

REV 0001

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT

2 - SURVEILLANCE INSTRUCTION (SI) 4.6.G
INSERVICE INSPECTION PROGRAM
UNIT 2

PW/2SI46GR1

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OWNER'S STATEMENT

Owner: Tennessee Valley Authority

Address of Corporate Office: Chattanooga Office Complex
1101 Market Street
Chattanooga, TN 37402-2801

Name & Address of Power Plant: Browns Ferry Nuclear Plant
P.O. Box 2000
Decatur, AL 35601

Applicable Nuclear Power Unit: BFN, Unit 2

Commercial Operation Date: March 1, 1975

Construction Permit was issued prior to January 1, 1971.



1.0 INTRODUCTION

1.1 PURPOSE

This Inservice Inspection (ISI) Program is an administrative Surveillance Instruction (SI) employed to obtain data via nondestructive examinations (NDE) of ASME Section XI Code Class 1, 2, and 3 equivalent components that can be used to determine if a flaw is an isolated case or is of a generic nature. It shall serve as TVA's ISI plan and schedule in accordance with the requirements of IWA-1400. The examinations required by this program shall establish acceptance for continued use of components during operation.

This program is organized to comply with the ISI NDE requirements of the 1986 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Division 1, Articles 1000, 2000, 3000, and 6000 in accordance with Title 10 Code of Federal Regulations (CFR) Part 50, 50.55a(g); to implement the Browns Ferry Nuclear Plant (BFN) Technical Specifications, Unit 2, Surveillance Requirement 4.6.G.; and to fulfil the requirements of SSP-6.10, ASME Section XI Inservice Inspection Program.

This ISI 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 by ASME Section XI Programs via lists submitted to the Site Quality Organization (SQO) and to the Inspection Services Organization (ISO). These items are officially documented in scan plans for each refueling outage.

1.2 SCOPE (APPLICABILITY)

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

The ASME Section XI Code Class Boundary Drawings and the ISI Drawings listed in Section 2.5 identify the components and systems to be examined. These drawings are prepared and maintained by ASME Section XI Programs and are issued and controlled through BFN Document Control and Records Management (DCRM).

1.2 SCOPE (APPLICABILITY) (CONT'D)

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 QMP 110.5, NDE Procedures Manual.

Elements of ASME Section XI, Articles 4000, 5000, 6000, and 7000 other than NDE, such as Pump and Valve Inservice Testing, Snubber Inservice Testing, Repairs and Replacements, and System Pressure Tests, are covered by other procedures. See Sections 7.8, 7.9, 7.10, and 7.11.

1.3 FREQUENCY1.3.1 INSPECTION INTERVAL AND INSPECTION PERIODS

The ISI examinations required by ASME Section XI, Division 1, IWA-2432, Inspection Program B shall be performed during this inspection interval (May 24, 1992 to May 24, 2001). The inspection interval duration is nine years since the first interval was extended by one year per IWA-2400(a), 1974 Edition / Summer 1975 Addenda (See IWA-2430(d), 1986 Edition for equivalent rule). The inspection interval shall be separated into three inspection periods of three years each. 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 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 (N-491)-2410(b) and (c) and Table -2410-2, Program B.

<u>Inspection Period</u>	<u>Minimum Examinations Completed, %</u>	<u>Maximum Examinations Completed, %</u>
First (5/92-5/95)	16	34
Second (5/95-5/98)	50	67
Third (5/98-5/01)	100	100

The examinations deferred to the end of the inspection interval shall be completed before the end of the inspection interval. The inspection interval may be extended in accordance with IWA-2430(e) if unit 2 is out of service continuously for six months or more.



2.0 REFERENCES

2.1 Technical Specifications

- 2.1.1 BFN Unit 2 Technical Specifications, Surveillance Requirement 3/4.6.G, Structural Integrity.

2.2 Final Safety Analysis Report

- 2.2.1 Browns Ferry Nuclear Plant Updated Final Safety Analysis Report, Volume 2, Section 4.12.

2.3 NRC Documents

- 2.3.1 10 CFR Part 50, 50.55a(g)
- 2.3.2 10 CFR Part 50.2
- 2.3.3 Regulatory Guide 1.26
- 2.3.4 Regulatory Guide 1.147
- 2.3.5 IE Bulletin 80-13, Core Spray Spargers
- 2.3.6 Generic Letter 88-01, NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping
- 2.3.7 NUREG-0313, Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping, Final Report.
- 2.3.7 NUREG-0619, BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking.

2.4 Plant Procedures & Instructions

2.4.1 Site Standard Practices

- 2.4.1.1 SSP-3.1, Quality Assurance Program
- 2.4.1.2 SSP-3.4, Corrective Action
- 2.4.1.3 SSP-3.6, Problem Evaluation Reports
- 2.4.1.4 SSP-3.7, Finding Identification Reports
- 2.4.1.5 SSP-4.5, Regulatory Reporting Requirements
- 2.4.1.6 SSP-6.9, ASME Section XI Repairs and Replacements
- 2.4.1.7 SSP-6.10, ASME Section XI Inservice Inspection



2.4.1 Site Standard Practices (cont'd)

2.4.1.8 SSP-8.5, ASME Section XI System Pressure Test Program

2.4.1.9 SSP-8.6, ASME Section XI Pump and Valve Inservice Testing

2.4.2 Surveillance Instructions

2.4.2.1 2-SI-4.6.H.1, Visual Examination of Hydraulic and Mechanical Snubbers

2.4.3 Mechanical Maintenance Instructions

2.4.3.1 MCIO.001.VLV001, Main Steam Isolation Valves
Atwood Morrill Co. Disassembly,
Inspection, Rework, and Reassembly2.4.3.2 MCIO.001.VLV002, Main Steam Relief Valves Target
Rock Model 7567 Disassembly,
Inspection, Rework, and
Reassembly2.4.3.3 MMI-1, Reactor Vessel and Cavity Disassembly and
Reassembly

2.4.3.4 MMI-13, Main Steam Relief Valves

2.4.3.5 MMI-21, Reactor Recirculation Pump Rotating
Assembly, Removal, and Replacement2.4.3.6 MMI-46, Liquid Penetrant Examination of Piping
and Piping Components Which Were Exposed
to Residue from Plant Fire Unit 1 and 22.4.3.7 MMI-53, Evaluation of Corrosion Damage of Piping
Components Which Were Exposed to Residue
from March 22, 1975 Fire (cancelled)2.4.3.8 MMI-182, Reactor Vessel Internals Visual and
Ultrasonic Inspection Units 1, 2, and 3.

2.4.4 Quality Assurance Procedures

2.4.4.1 QMP 102.4, Qualification and Certification
Requirements for NQA NDE Personnel2.4.4.2 QMP 110.5, Nondestructive Examination Procedures
Approved for use on CSSC Items at all
Nuclear Plants



2.5 ISI Drawings

2.5.1 Unit 0 Section XI Code Class Boundary Drawings

- 2.5.1.1 47W600-57A-ISI RCS Instrumentation
- 2.5.1.2 47W600-58A-ISI RCS Instr.
- 2.5.1.3 47W600-135A-ISI RCS Instr.
- 2.5.1.4 47E610-43-1-ISI Condensate/RHR/RHRSW/RWCU/S&WQ Instr.
- 2.5.1.5 47E610-43-4-ISI MS/FW/S&WQ Instr.
- 2.5.1.6 47W1600-301-ISI RCS Instr.
- 2.5.1.7 47W2600-302-ISI RCS Instr.
- 2.5.1.8 GE117C2556-ISI RCS Instr.
- 2.5.1.9 GE117C2563-ISI RCS Instr.
- 2.5.1.10 GE117C2564-ISI RCS Instr.
- 2.5.1.11 GE164C5981-ISI RCS Instr.
- 2.5.1.12 GE164C5984-ISI RCS Instr.
- 2.5.1.13 GE164C5985-ISI RCS Instr.

2.5.2 Unit 2 Section XI Code Class Boundary Drawings

- 2.5.2.1 2-47E801-1-ISI Main Steam
- 2.5.2.2 2-47E801-2-ISI Main Steam
- 2.5.2.3 2-47E803-1-ISI Feedwater
- 2.5.2.4 2-47E803-5-ISI Feedwater
- 2.5.2.5 2-47E807-2-ISI Turbine Drains & Misc Piping
- 2.5.2.6 2-47E810-1-ISI Reactor Water Cleanup
- 2.5.2.7 2-47E811-1-ISI Residual Heat Removal
- 2.5.2.8 2-47E812-1-ISI High Pressure Coolant Injection
- 2.5.2.9 2-47E813-1-ISI Reactor Core Isolation Cooling
- 2.5.2.10 2-47E814-1-ISI Core Spray



2.5.2 Unit 2 Section XI Code Class Boundary Drawings (cont'd)

- 2.5.2.11 2-47E817-1-ISI Nuclear Boiler
- 2.5.2.12 2-47E820-2-ISI Control Rod Drive Hydraulic
- 2.5.2.13 2-47E2820-6-ISI Control Rod Drive Hydraulic
- 2.5.2.14 2-47E822-1-ISI Reactor Bldg Closed Cooling Water
- 2.5.2.15 2-47E844-2-ISI Raw Cooling Water
- 2.5.2.16 2-47E852-1-ISI Floor and Dirty Radwaste Drainage
- 2.5.2.17 2-47E852-2-ISI Clean Radwaste & Decon Drainage
- 2.5.2.18 2-47E854-1-ISI Standby Liquid Control
- 2.5.2.19 2-47E855-1-ISI Fuel Pool Cooling
- 2.5.2.20 2-47E856-2-ISI Demineralized Water
- 2.5.2.21 2-47E858-1-ISI RHR Service Water
- 2.5.2.22 2-47E859-1-ISI Emergency Equipment Cooling Water

2.5.3 Unit 0 ISI Component Support Drawing

- 2.5.3.1 ISI-0368-C EECW and RHRSW Pumping Station
Class 3
- 2.5.3.2 ISI-0390-C EECW Unit 3 Class 3
- 2.5.3.3 ISI-0391-C Raw Cooling Water Unit 1 Class 3

2.5.4 Unit 2 ISI Bolting, Nozzles, and Welds Drawings

- 2.5.4.1 CHM-2046-C Reactor Vessel Nozzle and Weld
Locations Class 1
- 2.5.4.2 ISI-0351-A Instrumentation Nozzles Class 1
- 2.5.4.3 ISI-0312-B Main Steam Bolting Class 1
- 2.5.4.4 ISI-0347-B Recirculation Inlet Nozzles Class 1
- 2.5.4.5 ISI-0031-C Reactor Building Closed Cooling Water
System Class 2 Welds



2.5.4 Unit 2 ISI Bolting, Nozzles, and Welds Drawings (cont'd)

- 2.5.4.6 ISI-0040-C CRD Hydraulic Header Class 2 Welds
- 2.5.4.7 ISI-0103-C Core Spray System Class 2 Welds
- 2.5.4.8 ISI-0128-C HPCI System Class 2 Welds
- 2.5.4.9 ISI-0129-C RCIC System Class 2 Welds
- 2.5.4.10 ISI-0221-C RHR System Class 1 Welds
- 2.5.4.11 ISI-0222-C Main Steam System Class 1 Welds
- 2.5.4.12 ISI-0266-C Vessel Stud Locations Class 1
- 2.5.4.13 ISI-0269-C Feedwater System Class 1 Welds
- 2.5.4.14 ISI-0270-C Recirculation System Class 1 Welds
- 2.5.4.15 ISI-0271-C Core Spray System Class 1 Welds
- 2.5.4.16 ISI-0272-C RWCU, RCIC, and CRD Systems Class 1 Welds
- 2.5.4.17 ISI-0273-C HPCI System Class 1 Welds
- 2.5.4.18 ISI-0292-C Control Rod Drive Penetrations, Drain Nozzle, and Flux Monitor Nozzles Class 1
- 2.5.4.19 ISI-0380-C Standby Liquid Control System Class 1 Welds
- 2.5.4.20 ISI-0383-C Feedwater Instrumentation Class 1 Welds
- 2.5.4.21 ISI-0406-C RHR Heat Exchanger Welds and Supports Class 2
- 2.5.4.22 ISI-0407-C Recirculation Pump Bolting Class 1
- 2.5.4.23 ISI-0408-C Closure Head Assembly Class 1
- 2.5.4.24 ISI-0410-C Jet Pump Instrument Nozzle Class 1
- 2.5.4.25 MSG-0018-C RHR System Class 2 Welds
- 2.5.4.26 MSG-0021-C Main Steam Class 2 Welds

2.5.5 Unit 2 ISI Component Support Drawings

- 2.5.5.1 ISI-0310-B RHR Pump Class 2
- 2.5.5.2 ISI-0032-C Reactor Building Closed Cooling Water System Class 2
- 2.5.5.3 ISI-0041-C CRD Header Class 2
- 2.5.5.4 ISI-0079-C Main Steam System Class 2
- 2.5.5.5 ISI-0105-C Core Spray System Class 2
- 2.5.5.6 ISI-0130-C HPCI System Class 2
- 2.5.5.7 ISI-0131-C RCIC System Class 2
- 2.5.5.8 ISI-0145-C RHR Service Water System Class 3
- 2.5.5.9 ISI-0274-C RWCU, RCIC, and CRD Systems Class 1
- 2.5.5.10 ISI-0275-C HPCI System Class 1
- 2.5.5.11 ISI-0276-C RHR System Class 1
- 2.5.5.12 ISI-0277-C Feedwater System Class 1
- 2.5.5.13 ISI-0278-C Recirculation System Class 1
- 2.5.5.14 ISI-0279-C Main Steam System Class 1
- 2.5.5.15 ISI-0280-C Core Spray System Class 1
- 2.5.5.16 ISI-0324-C RHR System Class 2
- 2.5.5.17 ISI-0379-C Standby Liquid Control System Class 1
- 2.5.5.18 ISI-0387-C Feedwater Instrumentation Class 1
- 2.5.5.19 ISI-0412-C Main Steam Relief Valve Blowdown Class 3
- 2.5.5.20 ISI-0415-C Reactor Vessel Class 1



2.6 Interface Documents

- 2.6.1 BFN-VTM-B014-0010, B&W Reactor Pressure Vessel Manual, Contract 66C60-90744.
- 2.6.2 BFN-VTM-B014-0010, B&J Recirculation Pump Manual, Contract 67C60-91750.
- 2.6.3 BFN-VTM-B260-0030, Bingham Pump Co. RHR Pump Manual, Contract 66C60-90744.
- 2.6.4 BFN-VTM-B014-0010, Vendor Technical Manual For Prefex Corp. Heat Exchangers Types NEN, CEU, CES, and CEN, Contract 66C60-90744.

2.7 Reference Documents

- 2.7.1 ASME Boiler and Pressure Vessel Code, Section XI, Division 1, 1986 Edition
- 2.7.2 ASME Section XI Code Cases as listed in Section 4.1.

3.0 PRECAUTIONS AND LIMITATIONS

RADCON shall be contacted prior to any work in a radiologically controlled area (RCA). RADCON shall determine the requirements for a radiological work permit (RWP) and any other radiological requirements.

4.0 CODES OF RECORD AND CODE CASES

4.1 CURRENT CODE REQUIREMENTS AND CODE CASES

This program is in effect for unit 2 for the second inspection interval beginning on May 24, 1992. The Units 1 and 3 program is contained in 1/3-SI-4.6.G.

The Code of Record for the second inspection interval of unit 2 is the 1986 Edition of the ASME Boiler and Pressure Vessel Code, Section XI, Division 1 in accordance with 10 CFR 50, 50.55a(g)(4). Additionally, in accordance with 10 CFR 50, 50.55a(b)(2)(ii), 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. Extent of examination is defined as the criteria for the selection of the Class 1 B-J welds to be examined. See Section 7.3.2.B.



4.1 CURRENT CODE REQUIREMENTS AND CODE CASES (CONT'D)

Certification of NDE personnel shall be in accordance with the 1984 Edition of ASNT SNT-TC-1A as approved by the Nuclear Regulatory Commission's (NRC's) letter from S.C. Black to O.D. Kingsley, Jr., dated January 18, 1990 (TAC No. 72833).

TVA shall use the following Code Cases that have been approved by the NRC per Regulatory Guide 1.147 or by special written permission from the NRC:

- A. Code Case N-307-1, Revised Ultrasonic Examination Volume for Class 1 Bolting, Table IWB-2500-1, Examination Category B-G-1, When the Examinations Are Conducted From the Center-Drilled Hole, Section XI, Division 1.
- B. Code Case N-435-1, Alternative Examination Requirements for Vessels With Wall Thickness 2 in. or Less, Section XI, Division 1.
- C. Code Case N-445, Use of Later Editions of SNT-TC-1A for Qualification of Nondestructive Examination Personnel, Section XI, Division 1.
- D. Code Case N-457, Qualification Specimen Notch Location for Ultrasonic Examination of Bolts and Studs, Section XI, Division 1.
- E. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1.
- F. Code Case N-461, Alternative Rules for Piping Calibration Block Thickness, Section XI, Division 1.
- G. Code Case N-491, Alternative Rules for Examination of Class 1, 2, 3, and MC Component Supports of Light-Water Cooled Power Plants, Section XI, Division 1. Use approved by the Nuclear Regulatory Commission's (NRC's) letter from Fredrick J. Hebdon to Dr. Mark O. Medford, dated May 18, 1992 (TAC Nos. M81952, M81953, and M81954).

4.2 HISTORY OF CODES OF RECORD AND CODE CASES

For unit 2 a preservice inspection (PSI) program was not required. TVA performed a self-imposed PSI program for Class 1 components to the 1971 Edition, Summer 1971 Addenda of ASME Section XI.

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4.2 HISTORY OF CODES OF RECORD AND CODE CASES (CONT'D)

For unit 2 the history of the ASME Section XI code of record and Code Cases used are as follows:

- A. The first period of the first interval, in effect from March 1, 1975 through July 1, 1981, was to the 1971 Edition, Summer 1971 Addenda of ASME Section XI. The long duration on this period was due to an extension for the fire outage and an additional one year extension in accordance with IWA-2400 to establish concurrent intervals for units 1, 2, and 3 beginning with the second period. See NRC letter dated June 20, 1986 (A02 860630 006) for approval of these adjustments.
- B. The second period (July 1, 1981 through July 7, 1988) and the third period (February 26, 1986 through May 23, 1992) were to the 1974 Edition with Addenda through Summer 1975 of ASME Section XI. Ultrasonic examination and evaluation of piping welds was upgraded to the 1977 Edition, Summer 1978 Addenda of ASME Section XI for these periods. This included examination per IWA-2232(b), IWA-2232(c), and Appendix III (to the extent specified in Request for Relief ISI-15) and evaluation per IWA-3000, IWB-3000, and IWC-3000 of the 1977 Edition, Summer 1978 Addenda .

The overlap of the second and third periods occurred because of the extended outage from September 15, 1984 to May 24, 1991 and TVA's decision to complete the second and third period examinations during this time to close out the first interval. This decision was made since the first interval had been extended twice and it was prudent to end it and commence with a second inspection interval to a current Edition of ASME Section XI.

- C. Beginning January 1, 1992, the preservice inspection of pipe welds, including the extent of examination, (Examination Categories B-F, B-J, and C-F) was performed in accordance with the 1977 Edition, Summer 1978 Addenda of ASME Section XI, IWA-2232, IWA-3000, IWB-2200(c), Table IWB-2500-1, and Table IWC- 2500-1.
- D. Code Cases N-234, 235, 307-1, 308, 341, 356, 416, 435-1, 460, and 461 that were approved by Regulatory Guide 1.147 were used at BFN during the first interval.



5.0 SPECIAL TOOLS AND EQUIPMENT

Equipment shall be specified and controlled by individual NDE Procedures.

6.0 ACCEPTANCE STANDARDS

The acceptance criteria shall be in accordance with the individual NDE Procedures of QMP 110.5 that shall comply with the requirements of ASME Section XI, Articles IWA-3000, IWB-3000, IWC-3000, IWD-3000, and (N-491)-3000.

Evaluations of examinations in accordance with IWB-3132.4, IWB-3142.4, IWC-3122.4, IWC-3132.4, (N-491)-3112.3, or (N-491)-3122.1 shall be submitted to the regulatory authority having jurisdiction at the plant site. This information shall be submitted with the Inservice Inspection Summary Report or, if deemed necessary, a separate report shall be submitted.

7.0 INSTRUCTION STEPS / ELEMENTS

Any revisions initiated by other groups shall be submitted to ASME Section XI Programs for approval prior to incorporating the revisions into this program.

7.1 RESPONSIBILITIES

7.1.1 ASME Section XI Programs responsibilities:

- A. Defining ASME Section XI Code Class 1, 2, and 3 equivalent boundaries in accordance with 10 CFR 50.2, 10 CFR 50.55a, ASME Section XI, and Regulatory Guide 1.26, R3.
- B. Preparing / revising ASME Section XI Code Class Boundary Drawings to identify the ASME Section XI Class 1, 2, and 3 equivalent boundaries within each plant system as defined in 7.1.1.A. See Section 2.5 for drawing list.
- C. Preparing / revising ASME Section XI ISI drawings that identify the Class 1, 2, and 3 equivalent components (including supports) that require inservice and/or preservice nondestructive examination (NDE) to comply with ASME Section XI requirements. See Section 2.5 for drawing list.



7.1.1 ASME Section XI Programs responsibilities: (cont'd)

D. Preparing / revising this instruction (ISI Program) and submitting it to:

- (1) SQO for approval and issue as a controlled document.
- (2) SQO for subsequent submittal to the ANII for a detailed review per IWA-2110(a)(1) and (a)(2). See Sections 7.1.5.A and 7.1.8.A.
- (3) Site Licensing for subsequent submittal to the NRC. See Section 7.1.4.A.

E. Ensuring that this program provides detailed instructions for ISI including the following information as a minimum:

- (1) The ASME Section XI Code of Record for ISI.
- (2) The inspection interval.
- (3) A list of the ASME Section XI Code Class Boundary drawings.
- (4) A list of the ASME Section XI ISI drawings.
- (5) An examination schedule providing the total number of each Code Item Number, the number of samples for the inspection interval, and the number of samples for each period of the interval.
- (6) The NDE method to be used for each Item Number.
- (7) The ASME Examination Category and Item Number for each component.
- (8) Copies of all Relief Requests.
- (9) Name and address of the Owner.
- (10) Name and address of generating plant.
- (11) Name or number designation of the unit.
- (12) Commercial operation date of the unit.
- (13) A description of the system for maintaining status of completed examinations.
- (14) A discussion of scan plans that provide details of required component examinations, such as component identifier, NDE procedure, calibration standard reference, ISI drawing number, sheet number, etc.

7.1.1 ASME Section XI Programs responsibilities: (cont'd)

- (15) Augmented examination requirements closely related to ASME Section XI based on other codes/standards, regulatory guides, NRC commitments, etc.
- (16) A copy of the Notification of Indication (NOI) form.
- F. Providing ISI and/or PSI ASME Section XI interpretations as requested by various site organizations or as required in program development and implementation.
- G. Providing a list of components requiring examination during each period of the inspection interval that includes the components that must be examined during a specific refueling outage of an inspection interval. This list shall include the component identifier, ASME Section XI examination category and item number, examination method, ISI drawing number and sheet number, and examination requirement source. It shall be provided to SQO and ISO in accordance with plant schedules. See Sections 7.1.5.E, 7.1.6.B, and 7.2.1.B.
- H. Approving revisions to scan plans affecting component selection or any provision of the listing of components identified in Section 7.1.1.G.
- I. Providing any additional samples required due to examinations performed. See Section 7.2.2.C.
- J. Notifying Site Engineering of an indication found during the final additional sample examination for their evaluation. See Sections 7.1.3.C and 7.2.2.D.(4).
- K. Preparing a Request for Relief (RFR) when required because of areas that are inaccessible or partially inaccessible for examination or because it is determined that conformance with Code requirements is impractical. See Sections 7.1.6.D and 7.2.3.E for ISO responsibilities of notifying ASME Section XI Programs if limited exams indicate the need to initiate an RFR. See Section 7.6.
- L. Ensuring that requests for relief, including supporting information and any alternative examinations, are documented.
- M. Submitting Requests for Relief to the Site Licensing organization. See Section 7.1.4.B.

7.1.2 Technical Support responsibilities:

- A. Providing / coordinating dispositions for IR's in accordance with SSP-3.1. See Section 7.2.2.A.

7.1.3 Site Engineering responsibilities:

- A. Designing, fabricating, erecting, and constructing components to quality standards commensurate with the safety function to be performed. This includes designing for access in accordance with ASME Section XI, IWA-1400(b) and IWA-1500.
- B. Performing engineering evaluations in support of IR dispositions or other examination indications. See Sections 7.2.2.A and 7.12.
- C. Performing evaluations of indications found during final additional sample examinations to determine if further action is required. See Sections 7.1.1.J and 7.2.2.C.(4).
- D. Determining those component supports that could be affected by observed failure modes and could affect nonexempt components as prescribed in Section 7.2.2.D.(3).
- E. Providing specific written details for any augmented requirements for which they are responsible per Section 7.12 and determining if a post examination meeting is required.

7.1.4 Site Licensing responsibilities:

- A. Filing this Surveillance Instruction (2-SI-4.6.G) and revisions with the NRC per IWA-1400(c). ASME Section XI Programs shall be included on distribution of correspondence. See Section 7.1.1.D.(3).
- B. Submitting Requests for Relief and Summary Reports to the NRC. ASME Section XI Programs shall be included on distribution of all related correspondence. See Section 7.1.1.M, 7.1.5.O, and 7.5.

7.1.5 Site Quality Organization (SQO) responsibilities:

- A. Submitting this Program and revisions to the ANII for a detailed review prior to its use. See Sections 7.1.1.D.(2) and 7.1.8.A.
- B. Obtaining plant approval of and processing this SI for issue.
- C. Performing NDE per the requirements of this instruction. See Section 7.2.3.



7.1.5 Site Quality Organization (SQO) responsibilities:
(cont'd)

- D. Ensuring that ISI/PSI examinations are performed in accordance with TVA NDE procedures or in accordance with contractor procedures that have been authorized for use by ISO. See Section 7.1.6.E and 7.2.3.
- E. Providing a list of components scheduled for examination during each refueling outage to ISO for scan plan development. This list is prepared from the ASME Section XI Programs list of Section 7.1.1.G. See Sections 7.1.6.B and 7.2.1.B.
- F. Approving the scan plan and revisions and submitting copies of the approved scan plan to site management and the ANII. See Section 7.2.1.B.
- G. Administering AIA contract and ensuring that services of AIA are used when performing Code required activities. TVA's interface with the Authorized Inspector for ISI, repairs, and replacements is defined in SSP-6.9 and SSP-6.10.
- H. Providing AIA representative with access to plant and documentation in accordance with IWA-2130 of ASME Section XI.
- I. Notifying ANII prior to performing examinations.
- J. Preparing NOI's, documenting followup examinations, and assuring closure, proper filing, and distribution of copies to ASME Section XI Programs. See Section 7.2.2.A.
- K. Preparing examination reports and recording them (report number, date, examiner's initials, & comments / NOI number) in the scan plan. When inservice examinations are implemented by instructions other than this program (i.e., MMI's), copies of the examination data sheets shall be submitted to SQO by the performing organization. These data sheets shall be used as examination reports and incorporated into the scan plan. See Section 7.2.1.B.(3).
- L. Ensuring that all scan plan examinations are complete prior to completion of an outage and that all examinations are recorded in the scan plan.
- M. Ensuring that ASME Section XI Programs is notified of examinations with accessibility problems that may require substitution of a different component for examination.

7.1.5 Site Quality Organization (SQO) responsibilities:
(cont'd)

- N. Notifying ASME Section XI Programs of any configuration changes noted during the performance of ISI or PSI examinations. See Section 7.2.1.C.
- O. Preparing inservice inspection summary reports, preparing augmented examination summary reports, obtaining ANII signature on NIS-1 form, coordinating summary report reviews with ASME Section XI Programs and ISO, and submitting inservice inspection and augmented examination summary reports to Site Licensing. The NIS-1 summary report shall be submitted to Site Licensing within 60 days of the end of the outage. See Section 7.1.4.B and 7.5.
- P. Preparing and submitting the Site Final Report to DCRM as a QA record. See Sections 7.1.7.C, 7.5, and 7.12.4.
- Q. Ensuring records used as PSI records from manufacturers, or construction organizations comply with procedures.
- R. Calculation of component support acceptance ranges, if required, in accordance with QMP-110.5, N-GP-7 and N-VT-1. See Section 7.3.6.D.
- S. Maintaining calibration blocks stored at the plant site. See Section 7.4.
- T. Initiating a pre-outage meeting on augmented examinations per Section 7.12.

7.1.6 Inspection Services Organization (ISO) responsibilities:

- A. Preparing / revising PRISIM Data Base to include all components on the ISI drawings of Section 2.5. See Section 7.2.1.A.
- B. Preparing / revising scan plans for each refueling outage of the inspection interval utilizing PRISIM. This includes providing additional information provided by NDE level III personnel to complete the scan plan, such as NDE Procedure references, calibration standard references, and UT scanning angles. See Section 7.2.1.B.
- C. Providing NDE level III approval of scan plan revisions that affect the additional information of Section 7.1.6.B and maintaining a scan plan revision history log.
- D. Providing NDE level III determination if a Request for Relief (RFR) is required because of areas that are inaccessible or partially inaccessible for examination or because it is determined that conformance with Code

7.1.6 Inspection Services Organization (ISO) responsibilities:
(cont'd)

requirements is impractical and notifying ASME Section XI Programs of this fact per Sections 7.2.3.E and 7.6. See Section 7.1.1.K.

- E. Approving contractor NDE procedures, contractor written practices for qualification and certification of NDE personnel and certifications of contractor's NDE personnel performing ISI / PSI. See Sections 7.1.5.D and 7.2.3.
- F. Providing NDE level III evaluation of successive examinations. See Sections 7.3.2.E, 7.3.4.E, and 7.12.
- G. Packaging radiographs for storage and providing them with reader sheets to DCRM as a life of plant record. See Sections 7.1.7.C and 7.5.
- H. Providing copies of QMP-110.5 NDE procedure revisions and evidence of personnel qualifications to DCRM as RIMS records for the service lifetime of the plant in accordance with IWA-1400(k). See Sections 7.1.7.C and 7.5.
- I. Maintaining as-built calibration standard drawings and the calibration standard material certifications. See Section 7.4.

7.1.7 Site Document Control & Records Management (DCRM) responsibilities:

- A. Issuing controlled copies of ASME Section XI Code Class Boundary Drawings and ISI Drawings to specified distribution lists.
- B. Issuing this program as an SI and providing controlled copies to SQO, the ANI/ANII, ASME Section XI Programs, and other organizations as requested.
- C. Maintaining the Site Final Report as a life of plant QA document. Other records referenced in the final report (work plans, radiographs, etc.) and NDE procedure revisions, and evidence of personnel qualifications shall be retained for the service lifetime of the plant. See Sections 7.1.5.P, 7.1.6.G, and 7.5.

7.1.8 Project Management responsibilities: ---

- A. Providing specific written details for any augmented requirements for which they are responsible per Section 7.12 and determining if a post examination meeting is required.

7.1.9 The Authorized Nuclear Inservice Inspector (ANII) responsibilities:

- A. Performing the duties of IWA-2110, including a detailed review of this ISI Program (Plan) prior to May 24, 1992 [See IWA-2110(a)(1)] and a review of revisions to this ISI Program [See IWA-2110(a)(2)]. He shall submit a report of the reviews to the Owner [See IWA-2110(a)(3)]. See Sections 7.1.1.D.(2), and 7.1.5.A.
- B. Having the prerogative and authorization to require requalification of any operator or procedure when he has reason to believe the requirements are not being met.

7.2 IMPLEMENTATION

7.2.1 SYSTEM FOR MAINTAINING STATUS OF EXAMINATIONS

A. Data Base

ASME Section XI Programs, ISO, and SQO shall utilize a computerized data base, PRISIM, for maintaining the status of completed examinations for ASME Section XI credit and for augmented credit. See Sections 7.1.6.A and 7.1.6.B.

B. Scan Plan

- (1) The Scan Plan is the primary scheduling document that is developed by ISO from PRISIM. It should contain as a minimum: components to be examined, Code Examination Category, Code Item Number, methods of examination, NDE procedure reference, calibration standard reference, ISI drawing number and sheet number, and for UT, the scanning angles. See Sections 7.1.1.G, 7.1.5.E, 7.1.5.F, and 7.1.6.B.
- (2) Prior to performing examinations, the scan plan shall be approved by SQO.
- (3) 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 sheets shall be submitted to SQO by the performing organization for assignment of a report number and incorporation into the scan plan.
See Section 7.1.5.K.

B. Scan Plan (cont'd)

- (4) During implementation phases, it may become necessary to revise the scan plan. Scan Plan revisions may be initiated by SQO, ISO, ASME Section XI Programs or by other personnel involved with implementation of the scan plan. All changes shall be coordinated with an SQO representative and, as needed, with the appropriate plant planning and scheduling personnel for facilitating the use of supporting craft personnel.

Revisions to the scan plan shall be controlled in the same manner as the original. ISO shall maintain a scan plan revision history log. Interim working copies may be handwritten to allow examinations to be performed before a formal revision is issued. These changes shall be approved by ASME Section XI Programs and/or an NDE Level III, if required by Section 7.1.1.H or Section 7.1.6.C, in addition to the SQO representative approval. Approving individuals shall initial and date such changes.

C. Configuration Changes

- (1) When major portions of existing pipe or supports are replaced or new systems are added, a system walkdown should be performed under the direction of ASME Section XI Programs to identify the pipe configuration, welds, components, and supports that shall be included in the inspection program.
- (2) If variations in configuration are discovered or modifications (including additions or deletions), repairs or replacements are made during the service lifetime of the unit, the changes shall be marked on field corrected copies of the appropriate drawing listed in Section 2.5 by an SQO representative. The field corrected copies shall be used in the performance of examinations and as records until the drawing has been revised to reflect the changes.
- (3) Copies of the field corrected drawings shall be transmitted to ASME Section XI Programs by SQO using the Field Corrected Drawing(s) Transmittal Form, Section 8.4, Data Sheet 1. A file of the corrected drawings and transmittal forms shall be maintained by the SQO for future reference. ASME Section XI Programs shall be responsible for reviewing the proposed change, revising the drawings as necessary, and issuing the revised drawings prior to the next



-C. Configuration Changes (cont'd)

refueling outage. The Field Corrected Drawing(s) Transmittal Form shall be signed by the ASME Section XI Programs representative and returned to SQO after the referenced drawings have been revised. The scan plan shall be revised per Section 7.2.1.B.(4) to reflect any PSI examinations performed due to the variations in configuration. See Section 7.1.5.N.

7.2.2 NOTIFICATION OF INDICATION (NOI) AND INSPECTION REPORT (IR)

- A. An Inspection Report (IR) shall be used to officially document and provide a disposition for an indication that exceeds the acceptance criteria of Article 3000 of the ASME Section XI Code or of -3000 of Code Case -491. Technical Support shall provide / coordinate dispositions for IR's in accordance with SSP-3.1. See Section 7.7, Corrective Action and Sections 7.1.2 and 7.1.3.B.
- B. The Notification of Indication (NOI) Form, Section 8.5, Data Sheet 2 of this program along with the IR is to be used to:
 - (1) Notify ASME Section XI Programs that an indication that exceeds the acceptance criteria of Article 3000 of the ASME Section XI Code or of -3000 of Code Case N-491 has been documented.
 - (2) Provide ISO and SQO a method to track examination reports that require reexamination or a documented disposition for closure.
 - (3) As a final product, with the disposition from the IR added to Part II of the form, provide ASME Section XI Programs a method of determining if additional Code examinations are required.
- C. Functionally an NOI form shall be initiated and processed as follows:
 - (1) Part I of an NOI form shall be initiated by the NDE examiner when an indication exceeds the acceptance criteria of the NDE procedure being used to perform a scheduled ISI examination. The examiner shall sign and date the NOI form. The field supervisor, in the case of contractor performed examinations, shall review the information in Part I and sign and date the NOI form as approving the information. The SQO representative shall review for accuracy, sign and date the NOI form.

7.2.2 NOTIFICATION OF INDICATION (NOI) AND INSPECTION REPORT (IR) (CONT'D)

- (2) After completion of Part I, SQO shall send a copy of the NOI form and a copy of the IR to ASME Section XI Programs as notification that a potential exists for additional examinations to be performed per Section XI.
- (3) SQO shall record the final disposition from the IR on the NOI form in Part II, sign and date the NOI form and send a copy to ASME Section XI Programs for determination of additional examination requirements. See Sections 7.1.1.I and 7.2.2.D.
- (4) ASME Section XI Programs representative shall check "yes" or "no" for additional examinations and return a copy of the NOI form to SQO.
- (5) SQO shall close the NOI form in Part III by reexamination, in the case where work was performed as a part of the disposition, or by verification of the disposition if no physical work was required to remove or modify the indication.
- (6) The original NOI form shall be filed with the original examination report. A copy of the form shall be sent to ASME Section XI Programs for closure of their files. The reexamination report, if applicable, shall reference the original examination report number and the NOI number. The NOI and original examination report shall reference the reexamination report number.

D. Additional Examinations Required by NOI's

- (1) Additional examinations for Class 1 equivalent components (IWB) 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.
 - (a) Examinations of the initial sample that reveal indications exceeding the acceptance standards of IWB-3410-1 shall be extended to include additional examinations in the same outage as the initial examinations, except for volumetric and

7.2.2 NOTIFICATION OF INDICATION (NOI) AND INSPECTION REPORT (IR) (CONT'D)

surface examinations where IWB-3112(b) is applicable. The 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.

The first additional examination sample shall include items scheduled for this and the subsequent period. If examinations for that item are not scheduled in the subsequent period, the most immediate period containing scheduled examinations of that item shall be examined.

- (b) If the first additional examinations of (1)(a) reveal indications exceeding the acceptance standards of Table IWB-3410-1, except where IWB-3112(b) is applicable, further additional examinations shall be performed during the outage. The second additional examination sample shall include all the items of similar design, size and function within the system under examination.
- (2) Additional examinations for Class 2 equivalent components (IWC) shall be selected per IWC-2430. If it is determined (Section 7.1.1.I) that additional examinations are required, those examinations shall be performed in the same outage as the initial examinations. 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.
 - (a) A first additional sample shall be selected for those initial samples that detect indications exceeding the allowable standards of IWC-3000, except where the flaw is acceptable under IWC-3112(b). The first additional sample shall include approximately the same number of items examined in the initial sample. The items selected should be those available in the interval sample that have the longest service time from its previous inservice examination.

7.2.2 NOTIFICATION OF INDICATION (NOI) AND INSPECTION REPORT (IR) (CONT'D)

- (b) If the additional examinations of (2)(a) detect indications exceeding the acceptance standards of IWC-3000, further additional examinations shall be performed during the outage. The second additional sample shall include the remaining number of items of the interval sample not examined in the initial or first additional sample. If no items remain in the interval sample, a notification of the first additional sample results shall be provided to Site Engineering as described in Section 7.2.2.D.(4).
- (3) Additional examinations for component supports (IWF) shall be in accordance with -2430 of Code Case N-491.
 - (a) If component supports of the initial sample must be subjected to corrective measures in accordance with (N-491)-3000, the component supports immediately adjacent to those for which corrective action is required shall be examined. Also, the examinations shall be extended to include a first additional sample that includes supports within the system, equal in number and of the same type and function as those scheduled for examination during the period.
 - (b) When the additional examinations of (3)(a) require corrective measures in accordance with (N-491)-3000, a second additional sample of the remaining component supports within the system of the same type and function as in (3)(a) shall be examined.
 - (c) When the additional examinations of (3)(b) require corrective measures in accordance with (N-491)-3000, examinations shall be extended to include a third additional sample of all nonexempt supports potentially subject to the same failure modes that required corrective measures in (3)(a) and (3)(b). These additional examinations shall include nonexempt component supports in other systems when support failures requiring corrective measures indicate non-system related failure modes. At the request of ASME Section XI Programs, Site Engineering shall make the determination of failure mode applicability and select the third additional sample.



7.2.2 NOTIFICATION OF INDICATION (NOI) AND INSPECTION REPORT (IR) (CONT'D)

- (d) When the additional examinations of (3)(c) require corrective measures in accordance with (N-491)-3000, examination shall be extended to those exempt component supports that could be affected by the same observed failure modes and could affect nonexempt components. At the request of ASME Section XI Programs, Site Engineering shall make the determination of failure mode applicability and select a fourth additional sample of all component supports on exempt components that could affect nonexempt components. See Section 7.1.3.D.
- (4) After completion of the additional examinations, ASME Section XI code requirements for additional examinations are complete. If the final sample examinations reveal indications exceeding the acceptance standards of Article 3000 of ASME Section XI, ASME Section XI Programs shall notify Site Engineering to evaluate the indications and make recommendation(s) for further action, if needed. See Sections 7.1.1.J and 7.1.3.C.

7.2.3 EXAMINATIONS

- A. NDE shall be performed in accordance with IWA-2200 of ASME Section XI utilizing the NDE procedures of QMP 110.5 or approved contractor procedures.
- B. Personnel performing NDE operations shall be qualified and certified in accordance with IWA-2300 of ASME Section XI as specified in QMP 102.4.
- C. The inservice examinations shall be performed by SQO, ISO or contractor personnel. Contract preparation, administration, and supervision shall be the responsibility of SQO. Inspection plans and/or quality assurance programs submitted by contractors shall be reviewed and approved by SQO prior to use. All contractor NDE procedures used during the inspection program shall be reviewed and approved by ISO using QMP-110.5 as a guideline. See Section 7.1.6.E.

7.2.3 EXAMINATIONS (CONT'D)

- D. 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. The system shall permit identification of each weld, location of each weld center line, and designation of regular intervals along the length of the weld.
- E. When less than the required ASME Section XI 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 as a part of the data sheet documentation. An NDE level III representative shall review the limitations or impractical examinations during the refueling outage and determine if a code examination was achieved. If one was not achieved, the NDE level III representative shall notify ASME Section XI Programs immediately to determine if a large enough examination volume or area percentage was achieved to qualify for request for relief action in accordance with Sections 7.1.1.K and 7.6. Another component may be selected for a substitute examination if sufficient examination coverage was not achieved. See Section 7.1.6.D.

7.3 COMPONENTS SUBJECT TO EXAMINATION7.3.1 ASME CLASS 1 EQUIVALENT COMPONENTS SUBJECT TO EXAMINATION (IWB)

- A. ASME Class 1 equivalent systems (including the components and integral attachments contained therein, but excluding the supports) subject to examination are:
- (1) Control Rod Drive Hydraulic System (CRD),
 - (2) Core Spray System (CS),
 - (3) Feedwater System (FW),
 - (4) High Pressure Coolant Injection System (HPCI),
 - (5) Main Steam System (MS),
 - (6) Reactor Core Isolation Cooling System (RCIC),
 - (7) Reactor Pressure Vessel (RPV),
 - (8) Reactor Water Cleanup System (RWCU),
 - (9) Recirculation System (RECIR),
 - (10) Residual Heat Removal System (RHR), and
 - (11) Standby Liquid Control System (SLC).

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7.3.1 ASME CLASS 1 EQUIVALENT COMPONENTS SUBJECT TO EXAMINATION (IWB) (CONT'D)

- B. The specific components subject to examination are identified on ISI drawings listed in Section 2.5. Class 1 valves are further defined in Section 8.3. 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 Section 8.1 Examination Schedule, Part 1 -Class 1 Equivalent (IWB) Components.
- C. The rules of IWB-1220 (a) and (b) have been used to exempt components from examination and establish the numbers in Section 8.1, Part 1. Specifically, piping NPS 1 and smaller and components and their connections in piping NPS 1 and smaller are exempt from NDE examinations.

7.3.2 SELECTION OF ASME CLASS 1 EQUIVALENT COMPONENTS

- A. All Examination Category B-F circumferential welds shall be examined in the Interval with approximately 1/3 examined in each Period. The Code basis for this selection of Item Numbers B5.130, B5.140, and B5.150 is Table IWB-2500-1, Examination Category B-F, 1986 Edition of ASME Section XI.
- B. All carbon and low alloy steel (similar metal) nozzle to safe end welds shall be examined this interval. Additional Examination Category B-J circumferential welds that were not examined in the first interval shall be selected to provide a 25 percent sample this interval. Continuation of this selection method during the third and fourth intervals shall result in examination of approximately 90% of the Examination Category B-J circumferential welds over the life of the plant. BFN 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, B9.31, B9.32, and B9.40 is Table IWB-2500-1, Examination Category B-J, 1986 Edition 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 10CFR50.55a(b)(2)(ii). See Section 4.1.



7.3.2 SELECTION OF ASME CLASS 1 EQUIVALENT COMPONENTS (CONT'D)

- C. ASME Class 1 equivalent longitudinal welds, Examination Category B-J, Item Numbers B9.12 and B9.22 shall be selected for examination by virtue of intersecting a circumferential weld (Item Number B9.11 or B9.21) selected for examination. This is interpreted to mean that these Item Numbers do not have to be counted and no particular examination percentage is required to be examined. However, an effort shall be made to select circumferential welds so that approximately 25% of the longitudinal seams shall be examined. The Code basis for this method of selection of Item Numbers B9.12 and B9.22 is Table IWB-2500-1, Examination Category B-J, 1986 Edition of ASME Section XI. This is in compliance with Table IWB-2500 and Table IWB-2600 of the 1974 Edition, Summer 1975 Addenda.
- D. The entire length of each circumferential weld selected shall be examined, unless otherwise noted or if a physical limitation exists. Examination shall include an adjoining one pipe diameter section of each intersecting longitudinal weld, not to exceed 12 inches.
- E. Successive Inspections of ASME Class 1 equivalent components shall be in accordance with IWB-2420(a), IWB-2420(b) and IWB-2420(c).
- (1) IWB-2420(a) shall be utilized except for Examination Category B-K-1 integral attachments and Examination Category B-J welds. The reasons are the modification of the integral attachments (B-K-1) in conjunction with the support modifications explained in Section 7.3.6.F and the extent of examination for B-J welds established in Section 7.3.2.B.
 - (2) Indications, evaluated in accordance with IWB-3132.4 or IWB-3142.4 qualifying for continued service, shall be reexamined in the next three inspection periods.
 - (3) If the reexaminations reveal essentially no change in the indication for the three periods, the examination schedule shall revert to the original schedule.



7.3.3 ASME CLASS 2 EQUIVALENT COMPONENTS SUBJECT TO EXAMINATION (IWC)

- A. ASME Class 2 equivalent systems (including the components and integral attachments contained therein, but excluding the supports) subject to examination are:
- (1) Control Rod Drive Hydraulic System (CRD),
 - (2) Core Spray System (CS),
 - (3) High Pressure Coolant Injection System (HPCI),
 - (4) Main Steam System (MS),
 - (5) Reactor Building Closed Cooling Water System (RBCCW),
 - (6) Reactor Core Isolation Cooling System (RCIC), and
 - (7) Residual Heat Removal System (RHR).
- B. The specific components subject to examination are identified on ISI drawings identified in Section 2.5. 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 Section 8.1 Examination Schedule, Part 2 -Class 2 Equivalent (IWC) Components.
- C. The rules of IWC-1221 for components within RHR and HPCI (includes containment heat removal) and IWC-1222 for components in all other systems have been used to exempt components from examination and establish the numbers in Section 8.1, Part 2. Specifically, the following components are exempt from NDE examinations:
- (1) Vessels, piping, pumps, valves, and other components NPS 4 and smaller in all systems,
 - (2) Component connections NPS 4 and smaller in all systems,
 - (3) Vessels, piping, pumps, valves, other components, and component connections of any size that operate at a pressure equal to or less than 275 psig and at a temperature equal to or less than 200 degrees F in systems other than RHR and HPCI, and
 - (4) Piping and other components of any size beyond the last shutoff valve in open ended portions of systems that do not contain water during normal plant operating conditions in all systems.



7.3.4 SELECTION OF ASME CLASS 2 EQUIVALENT COMPONENTS

- A. One hundred percent of the C-F-1 welds shall be examined in the interval. To the extent possible, welds examined in the first interval, second and third periods, shall be selected for reexamination in the respective periods of the second interval. The first period welds shall be selected at random since the 1971 Edition of the Code was utilized for unit 2 during the first period of the first interval and no Class 2 examinations were performed. The Code basis for this method of selection of Item Numbers C5.11 and C5.12 is Table IWB-2500-1, Examination Category C-F-1, 1986 Edition of Section XI.

NOTE: There are no 'Excluded' welds ($< 3/8$ " nominal wall) at BFN for Examination Category C-F-1.

- B. To the extent practical, Examination Category C-F-2, Item Numbers C5.51, C5.70, and C5.80 circumferential welds that have been previously examined shall be in the 7.5 percent sample selected for examination during the second interval in accordance with IWC-2420(a). Welds examined in the first interval, second and third periods, shall be selected to the extent practical for reexamination in the respective periods of the second interval. The first period welds shall be selected at random since the 1971 Edition of the Code was utilized for unit 2 during the first period of the first interval and no Class 2 examinations were performed.

NOTE: Note: (2) of Table IWC-2500-1, Examination Categories C-F-2 establishes an 'Excluded' welds category for welds with $< 3/8$ " nominal wall. Excluded welds shall not be examined for Code credit, since they have no Item Number under the Examination Category. The Item Number is designated as N/A in Section 8.1 Examination Schedule, Part 1 - Class 2 IWC Components.

The excluded welds that are not exempt are included in the total count to which the 7.5% was applied to determine the number of C-F-2 welds to be examined in the interval. The Code basis for this method of selection of Item Numbers C5.51, C5.70, and C5.81 is Table IWB-2500-1, Examination Category C-F-2, 1986 Edition of Section XI.

7.3.4 SELECTION OF ASME CLASS 2 EQUIVALENT COMPONENTS (CONT'D)

- C. ASME Class 2 equivalent longitudinal welds, Examination Category C-F-2, Item Numbers C5.52 and C5.82, shall be selected for examination by virtue of intersecting a circumferential weld (Item Numbers C5.11, C5.41, C5.51 or C5.81) selected for examination. This is interpreted to mean that the Item Numbers do not have to be counted and no particular percentage is required to be examined.

An effort shall be made to select circumferential welds so that approximately 7.5% of the Class 2 longitudinal welds shall be examined. The Code basis for this method of selection of Item Numbers C5.52 and C5.82 is in accordance with Table IWB-2500-1, Examination Category C-F-2, 1986 Edition of Section XI.

- D. The entire length of each circumferential weld shall be examined, unless otherwise noted or if physical a limitation exists. Examinations of longitudinal welds shall cover a 2.5 thickness (t) length from the intersecting circumferential weld.

- E. Successive Inspections of ASME Class 2 equivalent components shall be in accordance with IWC-2420(a), IWC-2420(b) and IWC-2420(c).

- (1) The sequence of component examinations established during the first inservice inspection interval shall be repeated, to the extent practical, as established in this Section, A. and B. above for Examination Categories C-F-1 and C-F-2, respectively.
- (2) Indications, evaluated in accordance with IWC-3000, qualifying for continued service shall be reexamined in the next inspection period.
- (3) If the reexaminations reveal essentially no change in the indication, the examination schedule shall revert to the original schedule. See Section 7.1.6.F.

7.3.5 ASME CLASS 3 EQUIVALENT COMPONENTS SUBJECT TO EXAMINATION (IWD)

- A. ASME Class 3 equivalent systems (including the components and integral attachments contained therein, but excluding the supports) subject to examination are:

- (1) Emergency Equipment Cooling Water System (EECW),
- (2) Fuel Pool Cooling System (FPC), and
- (3) Residual Heat Removal Service Water System (RHRSW).

7.3.5 ASME CLASS 3 EQUIVALENT COMPONENTS SUBJECT TO EXAMINATION (IWD) (CONT'D)

- B. The specific integral attachments subject to examination are identified on ISI drawings listed in Section 2.5. The number of integral attachments within each system, the number selected for examination during the interval and the number selected for examination by period are provided in Section 8.1 Examination Schedule, Part 3 - Class 3 Equivalent (IWD) Components.
- C. The rules of IWD-1220.1 and IWD-1220.2 have been used to exempt components from examination and establish the numbers in Section 8.1, Part 3. Specifically, integral attachments of supports connected to components that are NPS 4 or smaller are exempt from NDE examinations.

7.3.6 COMPONENT SUPPORTS SUBJECT TO EXAMINATION (IWF, CODE CASE N-491)

- A. Component and piping supports shall be examined in accordance with Table -2500-1 (N-491). Component supports to be examined shall be the supports of those components that are required to be examined under IWB-2500, IWC-2500, and IWD-2500 by volumetric, surface, or visual (VT-1 or VT-3) examination methods. Piping supports to be examined shall be the supports of piping not exempted under IWB-1220, IWC-1220, and IWD-1220. These component and piping supports are within the systems identified in Sections 7.3.1.A, 7.3.3.A, and 7.3.5.A. The specific supports subject to examination are identified on ISI drawings listed in Section 2.5. The method of support exemption is given in Section 7.3.6.C below.
- B. The number of supports subject to an examination sample plan, the number selected for examination during the interval and the number selected for examination by period are provided in Section 8.1 Examination Schedule, Part 4 - Component Supports (IWF, Code Case N-491).
- C. Component supports exempt from NDE examinations are those connected to components and items exempted by IWB-1220, IWC-1220, and IWD-1220, and portions of those that are inaccessible by being encased in concrete, buried underground, or encapsulated by guard pipe. Piping supports exempt from examination shall be the supports of piping exempted under IWB-1220, IWC-1220, and IWD-1220 and those that are inaccessible by being encased in concrete, buried underground, or encapsulated by guard pipe.

7.3.6 COMPONENT SUPPORTS SUBJECT TO EXAMINATION (IWF, CODE CASE N-491) (CONT'D)

- D. Support examination boundaries shall be in accordance with (N-491)-1300. Examination and acceptance of variable support settings shall be in accordance with the detailed support drawing. If a total acceptance range is required and is not given on the detail support drawing, it shall be calculated per QMP-110.5, N-GP-7 and N-VT-1. See Section 7.1.5.R.
- E. Component supports that have been adjusted in accordance with (N-491)-3000, repaired, or replaced shall be examined prior to return of the system to service per the applicable examinations listed in Table -2500-1. For systems that operate above 200 degrees F during normal operation, an additional preservice examination shall be performed on the affected component supports during or following the subsequent system heatup and cooldown cycle unless determined unnecessary by evaluation. This examination shall be performed during operation or at the next refueling outage.
- F. Successive Inspections of component supports shall be in accordance with -2420(b) and -2420(c) of Code Case N-491. Utilization of (N-491)-2420(a) is not practical. The components supports were completely redesigned and modified in the last period of the first interval (forced outage 9/15/84 to 5/24/91) to comply with Generic Letter 79-14. A sequence shall be established this inspection interval that may be used in future intervals.
- (1) A component support subjected to corrective measures in accordance with (N-491)-3000 shall be reexamined in the next inspection period.
 - (2) When additional corrective measures are not required by the reexamination of (1) above, the inspection schedule may revert to the original schedule.

7.4 CALIBRATION STANDARDS

Calibration blocks shall be used for ultrasonic examination. The blocks shall be fabricated in accordance with ASME Section V and ASME Section XI. ISO shall maintain as-built calibration standard drawings and calibration standard material certifications (CMTR's). The calibration blocks shall be stored at the plant site and maintained by SQO personnel. See Sections 7.1.5.S and 7.1.6.I.

7.5 RECORDS AND REPORTS

Records and reports shall be in accordance with ASME Section XI, Articles IWA-1400(k), IWA-1400(l), and IWA-6000.

- A. The Inservice Inspection (ISI) Summary Report shall include, as a minimum, the information required by IWA-6220(c) and IWA-6220(d) and shall be submitted to Site Licensing on a schedule that permits submittal to the NRC within 90 days after the refueling outage. The ISI Summary Report shall contain: (a) the examinations and System Pressure Tests associated with ISI, replacements, and repairs conducted since the preceding summary report; (b) National Board numbers assigned to the components by the manufacturer, if applicable; (c) identifiers of the components examined including size, material, etc.; (d) name and address of manufacturers; (e) manufacturer's component I.D.'s, if applicable; (f) date of completion of examinations; (g) name of Inspector verifying examinations, his company and company address; (h) abstract of examinations and tests performed; conditions recorded; and corrective measures taken; (i) signature of the Inspector; and (j) Owner's Report for ISI (NIS-1). The cover sheet shall contain: (a) the date of document completion, (b) name and address of the Owner, (c) name and address of generating plant, (d) unit designation, and (e) commercial operating date. See Section 7.1.5.0.
- B. A Site Final Report shall be prepared and submitted to DCRM. The Site Final Report, and the references therein, shall be maintained as a QA record for the service lifetime of the plant in accordance with IWA-6300. The Site Final Report shall contain: (a) an index to record file, (b) the inservice and preservice NDE examination reports, (c) the NIS-1 and NIS-2 summary reports. The Site Final Report shall also contain, as a minimum, reference to: (a) this ISI Program (inspection plan), (b) repair records and reports, (c) replacement records and reports, (d) NDE Procedures, and (e) NDE examination records including radiographs and review forms. See Section 7.1.5.P.
- C. Radiographs shall be packaged by ISO and provided to DCRM for storage as a life of plant record. See Sections 7.1.6.G, 7.1.7.C, and 7.5.B.
- D. NDE Procedure revisions (QMP-110.5) and evidence of personnel qualifications shall be maintained by DCRM as RIMS records for the service lifetime of the plant. See Sections 7.1.6.H, 7.1.7.C, and 7.5.B.
- E. Reproduction and microfilming shall meet the requirements of IWA-6320.



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7.6 REQUESTS FOR RELIEF (RFR)

Where 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 Section 8.1 examination schedules in this program and references to a particular RFR shall be included.

When impractical examination requirements are identified in the field, ISO shall notify ASME Section XI Programs in accordance with Sections 7.1.6.D and 7.2.3.E.

The Requests for Relief are contained in Section 8.6 of this program.

7.7 CORRECTIVE ACTION PROGRAM

Any corrective action required as a result of ISI examinations shall be handled in accordance with SSP-3.4, SSP-3.6, or SSP-3.7.

7.8 REPAIRS AND REPLACEMENTS

Repair and replacement shall be in accordance with SSP-6.9. Preservice inspections (PSI) shall be performed on any component that is repaired, replaced, or modified that is of an Examination Category and Item Number as specified in Section 8.1. The NDE method shall be as specified in Section 8.1.

7.9 SYSTEM PRESSURE TESTS

System pressure test and VT-2 examinations shall be in accordance with SSP-8.5.

7.10 PUMP AND VALVE INSERVICE TESTING

Pump and valve inservice testing shall be in accordance with SSP-8.6.

7.11 SNUBBER INSERVICE TESTING

IWF-5000 or (N-491)-5000 is not a part of this program. Snubber inservice testing shall be in accordance with 2-SI 4.6.H.1.



7.12 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. Section 8.1, Part 5 provides a schedule for augmented examinations.

The responsible organization or owner shall have technical and administrative responsibility for each augmented examination identified in this section. This responsibility shall include scheduling any examinations through the Site Quality Organization, tracking the status of examinations, and reporting completed examinations. Responsible organizations requesting inclusion of augmented examinations in this section shall submit a written request to the Supervisor, ASME Section XI Programs. The written request shall include specific details such as requirement source, identification of components requiring examination, examination frequency, examination method, examination area/volume, acceptance criteria, types of flaws anticipated, areas of high suspect, probability of failure, and reporting requirements. Copies of the written request shall be submitted to ISO and the SQO to facilitate nondestructive examination procedure preparation, establishment of training programs, and personnel familiarization.

Prior to each refueling outage, a meeting shall be initiated by the SQO. Meeting attendees shall include the responsible organizations, SQO, ISO, ASME Section XI Programs, and Site Engineering. The meeting agenda should include examination plans and schedules, updates on industry experience, and any additional pertinent information.

Following the completion of the augmented examination, the SQO shall report to the responsible organization items such as examination results and changes in results from previous examinations. The responsible organization shall determine if a meeting with the SQO and /or other appropriate organizations is necessary to discuss items such as additional examinations to be conducted during the current outage, trends, lessons learned, and identify any future actions such as changes in the frequency of examination.

Augmented examinations that require reporting to the NRC shall be the responsibility of the responsible organization.

7.12.1 Weld DSRHR-2-05A

Responsible organization: Site Engineering. Weld DSRHR-2-05A has an indication that was determined to be lack of fusion between layers of welding. It shall receive augmented RT and UT examinations each inspection period to monitor the size of the indication. Evaluation of the indication shall be performed by an ISO NDE level III by comparison to previous examinations. If there is any change, Site Engineering shall be formally requested to provide additional evaluation. See Sections 7.1.3.B and 7.1.6.F. A report of the examinations shall be forwarded to the NRC with the NUREG-0313 report of Section 7.12.8. [NRC/C] Reference NRC Inspection Report 86-03, Open Item 86-03-03 (RIMS L29 860925 984)]. PRISIM Exam Requirement Source: D01-02.

7.12.2 RPV Cladding Indication

Responsible organization: Site Engineering. An indication in the RPV cladding was discovered in August 1988 during the RPV interior examination. It is located at 15 degree azimuth, 32 3/4" below the RPV flange surface. This indication shall receive a VT-1 examination in refueling cycles 6, 7, and 8 to determine if there is any degradation. Evaluation of the indication shall be performed by an ISO NDE level III by comparison to previous examinations. If there is any change, Site Engineering shall be formally requested to provide additional evaluation. See Sections 7.1.3.B and 7.1.6.F. A report of the examination shall be forwarded to the NRC with the ISI Summary Report. The examination data from the four consecutive cycles shall be evaluated after the cycle 8 refueling outage to determine if further augmented exams shall be required (RIMS W10 880831 850, W10 880908 873, and B22 880920 022). PRISIM Exam Requirement Source: D02-02.

7.12.3 Welds KR-2-14, KR-2-36, KR-2-37, and KR-2-41

Responsible organization: Site Engineering. These welds, which had IGSCC indications that were evaluated to be acceptable for continued operation, shall be reexamined (UT) in the cycle 6 refueling outage per NRC commitment NCO 850264005 (RIMS L44 860311 803). Evaluation of the indication shall be performed by an ISO NDE level III by comparison to previous examinations. If there is any change, Site Engineering shall be formally requested to provide additional evaluation. See Sections 7.1.3.B and 7.1.6.F. A report of the examinations shall be forwarded to the NRC with the NUREG-0313 report of Section 7.12.8. PRISIM Exam Requirement Source: D03-02.



7.12.4 HPCI Pump Discharge Support Inspection Following Injection

Responsible organization: Site Engineering. The augmented examination of the supports on the HPCI pump discharge line following a HPCI injection is self imposed by TVA memorandum from G. T. Jones to G. R. Hall and J. R. Pittman (R35 841025 878) and NRC commitment number NCO 850144002.

TI-189 references this required inspection and a System Engineer shall notify the Site Quality Organization (as required by the TI) to perform the inspection following a HPCI injection. Each support from the HPCI pump (including the HPCI turbine and pump pedestals) to the steam tunnel penetration shall be visually examined after each injection.

A modified VT-3 examination shall be performed using QMP 110.5, procedure N-VT-1 as a guideline within three days following the injection. This examination is only to verify that there is no loss of integrity of the HPCI supports (ie. Separation from the wall, distortion of structural members, etc.) and it may be performed remotely using optical aids. Any discrepancies shall be reported to a Systems Engineer using an IR form. A report is to be submitted with the Site Final Report following the next scheduled refueling outage. See Sections 7.1.5.P and 7.5.

The supports to be examined are listed below:

Unit 2: 2-47B455H0066, H0067, H0068, H0069, H0070, H0071, H0072, H0073, H0074, H0075, H0076, H0077, H0079, H0080; 2-47B455R0024; 2-47B455S0009, S0010, S0011, S0019, and S0024 (Drawing ISI-0130-C). PRISIM Exam Requirement Source: D04-02.

7.12.5 Weld GR-2-15(OL)

Responsible organization: Site Engineering. This structurally over-layed weld shall be one of the IGSCC Examination Category E welds examined during the cycle 6 refueling outage. This was a commitment of ECN P5215 that designed the overlay configuration. Evaluation of the indication shall be performed by an ISO NDE level III by comparison to previous examinations. If there is any change, Site Engineering shall be formally requested to provide additional evaluation. See Sections 7.1.3.B and 7.1.6.F. A report of the examinations shall be forwarded to the NRC with the NUREG-0313 report of Section 7.12.8. PRISIM Exam Requirement Source: D05-02.

7.12.6 CRD Return Line Reroute

Responsible organization: Site Engineering. The augmented examination requirements of the CRD return line reroute are contained in NUREG 0619. The welded connections joining the rerouted CRD return line to the reactor water cleanup system shall be ultrasonically examined during the Cycle 6 refueling outage. The weld RCRD-2-45 shall be ultrasonically examined, including the base metal on each side within one wall thickness (nominal wall 0.531"). The pipe into which the CRD return flow is connected shall also be examined by ultrasonic methods to a distance of at least one pipe diameter downstream of the welded connection. Welds RCRDS-2-3 and RCRD-2-44 shall be ultrasonically examined along with the pipe on the downstream side.

Reporting to the NRC is required within 6 months of completing an outage during which an inspection was performed. The report of these examinations shall be included with the ISI Summary Report unless a special report is deemed necessary by SQO. Refer to NUREG-0619, Section 8.3 for information to be included. PRISIM Exam Requirement Source: B01-02.

7.12.7 Feedwater Nozzles

Responsible organization: Site Engineering. The augmented examination requirements for the feedwater nozzles is contained in NUREG-0619. An ultrasonic examination of all the feedwater nozzle safe ends, bores, and inside blend radii are required every second refueling outage. The feedwater spargers shall be visually examined every fourth refueling outage (MMI-182). A liquid penetrant examination of the nozzle bore and inner radius is required every nine refueling cycles or within 135 startup/shutdown cycles based on the replacement date. Reporting is required within 6 months after the outage when an inspection was performed. The report of these examinations shall be included with the ISI Summary Report unless a special report is deemed necessary by SQO. Refer to NUREG-0619, Section 4.4.3 for information to be included.. PRISIM Exam Requirement Source: B01-02.



7.12.8 Augmented Examination of Austenitic Stainless Steel and Dissimilar Metal Welds Susceptible to IGSCC (Generic Letter 88-01 and NUREG-0313, Rev. 2)

Responsible organization: Project Management
Austenitic stainless steel and dissimilar metal circumferential welds in piping four inches or larger NPS that contain reactor coolant at a temperature above 200° F during power operation shall be examined in accordance with the requirements of Generic Letter 88-01 and NUREG-0313, Rev. 2. Sample expansion shall be in accordance with Generic Letter 88-01 (GL 88-01) based on the IGSCC Category (A, B, C, D, or E) as defined in the generic letter. The welds requiring examination per this paragraph are listed in Section 8.1 - Part 5, Unit 2 Welds Required to be Examined by Generic Letter 88-01 (NUREG-0313, Rev. 2).

In addition to the requirements of Section 7.2.3.A for examination procedures, the examination procedures used for IGSCC examinations shall satisfy the requirements of GL 88-01.

In addition to the requirements of Section 7.2.3.B for personnel qualifications, personnel shall be qualified by the program described in GL 88-01 for performing IGSCC examinations.

The examination schedule is based on the IGSCC category and shall be as indicated.

<u>IGSCC CATEGORY</u>	<u>EXAMINATION EXTENT AND SCHEDULE</u>
A	25 percent every 10 years (at least 12 percent in 6 years).
B	50 percent every 10 years after initial post-stress improvement (SI) examination (at least 25 percent in 6 years).
C	100 percent within next 2 refueling cycles after initial post-SI examination (at least 50 percent in 6 years).
D	100 percent every 2 refueling cycles.
E	50 percent next refueling cycle after crack discovery and/or overlay. 100 percent every 2 refueling cycles thereafter.
F	100 percent every refueling outage.
G	100 percent during current outage.*



7.12.8 Augmented Examination of Austenitic Stainless Steel and Dissimilar Metal Welds Susceptible to IGSCC (Generic Letter 88-01 and NUREG-0313, Rev. 2) (cont'd)

*IGSCC category G welds that are inaccessible for UT examination shall be replaced, corrosion resistant clad on the inside diameter or have local leak detection applied during cycle 6 refueling outage.

Any flaws identified that do not meet the IWB-3500 criteria for continued operation without evaluation, or a change found in the condition of the welds previously known to be cracked, shall be reported to the NRC under the guidelines of NUREG-0313, Rev. 2. PRISIM Exam Requirement Source: B02-02.

7.12.9 Core Spray Spargers

Responsible organization: Site Engineering. The augmented examination requirements of the core spray spargers is included in MMI-182, which implements IE Bulletin 80-13. The spargers shall be visually examined each refueling outage. Volumetric techniques may be used to evaluate any indications. The reporting criteria is listed in MMI-182. If cracks are detected, the NRC resident inspector and the Region II office shall be notified within 24 hours. A written report of the examinations shall be submitted to the NRC within 30 days of completion of the examinations. PRISIM Exam Requirement Source: B03-02.

7.12.10 Technical Specification Surveillance Requirement 4.6.G.2.

Responsible organization: Site Engineering. Additional ultrasonic examinations shall be performed each inspection interval on certain circumferential pipe welds to provide additional protection against pipe whip in accordance with Technical Specification Surveillance Requirement 4.6.G. The welds requiring examination each interval for pipe whip protection are:

TCS-2-407, TCS-2-423, TSCS-2-408, TSCS-2-424, GFW-2-09, GFW-2-12, GFW-2-15, GFW-2-26, GFW-2-29, GFW-2-32, KFW-2-13, KFW-2-31, KFW-2-38, KFW-2-39, THPCI-2-070, THPCI-2-070A, THPCI-2-071, THPCI-2-072, GMS-2-06, GMS-2-15, GMS-2-24, GMS-2-32, KMS-2-024, KMS-2-104, DSRHR-2-04, DSRHR-2-06, DSRHR-2-07, DSRWC-2-03, DSRWC-2-04, DSRWC-2-05, AND DSRWC-2-06.

A report of these examinations shall be included with the ISI Summary Report. PRISIM Exam Requirement Source: B04-02.

7.12.11 RPV Shell Weld Examination

Responsible organization: ASME Section XI Programs. The RPV shell welds, Examination Category B-A, Item Numbers B1.11 and B1.12 shall be examined in refueling outage cycle 7 in accordance with the guidance of 10 CFR 50.55a(g)(6)(ii)(A) per TVA's commitment to the NRC dated September 27, 1991 (R08 910927 826).

TVA shall take ASME Section XI credit for these examinations as satisfying the requirements of Table 2500-1, Examination Category B-A, Item Number B1.10. A report of these examinations shall be included with the ISI Summary Report. PRISIM Exam Requirement Source: B05-02.

7.13 VOLUNTARY EXAMINATIONS

Certain examinations are done on a voluntary basis to obtain additional information to support inservice inspections or to resolve a problem identified through the corrective action program. Key voluntary examinations are defined and documented in this Section.

7.13.1 Examination of RPV Nuts and Washers based on FIR BFQ910238FIR

PRISIM Exam Requirement Source: V01-02. Unit 2 RPV nuts and washers shall be reexamined in cycle 6 based on FIR BFQ910238FIR. This will be a one time volunteer examination to assure that nut and washer records include their unique position (1 through 92) with respect to the RPV stud locations in the flange.

7.13.2 Verification of Longitudinal Welds intersecting Circumferential Welds

PRISIM Exam Requirement Source: V02-02. Due to the vintage of BFN, it is not always possible to determine from records the existence of longitudinal welds. Much of the pipe was procured to the A-333, Gr. B specification that could be furnished in the seamless or welded condition. A special examination shall be specified in the scan plan when it is necessary to determine the status of existing longitudinal welds. For austenitic stainless steel, an ultrasonic examination shall be used and for carbon or alloy steel, a visual examination supplemented by an acid etch, where required, shall be used.

If a longitudinal weld is located using this specified examination, it must be included in the scan plan and examined for code credit (PRISIM Exam Requirement Source 86E-02).



7.13.3 Verification of Longitudinal Welds Intersecting Circumferential Welds Examined for Code Credit in the First Inspection Interval

PRISIM Exam Requirement Source: V03-02. A special examination shall be specified in the scan plan when it is necessary to verify the status of longitudinal welds adjacent to circumferential welds examined for Code credit in the first inspection interval. A visual examination supplemented by an acid etch, where required, shall be used. Class 1 and 2 circumferential welds specified shall be examined on each side of the weld for the existence of longitudinal welds where piping components exist on each side of the weld. Valves, pumps, etc. need not be examined for the existence of longitudinal welds.

These examinations shall be spread over refueling outages 7, 8, 9 and 10. The result of the examination shall be reported immediately to ASME Section XI Programs so that a determination of compliance with Code in the first inspection interval may be verified.

8.0 TABLES / ATTACHMENTS

This Section contains Examination Schedules (8.1), List of Welds requiring examination by Generic Letter 88-01 (8.2), Class 1 Valve List (8.3), Field Corrected Drawing(s) Transmittal Form (8.4), Notification of Indication Form (8.5), and Requests for Relief (8.6).

A list and status of the Requests for Relief contained in Section 8.6 is presented here:

- (1) RFR ISI-2-1, Reactor Pressure Vessel (RPV) Support Integral Attachment. Submitted to the NRC as a part of Revision 0 of this SI.

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SECTION 8.1 EXAMINATION SCHEDULE
PART 1 - CLASS 1 EQUIVALENT (IWB) COMPONENTS

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
B-A	B1.11	5	RPV	5	5(*1)	-	-	CHM-2046-C	UT	RPV Shell Circ Weld See Section 7.12.11
B-A	B1.12	15	RPV	15	15(*1)	-	-	CHM-2046-C	UT	RPV Shell Long Weld See Section 7.12.11
B-A	B1.21	2	RPV	1	-	1	-	ISI-0408-C	UT	RPV Circ Top Hd Wld (RCH-2-1C) RPV Circ Bot Hd Wld (C-S-BH)
B-A	B1.22	12	RPV	1	-	1	-	ISI-0408-C	UT	RPV Mer Top Hd Wlds (RCH-2-XV) RPV Mer Bot Hd Wlds (V-BH-X)
B-A	B1.30	1	RPV	1	-	-	1	CHM-2046-C	UT	RPV-Flg Weld (C-5-FLG)
B-A	B1.40	1	RPV	1	-	-	1	ISI-0408-C	UT	RPV Hd-Flg Weld (RCH-2-2C)
B-A	B1.40	1	RPV	1	-	-	1	ISI-0408-C	PT	RPV Hd-Flg Flex Area (RCH-2-2C-FLEX)
B-A	B1.51	7	RPV	1	1(*1)	-	-	CHM-2046-C	UT	RPV Repair Weld(s) See Section 7.12.11
B-B		N/A		N/A						None
B-D	B3.90	32	RPV	32	10	10	12	CHM-2046-C & UT ISI-0292-C & ISI-0380-C		RPV Noz-Ves Wld
B-D	B3.100	32	RPV	32	10	10	12	CHM-2046-C & UT ISI-0292-C & ISI-0380-C		RPV Noz IR
B-E	B4.11	N/A		N/A						None
B-E	B4.12	185	RPV	47	-	-	47	ISI-0292-C	VT-2	CRD Nozzle Interval Hydro
B-E	B4.13	6	RPV	6	2	2	2	CHM-2046-C	VT-2	Instrumentation Noz

SECTION 8.1 EXAMINATION SCHEDULE
PART 1 - CLASS 1 EQUIVALENT (IWB) COMPONENTS (CONT'D)

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
B-F	B5.10	17	RPV	17	5	6	6	ISI-0270-C ISI-0271-C ISI-0272-C ISI-0410-C	UT & PT	Noz-SE Wld => 4"
B-F	B5.20	7	RPV	7	2	2	3	ISI-0380-C ISI-0383-C	PT	Noz-SE Wld < 4"
B-F	B5.30	N/A		N/A						None
B-F	B5.130	12		12	4	3	5		UT & PT	Dissim Pipe Wld => 4"
			CRD/3	3	1	1	1	ISI-0272-C		
			CS/B	8	2	2	4	ISI-0271-C		
			RHR/1	1	1	-	-	ISI-0221-C		
B-F	B5.140	N/A		N/A						None
B-F	B5.150	N/A		N/A						None
B-G-1	B6.10	92	RPV	92	22	35	35	ISI-0266-C	HT	Clos Hd Nuts
B-G-1	B6.20	92	RPV	92	22	35	35	ISI-0266-C	UT(*2)	Studs (In Place)
B-G-1	B6.30	92	RPV	4(*2) 92(if studs removed)	-	-	4(*2)	ISI-0266-C	HT & UT(*2)	Studs (When Removed)
B-G-1	B6.40	92	RPV	92	22	35	35	ISI-0266-C	UT	Threads (When Head Removed)
B-G-1	B6.50	92 sets	RPV	92 sets	22 sets	35 sets	35 sets	ISI-0266-C	VT-1	Washers (Sets of 2)
B-G-1	B6.50	92	RPV	92	22	35	35	ISI-0266-C	VT-1	Bushings (When Head Removed)
B-G-1	B6.150	N/A		N/A						None
B-G-1	B6.180	32	RECIR	16(*3)	16(*3)	-	-	ISI-0407-C	UT	Recir Pump Bolting
B-G-1	B6.190	32	RECIR	16(*3)	16(*3)	-	-	ISI-0407-C	VT-1	Flange Face
B-G-1	B6.200	32	RECIR	16(*3)	16(*3)	-	-	ISI-0407-C	VT-1	Recir Pump Nuts
B-G-1	B6.200	32	RECIR	16(*3)	16(*3)	-	-	ISI-0407-C	VT-1	Recir Pump Washers
B-G-1	B6.210	N/A		N/A						None



SECTION 8.1 EXAMINATION SCHEDULE
PART 1 - CLASS 1 EQUIVALENT (IWB) COMPONENTS (CONT'D)

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
B-G-2	B7.10	N/A		N/A						None
B-G-2	B7.50	17		17	5	5	7		VT-1	Pipe Bolting <= 2"
			MS/12	12	4	4	4	ISI-0312-B		
			RECIR/2	2	1	-	1	ISI-0270-C		
			RPV/3	3	-	1	2	ISI-0408-C - -		Bolting to RPV Hd Noz
B-G-2	B7.60	N/A		N/A						None
B-G-2	B7.70	47		16(*10)	5	5	6		VT-1	Valve Bolting <= 2" See Section 8.3.
			CS/4	2(*10)	-	1	1	ISI-0271-C		
			FW/6	2(*10)	1	-	1	ISI-0269-C		
			HPCI/1	1(*10)	-	-	1	ISI-0273-C		
			MS/8	1(*10)	1	-	-	ISI-0222-C		FCV1-??
			MS/13	1(*10)	1	-	-	ISI-0312-B		PCV1-???
			RCIC/1	1(*10)	-	-	1	ISI-0272-C		
			RECIR/6	3(*10)	1	1	1	ISI-0270-C		
			RHR/5	3(*10)	1	1	1	ISI-0221-C		
			RWC/3	2(*10)	-	2	-	ISI-0272-C		
B-G-2	B7.80	185	RPV	185(*4)	--(*4)	--(*4)	--(*4)	ISI-0292-C	VT-1	CRD Housing Bolts
B-H	B8.10	2	RPV	2	1	-	1(*5)	ISI-0415-C	UT	RPV IA's RFR-ISI-2-1
B-J	B9.11	405		102(*6)	33	34	35		ST&UT	Circumferential Welds => 4"
			CRD/10	3	2	1	-	ISI-0272-C	MT&UT	
			CS/21	5	5	-	-	ISI-0271-C	MT&UT	
			FW/75	17	-	10	7	ISI-0269-C	MT&UT	
			HPCI/21	5	5	-	-	ISI-0273-C	MT&UT	
			MS/121	26	7	8	11	ISI-0222-C	MT&UT	
			RCIC/6	2	2	-	-	ISI-0272-C	MT&UT	
			RECIR/78	17	2	10	5	ISI-0270-C	PT&UT	
			RHR/35	8	-	1	7	ISI-0221-C	PT&UT	
			RPV/13	13	4	4	5	ISI-0222-C & ISI-0269-C & ISI-0408-C	MT&UT	RPV Noz-SE Alloy Steel Welds (Not Dism Metal)
			RWC/25	6	6	-	-	ISI-0272-C	PT&UT	



SECTION 8.1 EXAMINATION SCHEDULE
PART 1 - CLASS 1 EQUIVALENT (IWB) COMPONENTS (CONT'D)

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
B-J	B9.12	304		68(*7)	12(*7)	22(*7)	34(*7)		ST&UT	Longitudinal Welds => 4"
			CS/18	(*7)	4	-	-	ISI-0271-C	MT&UT	
			FW/2	(*7)	-	-	-	ISI-0269-C	MT&UT	
			MS/136	(*7)	6	11	13	ISI-0222-C	MT&UT	
			RECIR/86	(*7)	2	11	8	ISI-0270-C	PT&UT	
			RHR/62	(*7)	-	-	13	ISI-0221-C	PT&UT	
B-J	B9.21	77		20	6	7	7		ST	Circumferential Welds < 4"
			FW/42	9	-	4	5	ISI-0383-C	PT	
			MS/7	2	-	2	-	ISI-0222-C	MT	
			RCIC/20	5	5	-	-	ISI-0272-C	MT	
			RECIR/2	1	-	-	1	ISI-0270-C	PT	
			RPV/1	1	1	-	-	ISI-0272-C	MT	
			RWCU/1	1	-	1	-	ISI-0272-C	MT	
			SLC/4	1	-	-	1	ISI-0380-C	ST	
B-J	B9.22	N/A		N/A						None
B-J	B9.31	42		11	3	4	4		ST&UT	Branch Connections => 4"
			MS/26	6	-	2	4	ISI-0222-C	MT&UT	
			RECIR/15	4	3	1	-	ISI-0270-C	PT&UT	
			RHR/1	1	-	1	-	ISI-0221-C	PT&UT	
B-J	B9.32	1	MS	1	-	-	1	ISI-0222-C	MT	Branch Connections < 4"
B-J	B9.40	205		52	17	18	17		ST	Socket Welds
			MS/104	26	-	9	17	ISI-0222-C	MT	
			RCIC/15	4	4	-	-	ISI-0272-C	MT	
			RECIR/12	3	3	-	-	ISI-0270-C	PT	
			RWCU/34	9	-	9	-	ISI-0272-C	MT	
			SLC/40	10	10	-	-	ISI-0380-C	PT	



SECTION 8.1 EXAMINATION SCHEDULE
PART 1 -- CLASS 1 EQUIVALENT (IWB) COMPONENTS (CONT'D)

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
B-K-1	B10.10	54		54	14	18	22		ST	Piping Integral Attachments (IA's) => 5/8"
			CS/5	5	-	-	5	ISI-0280-C	MT	
			FW/10	10	10	-	-	ISI-0277-C	MT	
			HPCI/1	1	1	-	-	ISI-0275-C	MT	
			MS/18	18	-	18	-	ISI-0279-C	MT	
			RECIR/17	17	-	-	17	ISI-0278-C	PT	
			RHR/3	3	3	-	-	ISI-0276-C	MT	
B-K-1	B10.20	6	RECIR	6	2	2	2	ISI-0278-C	PT	Pump IA's => 5/8"
B-K-1	B10.30	1	FW	1	-	-	1	ISI-0277-C	MT	Valve IA => 5/8"
B-K-1	N/A	63		N/A						Class 1 IA's < 5/8"
B-L-1	B12.10	N/A		N/A						None
B-L-2	B12.20	2	RECIR	1(*8)	1(*8)	-	-	ISI-0407-C	VT-3	Pump Casing Interior
B-H-1	B12.30	N/A		N/A						None
B-H-1	B12.40	N/A		N/A						None
B-H-2	B12.50	55		21(*9)	-	-	21(*9)		VT-3	Valve Body > 4" See Section 8.3.
			CS/6	3(*10)	-	-	3	ISI-0271-C		
			FW/6	2(*10)	-	-	2	ISI-0269-C		
			HPCI/3	2(*10)	-	-	2	ISI-0273-C		
			MS/21	2(*10)	-	-	2	ISI-0222-C		
			RCIC/1	1(*10)	-	-	1	ISI-0272-C		
			RECIR/6	3(*10)	-	-	3	ISI-0270-C		
			RHR/9	6(*10)	-	-	6	ISI-0221-C		
			RWCU/3	2(*10)	-	-	2	ISI-0272-C		
B-N-1	B13.10	1	RPV	1	1	1	-	CHN-2046-C	VT-3	RPV Interior
B-N-2	B13.20	1	RPV	1	-	-	1	CHN-2046-C	VT-1	RPV Interior Att in Beltline Region
B-N-2	B13.30	1	RPV	1	-	-	1	CHN-2046-C	VT-3	RPV Interior Att Beyond Beltline Region
B-N-2	B13.40	1	RPV	1	-	-	1	CHN-2046-C	VT-3	Shroud Supp Surfaces
B-O	B14.10	40	RPV	4	-	-	4	ISI-0292-C	PT	CRD Housing Weld



SECTION 8.1 EXAMINATION SCHEDULE
PART 1 - CLASS 1 EQUIVALENT (IWB) COMPONENTS (CONT'D)

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
B-P	ALL	--	--	See Section 7.9 and SSP-8.5.--					VT-2	Pressure Test Program.

NOTES:

- (*1) TVA has committed to the NRC to do these exams in Cycle 6. See letter to the NRC dated September 27, 1991 (R08 910927 826).
- (*2) Studs (Bolting) may be examined in place under tension (B6.20), when connection is disassembled (B6.20), or when the bolting is removed (B6.30). Studs shall be surface examined only if removed. The four studs normally removed for refueling have been scheduled under Item Number B6.30. Others shall receive a surface exam if removed in accordance with Table IWB-2500-1, Examination Category B-G-1, NOTE: (1).
- (*3) Examine bolting of only one pump in accordance with Table IWB-2500-1, B-G-1, NOTE: (3) in conjunction with B-L-2, NOTE: (1).
- (*4) Bolts, studs, and nuts in CRD Housings examined only when disassembled in accordance with Table IWB-2500-1, Examination Category B-G-2, Extent and Frequency of Examination.
- (*5) UT accessible 24" length of RPV-SUPPORT-IA at two locations (48" total) in accordance with Request for Relief ISI-2-1.
- (*6) Approximately 90 % of the B-J welds, within practical limits of accessibility, shall be examined during the life of the plant. All carbon steel or low alloy (similar metal) RPV nozzle-to-safe end welds plus additional welds to comprise a 25 % sample shall be examined each interval. All stainless or dissimilar metal welds are examined under Examination Category B-F.
- (*7) Class 1 longitudinal welds shall be examined when they intersect a circumferential weld selected for examination in accordance with Table 2500-1 B-J, NOTE: (4). Numbers shown are based on the circumferential welds currently selected for examination.
- (*8) Examine only one pump in accordance with Table 2500-1, B-L-2, NOTE: (1) & (2). This examination shall be performed during Cycle 6 in accordance with the NRC SER for Relief Request ISI-4 (letter A02 891030 018) associated with the first inspection interval.
- (*9) Examine only one valve per Group in accordance with Table 2500-1, B-M-2, NOTE: (3). There are 21 Groups of Class 1 valves NPS 4 or larger.
- (*10) Number of Groups of Class 1 valves exceeding NPS 4 contained within this system (Examination Category and/or Item Number).

SECTION 8.1 EXAMINATION SCHEDULE
PART 2 - CLASS 2 EQUIVALENT (IWC) COMPONENTS

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
C-A	C1.10	8	RHR	2(*1)	1	-	1	ISI-0406-C	UT	RHRHX RHRG-2-07 Shell RHRG-2-08 Circ.
C-A	C1.20	8	RHR	2(*1)	-	1	1	ISI-0406-C	UT	RHRHX RHRG-2-09 Head RHRG-2-10 Circ.
C-A	C1.30	N/A		N/A						None
C-B	C2.10	N/A		N/A						None
C-B	C2.21	4	RHR	1(*2)	1	-	-	ISI-0406-C	UT&MT	RHRHX RHRG-2-11 Head Noz Weld.
C-B	C2.22	N/A		N/A				None		
C-B	C2.31	16	RHR	4(*2)	-	2	2	ISI-0406-C	MT	RHRHX RHRG-2-05A Noz Rein RHRG-2-05B forcing RHRG-2-06A Plate RHRG-2-06B Welds.
C-B	C2.32	N/A		N/A						None
C-B	C2.33	8	RHR	2(*2)	2	2	2	ISI-0406-C	VT-2	RHRHX RHRG-2-05 & -06, Noz Reinforcing Plt relief "telltale" hole @ Press Test.
C-C	C3.10	12	RHR	3(*3)	1	1	1	ISI-0406-C	MT	Pres Ves 1A's => 3/4" RHRHX
C-C	C3.20	47		47	15	16	16		MT	Piping 1A's => 3/4"
			CS/6	6	6	-	-	ISI-0105-C	MT	
			HPCI/4	4	-	4	-	ISI-0130-C	MT	
			MS/8	8	8	-	-	ISI-0079-C	MT	
			RCIC/1	1	1	-	-	ISI-0131-C	MT	
			RHR/28	28	-	12	16	ISI-0324-C	MT	
C-C	C3.30	4	RHR	4	1	1	2	ISI-0310-B	MT	Pump 1A's => 3/4".

SECTION 8.1 EXAMINATION SCHEDULE
PART 2 - CLASS 2 EQUIVALENT (IWC) COMPONENTS (CONT'D)

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
C-C	C3.40	N/A		N/A						None
C-C	N/A	98		N/A						Class 2 1A's < 3/4"
C-D		N/A		N/A						None
C-F-1	C5.11	13		13	4	4	5		PT & UT	Dissim metal & SS circ welds > 4" & => 3/8" nom. wall.
			CS/6	6	2	4	-	ISI-0103-C		
			HPCI/5	5	-	-	5	ISI-0128-C		
			RHR/2	2	2	-	-	MSG-0018-C		
C-F-1	C5.12	8	CS	8(*4)	2(*4)	6(*4)	-(*)	ISI-0103-C	PT & UT	Dissim metal & SS long welds > 4" & => 3/8" nom. wall.
C-F-1	C5.20	N/A		N/A						BWR Plant
C-F-1	C5.30	N/A		N/A						None
C-F-1	C5.40	N/A		N/A						None
C-F-2	N/A	150(*6)		N/A	-	-	-		N/A	< 3/8" nom. wall Excluded See Section 7.3.4.8
			CS/21	N/A				ISI-0103-C		
			RBCCW/16	N/A				ISI-0031-C		
			RCIC/39	N/A				ISI-0129-C		
			RHR/74	N/A				MSG-0018-C		
C-F-2	C5.51	941 (1091)(*5)		82	27	27	28		MT & UT	CS Circ Welds > 4" & => 3/8" nom. wall.
			CRD/72	6	6	-	-	ISI-0040-C		
			CS/143	12	-	-	12	ISI-0103-C		
			HPCI/163	14	7	7	-	ISI-0128-C		
			MS/115	10	10	-	-	MSG-0021-C		
			RCIC/46	4	4	-	-	ISI-0129-C		
			RHR/402	36	-	20	16	MSG-0018-C	- - -	-Includes containment heat removal.
C-F-2	C5.52	20		3(*4)	2(*4)	1(*4)	-		MT & UT	CS Long Welds > 4" & => 3/8" nom. wall.
			MS/8	2(*4)	2	-	-	MSG-0021-C		
			RHR/12	1(*4)	-	1	-	MSG-0018-C		

SECTION 8.1 EXAMINATION SCHEDULE
PART 2 - CLASS 2 EQUIVALENT (IWC) COMPONENTS (CONT'D)

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
C-F-2	C5.60	N/A		N/A						BWR Plant
C-F-2	C5.70	N/A		N/A						None
C-F-2	C5.81	2	RHR	1	-	-	1	MSG-0018-C	MT	Sweep-o-let Branch Connections
C-G	C6.10	N/A		N/A						None
C-G	C6.20	N/A		N/A						None
C-H	ALL	--		ALL	--See Section 7.9 and SSP-8.5.			--		VT-2 Pressure Test Program.

NOTES:

- (*1) Examinations limited to one vessel of similar design, size, function in accordance with Table IWC-2500-1, Examination Category C-A, NOTE: (3).
- (*2) Examinations limited to one vessel of similar design, size, function in accordance with Table IWC-2500-1, Examination Category C-B, NOTE: (4).
- (*3) Examinations limited to one vessel of similar design, size, function in accordance with Table IWC-2500-1, Examination Category C-C, NOTE: (2).
- (*4) Class 2 longitudinal welds shall be examined when they intersect a circumferential weld selected for examination in accordance with Table 2500-1, C-F-1, C5.12, and C-F-2, C5.52, Extent of Examination, "2.5t - at the intersecting circumferential weld." Numbers shown are based on the circumferential welds currently selected for examination.
- (*5) Total count (1090) of Item Numbers C5.51 (circumferential welds $\geq 3/8$ " nominal wall) & Item Numbers N/A (excluded welds due to thickness being $< 3/8$ " nominal wall) to which the 7.5 % sampling rate is applied to arrive at 82 welds to be examined. The second interval sample is prorated to each system by using the ratio of the nonexempt C-F-2 welds for the system to the total of C-F-2 circumferential welds. [i.e. For RHR: $(74+402)/1091 \times 82 = 36$]. See Table IWC-2500-1, C-F-2, NOTES: (2).
- (*6) Item Numbers N/A are the circumferential welds $< 3/8$ " nominal wall. There are 150 of these welds and they are included here to establish a total weld count. They are not subject to examination. See Section 7.3.4.8.



SECTION 8.1 EXAMINATION SCHEDULE
PART 3 - CLASS 3 EQUIVALENT (IWD) COMPONENTS

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
D-A		N/A		N/A						None
D-B	D2.10	--	All	--See Section 7.9 and SSP-8.5.			--		VT-2	Pressure Test Program.
D-B	D2.20	94		94	31	31	32		VT-3	IA's on Comp Supports & Restraints.
			EECW/74	74	12	31	31	ISI-0368-C		
			RCW/2	2	1	-	1	ISI-0391-C		
			RHRW/18	18	18	-	-	ISI-0145-C		
D-B	D2.30	15	MS	15	5	5	5	ISI-0412-C	VT-3	IA's on Snubbers
D-B	D2.40	35		35	11	12	12		VT-3	IA's on Spring Type Component Supports.
			MS/26	26	2	12	12	ISI-0412-C		
			RHRW/9	9	9	-	-	ISI-0145-C		
D-B	D2.50	N/A		N/A						None
D-B	D2.60	N/A		N/A						None
D-C	D3.10	--	All	--See Section 7.9 and SSP-8.5.			--		VT-2	Pressure Test Program.
D-C	D3.20 thru D3.60	N/A		N/A						None

NOTES:

- (*1) Examinations limited to one component of similar design, function, and service (FPC Pumps and Heat Exchangers) in accordance with Table IWD-2500-1, Examination Category D-C, NOTE: (3). --

SECTION 8.1 EXAMINATION SCHEDULE
PART 4 - COMPONENT SUPPORTS. (IWF, CODE CASE N-491)

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
F-A	F1.10	185		47	15	16	16		VT-3	Class 1 Pipe Supports. Subtotals follow below.
F-A	F1.10A	14		6	2	2	2		VT-3	One directional rigid supports.
			CRD/1	1	1	-	-	ISI-0274-C		
			HS/7	1	1	-	-	ISI-0279-C		
			RCIC/1	1	-	1	-	ISI-0274-C		
			RECIR/1	1	-	1	-	ISI-0278-C		
			RWCU/1	1	-	-	1	ISI-0274-C		
			SLC/3	1	-	-	1	ISI-0379-C		
F-A	F1.10B	35		8	2	3	3		VT-3	Multidirectional rigid supports.
			FW/3	1	1	-	-	ISI-0277-C & ISI-0387-C		
			HPCI/1	1	1	-	-	ISI-0275-C		
			HS/6	1	-	1	-	ISI-0279-C		
			RCIC/2	1	-	1	-	ISI-0274-C		
			RECIR/2	1	-	1	-	ISI-0278-C		
			RHR/4	1	-	-	1	ISI-0276-C		
			RWCU/7	1	-	-	1	ISI-0274-C		
			SLC/10	1	-	-	1	ISI-0379-C		
F-A	F1.10C	136		33	11	11	11		VT-3	Variable supports. (Snubbers, constant force, springs, etc)
			CS/10	3	3	-	-	ISI-0280-C		
			FW/33	8	8	-	-	ISI-0277-C & ISI-0387-C		
			HPCI/3	1	-	1	-	ISI-0275-C		
			HS/44	10	-	10	-	ISI-0279-C		
			RCIC/5	1	-	-	1	ISI-0274-C		
			RECIR/21	5	-	-	5	ISI-0278-C		
			RHR/11	3	-	-	3	ISI-0276-C		
			RWCU/4	1	-	-	1	ISI-0274-C		
			SLC/5	1	-	-	1	ISI-0379-C		
F-A	F1.20	333		51	17	17	17		VT-3	Class 2 Pipe Supports. Subtotals follow below.

SECTION 8.1 EXAMINATION SCHEDULE
PART 4 - COMPONENT SUPPORTS (IWF, CODE CASE N-491) (CONT'D)

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
F-A	F1.20A	110		17	5	6	6		VT-3	One directional rigid supports.
			CRD/14	2	2	-	-	ISI-0041-C		
			CS/16	2	2	-	-	ISI-0105-C		
			HPCI/25	4	-	-	4	ISI-0130-C		
			RBCCW/2	1	1	-	-	ISI-0032-C		
			RCIC/12	2	-	-	2	ISI-0131-C		
			RHR/41	6	-	6	-	ISI-0324-C		
F-A	F1.20B	63		10	3	3	4		VT-3	Multidirectional rigid supports.
			CRD/13	2	2	-	-	ISI-0041-C		
			CS/8	1	1	-	-	ISI-0105-C		
			HPCI/7	1	-	-	1	ISI-0130-C		
			MS/6	1	-	-	1	ISI-0079-C		
			RCIC/3	1	-	-	1	ISI-0131-C		
			RHR/26	4	-	3	1	ISI-0324-C		
F-A	F1.20C	160		24	8	8	8		VT-3	Variable supports. (Snubbers, constant force, springs, etc)
			CS/14	3	3	-	-	ISI-0105-C		
			HPCI/20	3	3	-	-	ISI-0130-C		
			MS/31	4	-	-	4	ISI-0079-C		
			RCIC/9	1	1	-	-	ISI-0131-C		
			RBCCW/1	1	1	-	-	ISI-0032-C		
			RHR/85	12	-	8	4	ISI-0324-C		
F-A	F1.30	441		45	13	17	15		VT-3	Class 3 Pipe Supports. Subtotals follow below.
F-A	F1.30A	119		12	4	5	3		VT-3	One directional rigid supports.
			EECW/86	8	-	5	3	ISI-0368-C		
			MS/1	1	1	-	-	ISI-0412-C		
			RCW/4	1	1	-	-	ISI-0391-C		
			RHRSW/28	2	2	-	-	ISI-0145-C		
F-A	F1.30B	256		26	7	10	9		VT-3	Multidirectional rigid supports.
			EECW/173	17	-	8	9	ISI-0368-C		
			MS/53	6	6	-	-	ISI-0412-C		
			RCW/5	1	1	-	-	ISI-0391-C		
			RHRSW/25	2	-	2	-	ISI-0145-C		



SECTION 8.1 EXAMINATION SCHEDULE
PART 4 - COMPONENT SUPPORTS (IWF, CODE CASE N-491) (CONT'D)

Examination Category	Item No.	Number of Components	System/ Subtotal	Second Inspection Interval Sample	First Period Sample	Second Period Sample	Third Period Sample	Components Shown on ISI Drawing #	Exam(s) Required	Remarks
F-A	F1.30C	66		7	2	2	3		VT-3	Variable supports. (Snubbers, constant force, springs, etc)
			EECW/3	1	-	-	1	ISI-0368-C		
			HS/54	4	2	2	-	ISI-0412-C		
			RHR/9	2	-	-	2	ISI-0145-C		
F-A	F1.40	71		30	11	11	8			All Classes of Component supports (not pipe supports) Subtotals follow below.
F-A	F1.40A	N/A								None.
F-A	F1.40B	48		16(*1)	6	6	4		VT-3	Multidirectional rigid supports. Tank supports. Pump supports. Pump & strainer supports.
			CRD/6	3(*1)	3	-	-	ISI-0041-C		
			CS/4	1(*1)	1	-	-	ISI-0105-C		
			EECW/16	2(*1)	2	-	-	ISI-0368-C		
			HPCI/3	3	-	-	3	ISI-0130-C		Turbine & pump supports.
			RCIC/2	2	-	2	-	ISI-0131-C		Turbine & pump supports.
			RHR/12	3(*1)	-	3	-	ISI-0406-C		RHR HX supports.
			RHR/4	1(*1)	-	1	-	ISI-0310-B		RHR Pump supports
			RPV/1	1	-	-	1	ISI-0415-A		RPV support skirt
F-A	F1.40C	23		14(*1)	5	5	4			
			FW/2	2	2	-	-	ISI-0277-C	VT-3	Valve Supports
			RECIR/2	2	2	-	-	ISI-0278-C	VT-3	Valve Supports
			RECIR/18	9(*1)	-	5	4	ISI-0278-C	VT-3	RECIR Pump Supports
			RPV/1	1	1	-	-	ISI-0415-C	VT-3	RPV Stabilizer

NOTE:

(*1) For multiple components other than piping, within a system of similar design, function, and service, the supports of only one of the multiple components are required to be examined. See Table -2500-1, Examination Category F-A, Note: (3).

SECTION 8.1 EXAMINATION SCHEDULE
PART 5 - AUGMENTED EXAMINATIONS (*1)

Augmented Exam Category	Ref. Program Section	Number of Components	Exam Reqmt Source Code	Refueling Cycle 6 Sample	Refueling Cycle 7 Sample	Refueling Cycle 8 Sample	Refueling Cycle 9 Sample	Refueling Cycle 10 Sample	Refueling Cycle 11 Sample	Exam(s) Required	Remarks
A	7.12.8	36	B02-02	-	4	-	3	3	-	UT	Section 8.2. NUREG-0313
C	7.12.8	114	B02-02	-	114	-	20	20	20	UT	Section 8.2. NUREG-0313
D	7.12.8	20	B02-02	15	5	15	5	15	5	UT	Section 8.2. NUREG-0313
E	7.12.8	14	B02-02	8	6	8	6	8	6	UT	Section 8.2. NUREG-0313
G	7.12.8	8	B02-02	8	-	-	-	-	-	UT	Section 8.2. NUREG-0313
NA(*2)	7.12.8	7	B02-02	-	-	-	-	-	-	N/A	Stainless Welds, Temp. Exclusion(*2) NUREG-0313
B-D	7.12.6	12	B01-02	-	12	-	12	-	12	UT	NUREG-0619
B-J	7.12.6	6	B01-02	-	6	-	6	-	6	UT	NUREG-0619 FW Nozzle Safe ends.
B-J	7.12.6	3	B01-02	3	-	-	-	-	-	UT	NUREG-0619 Welds at CRD Reroute.
B-N-1	7.12.6	6	B01-02	-	-	6	-	-	6	VT-1	NUREG-0619 FW Noz Spargers.
NA	7.12.6	1	B01-02	1	-	-	-	-	-	UT	NUREG-0619 Base metal at CRD Reroute.
B-N-1	7.12.9	2	B03-02	2	2	2	2	2	2	VT-1	IEB 80-13 CS Spargers
B-J	7.12.10	31	B04-02	2	7	-	11	-	11	UT	Tech Spec 4.6.G.2 Pipe Whip



SECTION 8.1 EXAMINATION SCHEDULE
PART 5 - AUGMENTED EXAMINATIONS (CONT'D) (*1)

Augmented Ref. Exam Category	Program Section	Number of Components	Exam Reqmt Source Code	Refueling Cycle 6 Sample	Refueling Cycle 7 Sample	Refueling Cycle 8 Sample	Refueling Cycle 9 Sample	Refueling Cycle 10 Sample	Refueling Cycle 11 Sample	Exam(s) Required	Remarks
B-A	7.12.11	21	B05-02	-	21	-	-	-	-	UT	RPV Welds
C	7.12.1	1	D01-02	1	-	1	-	1	-	UT&RT	
B-N-1	7.12.2	1	D02-02	1	1	1	-	-	-	VT-1	
E	7.12.3	4	D03-02	4	-	-	-	-	-	UT	
F-A	7.12.4	23	D04-02	Examination frequency based on HPCI injections.						Modified VT-1	

NOTES:

- (*1) Most of these components are considered within the Code examination numbers presented in Parts 1 through 4 of this Section. Where one examination may serve as Code credit and as Augmented credit, it shall be so credited.
- (*2) These stainless steel welds contain coolant at a temperature of 200 degrees or less during power operation and do not require examination under NUREG-0313. These welds are DCS-2-03 and -12 shown on ISI Drawing ISI-0271-C and SHPCI-2-1, -2, -3, -4, and -5 shown on ISI Drawing ISI-0128-C.



SECTION 8.2
UNIT 2 WELDS REQUIRED TO BE EXAMINED BY
GENERIC LETTER 88-01 (NUREG-0313, REV. 2)

<u>WELD NUMBER</u>	<u>IGSCC EXAMINATION SYSTEM CATEGORY</u>	<u>PIPE SIZE (INCHES)</u>	<u>WELD CONFIG</u>
2RA5	RECIR A	12	P,P
2RA6	RECIR A	12	P,SE
2RB5	RECIR A	12	P,P
2RB6	RECIR A	12	P,SE
2RC5	RECIR A	12	P,P
2RC6	RECIR A	12	P,SE
2RD5	RECIR A	12	P,P
2RD6	RECIR A	12	P,SE
2RE5	RECIR A	12	P,P
2RE6	RECIR A	12	P,SE
2RF5	RECIR A	12	P,P
2RF6	RECIR A	12	P,SE
2RG5	RECIR A	12	P,P
2RG6	RECIR A	12	P,SE
2RH5	RECIR A	12	P,P
2RH6	RECIR A	12	P,SE
2RJ5	RECIR A	12	P,P
2RJ6	RECIR A	12	P,SE
2RK5	RECIR A	12	P,P
2RK6	RECIR A	12	P,SE
2RA1	RPV A	12	N,SE
2RB1	RPV A	12	N,SE
2RC1	RPV A	12	N,SE
2RD1	RPV A	12	N,SE
2RE1	RPV A	12	N,SE
2RF1	RPV A	12	N,SE
2RG1	RPV A	12	N,SE
2RH1	RPV A	12	N,SE
2RJ1	RPV A	12	N,SE
2RK1	RPV A	12	N,SE
JP-2-1A	RPV A	4	N,SE
JP-2-1B	RPV A	4	N,SE
DRWC-2-04A	RWCU A	6	P,P
DRWC-2-04B	RWCU A	6	P,P
DRWC-2-07A	RWCU A	6	P,P
DRWC-2-07B	RWCU A	6	P,P
DCS-2-04	CS C	12	P,P
DCS-2-05	CS C	12	P,V
DCS-2-07	CS C	12	P,P
DCS-2-13	CS C	12	P,P
DCS-2-13A	CS C	12	P,P
DCS-2-14	CS C	12	P,V



SECTION 8.2
UNIT 2 WELDS REQUIRED TO BE EXAMINED BY
GENERIC LETTER 88-01 (NUREG-0313, REV. 2)

<u>WELD NUMBER</u>	<u>IGSCC EXAMINATION SYSTEM CATEGORY</u>	<u>PIPE SIZE (INCHES)</u>	<u>WELD CONFIG</u>
DSCS-2-01	CS C	12	E,P
DSCS-2-02	CS C	12	E,P
DSCS-2-09	CS C	12	P,P
TCS-2-403	CS C	10	P,SE
TSCS-2-418	CS C	10	P,SE
GR-2-01	RECIR C	28	P,PMP
GR-2-02	RECIR C	28	P,V
GR-2-03	RECIR C	28	E,V
GR-2-04	RECIR C	4	C,P
GR-2-07	RECIR C	4	C,P
GR-2-08	RECIR C	28	T,X
GR-2-09	RECIR C	12	P,P
GR-2-12	RECIR C	12	P,P
GR-2-18	RECIR C	22	H,X
GR-2-19	RECIR C	12	P,P
GR-2-22	RECIR C	12	P,P
GR-2-25	RECIR C	22	H,V
GR-2-26	RECIR C	22	H,V
GR-2-27	RECIR C	28	P,PMP
GR-2-28	RECIR C	28	P,V
GR-2-29	RECIR C	28	E,V
GR-2-30	RECIR C	4	C,P
GR-2-33	RECIR C	4	C,P
GR-2-34	RECIR C	28	P,X
GR-2-35	RECIR C	12	P,P
GR-2-38	RECIR C	12	P,P
GR-2-41	RECIR C	12	P,R
GR-2-44	RECIR C	22	H,X
GR-2-48	RECIR C	12	P,P
GR-2-51	RECIR C	22	H,V
GR-2-52	RECIR C	22	H,V
GR-2-54	RECIR C	28	E,P
GR-2-55	RECIR C	28	P,T
GR-2-56	RECIR C	28	E,V
GR-2-57	RECIR C	28	P,V
GR-2-58	RECIR C	28	E,PMP
GR-2-60	RECIR C	28	E,P
GR-2-62	RECIR C	28	E,V
GR-2-63	RECIR C	28	P,V
GR-2-63A	RECIR C	4	F,F
GR-2-63B	RECIR C	4	BC
GR-2-64	RECIR C	28	E,PMP
KR-2-01	RECIR C	4	BC
KR-2-02	RECIR C	28	E,P



SECTION 8.2
UNIT 2 WELDS REQUIRED TO BE EXAMINED BY
GENERIC LETTER 88-01 (NUREG-0313, REV. 2)

WELD NUMBER	IGSCC EXAMINATION		PIPE SIZE (INCHES)	WELD CONFIG
	SYSTEM	CATEGORY		
KR-2-03	RECIR	C	28	P, T
KR-2-04	RECIR	C	4	BC
KR-2-11	RECIR	C	22	R, X
KR-2-12	RECIR	C	22	H, X
KR-2-13	RECIR	C	12	BC
KR-2-15	RECIR	C	22	C, H
KR-2-19	RECIR	C	12	BC
KR-2-20	RECIR	C	12	BC
KR-2-23	RECIR	C	4	BC
KR-2-24	RECIR	C	28	E, P
KR-2-25	RECIR	C	28	P, T
KR-2-26	RECIR	C	4	BC
KR-2-33	RECIR	C	22	R, X
KR-2-34	RECIR	C	22	H, X
KR-2-35	RECIR	C	12	BC
KR-2-42	RECIR	C	12	BC
KR-2-45	RECIR	C	28	E, P
KR-2-46	RECIR	C	28	P, T
KR-2-47	RECIR	C	28	E, P
KR-2-48	RECIR	C	28	E, P
KR-2-49	RECIR	C	4	BC
KR-2-50	RECIR	C	28	E, P
KR-2-51	RECIR	C	28	E, P
KR-2-52	RECIR	C	28	E, P
KR-2-53	RECIR	C	4	BC
DRHR-2-04	RHR	C	24	E, P
DRHR-2-05	RHR	C	24	P, V
DRHR-2-06	RHR	C	24	P, V
DRHR-2-07	RHR	C	24	P, V
DRHR-2-08	RHR	C	24	P, V
DRHR-2-13	RHR	C	24	E, P
DRHR-2-14	RHR	C	24	E, V
DRHR-2-15	RHR	C	24	P, V
DRHR-2-16	RHR	C	24	E, V
DRHR-2-17	RHR	C	24	P, V
DRHR-2-18	RHR	C	24	P, T
DRHR-2-19	RHR	C	20	P, T
DRHR-2-21	RHR	C	20	E, V
DRHR-2-23	RHR	C	20	P, V
DSRHR-2-01	RHR	C	24	E, P
DSRHR-2-02	RHR	C	24	P, P
DSRHR-2-03	RHR	C	24	P, P
DSRHR-2-04	RHR	C	24	E, P
DSRHR-2-04A	RHR	C	24	E, P

SECTION 8.2
UNIT 2 WELDS REQUIRED TO BE EXAMINED BY
GENERIC LETTER 88-01 (NUREG-0313, REV. 2)

WELD NUMBER	IGSCC EXAMINATION SYSTEM CATEGORY	PIPE SIZE (INCHES)	WELD CONFIG
DSRHR-2-05	RHR C	24	E,P
DSRHR-2-05A	RHR C	24	E,P
DSRHR-2-06	RHR C	24	P,P
DSRHR-2-07	RHR C	24	E,P
DSRHR-2-08	RHR C	6	BC
DSRHR-2-09	RHR C	20	E,P
DSRHR-2-10	RHR C	20	E,P
DSRHR-2-11	RHR C	20	E,P
N1A-SE	RPV C	28	N,SE
N1B-SE	RPV C	28	N,SE
TCS-2-401	RPV C	10	N,SE
TCS-2-417	RPV C	10	N,SE
DRWC-2-01	RWCUC	6	P,V
DRWC-2-01A	RWCUC	6	P,V
DRWC-2-02	RWCUC	6	E,V
DRWC-2-03	RWCUC	6	P,V
DRWC-2-05A	RWCUC	6	P,P
DSRWC-2-01A	RWCUC	6	E,P
DSRWC-2-02	RWCUC	6	E,P
DSRWC-2-06	RWCUC	6	E,P
DCS-2-01	CS D	12	P,V
DCS-2-02	CS D	12	E,V
DCS-2-10	CS D	12	E,V
DCS-2-11	CS D	12	P,V
DSCS-2-14	CS D	12	E,P
DSCS-2-15	CS D	12	E,P
TCS-2-405	CS D	12	E,V
TCS-2-406	CS D	12	P,V
TCS-2-410	CS D	12	E,V
TCS-2-421	CS D	12	E,V
TCS-2-422	CS D	12	P,V
TCS-2-426	CS D	12	E,P
DRHR-2-02	RHR D	24	P,V
DRHR-2-11	RHR D	24	P,V
TRHR-2-191	RHR D	20	E,V
RCRD-2-33	RPV D	4	C,N
DRWC-2-04X	RWCUC	6	E,P
DRWC-2-05A	RWCUC	6	P,P
DRWC-2-05B	RWCUC	6	P,V
DSRWC-2-07X	RWCUC	6	E,P
GR-2-15 (OL)	RECIR E	12	P,R
GR-2-45 (OL)	RECIR E	12	P,P
GR-2-53	RECIR E	28	P,SE
GR-2-59 (OL)	RECIR E	28	P,SE
GR-2-61 (OL)	RECIR E	28	LW/P
KR-2-14	RECIR E	12	BC

SECTION 8.2
UNIT 2 WELDS REQUIRED TO BE EXAMINED BY
GENERIC LETTER 88-01 (NUREG-0313, REV. 2)

<u>WELD NUMBER</u>	<u>IGSCC EXAMINATION SYSTEM CATEGORY</u>	<u>PIPE SIZE (INCHES)</u>	<u>WELD CONFIG</u>
KR-2-36	RECIR E	12	BC
KR-2-37	RECIR E	22	C,H
KR-2-41	RECIR E	12	BC
DRHR-2-09	RHR E	24	P,T
DRHR-2-22	RHR E	20	P,V
DSRWC-2-03 (OL)	RWCU E	6	E,P
DSRWC-2-04 (OL)	RWCU E	6	E,P
DSRWC-2-05 (OL)	RWCU E	6	E,P
RCRD-2-49	CRD G	4	E,V
RCRD-2-50	CRD G	4	E,V
RCRD-2-52	CRD G	4	P,V
DRHR-2-03	RHR G	24	P,V
DRHR-2-03B	RHR G	24	P,P
DRHR-2-12	RHR G	24	P,V
DRHR-2-13B	RHR G	24	P,P
DSRWC-2-07P	RWCU G	6	P,P



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SECTION 8.3 ASME CLASS 1 EQUIVALENT VALVE LIST

GROUP NUMBER	VALVE NUMBER	SIZE INCH	SYSTEM	ISI DWG NUMBER	VENDOR	VENDOR DWG NO.	MATERIAL SPEC.	VALVE TYPE	COMMENTS
1	3-554 3-558 3-568 3-572	24	FW	ISI-0269-C	ATWOOD & MORRILL	20788-H	A-216 WCB	CHECK	
2	HCV3-66 HCV3-67	24	FW	ISI-0269-C	POWELL	035879-2	A-216 WCB	GATE	
3	FCV68-01 FCV68-77	28	RECIR	ISI-0270-C	DARLING	94-12086	A351 CF8	GATE	
4	FCV68-03 FCV68-79	28	RECIR	ISI-0270-C	DARLING	94-12086	A351 CF8	GATE	
5	FCV68-33 FCV68-35	22	RECIR	ISI-0270-C	DARLING	94-12086	A351 CF8	GATE	
6	FCV1-14 FCV1-15 FCV1-26 FCV1-27 FCV1-37 FCV1-38 FCV1-51 FCV1-52	26	MS	ISI-0279-C	ATWOOD & MORRILL	20851-H	A216 WCB	GLOBE	
7	PCV1-004 PCV1-005 PCV1-018 PCV1-019 PCV1-022 PCV1-023 PCV1-030 PCV1-031 PCV1-034 PCV1-041 PCV1-042 PCV1-179 PCV1-180	6	MS	ISI-0312-B	TARGET ROCK	PL-7657F-100	A216 WCB & A105	PILOT OPERATED RELIEF	
8	HCV74-69 HCV74-55	24	RHR	ISI-0276-C	POWELL	035880-3	A351 CF8M	GATE	
9	FCV74-54 FCV74-68	24	RHR	ISI-0276-C	ATWOOD & MORRILL	20800-H	A351 CF8M	CHECK	



SECTION 8.3 ASME CLASS 1 EQUIVALENT VALVE LIST (CONT'D)

GROUP NUMBER	VALVE NUMBER	SIZE INCH	SYSTEM	ISI DWG NUMBER	VENDOR	VENDOR DWG NO.	MATERIAL SPEC.	VALVE TYPE	COMMENTS
10	FCV74-53 FCV74-67	24	RHR	ISI-0276-C	WALWORTH	A-12334-M1E	A351 CF8M	GATE	No B-G-2 bolting.
11	HCV74-49	20	RHR	ISI-0276-C	POWELL	036207-2	A351 CF8M	GATE	
12	FCV74-47	20	RHR	ISI-0276-C	WALWORTH	A-12332-M1C	A216 WCB	GATE	No B-G-2 bolting.
15	85-577	4	CRD	ISI-0274-C	VELAN	P-339231-13	A182 TP316	GATE	Exempt from B-M-2 exams. Size <= 4".
16	HCV75-27 HCV75-55	12	CS	ISI-0280-C	POWELL	0360334-2	A351 CF8M	GATE	
17	FCV75-26 FCV75-54	12	CS	ISI-0280-C	ROCKWELL	PD-420652	A351 CF8M	CHECK	
18	FCV75-25 FCV75-53	12	CS	ISI-0280-C	WALWORTH	IVP-11978	A351 CF8M	GATE	No B-G-2 bolting.
19	69-500	6	RWCU	ISI-0274-C	VELAN	P-33160-20	A182 F316	GATE	No B-G-2 bolting.
21	FCV69-01 FCV69-02	6	RWCU	ISI-0274-C	VELAN	P-33160-20	A182 F316	GATE	No B-G-2 bolting.
22	69-579	4	RWCU	ISI-0274-C	VELAN	P-35177-4	A105 GR11	CHECK	Exempt from B-M-2 exams. Size <= 4". No B-G-2 bolting.
23	69-580	4	RWCU	ISI-0274-C	VELAN	P-35177-3	A105 GR11	GATE	Exempt from B-M-2 exams. Size <= 4". No B-G-2 bolting.
24	FCV71-40	6	RCIC	ISI-0274-C	ROCKWELL	PD-420688	A216 WCB	CHECK	No B-G-2 bolting.
25	FCV73-02 FCV73-03	10	HPCI	ISI-0275-C	CRANE	PB-139989	A216 WCB	GATE	No B-G-2 bolting.
26	FCV73-45	14	HPCI	ISI-0275-C	ROCKWELL	PD-420687	A216 WCB	CHECK	
27	FCV74-48	20	RHR	ISI-0276-C	WALWORTH	A-12331-M1C	A351 CF8M	GATE	No B-G-2 bolting.

SECTION 8.4 DATA SHEET 1
FIELD CORRECTED DRAWING(S) TRANSMITTAL FORM

To: ASME Section XI Programs Transmittal Number: _____
BR 5A-C (Yr./Sequence) |

From: BFN SQO/ISI Unit / Outage: _____

The drawing(s) listed below (copies attached) have been field marked to indicate configuration changes noted in the field. Please revise the original of this / these drawing(s) and issue revision(s) prior to the next refueling outage.

- | | |
|----------|-----------|
| 1. _____ | 7. _____ |
| 2. _____ | 8. _____ |
| 3. _____ | 9. _____ |
| 4. _____ | 10. _____ |
| 5. _____ | 11. _____ |
| 6. _____ | 12. _____ |

Signature of Examiner: _____ Date _____

SQO Representative: _____ Date _____

RETURN

To: BFN SQO/ISI
MOD 1K-BFN

The drawings have been revised as indicated or as noted to reflect field configuration changes at BFN.

ASME Section XI Programs Representative: _____ Date _____ |



SECTION 8.5 DATA SHEET 2
NOTIFICATION OF INDICATION FORM

PART 1 - FINDINGS

NOI Number _____ Plant/Unit _____ ISI Drawing/Sheet No. _____

Examination Report Number _____ Component I.D. _____

Description of Indication (Sketch/Photograph, if required for
clarification):

Signature of Examiner/ Certification Level: _____

Date _____

Signature of Field Supervisor (Contractor): _____

Date _____

Signature of SQO Representative: _____

Date _____

PART II - DISPOSITION

Disposition Recorded by: _____

Date _____

PART III

ADDITIONAL EXAMINATIONS

Additional Sample Required: _____ Yes, _____ No. Attach list of
items in additional sample, if required.

VERIFICATION OF CLOSURE

Verification of completed corrective action required by
disposition.

Reexamination Report Number, if applicable: _____

Comments: _____

Signature of SQO Representative: _____

Date _____

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SECTION 8.6

REQUESTS FOR RELIEF

PW/2S146GR1

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Request for Relief ISI-2-1

Component:	Reactor Pressure Vessel (RPV) Support Integral Attachment
Class:	1
Inspection Requirements:	ASME Section XI, Table IWB-2500-1, Examination Category B-H, Item Number B8.10, Surface examination on two sides, Figure IWB-2500-13.
Basis for Relief:	Nonremovable RPV insulation limits the access to the integral attachment weld of the support skirt to the RPV. Only two access ports, approximately 180 degrees apart, provide access to the O.D. for examination of two 24" sections of the integral attachment weld. Also, the I.D. is totally inaccessible.
Alternate Inspection:	UT of the four feet of accessible O.D. surface during the interval. Examination of one 24" section shall be scheduled in the second period and the other 24" section shall be scheduled in the third period.

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