with the nozzle.

BASIS FOR RELIEF:

Inservice examination of selected Reactor Pressure Vessel (RPV) nozzle-to-vessel welds at TVA nuclear plants is currently performed in accordance with the requirements of 10 CFR 50.55a, plant Technical Requirements, and the associated ASME Section XI ISI Program Codes-of-Record Editions and Addenda of the ASME Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components." The 2001 Edition through the 2003 Addenda of ASME Section XI invokes the examination volume requirements of Figures IWB-2500-7(a) and IWB-2500-7(b).

Under the Appendix VIII procedures the required examinations will be performed using procedures which provide for a rigorous methodology for ultrasonic examinations.

JUSTIFICATION FOR GRANTING RELIEF:

The examination volume required by IWB-2500-7(a) and (b) for the reactor vessel pressure retaining nozzle-to-vessel welds extends far beyond the weld and the heat effected zones into the base metal, and is unnecessarily large. This extends examination time significantly, increases the radiation exposure of exam support personnel, and results in no net increase in safety; as the additional area being examined is a base-metal region of the reactor vessel shell or nozzle wall areas where industry experience has shown service-induced cracks are not prone to occurring. In addition, these regions have been extensively examined during the fabrication and installation periods before the vessels were put in service and during the inservice examinations already performed.

The reduction of UT examination volumes adjacent to the widest part of the weld from one-half of the vessel wall thickness to one-half ($\frac{1}{2}$) inch beyond the weld boundary eliminates base metal material volume to be examined that was extensively examined during construction and preservice examinations, where applicable; and, eliminates areas which are not located in the high-stressed areas of the weld geometry. The high-stressed areas of the various nozzle-to-vessel weld configurations and areas where flaws are most likely to initiate are adequately addressed and contained in the examination volume defined by the area $\frac{1}{2}$ inch beyond the weld boundary.

In addition, use of these proposed examination boundaries will be conducted in conjunction with TVA's programmatic implementation of the mandated use of ASME Section XI, Appendix VIII. Watts Bar Unit 1 will implement these requirements in accordance with the requirements shown in ASME Section XI Appendix VIII as required in paragraphs 10 CFR 50.55a(b) (2) (xiv), (xv), (xvi) and (xxiv); and in 10 CFR 50.55a(g) (6) (ii) (C). These procedures will ensure

that the performance-based UT methodologies used and the techniques will be qualified and examination personnel will be certified by a performance demonstration.

The use of the reduced examination volumes in lieu of the identified ASME Section XI referenced requirements could reduce on-vessel examination time and a reduction of examination support personnel radiation exposure. The personnel radiation exposure is dependent upon the choice of RPV examination equipment (i.e. automated versus manual) and by the degree of plant RPV contamination and/or decontamination conducted prior to the exam.

In conclusion, use of the reduced examination volume requirements in conjunction with the application of the Appendix VIII implementing PDI program will provide sufficient assurance that RPV nozzle-to-vessel welds have remained free of service induced flaws or identify such flaws prior to failure. The application of the PDI techniques will enhance quality of the UT examinations and ensure plant safety and pressure boundary reliability. Therefore, the proposed alternative provides for an acceptable level of quality and safety and, pursuant to 10 CFR 50.55a(a)(3)(i), relief to use the reduced examination volumes may be granted.

ALTERNATIVE EXAMINATIONS:

TVA will perform the examinations of the RPV nozzle-to-vessel welds as follows:

Ultrasonic examinations of the RPV nozzle-to-vessel welds in accordance with the requirements of ASME Section XI Appendix VIII with examination volumes to include regions up to $\frac{1}{2}$ inch beyond the weld boundary.

In accordance with the requirements shown in ASME Section XI Appendix VIII of the 2001 Edition, as amended by the Final Rule and as required in paragraphs 10 CFR 50.55a(b)(2)(xiv), (xv), and (xvi); and in 10 CFR 50.55a(g)(6)(ii)(C) through the use of the EPRI PDI program document, "PDI Program Description," as allowed in the discussion on the Final Rule published in the Federal Register.

Continued periodic system pressure tests of the RPV per ASME Section XI requirements of Table IWB-2500-1, for Category B-P items.

IMPLEMENTATION SCHEDULE:

Upon approval by the NRC Staff, TVA will implement the provisions of this request during the Second Ten-Year Inservice Inspection

Interval for Watts Bar Unit 1 and conduct the next scheduled RPV nozzle-to-vessel weld examinations accordingly.

PRECEDENTS

Similar relief has been submitted by TVA for Browns Ferry Units 2 and 3, Sequoyah Units 1 and 2, and Watts Bar Unit 1 power plants by letters dated February 23, July 9, and August 23, 2001. TVA's request for relief was subsequently approved by NRC letter dated September 19, 2001.

Enclosure 2

**TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT (WBN)
UNIT 1**

**AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
SECTION XI INSERVICE INSPECTION (ISI) PROGRAM**

SECOND TEN-YEAR INSERVICE INSPECTION INTERVAL

REQUEST FOR RELIEF PDI-4

TVA requests approval for an alternative to ASME Section XI, paragraph IWA-2232 of the ASME Section XI 2001 Edition through the 2003 Addenda, for the second 10-year interval at Watts Bar Nuclear (WBN) Unit 1. Specifically, for use of Appendix VIII and Performance Demonstration Initiative (PDI) methodologies for performance of the ultrasonic examination of reactor pressure vessel shell-to-flange welds in lieu of the requirement of Appendix I and the associated Article 4, ASME Section V

EXECUTIVE SUMMARY:

In accordance with 10 CFR 50.55a(a)(3)(i), TVA is requesting relief from the specific requirements of performing the volumetric examination of the reactor pressure vessel (RPV) circumferential shell-to-flange weld at Watts Bar Unit 1 in accordance with the requirement of Appendix I of Section XI. In addition, the guidance of Regulatory Guide (RG) 1.150, "Ultrasonic Testing of Reactor Vessel Welds During Preservice and Inservice Examinations," Revision 1, was historically applied. In lieu of the requirements of Appendix I and its associated sub-requirements of Article 4 of Section V, WBN Unit 1 will use the techniques, personnel, and equipment qualified to meet the requirements of ASME Section XI Appendix VIII, Supplements 4 and 6 of the 2001 Edition through the 2003 Addenda, as administered by the Electric Power Research Institute's (EPRI) Performance Demonstration Initiative (PDI) processes. WBN plans to use the proposed alternative during the next regularly scheduled RPV examinations to be performed at or near the end of the Second 10-year ISI Program interval. This proposed alternative represents the best available methodology in qualification of equipment and personnel performing ultrasonic examinations and uses an examination process that has provided and will provide the highest practical quality and greatest amount of coverage for the performance of the shell-to-flange weld examinations. As such, the proposed alternative methodology provides an acceptable level of quality and safety. In addition, the approval of this relief results in savings in the cost of performing the examinations, with not having to incorporate the use of two different sets of examination equipment, and also

results in lower personnel radiation exposure from not having to use a different methodology for the shell-to-flange weld.

Note that this request for relief is similar to the request granted during the First 10 Year Interval submitted initially in a letter from TVA to the NRC, dated February 23, 2005 and approved by the Staff in a letter dated August 2, 2005 (Ref. ML051730487).

SYSTEM/COMPONENT(S) FOR WHICH RELIEF IS REQUESTED:

ASME Code Class 1 Reactor Pressure Vessel (RPV) Upper Vessel Shell-to-Flange Welds, Table IWB-2500-1 Category B-A, Item Number B1.30.

APPLICABLE CODE EDITION AND ADDENDA FOR THE GIVEN EXAM

The applicable ASME Section XI Code Edition and Addenda of Record for Watts Bar Unit 1 second inservice inspection interval is the 2001 Edition with addenda through the 2003 Addenda with applicable amendments from 10CFR50.55a.

CODE REQUIREMENTS FROM WHICH RELIEF IS REQUESTED:

In accordance with ASME Section XI, paragraph IWA-2232, "Ultrasonic examinations shall be conducted in accordance with Appendix I."

Further, in accordance with Appendix I, paragraph I-2110(b) "Ultrasonic examination of reactor vessel-to-flange welds, closure head-to-flange welds, and integral attachment welds shall be conducted in accordance with Article 4 of Section V, except that alternative examination beam angles may be used."

RELIEF REQUESTED:

Pursuant to 10 CFR 50.55a(a)(3)(i), TVA requests relief from performing the designated vessel shell-to-flange weld examination in accordance with the requirements of ASME Section XI, paragraph IWA-2232, Appendix I, and the associated Article 4 of Section V methodology in accordance with paragraph I-2110(b).

BASIS FOR RELIEF:

In accordance with ASME Section XI, Subarticle IWA-2232, TVA is required to perform ultrasonic examinations (UT) of the RPV upper

shell-to-flange welds using Section XI, Appendix I, which in turn requires the use of the NDE methodologies and processes of ASME Section V, Article 4. In addition, the guidance of RG-1.150, Revision 1, was historically applied. The above listed welds are the only circumferential shell welds in the RPV that are not examined in accordance with the requirements of ASME Section XI, Appendix VIII, as mandated in 10 CFR 50.55a with the issuance of the rule change shown in the Federal Register Notice 64 FR 51370, dated September 22, 1999. This rule change mandated the use of ASME Section XI, Appendix VIII, Supplements 4 and 6 for the conduct of RPV examinations. It has been stated in EPRI PDI coordination meetings between the PDI committee members and the NRC Staff representatives that the NRC Staff expectations are that licensees should submit requests for relief to use the more technically advanced Appendix VIII/PDI processes for the shell-to-flange weld exams, in lieu of the Section XI Appendix I and its associated Section V, Article 4 processes.

PROPOSED ALTERNATIVES

TVA proposes to use the procedures, personnel, and equipment qualified to meet the requirements of ASME Section XI Appendix VIII, Supplements 4 and 6 as administered by the Electric Power Research Institute's (EPRI) Performance Demonstration Initiative (PDI), to conduct the required vessel-to-flange weld examinations.

JUSTIFICATION FOR GRANTING RELIEF:

ASME Section V, Article 4, describes the required techniques to be used for the UT of welds in ferretic pressure vessels with wall thicknesses greater than 2 inches. The techniques were first published in ASME Section V in the 1974 Edition, summer 1975 Addenda. The calibration techniques, recording criteria and flaw sizing methods are based upon the use of a distance-amplitude-correction curve (DAC) derived from machined reflectors in a basic calibration block. UT performed in accordance with Section V, Article 4, used recording thresholds of 50 percent DAC for the outer 80 percent of the required examination volume and 20 percent DAC from the clad/base metal interface to the inner 20 percent margin of the examination volume. Indications detected in the designated exam volume portions, with amplitudes below these thresholds, were therefore not required to be recorded. Use of the Appendix VIII/PDI processes would enhance the quality of the examination results reported because the detection sensitivity is more conservative and the procedure requires the examiner to evaluate all indications determined to be flaws regardless of their associated amplitude. The recording thresholds in Section V, Article 4, requirements and in the guidelines of RG-1.150, Revision 1, are generic and somewhat

arbitrary and do not take into consideration such factors as flaw orientation, which can influence the amplitude of UT responses.

The EPRI Report NP-6273, "Accuracy of Ultrasonic Flaw Sizing Techniques for Reactor Pressure Vessels," dated March 1989, established that UT flaw sizing techniques based on tip diffraction are the most accurate. The qualified prescriptive-based UT procedures of ASME Section V, Article 4 have been applied in a controlled process with mockups of RPVs which contained real flaws and the results statistically analyzed according to the screening criteria in Appendix VIII of ASME Section XI. The results show that the procedures in Section V, Article 4, are less effective in detecting flaws than procedures qualified in accordance with Appendix VIII as administered by the PDI processes. Appendix VIII/PDI qualification procedures use the tip diffraction techniques for flaw sizing. The proposed alternative Appendix VIII/PDI UT methodology uses analysis tools based upon echo dynamic motion and tip diffraction criteria which has been validated, and is considered more accurate than the Section V, Article 4 processes.

UT performed in accordance with the Section V, Article 4 processes requires the use of beam angles of 0°, 45°, 60°, and 70° with recording criteria that precipitates equipment changes. Having to perform these process changes is time consuming and results in increased radiation exposure for the examination personnel. Having to comply with the specific ASME Section XI, Appendix I requirements for the RPV circumferential shell-to-flange weld, when the data is obtained using a less technically advanced process, results in an examination that does not provide a compensating increase in quality and safety for the higher costs and personnel exposures involved.

For future RPV shell-to-flange weld examinations TVA does not anticipate any less coverage than the required minimum of 90 percent of coverage. However, if any such limitations are encountered during the conduct of the examinations, separate individual relief requests will be submitted, as needed.

Procedures, equipment, and personnel qualified through the Appendix VIII, Supplements 4 and 6 PDI programs have shown to have a high probability of detection of flaws and are generally considered superior to the techniques employed earlier for RPV examinations. This results in increased reliability of RPV inspections and conditions where an acceptable level of quality and safety is provided with the proposed alternative methodologies. Accordingly, approval of this alternative evaluation process is requested pursuant to 10 CFR 50.55a(a)(3)(i).

IMPLEMENTATION SCHEDULE AND DURATION:

Upon approval by the NRC staff, TVA will implement the provisions of this request during the second ten-year inservice inspection interval for Watts Bar Unit 1.

PRECEDENTS

Note that this request for relief is similar to the request granted during the first 10-year interval submitted initially in a letter from TVA to the NRC, dated February 23, 2005 and approved by the Staff in a letter dated August 2, 2005 (Ref. ML051730487).

Enclosure 3

**TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT (WBN)
UNIT 1
AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
SECTION XI INSERVICE INSPECTION (ISI) PROGRAM

SECOND TEN-YEAR INSERVICE INSPECTION INTERVAL

SNUBBER REQUEST FOR RELIEF SNBR-1**

Summary: Pursuant to 10CFR50.55a(a)(3)(i), TVA is requesting relief from the identified ASME Section XI requirements related to examination and testing of snubbers. TVA proposes to continue to use the examination and testing plans currently defined in the Technical Requirements Manual (TR 3.7.3). The current Technical Requirements Manual requirements have been promulgated and approved by NRC, while ASME Section XI imposes overlapping requirements which do not enhance the quality or safety of the subject snubber examination and testing.

Components: Component/piping snubbers

Code Class: 1, 2 and 3

Examination Category: F-A (snubber examination only, N/A for snubber testing)

Item Number: F1.10, F1.20, F1.30, and F1.40 (snubber examination only, N/A for snubber testing)

Code Requirement: ASME Boiler and Pressure Vessel Code, Section XI, 2001 Edition, 2003 Addenda, Subarticles:

IWA-4530(b), preservice inspection and testing

IWF-5200(a) and (b), preservice examinations and tests

IWF-5300(a) and (b) inservice examination and testing in accordance with the first Addenda to ASME/ANSI OM-1987, Part 4, with OMa-1988.

IWF-5400 Repairs and Replacements of snubbers shall be in accordance with the first Addenda to ASME/ANSI OM-1987, Part 4, with OMa-1988.

IWA-6210(c), records and reports

IWA-6230 requires inservice inspection summary reports for snubbers to be filed with the regulatory authority.

IWA-6240, summary report submittal

IWA-2110 requires Authorized Nuclear Inservice Inspector (ANII) involvement for snubber examination and testing

Code Requirement From Which Relief is Requested: In accordance with 10CFR50.55a(a)(3)(i), relief is requested from the ASME Section XI 2001 Edition, 2003 addenda, requirement for preservice and inservice examinations and tests for snubbers, and repair/replacement examinations and tests of snubbers:

IWA-4530(b) requires preservice inspection and testing to be in accordance with IWF-5200 following repair/replacement of a snubber.

IWF-5200(a) and (b) requires preservice examinations and tests in accordance with ASME/ANSI OM Part 4, 1987 Edition, OMa-1988 Addenda, using the VT-3 visual examination method in accordance with IWA-2213.

IWF-5300(a) and (b) requires inservice examinations and tests in accordance with ASME/ANSI OM Part 4, 1987 Edition, OMa-1988 Addenda, using the VT-3 visual examination method in accordance with IWA-2213.

IWF-5400 references IWF-5200 for snubber examination and test requirements following repair or replacement.

IWA-6210(c) requires the preparation of preservice and inservice inspection summary reports for Class 1 and 2 snubbers.

IWA-6230 requires the preparation of an inservice inspection summary report (snubbers) after each refueling outage.

IWA-6240, requires the submittal of summary reports (snubbers) to the regulatory authority.

IWA-2110, Duties of the Inspector (for involvement for snubber examination and testing).

Basis For Relief: Watts Bar Nuclear Plant (WBN) Unit 1 is required to update to the 2001 Edition, 2003 Addenda, of ASME Section XI for WBN's second ten-year ISI inspection interval. ASME Section XI Class 1, 2 and 3 equivalent snubbers are examined and tested in accordance with Watts Bar Nuclear (WBN) Plant Technical Requirements Manual (TRM), TR 3.7.3 which was prepared in accordance with the guidance given by NRC in Generic Letter 90-09. The scope for snubbers examined and tested in accordance with TR

3.7.3 is not limited by line size or other applicable code exemptions and includes a numerically greater population of snubbers than the Section XI program. Examination and testing of the snubbers in accordance with both ASME Section XI and the plant TRM would result in a duplication of effort utilizing different standards and require the preparation of a separate program and associated procedures. This would result in additional cost and unnecessary radiological exposure. In addition, the personnel performing snubber visual examinations would also be required to be certified in accordance with the American Society of Nondestructive Testing (ASNT) SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing," and ASME/ASNT-CP-189, which is an additional certification as compared to the task training qualification required to perform the TRM required examinations and testing of snubbers. The existing TRM program for examination and testing of snubbers was promulgated and accepted by NRC.

The implementation of OM-1987, Part 4, with OMa-1988 Addenda would require WBN to initiate a snubber examination and testing program which would increase the manpower and potentially the radiation exposure to implement, when compared to the existing TRM mandated snubber program, without a compensating increase in the level of quality and safety.

Alternate Examinations: The WBN TRM, TR 3.7.3, requirements will be utilized for the examination and testing of snubbers for preservice, inservice, and repair/replacement activities. The procedures utilized for these examinations are: 1-TRI-0-5, "Snubber Visual Inspection"; 1-TRI-0-7, "Snubber Functional Testing (Mechanical Snubbers)"; and 1-TRI-0-8, "Snubber Functional Testing (Paul Monroe Snubbers)". The snubber visual examinations include the pin-to-pin area inclusive of applicable snubbers.

Testing of repaired and replaced snubbers will be performed in accordance with TR 3.7.3, Note 2.

A comprehensive list of snubbers is maintained in Technical Instruction TI-203, "Snubber Program". Other related procedures include: Maintenance Instruction (MI) 0.044, "Removal and Reinstallation of Mechanical Snubbers" and MI-0.05 "Fluid Sampling and Maintenance for Paul Monroe Snubbers".

Snubber examination and testing data will be maintained in accordance with the requirements of TR 3.7.3, procedure SPP-3.1, "Corrective Action Program," and implementing procedures 1-TRI-0-5, 1-TRI-0-7, and 1-TRI-0-8.

The areas inclusive of the pins back to building structure and to the component/piping being supported will remain in the ASME Section XI examination boundary and IWF-5200(c) and IWF-5300(c)

will be met through ASME Section XI preservice examination and/or scheduled inservice examinations, as applicable, for the second interval.

Justification For The Granting Of Relief: The current program, as defined by TR 3.7.3, provides for a level of quality and safety equal to that provided by OM Code 1987, Part 4, with OMa-1988 Addenda (referenced by ASME Section XI, 2001 Edition, 2003 Addenda).

Examination, testing, repair and replacement of snubbers are currently performed in accordance with TR 3.7.3, which utilizes the guidance provided by NRC in Generic Letter 90-09. The OM Code referenced by ASME Section XI has a different basis for examination (failure mode groups) and testing plans (10 percent, 37, or 55). It is impractical to implement both plans because of the resulting duplication of examination and testing efforts and different requirements for snubber quantities subject to examination or test, actually examined and/or tested, and sample expansion requirements. This would result in additional cost and unnecessary radiological exposure. The existing TRM program for examination and testing of snubbers has been promulgated and accepted by NRC. The differences in the two programs could create confusion when selecting test samples, applying acceptance criteria, corrective actions, and examination schedules for failed snubbers. This situation could increase the possibility of applying the wrong action, thus creating a nonconformance, an inoperability or even a violation of a TRM requirement.

To eliminate any misinterpretation or confusion in administering overlapping requirements for snubbers, and to remove the possibility of applying contradicting requirements to the same snubber(s), WBN proposes to examine and test snubbers in accordance with WBN TR 3.7.3.

Subarticle IWF-5400 provides the requirements for repair and replacement of snubbers to be in accordance with OM Code 1987, Part 4, with OMa-1988 Addenda. Specifically, OM Code 1987, Part 4, with OMa-1988 Addenda, Sections 1.5.6, "Snubber Maintenance or Repair" and 1.5.7, "Snubber Modification and Replacement" require repaired and replaced snubbers to meet the visual examination requirements of Paragraph 2.3.1.2 and the operability test requirements of Paragraph 3.2.11. Section 1.5.6 also requires an evaluation of the maintenance or repair activity and Section 1.5.7 requires a suitability evaluation on the replacement/modified snubber. TR 3.7.3 (Note 2) requires replacement snubbers and snubbers which have repairs which might affect the functional test results to be tested to meet the functional test criteria prior to installation.

Procedure 1-TRI-0-5 provides visual examination criteria for installation of a snubber after repair or replacement. The ASME

Section XI repair/replacement program at WBN documents the suitability of repairs/replacements per IWA-4160.

ASME Section XI VT-3 certification required by personnel performing snubber visual examinations is an additional certification as compared with the TRM program training qualifications. Personnel performing the TRM required visual examinations are "process qualified" to perform the examinations and testing required by the TRM and implemented by the referenced procedures. This training currently includes a visual test associated with face mask fit and specific training on the acceptance criteria associated with procedure 1-TRI-0-5. Additional "visual acuity" verification for personnel performing snubber visual examinations will include visual acuity requirements that meet ASME Section XI. The training and documentation of personnel to the visual acceptance criteria, specified in the TRM implementing procedures, provides an acceptable level of quality and safety.

Because relief is sought from the ASME Section XI snubber examination and test requirements, there will be no ASME Section XI snubber examination and test activities to require ANII involvement. The WBN TRM snubber program does not require the use of an ANII for examination and test requirements. The ANII will not be involved in the TRM required visual examination or testing activities performed in lieu of the ASME Code requirements. A snubber program manager provides oversight of the TRM snubber program implementation for both visual examination and functional testing. This oversight includes both review and evaluation of visual examination and functional testing data to ensure TRM requirements are met. The snubber program manager provides an acceptable level of quality and safety without ANII involvement in those activities. ANII involvement in other repair and replacement snubber activities, as required by IWA-2110(g) and (h) and implemented by the WBN ASME Section XI Repair and Replacement Program will be maintained.

Subarticle IWA-6230 and OM Code 1987, Part 4, with OMA-1988 Addenda, Sections 2.3 and 3.3 provide requirements for ASME Section XI inservice examination and test documentation for snubbers and a summary report of examinations and testing. Under the alternate requirements for snubbers, there will be no ASME Section XI inservice examination and testing to document in a summary report. TR 3.7.3 is implemented by implementing procedures / instructions 1-TRI-0-5, 1-TRI-0-7, and 1-TRI-0-8. These instructions, written and approved in accordance with the TVA Nuclear Quality Assurance Program, include data sheets for documenting the visual examination and functional test data and results, and provide for documentation of nonconforming results and evaluation of those results. The completed data sheets are QA records and are controlled and maintained in accordance with the WBN QA records program. These records are available onsite for review and inspection. The QA

records documenting snubber visual examinations and functional tests provide an acceptable level of quality and safety when compared to the requirements of ASME Section XI and OM-1987, Part 4, with OMa-1988 Addenda.

Based on the justification provided, the WBN method of examination and testing of snubbers, in accordance with TR 3.7.3 will provide an acceptable level of quality and safety. Therefore, pursuant to 10CFR50.55a(a)(3)(i), TVA requests that relief be granted from the 2001 Edition, 2003 addenda of ASME Section XI Code requirements related to inservice examination and testing for snubbers.

See Attachment for a table that compares OM Code requirements and TRM requirements.

Implementation Schedule: TR 3.7.3 will be implemented during the second ten-year ASME Section XI inspection interval for snubber examination and testing in lieu of the ASME Code Section XI requirements listed above.

Previous NRC Approval:

Reference NRC Letter, "Evaluation of Inservice Inspection Program Snubber Relief Request for Watts Bar Nuclear Plant (TAC NO. M94672)", dated August 11, 1997, for approval of WBN first interval snubber program relief request.

Attachment

Comparison of ASME OM-4 and WBN TRM Section 3.7.3 Requirements

	Criteria	ASME/ANSI OM Part 4 - 87a88	WBN TR 3.7.3
Inservice Examination			
1.	Visual Examination	Paragraph 2.3.1.1, Visual Examination, states that snubber visual examinations shall identify impaired functional ability due to physical damage, leakage, corrosion, or degradation.	WBN TRM 3.7.3 requires that visual inspections shall verify that there are: (1) no visible indications of damage or impaired operability; (2) attachments to the foundation or supporting structure are functional; and (3) fasteners for attachment of the snubber to the component and to the snubber anchorage are functional.
2.	Visual Examination Interval Frequency	Paragraph 2.3.2.2 provides examination interval frequency and additional examination requirements.	WBN TRM 3.7.3 provides snubber visual inspection interval frequency.
3.	Method of Visual Examination	IWF-5200(a) and IWF-5300(a) requires use of the VT-3 visual examination method described in IWA-2213.	WBN TRM 3.7.3 snubber inspections are performed by personnel who are specifically trained and certified to perform snubber visual examinations. Visual acuity of inspectors is also verified.
4.	Subsequent Examination Intervals	Paragraph 2.3.2 provides guidance for inservice examination intervals based on the number of unacceptable snubbers discovered.	WBN TRM 3.7.3 provides a snubber visual inspection interval based on the number of unacceptable snubbers discovered. These requirements are similar to NRC GL 90-09.
5.	Failure Evaluation	Section 2.3.4 states that snubbers not meeting examination and acceptance criteria shall be evaluated to determine the cause of unacceptability.	WBN TRM 3.7.3 requirements for visual examination failures are comparable to OM-4, Section 2.3.4.

	Criteria	ASME/ANSI OM Part 4 - 87a88	WBN TRM 3.7.3
Inservice Operability Test			
1.	Inservice Operability Test Requirements	Paragraph 3.2.1.1, Operability Test, states that snubber operational readiness tests shall verify activation, release rate, and breakaway force or drag force by either an in-place or bench test.	WBN TRM 3.7.3 states that snubbers shall be functionally tested either in place or in a bench test. It also requires a functional test to verify activation in tension and compression, and force required to initiate or maintain motion within the specified range in both directions of travel for mechanical snubbers.
2.	Snubber Sample Size	Paragraph 3.2.3 states that each defined test plan group shall use either a 10 percent sampling plan; a "37 testing sample plan;" or a "55 testing sample plan" during each refueling outage.	WBN TRM 3.7.3 states that at least 10 percent of the total of each type of snubber shall be functionally tested either in place or in a bench test.
3.	Additional Sampling	The snubbers which have been found unacceptable per the testing criteria shall be subject to paragraph 3.2.3.1 (b), which states that the additional sample size must be at least one-half the size of the initial sample size of the "defined test plan group" of snubbers.	WBN TRM 3.7.3 requires an additional 10 percent of hydraulic snubbers or another sample of 19 mechanical snubbers to be tested.
4.	Failure Evaluation	Paragraph 3.2.4.1 states that snubbers not meeting the operability testing acceptance criteria in paragraph 3.2.1 shall be evaluated to determine the cause of the failure.	WBN TRM 3.7.3 states that, if a snubber being functionally tested either fails to lock up or fails to move (i.e., is frozen in place), the cause of failure will be evaluated. If the failure is caused by

			the manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested.
5.	Test Failure Mode Groups	Paragraph 3.2.4.2 states that unacceptable snubber(s) shall be categorized into failure mode group(s). A test failure mode group(s) shall include all unacceptable snubbers that have a given failure mode, and all other snubbers subject to the same failure mode.	WBN TRM 3.7.3 states that the unacceptable snubbers may be categorized into failure mode group(s). A failure mode group shall include all unacceptable snubbers that have a given failure mode and all other snubbers subject to that same failure mode.
6.	Corrective Actions for 10 Percent Sample Plan	Paragraph 3.2.5.1 states that unacceptable snubbers shall be repaired, modified, or replaced.	WBN TRM 3.7.3 requires that inoperable snubbers be repaired, modified, or replaced before operability can be restored.

Enclosure 4

WATTS BAR NUCLEAR PLANT (WBN)

UNIT 1

(INFORMATION COPY)

INSERVICE INSPECTION (ISI) PROGRAM FOR SECOND 10-YEAR INTERVAL



Watts Bar Nuclear Plant

Unit 1

Technical Requirements Instruction

1-TRI-0-10.2

ASME SECTION XI ISI/NDE PROGRAM

Revision 0000

Quality Related

Level of Use: Information Use

Effective Date: 05-27-2007

Responsible Organization: SCE, System Eng - Component

Prepared By: John Lewis

Approved By: K. A. Lovell

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Current Revision Description

Initial issue.

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1.0 INTRODUCTION

1.1 Purpose

In accordance with Title 10 Code of Federal Regulations (CFR) Part 50.55a(g), this program implements the Watts Bar Nuclear Plant (WBN) Unit 1 Technical Surveillance Requirement 3.4.5.2 and fulfills the requirements of SPP-9.1, Part A, ASME Section XI Inservice Inspection and Augmented Nondestructive Examinations. This program is organized to comply with the inservice inspection (ISI) nondestructive examination (NDE) requirements of the 2001 Edition, 2003 Addenda Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Division 1, Articles 1000, 2000, 3000, and 6000.

This ISI/NDE Program is an administrative Technical Requirement Instruction (TRI) employed to obtain data via NDE of ASME Section XI Code Class 1, 2, and 3 equivalent components to determine acceptance of components for continued service during operation and if a flaw is an isolated case or of a generic nature. It shall serve as TVA's ISI/NDE plan and schedule in accordance with the requirements of IWA-1400 for the WBN Unit 1 second ISI interval.

This ISI/NDE Program reflects the built-in limitations of the original plant design, geometry, construction, component materials, and the current technology or state-of-the-art nondestructive examination techniques. It specifies the number of components to be examined, the examination methods to be used and provides schedule tables from which specific items are scheduled for examination. These items are described and detailed in ISI scan plans.

1.2 Scope (Applicability)

This program outlines details for planning and implementing the second ISI/NDE inspection interval for ASME Section XI Code Class 1, 2, and 3 equivalent components at WBN Unit 1 in accordance with IWA-2432, Inspection Program B.

Elements of ASME Section XI, such as Pump and Valve Testing, Snubber Inservice Examination and Testing (specifically the inservice testing requirements of IWF-5000), Repair and Replacements, System Pressure Tests (including the associated Categories B-P, C-H, D-A, D-B, and D-C, VT-2 Visual Examinations), and Steam Generator Tube Examinations (Examination Category B-Q) are covered by other procedures.

The TVA Flow Diagrams and the ISI Drawings are used to identify the components and systems to be examined (see Appendix F for listing).

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1.2 Scope (Applicability) (continued)

Personnel responsible for performance of the examinations should familiarize themselves with the requirements of this program prior to performing the examinations. Specifics concerning performance of NDE are not a part of this program, but are included in Inspection Services Organization Programs Manual (refer to Inspection and Examination Program (IEP) series).

1.3 Codes of Record and Code Cases

1.3.1 Current Code Requirements

The WBN Unit 1 Code of Record for the second inspection interval is the 2001 Edition, 2003 Addenda of the ASME Boiler and Pressure Vessel Code, Section XI, Division 1 in accordance with 10 CFR 50.55a(g)(4).

10CFR50.55a mandated additional requirements and/or exceptions are listed below along with the applicable 10CFR50 reference:

- A. The extent of examination for Examination Category B-J welds shall be in accordance with the 1974 Edition, Summer 1975 Addenda of ASME Section XI – 10CFR50.55a(b)(2)(ii). Extent of examination is defined as the criteria for the selection of the Class 1 Category B-J welds to be examined. The extent of examination specifies the length of weld to be examined.
- B. IWB-1220 of ASME Section XI 1989 Edition shall be used for the exemption of Class 1 equivalent piping – 10CFR50.55a(b)(2)(xi).
- C. IWA-2220 of the ASME Section XI 2001 Edition, 2003 Addenda that allows the use of an ultrasonic examination method is prohibited – 10CFR50.55a(b)(2)(xxii).
- D. Appendix VIII and supplements to Appendix VIII and Appendix I Article I-3000 of ASME Section XI 2001 Edition will be used – 10CFR50.55a(b)(2)(xxiv) and 10CFR50.55a(b)(2)(xiv, xv, and xvi are required) (Refer to relief requests PDI-2 and PDI-4 in section 7.9).
- E. When qualifying visual examination personnel for VT-3 visual examination under paragraph IWA-2317 of ASME Section XI 2001 Edition, 2003 Addenda, the proficiency of training must be demonstrated by administering an initial qualification examination and administering subsequent re-examinations on 3-year intervals – 10CFR50.55a(b)(2)(xviii)(C).
- F. Level I and II nondestructive examination personnel shall be recertified on a 3 year interval in lieu of the 5 year interval in IWA-2314(a) and IWA-2314(b) of ASME Section XI 2001 Edition, 2003 Addenda – 10CFR50.55a(b)(2)(xviii)(A).

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1.3.1 Current Code Requirements (continued)

- G. The provisions for substitution of alternate examination methods, a combination of methods, or newly developed techniques in IWA-2240, ASME Section XI 1997 Addenda, must be applied. The provisions in IWA-2240 of the ASME Section XI 2001 Edition, 2003 Addenda are not approved for use – 10CFR50.55a(b)(2)(xix).

1.3.2 Current Code Cases

Code cases used shall be implemented in their entirety unless approved by NRC or stated in Regulatory Guide (RG) 1.147. The following Code Cases have been accepted for use by the NRC in RG 1.147 and will be used during implementation of this program:

- A. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1.
- B. Code Case N-526, Alternative Requirements for Successive Inspections of Class 1 and 2 Vessels, Section XI, Division 1. Available for use starting with Revision 12 of this TRI.
- C. Code Case N-586, Alternative Additional Examinations Requirements for Class 1, 2, and 3 Piping, Components, and Supports, Section XI, Division 1. Available for use starting with Revision 12 of this TRI. This code case is acceptable for use subject to the following NRC RG 1.147 conditions: the engineering evaluations addressed under Item (a) and the additional examinations addressed under Item (b) shall be performed during this outage. If the additional examinations performed under Item (b) reveal indications exceeding the applicable acceptable criteria of Section XI, the engineering evaluations and the examinations shall be further extended to include additional evaluations and examinations at this outage.

1.3.3 History of ISI and PSI Programs

A Preservice Inspection Program was performed in accordance with Technical Instruction (TI) 50A, ASME Section XI Preservice Inspection Program.

The WBN Unit 1 operating license (low power) was issued on November 9th, 1995. Commercial Operation began on May 27, 1996 and the first interval ISI program was originally scheduled for May 27, 1996 to May 26, 2006. The first 10-year inspection interval was extended in accordance with IWA-2430(d) to end on May 26, 2007.

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1.4 Frequency Inspection Intervals and Inspection Periods

The inservice examinations required by ASME Section XI shall be performed during each 10-year interval of service (inspection interval). The inspection intervals represent calendar years after the unit has been placed into commercial service. The ISI examinations required by ASME Section XI, Division 1, during this inspection interval for Unit 1 shall follow Inspection Program B of IWA-2432. The inspection interval may be decreased or extended by as much as one year in accordance with IWA-2430(d). In addition, if the unit is out of service continuously for six months or more, the inspection interval may be extended for an equivalent period in accordance with IWA-2430(e).

The first inspection interval was extended by one year and the second interval is being decreased by one year. The one year decrease in the second interval will occur during the second inspection period.

Second Inspection Interval Period durations are:

- First Inspection Period – May 27, 2007 through May 26, 2010
- Second Inspection Period – May 27, 2010 through May 26, 2013
- Third Inspection Period – May 27, 2013 through May 26, 2016

This TRI may be performed in any mode and is applicable for all operational modes.

Except for examinations that may be deferred to the end of the inspection interval, the required examinations shall be performed in accordance with the following schedule that complies with IWA-2432; IWB-2412, Program B and Table IWB-2412-1; IWC-2412, Program B and Table IWC-2412-1; IWD-2412, Program B and Table IWD-2412-1; and IWF-2410 and Table IWF-2410-2 Inspection Program B.

The examinations deferred to the end of the inspection interval shall be completed by the end of the inspection interval.

This instruction is to be scheduled to be performed at least once each refueling outage.

1.5 Technical Requirements Fulfilled and Modes

Performance of this TRI satisfies the following Technical Surveillance Requirements:

SURVEILLANCE REQUIREMENT	APPLICABLE MODES	PERFORMANCE MODES
TSR 3.4.5.1	ALL MODES	MODES 5 and 6
TSR 3.4.5.2	ALL MODES	ALL MODES

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1.6 Owner Statement

Owner:	Tennessee Valley Authority
Address of Corporate Office:	Chattanooga Office Complex 1101 Market Street Chattanooga, Tennessee 37402-2801
Name and Address of Nuclear Power Plant:	Watts Bar Nuclear Plant P.O. Box 2000 Spring City, Tennessee 37381-2000
Applicable Nuclear Power Units:	Watts Bar Nuclear Plant, Unit 1
Commercial Operation Date:	May 27, 1996

2.0 DEVELOPMENTAL REFERENCES

2.1 WBN Unit 1 Technical Surveillance Requirement 3.4.5.1 and 3.4.5.2.

2.2 WBN Final Safety Analysis Report

- A. Section 3.2, Classification of Structures, Systems and Components
- B. Section 5.2.6, Pump Flywheels (Reactor Coolant Pump)
- C. Section 5.2.8, Inservice Inspection of ASME Code Class 1 Components
- D. Section 5.4.4.4, Inservice Inspection (Reactor Vessel and Appurtenances)
- E. Section 6.6, Inservice Inspection of ASME Code Class 2 and 3 Components

2.3 NRC Documents

- A. 10 CFR Part 50.55a(g), Codes and Standards, Inservice Inspection Requirements
- B. 10 CFR Part 50.2, Definitions
- C. Regulatory Guide 1.14, Reactor Coolant Pump Flywheel Integrity
- D. Regulatory Guide 1.26, Quality Group Classification and Standards for Water, Steam, and Radioactive Waste Containing Components of Nuclear Power Plants

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2.3 NRC Documents (continued)

- E. Regulatory Guide 1.147, Inservice Inspection Code Case Acceptability ASME Section XI Division 1
- F. Regulatory Guide 1.150, Ultrasonic Testing of Reactor Vessel Welds during Preservice and Inservice Examinations

2.4 ASME Reference Documents

- A. ASME Boiler and Pressure Vessel Code, Section XI, Division 1, 2001 Edition, 2003 Addenda (including portions of 1974 Edition, Summer 1975 Addenda; 1997 Addenda; 1989 Edition, and 2001 Edition as mandated by 10CFR50.55a)
- B. ASME Section XI Code Cases as listed in Section 1.3

2.5 Plant Procedures and Instructions

- A. Standard Programs and Processes, Department Procedures, and Site Standard Practices
 - 1. NADP-1, Conduct of Quality Assessment and Inspection
 - 2. MMDP-11, Erection of Scaffolds/Temporary Work Platforms and Ladders
 - 3. SPP-2.4, Records Management
 - 4. SPP-3.1, Corrective Action Program
 - 5. SPP-3.5, Regulatory Reporting Requirements
 - 6. SSP-5.2, ALARA Program
 - 7. SPP-5.4, Chemical Traffic Control
 - 8. SPP-6.1, Work Order Process Initiation
 - 9. SPP-6.4, Measuring and Test Equipment
 - 10. SPP-6.5, Foreign Material Control
 - 11. SPP-7.2, Outage Management
 - 12. SPP-8.1, Conduct of Testing
 - 13. SPP-8.2, Surveillance Test Program
 - 14. SPP-9.1, ASME Section XI

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2.5 Plant Procedures and Instructions (continued)

15. SPP-9.3, Plant Modifications and Engineering Change Control

B. Plant Instructions

1. RCI-128, ALARA Program Implementation

2. TI-12.07, Containment Access

C. WBN Maintenance and Technical Instructions

1. MI-0.002, Valve Maintenance

2. MI-0.014, Pressure Retaining Bolted Connections

3. MI-68.001, Disassembly and Reassembly of the Reactor Pressure Vessel and Attachments

4. MI-68.004, Reactor Coolant Pump Seal Inspection or Replacement

5. MI-68.06, Removal, Inspection and Maintenance of Reactor Coolant Pump Rotating Element

6. MI-68.007, Removal and Installation of Steam Generator Primary Manway Covers

7. MI-68.013, Removal and Replacement of Pressurizer Safety Valves

8. MI-68.14, Removal and Replacement of Pressurizer Manway Cover

9. MI-68.018, Adjustment and Replacement of Reactor Coolant Pump Main Flange Bolts

10. MI-68.021, Pressurizer PORV Maintenance

11. TI-203, Snubber Program

D. Inspection and Examination Procedures

1. IEP-100, Administration of Nondestructive Examination (NDE) Procedures

2. IEP-200, Qualification and Certification Requirements for TVA Nuclear (TVAN) Nondestructive Examination (NDE) Personnel

3. IEP-203, Control of Calibration Standards

4. IEP-300, Qualification and Certification of Ultrasonic TVA Nuclear (TVAN) personnel for Preservice and Inservice ASME Section XI Examinations

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2.6 ISI Drawings (See Appendix F)

2.7 Abbreviations

ALARA	As Low As Reasonably Achievable
ASNT	American Society for Nondestructive Testing
ASME	American Society of Mechanical Engineers
CFR	Code of Federal Regulations
DCRM	Document Control and Records Management
IEP	Inspection and Examination Procedures
ISI	Inservice Inspection
NDE	Nondestructive Examination
NRC	Nuclear Regulatory Commission
RADPRO	Radiation Protection
RFR	Request for Relief
RWP	Radiation Work Permit
SI	Surveillance Instruction
SPP	Standard Processes and Procedures
WO	Work Order

3.0 PREREQUISITES AND PRECAUTIONS

3.1 Prerequisites

- A. When craft support of minor or similar maintenance (examples: scaffolding, insulation removal, buffing of welds using Scotchbrite pads, and cleaning bolts) is required to facilitate performance of this TRI, a WO may be used. This WO shall be processed in accordance with SPP-6.1. Additional WOs are required to remove fire barrier insulation foam in sleeves, piping support clamps, steam generator support rings, reactor coolant pump flywheel access covers and plugs, etc.
- B. Contact RADPRO for radiation work permit (RWP)/ALARA preplanning requirements. Coordination with RADPRO should begin as soon as components are identified to be scheduled for examination during a particular refueling outage.

3.2 Precautions

- A. Safety belts should be worn when working from scaffolding or ladders in accordance with MMDP-11.

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3.2 Precautions (continued)

- B. Protective clothing, such as long-sleeve shirts, should be worn when working around hot pipes and equipment.
- C. Care should be exercised when climbing on plant structures and piping to ensure firm footing and to prevent damaging site equipment. Walking on flex hoses and insulation shall be avoided.
- D. Efforts should be made to ensure proper planning to reduce delays and radiation exposure in performance of the work.
- E. Read and observe all applicable precautions as indicated in WBN Instruction TI-12.07, Containment Access, and SPP-6.5, Foreign Material Control.

4.0 SPECIAL TOOLS AND EQUIPMENT

Equipment shall be specified by individual NDE Procedures.

5.0 ACCEPTANCE STANDARDS

The acceptance criteria shall be in accordance with IWA-3000 and the individual NDE Procedures of IEP-100.

Evaluations of examinations in accordance with IWB-3132.3, IWB-3142.4, IWC-3122.3, or IWC-3132.3 shall be submitted to the NRC. This information shall be submitted with the Inservice Inspection Summary Report or, if deemed necessary, a separate report shall be submitted. The evaluations shall be documented on or referenced on the Notification of Indication.

6.0 QUALIFICATIONS OF NDE PERSONNEL

Personnel performing NDE operations shall be qualified and certified in accordance with IWA-2300, IEP-200, and IEP-300.

7.0 IMPLEMENTATION AND RESPONSIBILITIES

Any revisions to this program initiated by other groups shall be submitted to ISI/NDE for approval prior to incorporating the revisions into this program.

Responsibilities shall be in accordance with SPP-9.1, Part A.

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7.1 NDE Examinations

- A. NDE methods shall be in accordance with IWA-2200 of ASME Section XI and this program as scheduled in Appendices A-D.
- B. NDE shall be performed in accordance with IWA-2200 and the individual NDE Procedures of IEP-100.
- C. In accordance with IWA-2600, a reference system shall be established for all welds and areas subject to surface or volumetric examination. Each such weld and area shall be located and identified by a system of reference points in accordance with applicable NDE procedures.
- D. When less than the required code examination volume or area is examined, the percentage examined shall be documented on the examination data sheet. The cause of the limitation shall be clearly specified and documented on the examination data sheet. The examination with less than the required ASME Section XI Code examination volume or area shall be handled as a request for relief in accordance with SPP-9.1, Part A.

7.2 Components Subject to Examination

- A. ASME Class 1 Equivalent Components Subject to Examination (IWB)
 1. The ASME Class 1 equivalent systems subject to examination are: Chemical and Volume Control System; Reactor Coolant System; Reactor Coolant System Main Loop; Residual Heat Removal System; and Safety Injection System. The specific components subject to examination are identified on drawings listed in Appendix F, ISI Drawings List.
 2. Components are scheduled for examination in accordance with ASME Section XI, Table IWB-2500-1. The number of components within each system, the number selected for examination during the interval and the number selected for examination by period are provided in Appendix A. ASME Class 1 valves subject to examination are listed in Appendix E.
 3. The rules of IWB-1220 (a), (b), and (c) have been used to establish exemption criteria for components (piping uses 1989 Edition per 10CFR50.55a(b)(2)(xi)) and establish the numbers in Appendix A.
 4. Examination Category B-A, B-B, B-D, B-F, B-G-1, B-G-2, B-K, B-M-1, B-L-2, B-M-2, B-N-1, B-N-2, B-N-3 and B-O components shall be selected for examination in accordance with Table IWB-2500-1, 2001 Edition, 2003 Addenda of ASME Section XI.

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7.2 Components Subject to Examination (continued)

5. Category B-J circumferential welds shall be selected to provide a 25 percent sample this interval. WBN does not have stress level calculations as required for selection per Table IWB-2500-1, Examination Category B-J, Note: (1)(b). The Code basis for this method of selection of Item Numbers B9.11, B9.21, B9.22, B9.31, B9.32, and B9.40 is Table IWB-2500-1, Examination Category B-J, 2001 Edition 2003 Addenda of Section XI except the extent of examination is determined by the requirements of Table IWB-2500 and Table IWB-2600, Examination Category B-J, 1974 Edition with Addenda through Summer 1975 as allowed by 10 CFR50.55a(b)(2)(ii).
6. Examination requirements for ASME Class 1 equivalent component supports, Examination Category F-A, shall be in accordance with ASME Section XI Subsection IWF. See Section 7.2.D.
7. Welded support attachment examination is also required whenever component support member deformation (e.g.: broken, bent, or pulled out parts) is identified during operation, refueling, maintenance, examination, inservice inspection, or testing.
8. Examination coverage of ASME Class 1 equivalent welds will be in accordance with Code Case N-460 unless impractical due to original plant design. In this case the examination will be processed in accordance with Section 7.9.

B. ASME Class 2 Equivalent Components Subject to Examination (IWC)

1. ASME Class 2 equivalent systems subject to examination are: Containment Spray System; Feedwater System; High Pressure Safety Injection System (includes Containment Spray, Chemical Volume Control, Safety Injection and Residual Heat Removal.); Main Steam System; Residual Heat Removal System; and Safety Injection System. The specific components subject to examination are identified on drawings listed in Appendix F, ISI Drawings List.
2. Components are scheduled for examination in accordance with ASME Section XI, Table IWC-2500-1, 2001 Edition 2003 Addenda of ASME Section XI. The number of components within each system, the number selected for examination during the interval and the number selected for examination by period are provided in Appendix B. ASME Class 2 valves subject to examination are listed in Appendix E.
3. The rules of IWC-1220 have been used to establish exemption criteria for components and establish the numbers in Appendix B.

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7.2 Components Subject to Examination (continued)

4. Examination Category C-A, C-B, C-C, C-D, C-F-1, C-F-2 and C-G components shall be selected for examination in accordance with Table IWC-2500-1.
5. Examination requirements for ASME Class 2 equivalent component supports, Examination Category F-A, shall be in accordance with ASME Section XI Subsection IWF. See Section 7.2.D.
6. Examination coverage of ASME Class 2 equivalent welds will be in accordance with Code Case N-460 unless impractical due to original plant design. In this case the examination will be processed in accordance with Section 7.9.
7. Welded support attachment examination is also required whenever component support member deformation (e.g.: broken, bent, or pulled out parts) is identified during operation, refueling, maintenance, examination, inservice inspection, or testing.

C. ASME Class 3 Equivalent Components Subject to Examination (IWD)

1. ASME Class 3 equivalent systems subject to examination are: Auxiliary Feedwater System; Component Cooling System; Essential Raw Cooling Water System; Fuel Pool Cooling and Cleaning System; and, High Pressure Fire Protection System. The specific components subject to examination are identified on drawings listed in Appendix F, ISI Drawings List.
2. The rules of IWD-1220 have been used to establish exemption criteria for components.
3. Examination requirements for ASME Class 3 equivalent component supports, Examination Category F-A, shall be in accordance with ASME Section XI Subsection IWF. See Section 7.2.D.

D. Component Supports Subject to Examination (IWF)

1. Component supports shall be examined in accordance with Table IWF-2500-1. Component supports to be examined shall be the supports of components NOT exempted in accordance with section 7.2.D.2. These component and piping supports are within the systems identified in sections 7.2.A.1, 7.2.B.1, and 7.2.C.1. The specific supports subject to examination are identified on ISI Drawings listed in Appendix F.

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7.2 Components Subject to Examination (continued)

2. Component supports exempt from NDE examinations are those connected to piping or other items exempted from volumetric, surface or VT-1 or VT-3 visual examination by IWB-1220, IWC-1220, and IWD-1220, and portions of supports that are inaccessible by being encased in concrete, buried underground, or encapsulated by guard pipe.
3. Supports depicted as snubbers on the support drawings are subject to examination up to and including the snubber pins in accordance with IWF-5300(c). The snubber is outside the examination boundary. The examination/testing of snubbers is covered by the Snubber Inservice Testing Program. Refer to section 7.9 for snubber request for relief.
4. The number of supports subject to an examination sample plan, the number selected for examination during the inspection interval and the number selected for examination by period are provided in Appendix D.
5. Support examination boundaries shall be in accordance with IWF-1300. When determining equipment support boundaries, consideration is to be given to include miscellaneous steel for each equipment support. Acceptance range for support settings shall be calculated in accordance with Inspection Services Organization Programs Manuals (Refer to Nondestructive Examination Procedure N-GP-7).
6. Component supports that have been adjusted in accordance with IWF-3000 or corrected by repair or replacement shall be preservice examined prior to return of the system to service per the applicable examinations listed in Table IWF-2500-1.

Also for systems that operate above 200 degrees F during normal operation, an additional preservice examination shall be performed on the affected component support(s) during or following the subsequent system heat-up and cool-down cycle unless determined unnecessary by evaluation. This examination shall be performed during operation or at the next refueling outage.

7. Piping support function is determined by using the latest analysis drawing with change paper for piping. If the piping does not have an associated analysis drawing, the latest support drawing with change paper will be used to determine support function.
 - a. Support Function A – Supports such as one-directional restraints.
 - b. Support Function B – Supports such as multidirectional restraints.
 - c. Support Function C – Supports that allow thermal movement, such as variable or constant force springs.

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7.2 Components Subject to Examination (continued)

- d. Support Function D – Either hydraulic or mechanical snubbers.

7.3 Notification of Indication

Whenever an unacceptable inservice examination indication is discovered, an NOI shall be initiated in accordance with SPP-9.1, Part A. The NOI is to be used to:

- A. Notify Plant Management of unacceptable indications found during the performance of scheduled ASME Section XI inservice examinations that will require evaluation and a disposition in accordance with plant procedures.
- B. Notify ISI/NDE Representative of indications that exceed the acceptance criteria of Article IWX-3000 of the ASME Section XI Code and that the indications have been documented on an examination report form contained within the NDE procedure used for examination.
- C. Provide ISO and ISI/NDE Representative with a method to track examination reports that require reexamination or a documented disposition for closure.
- D. As a final product, with the disposition provided in accordance with plant procedures added to Part II of the NOI Form; to provide the ISI/NDE Representative a method of determining if additional and/or successive examinations are required in accordance with the Code.

7.4 Additional Examinations for ASME Code Class 1, 2, and 3

After a Notification of Indication (NOI) has been dispositioned and returned to the ISI/NDE Representative (reference Section 7.3), the NOI shall be evaluated to determine if additional examinations shall be required in accordance with ASME Section XI IWB-2430, IWC-2430, IWD-2430, or IWF-2430. If it is determined that additional examinations are required, these examinations shall be performed during the same outage as the initial examinations. A sample is defined as those items (welds, areas, or parts) as described or intended in a particular examination category and item number and within the same system. The initial sample is the sample scheduled for examination at a particular outage for Section XI credit.

A. Additional Examinations for Class 1 Equivalent Components (IWB)

Additional examinations for Class 1 equivalent components (IWB), excluding supports, shall be in accordance with the requirements of IWB-2430. The additional examination samples are defined as those items (welds, areas, or parts) in a particular examination category and item number and within the same system. The initial sample is the sample scheduled for examination at a particular outage for ASME Section XI credit.

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**7.4 Additional Examinations for ASME Code Class 1, 2, and 3
(continued)**

1. Examinations of the initial sample that reveal indications exceeding the acceptance standards of table IWB-3410-1 shall be extended to include additional examinations in the same outage except for volumetric and surface examinations where IWB-3112(b) is applicable. (Such as, flaws detected by volumetric or surface examinations that meet the nondestructive examination standards of NB-2500 and NB-5300, as documented in QA records, shall be acceptable).
2. The first additional examination sample shall include an additional number of items included in the inspection item equal to the number of items that were scheduled for the current inspection period. The additional examinations shall be selected from welds, areas, or parts of similar material and service. This additional selection may require inclusion of piping systems other than the one containing the flaws or relevant conditions.
3. If the first additional examinations of Section 7.4.A.2 reveal indications exceeding the acceptance standards of Table IWB-3410-1, except where IWB-3131(b) is applicable, further additional examinations shall be performed during the outage. The second additional examination sample shall include the remaining number of items of similar material and service subject to the same type of flaws or relevant conditions.
4. For the inspection period following the period in which the examinations of 7.4.A.2 or 7.4.A.3 were completed, the examinations shall be performed as originally scheduled in accordance with IWB-2400.

B. Additional Examinations for Class 2 Equivalent Components (IWC)

Additional examinations for Class 2 equivalent components (IWC) shall be selected per IWC-2430. The additional examination samples are defined as those items (welds, areas, or parts) in a particular examination category and item number and within the same system. The initial sample is the sample scheduled for examination at a particular outage for ASME Section XI credit.

1. Examinations of the initial sample that reveal indications exceeding the acceptance standards of table IWC-3410-1 shall be extended to include additional examinations in the same outage except for volumetric and surface examinations where IWC-3112(b) is applicable. (Such as, flaws detected by volumetric or surface examinations that meet the nondestructive examination standards of NC-2500 and NC-5300, as documented in QA records, shall be acceptable).

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**7.4 Additional Examinations for ASME Code Class 1, 2, and 3
(continued)**

2. The first additional sample shall include an additional number of items included in the inspection item equal to 20% of the number of items included in the inspection item that are scheduled to be performed during the inspection interval. The additional examination sample shall be selected from items of similar material and service. This additional selection may require inclusion of piping systems other than the one containing the flaws or relevant conditions.
3. If the first additional examinations of Section 7.4.B.2 reveal flaws or relevant conditions exceeding the acceptance standards of Table IWC-3410-1, except where IWC-3121(b) is applicable, the examinations shall be further extended to include additional examinations during the current outage. The second additional examination sample shall include the remaining number of items of similar material and service subject to the same type of flaws or relevant conditions.
4. For the inspection period following the period in which the examinations of 7.4.B.2 or 7.4.B.3 were completed, the examinations shall be performed as originally scheduled in accordance with IWC-2400.

C. Additional Examinations for Class 3 Equivalent Components (IWD)

Additional examinations for Class 3 equivalent components (IWD) shall be in accordance with IWD-2430. The initial sample is the sample scheduled for examination at a particular outage for ASME Section XI credit.

1. Examinations performed in accordance with Table IWD-2500-1 of the initial sample that reveal flaws or relevant conditions exceeding the acceptance standards of Table IWD-3000 shall be extended to include additional examinations during the current outage.
2. The first additional sample shall include an additional number of items included in the inspection item that are scheduled to be performed during the inspection interval. The additional examination sample shall be selected from items of similar material and service. This additional selection may require inclusion of piping systems other than the one containing the flaws or relevant conditions.
3. If the first additional examination sample of section 7.4.C.2 reveals flaws or relevant conditions exceeding the acceptance standards of Table IWD-3000, the examinations shall be further extended to include additional samples during the current outage. The extent of the additional examinations shall be determined by engineering based upon an engineering evaluation of the root cause of the flaws or relevant conditions. The corrective actions shall be documented in accordance with IWA-6000.

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**7.4 Additional Examinations for ASME Code Class 1, 2, and 3
(continued)**

4. For the inspection period following the period in which the examinations of 7.4.C.2 or 7.4.C.3 were completed, the examinations shall be performed as originally scheduled in accordance with IWD-2400.

D. Additional Examinations for Component Supports (IWF)

Additional examinations for component supports (IWF) shall be in accordance with IWF-2430. The initial sample is the sample scheduled for examination at a particular outage for ASME Section XI credit.

1. Examinations performed in accordance with IWF-2500 of the initial sample that reveal flaws or relevant conditions exceeding the acceptance standards of IWF-3400 and that require corrective action shall be extended to include additional supports within the system, equal in number and of the same type and function as those scheduled for examination during the inspection period.
2. When the first additional examination sample of section 7.4.D.1 reveal flaws or relevant conditions exceeding the acceptance standards of IWF-3400 and that require corrective action, the examinations shall be further extended to include additional examinations during the current outage. The component supports within the system of the same type and function as in section 7.4.D.1.
3. When the second additional sample of section 7.4.D.2 reveals flaws or relevant conditions exceeding the acceptance standards of IWF-3400 and that require corrective action, examinations shall be extended to include a third additional sample of all nonexempt supports potentially subject to the same failure modes that required corrective actions in accordance with 7.4.D.1 and 7.4.D.2. Also, these additional examinations shall include nonexempt component supports in other systems when support failures requiring corrective actions indicate non-system related failure modes.
4. When the third additional sample of section 7.4.D.3 reveals flaws or relevant conditions exceeding the acceptance standards of IWF-3400 and that require corrective action, examinations shall be extended to those exempt component supports that could be affected by the same observed failure modes and could affect nonexempt components.

E. Completion of Additional Examinations

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7.4 Additional Examinations for ASME Code Class 1, 2, and 3 (continued)

After completion of the additional examinations, ASME Section XI Code requirements for additional examinations are complete. If the final sample examinations reveal indications which exceed the acceptance standards of Article IWX-3000, the indications shall be evaluated for further action, if needed, within this and /or other systems.

Site Engineering shall be notified by using the Notification of Additional Sample Results Form in Appendix H. Included in the notification should be a summary of the indications found, number of examinations, number of indications in each sample, type of examinations performed, examination category, item number, copies of the NOIs, and any other pertinent information.

7.5 Corrective Action Program and Successive Examinations

Corrective actions required as a result of ISI examinations shall be handled in accordance with SPP-3.1.

A. Successive Examinations - Class 1 Equivalent Components

Areas containing flaw indications or relevant conditions evaluated in accordance with IWB-3132.3 or IWB 3142.4 and SPP-3.1 that qualify for continued service shall be reexamined during the next three inspection periods listed in the inspection schedules. If the re-examinations reveal that the flaw indications remain essentially unchanged for three successive inspections, then the component examination schedule may revert to the original schedule. Components requiring successive examinations shall be scheduled for examination in Appendix G.

B. Successive Examinations - Class 2 Equivalent Components

Components with flaw indications evaluated in accordance with IWC-3122.3 or IWC-3132.3 and SPP-3.1 that qualify for continued service shall be reexamined during the next inspection period listed in the inspection schedule. If the reexamination reveals that the flaw indications remain essentially unchanged, the component examination schedule may revert to the original schedule. Components requiring successive examinations shall be scheduled for examination in Appendix G.

C. Successive Examinations for Class 3 Equivalent Components

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7.5 Corrective Action Program and Successive Examinations (continued)

Components with flaw indications or relevant conditions evaluated in accordance with IWD-3000 and SPP-3.1 that qualify for continued service shall be re-examined during the next inspection period listed in the inspection schedule. If the re-examination reveals that the flaws remain essentially unchanged, the component examination schedule may revert to the original schedule. Components requiring successive examinations shall be scheduled for examination in Appendix G.

D. Successive Examinations for Class 1, 2 and 3 Component Supports (IWF)

When a component support is accepted for continued service in accordance with IWF-3112.2 or IWF-3122.2 the component support shall be re-examined during the next inspection period listed in the inspection schedule. Component supports requiring successive examination shall be scheduled for examination in Appendix G.

When these examinations do not require additional corrective measures, the inspection schedule may revert to the original schedule.

7.6 Configuration Changes

When modifications are made to existing piping or components, drawings shall be reviewed and revised by ISI/NDE Representative to identify the piping configuration, welds, and components that shall be included in or deleted from the ASME Section XI ISI/NDE Program.

If variations in configuration are discovered or modifications (including additions and deletions), replacements, or repairs are made during the service life of the unit, these changes shall be marked on field corrected copies of the appropriate drawings. These field corrected copies shall be used in the performance of examinations. The scan plan shall be revised in accordance with Section 7.10, as necessary to reflect these field corrected drawings (interim working drawings) and any preservice and/or inservice examinations performed due to these variations in configuration. ISI/NDE Representative shall be responsible for reviewing the proposed change, revising and issuing the drawing as necessary in accordance with SPP-9.1, Part A.

7.7 Calibration Standards

Calibration blocks used for ultrasonic examination shall be in accordance with SPP-9.1, Part A and IEP-203.

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7.8 Records and Reports

Records and reports shall be prepared in accordance with SPP-9.1, Part A.

7.9 Requests for Relief (RFR)

When TVA has determined that Code requirements or examinations are impractical, TVA shall submit written requests for relief (RFR) to the NRC with information to support the need for relief and any proposed alternate examinations. The impractical Code requirements or relief situation shall be identified as a part of the examination schedule tables (Appendix A-D) in this program and references to a particular RFR shall be included. Requests for relief shall be prepared in accordance with SPP-9.1.

Requests for relief listings are included in Appendix I.

7.10 Scan Plan

A computerized data base system will be utilized for status and Section XI credit of completed ISI examinations and those augmented examinations which have been integrated with the ASME Section XI ISI/NDE Program. The data base is utilized to provide a scan plan. A scan plan is the primary scheduling document listing components requiring examination during a specific refueling outage. A scan plan may also be utilized to provide a listing of components to be examined for nonoutage activities. Responsibilities for preparing, maintaining, and approving the data base and scan plans shall be in accordance with SPP-9.1, Part A.

During implementation phases (usually outage periods), it may become necessary to revise the scan plan. Scan plan revisions can be initiated by ISI/NDE Representative, ISO, or by other personnel involved with the implementation of the scan plan. All changes shall be coordinated with an ISI/NDE Representative and, as needed, with the appropriate plant planning and scheduling personnel for facilitating the use of supporting craft personnel. Work/change control during outage periods shall be in accordance with SPP-7.2. Revisions to the scan plan shall be controlled in the same manner as the original (see SPP-9.1, Part A). However, interim working copies may be hand written to allow examinations to be performed before a formal revision is issued. The approving individuals shall initial and date revisions on the scan plan.

When inservice examinations are performed as a result of instructions other than this program (e.g., maintenance instructions, work plans, etc.), copies of the examination data sheet shall be submitted to ISI/NDE by the performing organization for assignment of a report number and incorporation into the scan plan.

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7.11 Augmented Examinations

Augmented examinations are performed in addition to ASME Section XI code requirements. The augmented examinations may be required by the NRC or be self-imposed by TVA. Typical sources include generic letters, IE bulletins, technical specifications, vendor recommendations, and industry experience. SPP-9.1, Part A provides requirements for requesting augmented examinations. Appendix J provides a description and schedule for augmented examinations currently integrated with the ISI Program.

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-A		Pressure Retaining Welds in Reactor Vessel									
B-A	B1.10	RV Shell Welds									
	B1.11	RV Shell Welds Circumferential	UT	4	100%	4	Deferral Permissible	0	0	4	ISI-0427-C
	B1.12	RV Shell Welds Longitudinal	Volumetric	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	
B-A	B1.20	RV Head Welds									
	B1.21	RV Head Welds Circumferential	UT	2 (closure head and lower head)	100% of accessible length	2	Deferral Permissible	0	0	2	CHM-2549-C ISI-0427-C
	B1.22	RV Head Welds Meridional	UT	6 Meridional welds	100% of accessible length	6	Deferral Permissible	0	0	6	ISI-0427-C
B-A	B1.30	RV Shell-to-Flange Weld	UT	1	100%	1	Partial Deferral	0	0	1	ISI-0427-C

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-A	B1.40	RV Head-to-Flange Weld	MT & UT	1	100%	1	Partial Deferral	1/2 of weld	1/2 of weld	0	CHM-2549-C
B-A	B1.50	RV Beltline Repair Areas >10% Wall									
	B1.51	RV Repair Welds Beltline Region	Volumetric	None	All	N/A	Deferral Permissible	N/A	N/A	N/A	
B-B		Pressure Retaining Welds in Vessels Other than Reactor Vessels									
B-B	B2.10	Pressurizer Shell-to-Head Welds									
	B2.11	Pressurizer Circ. Shell-to-Head Welds	UT	2	100%	2	Deferral Not Permissible	0	1	1	CHM-2570-C
	B2.12	Pressurizer Shell-to-Head Intersecting Long Weld	UT	2 / 1 foot (one longitudinal weld)	1 foot of each	2 / 1 foot	Deferral Not Permissible	0	1 foot	1 foot	CHM-2570-C

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-B	B2.20	Pressurizer Head Welds									
	B2.21	Pressurizer Head Welds Circumferential	Volumetric	None	One weld per head	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
	B2.22	Pressurizer Head Welds Meridional	Volumetric	None	One weld per head	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
B-B	B2.30	SG Primary Side Head Welds									
	B2.31	SG Primary Side Head Welds Circumferential	Volumetric	None	One weld per head	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
	B2.32	SG Primary Side Head Welds Meridional	Volumetric	None	One weld per head	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-B	B2.40	SG Tubesheet-to-Head Weld	UT	4 SG / 1 weld each	100%	1	Deferral Not Permissible	1	0	0	CHM-2660-C
B-B	B2.50	Heat Exch Primary Side Head Welds									
	B2.51	Heat Exch Primary Side Head Welds, Circumferential	Volumetric	None	One weld per head	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
	B2.52	Heat Exch Primary Side Head Welds, Meridional	Volumetric	None	One weld per head	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
B-B	B2.60	Heat Exch Primary Side Shell Tubesheet-to-Head Welds	Volumetric	None	One weld per group, 100%	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-B	B2.70	Heat Exch Primary Side Shell, Long. Welds	Volumetric	None	One foot of one weld per group	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
B-B	B2.80	Heat Exch Primary Side Shell, Tubesheet-to-Shell Welds	Volumetric	None	One weld per group at each end	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
B-D		Full Penetration Welds of Nozzles in Vessels									
B-D	B3.90	RV Nozzle-to-Vessel Welds	UT	8	100%	8	Deferral Permissible	0	0	8	ISI-0427-C
B-D	B3.100	RV Nozzle Inside Radius Section	UT	8	100%	8	Deferral Permissible	0	0	8	ISI-0427-C
B-D	B3.110	Pressurizer Nozzle-to-Vessel Welds	UT	6	100%	6	Deferral Not Permissible	0	5	1	CHM-2570-C

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER	
B-F		Pressure Retaining Dissimilar Metal Welds										
B-F	B5.10	RV Nozzle-to-SE DM Butt Welds NPS 4 or Larger	PT & UT	8	100%	8	Deferral Permissible	2	2	4	ISI-0427-C	
B-F	B5.20	RV Nozzle-to-SE DM Butt Welds Less than NPS 4	Surface	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A	
B-F	B5.30	RV Nozzle-to-SE DM Socket Welds	Surface	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A	
B-F	B5.40	Pressurizer Nozzle-to-SE DM Butt Welds NPS 4 or Larger	PT & UT	6	100%	6	Deferral Not Permissible	2	2	2	CHM-2570-C	
B-F	B5.50	Pressurizer Nozzle-to-SE DM Butt Welds less than NPS 4	Surface	None	100%	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A	

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-F	B5.60	Pressurizer Nozzle-to-SE DM Socket Welds	Surface	None	100%	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
B-F	B5.70	SG Nozzle-to-SE DM Butt Welds NPS 4 or Larger	PT & UT	12	100%	12	Deferral Not Permissible	4	4	4	CHM-2547-C
B-F	B5.80	SG Nozzle-to-SE DM Butt Welds less than NPS 4	Surface	None	100%	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
B-F	B5.90	SG Nozzle-to-SE DM Socket Welds	Surface	None	100%	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
B-F	B5.100	Heat Exch Nozzle-to-SE DM Welds NPS 4 or Larger	PT & UT	None	100%	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-F	B5.110	Heat Exch Nozzle-to-SE DM Butt Welds less than NPS 4	Surface	None	100%	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
B-F	B5.120	Heat Exch Nozzle-to-SE DM Socket Welds	Surface	None	100%	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
B-G-1		Pressure Retaining Bolting, Greater Than 2" in Diameter									
B-G-1	B6.10	RV Closure Head Nuts	VT-1	54	100%	54	Deferral Permissible	0	0	54	ISI-0427-C
B-G-1	B6.20	RV Closure Studs	UT	54	100%	54	Deferral Permissible	0	0	54	ISI-0427-C
B-G-1	B6.40	RV Threads in Flange	UT	54	100%	54	Deferral Permissible	0	0	54	ISI-0427-C
B-G-1	B6.50	RV Closure Washers (no Bushings)	VT-1	54	100%	54	Deferral Permissible	0	0	54	ISI-0427-C

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-G-1	B6.60	Pressurizer Bolts and Studs	Volumetric	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.70	Pressurizer Flange Surface (disassembled)	Visual	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.80	Pressurizer Nuts, Bushings, and Washers	Visual	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.90	SG Bolts and Studs	Volumetric	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.100	SG Flange Surface (disassembled)	Visual	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.110	SG Nuts, Bushings, and Washers	Visual	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.120	Heat Exch Bolts and Studs	Volumetric	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-G-1	B6.130	Heat Exch Flange Surfaces (disassembled)	Visual	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.140	Heat Exch Nuts, Bushings, and Washers	Visual	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.150	Piping Bolts and Studs	Volumetric	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.160	Piping Flange Surfaces (disassembled)	Visual	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.170	Piping Nuts, Bushings, and Washers	Visual	None	100%	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.180	RCP Bolts and Studs	UT	4 Pumps / 24 bolts per Pump	Pump selected for exam under B-L-2	1 set of 24 bolts	Deferral Permissible	When pump is disassembled	When pump is disassembled	When pump is disassembled	ISI-0447-C

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-G-1	B6.190	RCP Flange Surface (disassembled)	VT-1	4 Pumps	Pump selected for exam under B-L-2	1 Pump	Deferral Permissible	when dis-assembled	when dis-assembled	when dis-assembled	ISI-0447-C
B-G-1	B6.200	RCP Nuts, Bushings, and Washers	Visual	None	Pump selected for exam under B-L-2	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.210	Valve Bolts and Studs	Volumetric	None	Valve(s) selected for exam under B-M-2	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.220	Valve Flange Surface (disassembled)	Visual	None	Valve(s) selected for exam under B-M-2	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-1	B6.230	Valve Nuts, Bushings, and Washers	Visual	None	Valve(s) selected for exam under B-M-2	N/A	Deferral Permissible	N/A	N/A	N/A	N/A
B-G-2		Pressure Retaining Bolting, 2" and Less in Diameter									
B-G-2	B7.10	RV Bolts, Studs, and Nuts	VT-1	None	100%	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-G-2	B7.20	Pressurizer Bolts, Studs, and Nuts	VT-1	1 Manway / 16 Bolts	100%	1 Manway / 16 Bolts	Deferral Not Permissible	0	1 Manway	0	CHM-2570-C
B-G-2	B7.30	SG Bolts, Studs, and Nuts	VT-1	4 SG / 2 Manways / 16 bolts ea.	100%	1 SG / 2 Manways / 16 bolts ea.	Deferral Not Permissible	1 Manway	0	1 Manway	CHM-2660-C
B-G-2	B7.40	Heat Exch Bolts, Studs, and Nuts	VT-1	None	100%	None	Deferral Not Permissible	N/A	N/A	N/A	N/A
B-G-2	B7.50	Piping Bolts, Studs, and Nuts									
	B7.50	CVCS	VT-1	4 connections	When dis-assembled	4	Deferral Not Permissible	1 or when disassembled	1 or when disassembled	2 or when disassembled	ISI-0050-C
	B7.50	RCS	VT-1	5 connections	When dis-assembled	5	Deferral Not Permissible	1 or when disassembled	2 or when disassembled	2 or when disassembled	ISI-0365-C
	B7.50	RHRS	VT-1	None	When dis-assembled	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	B7.50	SIS	VT-1	4 connections	When dis-assembled	4	Deferral Not Permissible	1 or when disassembled	1 or when disassembled	2 or when disassembled	CHM-2758-C
B-G-2	B7.60	Pumps Bolts, Studs, and Nuts	VT-1	4 Pumps / 2 sets / 1 set 12 bolts and 1 set 8 bolts	Pump(s) selected for exam under B-L-2	1 set 12 bolts and 1 set 8 bolts	Deferral Not Permissible	When dis-assembled	When dis-assembled	1 set 12 bolts and 1 set 8 bolts or when disassembled	ISI-0447-C
B-G-2	B7.70	Valves Bolts, Studs, and Nuts	See Note 2 at end of Appendix A								
	B7.70	CVCS	VT-1	None	Valve(s) selected for exam under B-M-2	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
	B7.70	RCS	VT-1	1 Group / 3 Valves	Valve(s) selected for exam under B-M-2	At least 1 valve per group (1)	Deferral Not Permissible	0 or when disassembled	0 or when disassembled	1 valve in group or when disassembled	ISI-0365-C

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	B7.70	RHRS	VT-1	4 Groups / 8 Valves	Valve(s) selected for exam under B-M-2	At least 1 valve per group (4)	Deferral Not Permissible	1 valve in 1 group or when disassembled	1 valve in 1 group or when disassembled (not in 1st or 2nd period)	1 valve in each of 2 groups or when disassembled (not in 1st or 2nd period)	CHM-2636-C
	B7.70	SIS	VT-1	3 Groups / 18 Valves	Valve(s) selected for exam under B-M-2	At least 1 valve per group (3)	Deferral Not Permissible	1 valve in 1 group or when disassembled	1 valve in 1 group or when disassembled (not in 1st period)	1 valve in 1 group or when disassembled (not in 1st or 2nd period)	CHM-2758-C
B-J			Pressure Retaining Welds in Piping								
B-J	B9.10	Piping Welds NPS 4 or Larger									
B-J	B9.11	Piping Circ. Welds NPS 4 or Larger	Surface and Volumetric								
	B9.11	RCS Main	PT & UT	45	25%	11	Deferral Not Permissible	4	4	3	CHM-2547-C

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	B9.11	RCS	PT & UT	66	25%	17	Deferral Not Permissible	6	5	6	ISI-0365-C
	B9.11	RV Aux Head Adapter Welds	PT & UT	12	25%	3	Deferral Not Permissible	0	0	3	CHM-2684-C CHM-2685-C
	B9.11	RHRS	PT & UT	60	25%	15	Deferral Not Permissible	5	5	5	CHM-2636-C
	B9.11	SIS	PT & UT	102	25%	26	Deferral Not Permissible	9	9	8	CHM-2758-C
B-J	B9.20	Piping Welds less than NPS 4									
B-J	B9.21	Circumferential Welds other than PWR HPSI	Surface								
	B9.21	CVCS	PT	97	25%	24	Deferral Not Permissible	8	8	8	ISI-0005-C ISI-0050-C
	B9.21	RCS	PT	10	25%	2	Deferral Not Permissible	0	2	0	CHM-2547-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	B9.21	RCS Main	PT	4	25%	1	Deferral Not Permissible	1	0	0	ISI-0365-C
B-J	B9.22	Circumferential Welds in PWR HPSI	PT	50	10%	6	Deferral Not Permissible	0	0	6	CHM-2758-C
B-J	B9.30	Branch Pipe Connection Welds									
B-J	B9.31	Branch Pipe Connection Welds NPS 4 or Larger	Surface and Volumetric								
	B9.31	CVCS	PT & UT	None	25%	N/A	Deferral Not Permissible	N/A	N/A	N/A	N/A
	B9.31	RCS	PT & UT	2	25%	0	Deferral Not Permissible	0	0	0	ISI-0365-C
	B9.31	RCS Main	PT & UT	1	25%	1	Deferral Not Permissible	1	0	0	CHM-2547-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	B9.31	RHRS	PT & UT	3	25%	1	Deferral Not Permissible	0	1	0	CHM-2636-C
	B9.31	SIS	PT & UT	5	25%	1	Deferral Not Permissible	0	0	1	CHM-2758-C
B-J	B9.32	Branch Pipe Connection Welds Less than NPS 4	Surface								
	B9.32	CVCS	PT	3	25%	1	Deferral Not Permissible	1	0	0	ISI-0005-C
	B9.32	RCS	PT	3	25%	1	Deferral Not Permissible	0	1	0	ISI-0365-C
	B9.32	RCS Main	PT	21	25%	5	Deferral Not Permissible	1	0	4	CHM-2547-C
	B9.32	RHRS	PT	2	25%	1	Deferral Not Permissible	0	1	0	CHM-2636-C
	B9.32	SIS	PT	13	25%	3	Deferral Not Permissible	1	2	0	CHM-2758-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	B10.10	Reactor Vessel	MT	None	See Note 3 at end of Appendix A	N/A	Deferral Not Permissible whenever component support deformation is identified	N/A	N/A	N/A	N/A
	B10.10	Pressurizer Support Skirt	MT	1	See Note 3 at end of Appendix A	1	Deferral Not Permissible whenever component support deformation is identified	0	0	1	CHM-2570-C
	B10.10	Pressurizer Seismic Lugs	MT	1 Prz / 4 IAs	See Note 3 at end of Appendix A	0 (Support Skirt Selected)	Deferral Not Permissible whenever component support deformation is identified	0	0	0	CHM-2570-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	B10.10	Steam Generator	MT	None	See Note 3 at end of Appendix A	N/A	Deferral Not Permissible whenever component support deformation is identified	N/A	N/A	N/A	N/A
B-K	B10.20	Piping Welded Attachments	Surface								
	B10.20	CVCS	Surface	None	See Note 1 at end of Appendix A	N/A	Deferral Not Permissible whenever component support deformation is identified	N/A	N/A	N/A	N/A
	B10.20	RCS	PT	2	See Note 1 at end of Appendix A	1	Deferral Not Permissible whenever component support deformation is identified	1	0	0	ISI-0364-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	B10.20	RCS Main	Surface	None	See Note 1 at end of Appendix A	N/A	Deferral Not Permissible whenever component support deformation is identified	N/A	N/A	N/A	N/A
	B10.20	RHRS	Surface	None	See Note 1 at end of Appendix A	N/A	Deferral Not Permissible whenever component support deformation is identified	N/A	N/A	N/A	N/A
	B10.20	SIS	Surface	None	See Note 1 at end of Appendix A	N/A	Deferral Not Permissible whenever component support deformation is identified	N/A	N/A	N/A	N/A

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-K	B10.30	Pumps Welded Attachments	Surface	None	See Note 1 at end of Appendix A	N/A	Deferral Not Permissible whenever component support deformation is identified	N/A	N/A	N/A	N/A
B-K	B10.40	Valve Welded Attachments	Surface	None	See Note 1 at end of Appendix A	N/A	Deferral Not Permissible whenever component support deformation is identified	N/A	N/A	N/A	N/A
B-L-1		Pressure Retaining Welds in Pump Casings									
B-L-1	B12.10	Reactor Coolant Pump Casing Welds	VT-1	4	1 Pump in each group	1	Deferral Permissible	0	0	1	ISI-0048-C
B-L-2		Pump Casings									

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER		
B-L-2	B12.20	Reactor Coolant Pump Casing Internal Surfaces	VT-3	4	1 Pump in each group	1	When Disassembled	When disassembled	When disassembled	When disassembled	ISI-0048-C		
B-M-1		Pressure Retaining Welds in Valve Bodies											
B-M-1	B12.30	Valves (less than 4 NPS) Body Welds	Surface	None	1 Valve in each group	N/A	Deferral Permissible	N/A	N/A	N/A	N/A		
B-M-1	B12.40	Valves (NPS 4 or larger) Body Welds	Volumetric	None	1 Valve in each group	N/A	Deferral Permissible	N/A	N/A	N/A	N/A		
B-M-2		Valve Bodies											
B-M-2	B12.50	Valves (greater than 4 NPS) Body Internal Surfaces	Visual	See Note 2 at end of Appendix A.									
	B12.50	CVCS	VT-3	None	1 valve in each group (when disassembled)	At least 1 valve per group (0)	Only when disassembled	N/A	N/A	N/A	N/A		

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	B12.50	RCS	VT-3	One Group	1 valve in each group (when dis-assembled)	At least 1 valve per group (1)	Only when disassembled	Only when disassembled	Only when disassembled	Only when disassembled	ISI-0365-C
	B12.50	RHRS	VT-3	Four Groups	1 valve in each group (when dis-assembled)	At least 1 valve per group (4)	Only when disassembled	Only when disassembled	Only when disassembled	Only when disassembled	CHM-2636-C
	B12.50	SIS	VT-3	Three Groups	1 valve in each group (when dis-assembled)	At least 1 valve per group (3)	Only when disassembled	Only when disassembled	Only when disassembled	Only when disassembled	CHM-2758-C
B-N-1		Interior of Reactor Vessel									
B-N-1	B13.10	RV Interior Accessible Areas	VT-3	1	100% At 3 year intervals	1 (each period)	Deferral Not Permissible	1	1	1	ISI-0427-C
B-N-2		Integrally Welded Core Support Structure and Interior Attachments to Reactor Vessels									
B-N-2	B13.50	RV Interior Attachments Within Beltline Region	Visual	None	Accessible Welds	N/A	Deferral Permissible	N/A	N/A	N/A	N/A

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ISI Planning/Scheduling Table for ASME Class 1 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
B-N-2	B13.60	RV Interior Attachments Beyond Beltline Region	VT-3	6	Accessible Welds	6	Deferral Permissible	0	0	6	ISI-0427-C
B-N-3		Removable Core Support Structures									
B-N-3	B13.70	RV Core Support Structure Accessible Surfaces	VT-3	1	Accessible Surfaces	1	Deferral Permissible	0	0	1	ISI-0427-C
B-O		Pressure Retaining Welds in Control Rod Housing									
B-O	B14.10	RV Welds in CRD Housings	UT or PT	78 CRD Housings / 20 Peripheral Housings	10% of Peripheral Housings	2	Deferral Permissible	0	0	2	CHM-2684-C

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ISI Planning/Scheduling Table for ASME Class 1 Components

Note 1: For Examination Category B-K, Piping, Pump, and Valve Integral Attachments the percentage examined during an inspection interval is based on 10% of the integral attachments on non-exempt piping (per system basis). 100% of the required areas of each selected welded attachment are required to be examined.

Note 2: Reference Appendix E for valve groupings and the list of valves subject to Examination Category B-G-2 or B-M-2 as applicable.

Note 3: For Examination Category B-K, Pressure Vessels Integral Attachments only one integral attachment of one of multiple vessels is required to be examined. 100% of the required areas of each selected welded attachment are required to be examined.

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER	
C-A		Pressure Retaining Welds in Pressure Vessels										
C-A	C1.10	Pressure Retaining Shell Circumferential Welds	Volumetric or PT if < 0.2 inches thick									
	C1.10	Residual Heat Removal Heat Exchanger	UT	2 RHRHX / 1 weld per RHRHX	All in 1 vessel at dis-continuity	1	Each Inspection Interval	0	1	0	CHM-2662-C	
	C1.10	Containment Spray Heat Exchanger	UT	2 CSHX / 1 weld per CSHX	All in 1 vessel at dis-continuity	1	Each Inspection Interval	0	0	1	ISI-0371-C	
	C1.10	Seal Water Heat Exchanger	PT	1	All in 1 vessel at dis-continuity	1	Each Inspection Interval	1	0	0	ISI-0484-C	
	C1.10	Seal Water Filter	Volumetric	None	All in 1 vessel at dis-continuity	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A	

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C1.10	Seal Water Injection Filter	Volumetric	None	All in 1 vessel at dis-continuity	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C1.10	Boron Injection Tank	Volumetric	None	All in 1 vessel at dis-continuity	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
C-A	C1.20	Pressure Retaining Head Circumferential Welds	Volumetric or PT if < 0.2 inches thick								
	C1.20	Steam Generator	UT	4 SG / 1 weld per SG	Head-to-Shell Weld in 1 vessel	1	Each Inspection Interval	0	0	1	CHM-2660-C
	C1.20	Residual Heat Removal Heat Exchanger	UT	2 RHRHX / 1 weld per RHRHX	Head-to-Shell Welds in 1 vessel	1	Each Inspection Interval	0	1	0	CHM-2662-C
	C1.20	Containment Spray Heat Exchanger	UT	2 CSHX / 1 weld per CSHX	Head-to-Shell Welds in 1 vessel	1	Each Inspection Interval	0	0	1	ISI-0371-C

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C1.20	Seal Water Heat Exchanger	PT	1	Head-to-Shell Welds in 1 vessel	1	Each Inspection Interval	0	0	1	ISI-0484-C
	C1.20	Seal Water Filter	PT	2	Head-to-Shell Welds in 1 vessel	2	Each Inspection Interval	2	0	0	ISI-0375-C
	C1.20	Seal Water Injection Filter	UT	2 SWIF / 1 weld per SWIF	Head-to-Shell Welds in 1 vessel	1	Each Inspection Interval	1	0	0	ISI-0375-C
	C1.20	Boron Injection Tank	UT	2	Head-to-Shell Welds in 1 vessel	2	Each Inspection Interval	0	2	0	ISI-0053-C
C-A	C1.30	Tubesheet-to-Shell Weld	Volumetric or PT if < 0.2 inches thick								
	C1.30	Steam Generator	UT	4 SG / 1 weld per SG	Tubesheet-to-Shell Weld in 1 vessel	1	Each Inspection Interval	0	0	1	CHM-2660-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C1.30	Residual Heat Removal Heat Exchanger	Volumetric	None	Tube-sheet-to-Shell Weld in 1 vessel	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C1.30	Containment Spray Heat Exchanger	Volumetric	None	Tube-sheet-to-Shell Weld in 1 vessel	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C1.30	Seal Water Heat Exchanger	Volumetric or Surface	None	Tube-sheet-to-Shell Weld in 1 vessel	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C1.30	Seal Water Filter	Volumetric or Surface	None	Tube-sheet-to-Shell Weld in 1 vessel	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C1.30	Seal Water Injection Filter	Volumetric	None	Tube-sheet-to-Shell Weld in 1 vessel	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
C-B		Pressure Retaining Nozzle Welds in Vessels									

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C3.10	Steam Generator	Surface	None	See Note 2 at the end of Appendix B.	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A
	C3.10	Residual Heat Removal Heat Exchanger	PT	2 RHRHX / 2 IAS on each	See Note 2 at the end of Appendix B.	1 IA on one RHRHX	Each Inspection Interval and whenever component support deformation is identified	0	1	0	CHM-2662-C
	C3.10	Containment Spray Heat Exchanger	PT	2 CSHX / 1 IA on each	See Note 2 at the end of Appendix B.	1 IA on one CSHX	Each Inspection Interval and whenever component support deformation is identified	0	0	1	ISI-0371-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C3.10	Seal Water Heat Exchanger	PT	1 SWHX / 2 IAS	See Note 2 at the end of Appendix B.	1 IA on one SWHX	Each Inspection Interval and whenever component support deformation is identified	0	0	1	ISI-0484-C
	C3.10	Seal Water Filter	PT	1 SWF / 4 IAS	See Note 2 at the end of Appendix B.	1 IA on one SWF	Each Inspection Interval and whenever component support deformation is identified	1	0	0	ISI-0487-C
	C3.10	Seal Water Injection Filter	PT	2 SWIF / 3 IAS on each	See Note 2 at the end of Appendix B.	1 IA on one SWIF	Each Inspection Interval and whenever component support deformation is identified	0	1	0	ISI-0486-C

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C3.10	Boron Injection Tank	PT	1 BIT / 4 IAS	See Note 2 at the end of Appendix B.	1 IA on the BIT	Each Inspection Interval and whenever component support deformation is identified	0	1	0	ISI-0053-C
C-C	C3.20	Piping Weld Attachments	Surface								
	C3.20	AFWS	MT	8	See Note 1 at end of Appendix B (10%)	1	Each Inspection Interval and whenever component support deformation is identified	1	0	0	ISI-0062-C
	C3.20	CSS	PT	8	See Note 1 at end of Appendix B (10%)	1	Each Inspection Interval and whenever component support deformation is identified	0	0	1	ISI-0423-C

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C3.20	CVCS	PT	23	See Note 1 at end of Appendix B (10%)	3	Each Inspection Interval and whenever component support deformation is identified	1	1	1	ISI-0424-C
	C3.20	FWS	Surface	None	See Note 1 at end of Appendix B (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A
	C3.20	MSS	MT	8	See Note 1 at end of Appendix B (10%)	1	Each Inspection Interval and whenever component support deformation is identified	0	1	0	ISI-0011-C

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C3.20	RHRS	PT	6	See Note 1 at end of Appendix B (10%)	1	Each Inspection Interval and whenever component support deformation is identified	0	0	1	ISI-0020-C ISI-0107-C
	C3.20	SIS	PT	30	See Note 1 at end of Appendix B (10%)	3	Each Inspection Interval and whenever component support deformation is identified	1	1	1	ISI-0021-C ISI-0440-C
C-C	C3.30	Pump Welded Attachments	Surface								
	C3.30	Centrifugal Charging Pump (CCP)	PT	2 CCP / 4 IAs on each	See Note 1 at end of Appendix B (10%)	All IAs on one CCP	Each Inspection Interval and whenever component support deformation is identified	0	1 CCP (4 IAs)	0	ISI-0118-C

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C3.30	Reciprocating Charging Pump	Surface	None	See Note 1 at end of Appendix B (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A
	C3.30	Containment Spray Pump	Surface	None	See Note 1 at end of Appendix B (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A
	C3.30	Residual Heat Removal Pump (RHRP)	PT	2 RHRP / 3 IAs on each	See Note 1 at end of Appendix B (10%)	All IAs on one RHRP	Each Inspection Interval and whenever component support deformation is identified	0	0	1 RHRP (3 IAs)	ISI-0117-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER	
	C3.30	Safety Injection Pump	Surface	None	See Note 1 at end of Appendix B (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A	
C-C	C3.40	Valve Welded Attachments	Surface	None	See Note 1 at end of Appendix B (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A	
C-D		Pressure Retaining Bolting greater than 2-inches in Diameter										
C-D	C4.10	Pressure Vessel Bolts and Studs >2" diameter	Volumetric or Surface when dis-assembled									
C-D	C4.10	Steam Generator	Volumetric or Surface when dis-assembled	None	100% of one connection of 1 component	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A	

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C4.10	Residual Heat Removal Heat Exchanger	Volumetric or Surface when dis-assembled	None	100% of one connection of 1 component	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C4.10	Containment Spray Heat Exchanger	Volumetric or Surface when dis-assembled	None	100% of one connection of 1 component	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C4.10	Seal Water Heat Exchanger	Volumetric or Surface when dis-assembled	None	100% of one connection of 1 component	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C4.10	Seal Water Filter	Volumetric or Surface when dis-assembled	None	100% of one connection of 1 component	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C4.10	Seal Water Injection Filter	Volumetric or Surface when dis-assembled	None	100% of one connection of 1 component	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C4.10	Boron Injection Tank	UT or MT	1 BIT / 1 connection	100% of one connection of 1 component	1 (16 bolts)	Each Inspection Interval	0	1 (16 bolts)	0	ISI-0053-C

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C5.21	CSS	PT & UT	1	7.5%	0	Each Inspection Interval	0	0	0	ISI-0400-C
	C5.21	CVCS	PT & UT	394	7.5%	32	Each Inspection Interval	11	10	11	ISI-0375-C
	C5.21	RHRS	PT & UT	41	7.5%	4	Each Inspection Interval	1	0	3	ISI-0375-C ISI-0421-C
	C5.21	SIS	PT & UT	241	7.5%	19	Each Inspection Interval	6	6	7	ISI-0375-C ISI-0421-C
C-F-1	C5.30	Socket Welds	Surface								
	C5.30	CSS	PT	24	7.5%	2	Each Inspection Interval	1	0	1	ISI-0375-C
	C5.30	CVCS	PT	295	7.5%	24	Each Inspection Interval	8	8	8	ISI-0375-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C5.30	RHRS	PT	4	7.5%	1	Each Inspection Interval	0	0	1	ISI-0375-C
	C5.30	SIS	PT	280	7.5%	21	Each Inspection Interval	7	7	7	ISI-0375-C
C-F-1	C5.40	Pipe Branch Connections of Branch Piping >= NPS 2									
C-F-1	C5.41	Circumferential Welds	Surface								
	C5.41	CSS	PT	4	7.5%	1	Each Inspection Interval	0	0	1	ISI-0400-C
	C5.41	CVCS	PT	3	7.5%	1	Each Inspection Interval	1	0	0	ISI-0375-C
	C5.41	RHRS	PT	6	7.5%	1	Each Inspection Interval	0	1	0	ISI-0375-C

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
C-F-2	C5.61	Circumferential Welds	Surface and Volumetric								
	C5.61	AFWS	MT & UT	156	7.5%	12	Each Inspection Interval	4	4	4	CHM-2671-C
C-F-2	C5.70	Socket Welds	Surface	None	7.5%	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
C-F-2	C5.80	Pipe Branch Connection of branch piping >= NPS 2									
C-F-2	C5.81	Circumferential Weld	Surface								
	C5.81	AFWS	MT	None	7.5%	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
	C5.81	FWS	MT	None	7.5%	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C5.81	MSS	MT	None	7.5%	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
C-G		Pressure Retaining Welds in Pumps and Valves									
C-G	C6.10	Pump Casing Weld	Surface	None	100% of welds in components in piping runs examined under C-F	N/A	Each Inspection Interval	N/A	N/A	N/A	N/A
C-G	C6.20	Valve Body Welds	Surface	See Note 4 at the end of Appendix B							
	C6.20	FWS	MT	10	100% of welds in one valve in piping runs examined under C-F	1	Each Inspection Interval	0	1	0	ISI-0082-C

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ISI Planning/Scheduling Table for ASME Class 2 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	C6.20	MSS	MT	20	100% of welds in one valve in piping runs examined under C-F	1	Each Inspection Interval	1	0	0	ISI-0081-C

Note 1: For Examination Category C-C, Piping, Pump, and Valve Integral Attachments the percentage examined during an inspection interval is based on 10% of the integral attachments associated with the component supports selected for examination under IWF-2510. 100% of the required areas of each selected welded attachment are required to be examined.

Note 2: For Examination Category C-C, Pressure Vessel Integral Attachments only one integral attachment of only one of the multiple vessels of similar design, function, and service is required to be examined. 100% of the required areas of each selected welded attachment are required to be examined.

Note 3: Selection includes 7.5% of all welds not exempted by IWC-1220 distributed by Item Number and system in this Exam Category, but not including welds excluded by wall thickness.

Note 4: Reference Appendix E for the listing of valves subject to Examination Category C-G.

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ISI Planning/Scheduling Table for ASME Class 3 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER	
D-A		Integral Attachments for Class 3 Vessels, Piping, Pumps, and Valves										
D-A	D1.10	Pressure Vessels Integrally Welded Attachments	Visual									
	D1.10	Containment Spray Heat Exchanger (CSHX)	VT-1	2 CSHX	See Note 2 at the end of Appendix C.	All IAs on 1 CSHX	Each Inspection Interval and whenever component support deformation is identified	0	0	All IAs on 1 CSHX	ISI-0371-C	
	D1.10	Nonregenerative Letdown Heat Exchanger (NRLHX)	VT-1	1 NRLHX	See Note 2 at the end of Appendix C.	All IAs on the NRLHX	Each Inspection Interval and whenever component support deformation is identified	0	All IAs on the NRLHX	0	ISI-0497-C	

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ISI Planning/Scheduling Table for ASME Class 3 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	D1.10	Component Cooling Surge Tank (CCST)	VT-1	1 CCST	See Note 2 at the end of Appendix C.	All IAs on the CCST	Each Inspection Interval and whenever component support deformation is identified	0	All IAs on the CCST	0	ISI-0496-C
	D1.10	Essential Raw Cooling Water System Strainer (ERCWS)	VT-1	4 ERCWS	See Note 2 at the end of Appendix C.	All IAs on one ERCWS	Each Inspection Interval and whenever component support deformation is identified	All IAs on one ERCWS	0	0	ISI-0489-C
	D1.10	Component Cooling Heat Exchanger (CCHX)	VT-1	3 CCHX	See Note 2 at the end of Appendix C.	All IAs on 1 CCHX	Each Inspection Interval and whenever component support deformation is identified	0	All IAs on 1 CCHX	0	ISI-0494-C

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ISI Planning/Scheduling Table for ASME Class 3 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	D1.10	Fuel Pool Cooling and Cleaning System Spent Fuel Pit Heat Exchanger (FPCCHX)	VT-1	2 FPCCHX	See Note 2 at the end of Appendix C.	All IAs on 1 FPCCHX	Each Inspection Interval and whenever component support deformation is identified	0	0	All IAs on 1 FPCCHX	ISI-0372-C
	D1.10	RHR Heat Exchanger (RHRSHX)	VT-1	2 RHRSHX	See Note 2 at the end of Appendix C.	All IAs on 1 RHRSHX	Each Inspection Interval and whenever component support deformation is identified	0	0	All IAs on 1 RHRSHX	CHM-2662-C
	D1.10	Seal Water Heat Exchanger (SWHX)	VT-1	1 SWHX	See Note 2 at the end of Appendix C.	All IAs on the SWHX	Each Inspection Interval and whenever component support deformation is identified	All IAs on the SWHX	0	0	ISI-0484-C

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ISI Planning/Scheduling Table for ASME Class 3 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	D1.10	High Pressure Fire Protection Strainer (HPFPS)	VT-1	2 HPFPS	See Note 2 at the end of Appendix C.	All IAs on 1 HPFPS	Each Inspection Interval and whenever component support deformation is identified	All IAs on 1 HPFPS	0	0	ISI-0502-C
D-A	D1.20	Piping Integrally Welded Attachments	Visual								
	D1.20	AFWS	VT-1	24	See Note 1 at end of Appendix C (10%)	3	Each Inspection Interval and whenever component support deformation is identified	0	1	2	ISI-0111-C
	D1.20	CCS	VT-1	54	See Note 1 at end of Appendix C (10%)	6	Each Inspection Interval and whenever component support deformation is identified	2	2	2	ISI-0252-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	D1.30	Motor Driven Auxiliary Feedwater Pump	VT-1	None	See Note 1 at end of Appendix C (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A
	D1.30	Turbine Driven Auxiliary Feedwater Pump	VT-1	None	See Note 1 at end of Appendix C (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A
	D1.30	Component Cooling System Pump	VT-1	None	See Note 1 at end of Appendix C (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A

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ISI Planning/Scheduling Table for ASME Class 3 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	D1.30	ERCW Pump	VT-1	None	See Note 1 at end of Appendix C (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A
	D1.30	ERCW Screen Wash Pump	VT-1	None	See Note 1 at end of Appendix C (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A
	D1.30	FPCCS Spent Fuel Pit Pumps	VT-1	None	See Note 1 at end of Appendix C (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A

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ISI Planning/Scheduling Table for ASME Class 3 Components

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	D1.30	High Pressure Fire Protection Pumps	VT-1	None	See Note 1 at end of Appendix C (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A
D-A	D1.40	Valve Integrally Welded Attachments	VT-1	None	See Note 1 at end of Appendix C (10%)	N/A	Each Inspection Interval and whenever component support deformation is identified	N/A	N/A	N/A	N/A

Note 1: For Examination Category D-A, Piping, Pump and Valve Integral Attachments the percentage examined during an inspection interval is based on 10% of the integral attachments on non-exempt piping (per system basis) or whenever component support degradation is identified. 100% of the required areas of each selected welded attachment are required to be examined.

Note 2: For Examination Category D-A, Pressure Vessel Integral Attachments the attachments of only one of the multiple vessels of similar design, function, and service shall be required to be examined.

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.10A	RCS	VT-3	13	25%	4	Each Inspection Interval	1	1	2	ISI-0364-C
	F1.10B	RCS	VT-3	6	25%	2	Each Inspection Interval	1	1	0	ISI-0364-C
	F1.10C	RCS	VT-3	10	25%	3	Each Inspection Interval	1	1	1	ISI-0364-C
	F1.10D	RCS	VT-3	13	25%	4	Each Inspection Interval	1	1	2	ISI-0364-C
		Class 1 RCS Main Piping Supports									
	F1.10A	RCS Main	VT-3	0	25%	0	Each Inspection Interval	0	0	0	ISI-0124-C ISI-0438-C
	F1.10B	RCS Main	VT-3	4	25%	1	Each Inspection Interval	1	0	0	ISI-0124-C ISI-0438-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.10A	SIS	VT-3	44	25%	11	Each Inspection Interval	3	4	4	ISI-0021-C
	F1.10B	SIS	VT-3	62	25%	16	Each Inspection Interval	5	5	6	ISI-0021-C
	F1.10C	SIS	VT-3	8	25%	2	Each Inspection Interval	1	1	0	ISI-0021-C
	F1.10D	SIS	VT-3	47	25%	12	Each Inspection Interval	4	4	4	ISI-0021-C
F-A	F1.20X (See Note 1)	Class 2 Piping Supports	Visual								
		Class 2 AFWS Piping Supports									
	F1.20A	AFWS	VT-3	51	15%	8	Each Inspection Interval	3	3	2	ISI-0062-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.20B	AFWS	VT-3	45	15%	7	Each Inspection Interval	2	2	3	ISI-0062-C
	F1.20C	AFWS	VT-3	7	15%	1	Each Inspection Interval	0	0	1	ISI-0062-C
	F1.20D	AFWS	VT-3	11	15%	2	Each Inspection Interval	0	1	1	ISI-0062-C
		Class 2 CSS Piping Supports									
	F1.20A	CSS	VT-3	68	15%	11	Each Inspection Interval	4	3	4	ISI-0423-C
	F1.20B	CSS	VT-3	20	15%	3	Each Inspection Interval	1	1	1	ISI-0423-C
	F1.20C	CSS	VT-3	7	15%	2	Each Inspection Interval	0	1	1	ISI-0423-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.20D	CSS	VT-3	22	15%	4	Each Inspection Interval	1	1	2	ISI-0423-C
		Class 2 CVCS Piping Supports									
	F1.20A	CVCS	VT-3	105	15%	16	Each Inspection Interval	5	5	6	ISI-0424-C
	F1.20B	CVCS	VT-3	123	15%	19	Each Inspection Interval	6	6	7	ISI-0424-C
	F1.20C	CVCS	VT-3	11	15%	2	Each Inspection Interval	0	1	1	ISI-0424-C
	F1.20D	CVCS	VT-3	17	15%	3	Each Inspection Interval	1	1	1	ISI-0424-C
		Class 2 FWS Piping Supports									
	F1.20A	FWS	VT-3	55	15%	9	Each Inspection Interval	3	3	3	ISI-0062-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.20B	FWS	VT-3	26	15%	4	Each Inspection Interval	1	1	2	ISI-0062-C
	F1.20C	FWS	VT-3	6	15%	1	Each Inspection Interval	1	0	0	ISI-0062-C
	F1.20D	FWS	VT-3	42	15%	7	Each Inspection Interval	2	3	2	ISI-0062-C
		Class 2 MSS Piping Supports									
	F1.20A	MSS	VT-3	19	15%	3	Each Inspection Interval	1	1	1	ISI-0011-C
	F1.20B	MSS	VT-3	1	15%	0	Each Inspection Interval	0	0	0	ISI-0011-C
	F1.20C	MSS	VT-3	12	15%	2	Each Inspection Interval	0	1	1	ISI-0011-C

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EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.20D	MSS	VT-3	23	15%	4	Each Inspection Interval	1	1	2	ISI-0011-C
		Class 2 RHRS Piping Supports									
	F1.20A	RHRS	VT-3	90	15%	14	Each Inspection Interval	4	5	5	ISI-0020-C ISI-0107-C
	F1.20B	RHRS	VT-3	25	15%	4	Each Inspection Interval	2	1	1	ISI-0020-C ISI-0107-C
	F1.20C	RHRS	VT-3	22	15%	4	Each Inspection Interval	1	1	2	ISI-0020-C ISI-0107-C
	F1.20D	RHRS	VT-3	33	15%	5	Each Inspection Interval	2	1	2	ISI-0020-C ISI-0107-C
		Class 2 SIS Piping Supports									
	F1.20A	SIS	VT-3	129	15%	20	Each Inspection Interval	6	7	7	ISI-0021-C ISI-0440-C

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	F1.20B	SIS	VT-3	131	15%	20	Each Inspection Interval	7	6	7	ISI-0021-C ISI-0440-C
	F1.20C	SIS	VT-3	19	15%	3	Each Inspection Interval	1	1	1	ISI-0021-C ISI-0440-C
	F1.20D	AFWS	VT-3	40	15%	6	Each Inspection Interval	2	2	2	ISI-0021-C ISI-0440-C
F-A	F1.30X (See Note 1)	Class 3 Piping Supports	Visual								
		Class 3 AFWS Piping Supports									
	F1.30A	AFWS	VT-3	90	10%	10	Each Inspection Interval	3	3	4	ISI-0111-C
	F1.30B	AFWS	VT-3	61	10%	7	Each Inspection Interval	2	2	3	ISI-0111-C

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	F1.30A	ERCWS	VT-3	424	10%	43	Each Inspection Interval	14	14	15	ISI-0112-C
	F1.30B	ERCWS	VT-3	446	10%	46	Each Inspection Interval	15	15	16	ISI-0112-C
	F1.30C	ERCWS	VT-3	20	10%	2	Each Inspection Interval	1	1	0	ISI-0112-C
	F1.30D	ERCWS	VT-3	23	10%	3	Each Inspection Interval	1	1	1	ISI-0112-C
		Class 3 FPCS Piping Supports									
	F1.30A	FPCS	VT-3	39	10%	4	Each Inspection Interval	1	1	2	ISI-0110-C
	F1.30B	FPCS	VT-3	23	10%	3	Each Inspection Interval	1	1	1	ISI-0110-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.30C	FPCS	VT-3	11	10%	2	Each Inspection Interval	0	1	1	ISI-0110-C
	F1.30D	FPCS	VT-3	5	10%	1	Each Inspection Interval	0	0	1	ISI-0110-C
		Class 3 HPFPS Piping Supports									
	F1.30A	HPFPS	VT-3	98	10%	10	Each Inspection Interval	3	3	4	ISI-0500-C
	F1.30B	HPFPS	VT-3	50	10%	6	Each Inspection Interval	2	2	2	ISI-0500-C
	F1.30C	HPFPS	VT-3	0	10%	0	Each Inspection Interval	0	0	0	ISI-0500-C
	F1.30D	HPFPS	VT-3	0	10%	0	Each Inspection Interval	0	0	0	ISI-0500-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
F-A	F1.40X (See Note 2)	Class 1, 2, or 3 supports other than piping supports	Visual		Supports on one or one of multiple components						
		Class 1 Equipment									
	F1.41B	Class 1 Reactor Vessel	VT-3	Reactor Vessel / 1 support	All	Reactor Vessel / 1 support	Each Inspection Interval	0	0	Reactor Vessel / 1 support	ISI-0427-C
	F1.41B	Class 1 Pressurizer	VT-3	Pressurizer / 2 supports	All	Pressurizer / 2 supports	Each Inspection Interval	0	Pressurizer / 1 support (seismic)	Pressurizer / 1 support (skirt)	CHM-2570-C
	F1.41B	Class 1 Steam Generator	VT-3	4 SG / 1 support each	One SG	One SG / 1 support	Each Inspection Interval	0	0	One SG / 1 support	CHM-2660-C
	F1.41B	Class 1 Reactor Coolant Pump	VT-3	4 RCP / 1 support each	One Pump	1 RCP / 1 support	Each Inspection Interval	0	1 RCP / 1 support	0	ISI-0446-C
		Class 1 Valves			Note: Schedule the F1.40X exam with the corresponding system F1.10X exams.						

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.41A	CVCS	VT-3	1	100%	1	Each Inspection Interval	1	0	0	ISI-0026-C
	F1.41D	CVCS	VT-3	5	100%	5	Each Inspection Interval	1	2	2	ISI-0026-C
	F1.41D	RCS	VT-3	3	100%	3	Each Inspection Interval	1	1	1	ISI-0364-C
	Class 2 Equipment										
	F1.42B	Class 2 Steam Generator	VT-3	4 SGs / 1 support each	1 SG	1 SG support	Each Inspection Interval	1 SG support	0	0	ISI-2660-C
	F1.42B	Class 2 RHR Heat Exchanger	VT-3	2 RHRHX / 1 support each	1 RHRHX	1 RHRHX support	Each Inspection Interval	0	1 RHRHX support	0	CHM-2662-C
	F1.42B	Class 2 CSS Heat Exchanger	VT-3	2 CSHX / 1 support each	1 CSHX	1 CSHX support	Each Inspection Interval	0	0	1 CSHX support	ISI-0371-C
	F1.42B	Class 2 Seal Water Heat Exchanger	VT-3	Seal Water Heat Exch / 1 support	All	Seal Water Heat Exch support	Each Inspection Interval	0	Seal Water Heat Exch support	0	ISI-0484-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.42B	Class 2 Seal Water Filter	VT-3	Seal Water Filter / 1 support	All	Seal Water Filter support	Each Inspection Interval	Seal Water Filter support	0	0	ISI-0487-C
	F1.42B	Class 2 Seal Water Injection Filter	VT-3	2 Seal Water Injection Filters / 1 support	All	1 Seal Water Injection Filter support	Each Inspection Interval	1 Seal Water Injection Filter support	0	0	ISI-0486-C
	F1.42B	Class 2 Boron Injection Tank (BIT)	VT-3	BIT / 1 support	All	BIT support	Each Inspection Interval	0	BIT support	0	ISI-0053-C
	F1.42B	Class 2 RHR Pump	VT-3	2 RHRP / 1 support each	1 Pump	1 RHRP support	Each Inspection Interval	0	0	1 RHRP support	ISI-0117-C
	F1.42B	Class 2 Centrifugal Charging Pump	VT-3	2 CCP / 1 support each	1 Pump	1 CCP support	Each Inspection Interval	1 CCP support	0	0	ISI-0118-C
	F1.42B	Class 2 Safety Injection Pump	VT-3	2 SIP / 1 support each	1 Pump	1 SIP support	Each Inspection Interval	0	1 SIP support	0	ISI-0120-C
	F1.42B	Class 2 Containment Spray Pump	VT-3	2 CSP / 1 support each	1 Pump	1 CSP support	Each Inspection Interval	0	0	1 CSP support	ISI-0483-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER	
	F1.42B	Class 2 Reciprocating Charging Pump	VT-3	1 PDP / 1 support	1 Pump (pump abandoned)	None	Each Inspection Interval	N/A	N/A	N/A	ISI-0119-C	
	Class 2 Valves											
			Note: Schedule the F1.40X exam with the corresponding system F1.20X exams.									
	F1.42A	CSS	VT-3	2	100%	2	Each Inspection Interval	1	0	1	ISI-0423-C	
	F1.42C	CSS	VT-3	1	100%	1	Each Inspection Interval	0	1	0	ISI-0423-C	
	F1.42D	CVCS	VT-3	3	100%	3	Each Inspection Interval	1	1	1	ISI-0424-C	
	F1.42D	FWS	VT-3	2	100%	2	Each Inspection Interval	0	1	1	ISI-0062-C	
	F1.42D	SIS	VT-3	2	100%	2	Each Inspection Interval	1	0	1	ISI-0440-C	
	Class 3 Equipment											

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.43B	Class 3 Motor Driven Auxiliary Feedwater Pump (MDAFP)	VT-3	2 MDAFWP / 1 support each	1 Pump	1 MDAFWP support	Each Inspection Interval	0	0	1 MDAFWP support	ISI-0492-C
	F1.43B	Class 3 Turbine Driven Auxiliary Feedwater Pump (TDAFP)	VT-3	1 TDAFWP / 1 support each	1 Pump	1 TDAFWP support	Each Inspection Interval	0	0	1 TDAFWP support	ISI-0493-C
	F1.43B	Class 3 Component Cooling Surge Tank (CCST)	VT-3	CSST / 1 support	All	CCST support	Each Inspection Interval	0	CCST support	0	ISI-0496-C
	F1.43B	Class 3 CCS Heat Exchanger (CCHX)	VT-3	3 CCHX / 1 support each	1 CCHX	1 CCHX support	Each Inspection Interval	0	1 CCHX support	0	ISI-0494-C
	F1.43B	Class 3 CCS Water Pumps (CCSWP)	VT-3	5 CCSWP / 1 support each	1 CCSWP	1 CCSWP support	Each Inspection Interval	0	1 CCSWP support	0	ISI-0495-C
	F1.43B	Class 3 Nonregenerative Letdown Heat Exchanger (NRLHX)	VT-3	1 NRLHX / 1 support	All	NRLHX support	Each Inspection Interval	0	NRLHX support	0	ISI-0497-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.43B	Class 3 RHR Heat Exchanger Secondary Side (RHRHSHX)	VT-3	3 RHRHSHX / 1 support each	1 RHRHSHX	1 RHRHSHX support	Each Inspection Interval	0	0	1 RHRHSHX support	CHM-2662-C
	F1.43B	Class 3 Containment Spray Heat Exchanger (CSHX)	VT-3	2 CSHX / 1 support each	1 CSHX	1 CSHX support	Each Inspection Interval	0	0	1 CSHX support	ISI-0371-C
	F1.43B	Class 3 ERCW Pump (ERCWP)	VT-3	8 ERCWP / 1 support each	1 ERCWP	1 ERCWP support	Each Inspection Interval	0	0	1 ERCWP support	ISI-0488-C
	F1.43B	Class 3 ERCW Screen Wash Pump (ERCWSWP)	VT-3	4 ERCWSWP / 1 support each	1 ERCWSWP	1 ERCWSWP support	Each Inspection Interval	0	1 ERCWSWP support	0	ISI-0490-C
	F1.43B	Class 3 ERCW Strainer (ERCWS)	VT-3	4 ERCWS / 1 support each	1 ERCWS	1 ERCWS support	Each Inspection Interval	1 ERCWS support	0	0	ISI-0489-C
	F1.43B	Class 3 FPCC Spent Fuel Pit Heat Exchanger (FPCCHX)	VT-3	2 FPCCHX / 1 support each	1 FPCCHX	1 FPCCHX support	Each Inspection Interval	1 FPCCHX support	0	0	ISI-0372-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

EXAM CAT.	ITEM NO.	DESCRIPTION	EXAM METHOD	NUMBER OF COMPONENTS IN ITEM NO.	% TO BE EXAMINED DURING INTERVAL	NUMBER TO BE EXAMINED IN THE INTERVAL	FREQUENCY OF EXAMINATION OR DEFERRAL OF INSPECTION TO END OF INTERVAL	NUMBER TO BE EXAMINED IN THE FIRST PERIOD	NUMBER TO BE EXAMINED IN THE SECOND PERIOD	NUMBER TO BE EXAMINED IN THE THIRD PERIOD	ISI DRAWING NUMBER
	F1.43B	Class 3 FPCC Spent Fuel Pit Pumps (FPCCP)	VT-3	3 FPCCP / 1 support each	1 FPCCP	1 FPCCP support	Each Inspection Interval	0	1 FPCCP support	0	ISI-0485-C
	F1.43B	Class 3 HPFP Pumps (HPFP)	VT-3	4 HPFP / 1 support each	1 HPFP	1 HPFP support	Each Inspection Interval	1 HPFP support	0	0	ISI-0501-C
	F1.43B	Class 3 HPFP Strainers (HPFPS)	VT-3	2 HPFPS / 1 support each	1 HPFPS	1 HPFPS support	Each Inspection Interval	1 HPFPS support	0	0	ISI-0502-C
	F1.43B	Class 3 Seal Water Heat Exchanger (SWHX)	VT-3	SWHX / 1 support	All	SWHX support	Each Inspection Interval	0	SWHX support	0	ISI-0484-C
	Class 3 Valves Note: Schedule the F1.40X exam with the corresponding system F1.30X exams.										
	F1.43A	AFWS	VT-3	1	100%	1	Each Inspection Interval	1	0	0	ISI-0111-C
	F1.43D	AFWS	VT-3	3	100%	3	Each Inspection Interval	0	2	1	ISI-0111-C

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ISI Planning/Scheduling Table for ASME Class 1, 2, and 3 Component Supports

Note 1: In accordance with Table IWF-2500-1, Item Numbers have been categorized to identify support types by component support function as follows (the “Y” in F1.Y0X is 1, 2, or 3 as appropriate for the associated piping classification):

- Item No. F1.Y0A - one directional restraints (Function A)
- Item No. F1.Y0B - multidirectional restraints (Function B)
- Item No. F1.Y0C - variable supports such as: springs and constant force (Function C)
- Item No. F1.Y0D - snubbers (Function D)

Note 2: In accordance with Table IWF-2500-1, Item Numbers have been categorized to identify support types by component support function as follows (the “Y” in F1.4YX is 1, 2, or 3 as appropriate for the associated piping classification):

- Item No. F1.4YA - one directional restraints (Function A)
- Item No. F1.4YB - multidirectional restraints (Function B)
- Item No. F1.4YC - variable supports such as: springs and constant force (Function C)
- Item No. F1.4YD - snubbers (Function D)

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Class 1 (B-M-2) and 2 (C-G) Valve Listings

Notes:

1. Examination is limited to at least one valve in each group of valves per interval.
2. Examination of valve pressure retaining bolting (B-G-2) should also be performed during the B-M-2 exam.

CLASS 1 EXAMINATION CATEGORY B-M-2 VALVE LISTING									
SYS	VALVE	ISI DRAWING	SIZE (in.)	TYPE	FUNCTION	GROUP	VENDOR	VENDOR DRAWING	
SIS	FCV-63-067	CHM-2758-C-10	10	GATE	ISOLATION	1	WESTINGHOUSE	115E013	
SIS	FCV-63-080	CHM-2758-C-09	10	GATE	ISOLATION	1	WESTINGHOUSE	115E013	
SIS	FCV-63-98	CHM-2758-C-08	10	GATE	ISOLATION	1	WESTINGHOUSE	115E013	
SIS	FCV-63-118	CHM-2758-C-07	10	GATE	ISOLATION	1	WESTINGHOUSE	115E013	
SIS	63-558	CHM-2758-C-10	6	CKV	PSIV	2	WESTINGHOUSE	934D185	
SIS	63-559	CHM-2758-C-08	6	CKV	PSIV	2	WESTINGHOUSE	934D185	
SIS	63-632	CHM-2758-C-08	6	CKV	PSIV	2	WESTINGHOUSE	934D185	
SIS	63-633	CHM-2758-C-07	6	CKV	PSIV	2	WESTINGHOUSE	934D185	
SIS	63-634	CHM-2758-C-09	6	CKV	PSIV	2	WESTINGHOUSE	934D185	
SIS	63-635	CHM-2758-C-10	6	CKV	PSIV	2	WESTINGHOUSE	934D185	
SIS	63-560	CHM-2758-C-07	10	CKV	PSIV	3	WESTINGHOUSE	934D187	
SIS	63-561	CHM-2758-C-08	10	CKV	PSIV	3	WESTINGHOUSE	934D187	
SIS	63-562	CHM-2758-C-09	10	CKV	PSIV	3	WESTINGHOUSE	934D187	
SIS	63-563	CHM-2758-C-10	10	CKV	PSIV	3	WESTINGHOUSE	934D187	
SIS	63-622	CHM-2758-C-07	10	CKV	PSIV	3	WESTINGHOUSE	934D187	
SIS	63-623	CHM-2758-C-08	10	CKV	PSIV	3	WESTINGHOUSE	934D187	

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Class 1 (B-M-2) and 2 (C-G) Valve Listings

CLASS 1 EXAMINATION CATEGORY B-M-2 VALVE LISTING									
SYS	VALVE	ISI DRAWING	SIZE (in.)	TYPE	FUNCTION	GROUP	VENDOR	VENDOR DRAWING	
SIS	63-624	CHM-2758-C-09	10	CKV	PSIV	3	WESTINGHOUSE	934D187	
SIS	63-625	CHM-2758-C-10	10	CKV	PSIV	3	WESTINGHOUSE	934D187	
RHR	63-640	CHM-2636-C-07	8	CKV	PSIV	4	WESTINGHOUSE	934D186	
RHR	63-643	CHM-2636-C-08	8	CKV	PSIV	4	WESTINGHOUSE	934D186	
RHR	63-641	CHM-2636-C-07	6	CKV	PSIV	5	WESTINGHOUSE	934D185	
RHR	63-644	CHM-2636-C-08	6	CKV	PSIV	5	WESTINGHOUSE	934D185	
RCS	68-563	ISI-0365-C-01	6	RELIEF	RELIEF VALVE	6	CROSBY	DSCA56964	
RCS	68-564	ISI-0365-C-01	6	RELIEF	RELIEF VALVE	6	CROSBY	DSCA56964	
RCS	68-565	ISI-0365-C-01	6	RELIEF	RELIEF VALVE	6	CROSBY	DSCA56964	
RHR	FCV-74-01	CHM-2636-C-01	14	GATE	PSIV	7	WESTINGHOUSE	115E622	
RHR	FCV-74-02	CHM-2636-C-01	14	GATE	PSIV	7	WESTINGHOUSE	115E622	
RHR	FCV-74-08	CHM-2636-C-01	10	GATE	PSIV	8	WESTINGHOUSE	1167E79	
RHR	FCV-74-09	CHM-2636-C-01	10	GATE	PSIV	8	WESTINGHOUSE	1167E79	

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Class 1 (B-M-2) and 2 (C-G) Valve Listings

CLASS 2 EXAMINATION CATEGORY C-G VALVE LISTING										
SYS	CLASS	VALVE NUMBER	ISI DRAWING	WELD NUMBER	ISI VALVE DRAWING	SIZE	TYPE	MANUFACTURER	VENDOR DRAWING	
MSS	2	1-512	CHM-2669-C-04	MSVS-512	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-513	CHM-2669-C-04	MSVS-513	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-514	CHM-2669-C-04	MSVS-514	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-515	CHM-2669-C-04	MSVS-515	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-516	CHM-2669-C-04	MSVS-516	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-517	CHM-2669-C-03	MSVS-517	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-518	CHM-2669-C-03	MSVS-518	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-519	CHM-2669-C-03	MSVS-519	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-520	CHM-2669-C-03	MSVS-520	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-521	CHM-2669-C-03	MSVS-521	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-522	CHM-2669-C-01	MSVS-522	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-523	CHM-2669-C-01	MSVS-523	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-524	CHM-2669-C-01	MSVS-524	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-525	CHM-2669-C-01	MSVS-525	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-526	CHM-2669-C-01	MSVS-526	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-527	CHM-2669-C-02	MSVS-527	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-528	CHM-2669-C-02	MSVS-528	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-529	CHM-2669-C-02	MSVS-529	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-530	CHM-2669-C-02	MSVS-530	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	
MSS	2	1-531	CHM-2669-C-02	MSVS-531	ISI-0081-C-01	6	SRV	DRESSER	3NC-040	

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Class 1 (B-M-2) and 2 (C-G) Valve Listings

CLASS 2 EXAMINATION CATEGORY C-G VALVE LISTING										
SYS	CLASS	VALVE NUMBER	ISI DRAWING	WELD NUMBER	ISI VALVE DRAWING	SIZE	TYPE	MANUFACTURER	VENDOR DRAWING	
FWS	2	3-638	CHM-2671-C-06	FWVS-638	ISI-0082-C-01	6	CKV	BORG WARNER	455KAB1-001	
FWS	2	3-644	CHM-2671-C-06	FWVS-644	ISI-0082-C-01	6	CKV	BORG WARNER	455KAB1-001	
FWS	2	3-645	CHM-2671-C-06	FWVS-645	ISI-0082-C-01	6	CKV	BORG WARNER	455KAB1-001	
FWS	2	3-652	CHM-2671-C-05	FWVS-652	ISI-0082-C-01	6	CKV	BORG WARNER	455KAB1-001	
FWS	2	3-655	CHM-2671-C-05	FWVS-655	ISI-0082-C-01	6	CKV	BORG WARNER	455KAB1-001	
FWS	2	3-656	CHM-2671-C-05	FWVS-656	ISI-0082-C-01	6	CKV	BORG WARNER	455KAB1-001	
FWS	2	3-669	CHM-2671-C-07	FWVS-669	ISI-0082-C-01	6	CKV	BORG WARNER	455KAB1-001	
FWS	2	3-670	CHM-2671-C-07	FWVS-670	ISI-0082-C-01	6	CKV	BORG WARNER	455KAB1-001	
FWS	2	3-678	CHM-2671-C-08	FWVS-678	ISI-0082-C-01	6	CKV	BORG WARNER	455KAB1-001	
FWS	2	3-679	CHM-2671-C-08	FWVS-679	ISI-0082-C-01	6	CKV	BORG WARNER	455KAB1-001	

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Class 1 (B-M-2) and 2 (C-G) Valve Listings**

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ISI Drawing List

List of Applicable Flow Diagrams

<u>Drawing Series</u>	<u>System Description</u>
1-47W801	Main & Reheat Steam & Steam Generator Blowdown (TVA Class B)
1-47W803	Feedwater & Auxiliary Feedwater (TVA Class B & C)
1-47W809	Chemical & Volume Control (TVA Class A & B)
1-47W810	Residual Heat Removal (TVA Class A & B)
1-47W811	Safety Injection (TVA Class A & B)
1-47W812	Containment Spray (TVA Class B)
1-47W813	Reactor Coolant (TVA Class A)
1-47W814	Ice Condenser (exempt)
1-47W819	Primary Water (exempt)
1-47W830	Waste Disposal (exempt)
1-47W832	Raw Water - Yard (TVA Class C)
1-47W845	Essential Raw Cooling Water (TVA Class B & C)
1-47W850	Fire Protection & Raw Service Water (TVA Class C)
1-47W851	Floor & Equipment Drains (exempt)
1-47W855	Fuel Pool Cleaning & Cooling (TVA Class C)
1-47W856	Demineralized Water & Cask Decon (exempt)
1-47W859	Component Cooling (TVA Class B & C)
1-47W862	Steam Generator Layup Water Treatment (exempt)
1-47W865	Heating & Air Conditioning (exempt)

ISI Drawings List

<u>Drawing Series</u>	<u>System Description</u>
CHM-2547-C	Reactor Coolant Main Loop Piping Weld Locations
CHM-2549-C	Reactor Vessel Closure
CHM-2570-C	Pressurizer
CHM-2636-C	Residual Heat Removal Piping Weld Locations
CHM-2660-C	Steam Generator
CHM-2662-C	Residual Heat Removal Heat Exchanger Channel Welds
CHM-2669-C	Mainsteam Piping Weld Locations
CHM-2671-C	Feedwater Piping Weld Locations
CHM-2684-C	Upperhead Penetrations
CHM-2685-C	Auxiliary Head Adapter
CHM-2758-C	Safety Injection System Piping
ISI-0005-C	Chemical and Volume Control Piping Weld Locations

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ISI Drawing List

<u>Drawing Series</u>	<u>System Description</u>
ISI-0011-C	Mainsteam Piping Support Locations
ISI-0012-C	Control Rod Drive Housing
ISI-0020-C	Residual Heat Removal Piping Support Locations
ISI-0021-C	Safety Injection Piping Support Locations
ISI-0026-C	Chemical and Volume Control Piping Support Locations
ISI-0048-C	Reactor Coolant Pump Case Weld Locations
ISI-0050-C	CVCS Seal Water Injection Piping Weld Locations
ISI-0053-C	Boron Injection Tank Weld and Support Locations
ISI-0062-C	Feedwater Piping Support Locations
ISI-0063-C	CVCS Seal Water Injection Piping Support Locations
ISI-0081-C	Mainsteam Relief Valve
ISI-0082-C	Feedwater Check Valve
ISI-0107-C	Residual Heat Removal Piping Support Locations (HPSI portion)
ISI-0110-C	Fuel Pool Cooling and Cleaning Piping Support Locations
ISI-0111-C	Auxiliary Feedwater Support Locations
ISI-0112-C	Essential Raw Cooling Water Piping Support Locations
ISI-0117-C	Residual Heat Removal Pump Supports
ISI-0118-C	Centrifugal Charging Pump Supports
ISI-0119-C	Reciprocating Charging Pump Supports
ISI-0120-C	Safety Injection Pump Supports
ISI-0124-C	Pressurizer Surge Line Piping Supports
ISI-0252-C	Component Cooling Piping Support Locations
ISI-0364-C	Reactor Coolant Piping Weld Locations
ISI-0365-C	Reactor Coolant Piping Support Locations
ISI-0371-C	Containment Spray Heat Exchanger Support Details
ISI-0372-C	Spent Fuel Pit Heat Exchanger Support Locations
ISI-0375-C	High Pressure Safety Injection Piping Weld Locations
ISI-0400-C	Containment Spray Piping Weld Locations
ISI-0421-C	High Pressure Safety Injection Excluded Piping Weld Locations
ISI-0423-C	Containment Spray Piping Support Locations
ISI-0424-C	Chemical and Volume Control Piping Support Locations (HPSI portion)
ISI-0427-C	Reactor Vessel
ISI-0438-C	Reactor Coolant Main Loop Piping Support Locations
ISI-0439-C	Piping Support Examination Boundaries
ISI-0440-C	Safety Injection Piping Support Locations (HPSI portion)
ISI-0446-C	Reactor Coolant Pump Supports
ISI-0447-C	Reactor Coolant Pump Main Flange Bolt Circle

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ISI Drawing List

<u>Drawing Series</u>	<u>System Description</u>
ISI-0483-C	Containment Spray Pump Support Locations
ISI-0484-C	Seal Water Injection Heat Exchanger Support Locations
ISI-0485-C	Spent Fuel Pool Pumps Support Locations
ISI-0486-C	Seal Water Injection Filter Support Locations
ISI-0487-C	Seal Water Filter Support Locations
ISI-0488-C	ERCW Pumps Support Locations
ISI-0489-C	ERCW Strainer Support Locations
ISI-0490-C	ERCW Screen Wash Pumps Support Locations
ISI-0492-C	Motor Driven Auxiliary Feedwater Pumps Support Locations
ISI-0493-C	Turbine Driven Auxiliary Feedwater Pump Support Locations
ISI-0494-C	Component Cooling Heat Exchanger Support Locations
ISI-0495-C	Component Cooling Water Pumps Support Locations
ISI-0496-C	Component Cooling Surge Tank Support Locations
ISI-0497-C	Non-Regenerative Letdown Heat Exchanger Support Locations
ISI-0500-C	High Pressure Fire Protection Piping Support Locations
ISI-0501-C	HPFP Pump Support Locations
ISI-0502-C	HPFP Strainer Support Locations
ISI-0508-C	Steam Generator Blowdown Piping Weld Locations

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Schedule of Successive Examinations

COMPONENT IDENTIFIER	PROGRAM REFERENCE SECTION	EXAM METHOD	EXAM CAT	CYCLE FLAW INITIALLY DETECTED	FIRST SUCCESSIVE PERIOD	SECOND SUCCESSIVE PERIOD	THIRD SUCCESSIVE PERIOD	ISI DRAWING
1-62A-038	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	ISI-0063-C-02
1-01A-304	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	ISI-0011-C-01
1-03A-456	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	ISI-0062-C-07
1-03A-412	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	ISI-0062-C-06
1-03A-403	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	ISI-0062-C-06
1-03A-367	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	ISI-0062-C-05
1-03A-457	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	ISI-0062-C-07
1-03A-409	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	ISI-0062-C-06
03B-1AFW-R221	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	ISI-0111-C-04
SGH-1-1	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	CHM-2660-C-03
SGH-1-2	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	CHM-2660-C-03
SGH-1-3	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	CHM-2660-C-03
SGH-1-4	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	CHM-2660-C-03
SGH-2-1	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	CHM-2660-C-03
SGH-2-2	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	CHM-2660-C-03
SGH-2-3	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	CHM-2660-C-03
SGH-2-4	7.2.D.6	VT-3	F-A	N/A	CYCLE 8	N/A	N/A	CHM-2660-C-03

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**Appendix H
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Notification of Additional Sample Results Form

TO: Transmittal Number:

FROM:

Plant/Unit System

Component ID

Code Category Exam Method(s)

Initial Sample NOI Number

1st Additional Sample NOI Number

2nd Additional Sample NOI Number

Drawing Number Prepared By

Evaluation/Recommendation
(attach additional information if needed)

Additional Components to be Examined

Evaluation/Recommendation Prepared By:

Coordinated with ISI/NDE Representative:

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Requests for Relief**

RFI No.	Component RFI Requested	RFI Description	Status
PDI-2	RPV pressure retaining nozzle-to-vessel welds	Reduce the examination volume to 1/2" beyond the widest edge of the deposited weld metal.	Submitted in second ten-year interval update.
PDI-4	RPV shell-to-flange weld	Use ASME Section XI Appendix VIII for examination of the RPV shell-to-flange weld in lieu of Appendix I.	Submitted in second ten-year interval update.
SNBR-1	Class 1, 2, and 3 snubbers	Utilize existing TRM program, TI-203, for snubber preservice/in-service examination and testing in lieu of IWF-5000.	Submitted in second ten-year interval update.

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Augmented Examinations

The following augmented examinations have been requested to be included in the ISI Program by the responsible organization listed. A summary of the augmented examinations are listed below and a detailed description follows this page.

1.0 Reactor Coolant Pump Flywheel

Examination Requirements and Schedule:

- A. Perform an in-place ultrasonic examination of the areas of higher stress concentration at the bore and keyway at approximately 3-year intervals during the refueling or maintenance outages.
- B. Perform a surface examination of all exposed surfaces and complete ultrasonic examination at approximately 10-year intervals during the plant shutdown coinciding with the ISI schedule as required by Section XI.

Responsible Organization: Component Engineering

The augmented examination requirements of the reactor coolant pump flywheel are included in Regulatory Position C.4.b of Regulatory Guide 1.14, Revision 1; (1) an in-place ultrasonic examination of the areas of higher stress concentration at the bore and keyway at approximately 3-year intervals during the refueling or maintenance shutdown coinciding with the ISI schedule as required by Section XI of the ASME Code, and (2) a surface examination of all exposed surfaces (exposed areas are considered as those areas accessible for examination without having to remove the flywheel from the housing) and complete ultrasonic examination at approximately 10-year intervals during the plant shutdown coinciding with the ISI schedule as required by Section XI of the ASME Code. This examination is performed in accordance with WBN Technical Surveillance Requirement 3.4.5.1.

This augmented examination does not require a special report unless the examination reveals a flaw. The acceptance criteria should conform to the recommendations of Regulatory Position C.2.F in Regulatory Guide 1.14. If the examination and evaluation indicate an increase in flaw size or growth rate greater than predicted for the service life of the flywheel, the results of the examination and evaluation should be submitted to the NRC for evaluation. Refer to Regulatory Guide 1.14 for information to be included. The examination results shall be included in the augmented section of the ISI Summary Report.

The flywheel consists of 2 plates, approximately 5 inches and 8 inches thick, bolted together. Each plate is fabricated from vacuum degassed A-533, GR. B, Class 1, steel.

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Augmented Examinations

1.0 Reactor Coolant Pump Flywheel (continued)

The 3-year in place RCP examinations shall be recorded using the RCP motor serial number and exam ID:

RCP Motor S/N - BOREKEY (i.e., 4S-81P352 - BOREKEY)

For the 10-year exam, the IDs shall be:

RCP Motor S/N - SUR (i.e., 4S-81P352 - SUR)

RCP Motor S/N - VOL (i.e., 4S-81P352 - VOL)

2.0 RCCA Guide Tube Support Pins

Examination Requirement and Schedule: replace the Guide Pins in the Cycle 8 refueling outage.

Responsible Organization: Mechanical/Nuclear Engineering

In accordance with Westinghouse Infogram IG95-12A and WCAP 15271 Revision 0, several utilities have reported the existence of indications in the replacement guide tube support pins. The operation time of the reporting plants varies, but based on operating life at other utilities including Sequoyah, indications potentially could appear in the heats of material used at WBN from 58,900 hours to 97,000 operating hours. Current estimates show WBN accumulating 58,000 hours of full power operation by the Cycle 5 refueling outage (Fall, 2003) and 94,000 hours by the Cycle 8 refueling outage (Spring, 2008).

The present plan is to replace the guide pins during the cycle 8 refueling outage. This work is coordinated by the Refuel Floor Group.

3.0 Examination of Piping Welds with Multiple Weld Repairs

Examination Requirement and Schedule: perform ultrasonic examination of welds with multiple weld repairs as scheduled each refueling outage.

Responsible Organization: Mechanical/Nuclear Engineering

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Augmented Examinations

**3.0 Examination of Piping Welds with Multiple Weld Repairs
(continued)**

During the 7th refueling outage inservice inspection of Sequoyah Nuclear Plant's Unit 2, an indication exceeding the acceptance standards of ASME Section XI was discovered in a safety injection system weld. Problem evaluation report (PER) SQ961154 was written and the cause of the indication was attributed to multiple weld repairs performed over the life of the weld. As part of the corrective active, WBN reviewed the weld monitoring program for welds with 4 or more weld repairs. These welds are listed in the table below and are to be examined under this augmented requirement.

Each of these welds will be ultrasonically examined and evaluated per NDE procedure N-UT-64 during the first refueling outage and during following outages at the frequency provided in the table below. The results are to be submitted to the Materials Section for evaluation. Materials will evaluate results and make additional recommendations as required. The examination results will be included in the augmented section of the Site Final Report.

				Examine Weld in Refueling Outage						
ISI Weld Number	ISI Drawing Number	Pipe Dia.	Wall Thick.	8	9	10	11	12	13	14
CVCF-D036-10H	ISI-0005-C-01	3"	0.438"	X			X			X
SIF-D076-04	ISI-0421-C-05	8"	0.322"	X			X			X
SIF-D078-03	ISI-0375-C-13	24"	0.375"			X			X	
SIF-D079-01	ISI-0375-C-12	24"	0.375"		X			X		
SIF-D079-11	ISI-0375-C-12	16"	0.375"		X			X		
SIF-D079-11A	ISI-0375-C-12	16"	0.375"			X			X	
SIF-D087-11	CHM-2758-C-05	8"	0.906"	X		X	X		X	X
SIF-D087-12	CHM-2758-C-05	8"	0.906"	X	X		X	X		X
SIF-D092-15	CHM-2758-C-10	6"	0.719"		X	X		X	X	

4.0 Examination of Alloy 600 Welds

Examination Requirement and Schedule:

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Augmented Examinations

4.0 Examination of Alloy 600 Welds (continued)

A. Reactor Pressure Vessel (RPV) Head

1. Perform a bare metal visual examination of 100% of the RPV head surface (including 360° around each RPV head penetration nozzle) beginning in the cycle 5 or 6 refueling outage and thereafter at least every third refueling outage or every 5 years, whichever occurs first.
2. Perform either 2a, 2b, or 2c at least once before February 10, 2008 and thereafter at least every four refueling outages or every seven years, whichever occurs first.
 - a. Perform ultrasonic testing of each RPV head penetration nozzle (i.e., nozzle base material) as described in the revised NRC Order EA-03-009 Section IV.C.(5)(b)(i), OR
 - b. Perform eddy current testing or dye penetrant testing of the entire wetted surface of the J-groove weld and RPV head penetration nozzle base material as described in the revised NRC Order EA-03-009 Section IV.C.(5)(b)(ii), OR
 - c. Perform a combination of a and b to cover equivalent volumes, surfaces and leak paths of the RPV head penetration nozzle base material and J-groove weld as described in the revised NRC Order EA-03-009 Section IV.C.(5)(b)(iii).

B. RPV Bottom Head

1. Perform a visual examination (VT-3 resolution as a minimum) under insulation of the RPV bottom head penetrations and surrounding area each refueling outage.

C. Pressurizer

1. Perform a visual examination of the nozzle safe end welds each refueling outage beginning in the cycle 6 refueling outage.

Responsible Organization: Mechanical/Nuclear Engineering

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Augmented Examinations

4.0 Examination of Alloy 600 Welds (continued)

Boric acid leaks on and around the reactor pressure vessel (RPV) and alloy 600 nozzle cracking issues within the PWR nuclear industry has lead to both NRC mandated examinations and the need to evaluate performance of additional examinations beyond the ASME Section XI requirements on the RPV head, RPV bottom head and pressurizer nozzles. The requirements for Alloy 600 issues are maintained in Business Practice BP-257, "Integrated Material Issues Management Plan." This augmented examination section briefly describes those examinations and inspections that should be coordinated and scheduled with the standard ISI examinations performed by Inspection Services Organizations each refueling outage.

A. RPV Head

In response to leaks and nozzle cracking in PWR plants, the NRC issued an Order on February 11, 2003 entitled, "Issuance of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors." The Order requires specific inspection of the RPV head and associated penetration nozzles. A revised Order was issued February 20, 2004 which addresses revisions to bare metal visual inspection, penetration nozzle inspection coverage, flexibility in combination of non-destructive examination methods, flaw evaluation, and requirements for plants which have replaced their RPV head. WBN is classified in the "Low" susceptibility category to PWSCC-related degradation in accordance with the Order. The following examinations will be performed to meet the Order's inspection requirements defined in Section C.3:

1. A bare metal visual examination of 100% of the RPV head surface (including 360⁰ around each RPV head penetration nozzle) was performed beginning in the cycle 5 refueling outage. Thereafter, the inspection shall be performed at least every third refueling outage or every five years, whichever occurs first. This inspection will be performed in accordance with NDE procedure N-VT-17, "Visual Examination for Leakage of PWR Reactor Head Penetrations," by a VT-2 certified inspector. Any questionable indications or evidence of boron will be inspected by a Metallurgical Engineer.
2. Inspection of the head penetration nozzles shall be performed as described in either 2a, 2b or 2c. Either of these inspections must be completed at least once before February 10, 2008 and thereafter at least every four refueling outages or every seven years, whichever occurs first. The inspection requirements are either:

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Augmented Examinations

4.0 Examination of Alloy 600 Welds (continued)

- a. Perform ultrasonic testing of each RPV head penetration nozzle (i.e., nozzle base material) as described in the revised NRC Order EA-03-009 Section IV.C.(5)(b)(i), OR
- b. Perform eddy current testing or dye penetrant testing of the entire wetted surface of the J-groove weld and RPV head penetration nozzle base material as described in the revised NRC Order EA-03-009 Section IV.C.(5)(b)(ii), OR
- c. Perform a combination of a and b to cover equivalent volumes, surfaces and leak paths of the RPV head penetration nozzle base material and J-groove weld as described in the revised NRC Order EA-03-009 Section IV.C.(5)(b)(iii).

The inspection results shall be forwarded to Site Mechanical/Nuclear Engineering. For each inspection required above, Site Mechanical/Nuclear Engineering shall submit a report to Site Licensing detailing the inspection results within 30 days after returning the plant to operation. In accordance with Section E of the Order, Site Licensing shall submit the report to the NRC within 60 days after returning the plant to operation.

B. RPV Bottom Head

A visual examination shall be performed on the bottom head penetrations and surrounding area each refueling outage. The insulation panels will be removed as required to perform a visual examination in accordance with NDE procedure N-VT-17, "Visual Examination for Leakage of PWR Reactor Head Penetrations." WBN shall notify the NRC in writing of any changes to this inspection requirement as required in the NRC Letter "Response to NRC Bulletin 2003-02, "Leakage from Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity" (TAC No MC0576.)"

The inspection results shall be forwarded to Site Mechanical/Nuclear Engineering. The results shall be included in the augmented section of the ISI Summary Report.

C. Pressurizer

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Augmented Examinations

4.0 Examination of Alloy 600 Welds (continued)

The pressurizer spray, safety, relief and surge nozzles are considered highly susceptible due to the operating temperature and should be examined to ensure no leakage. An augmented visual examination shall be performed on the nozzle to safe-end welds each refueling outage. The examination will be performed in accordance with NDE procedure N-VT-19, "Visual Inspection of Alloy 600/82/182 Pressure Boundary Components." The inspections shall begin in the cycle 6 refueling outage. It is permissible to substitute a PDI qualified ultrasonic examination (ASME Section XI, Appendix VIII) of the subject weld in lieu of the visual examination provided greater than 90% coverage can be obtained.

The inspection results shall be forwarded to Site Mechanical/Nuclear Engineering. The results shall be included in the augmented section of the ISI Summary Report.

5.0 Examination of Clad Areas in Reactor Vessel Inlet Nozzles and Accumulator Tank # 3

Examination Requirements and Schedule:

A. Reactor Pressure Vessel

1. Perform a visual examination on the ground clad areas in Loop 2 and 3 inlet nozzles during the 10-year ISI reactor vessel examination.

B. Accumulator Tank #3

1. Perform an ultrasonic examination of clad cracking areas in the bottom head of accumulator tank #3 beginning in the cycle 6 refueling outage and every other refueling outage thereafter.

Responsible Organization: Mechanical/Nuclear Engineering

A. Reactor Vessel Inlet Nozzles

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Augmented Examinations

5.0 Examination of Clad Areas in Reactor Vessel Inlet Nozzles and Accumulator Tank # 3 (continued)

Prior to plant start-up, one area in Loop 2 inlet nozzle and two areas in Loop 3 inlet nozzle had the stainless steel cladding removed to validate flaw depth sizing. After cladding removal and validation of the flaw depth sizing, a metallurgical evaluation recommended the three areas without cladding be left in an unclad condition. A summary of the information concerning this issue is discussed in the July 30, 2003 letter to the NRC (reference T04 030730 825).

During the remote visual portion of the reactor vessel 10-year ISI inspection, specific attention will be given to the unclad areas in the Loops 2 and 3 inlet nozzles for any evidence of wall deterioration. These areas should be specifically noted in the scope of inspection with the contract inspector. The examination results will not require a special report but will be included as part of the reactor vessel 10-year inspection report.

B. Accumulator Tank #3

Flaw indications in the cladding of the safety injection accumulator tank #3 were identified and documented in PER WBP920252 dated November 2, 1992. Attempts to repair the indications were made by removing the cladding containing the indications and replacing it with weld metal. However, excavation to remove the indications and shrinkage stresses from welding continually generated new indications in the sensitized cladding in adjacent areas previously free of indications. After a review of this information as documented in PER 03-0129850-000, mechanical engineering has recommended the areas described below be examined to determine that the vessel wall is not deteriorating as a result of the cladding cracks.

Beginning in the cycle 6 refueling outage and every other refueling outage thereafter, an ultrasonic examination shall be performed from the outside of accumulator tank #3 at the areas of the bottom head described below (reference vendor drawing 1097E08):

All inspection areas are on the orange peel plate section with the 3/4" sample nozzle. Area "a" is accessed outside the tank support ring and remaining areas accessed under the support ring.

AREA	DESCRIPTION
a	2" wide band below the orange peel plate to shell weld

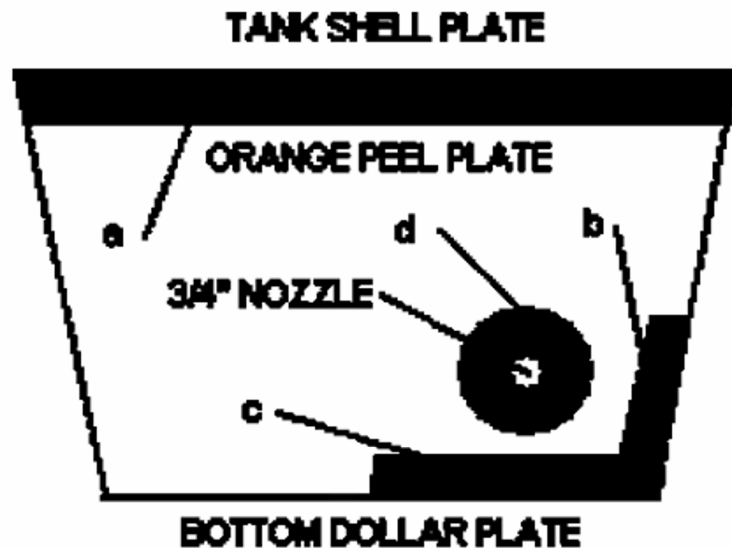
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Augmented Examinations

5.0 Examination of Clad Areas in Reactor Vessel Inlet Nozzles and Accumulator Tank # 3 (continued)

b	2" x 10" area to the left of the vertical orange peel plate weld
c	2" x 15" area above the horizontal orange peel plate to bottom head dollar plate weld
d	6" radius area around the 3/4" sample nozzle in the bottom head



The examination should be performed in accordance with NDE procedure N-UT-24. The results shall be forwarded to mechanical engineering for evaluation. The examination results shall be included in the augmented section of the Site Final Report.

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Source Notes

<u>Source Note</u>	<u>Source Document</u>	<u>Summary</u>
1	NCO 920032003	Commitment to include RCP Flywheel inspection in ISI program
2	WH INFOGRAM 95-12A	Consider/develop plans for long term inspection of Guide Tube Support Pins
3	PER SQ 961154	Safety Injection System Weld Flaw