Nuclear Operating Company
South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

May 20, 2021
NOC-AE-21003806
STI: 35168498
10 CFR 50.55a

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

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498 and STN 50-499
Inservice Inspection Program Plan and Inservice Testing Program Snubber Inservice Test Plan
for the Fourth Ten-Year Interval

Pursuant to 10 CFR 50.55a(f)(4)(ii), STP Nuclear Operating Company (STPNOC) submits the South Texas Project (STP) Inservice Testing (IST) snubber program for the fourth 10-year interval applicable to safety related seismic restraints (Snubbers) as described in Technical Requirements Manual section 3/4.7.9. The IST snubber program plan describes the programmatic aspects of inservice testing implemented with the fourth 10-year interval, which began September 25, 2020. STPNOC submits the attached program description in accordance with section ISTA-3200 of the 2012 Edition of the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code.

The IST program has been developed in accordance with the requirements of the 2012 Edition of the ASME OM Code, Subsections ISTA and ISTD with the inspection requirements of Code Case OMN-13, revision 2. STP Units 1 and 2 will also comply with the limitations and modifications to these requirements stated in 10 CFR 50.55a(b) related to implementation of the 2012 ASME OM Code. This portion of the IST program for Safety Related Seismic Restraints (Snubbers) is within the provisions of the ASME OM Code, requiring no NRC approval for implementation, and is provided for information only.

Pursuant to 10 CFR 50.55a(g)(4)(ii), STPNOC submits the Inservice Inspection Program Plan for STP Units 1 and 2. The updated Inservice Inspection Program will be conducted in accordance with the requirements of the 2013 Edition of ASME Section XI except for alternatives presented in approved code cases, and 10 CFR 50.55a modifications and limitations, as listed in the attached program plan. This update is applicable to the fourth 10-year inspection interval, which began September 25, 2020.

There are no commitments in this letter.

If there are any questions regarding this matter, please contact me at (361) 972-7806 or N. Boehmisch at (361) 972-8172

C. H. Georgeson
Christopher Georgeson
General Manager, Engineering

Attachments:
1. Inservice Inspection Program Plan for STP Units 1 and 2
2. Inservice Testing Program for STP Units 1 and 2 Snubber Inservice Test Plan

cc:
Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
1600 E. Lamar Boulevard
Arlington, TX 76011-4511

Attachment 1

Inservice Inspection Program Plan for STP Units 1 and 2

INSERVICE INSPECTION PROGRAM PLAN FOR THE SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION UNITS 1 AND 2

STP TEN-YEAR ISI PLAN

For the Fourth ISI Ten-Year Interval September 25, 2020 to September 8, 2029
For the Fourth CISI Ten-Year Interval September 9, 2019 to September 8, 2029

STP NUCLEAR OPERATING COMPANY
Effective Date: September 25, 2020

REVIEW AND CONCURRENCE SHEET

Prepared by:	[Electronic Approval / Signature: CR 20-986-2]	12/03/2020
	Eric Lantz (ISI Program Owner)	Date
Reviewed by:	[Electronic Approval / Signature: CR 20-986-2]	01/06/2021
	James Williams (NDE Level III)	Date
	[Electronic Approval / Signature: CR 20-986-2]	12/15/2020
	Jim Heil (Surveillance Program Engineer)	Date
	[Electronic Approval / Signature: CR 20-986-2]	12/10/2020
	Kellie Harris (RRA and Pressure Testing Program Engineer)	Date
	[Electronic Approval / Signature: CR 20-986-2]	01/06/2021
	Mark Wales (Concrete Containment Engineer)	Date
	[Electronic Approval / Signature: CR 20-986-2]	12/10/2020
	Mike Garner (Steam Generator and RCS Materials Engineer)	Date
Supervisory Review:	[Electronic Approval / Signature: CR 20-986-2]	01/14/2021
	Clayton Bonnot (Supervisor, Testing/Programs Engineering)	Date
	[Electronic Approval / Signature: CR 20-986-2]	01/18/2021
Management Review:	Michael Chandler - (Strategic Engineering Manager)	Date
	[Signature Documented: CR 20-986-3]	01/18/2021
ANII Review:		
		Date

March 22, 2021

Safarali (Safar) R. Shojaei,
Testing/Program Engineering
CTC- Contract B07185 STP Nuclear Operating Company
PO Box 2890
Wadsworth, Texas 77483

Subject: ANII Review and Acceptance: In-Service Inspection Program Plan for South Texas Project Electric Generating Station Units 1 and 2. Revision #10, effective date 09/25/2020.

This In-service Inspection (ISI) Program Plan outlines the requirements for the Nondestructive Examination of ASME Class 1, 2, and 3 Component Supports, Class CC/MC Concrete Containment Metal Liner, Repair / Replacement Activities for Class 1, 2, and 3 components and their supports, Class 1 Steam Generator Tubing, System Pressure Testing for leakage of Class 1, 2, and 3 components, and examination of Class 1, 2, and 3 component welds.

- Units 1 & 2 Fourth Inspection Interval, Sept.25, 2020 thru Sept.8, 2029.
- Concrete Containment Inspection activities (IWL) for the 35th and 40th year examinations. (In-Service Inspection Program Plan Appendix E)
- Containment Metal Liner Inspection activities, Units 1 & 2, Second Inspection Interval, Sept. 9, 2019 to Sept 8, 2029. (In-service Inspection Program Plan, Appendix C & D)
- Fourth Inspection Interval, ASME Section XI, Rules for In-service Inspection of Nuclear Power Plant Components Code, 2013 Edition. (In-service Inspection Program Plan, Appendix A & B).
- ASME Appendix VIII, Section XI 2013 Edition, a requirement of 10CFR50.55a. (In-service Inspection Program Plan, Appendix G)
- Augmented In-service Inspections (NRC request) "Reactor Coolant Pump Flywheel", UT examinations. "Break Exclusion Zone Piping and EPRI Risk-Inform In-service Inspection", (Appendix A & B) "Reactor Vessel Head Inspections", ASME Code Case N-729-1. "Class One Welds fabricated with Alloy 600/82/182 Material", Code Case N-722-1.
- "Alloy 600" NDE of pressure boundary locations not specified in the Code or other augmented ISI programs (In-service Inspection Program Plan Appendix I).
- "Thermal Fatigue", NDE of normally stagnant non-isolable piping systems attached to reactor coolant piping (In-service Inspection Program Plan Appendix J).
- "Interval Outage Schedules" Component Support, Repair/Replacement, Steam Generator Tubing, System Pressure Testing, Weld, and Containment Metal Liner for Units 1 & 2 (In-service Inspection Program Plan, Appendix K).

OneCIS Insurance Company

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- "Examination Volume Figures" Risk Informed ISI Examination Volume (In-service Inspection Program Plan, Appendix L).

ASME Sect XI- IWA-2110 Duties of the Inspector
This report is submitted in accordance with ASME Code Section XI 2013 Edition no Addenda, (IWA 2110) and is to document the review and acceptance of the In-service Inspection Program Plan, Rev # 10, Unit's 1 & 2, for the Fourth Inspection Interval.

This report is submitted in accordance with ASME Section XI, 2013, [IWA-2110 (c)] and is to document my review of items identified in [IWA-2110 (a) (1)].
The "In-Service Inspection (ISI) Program Plan", Rev. #10, meets the requirements of ASME Section XI, (IWA-2420) "Inspection Plans and Schedules" and (IWA-2430), "Inspection Intervals".

Please note that any revision to the above referenced In-Service Inspection Program Plan must be reviewed by the ANII, in accordance with ASME Section XI, [IWA-2110 (b)].

Respectfully

Robert (Bob) Winegarden
Authorized Nuclear Inservice Inspector
One CIS Insurance Company
361-972-7493 Office
919-800-1092 Cell

Cc: R. Offringa - One CIS / ASME Nuclear Manager
G. Brouette – One CIS / ANII Supervisor
C. Bonnot – STPEGS - Engineering Supervisor
J. Williams – STP – NDE Inspection Program Engineer
E. Lantz – STP – ISI Program Engineer

REVISION STATUS SHEET

REVISION	ISSUE DATE	DESCRIPTION
10	01/21/2021	STP Ten-Year ISI/CISI Program Plan meeting the requirements of the ASME Boiler and Pressure Vessel Code Section XI 2013 Edition for the Fourth Ten Year Interval. Formatted for consistency with Inservice Inspection Programs prepared by Iddeal Concepts, Inc.

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1.0 ASME Section XI Inservice Inspection Program

1.1 Purpose

The purpose of this South Texas Project Electric Generating Station (STPEGS) herein referred to as the South Texas Project (STP) Units 1 & 2 Inservice Inspection (ISI) and Containment Inservice Inspection (CISI) Program is to meet the code requirements for maintaining an ISI/CISI Program Plan for STP. This plan provides the overall ASME Section XI requirements for STP. In addition to meeting those requirements, the plan also addresses examinations that are performed to specific approved Code Cases in Section 2.1 and Augmented Examinations in Section 5.0 identified in regulatory commitments to the Nuclear Regulatory Commission (NRC). STP will document those examinations performed as an alternative to the code, which is the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (BPV) Code, Section XI 2013 Edition, Division 1, Rules for Inservice Inspection of Nuclear Power Plant Components [4.1], (Code Cases) and those exams performed in addition to the ASME Section XI, Code (NRC Commitments).

These ISI/CISI requirements are to be met using the ASME Code Section XI 2013 Edition [4.1], which is the Code of Record for this Fourth[1] ISI/CISI Ten-Year ISI Program Plan unless identified to be different within this ISI/CISI Plan and will be referred to herein and throughout this plan as ASME Section XI. This ASME Section XI, Edition is mandated for use by the NRC in the United States Code of Federal Regulations (CFR), in Title 10, Part 50, Section 55a, Codes and Standards (10 CFR 50.55a), [4.2].

This ISI/CISI Program Plan is written for the 4th 120-month or Ten-Year ISI Interval at STP and the Ten-Year CISI Interval has been incorporated into the Ten-Year ISI Interval, but has a slightly earlier start date. The coordination of refueling outages and periods within this current 4th ISI/CISI Interval for STP is shown in Table 1.1-1 STP CISI Interval Schedule and Table 1.1-2 STP ISI Interval Schedule.

1.2 Scope

The scope of this ISI/CISI Program Plan includes Class 1, 2, and 3 pressure retaining components, their welded attachments and their supports, Class MC and CC pressure retaining components and their integral attachments, including metal shell and penetration liners of concrete containments and the post-tensioning systems of concrete containments, but does not require examination of Class MC metal shell and penetration liner supports of concrete containments per the provisions of 10 CFR 50.55a(g)(4)(v). This Program Plan also includes Augmented ISI Examinations requiring Nondestructive Examination (NDE) that are maintained and implemented by this ISI/CISI Program Plan.

[1] STP has decided to label the Containment Inservice Inspection Interval as the fourth interval. By calendar years, this is the third interval, however to align with the labeling of the Inservice Inspection Interval both will be labeled as the fourth interval.

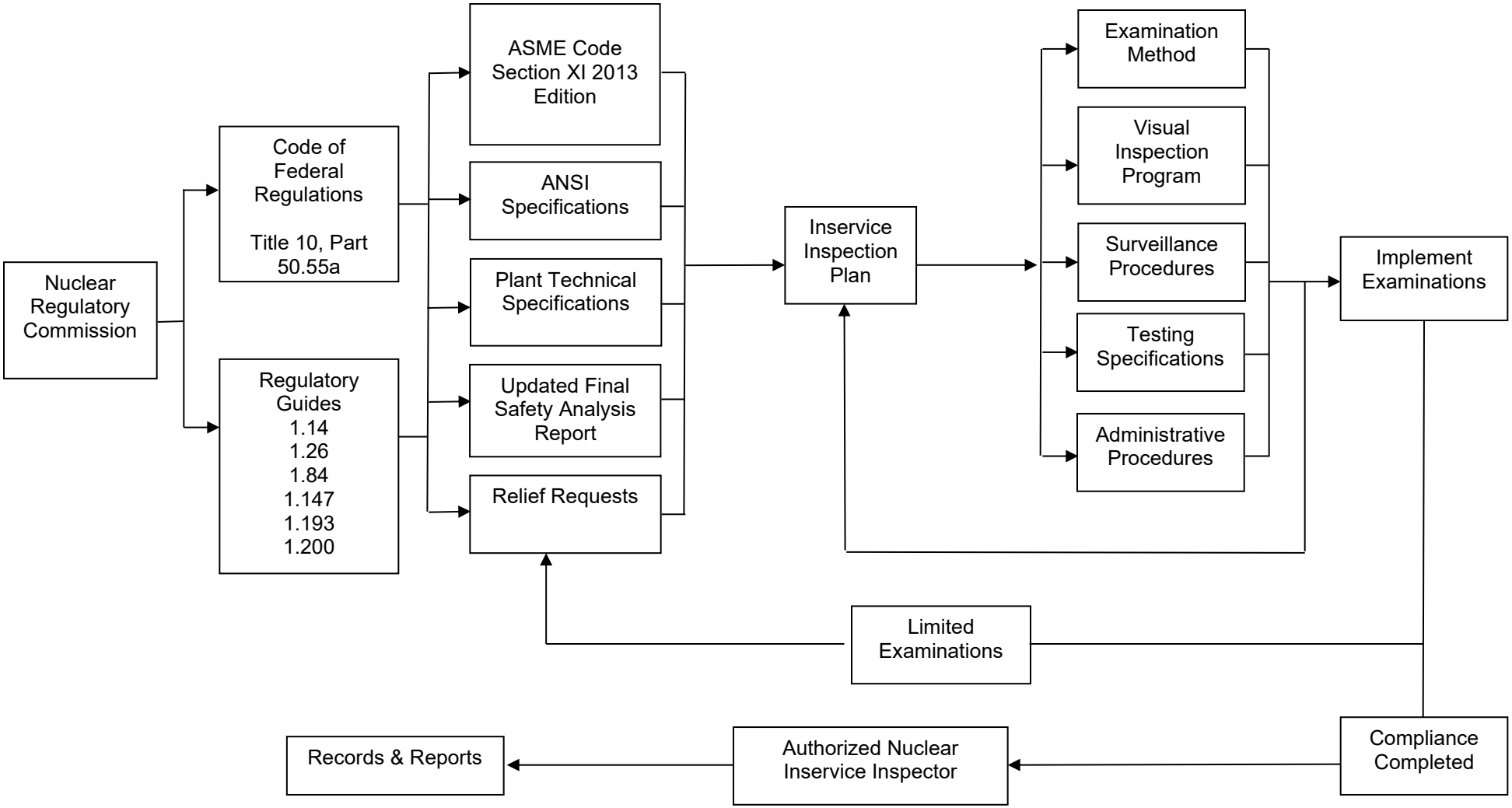
This ISI/CISI Program Plan is controlled by the regulations that are in 10 CFR 50.55a. This plan's objective is to provide a traceable link between the governing ASME Section XI requirements and the implementing procedures used for these requirements in order to ensure that Regulatory Rules and ASME Section XI requirements for the ISI/CISI of safety related systems, components and structures are being fulfilled.

These instructions provide the necessary guidance for Engineering Programs personnel at STP to ensure the following:

1) Conformance to Title 10, Section 50.55a of the Code of Federal Regulations (10 CFR 50.55a).
2) Conformance to ASME Section XI.
3) Conformance to station policies, practices and procedures.
4) The necessary technical content is included in this ISI/CISI Program Plan and its implementing procedures.
5) The proper ASME Section XI required ISI/CISI Examinations, Tests and Administrative Procedures are implemented.
6) The proper ASME Section XI Request for Alternatives and Relief Requests are submitted to and granted or approved by the Regulatory Authority.
7) The proper Examination and Test records and reports are maintained.

Figure 1, STP ISI/CISI Program Plan, illustrates how this ISI/CISI Program Plan effectively functions as a central source to help ensure all Regulatory Rules and STP requirements are incorporated into the overall ISI/CISI Program. This Ten-Year ISI/CISI Program Plan provides a useful aid in program self-assessments, procedure preparation and/or revision, management quick reference, and program familiarization.

Figure 1 STP ISI/CISI Program Plan



1.3 General

The STP Units 1 & 2 Nuclear Steam Supply System (NSSS) is a Westinghouse four loop Pressurized Water Reactor (PWR) design. South Texas Project Nuclear Operating Company (STPNOC) obtained the original full-power 40-year operating license for STP Units 1 & 2 on March 22, 1988 and March 28, 1989 respectively. The NRC Docket Number assigned to the original operating licenses was 50-498 (Unit 1) and 50-499 (Unit 2). On September 28, 2017 both units received a renewed operating license DPR-76 and DPR-80 for 20-years of additional operation.

1.4 Inspection Intervals

Inservice Inspection Unit 1

For Unit 1, the initial or 1st 120-month/Ten-Year ISI Interval and ISI Program began on August 25, 1988 and ended September 24, 2000. The 1st interval was extended due to the unit being out of service continuously for 13 months. The interval was also extended for an additional 12 months as allowed by IWA-2400(c). The base code of record for the first ten-year interval was the 1983 Edition with Summer 1983 Addenda of ASME Section XI.

The 2nd ISI Interval began on September 25, 2000 and ended on September 24, 2010. The Code of Record was the 1989 Edition of ASME Section XI.

The 3rd ISI Interval began on September 25, 2010 and ended on September 24, 2020. The Code of Record was the 2004 Edition of ASME Section XI.

Inservice Inspection Unit 2

For Unit 2, the initial or 1st 120-month/Ten-Year ISI Interval and ISI Program began on June 19, 1989 and ended October 18, 2000. The 1st interval was extended due to the unit being out of service continuously for 16 months. The base code of record for the first ten-year interval was the 1983 Edition with Summer 1983 Addenda of ASME Section XI.

The 2nd ISI Interval began on October 19, 2000 and ended on October 18, 2010. The Code of Record was the 1989 Edition of ASME Section XI.

The 3rd ISI Interval began on October 19, 2010 and ended on October 18, 2020. The Code of Record was the 2004 Edition of ASME Section XI.

Containment Inservice Inspection Units 1 & 2

The NRC published a Final Rule under 61FR41303 that incorporated by reference the 1992 Edition with the 1992 Addenda Subsections IWE and IWL. Licensees were required to incorporate these subsections into their inservice inspection (ISI) programs. In additional, licensees were required to expedite implementation of the containment examinations and to complete the expedited examinations within 5 years of the effective date of the rule which was September 9, 1996. The initial or 1st 120-month/Ten-Year CISI Interval began on September 9, 1998 and ended on September 8, 2009. The 1st interval was extended as allowed by IWA-2430. The Code of Record was the 1992 Edition with the 1992 Addenda of ASME Section XI.

The 2nd CISI Interval began on September 9, 2009 and ended on September 8, 2019. The Code of Record was the 2004 Edition of ASME Section XI.

CISI Inspection Units 1 & 2

The 4th CISI Interval began on September 9, 2019 and is scheduled to continue through September 8, 2029 and the Code of Record for this interval is the 2013 Edition of ASME Section XI. The 4th CISI Interval is divided into Inspection Periods as follows:

1st Period: From September 9, 2019 through September 8, 2022 (3 Years)

2nd Period: From September 9, 2022 through September 8, 2026 (4 Years)

3rd Period: From September 9, 2026 through September 8, 2029 (3 Years)

Outages during the 4th CISI Interval at STP are scheduled in Table 1.1-1.

TABLE 1.1-1
STP CISI Interval Schedule

Interval	Periods	STP Outages	
Start Date To End Date	Start Date To End Date	Unit 1 Outages	Unit 2 Outages
09/09/19 To 09/08/29	1st 09/09/19 to 09/08/22	1RE22 – Spring 2020	2RE20 – Fall 2020
		1RE23 – Fall 2021	2RE21 – Spring 2021
	2nd 09/09/22 to 09/08/26	1RE24 – Spring 2023	2RE22 – Fall 2022
		1RE25 – Fall 2024	2RE23 – Spring 2024
		1RE26 – Spring 2026	2RE24 – Fall 2025
	3rd 09/09/26 to 09/08/29	1RE27 – Fall 2027	2RE25 – Spring 2027
		1RE28 – Spring 2029	2RE26 – Fall 2028

ISI Inspection Units 1 & 2

The 4th ISI Interval began on September 25, 2020 and is scheduled to continue through September 08, 2029 and the Code of Record for this interval is the 2013 Edition of ASME Section XI. The Unit 1 & 2 ISI Intervals will end early per IWA-2430(c)(1) which will align both units for the ISI/CISI Inspection Intervals[2]. The 4th ISI Interval is divided into Inspection Periods as follows:

[2] This shortening of the Unit 1 interval recovers the 1 year (12 month) allowance per IWA-2430(c)(1).

1st Period: From September 25, 2020 through September 24, 2023 (3 Years)

2nd Period: From September 25, 2023 through September 24, 2026 (3 Years)

3rd Period: From September 25, 2026 through September 08, 2029 (2 Yrs. 11 Months 14 days)

Outages during the 4th ISI Interval at STP are scheduled in Table 1.1-2.

TABLE 1.1-2
STP ISI Interval Schedule

Interval	Periods	STP Outages	
Start Date To End Date	Start Date To End Date	Unit 1 Outages	Unit 2 Outages
09/25/20 To 09/08/29	1st 09/25/20 to 09/24/23	1RE23 – Fall 2021	2RE21 – Spring 2021
		1RE24 – Spring 2023	2RE22 – Fall 2022
	2nd 09/25/23 to 09/24/26	1RE25 – Fall 2024	2RE23 – Spring 2024
		1RE26 – Spring 2026	2RE24 – Fall 2025
	3rd 09/25/26 to 09/08/29	1RE27 – Fall 2027	2RE25 – Spring 2027
		1RE28 – Spring 2029	2RE26 – Fall 2028

Table 1.1-3 contains the IWL period dates for both units. The 35th and 40th year examinations will be completed under the 2013 Edition of ASME Section XI.

TABLE 1.1-3
STP IWL Period Schedule

Unit 1	Unit 2
1st Year completed 05/88	1st year completed 12/89
3rd Year completed 03/90	3rd Year completed 03/92
5th Year completed 04/92	5th Year completed 10/93
10th Year completed 08/98	10th Year completed 08/98
15th Year completed 02/04	15th Year completed 02/04
20th Year completed 01/09	20th Year completed 01/09
25th Year completed 06/14	25th Year completed 06/14
30th Year completed 03/18	30th Year completed 03/18

TABLE 1.1-3 STP IWL Period Schedule	
35th Year scheduled 04/23	35th Year scheduled 04/23
40th Year scheduled 04/28	40th Year scheduled 04/28

TABLE 1.2-1
STP ISI Component Scheduling[1]

INSPECTION INTERVAL	INSPECTION PERIOD CALENDAR YEARS OF PLANT SERVICE WITHIN THE INTERVAL	MINIMUM EXAMINATIONS COMPLETED, %	MAXIMUM EXAMINATIONS CREDITED, %
4th	3	16	50
4th	7	50[2]	75
4th	10	100	100

[1]The following are exempted from the percentage requirements of Table 1.2-1

(a) Examination Categories B-N-1, B-P, B-Q, C-H, D-B and Welded Attachments of Examination Categories B-K, C-C, and D-A that are examined whenever component support member deformation, e.g., broken, bent, or pulled out parts, is identified during operation, refueling, maintenance, examination, or testing.

(b) Examinations partially deferred to the end of an inspection interval, as allowed by Examination Categories B-A, and B-D.

(c) Examinations deferred to the end of the inspection interval, as allowed by Examination Categories B-A, B-D, B-G-1, B-L-2, B-M-2, B-N-3, and B-O.

[2]If the first period completion percentage for any examination category exceeds 34%, at least 16% of the required examinations shall be performed in the second period.

1.5 ASME Section XI Code of Record for the ISI Interval

STP is required to update the ASME Section XI, ISI/CISI Program once every 120 months/Ten-Years. The regulations in 10 CFR 50.55a(g)(4) establish the effective ASME Code edition and addenda to be used by licensees for performing inservice inspections of components (including supports). Paragraph 50.55a(g)(4)(ii) requires the use of the latest edition and addenda that has been incorporated by 10 CFR 50.55a(a), 12 months before the start of the 120-month inspection interval. This ASME Section XI reference requirement is considered the Code of Record.

CFR82FR32934 was published in July 2017 updating the implementation of Code Cases N-729 and N-770 to N-729-4 and N-770-2 respectively and incorporating the 2013 Edition with no addenda of

ASME Section XI among other changes. This Final Rule became effective August 17, 2017, and was in effect on September 9, 2018 for the CISI interval and September 25, 2019 for the ISI interval which was 12 months before the start of these intervals for STP. Subsequent to the publication of CFR82FR32935, CFR85FR26540 was published which updated the implementation of Code Cases N-729 and N-770 to N-729-6 and N-770-5 respectively and incorporated the 2017 Edition with no addenda of ASME Section XI. The effective date was June 3, 2020. Because STP CISI and ISI Intervals start on September 8, 2020, the code of record for the 4th interval will be the 2013 Edition with no addenda. STP will implement the latest endorsed Code Cases N-729-6 and N-770-5.

10 CFR 50.55a(g)(4)(iv) allows the use of subsequent editions of codes and addenda or portions thereof that are incorporated by reference subject to the conditions listed. The NRC has issued Regulatory Information Summary (RIS) RIS-2004-12 to provide guidance on how to use subsequent editions/addenda.

10 CFR.50.55a(g)(4)(v) with its provisions (A), (B), and (C) is applicable to STP and requires the inservice inspection, repair, and replacement requirements for the scope of the STP CISI Program portion of this ISI/CISI Program Plan to be as defined in the (A) First, (B) Second, and (C) Third provisions, of these requirements. Refer to Section 1.2 for the scope of the ISI/CISI Program.

Based on 10 CFR 50.55a(g)(4)(ii), the STP Ten-Year ISI/CISI Program Plan is required to meet the 2013 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI with No Addenda with the associated conditions contained in 10 CFR 50.55a(b)(2) as defined below. 10 CFR 50.55a conditions applicable to the System Pressure Testing and Repair/Replacement Activities are addressed in their applicable program procedures.

1.6 10 CFR 50.55a conditions applicable to STP

10 CFR 50.55a(a)(1)(ii)(C)(53), 2013 Edition.

10 CFR 50.55a(b)(2)(viii)(H), Each inaccessible area of concrete identified for evaluation under IWL-2512(a), or identified as susceptible to deterioration under IWL-2512(b), STP will provide the applicable information specified in paragraphs (b)(2)(viii)(E)(1), (2), and (3) in the Summary Report.

10 CFR 50.55a(b)(2)(viii)(I), During the period of extended operation of a renewed license under 10 CFR Part 54, STP will perform the technical evaluation under IWL-2512(b) of inaccessible below-grade concrete surfaces exposed to foundation soil, backfill, or groundwater at periodic intervals not to exceed 5 years. In addition, STP will examine representative samples of the exposed portions of the below-grade concrete, when such below-grade concrete is excavated for any reason.

10 CFR 50.55a(b)(2)(ix)(A)(2), For each inaccessible area identified for evaluation, STP will provide the information in (b)(2)(ix)(A)(2)(i), (ii), and (iii) in the Summary Report.

10 CFR 50.55a(b)(2)(ix)(B), STP may extend the maximum direct examination distance and may decrease the minimum illumination as long as the conditions or indications for which the visual examination is performed can be detected at the chosen distance and illumination.

10 CFR 50.55a(b)(2)(ix)(J), if STP performs a major containment modification, the repair/replacement activity will be followed by a Type A test in accordance with 10 CFR part 50 Appendix J, Option A or Option B as applicable. When the Type A, B, or C test is performed, the test pressure and acceptance standard for the test will be in accordance with 10 CFR 50, Appendix J.

10 CFR 50.55a(b)(2)(ix)(K), STP has a total of 163 leak chase channels for each Unit that is included in this condition. STP will perform a general visual examination of these leak chase channels each interval complying with the percentage requirements of Table IWE-2411-1 of the 2017 Edition of ASME Section XI.

10 CFR 50.55a(b)(2)(xxii), The use of the provision in IWA-2220, "Surface Examination", of Section XI, 2001 Edition through the latest edition and addenda incorporated by reference in paragraph (a)(1)(ii) of this section, that allows use of an ultrasonic examination is prohibited. STP will not implement UT as a Surface Examination.

10 CFR 50.55a(b)(2)(xxxii), STP will submit the Summary Reports described in IWA-6000 or Code Case N-532-5 within 90 calendar days of the completion of each refueling outage.

10 CFR 50.55a(a)(1)(iii), ASME Code Cases N-729-6, N-722-1 and N-770-5 apply to STP, with the applicable conditions as identified in 10 CFR 50.55a(g)(6)(ii)(D), (E) and (F).

1.7 ASME Section XI ISI/CISI Program Description

The ASME Section XI Programs for an Inspection Interval is comprised of the following individual program sections. These program sections are separate documents or procedures, each bearing the title of the program.

- ASME Section XI and Augmented ISI Program for pressure retaining components and their supports (this is the ISI Program Section being addressed in this STP Ten-Year Plan, 0PSP11-RC-0015)
- ASME Section XI System Pressure Test Program (0PGP03-ZE-0023)
- ASME Section XI Containment Inservice Inspection Program (this is the CISI Program Section being addressed in this STP Ten-Year Plan)
- ASME Section XI Repair/Replacement Program (0PGP03-ZE-0027 "ASME Section XI Repair/Replacement Activity" and 0PGP03-ZE-0082 "ASME Section XI Repair/Replacement Activity Pressure Testing")
- Examination of Steam Generator Tubing (0PSP11-RC-0014 "Steam Generator Inspection", 0PGP04-ZE-0305 "Inservice Inspection Program for Steam Generator Tubing", and 0PGP03-ZO-0044 "Steam Generator Management Program").
- Inservice Testing Program (0PGP03-ZE-0015)
- Snubber Testing Program (0PGP03-ZE-0009)

For the purpose of clarification, the following definitions for terms used in this ASME Section XI ISI Program Plan are:

PROGRAM The term "*Program"* is used to provide the structure and methods for accomplishment of the objective of the program and is to be considered synonymous with the term "*Plan*" as used in ASME Section XI, Article IWA-2400.

SCHEDULE The term "*Schedule*" is used to define the detailed scheme of performing the required inspections over the Ten-Year ISI Interval.

Ten-Year ISI Program Description

This Ten-Year ISI/CISI Program Plan details STP compliance with ASME Section XI IWA, IWB, IWC, IWD, IWE, IWF, and IWL for examination of ASME Class 1, 2, and 3 pressure retaining components and their supports and ASME Class MC and CC pressure retaining components and their welded attachments. This STP/CISI Ten-Year ISI Program Plan defines the ASME Class 1, 2, 3, MC, and CC components and the Code required examinations for each ASME Section XI Examination Category, including the Augmented Examination scope. The following is NOT included or addressed in this ISI/CISI Program Plan:

> The snubber assembly [pin-to-pin] examination and testing requirements are NOT addressed in this ISI/CISI Program Plan. The extent, frequency, and acceptance standards for snubber assembly examination and testing will be in accordance with STP Technical Requirements Manual, Section 4.7.9.

The objective of the Ten-Year ISI/CISI Program Plan is to periodically perform NDE of ASME Class 1, 2, or 3 safety related components and supports or ASME Class MC or CC safety related components and their welded attachments to identify the presence of service related degradation.

The administrative procedures and Inspection Schedule described in this Ten-Year ISI/CISI Program Plan, combined with applicable STP approved vendor procedures, constitutes the ISI/CISI portion of the Ten-Year ISI/CISI Program required by the Updated Final Safety Analysis Report (UFSAR), [4.7], for STP UFSAR Sections 3.8.1, 5.2.4 and 6.6.

For convenience, this Ten-Year ISI/CISI Program Plan also contains Augmented Examinations that may be inside or outside the scope of 10 CFR 50.55a. These examinations may result from activities including, but not limited to, commitments made to the NRC outside the scope of 10 CFR 50.55a, internal commitments, license renewal commitments, or industry initiatives. These Augmented Examinations may use ASME Section XI techniques and procedures as defined in the commitment. However, the requirements of ASME Section XI, including reporting, do not apply. Because these Augmented Examinations are not required by ASME Section XI they are not included in the summary totals for the specific ASME Section XI Examination Category.

The Ten-Year ISI/CISI Program Schedule for this program plan is contained in the IDDEAL Software Suite® computer database as well as Appendix A and Appendix B. Within this database

required "Supporting Documents" per ASME Section XI, IWA-2425 are referenced and this information is retained at the plant site and is available for review.

Containment Inservice Inspection Program

The Concrete Containment Program is developed and implemented in accordance with the requirements of the 2013 Edition of the ASME Section XI Code and 10 CFR 50.55a rulemaking. Concrete Containment examinations, as required by Code Table IWL-2500-1 are scheduled and conducted using approved plant procedures. The Concrete Containment Program will be conducted in accordance with UFSAR 3.8.1, 0PSP09-TD-0001 "Containment Tendon Test/End Anchorage and Adjacent Concrete Inspection", [4.15], and 4C23HCS0001 "Inservice Surveillance of Containment Post Tensioning System", [4.16]. The scope of the Concrete Containment Program includes those components designated as Safety Class CC. The 4th Interval of the Concrete Containment inspection activities includes the 35th and 40th year examinations. The 40th year examinations extend through April 2028 for Unit 1 and Unit 2. Concrete Containment inspections were scheduled on a 1, 3 and 5 year schedule after the containment Structural Integrity Test, and every 5 years thereafter. The 1, 5 and 10 year examinations were completed under the requirements of R.G 1.35, "Inservice Inspection of Ungrouted Tendons in Prestressed Concrete Containment Structures". The 15th through 30th year examinations were completed under ASME Section XI ISI program requirements. The 35th and 40th year examination will be completed under the 2013 Edition ASME Section XI program requirements.

The Containment Metal Liner Program is developed and implemented in accordance with the requirements of the 2013 Edition of the ASME Section XI Code and 10 CFR 50.55a rulemaking. Containment Metal Liner examinations, as required by the Code Table IWE-2500-1 are scheduled and conducted using approved plant procedures. The Containment Metal Liner Program will be conducted in accordance with Technical Specifications Section 4.0.5 and UFSAR 3.9.1, 0PGP03-ZE-0075 "Inservice Inspection Program for Containment Metal Liner" [4.17], and PSP11-RC-0015 "ASME Section XI Inservice Inspection (Surveillance)" [4.18]. The scope of the Containment Metal Liner Program includes those components designated as Safety Class MC pressure retaining components and their integral attachments, and metallic shell and penetration liners of Class CC pressure retaining components and their integral attachments. The nominal duration of the FOURTH inspection interval for containment metal liner inspection activities is ten calendar years. Refer to Table 1.1-1 for Unit 1 & 2 Interval 4 inspection interval/period start and end dates for Containment Metal Liner inspection activities. The containment metal liner is in the fourth inspection interval because the inspection program was implemented by 50.55a based on a final rule in September 1998.

NOTE
STP is labeling the Containment Inservice Inspection (CISI) interval the "fourth" interval to align with the labeling of the ISI inspection interval. By calendar years this is the third 10 year interval, however for alignment with the ISI fourth 10 year interval, the IWE inspection interval will be

called the "fourth interval". All requirements will be maintained for the 10 year interval. See below:

CISI 1st Interval 09/09/98 to 09/08/09

CISI 2nd Interval 09/09/09 to 09/08/19

CISI 4th Interval 09/09/19 to 09/08/29

Repair and Replacement Program Section Description

ASME Section XI requirements for Class 1, 2 and 3 and MC and CC pressure retaining components and their supports, associated Repair/Replacement Activities are not contained in this plan. 0PGP03-ZE-0027, "ASME Section XI Repair/Replacement Activity", [4.11] is the implementing procedure which describes the process for the Repair/Replacement Activity provisions of ASME Section XI, IWA-4000.

Repair/Replacement Activities performed by welding or brazing on pressure-retaining boundary SHALL be pressure tested in accordance with ASME Section XI, Article IWA-5000 and 0PGP03-ZE-0082 "ASME Section XI Repair/Replacement Activity Pressure Testing", [4.32].

Snubber Program Section Description

The Snubber Program requirements are not contained in this plan. Snubbers (pin-to-pin portion) will be examined and tested in accordance with plant Snubber Program, 0PGP03-ZE-0009, "Snubber Testing Program", [4.13]. Snubber support hardware such as lugs, bolting, pins and clamps between the snubber pins and component (or the snubber pin and the building structure) will be examined in accordance with ASME Section XI, Subsection IWF, per this Program Plan.

Pressure Test Program Section Description

ASME Section XI requirements for Class 1, 2 and 3 pressure testing are not contained in this plan. 0PGP03-ZE-0023, "ASME Section XI, System Pressure Testing Program", [4.14] satisfies the requirements established in ASME, Section XI, IWA-5000, IWB-5000, IWC-5000, and IWD-5000.

The System Pressure Testing Program will be conducted in accordance with the Technical Specifications, Sections 4.0.5 and 3/4.4.10.

The scope of the System Pressure Testing Program includes those systems and components designated as Safety Class 1, 2, and 3 in accordance with Regulatory Guide 1.26, Revision 3, and includes instrument tubing that is designated as Safety Class 2 or 3. A listing of systems or portion of systems that are included in the scope of the System Pressure Testing program is provided below:

System Pressure Testing Program Scope

Systems, or portions of systems, included within the scope of the System Pressure Testing Program:

AF	Auxiliary Feedwater System
AP	Post-Accident Sampling System
CC	Component Cooling Water System
CH	Essential Chilled Water System
CM	Containment Hydrogen Monitoring System
CS	Containment Spray System
CV	Chemical and Volume Control System
DG	Standby Diesel Generators, including Subsystems
EW	Essential Cooling Water System
FC	Spent Fuel Pool Cooling and Cleanup System
FW	Feedwater System
MS	Main Steam System
PS	Primary Sampling System
RC	Reactor Coolant System
RH	Residual Heat Removal System
SB	Steam Generator Blowdown System
SI	Safety Injection System

Note: The test boundaries subject to a VT-2 visual examination also include Safety Class 2 and 3 instrument tubing from the root valve up to and including the last instrument valve but not the instrument itself.

Pump and Valve Program Description

The Inservice Testing (IST) Program requirements are not contained in this plan. 0PGP03-ZE-0015, "Inservice Testing Program", [4.19] implements the requirements of the ASME OM Code.

Steam Generator Tube Surveillance Program Description

The Steam Generator Tube Inspection Program is in accordance with Plant Technical Specifications, [4.8] paragraphs T.S. 3/4.4.5, 3.4.6.2, 6.8.3 and 6.9.1.7 in lieu of ASME Section XI. Procedures 0PSP11-RC-0014 "Steam Generator Inspection", 0PGP04-ZE-0305 "Inservice Inspection Program for Steam Generator Tubing, and 0PGP03-ZO-0044 "Steam Generator Management, [4.29, 4.30, and 4.31] implements these requirements.

1.8 Use of ASME Section V

The Articles of ASME Section V referenced by Section XI SHALL be the 2013 Edition of ASME Section V for IWB, IWC, IWD, and IWF. ASME Section V Code Cases approved for use with the 2013 Edition of ASME Section V are acceptable for use at STP.

1.9 Piping and Instrumentation Diagrams

Table 1.9-1 provides a listing of the piping systems containing Class 1, 2, or 3 components. These piping systems and associated components are subject to inservice examination and testing in accordance with this Program Plan under one or more of the Code Examination Categories or Augmented programs. Also, Table 1.9-1 lists Piping and Instrumentation Diagrams (P&ID's) for these Class 1, 2, and 3 piping systems. Table 1.9-1 is arranged in alphabetical system abbreviation order and lists the P&ID's applicable to each system. P&ID's containing Class 1, 2, or 3 piping for more than one system will be listed in Table 1.9-1 for each applicable system.

Table 1.9-1
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
AF	Auxiliary Feedwater	5S141F00024	1	Auxiliary Feedwater
		5S141F00024	2	Auxiliary Feedwater
		5S142F00024	1	Auxiliary Feedwater
		5S142F00024	2	Auxiliary Feedwater
		5S199F00020#1		Condensate Storage System (Note 1)
		5S199F00020#2		Condensate Storage System (Note 1)
AP	Post Accident Sampling	5Z549Z47501#1		Post Accident Sampling System
		5Z549Z47501#2		Post Accident Sampling System
		5Z169Z00046#1		Containment Hydrogen Monitoring System (Note 2)
		5Z169Z00046#2		Containment Hydrogen Monitoring System (Note 2)
BA	Breathing Air	5Q129F05044#1		Low Pressure Breathing Air System (Note 3)
		5Q129F05044#2		Low Pressure Breathing Air System (Note 3)
CC	Component Cooling	5R209F05017#1		Component Cooling Water System
		5R209F05017#2		Component Cooling Water System
		5R209F05018#1		Component Cooling Water System
		5R209F05018#2		Component Cooling Water System
		5R209F05019#1		Component Cooling Water System
		5R209F05019#2		Component Cooling Water System

Table 1.9-1
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
		5R209F05020#1		Component Cooling Water System
		5R209F05020#2		Component Cooling Water System
		5R209F05021#1		Component Cooling Water System
		5R209F05021#2		Component Cooling Water System
CH	Essential Chilled Water	5V119V10001#1		Essential Chilled Water System
		5V119V10001#2		Essential Chilled Water System
		3V119V10002#1		Essential Chilled Water System
		3V119V10002#2		Essential Chilled Water System
		3V119V10003#1		Essential Chilled Water System
		3V119V10003#2		Essential Chilled Water System
		3V119V10004#1		Essential Chilled Water System
		3V119V10004#2		Essential Chilled Water System
CM	Containment Hydrogen Monitoring	5Z169Z00046#1		Containment Hydrogen Monitoring System
		5Z169Z00046#2		Containment Hydrogen Monitoring System
CS	Containment Spray	5N109F05037#1		Containment Spray System
		5N109F05037#2		Containment Spray System
		5N129F05013#1		Safety Injection System (Note 4)
		5N129F05013#2		Safety Injection System (Note 4)

Table 1.9-1
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
		5N129F05014#1		Safety Injection System (Note 4)
		5N129F05014#2		Safety Injection System (Note 4)
		5N129F05015#1		Safety Injection System (Note 4)
		5N129F05015#2		Safety Injection System (Note 4)
CV	Chemical and Volume Control	5R179F05005#1		Chemical & Volume Control System
		5R179F05005#2		Chemical & Volume Control System
		5R179F05006#1		Chemical & Volume Control System
		5R179F05006#2		Chemical & Volume Control System
		5R179F05007#1		Chemical & Volume Control System
		5R179F05007#2		Chemical & Volume Control System
		5R179F05008#1		Chem & Vol Control Sys BTRS Sub Sys
		5R179F05008#2		Chem & Vol Control Sys BTRS Sub Sys
		5R179F05009#1		Chemical & Volume Control System
		5R179F05009#2		Chemical & Volume Control System
DI	Standby Diesel Generator Combustion Air Intake	5Q159F22543#1		Diesel Air Intake & Exhaust Systems
		5Q159F22543#2		Diesel Air Intake & Exhaust Systems

Table 1.9-1
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
DO	Standby Diesel Generator Fuel Oil	5Q159F00045#1	1	Sdby Gen Fuel Oil Stor & Trans System
		5Q159F00045#1	2	Sdby Gen Fuel Oil Stor & Trans System
		5Q159F00045#2	1	Sdby Gen Fuel Oil Stor & Trans System
		5Q159F00045#2	2	Sdby Gen Fuel Oil Stor & Trans System
DW	Demineralized Water	5S199F05034#1		Demin Water Dist Sys RCB FHB & MEAB (Note 3)
		5S199F05034#2		Demin Water Dist Sys RCB FHB & MEAB (Note 3)
DX	Standby Diesel Generator Combustion Gas Exhaust	5Q159F22543#1		Diesel Air Intake & Exhaust Systems
		5Q159F22543#2		Diesel Air Intake & Exhaust Systems
ED	Radioactive Vents and Drains	5Q069F05030#1		Radioactive Vents And Drains System (Note 3)
		5Q069F05030#2		Radioactive Vents And Drains System (Note 3)
EW	Essential Cooling Water	5Q159F22541#1		Standby Diesel Gen Sys Cooling Water (Note 5)
		5Q159F22541#2		Standby Diesel Gen Sys Cooling Water (Note 5)
		5R289F05038#1	1	Essential Cooling Water System – TRN 1A
		5R289F05038#1	2	Essential Cooling Water System – TRN 1B
		5R289F05038#1	3	Essential Cooling Water System – TRN 1C

Table 1.9-1
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
		5R289F05038#2	1	Essential Cooling Water System – TRN 2A
		5R289F05038#2	2	Essential Cooling Water System – TRN 2B
		5R289F05038#2	3	Essential Cooling Water System – TRN 2C
		5R289F05039#1		Essential Cooling Water System
		5R289F05039#2		Essential Cooling Water System
FC	Spent Fuel Pool Cooling	5R219F05028#1		Spent Fuel Pool Cooling & Cleanup Sys
		5R219F05028#2		Spent Fuel Pool Cooling & Cleanup Sys
		5R219F05029#1		Spent Fuel Pool Cooling & Cleanup Sys
		5R219F05029#2		Spent Fuel Pool Cooling & Cleanup Sys
FP	Fire Protection	5Q279F05047#1		FH,IVC, Contmnt Bldg Fire Protection Sys (Note 3)
		5Q279F05047#2		FH,IVC, Contmnt Bldg Fire Protection Sys (Note 3)
FW	Feedwater	5S139F00062#1		Feedwater System
		5S139F00062#2		Feedwater System
		5S139F00063#1		Feedwater System
		5S139F00063#2		Feedwater System
HC	Containment Building HVAC	5V149V00018#1		Containment Bldg. HVAC System Normal Purge (Note 3)
		5V149V00018#2		Containment Bldg. HVAC System Normal Purge (Note 3)
		5V149V00019#1		Containment Bldg. HVAC System Supplementary Purge (Note 3)

Table 1.9-1
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
		5V149V00019#2		Containment Bldg. HVAC System Supplementary Purge (Note 3)
IA	Instrument Air	5Q119F05040#1		Fuel Hndlng Bldg & RCB Inst Air System (Note 3)
		5Q119F05040#2		Fuel Hndlng Bldg & RCB Inst Air System (Note 3)
IL	Integrated Leak Test	5C560F05058		Containment Leak Rate Test Pressurization System (Note 3)
JW	Standby Diesel Generator Jacket Water	5Q159F22540#1		Standby Diesel Generator Sys Jacket Water
		5Q159F22540#2		Standby Diesel Generator Sys Jacket Water
LU	Standby Diesel Generator Lube Oil	5Q159F22542#1		Standby Diesel Generator Sys Lube Oil
		5Q159F22542#2		Standby Diesel Generator Sys Lube Oil
MS	Main Steam	5S109F00016#1		Main Steam System
		5S109F00016#2		Main Steam System
		5S141F00024	1	Auxiliary Feedwater (Note 6)
		5S141F00024	2	Auxiliary Feedwater (Note 6)
		5S142F00024	1	Auxiliary Feedwater (Note 6)
		5S142F00024	2	Auxiliary Feedwater (Note 6)
PO	Reactor Coolant Pump Oil Change-Out	5R379F05042#1		Reactor C/P Oil Changing System (Note 3)
		5R379F05042#2		Reactor C/P Oil Changing System (Note 3)

Table 1.9-1
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
PS	Primary Sampling	5Z329Z00045#1		Primary Sampling System
		5Z329Z00045#2		Primary Sampling System
RA	Radiation Monitoring	5V149V00017#1		HVAC React. Cntmnt Bldg. Sys. Composite (Note 7)
		5V149V00017#2		HVAC React. Cntmnt Bldg. Sys. Composite (Note 7)
RC	Reactor Coolant	5R149F05001#1		RCS Primary Coolant Loop
		5R149F05001#2		RCS Primary Coolant Loop
		5R149F05003#1		RCS Pressurizer
		5R149F05003#2		RCS Pressurizer
		5R149F05004#1		RCS Pressurizer Relief Tank
		5R149F05004#2		RCS Pressurizer Relief Tank
RD	Reactor Coolant System Degassing	5R349F05046#1		RCS Vacuum Degassing System (Note 3)
		5R349F05046#2		RCS Vacuum Degassing System (Note 3)
RH	Residual Heat Removal	5R169F20000#1		Residual Heat Removal System
		5R169F20000#2		Residual Heat Removal System
RM	Reactor Makeup Water	5R279F05033#1		Reactor Makeup Water System
		5R279F05033#2		Reactor Makeup Water System
SA	Station Air	5Q109F05041#1		FHB & RCB Service Air System (Note 3)
		5Q109F05041#2		FHB & RCB Service Air System (Note 3)

Table 1.9-1
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
SB	Steam Generator Blowdown	5S209F20001#1		Steam Generator Blowdown System
		5S209F20001#2		Steam Generator Blowdown System
SD	Standby Diesel Generator Starting Air	5Q159F22546#1		Standby Diesel Starting Air System
		5Q159F22546#2		Standby Diesel Starting Air System
SI	Safety Injection	5N129F05013#1		Safety Injection System
		5N129F05013#2		Safety Injection System
		5N129F05014#1		Safety Injection System
		5N129F05014#2		Safety Injection System
		5N129F05015#1		Safety Injection System
		5N129F05015#2		Safety Injection System
		5N129F05016#1		Safety Injection System
		5N129F05016#2		Safety Injection System
SL	Steam Generator Sludge Lancing	5S209F05057#1		Stm Gen Sludge Lancing & Chem Cleaning Sys (Note 3)
		5S209F05057#2		Stm Gen Sludge Lancing & Chem Cleaning Sys (Note 3)
WL	Liquid Waste Processing	5R309F05022#1		Liquid Waste Processing System (Note 3)
		5R309F05022#2		Liquid Waste Processing System (Note 3)

Table 1.9-1
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title

Notes:

1. Includes AF piping.
2. Includes AP piping.
3. Class 2 containment penetration piping and isolation valves only.
4. Includes CS piping.
5. Includes EW piping.
6. Includes MS piping.
7. Includes RA piping; Class 2 containment penetration piping and isolation valves only.

1.10 Interpretations of the ASME Section XI Code

This section lists interpretations to the Code for specific portions of the ISI Program.

Code interpretations provide clarification to the intent of Code requirements. Although the NRC agrees with most interpretations, some are inconsistent with NRC requirements. NRC requirements SHALL be met. Interpretations serve to support the users understanding of Code requirements. Many interpretations address specific circumstances. Therefore, the context of the interpretation must be thoroughly understood prior to its application at STP. Code interpretations applicable to STP are listed in Table 1.10.

TABLE 1.10
ASME SECTION XI ISI INTERPRETATIONS

Interpretation No.	Interpretation Description / Subject	Application Impact
XI-1-04-26	IWA-2430(d)(1) (1995 Edition With the 1996 Addenda Through the 2004 Edition With the 2005 Addenda)	Welds – successive intervals
XI-1-10-23	Table IWB-2500-1 (1989 Edition through the 2010 Edition with the 2011 Addenda)	ISI Welds – Core support structures
XI-1-13-10R	Examination of leak chase channel threaded plugs, caps, seals, or covers (1992 Edition 1992A through 2013 Edition)	ISI Containment
XI-1-13-24	IWA-2210 (2013 Edition)	NDE - Visual Examination
XI-1-16-14	Calibration notch location requirement (Code Case N-845)	NDE - UT
XI-1-18-01	IWB-1220 Exemptions (1995 Edition with the 1995 Addenda – 2013 Edition)	ISI - Exemptions
Notes: ISI – Inservice Inspection, NDE – Nondestructive Examination		

1.11 Records, Reports, and Submittals

The requirements of Code Case N-532-5 shall be met in lieu of the requirements of ASME Section XI, IWA-6210(c), (d), (e), and (f), IWA-6220, IWA-6230(b), (c), and (d), and IWA-6240(b). All other requirements of IWA-6000 and the other requirements of ASME Section XI applicable to records and reporting shall be met as described below.

Records

Records of examinations, tests, and repair/replacement activities shall be prepared in accordance with the governing procedure or program document.

Records and reports required by ASME Section XI and this program shall be maintained as a permanent plant record. They shall be filed in a manner to ensure accessibility by the Authorized Nuclear Inservice Inspector (ANII). The storage and maintenance of these records are under the auspices of the Quality Assurance Program.

Records and reports shall be either the original or a reproduced legible copy. Alternatively, they may be maintained in an electronic format provided the requirements of ASME Section XI, IWA-6320(a) are met. Radiographs may be microfilmed or digitally reproduced. Digital reproduction shall be in accordance with IWA-6320(b).

Reports and Submittals

Reports and submittals comprise those documents or records that are required to be submitted to the NRC either on a recurring basis or as a result of activities described by Section XI. Reports shall be as described below. ASME Section XI, reports and submittals are provided to the NRC for **"Information Only"** to meet a specific Section XI requirement. NRC approval is **not** required.

In accordance with the ASME Section XI, Owner's Responsibilities contained in IWA-1400(d) submittal of plans, schedules, and preservice and inservice inspection summary reports to the enforcement and regulatory authorities having jurisdiction at the plant site, if they are required by these authorities. Under this requirement submittal of these program documents is only required if these authorities require them to be submitted. Currently there are no requirements to submit this Ten-Year ISI/CISI Program Plan or any revisions used for this ISI/CISI Program Plan.

However, in 10 CFR 50.55a(b)(2)(xxxii), it requires that Summary Reports described in IWA-6000 must be submitted to the NRC as described in IWA-6240(a) and IWA-6240(b). Inservice inspection summary reports shall be submitted within 90 calendar days of the completion of each refueling outage. This requirement is being met by STP with the use of Code Case N-532-5.

The Summary Reports that are required by ASME Section XI, IWA-6000 have been replaced by the Owner's Activity Report, Form OAR-1, described by Code Case N-532-5. Form OAR-1 will be prepared, maintained, and submitted in accordance with the applicable requirements in the Code Case. The Form OAR-1 shall be prepared to meet the requirements of the Code Case and submitted to the NRC within 90 calendar days of completing each refueling outage; refer to 10 CFR 50.55a(b)(2)(xxxii). The report shall include all applicable activities of the operating cycle not included in the previous report.

When acceptance standards have been modified as a result of using smaller flaw sizes in developing the Pressure/Temperature Limit Curves in accordance with ASME Section XI, IWB-3410.2, the modified acceptance standards shall be filed with the NRC.

Incomplete or Missing Examinations

Resolution and tracking of incomplete or missed examinations (not exam limitations) shall be in accordance with STP's "Corrective Action Program", [4.10] as described below:

Condition Report Requirements

A Condition Report shall be developed in a timely manner. The Condition Report should contain the following:

a) The affected component.

b) The examination requirement that has not been, or will not be, met.

c) The reason for incomplete or missed examination.

d) Alternate examinations performed or recommended, (i.e. best effort vs. VT-1, etc.) to include reasons why this is acceptable.

Relief Requests

If a Request for Relief is required for an incomplete or missing examination, the following steps shall be completed:

a) The site should develop and submit the necessary documentation to the NRC[3].

b) If the Request for Relief is granted by the NRC, then the approval should be incorporated into the program plan.

c) If the Request for Relief is not granted, the site should initiate a Condition Report.

Missed Examinations Which Cannot Be Made Up

If it is discovered that a required examination has been missed and cannot be performed before the end of the Inspection Period in accordance with the ISI Plan, a Condition Report should be initiated.

NOTE

The Inspection Period includes any extensions made within ASME Section XI and 10 CFR 50.55a provisions. The end of the Inspection Period does not occur until any applicable extensions are completed.

1.12 Responsibilities

1.12.1 Testing/Programs Engineering Group

[3] For information on what the NRC expects to see in Coverage Relief Requests refer to the presentation made by Stephen Cumblidge to the Industry/NRC NDE technical Information Exchange Public Meeting on January 13-15, 2015 (ML15013A266)

The Testing/Program Engineering Group is responsible for the establishment and implementation of the ISI/CISI program. The following procedures detail the responsibilities related to implementation of the ISI/CISI Program:

- 0PSP11-RC-0015, ASME Section XI Inservice Inspection Program
- 0PGP04-ZE-0304, Inservice Inspection Program for Welds and Component Supports
- 0PGP03-ZE-0075, Inservice Inspection Program for Containment Metal Liner
- 0PGP03-ZE-0023 System Pressure Testing Program
- 0PGP03-ZE-0082 ASME Section XI Repair/Replacement Activity Pressure Testing
- 0PGP03-ZE-0027 ASME Section XI Repair/Replacement Activities
- 0PGP03-ZO-0044, Steam Generator Management Program

The STP ISI Program Engineer retains primary responsibility for implementation of the ISI/CISI program.

1.13 Administrative Controls

This Ten-Year ISI/CISI Program Plan is written and implemented meeting the requirements of the following:

1. 0PGP04-ZE-0304, “Inservice Inspection Program for Welds and Component Supports”, [4.12]
2. 0PSP11-RC-0015, “ASME Section XI Inservice Inspection (Surveillance)”, [4.18]
3. 0PGP03-ZE-0075, “Inservice Inspection Program for Containment Metal Liner”, [4.17]

This Ten-Year ISI/CISI Program Plan will be maintained current to reflect applicable changes to plant configuration through the STP Inservice Inspection Program Preparation and Change Control Process. All approved Changes since the last revision of this program document will be included in the next document revision.

Additions of items to this Ten-Year ISI/CISI Program Plan resulting from changes to the plant configuration will be incorporated and scheduled for inspection or examination in accordance with ASME Section XI, IWB/IWC/IWD-2411/IWE-2411/ IWF-2410 and IWL-2220.

This Ten-Year ISI/CISI Plan and subsequent revisions are subject to review by the Authorized Nuclear Inservice Inspector (ANII) as required by ASME Section XI, IWA-2110.

2.0 ASME Code Case Applicability

This section contains ASME Section XI Code Cases applicable to the STP Fourth Ten-Year ISI/CISI Interval.

2.1 Adoption of Code Cases

ASME Section XI Code Cases adopted for ISI/CISI and related NDE activities for the ISI Interval are listed in Tables 2.2-1, 2.3-1, and 2.4-1. The use of Code Cases is in accordance with ASME Section XI, IWA-2440, 10 CFR 50.55a, and Regulatory Guide 1.147, [4.4]. As permitted by ASME Section XI and Regulatory Guide 1.147 or 10 CFR 50.55a, ASME Section XI Code Cases may be adopted and used as described below:

Adoption of Code Cases Listed for Generic Use in Regulatory Guide 1.147

Code Cases that are listed for generic use in the latest revision of Regulatory Guide 1.147 may be included in the ISI program provided any additional conditions specified in the Regulatory Guide are also incorporated. Table 2.2-1 identifies the Code Cases approved for generic use and adopted for the interval.

Adoption of Code Cases Not Approved in Regulatory Guide 1.147

Certain Code Cases that have been approved by the ASME Board of Nuclear Codes and Standards may not have been reviewed and approved by the NRC Staff for generic use and listed in Regulatory Guide 1.147. Use of such Code Cases may be requested in the form of a "Request for Alternative" in accordance with 10 CFR 50.55a(z). Once authorized/approved, these Requests for Alternatives will be available for use until such time that the Code Cases are adopted into Regulatory Guide 1.147, at which time compliance with the provisions contained in the Regulatory Guide are required.

Table 2.3-1 identifies those Code Cases that have been requested through a Request for Alternative. For convenience to the user of this ISI/CISI Program Section, the appropriate internal correspondence number is provided to assist in retrieval of the request from Document Control. All other Requests for Alternatives and Requests for Relief (those not associated with NRC approval of Code Cases) are addressed in Section 3.0.

Adoption of Code Cases Mandated by 10 CFR 50.55a

Code Cases required by rule in 10 CFR 50.55a are incorporated into the ISI Program and implemented at the specified schedule. Code Cases currently required by 10 CFR 50.55a are identified in Table 2.4-1.

Use of Annulled Code Cases

As permitted by Regulatory Guide 1.147, Code Cases that have been adopted for use in the current inspection interval that are subsequently annulled by ASME may be used for the remainder of the interval.

Code Case Revisions

Initial adoption of a Code Case requires use of the latest revision of that Code Case listed in Regulatory Guide 1.147. However, if an adopted Code Case is later revised and approved by the NRC, then either the earlier or later revision may be used as permitted by Regulatory Guide 1.147. An exception to this provision would be the inclusion of any conditions on the later revision

necessary to enhance safety. In this situation, the conditions imposed on the later revision must be incorporated into the program.

Adoption of Code Cases Issued Subsequent to Filing the Inservice Inspection Plan

Code Cases issued by ASME subsequent to filing[4] the Inservice Inspection Plan with the NRC may be incorporated within the provisions of paragraphs 2.1.1 or 2.1.2 by revision to the ISI Plan. Any subsequent Code Cases shall be incorporated into the program and identified in either Table 2.2-1 or 2.3-1, as applicable, prior to their use.

Non Inservice Inspection Code Cases

Only Code Cases applicable to ISI/CISI and related NDE requirements and Flaw Evaluations for Class 1, 2, and 3 components and their supports are included in Table 2.2-1, 2.3-1 and 2.4-1.

Code Cases Not Approved for Generic Use by the NRC

Code Cases that have been approved by the ASME Board on Nuclear Codes and Standards may not be approved by the NRC Staff for generic use. These Code Cases are listed in Regulatory Guide 1.193, "ASME Code Cases Not Approved for Use", [4.20]. However, the NRC may approve their use in specific cases. Code Cases listed in Regulatory Guide 1.193 will not be used at STP without an approved Request for Alternative in accordance with 10 CFR 50.55a(z).

[4] The NRC no longer requires filing or submittal of the ISI Program Plan.

2.2 Regulatory Guide 1.147, Revision 19 Approved Code Cases

Table 2.2-1 - Code Cases Adopted from Regulatory Guide 1.147

Code Case Number	Title	NRC Conditions	Affected Program Area
N-513-4	Evaluation of Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping, Section XI, Division 1.	None	
N-532-5	Repair/Replacement Activity Documentation Requirements and Inservice Inspection Summary Report Preparation and Submission	None	Repair/Replacement Program & ISI Summary Report
N-593-2	Examination Requirements for Steam Generator Nozzle-to-Vessel Welds	1. Essentially 100% (not less than 90%) of the examination volume A-B-C-D-E-F-G-H must be inspected. 2. The examination volume specified in Section XI, Table IWB-2500-1, Examination Category B-D, must be used for the examination of steam generator nozzle-to-vessel welds at least once prior to using the reduced examination volume allowed by Code Case N-593-2.	NDE Examination Volume

Table 2.2-1 - Code Cases Adopted from Regulatory Guide 1.147			
Code Case Number	**Title**	**NRC Conditions**	**Affected Program Area**
N-613-2	Ultrasonic Examination of Full Penetrations Nozzles in Vessels, Examination Category B-D, Reactor Nozzle-to-Vessel and Nozzle Inside Radius Section, Figs. IWB-2500-7(a), (b), (c), and (d)	None	NDE Examination Volume – Class 1
N-639	Alternative Calibration Block Material	Chemical ranges of the calibration block may vary from the materials specification if (1) it is within the chemical range of the component specification to be inspected, and (2) the phase and grain shape are maintained in the same ranges produced by the thermal process required by the material specification.	Weld Examinations – Cal. Blocks
N-648-2	Alternative Requirements for Inner Radius Examination of Class 1 Reactor Vessel Nozzles	In lieu of a UT examination, licensees may perform a VT-1 examination in accordance with the code of record for the Inservice Inspection Program utilizing the allowable flaw length criteria of Table IWB-3512-1 with limiting assumptions on the flaw aspect ratio.	Weld Examinations – Class 1 RPV

Table 2.2-1 - Code Cases Adopted from Regulatory Guide 1.147			
Code Case Number	**Title**	**NRC Conditions**	**Affected Program Area**
N-653-1	Alternative Requirements for Inner Radius Examination of Class 1 Reactor Vessel Nozzles	None	Class 1 & 2 Piping Welds
N-716-1	Alternative Piping Classification and Examination Requirements	None	Class 1 & 2 Piping Welds
N-731	Alternative Class 1 System Leakage Test Pressure Requirements	None	Pressure Testing
N-771	Alternative requirements for Additional Examination of Class 2 and 3 Items	None	Class 2 and 3 Items
N-773	Alternative Qualification Criteria for Eddy Current Examinations of Piping Inside Surfaces	None	Piping Inside Surfaces
N-798	Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Vent, Drain, and Test Isolation Devices	None	Pressure Testing
N-800	Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Injection Valves	None	Pressure Testing

Table 2.2-1 - Code Cases Adopted from Regulatory Guide 1.147			
Code Case Number	**Title**	**NRC Conditions**	**Affected Program Area**
N-805	Alternative to Class 1 Extended Boundary End of Interval or Class 2 System Leakage Testing of the Reactor Vessel Head Flange O-Ring Leak-Detection System	None	Pressure Testing
N-823-1	Visual Examination	None	NDE Examination – VT-1, VT-2, VT-3
N-825	Alternative Requirements for Examination of Control Rod Drive Housing Welds, Section XI, Division 1	None	NDE Examination: Category B-O Item No. B14.20
N-831	Ultrasonic Examination in lieu of Radiography for Welds in Ferritic Pipe	None	NDE Examination – Ultrasonic vs. Radiography
N-845	Qualification Requirements for Bolts and Studs	None	Class 1 & 2 Piping Bolts and Studs

2.3 Code Cases Adopted Via NRC Approved Requests

The following ASME Code Cases are not contained in Regulatory Guide 1.147, Revision 18, [4.4] and require a request for alternative prior to implementation. Refer to Section 3.0 of this plan for the applicable requests.

Table 2.3-1 - Code Cases Adopted Via NRC Approved Requests

Code Case Number	Title	Request for Alternative No.	Affected Program Area
N-871	Internal Repair of Buried Class 2 & 3 Piping Using Carbon Fiber Reinforced Polymer Composites	RR-ENG-3-24	CFRP ECW Buried Pipe
N-831-1	Ultrasonic Examination in Lieu of Radiography for Ferritic or Austenitic Pipe	RR-ENG-4-04 (Not Yet Approved)	Ferritic or Austenitic Piping

2.4 Code Cases required by 10 CFR 50.55a

The following ASME Code Cases are not contained in Regulatory Guide 1.147, Revision 18, [4.4], but are mandated in 10 CFR 50.55a.

Table 2.4-1 - Code Cases Required by 10 CFR 50.55a

Code Case Number	Title	Notes	Affected Program Area
N-722-1	Additional Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated With Alloy 600/82/182 Materials	Conditions specified in paragraphs (g)(6)(ii)(E)(*2*) through (*4*) of 10 CFR 50.55a.	Class 1 Weld Examinations

Table 2.4-1 - Code Cases Required by 10 CFR 50.55a			
Code Case Number	**Title**	**Notes**	**Affected Program Area**
N-729-6	Alternative Examination Requirements for PWR Reactor Vessel Upper Heads With Nozzles Having Pressure-Retaining Partial-Penetration Welds	Conditions specified in paragraphs (g)(6)(ii)(D)(*2*) through (*4*) of 10 CFR 50.55a.	Class 1 Weld Examinations
N-770-5	Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds Fabricated With UNS N06082 or UNS W86182 Weld Filler Material With or Without Application of Listed Mitigation Activities	Conditions specified in paragraphs (g)(6)(ii)(F)(*2*) through (16) of 10 CFR 50.55a.	Class 1 Piping Weld Examinations

Section II, V, and IX Code Cases do NOT need a request for alternative for implementation. The Section II, V, and IX Code Cases adopted for the ISI/CISI Program Plan are listed in Table 2.5.1.

Table 2.5-1 – Section II, V, and IX Code Cases		
Code Case Number	**Title**	**Affected Program Area**
2142-3	F-Number Grouping for Ni-Cr-Fe, Classification UNS N06052 Filler Metal, Section IX (Applicable to All Sections, including Section III, Division 1, and Section XI)	Repair/Replacement Program - Welding

Table 2.5-1 – Section II, V, and IX Code Cases		
Code Case Number	**Title**	**Affected Program Area**
2143-1	F-Number Grouping for Ni-Cr-Fe, Classification UNS W86152 Welding Electrode, Section IX (Applicable to All Sections, including Section III, Division 1, and Section XI)	Repair/Replacement Program - Welding
2476	Radiography Using Phosphor Imaging Plate, Section V	NDE

3.0 Relief Requests

Throughout this ISI/CISI Program Plan, the term "Relief Request" is used interchangeably referring to submittals to the NRC requesting permission to deviate from either an ASME Section XI requirement, a 10 CFR 50.55a rule, or to use provisions from editions of Section XI not approved by the NRC as referenced in 10 CFR 50.55a(b). However, when communicating with the NRC and in written requests to deviate, the terms as defined below must be used for clarity and to satisfy 10 CFR 50.55a. Submittals to the NRC must clearly identify which of the below rules are being used to request the deviation.

Table 3.0-1 contains an index of Relief Requests written in accordance with 10 CFR 50.55a(a)(g)(5)(iii) and Requests for Alternatives per 10 CFR 50.55a(z). The applicable STP submittal and NRC Safety Evaluation Report (SER) correspondence numbers are also included for each request.

3.1 Request for Alternatives

When seeking an alternative to the rules contained in 10 CFR 50.55a(b) through (h) the request is submitted under the provision of 10 CFR 50.55a(z). Once approved by the Director, Office of Nuclear Reactor Regulation, the alternative may be incorporated into the ISI/CISI program. These types of requests are typically used to request use of Code Cases, Code Editions, or Addenda not yet approved by the NRC. Request for Alternatives must be approved by the NRC prior to their implementation or use. Within the provisions of 10 CFR 50.55a(z) there are two specific methods of submittal:

10 CFR 50.55a(z)(1) Acceptable level of quality and safety. The proposed alternative would provide an acceptable level of quality and safety.

10 CFR 50.55a(z)(2) Hardship without a compensating increase in quality and safety. Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

3.2 Relief Requests Required due to Impracticality or Limited Examinations

10 CFR 50.55(a)(g)(5)(iii) and (iv) allows relief to be requested in instances when a Code requirement is deemed impractical with (iv) being specific to examination requirements that are determined to be impractical. The provisions of these two paragraphs are typically used to address impracticalities like limited examination coverage. Under 10 CFR 50.55(a)(g)(5)(iii) or (iv), relief requests for impracticality determinations must be submitted for NRC review and approval no later than 12 months after the expiration of the initial or subsequent 120-month inspection interval for which relief is sought.

In cases where conformance with an ASME Section XI requirement for inservice inspection is considered impractical, STP will notify the NRC and submit information to support the

determination, as required by 10 CFR 50.55a(g)(5). The submittal of this information will be referred to as a Request for Relief.

In the event that the entire examination volume or surface (as defined in the ASME Code) cannot be examined due to interference by another component or part geometry in accordance with ASME Section XI IWA-2200(c), a request for relief will be submitted. ASME Section XI IWA-2200(c) does not apply to the bare metal visual examinations required by Code Case N-729-6. When performing visual examinations to meet N-729-6, the requirements of N-729-6 shall be used for determining allowance for partial examination of the required surface.

Table 3.0-1
STP Fourth 10-Year Interval Relief Requests

Relief Request	Relief Request Description	STP Correspondence	NRC SER Correspondence
RR-ENG-3-24	10 CFR 50.55a(z) Request - Proposed Alternative to ASME Boiler & Pressure Vessel Code Section XI Requirements for Repair/Replacement of Essential Cooling Water (ECW) System Class 3 Buried Piping	NOC-AE-19003684 NOC-AE-19003696	ML20227A385
RR-ENG-4-01	10 CFR 50.55a(z) Request – Alternative Requirements for Nondestructive Examination of Steam Generator Main Steam Nozzle Inner Radius Sections.	Not Yet Submitted	
RR-ENG-4-02	10 CFR 50.55a(z) Request – Alternative Requirements regarding alternative UT for Reactor Pressure Vessel Flange Insert Non-Destructive Examination.	Not Yet Submitted	
RR-ENG-4-03	10 CFR 50.55a(z) Request – Alternative Requirements for Examination of CRD Housing Welds	Not Yet Submitted	
RR-ENG-4-04	N-831-1 Ultrasonic Examination in Lieu of Radiography for Ferritic or Austenitic Pipe	Not Yet Submitted	

Table 3.0-1
STP Fourth 10-Year Interval Relief Requests

Relief Request	Relief Request Description	STP Correspondence	NRC SER Correspondence
RR-ENG-IWL-01	10 CFR 50.55a(a)(3)(i) Request – Alternate Requirements regarding examination of tendons that cannot be accessed safely at power due to proximity to PORVs above IVC roof. Instead of examining them during outages per IWL-2420(c), substitute tendons will be examined. (NRC authorized in the 1st 10-Year Interval without any expiration date and therefore is approved to the end of the plant life for STP Units 1 & 2).	Original Request dated 07/10/2000 - (NOC-AE-00000868) - (ML003732928) and Amended Request dated 09/14/2000 - NOC-AE-00000921 - (ML003754691)	SER dated 03/15/2001 (TAC NOS. MA9508 and MA9509) and (ML010740230) AE-NOC-01000790

4.0 References

[4.1] American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (BPV) Code Section XI, 2013 Edition, Division 1, Rules for Inservice Inspection of Nuclear Power Plants

[4.2] Title 10, Code of Federal Regulations, Part 50.55a Codes and Standards

[4.3] Regulatory Guide 1.14, Revision 1, "Reactor Coolant Pump Flywheel Integrity"

[4.4] Regulatory Guide 1.147 Revision 18, Inservice Inspection Code Case Acceptability Section XI, Division 1

[4.5] Regulatory Guide 1.26, Quality Group Classifications and Standards for Water-Steam, and Radioactive-Waste-Containing Components of Nuclear Power Plants

[4.6] EPRI Report 1006937, "Extension of the EPRI Risk-Informed Inservice Inspection (RI-ISI) Methodology to Break Exclusion Region (BER) Programs, Rev. 0-A, August 2002

[4.7] STP Updated Final Safety Analysis Report (UFSAR)

[4.8] STP Plant Technical Specifications (TS)

[4.9] NULL - Reserved

[4.10] 0PGP03-ZX-0002, "Condition Reporting Process"

[4.11] 0PGP03-ZE-0027, "ASME Section XI Repair/Replacement Activities"

[4.12] 0PGP04-ZE-0304 "Inservice Inspection for Welds and Component Supports"

[4.13] 0PGP03-ZE-0009, "Snubber Testing Program"

[4.14] 0PGP03-ZE-0023, "System Pressure Testing Program"

[4.15] 0PSP09-TD-0001 "Containment Tendon Test/End Anchorage and Adjacent Concrete Inspection"

[4.16] 4C23HCS0001 "Inservice Surveillance of Containment Post Tensioning System"

[4.17] 0PGP03-ZE-0075 "Inservice Inspection Program for Containment Metal Liner"

[4.18] 0PSP11-RC-0015 "ASME Section XI Inservice Inspection (Surveillance)

[4.19] 0PGP03-ZE-0015, "Inservice Testing Program"

[4.20] Regulatory Guide 1.193, "ASME Code Cases Not Approved for Use"

[4.21] NUREG-0800, "Standard Review Plan for Review of Safety Analysis Reports for Nuclear Power Plants"

[4.22] MRP-146 Rev. 2 "Management of Thermal Fatigue in Normally Stagnant Non-Isolable Reactor Coolant System Branch Lines."

[4.23] MRP-227-A "Reactor Internals Inspection and Evaluation (I&E) Guidelines"

[4.24] WCAP-14535A, "Topical Report on Reactor Coolant Pump Flywheel Inspection Elimination"

[4.25] WCAP-14572 Revision 1-NP-A Addendum 1 [4.23], "Addendum to Westinghouse Owners Group Application of Risk-Informed Methods to Piping Inservice Inspection Topical Report to Address Changes to augmented Inspection Requirements"

[4.26] WCAP-16913-P "Operability Assessment and Plant Applicability Evaluation for Pressurizer Heater Sleeve Leakage in Westinghouse Designed Pressurizers"

[4.27] ER-AA-TFM-10 "Thermal Fatigue Management Program"

[4.28] NUREG-0612 "Control of Heavy Loads"

[4.29] 0PSP11-RC-0014, "Steam Generator Inspection"

[4.30] 0PGP04-ZE-0305, "Inservice Inspection Program for Steam Generator Tubing"

[4.31] 0PGP03-ZO-0044, "Steam Generator Management Program"

[4.32] 0PGP03-ZE-0082 "ASME Section XI Repair/Replacement Activity Pressure Testing"

5.0 AUGMENTED EXAMINATIONS

This Ten-Year ISI Program Section contains augmented examinations that may be inside or outside the scope of 10 CFR 50.55a. These augmented examinations may result from activities including, but not limited to meeting the requirements of 10 CFR 50.55a or commitments made outside of 10 CFR 50.55a, or those made based on other document requirements, internal commitments, license renewal commitments, or industry initiatives. Augmented examinations may be required to use ASME Section XI techniques and procedures or those as defined in the commitment, however, the requirements of ASME Section XI, including reporting, do NOT apply when these examinations are required outside of 10 CFR 50.55a.

For other augmented examinations that are NOT required by 10 CFR 50.55a and ASME Code requirements such as Section XI and its Code Cases, they are NOT required to be included in the summary totals for a specific examination category. These augmented examinations may be required to use ASME Section XI techniques and procedures or those as defined in the commitment, however, the requirements of ASME Section XI, including reporting, do NOT apply when these examinations are required outside of 10 CFR 50.55a. Changes to these examination requirements and schedules that are outside of 10 CFR 50.55a may be required to be evaluated using the 10 CFR 50.59 screening/review process unless otherwise specified.

Augmented examinations are considered in one of the following four categories:

5.1 Augmented Examinations Required by 10 CFR 50.55a;
5.2 Augmented Examinations for External Commitments;
5.3 Owner Elected Examinations for Internal Commitments; and
5.4 License Renewal Examinations for Aging Management Commitments.

These four types of augmented examinations are described in Sections 5.1, 5.2, 5.3 and 5.4, respectively. In addition, all the augmented examinations described below are tracked or included in an Augmented Examination Summary contained in Appendix A and Appendix B.

5.1 Augmented Examinations Required by 10 CFR 50.55a

These augmented examinations are conducted to meet a requirement in 10 CFR 50.55a. Typically these are requirements imposed by the NRC to enhance existing ASME Section XI examination requirements.

5.1.1 Augmented ISI Requirements per ASME BPV Code Case N-722-1 – Reactor Coolant Pressure Boundary Visual Examinations of Reactor Vessel Bottom Head, Steam Generators and Piping Components

Source Documents: Code Case N-722-1 "Additional Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated with Alloy 600/82/182 Materials, Section XI, Division 1."

Commitment No.: None, NRC Mandatory per 10 CFR 50.55a(g)(6)(ii)(E)(1).

Associated Documents: None, Conditions in 10 CFR 50.55a(g)(6)(ii)(E)(2) through (4)].

Purpose: Implementation of Code Case N-722-1 is to ensure the integrity of the Alloy 600/82/182 components.

Scope: Table 1 of Code Case N-722-1 lists the parts to be examined, but not all of the parts listed in the code case contain components with Alloy 600/82/182 materials at STP. STP has no Pressurizer or Steam Generator welds applicable to Code Case N-722-1. For STP the following components apply and are listed with their Item Numbers from the code case:

Parts Examined	Item No.	Description	Unit 1 Total No.	Unit 2 Total No.
Reactor Vessel	B15.80	RPV bottom-mounted instrument penetrations	58	58

Note: Refer to Appendix A (Unit 1) and Appendix B (Unit 2) for the total number of items tracked under this augmented program.

Method: Visual, VE as specified in Code Case N-722-1. The Visual Examination (VE) performed on Alloy 600/82/182 components for evidence of pressure boundary leakage and corrosion on adjacent ferritic steel components shall consist of the following:

(a) A direct VE of the bare-metal surface performed with the insulation removed. Alternatively, the VE may be performed with insulation in place using remote visual inspection equipment that provides resolution of the component metal surface equivalent to a bare-metal direct VE.

(b) The VE may be performed when the system or component is depressurized.

(c) The direct VE shall be performed at a distance not greater than 4 ft from the component and with a demonstrated illumination level sufficient to allow resolution of lower case characters having a height of not greater than 0.105 in.

Industry Code or Standards: ASME Code Section XI, 2013 Edition.

Frequency: Table 1 of Code Case N-722-1 provides the frequency for the Visual, VE per each Item Number. B15.80 is required to be examined every other refueling outage.

Acceptance Criteria or Standard: The acceptance standard for the Visual, VE is contained in IWB-3522 of Section XI as listed in Table 1 of Code Case N-722-1 and is to be applied subject to the conditions in 10 CFR 50.55a(g)(6)(ii)(E)(2), (3), and (4) as identified below:

10 CFR 50.55a(g)(6)(ii)(E)(2) "If a visual examination determines that leakage is occurring from a specific item listed in Table 1 of ASME Code Case N-722-1 that is not exempted by the ASME Code Section XI, IWB-1220(b)(1), additional action must be performed to characterize the location, orientation, and length of a crack or cracks in Alloy 600 nozzle wrought material and location, orientation, and length of crack or cracks in Alloy 82/182 butt welds. Alternatively, licensees may replace the Alloy 600/82/182 materials in all the components under the item number of the leaking component."

10 CFR 50.55a(g)(6)(ii)(E)(3) "If the actions in paragraph (g)(6)(ii)(E)(2) of this section determine that a flaw is circumferentially oriented and potentially a result of primary water stress corrosion cracking, licensees must perform non-visual NDE inspections of components that fall under that ASME Code Case N-722-1 item number. The number of components inspected must be equal or exceed the number of components found to be leaking under that item number. If circumferential cracking is identified in the sample, non-visual NDE must be performed in the remaining components under that item number.

10 CFR 50.55a(g)(6)(ii)(E)(4) "If ultrasonic examinations of butt welds are used to meet the NDE requirements in paragraphs (g)(6)(ii)(2) or (3) of this section, they must be performed using the appropriate supplement of Section XI, Appendix VIII, of the ASME BPV Code."

Regulatory Bases: 10 CFR 50.55a(g)(6)(ii)(E)(1) "All licensees of pressurized water reactors must augment their inservice inspection program by implementing ASME Code Case N-722-1, subject to the conditions specified in paragraphs (g)(6)(ii)(E)(2) through (4) of this section. The inspection requirements of ASME Code Case N-722-1 do not apply to components with pressure retaining welds fabricate with Alloy 600/82/182 materials that have been mitigated by weld overlay or stress improvement."

5.1.2 Augmented ISI Requirements per ASME BPV Code Case N-729-6 – Reactor Vessel Head Inspections

Source Documents: Code Case N-729-6 "Alternative Examination Requirements for PWR Reactor Vessel Upper Heads With Nozzles Having Pressure-Retaining Partial-Penetration Welds, Section XI, Division 1."

Commitment No.: None, NRC Mandatory per 10 CFR 50.55a(g)(6)(ii)(D)(1).

Associated Documents: None, Conditions in 10 CFR 50.55a(g)(6)(ii)(D)(2) through (8).

Purpose: The application of ASME Code Case N-729-1 was originally deemed necessary by the NRC because the inspections required by the 2004 Edition of the ASME Code, Section XI were not written to address degradation of the RPV upper head penetration nozzles and associated welds by Primary Water Stress Corrosion Cracking (PWSCC). Because this same situation exists with the use of the 2013 Edition of ASME Code, Section XI, which is now the required Code of Record for this ISI Program, the safety consequences of inadequate inspections are still a NRC concern. The NRC has now updated the requirements to mandate the use of ASME Code Case N-729-6 to continue to address their concern and to maintain an effective long-term inspection program for the RPV upper head penetration nozzles and associated welds in pressurized water reactors.

Scope: The RPV Head Outside Diameter (OD) Surface and the RPV Head Penetrations. STP has replaced their Unit 1 RPV head in October 2009 and Unit 2 in April 2010 so the applicable Item Nos. from Table 1 of Code Case N-729-6 are B4.30 and B4.40.

Item No.	Parts Examined	Unit 1 Total No.	Unit 2 Total No.
B4.30	Head with nozzles and partial penetration welds of PWSCC resistant materials	68	68
B4.40	Nozzles and partial penetration welds of PWSCC resistant materials in head.	64	64

Note: Refer to Appendix A (Unit 1) and Appendix B (Unit 2) for the total number of items tracked under this augmented program.

Method: Visual VE, Volumetric and/or Surface as identified in Table 1 of Code Case N-729-6.

10 CFR 50.55a(g)(6)(ii)(D)(5) "*Peening"* This condition is not applicable to STP.

10 CFR 50.55a(g)(6)(ii)(D)(6) "Baseline Examinations." This condition is not applicable to STP.

10 CFR 50.55a(g)(6)(ii)(D)(7) "Sister Plants." This condition states that Note 10 of Code Case N-729-6 shall not be implemented without NRC's approval. This condition is not applicable to STP.

10 CFR 50.55a(g)(6)(ii)(D)(8) "Volumetric Leak Path" In lieu of paragraph 3200(b) requirement for a surface examination of the partial penetration weld, a volumetric leak path assessment of the nozzle may be performed in accordance with Note 6 of Table 1 of N-729-6. STP will consider this alternative.

Industry Code or Standards: ASME Code Section XI, 2013 Edition.

Frequency: Table 1 of Code Case N-729-6 provides the frequency for the Visual VE, Volumetric and/or Surface examinations with the implementation of the following NRC conditions.

10 CFR 50.55a(g)(6)(ii)(D)(3) "*Bare metal visual frequency"*. This condition only applies to Item B4.10 which is not applicable to STP.

Acceptance Criteria or Standard: Code Case N-729-6, -3000 Acceptance Standards including the following conditions.

10 CFR 50.55a(g)(6)(ii)(D)(2) "Appendix I use. If STP uses Appendix I of ASME BPV Code Case N–729–4 Section I-3000 will be implemented to define an alternative examination area or volume."

10 CFR 50.55a(g)(6)(ii)(D)(4) "Surface exam acceptance criteria. In addition to the requirements of Paragraph –3132.1(b) of ASME BPV Code Case N–729–6, a component whose surface examination detects rounded indications greater than allowed in Paragraph NB–5352 in size on the partial-penetration or associated fillet weld shall be classified as having an unacceptable indication and corrected in accordance with the provisions of paragraph –3132.2 of ASME BPV Code Case N–729–6."

Regulatory Bases: 10 CFR 50.55a(g)(6)(ii)(D)(1) "*Implementation.* Holders of operating licenses or combined licenses for pressurized-water reactors as of or after June 3, 2020, shall implement the requirements of ASME BPV Code Case N–729–6 instead of ASME BPV Code Case N–729–4, subject to the conditions specified in paragraphs (g)(6)(ii)(D)(2) through (8) of this section, by no later than one year after June 3, 2020. All previous NRC-approved alternatives from the requirements of paragraph (g)(6)(ii)(D) of this section remain valid."

5.1.3 Augmented ISI Requirements per ASME BPV Code Case N-770-5 – Examination Requirements for Class 1 Piping and Nozzle Dissimilar Metal Butt Welds

Source Documents: ASME Code Case N-770-5 "Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds Fabricated With UNS N06082 or UNS W86182 Weld Filler Material With or Without Application of Listed Mitigation Activities, Section XI, Division 1."

Commitment No.: None, NRC Mandatory per 10 CFR 50.55a(g)(6)(ii)(F)(1).

Associated Documents: None, Conditions in 10 CFR 50.55a(g)(6)(ii)(F)(2)(i), (F)(2)(iii) through (v), (4), (6), and (13) currently apply at STP and conditions in (F)(2)(ii), (5), (7), (8), (9), (10), (12), (14), (15),

and (16) may apply if the scope of these conditions becomes applicable at STP during the Fourth Ten Year ISI Interval.

Purpose: Implementation of Code Case N-770-5 is to ensure the structural integrity of Alloy 82/182 butt welds. Code Case N-770-5 addresses degradation of Alloy 82/182 butt welds by PWSCC, and the safety consequences of inadequate inspection can be significant. This degradation mechanism increases the probability of a loss of coolant accident.

Scope: Class 1 PWR piping and vessel nozzle butt welds fabricated with Alloy 82/182 materials, with or without application of mitigation activities.

Unit 1		
Parts Examined	**Item No.**	**Weld IDs**
Uncracked butt weld mitigated with stress improvement (Hot Legs)	D	RPV1-N1ASE, RPV1-N1BSE, RPV1-N1CSE, RPV1-N1DSE
Uncracked butt weld mitigated with stress improvement (Cold Legs)	D	RPV1-N2ASE, RPV1-N2BSE, RPV1-N2CSE, RPV1-N2DSE
Cracked butt weld reinforced by full structural weld overlay of Alloy 52/152 material	F-1	PRZ-1-N1-SE-WOL, 1-WOL-(N1), PRZ-1-N2-SE-WOL, 14-WOL-(N2), PRZ-1-N3-SE-WOL, 1-WOL-(N3), PRZ-1-N4A-SE-WOL, 1-WOL-(N4A), PRZ-1-N4B-SE-WOL, 1-WOL-(N4B), PRZ-1-N4C-SE-WOL. 1-WOL-(N4C)

Unit 2		
Parts Examined	**Item No.**	**Weld IDs**
Unmitigated butt weld at Hot Leg operating temperature ≤625°F	D	RPV2-N1ASE, RPV2-N1BSE, RPV2-N1CSE,RPV2-N1DSE
Unmitigated butt weld at Cold Leg operating temperature ≥525°F and <580°F	D	RPV2-N2ASE, RPV2-N2BSE, RPV2-N2CSE, RPV2-N2DSE
Cracked butt weld reinforced by full structural weld overlay of Alloy 52/152 material	F-1	PRZ-2-N1-SE-WOL, 1-WOL-(N1), PRZ-2-N2-SE-WOL, 14-WOL-(N2), PRZ-2-N3-SE-WOL, 1-WOL-(N3), PRZ-2-N4A-SE-WOL, 1-WOL-(N4A), PRZ-2-N4B-SE-WOL, 1-WOL-N4B), PRZ-2-N4C-SE-WOL, 1-WOL-N4C)

Note: Refer to Appendix A (Unit 1) and Appendix B (Unit 2) for the total number of items tracked under this augmented program.

Method: Visual Examination (VE), Ultrasonic, and/or Surface as identified in Table 1 of Code Case N-770-5.

Industry Code or Standards: ASME Code Section XI, 2013 Edition.

Frequency: Examination frequency is per Table 1 of Code Case N-770-5 depending on the Inspection Item assigned to each weld. The Hot and Cold Leg Nozzle-to-Safe end welds received MSIP in 1RE20 for Unit 1 and 2RE20 for Unit 2.

Acceptance Criteria or Standard: Visual Examination (VE) per -3140 and surface/volumetric (i.e., required ultrasonic examination) -3130 of Code Case N-770-5 as modified by 10 CFR 50.55a(g)(6)(ii)(F)(2) through (16) below:

Conditions that currently apply to STP are:

10 CFR 50.55a(g)(6)(ii)(F)(*2*) *Categorization*. (i) Welds that have been mitigated by the Mechanical Stress Improvement Process (MSIP™) may be categorized as Inspection Items D or E, as appropriate, provided the criteria in Appendix I of the code case have been met.

(iii) Other mitigated welds shall be identified as the appropriate inspection item of the NRC authorized alternative or NRC-approved code case for the mitigation type in Regulatory Guide 1.147.

(v)Paragraph –1100(e) of ASME BPV Code Case N-770-5 shall not be used to exempt welds that rely on Alloy 82/182 for structural integrity from any requirement of this section. STP will not implement -1100(e).

10 CFR 50.55a(g)(6)(ii)(F)(*4*) *Examination coverage*. When implementing Paragraph –2500(a) of ASME BPV Code Case N–770–5, essentially 100 percent of the required volumetric examination coverage shall be obtained, including greater than 90 percent of the volumetric examination coverage for circumferential flaws. Licensees are prohibited from using Paragraphs –2500(c) and –2500(d) of ASME BPV Code Case N–770–5 to meet examination requirements.

10 CFR 50,55a(g)(6)(ii)(F)(*6*) *Reporting requirements*. The licensee will promptly notify the NRC regarding any volumetric examination of a mitigated weld that detects growth of existing flaws in the required examination volume that exceed the previous IWB-3600 flaw evaluations, new flaws, or any indication in the weld overlay or excavate and weld repair material characterized as stress corrosion cracking. Additionally, the licensee will submit to the NRC a report summarizing the evaluation, along with inputs, methodologies, assumptions, and causes to the new flaw or flaw growth within 30 days following plant startup.

Conditions that may apply to STP if the scope of these conditions becomes applicable:

10 CFR 50.55a(g)(6)(ii)(F)(2)(ii) *Categorization*. In order to be categorized as peened welds, in lieu of inspection category L requirements and examinations, welds must meet the performance criteria, qualification and examination requirements as stated by MPR-335, Revision 3-A, with the exception that no plant-specific alternative is required. STP currently has no peened welds where the scope of this condition would apply.

10 CFR 50.55a(g)(6)(ii)(F)(2)(iv) All other butt welds that rely on Alloy 82/182 for structural integrity shall be categorized as Inspection Items A–1, A–2, or B as appropriate. STP does not have any of these welds.

10 CFR 50.55a(g)(6)(ii)(F)(*5*) *Inlay/onlay inspection frequency*. All hot-leg operating temperature welds in Inspection Items G, H, J, and K shall be inspected each inspection interval. A 25 percent sample of Inspection Items G, H, J, and K cold-leg operating temperature welds shall be inspected whenever the core barrel is removed (unless it has already been inspected within the past 10 years) or within 20 years, whichever is less. STP currently has no inlay/onlay welds where the scope of this condition would apply.

10 CFR 50.55a(g)(6)(ii)(F)(*7*) *Defining "t"*. For Inspection Items G, H, J, and K, when applying the acceptance standards of ASME BPV Code, Section XI, IWB–3514, for planar flaws contained within the inlay or onlay, the thickness "t" in IWB–3514 is the thickness of the inlay or onlay. For planar flaws in the balance of the dissimilar metal weld examination volume, the thickness "t" in IWB–3514 is the combined thickness of the inlay or onlay and the dissimilar metal weld. STP currently has no inlay/onlay

welds where the scope of this condition would apply.

10 CFR 50.55a(g)(6)(ii)(F)(*8*) *Optimized weld overlay examination*. Initial inservice examination of Inspection Item C–2 welds shall be performed between the third refueling outage and no later than 10 years after application of the overlay. STP currently has no optimized weld overlays where the scope of this condition would apply.

10 CFR 50.55a(g)(6)(ii)(F)(*9*) *Deferral*. (i) The initial inservice examination of optimized weld overlays , Inspection Item C–2 shall not be deferred. STP currently has no optimized weld overlays where the scope of this condition would apply.

(ii) Volumetric inspection of peened dissimilar metal butt welds shall not be deferred. STP currently has no peened welds where the scope of this condition would apply.

(iii) For inspection Item M-2, N-1, and N-2 welds, the second required inservice volumetric examination shall not be deferred. STP currently has no excavated weld repairs where the scope of this condition would apply.

10 CFR 50.55a(g)(6)(ii)(F)(*10*) *Examination technique*. Note 14(b) of Table 1 and Note (b) of Figure 5(a) of ASME BPV Code Case N–770–5 may only be implemented if the requirements of Note 14(a) of Table 1 of ASME BPV Code Case N–770–5 cannot be met. STP currently has no optimized weld overlays where the scope of this condition would apply.

10 CFR 50.55a(g)(6)(ii)(F)(*12*) *Stress improvement inspection coverage*. Under Paragraph I.5.1 (I-5100 in N-770-5), for cast stainless steel items, the required examination volume shall be examined by Appendix VIII procedures to the maximum extent practical including 100 percent of the susceptible material volume. STP currently has no welds with stress improvement associated with cast stainless steel where the scope of this condition would apply.

10 CFR 50.55a(g)(6)(ii)(F)(*13*) *Encoded ultrasonic examination*. Ultrasonic examinations of nonmitigated or cracked mitigated dissimilar metal butt welds in the reactor coolant pressure boundary must be performed in accordance with the requirements of Table 1 for Inspection Item A–1, A–2, B-1, B-2, E, F–2, J, K, N-1, N-2 and O. Essentially 100 percent of the required inspection volume shall be examined using an encoded method.

10 CFR 50.55a (g)(6)(ii)(F)(14) *Excavate and weld repair cold leg.* For cold leg temperature M-2, N-1, and N-2 welds, initial volumetric inspection after application of an excavate and weld repair (EWR) shall be performed during the second refueling outage. STP currently has no excavated weld repairs where the scope of this condition would apply.

10 CFR 50.55a(g)(6)(ii)(F)(15) *Cracked excavate and weld repair.* In lieu of the examination requirements for cracked welds with 360 excavate and weld repairs, Inspection Item N-1 of Table 1, welds shall be examined during the first or second refueling outage following EWR. Examination volumes that

show no indication of crack growth or new cracking shall be examined once each inspection interval thereafter. STP currently has no excavated weld repairs where the scope of this condition would apply.

10 CFR 50.55a(g)(6)(ii)(F)(16) *Partial arc excavate and weld repair.* Inspection Item O cannot be used without NRC review and approval. STP currently has no partial arc excavate and weld repairs where the scope of this condition would apply.

Regulatory Bases: 10 CFR 50.55a(g)(6)(ii)(F) *Examination requirements for Class 1 piping and nozzle dissimilar-metal butt welds*. (g)(6)(ii)(F)*(1) Implementation.* Holders of operating licenses or combined licenses for pressurized-water reactors as of or after June 3, 2020, shall implement the requirements of ASME BPV Code Case N–770–5 instead of ASME BPV Code Case N–770–2, subject to the conditions specified in paragraphs (g)(6)(ii)(F)(2) through (16) of this section, by later than one year after June 3, 2020. All NRC authorized alternatives from previous version of paragraph (g)(6)(ii)(F) of this section remain applicable.

5.2 Augmented Examinations for External Commitments

This type of augmented examination is conducted to meet a commitment made to a source outside the utility. Typically these are commitments made to the NRC in response to regulatory documents such as Generic Letters, Bulletins and NUREGs or other Industry Groups such as NEI or MRP.

5.2.1 Reactor Coolant Pump Flywheels

Source Documents: Technical Specifications 4.4.10 Reactor Coolant Pump Flywheel Inspection Program.

Commitment No.: None.

Associated Documents: Reactor Coolant Pump (RCP) UFSAR Section 3.12 and NRC Regulatory Guide 1.14 addressed in the UFSAR Table 3.12-1.

Purpose: The RCP motor flywheels are examined due to a concern about high-energy missiles inside containment that could potentially damage and cause the simultaneous failure of multiple trains of multiple safety-related systems. STP takes partial exception to RG 1.14.

Scope: This program provides for the inspection of each reactor coolant pump flywheel by UT examination over the volume from the inner bore of the flywheel to the circle of one-half the outer radius once every 10 years and shall comply with RG 1.14, Revision 1, August 1975, positions C.4.b (3), (4), and (5).

Note: Refer to Appendix A (Unit 1) and Appendix B (Unit 2) for the total number of items tracked under this augmented program.

Method: Ultrasonic Examination.

Industry Code or Standards: ASME Code Section XI, 2013 Edition (For guidance only not a Code required examination).

Frequency: Each RCP Flywheel at least once every 10 years per the Surveillance Frequency Control Program as referenced in Technical Specifications 4.4.10.

Acceptance Criteria or Standard: Any flaws detected during examination shall be forwarded to STP Engineering for resolution.

Regulatory Bases: The regulatory basis for this augmented examination program is per the Technical Specifications Section 4.4.10.

5.2.2 Break Exclusion Zone (BEZ Examinations)

Source Documents: NUREG 0800, Standard Review Plan (SRP) 3.6.1 "Plant Design for Protection Against Postulated Piping Failures in Fluid Systems Outside Containment," 3.6.2 "Determination of Break Locations and Dynamic Effects Associated with the Postulated Rupture of Piping" and SRP 6.6 "Inservice Inspection of Class 2 and 3 Components," Revision 1 – July 1981, included in the STP UFSAR Sections 3.6.2 and 6.6.8. Condition Report Engineering Evaluation (CREE) 08-6765-3 documents the evaluation and acceptance of the Risk-Informed Inservice Inspection (RI-ISI) Break Exclusion Zone (BEZ) STP Programs which are also referred to as the Break Exclusion Region (BER) Programs by EPRI and ASME.

Commitment No.: None, NEI 03-08 Mandatory, Needed or Good Practice.

Associated Documents: EPRI Topical Report TR-1006937 "Extension of the EPRI Risk-Informed Inservice Inspection (RI-ISI) Methodology to Break Exclusion Region (BER) Programs, Rev. O-A and ASME BPV Code Case N-716-1 "Alternative Classification and Examination Requirements Section XI, Division 1."

Purpose: Implementation of a RI-ISI Program for BEZ welds using the methodology of EPRI Topical Report TR-1006937 "Extension of the EPRI Risk-Informed Inservice Inspection (RI-ISI) Methodology to Break Exclusion Region (BER) Programs, Rev. O-A," which also exceeds the requirements of Code Case N-716-1 for the BEZ Main Steam System and Main Feedwater System weld selections at STP.

Scope: Includes recommended examination selections at Units 1 and 2 shown in Table 5.2.2-1 Risk Ranking and Element Selection Summary below with 7 welds selected on the Main Steam System (excluding longitudinal seams) and 4 welds selected on the Main Feedwater System all outside containment in the Isolation Valve Compartments (IVCs). These BEZ welds are categorized as Low Safety Significant (LSS) with a "low" risk determination and do NOT require volumetric examination per Code Case N-716-1, but are recommended examinations to be performed based on the VENDREC File# D070907036 detailed below. The recommended 10% weld examination selection criteria is comparable

with the RI-ISI examination selection requirements in Code Case N-716-1, which are being implemented for the Fourth Ten-Year Inspection Interval at STP.

However, in paragraph 4(b)(5) of Code Case N-716-1 it states that *"For each system within the break exclusion region, at least 10% of the piping welds shall be selected,"* where the term piping welds applies to only High Safety Significant (HSS) welds, but at STP these welds are all LSS.

Understanding this requirement above does not apply to LSS welds, STP has decided to perform the recommended examination selections as shown in Table 5.2.2-1. These recommended selections are supported by the use of the RI-ISI Methodology that is documented in the "South Texas Project Electric Generating Station Units 1 and 2 BER Evaluation – Vendor Record Type: VENDREC File# D070907036, dated, October 18, 2007," and the fact that the STP UFSAR Section 6.6.8 states "All welds located in appropriate high-energy piping for which no breaks are postulated will be examined using volumetric examination techniques. This examination will apply to all piping circumferential butt welds and longitudinal butt welds. Under this augmented scope, 100 percent volumetric examination will be performed during the PSI and once in each 10-year interval or as required per the Risk-Informed process for piping outlined in EPRI Topical Report TR-1006937," which was implemented using a recommended 10% examination selection per VENDREC File# D070907036 as referenced above.

Additionally, piping longitudinal butt or seam welds are only required to be examined at the intersection of circumferential welds as depicted in the figures of Section XI, 2013 Edition that are required to be used in Code Case N-716-1.

Table 5.2.2-1 Risk Ranking and Element Summary

System	RC	DM	Weld Group	Unit 1		Unit 2	
				Welds	Selected	Welds	Selected
MS – Main Steam	6	None	30-inch	36	4	36	4
			16-inch	9	1	9	1
			6-inch	20	2	20	2
			Long-seam	48	0	48	0
FW – Main Feedwater	6	None	18-inch	36	4	38	4

RC = Risk Category
DM = Degradation Mechanism

Note: Refer to Appendix A (Unit 1) and Appendix B (Unit 2) for the total number of items tracked under this augmented program.

Method: Volumetric Examination ≥ 4NPS.

Industry Code or Standards: ASME Code Section XI, 2013 Edition.

Frequency: Each Inspection Interval as defined by Section XI, IWA-2430.

Acceptance Criteria or Standard: NUREG 0800, SRP 6.6, Section XI, IWC-3000.

Regulatory Bases: NUREG 0800, SRP 3.6.1, 3.6.2, and 6.6, Revision 1.

5.2.3 MRP-146 Examinations

Source Documents: MRP-146 Rev. 2, "Management of Thermal Fatigue in Normally Stagnant Non-Isolable Reactor Coolant System Branch Lines."

Commitment No.: None, NEI 03-08 Mandatory, Needed or Good Practice.

Associated Documents: NEI 03-08 "Guideline for the Management of Material Issues," Reference STP Procedure "Reactor Coolant System Material Management Program" (0PGP04-ZA-0013).

Purpose: The purpose of this augmented examination is to perform Ultrasonic Examination (UT) of portions of piping that were assessed to possibly be susceptible to thermal fatigue in normally stagnant, non-isolable RCS branch lines.

Scope: Components in normally stagnant non-isolable Reactor Coolant System branch lines that are susceptible to thermal fatigue.

Unit 1			
Summary No.	**Comp. ID**	**Component Description**	**Scheduling Notes**
1-WD-105260	2	Pipe-Elbow	Examine Every Outage
1-WD-105620	2	Pipe-Elbow	Examine Every Outage
1-WD-105630	3	Elbow-Pipe	Examine Every Outage
1-WD-108400	1	Branch Connection to Bent Pipe	2” Drain Line on Bottom of Intermediate 31” Examination of 2”-RC-1419-BB1 Weld is performed during 2”-RC-1418-BB1 Weld 1 Examination. Scheduled Every Outage
1-WD-109000	1	2-In. Branch Connection to Bent Pipe	Scheduled Every Outage
1-WD-110200	1	Branch Connection to Bent Pipe	Scheduled Every Outage

Unit 2			
Summary No.	**Comp. ID**	**Component Description**	**Scheduling Notes**
2-WD-105260	2	Pipe-Elbow	Examine Every Outage
2-WD-105620	2	Pipe-Elbow	Examine Every Outage
2-WD-105630	3	Elbow-Pipe	Examine Every Outage
2-WD-108420	3	RCS Branch Connection Elbow-Pipe	2” Drain Line on Bottom of Intermediate 31” Examination of 2”-RC-2419-BB1 Weld is performed during 2”-RC-2418-BB1 Weld 1 Examination. Scheduled Every Outage

Unit 2			
Summary No.	**Comp. ID**	**Component Description**	**Scheduling Notes**
2-WD-109020	3	RCS Branch Connection Elbow-Pipe	Scheduled Every Outage
2-WD-110220	3	RCS Branch Connection Elbow-Pipe	Scheduled Every Outage

Note: Refer to Appendix A (Unit 1) and Appendix B (Unit 2) for the total number of items tracked under this augmented program.

Method: Volumetric Examination UT.

Industry Code or Standards: ASME Code Section XI, 2013 Edition.

Frequency: As determined through the fatigue management program.

Acceptance Criteria or Standard: As determined through the fatigue management program.

Regulatory Bases: The regulatory basis for this augmented examination program is a "Needed" requirement of an NEI 03-08 issue program

5.2.4 MRP-192 Examinations

Source Documents: MRP-192 Rev. 3 "Assessment of RHR Mixing Tee Thermal Fatigue in PWR Plants."

Commitment No.: None, NEI 03-08 Mandatory, Needed or Good Practice.

Associated Documents: NEI 03-08 "Guideline for the Management of Material Issues," that cites MRP-192 Rev. 2 as an issue program.

Purpose: To provide Management of Thermal Stratification Fatigue Mixing Tee Examination Volumes.

Scope: Provides examination volume inspection requirements for locations determined to be potentially subject to RHR Mixing Tee Thermal Fatigue.

Unit 1			
Summary No.	**Comp. ID**	**Component Description**	**Scheduling Notes**
1-WD-611640	5	Tee to Pipe	Mixing Tee – Inspect as required based on run time.

Unit 2			
Summary No.	**Comp. ID**	**Component Description**	**Scheduling Notes**
2-WD-611640	5	Tee to Pipe	Mixing Tee – Inspect as required based on run time.

Note: Refer to Appendix A (Unit 1) and Appendix B (Unit 2) for the total number of items tracked under this augmented program.

Method: Volumetric Examination UT.

Industry Code or Standards: ASME Code Section XI, 2013 Edition

Frequency: Based on the Run Time.

Acceptance Criteria or Standard: As determined through the fatigue management program.

Regulatory Bases: The regulatory basis for this augmented examination program is a "Good Practice" requirement of an NEI 03-08 issue program.

5.2.5 NSAL 06-8: Pressurizer Heater Sleeves

Source Documents: Westinghouse Nuclear Advisory Letter, NSAL-06-8 "

Commitment No.: None

Associated Documents: TPNS: 1R111NPZ101A

Purpose: Bare Metal Visual examination looking for boric acid deposits

Scope: Pressurizer Heater Sleeves

Unit 1			
Summary No.	**Comp. ID**	**Component Description**	**Scheduling Notes**
1-A600-105500	PRZ-1-HEATERS	Pressurizer Heater Sleeves	Bare Metal Visual of first row exposed heaters and accessible portion of heaters on outer 2 rows. Ref. Westinghouse NSAL 06-8 Rev. 1

Unit 2			
Summary No.	**Comp. ID**	**Component Description**	**Scheduling Notes**
2-A600-105500	PRZ-2-HEATERS	Pressurizer Heater Sleeves	Bare Metal Visual of first row exposed heaters and accessible portion of heaters on outer 2 rows. Ref. Westinghouse NSAL 06-8 Rev. 1

Note: Refer to Appendix A (Unit 1) and Appendix B (Unit 2) for the total number of items tracked under this augmented program.

Method: Bare Metal Visual Examination

Industry Code or Standards:

Frequency: Once per Interval

Acceptance Criteria or Standard: No identified leakage

Regulatory Bases: None

5.2.6 Degradation of Leak Chase Channel Systems

Source Documents: 10 CFR 50.55a(b)(2)(ix)(K) Metal Containment Examinations: Eleventh provision

Note: The NRC has mandated the implementation of Section XI 2017 Edition for the examination of the Leak Chase Channel Moisture Barriers.

Commitment No.: None

Associated Documents: ASME Code Section XI, 2017 Edition, Subsection IWE requirements for Moisture Barriers will be applied in the Fourth Ten-Year Interval[5] to the cover plates of the Leak Chase Channel System connections. NRC position on these requirements is now documented per 10 CFR 50.55a(b)(2)(ix)(K).

Purpose: Recent OE includes several examples of moisture intrusion against portions of the containment liner or vessel through boundaries that are outside of the ASME code boundary. The OE included several instances of issues allowing moisture to intrude into inaccessible areas of leak chase channels as well as at least one instance of moisture intrusion past a concrete to concrete floor interface. To identify possible degradation associated with Leak Chase Channel System connections by the examination of their cover plates that are NOT seal welded.

Scope: There are 163 Leak Chase Channel System cover plates at each STP Unit 1 and Unit 2. Examination shall include the moisture barrier materials (caulking, gaskets, coatings, etc.) that prevent water from accessing the embedded containment liner with the leak chase channel system.

Note: Refer to Appendix C (Unit 1) and Appendix D (Unit 2) for the total number of items tracked under this augmented program.

Method: General Visual of cover plate of the Leak Chase Channel System. Caps of stub tubes extending to or above the concrete floor interface may be inspected provided the configuration of the cap functions as a moisture barrier. Leak chase channel system closures need not be disassembled for performance of examinations if the moisture barrier material is clearly visible without disassemble, or coatings are intact.

Industry Code or Standards: ASME Code Section XI, 2013 Edition for guidance.

Frequency: General Visual examination once each Inspection period.

Acceptance Criteria or Standard: The closures are acceptable if no damage or degradation exists that would allow intrusion of moisture against inaccessible surfaces of the metal containment shell or liner within the leak chase channel system. Examinations that identify flaws or relevant conditions shall be extended in accordance with paragraph IWE-2430 of the 2017 Edition of Section XI.

Regulatory Bases: 10 CFR 50.55a(b)(2)(ix)(K)

[5] STP has decided to name the CISI Interval beginning in year 2020 as the Fourth Interval.

5.3 Owner Elected Examinations for Internal Commitments

This type of augmented examination is conducted to meet a commitment made internally at the plant. These typically involve examinations resulting from Condition Reports or similar documents that identify conditions in the plant that warrant monitoring, but are outside the scope of ASME Section XI. STP currently has no Owner Elected Examinations.

5.4 License Renewal Examinations for Aging Management Commitments

This type of augmented examination is conducted to ensure the integrity of components during the renewed license Period of Extended Operation (PEO). This type of augmented examination typically involves components or criteria that are beyond those of ASME Section XI, but in some cases may supplement existing Code or regulatory requirements. The associated documents detailing these requirements for the ISI and CISI Programs are:

LRI.19A.1.1 ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD
LRI.19A.1.27 ASME Section XI, Subsection IWE
LRI.19A.1.28 ASME Section XI, Subsection IWL
LRI.19A.1.29 ASME Section XI, Subsection IWF

5.4.6 License Renewal Commitment 42 – ISI Program: Examination of RPV Stud Insert #30 – Unit 2 Only

Source Documents: UFSAR, Chapter 19: License Renewal, "Programs that Manage the Effects of Aging on structures and Components within the Scope of License Renewal," and Table 19A.4-1, License Renewal Commitments.

Commitment No.: Item # 42, License Renewal Section, B2.1.3 as described in SER Section 3.0.3.2.2.

Associated Documents: Generic Aging Lessons Learned (GALL Report – Final Report (NUREG-1801-2, Revision 2) Section XI.M3, "Reactor Head Closure Studs." and CR-12-15170.

Purpose: This augmented program is to perform a remote VT-1 of Stud Insert #30 (Unit 2 only) concurrent with the volumetric examination once every 10 years to verify no additional loss of bearing surface area. This program was started in the (Third Interval) 10-year ASME Section XI inspection interval.

Scope: Stud Insert #30.

Method: Remote Visual, VT-1 concurrent with a Volumetric, UT.

Industry Code or Standards: ASME Code Section XI, 2013 Edition.

Frequency: Once every 10 years.

Acceptance Criteria or Standard: ASME Code Section XI, 2013 Edition

Regulatory Bases: License Renewal Commitment 42.

6.0 ASME Systems & Examination Boundaries

6.1 ASME Class 1, 2 and 3

This section defines those systems that are designated as ASME Class 1, 2, or 3 and provides justification for their inclusion or exclusion within the Ten-Year ISI Program. Several STP systems or portions of systems are excluded from system and component NDE as allowed by Articles IWB-1200, IWC-1200, and IWD-1200. However, these portions of systems are not excluded from the pressure testing requirements of ASME Section XI, except as allowed by IWA-5000, IWB-5000, IWC-5000, and IWD-5000. ASME Section XI defines the inspection requirements for each of the ASME Code Classes within the inspection interval.

The quality group classification system for water, steam, and radioactive waste containing components important to the safety of water-cooled nuclear power plants is established by NRC Regulatory Guide 1.26, in conjunction with 10 CFR 50.55a. Regulatory Guide 1.26, "Quality Group Classification and Standards" Rev. 3, defines the Quality Group Classification System consisting of four Quality Groups, A through D. Quality Group A is defined as "Reactor Coolant Pressure Boundary" by 10 CFR 50.2. The definitions of Groups B, C, and D (Class 2, Class 3 and ISI non-classed, respectively) are provided by Regulatory Guide 1.26.

Piping and components subject to inservice inspection are shown on the system Piping and Instrumentation Diagrams listed in Section 2.1. Pursuant to 10 CFR 50.55a, the inservice inspection requirements of the Code have been assigned to these piping lines and components within the constraints of existing plant design.

Per IWA-1400(a) of Section XI, it is the owner's responsibility to determine the appropriate Code Classes for each component and to identify the system boundaries subject to inspection. IWA-1400(a), Endnote 1, states that classification criteria are specified in 10 CFR 50. This reference is actually to Footnote 7 of 10 CFR 50.55a, which refers to Regulatory Guide 1.26, [4.5] and Section 3.2.2 of NUREG-0800, [4.21]. The system classifications for the Inservice Inspection Plan are based on the requirements of 10 CFR 50 and Regulatory Guide 1.26.

- The Class 1 system boundaries were developed based on the 10 CFR 50.2, Reactor Coolant Pressure Boundary definition.
- The Class 2 and 3 system boundaries were developed based on Regulatory Guide 1.26.

The component classifications of ASME Code Class 1, 2, or 3 determine the rules and requirements for inspection and define the Section XI examination boundaries. Because early vintage nuclear plants were designed and constructed before Section III of the ASME BPV Code was incorporated into 10 CFR 50.55a, the ASME Section XI Code Classifications for ISI may differ from the original design classifications. Therefore, while the ASME Code Classifications determine the rules for repairs and replacements and the component inspection requirements, repairs and replacements are generally performed to meet the specifications of the original design code.

In order to avoid confusion between ASME Code Class for design (typically ASME Section III) and ASME Code Class for ISI (ASME Section XI), STP is utilizing ISI Class 1, 2, and 3 terminologies for the application of ASME Section XI ISI requirements.

Components considered to be optionally classified as ASME Code Class may be excluded from the Section XI ISI Program per IWA-1320(e).

System boundary diagrams were developed to identify the ASME Code Class 1, 2, and 3 systems. These systems and components are referred to as "ISI Class 1", "ISI Class 2" or "ISI Class 3" and are subject to the requirements of ASME Section XI, Subsections IWB, IWC, IWD, and IWF.

The ISI of Class 1, 2, and 3 pressure retaining components and their supports which are exempt from examination are those which meet the criteria of ASME Section XI, IWB-1220, IWC-1220 and IWD-1220 and for supports IWF-1230.

6.2 Calibration Standards

Whenever possible, ultrasonic (UT) calibration blocks used during the previous examination(s) will be used for the current interval examination. It is recognized that emergent performance-based ultrasonic techniques mandated by the implementation of ASME Section XI, Appendix VIII may require calibration on newly developed UT calibration standard designs. Ultrasonic sensitivity for calibration for the UT examination of piping welds and weld deposited structural weld overlays may be performed using the specialized and/or alternative calibration blocks as required or permitted by Performance Demonstration Initiative (PDI) UT examination procedures. In all cases, the STP Lead Level II or Level III individual will specify and/or approve the applicable calibration standard(s) for UT examinations. The specific calibration standard used for a scheduled examination will be identified on the IDDEAL examination report.

6.3 Classification and Identification of Components

Components subject to test will be classified into Code Examination Categories and tested in accordance with the requirements of Code Tables: IWB-2500-1 (Class 1), IWC-2500-1 (Class 2), IWD-2500-1 (Class 3), IWE-2500-1 (Class MC), IWF-2500-1 (Component Supports), and IWL-2500-1 (Class CC). The classified components are identified, scheduled and tracked in IDDEAL Software database®.

Individual examination plans will be issued for each outage for implementation of scheduled examinations and will meet the requirements of the Code. Appendix K identifies outage schedules for the applicable inspection interval.

- The examination plan identifies components scheduled for examination based on the IDDEAL Software database® implementation schedule, Code examination category and item number, examination or test to be performed and extent of examination, identification of drawings, list of examination procedures, and identification of calibration blocks [IWA-2420(b)].

CREE 08-9676-16 determined Inservice Inspection boundary table (line list) exemption criteria for the Component Support and Welds third interval inspection activities.

- Welds/component supports or portions of welds/component supports that are inaccessible due to being encased in concrete, buried underground, located inside a penetration, or encapsulated by guard piping are exempt from examination. [IWB-1220(d), IWC-1223, IWD-1220(e), IWF-1230]Component supports exempt from examination requirements are those connected to piping and other items exempted from volumetric, surface, VT-1 or VT-3 visual examination by IWB-1220, IWC-1220, IWD-1220, and IWE-1220, as described in IWF-1230.

7.0 Application Criteria and Code Compliance

7.1 ASME Section XI

The following provides a summary of the application of the ASME Code, Section XI, requirements used for the STP Ten-Year Interval to be applied per this ISI/CISI Program Plan. Class 1, 2, and 3 components and their component supports were selected for examination per the requirements of ASME Section XI, Tables IWB-2500-1, IWC-2500-1, IWD-2500-1 and IWF-2500-1, respectively. Class MC and Metallic Liners of concrete containments and their welded attachments were selected for examination per the requirements of ASME Section XI, Tables IWE-2500-1 and IWL-2500-1 respectively. The application and distribution of examinations for this interval is based upon Articles IWB-2411, IWC-2411, IWD-2411, IWE-2411, IWF-2410, and IWL-2400 of Section XI. Augmented Examinations will align with the ASME Section XI interval unless stated otherwise in the document that governs the specific criteria for the examinations. There may be instances when Augmented Examinations and ASME Section XI examinations coincide for the same component. Examinations should be performed concurrently to optimize examination resources to the extent practical.

If there are less than three items or welds to be examined in an Examination Category, the items or welds may be examined in any two periods or in any one period if there is only one item or weld in lieu of the percentage requirements in IWB-2411-1, IWC-2411-1, IWD-2411-1, IWE-2411-1, or IWF-2410-1.

The results of this application are summarized by ASME Category and Item number and are contained within Appendices A, B, C, D, E, and F. The items in these Appendices only contain those ASME Item Numbers that are relevant to STP Units 1 or 2.

All the Examination Category selections that have been made in this section meet the requirements of ASME Section XI, and/or as specifically applicable to those requirements applied from Code Cases, Relief Requests, or rules contained in 10 CFR 50.55a.

7.2 EXAMINATION CATEGORY B-A - PRESSURE RETAINING WELDS IN REACTOR VESSEL

The Reactor Vessel examinations are scheduled on the reactor pressure vessel to meet ASME Section XI as required by 10 CFR 50.55a. The RPV shell examinations are conducted from the internal surfaces utilizing remote examination equipment and techniques. Those areas of the bottom head which are obstructed from a complete Inside Diameter (ID) examination may be supplemented from the OD as practical.

Examination Category B-A weld examinations were deferred under RR-ENG-3-14 on July 24, 2018 (ML18177A425) from the third interval to the fourth interval ending with Unit 1 to August 20, 2027 and Unit 2 to December 15, 2028. This means that the Category B-A Examinations are required to be completed prior to these dates. This includes the following welds:

Examination Category	Item Number	Unit 1 Weld ID	Unit 2 Weld ID	Description
B-A	B1.11	RPV1-103-121 RPV1-101-171 RPV1-101-141	RPV2-103-121 RPV2-101-171 RPV2-101-141	Circumferential Shell Welds
B-A	B1.12	RPV1-101-122A thru -122C RPV1-101-124A thru -124C RPV1-101-142A thru -142C	RPV2-101-122A thru -122C RPV2-101-124A thru -124C RPV2-101-142A thru -142C	Longitudinal Shell Welds
B-A	B1.21	RPV1-102-151	RPV2-102-151	Circumferential Head Welds
B-A	B1.22	RPV1-101-154A thru -154D	RPV2-101-154A thru -154D	Meridional Head Welds
B-A	B1.30	RPV1-101-121	RPV2-101-121	Shell-to-Flange Weld

STP has elected to perform the examinations for Unit 1 in 1RE26 scheduled in the Spring of 2026 and for Unit 2 in 2RE25 which is scheduled in the Spring of 2027.

Item No. B1.40 “Head-to-Flange weld” is no longer applicable to STP as the replacement heads do not contain this weld.

7.3 EXAMINATION CATEGORY B-B - PRESSURE RETAINING WELDS IN VESSELS OTHER THAN REACTOR VESSELS

ASME Section XI, Examination Category B-B requires that pressurizer welds and primary side steam generator welds be examined during the inspection interval. The examination may be limited to one vessel among the group of vessels performing a similar function.

PRESSURIZER

ASME Section XI requires examination of both shell-to-head welds and one foot of one intersecting longitudinal weld per head. Both shell-to-head welds are selected meeting the 100% requirement. There is one longitudinal weld to each shell-to-head weld. One foot of these intersection welds are selected for examination.

STEAM GENERATORS

There is one Class 1 Examination Category B-B, Channel Head to Tubeplate weld on each of the four steam generators (S/G). Category B-B, Note (1) allows the examination be limited to one vessel among a group of vessels performing a similar function or 25%. One of the Channel Head to Tubeplate welds is selected for examination, thus meeting the one vessel among a group of vessels performing a similar function or 25% requirement.

7.4 EXAMINATION CATEGORY B-D - FULL PENETRATION WELDED NOZZLES IN VESSELS

This category applies to the reactor vessel, pressurizer, and steam generators. ASME Section XI does not allow the deferral of these examinations, except for nozzle to reactor vessel welds and inside radius sections. Table IWB-2500-1, Category B-D, Note (3), allows partial deferral if the nozzle weld is examined by the straight beam ultrasonic method from inside the nozzle bore, the remaining examinations required from the shell inside diameter may be performed at or near the end of the interval.

For the RPV, Examination Category B-D weld examinations were deferred under RR-ENG-3-14 on July 24, 2018 (ML18177A425) from the third interval to the fourth interval ending with Unit 1 to August 20, 2027 and Unit 2 to December 15, 2028. This includes the following welds:

Examination Category	Item Number	Unit 1 Weld ID	Unit 2 Weld ID	Description
B-D	B3.90	RPV1-105-121A thru -121D	RPV2-105-121A thru -121D	Inlet Nozzle-to-Shell Weld
B-D	B3.90	RPV1-107-121A thru -121D	RPV2-107-121A thru -121D	Outlet Nozzle-to-Shell Weld
B-D	B3.100	RPV1-N2AIR thru RPV1-N2DIR	RPV2-N2AIR thru RPV2-N2DIR	Inlet Nozzle Inner Radii
B-D	B3.100	RPV1-N1AIR thru RPV1-N1DIR	RPV2-N1AIR thru RPV2-N1DIR	Outlet Nozzle Inner Radii

The Reactor Vessel Nozzle Inner Radii will be examined using the Visual, VT-1 Examination per Code Case N-648-2. The volumetric examination will be performed with the reduced volume as identified in Code Case N-613-2.

The Replacement Steam Generators do not have any Nozzle-to-Vessel Welds. The Pressurizer Nozzle-to-Vessel Welds will be 100% examined during the interval.

7.5 EXAMINATION CATEGORY B-F - PRESSURE RETAINING DISSIMILAR METAL WELDS IN VESSEL NOZZLES

This category addresses Nozzle-to-Safe End Welds and Piping Welds. STP is using Code Case N-716-1 to implement a RI-ISI program. All Examination Category B-F Welds have been re-categorized as R-A welds

in accordance with Code Case N-716-1. Therefore no examinations will be performed per Examination Category B-F.

7.6 EXAMINATION CATEGORY B-G-1 - PRESSURE RETAINING BOLTING, GREATER THAN 2 in. (50 mm) IN DIAMETER

The RV Studs, Nuts, Washers, Threads in Flange, and Bushings are scheduled. Request for Alternative RR-ENG-4-02 is used for the Roto-Lok Bushing which requires a volumetric examination in conjunction with the RPV Threads in Flange examination. For Volumetric examination of Pump Studs, one of four sets of reactor coolant pump studs is selected for volumetric examination. For the visual examination of pump bolting and flange surface, one of the reactor coolant pumps will be examined, only if disassembled. This is the same requirement as for Examination Category B-L-2. All other B-G-1 components are scheduled for examination.

7.7 EXAMINATION CATEGORY B-G-2 - PRESSURE RETAINING BOLTING, 2 in. (50 mm) AND LESS IN DIAMETER

This category includes pressurizer manway, steam generator manways, piping, reactor coolant pump seal bolting, and valve bolting. Examinations will be conducted as required in Table IWB-2500-1 of ASME Section XI. This bolting will only be examined if associated connections are disassembled.

For components other than piping, bolting examinations will be required only when the component is examined under Examination Category B-B, B-L-2, or B-M-2. STP has grouped B-G-2 bolting in accordance with components examined under Examination Category B-B, B-L-2, or B-M-2.

7.8 EXAMINATION CATEGORY B-J - PRESSURE RETAINING WELDS IN PIPING

This category addresses piping welds. STP is utilizing Code Case N-716-1 to implement a RI-ISI program. All Examination Category B-J Welds have been re-categorized as R-A welds in accordance with Code Case N-716-1. Therefore no examinations will be performed per Examination Category B-J.

7.9 EXAMINATION CATEGORY B-K – WELDED ATTACHMENTS FOR VESSELS, PIPING, PUMPS, AND VALVES

Examination Category B-K of ASME Section XI requires examination of Welded Attachments. For vessel welded attachments, Note (4) allows for multiple vessels of similar design, function, and service, only one welded attachment of only one of the multiple vessels shall be selected for examination. For single vessels, only one welded attachment shall be selected for examination. STP has nine welded attachments on the Pressurizer and no welded attachments on each Reactor Vessel or the Steam Generator. One welded attachment on the Pressurizer is selected for examination or 11% of the welded attachments. The welded attachment selected for examination is the attachment associated with the Support Skirt.

For piping, pumps, and valves, a sample of 10% of the welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. STP does not have any Class 1 piping, pump, or valve welded attachments.

CAUTION

Additionally, per Note (6), Examination is required whenever component support member deformation, e.g., broken, bent or pulled out parts, is identified during operation, refueling, maintenance, examination, or testing. These conditions may be identified outside of the normally scheduled examinations of welded attachments within this Examination Category B-K.

7.10 EXAMINATION CATEGORY B-L-2 - PUMP CASINGS

This category involves reactor coolant pumps and requires visual, VT-3 examination on pump internal surfaces when disassembled. The reactor coolant pumps are the only ASME Code Class 1 pumps.

B-L-2 requires examination of one pump in each group of pumps performing similar functions in the system. However, this examination is only required when a pump is disassembled for maintenance, or repair. Currently none of the four Reactor Coolant Pump internal surfaces have been selected. This requirement will be met during disassembly for maintenance or repair.

7.11 EXAMINATION CATEGORY B-M-2 - VALVE BODIES

Examinations will be conducted as required in Table IWB-2500-1. There are thirty-one valves at each Unit within this examination category. The valves are placed into eight groups and are identified in the IDDEAL Software Suite®, computer program.

B-M-2 examinations are limited to at least one valve within each group of valves that are of the same size, constructural design, and manufacturing method and that perform similar functions in the system. However, this examination is only required when a valve is disassembled for maintenance, or repair. Currently no valve body internal surfaces have been selected. This requirement will be met during disassembly for maintenance or repair.

7.12 EXAMINATION CATEGORY B-N-1 - REACTOR VESSEL INTERIOR

These examinations will be conducted each inspection period.

7.13 EXAMINATION CATEGORY B-N-2 - WELDED CORE SUPPORT STRUCTURES AND INTERIOR ATTACHMENTS TO REACTOR VESSELS

Examination will be conducted during the outage to coincide with the 10-year inspection of the reactor vessel. STP has no Item No. B13.50 “Interior attachments within the beltline region.” There are six welded attachments beyond the beltline region which are scheduled.

In addition, Bottom Mounted Instrument (BMI) Penetrations 1 and 46 (Unit 1 only) are scheduled once per interval.

7.14 EXAMINATION CATEGORY B-N-3 - REMOVABLE CORE SUPPORT STRUCTURES

Examination will be conducted during the outage to coincide with the 10-year inspection of the reactor vessel.

7.15 EXAMINATION CATEGORY B-O - PRESSURE RETAINING WELDS IN CONTROL ROD DRIVE AND INSTRUMENT NOZZLE HOUSINGS

ASME Section XI requires volumetric or surface examination of 10% of peripheral control rod drive housings (B14.20) and in-core instrument housings (B14.21) during the inspection interval.

Item No. B14.20

There are twenty-four peripheral Control Rod Drive Housings (CRDHs) on the reactor vessel head with two welds on each CRDH. To meet the Code requirements three of the CRDHs have been selected for examination, each with two welds for a total of six welds requiring examination. Code Case N-825 will be used as an alternative to determine the numbers of CRDHs to be examined to equal 10% of the combined length of each weld configuration. STP has scheduled six CRDHs (upper and lower welds) to equal the 10% of the combined length for each weld configuration.

Item No. B14.21

There are four Core Exit Thermocouple Penetrations (CET) and three Internal Disconnect Device Penetrations (IDD) on the reactor vessel head with one weld on each CET and IDD. To meet the Code requirement one of the IDD's have been selected for examination.

7.16 EXAMINATION CATEGORY B-P - ALL PRESSURE RETAINING COMPONENTS

The pressure testing program at STP, 0PGP03-ZE-0023, System Pressure Testing Program, [4.14] meets the requirements of ASME Section XI for Class 1 systems.

7.17 EXAMINATION CATEGORY B-Q - STEAM GENERATOR TUBING

The Steam Generator Tube inspection program at STP is governed by Plant Technical Specifications, [4.8], 3/4.4.5.

7.18 EXAMINATION CATEGORY C-A - PRESSURE RETAINING WELDS IN PRESSURE VESSELS

This category applies to the steam generators (secondary side), and residual heat removal heat exchangers. STP has developed a Code Case N-716-1 RI-ISI program. The residual heat removal heat exchangers were evaluated as Low Safety Significant (LSS) and therefore no examinations are required. The steam generators were evaluated as High Safety Significant (HSS) and therefore required examinations in accordance with Category C-A. The Extent of Examination in Table IWC-2500-1, Examination Category C-A only requires examination of Cylindrical-shell-to-conical-shell-junction welds and shell (or head)-to-flange welds, Head to shell welds and Tubesheet-to-shell welds. Note (4) states: "In the case of multiple vessels of similar design, size, and service, the required examinations may be limited to one vessel or distributed among the vessels."

There are two circumferential welds (Item C1.10) on each Steam Generator (Barrel B to Transition Cone and Transition Cone to Barrel H); therefore 2 of 8 welds are selected for examination.

There is one weld to the top head, Barrel J to Head (Item C1.20) on each Steam Generator; therefore 1 of 4 welds is selected for examination.

There is one Tubeplate to Lower Shell Barrel A. Weld (Item C1.30) on each steam generator. One Weld on one of the steam generators is selected for examination.

7.19 EXAMINATION CATEGORY C-B - PRESSURE RETAINING NOZZLE WELDS IN VESSELS

This category applies to steam generators and residual heat removal heat exchangers. STP has developed a Code Case N-716-1 RI-ISI program. The residual heat removal heat exchangers were evaluated as Low Safety Significant (LSS) and therefore no examinations are required. The steam generators were evaluated as High Safety Significant (HSS) and therefore required examinations in accordance with Category C-B. Note (4) in Table IWC-2500-1, Category C-B, excludes manways and handholes. Note (3) requires that nozzles selected initially for examination shall be reexamined in the same sequence over the service life of the component, to the extent practical. Note (2) allows that in the case of multiple vessels of similar design, size, and service the required examinations may be limited to one vessel or distributed among the vessels.

There is one NPS 18 Feedwater nozzle-to-vessel weld and inner radius section, one NPS 6 Auxiliary Feedwater (there is no inner radius examination required as the nozzle is < NPS 12) and one NPS 30 Main Steam Outlet (nozzle is cast so there is no nozzle-to-vessel weld), but there is an inside radius section on each Steam Generator. Request for Alternative RR-ENG-4-01 was submitted to not perform the Main Steam Nozzle Inner Radius Section. One Feedwater nozzle-to-vessel weld (including inner radius) and one Auxiliary Feedwater nozzle-to-vessel weld on one Steam Generator is selected for examination.

7.20 EXAMINATION CATEGORY C-C - WELDED ATTACHMENTS FOR VESSELS, PIPING, PUMPS, AND VALVES

Examination Category C-C of ASME Section XI requires examination of Welded Attachments. For vessel welded attachments, Note 6 allows for multiple vessels of similar design, function, and service, only one welded attachment of only one of the multiple vessels shall be selected for examination.

There are four Steam Generators with two welded attachments each. There are three Residual Heat Removal Heat Exchangers with two welded attachment each. Therefore 1 of the welded attachments on one of the Steam Generators and one of the RHR Heat Exchangers is selected for examination, or 2 of 13 welded attachments or 15.3%.

For piping inspection, a sample of 10% of the welded attachments shall be examined.

There are three RHR Pumps with three welded attachments each. Therefore 1 of the welded attachments on one of the RHR Pumps is selected for examination or 1 of 9 welded attachments or 11%.

CAUTION

Additionally, per Note (5), Examination is required whenever component support member deformation, e.g., broken, bent or pulled out parts, is identified during operation, refueling, maintenance, examination, or testing. These conditions may be identified outside of the normally scheduled examinations of welded attachments within this Examination Category C-C.

STP has no valve welded attachments.

7.21 EXAMINATION CATEGORY C-F-1- PRESSURE RETAINING WELDS IN AUSTENITIC STAINLESS STEEL OR HIGH ALLOY PIPING

This category addresses Class 2 piping welds. STP has developed a Code Case N-716-1 RI-ISI program. Examination Category C-F-1 and these welds have been re-categorized as R-A welds in accordance with Code Case N-716-1. Therefore no examinations will be performed per Examination Category C-F-1.

7.22 EXAMINATION CATEGORY C-F-2 - PRESSURE RETAINING WELDS IN CARBON OR LOW ALLOY STEEL PIPING

This category addresses Class 2 piping welds. STP has developed a Code Case N-716-1 RI-ISI program. Examination Category C-F-2 and these welds have been re-categorized as R-A welds in accordance with Code Case N-716-1. Therefore no examinations will be performed per Examination Category C-F-2.

7.23 EXAMINATION CATEGORY C-H - ALL PRESSURE RETAINING COMPONENTS

The pressure testing program at 0PGP03-ZE-0023, System Pressure Testing Program, [4.14] meets the requirements of ASME Section XI for Class 2 systems.

7.24 EXAMINATION CATEGORY D-A – WELDED ATTACHMENTS FOR VESSELS, PIPING, PUMPS, AND VALVES

Examination Category D-A of ASME Section XI, requires examination of Welded Attachments.

Unit 1

There are three Cooling Water Heat Exchangers with one welded attachment each, one Cooling Water Surge Tanks with one welded attachment, and one Essential Cooling Water Self Clean Strainer with one welded attachment. One welded attachment on each of the groups of vessels is selected for examination or 3 of 5 or 60%.

Unit 2

There is one Cooling Water Surge Tank and one Essential Cooling Water Self Clean Strainer with one welded attachment each. The welded attachment on each is selected for examination.

Units 1 and 2

For piping, inspections of 10% of the total population of welded attachments are required and have been selected. The selections are proportional to the total number of nonexempt welded attachments in each system. - STP has no pump or valve welded attachments.

CAUTION
Additionally, per Note (5), Examination is required whenever component support member deformation, e.g., broken, bent or pulled out parts, is identified during operation, refueling, maintenance, examination, or testing. These conditions may be identified outside of the normally scheduled examinations of welded attachments within this Examination Category D-A.

7.25 EXAMINATION CATEGORY D-B – ALL PRESSURE RETAINING COMPONENTS

The pressure testing program at 0PGP03-ZE-0023, System Pressure Testing Program, [4.14] meets the requirements of ASME Section XI for Class 3 systems.

7.26 EXAMINATION CATEGORY E-A – CONTAINMENT SURFACES

Examination Category E-A of ASME Section XI requires 100% of the accessible surface areas of the containment liner to be examined with a General Visual examination each inspection period. The examination shall include all accessible interior and exterior surfaces of Class MC components, parts, and appurtenances. In addition, the moisture barriers shall be examined with a General Visual examination each inspection period. The moisture barrier materials are those intended to prevent intrusion of moisture against inaccessible areas of the pressure retaining shell or liner.

7.27 EXAMINATION CATEGORY E-C – CONTAINMENT SURFACES REQUIRING AUGMENTED EXAMINATION

Examination Category E-C of ASME Section XI requires those surface areas subject to accelerated degradation and aging to be examined with a Visual VT-1 examination or Ultrasonic Thickness examination once per inspection period. STP currently does not have any areas in this examination category.

7.28 EXAMINATION CATEGORY F-A – SUPPORTS

Examination Category F-A of ASME Section XI requires 25% of Class 1 Piping Supports, 15% of Class 2 Piping Supports, and 10% of Class 3 Piping Supports to be examined during the inspection interval. 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. The supports have been separated by type as defined in Note (1) to Examination Category F-A. This type has been added to the Item Number to clearly identify each support by type. Twenty-five percent (25%) of the Class 1 supports have been selected and are prorated by type and system. Fifteen percent (15%) of the Class 2 supports have been selected and are prorated by type and system. Ten percent (10%) of the Class 3 supports have been selected and are prorated by type and system.

Support Types

A = One Directional

B = Multi-Directional

C = Thermal Movement

For supports, other than piping supports, the components have been scheduled as follows:

Table IWF-2500-1 Note (5) requires only one component of multiple components of similar design, function, and service, to be scheduled for inspection.

84 of 225 non-piping supports are selected for examination or **37.3%** of all non-piping supports.

7.29 EXAMINATION CATEGORY L-A – CONCRETE SURFACES

Examination Category L-A of ASME Section XI requires those accessible concrete surface areas to be examined with a General Visual once every 5 years. The entire accessible concrete surface of the concrete containment is scheduled every 5 years. If there are any suspect areas, these are examined with a Detailed Visual every inspection interval. STP currently does not have any suspect areas.

Per IWL-2512 the Responsible Engineer shall evaluate suspect conditions and shall specify the type and extent of examinations, if any, required to be performed on inaccessible surface areas exempted by IWL-1220(c) and IWL-1220(d). 10 CFR 50.55a(b)(2)(viii) states in part "Applicants or licensees applying Subsection IWL, 2007 Edition with the 2009 Addenda through the latest edition and addenda incorporated by reference in paragraph (a)(1)(ii) of this section, must apply paragraph (b)(2)(viii)(H) and (I) of this section.

10 CFR 50.55a(b)(2)(viii)(H) states "For each inaccessible area of concrete identified for evaluation under IWL–2512(a), or identified as susceptible to deterioration under IWL–2512(b), the licensee must provide the applicable information specified in paragraphs (b)(2)(viii)(E)(*1*), (*2*), and (*3*) of this section in the ISI Summary Report required by IWA–6000."

10 CFR 50.55a(b)(2)(viii)(I) states "During the period of extended operation of a renewed license under part 54 of this chapter, the licensee must perform the technical evaluation under IWL–2512(b) of inaccessible below-grade concrete surfaces exposed to foundation soil, backfill, or groundwater at periodic intervals not to exceed 5 years. In addition, the licensee must examine representative samples of the exposed portions of the below-grade concrete, when such below-grade concrete is excavated for any reason."

7.30 EXAMINATION CATEGORY L-B – UNBONDED POST TENSIONING SYSTEM

Examination Category L-B of ASME Section XI requires for containments with unbonded post-tensioning systems, the concrete surfaces and tendon end anchorage areas shall be examined for corrosion protection medium leakage, and the tendon end caps shall be examined for deformation. Tendon end caps shall be removed for this examination if there is evidence of tendon end cap deformation.

7.31 EXAMINATION CATEGORY R-A

The implementation of a Risked-Informed ISI Program utilizing ASME Code Case N-716-1 has been substituted for the current program for Class 1 and 2 piping (Examination Categories B-F, B-J, C-F-1 and C-F-2).

8.0 Inservice Inspection Data Management Software

The Inservice Inspection Data Management software is comprised of a series of program modules assembled in a comprehensive software package entitled the Iddeal Software Suite®. This software suite is web-based within the STP system and is accessible by any computer.

The Iddeal Software Suite® has limited access to protect the contents of the databases. Access to the software is limited through the use of a user-defined password.

There are two version of the Iddeal Software Suite® being utilized. The following programs are being used for the version 8 IDDEAL SOFTWARE SUITE®:

- **IDDEAL®** - IDDEAL® is used to track and progress completion of outage examinations. Generates various reports to status examinations.
- **CERTWORKS®** - Maintains and tracks the personnel certifications of inspectors.
- **EQUIPWORKS®** - Maintains and tracks the NDE equipment certifications.
- **SNUBWORKS®** - Used to track all work associated with plant snubbers.

The following modules are being used for the version 9 IDDEAL SOFTWARE SUITE®.

- **COMPONENTS®** - is used to identify all of the components that exist in the plant and being considered for the ISI Program.
- **LIBRARIES®** - is used to identify all of the requirements that could be applied to the components.
- **PROGRAMS®** - is used to create and maintain program manuals, scheduling, and completion of examinations for credit to those programs.
- **ACTIVITIES®** - is used to maintain and track examinations within an outage or other activity.
- **EQUIPMENT®** - is used to maintain and track the equipment used in performing the examinations (i.e. calibration blocks)

The Programs® Module contains the STP information necessary to perform ISI and Augmented Programs.

The Iddeal Software Suite® (both versions) houses the information below which meets the requirements of ASME Section XI, IWA-2420(b).

- Identification of the components selected for examination and test, including successive exams from prior periods;
- The Code requirements by examination category and item number for each component and the examination or test to be performed and the extent of the examination or test;
- Identification of drawings showing items that require examination;

- List of examination procedures;
- Description of alternative examinations and identification of components to be examined using alternative methods;
- Identification of calibration blocks used for ultrasonic examination of components.

9.0 Risk-Informed ISI Program

STP has initiated a Risk-Informed ISI (RI-ISI) Program in compliance with Code Case N-716-1, approved in Regulatory Guide 1.147 Revision 18 listed in Table 2.2-1. Examination Categories and Item Numbers used for Risk-Informed components are identified in Appendices A and B.

9.1 Periodic Update

Examination selections shall be reevaluated on the basis of inspection periods that coincide with the inspection program requirements of IWA-2431. For the inspection program, the third period reevaluation will serve as the subsequent inspection interval reevaluation.

The performance of each inspection period reevaluation may be accelerated or delayed by as much as one year. Each reevaluation shall consider the cumulative effects of previous reevaluations. The reevaluation shall determine if any changes to the HSS/LSS categorization or examination selections need to be made by evaluation of the following:

(a) Plant design changes (e.g., physical: new piping or equipment installation; programmatic: power uprating/18 to 24 month fuel cycle; and procedural; operating procedure changes).

(b) Changes in postulated conditions or assumptions (e.g., check valve seat leakage greater than previously assumed).

(c) Examination results (e.g., discovery of leakage or flaws).

(d) Failures in HSS or LSS components (e.g., plant-specific or industry occurrences of through-wall or through-weld leakage, failure due to a new degradation mechanism, or a non-postulated mechanism).

(e) PRA updates that would increase the scope (e.g., new initiating events, new system functions, more detailed model used, and initiating event and data changes).

(f) The impact of (a) through (e) on the change-in-risk evaluation

APPENDIX A

INSERVICE INSPECTION SUMMARY TABLE – COMPONENT SUPPORTS, STEAM GENERATOR TUBING, SYSTEM PRESSURE TESTING, AND WELD INSPECTIONS – UNIT 1, INTERVAL 4

Appendix A
Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 1, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
B-A	**Pressure Retaining Welds in Reactor Vessel**									
B-A	B1.11	Reactor Vessel Circumferential Shell Welds	Volumetric	3	3	100%	3	0	3	0
B-A	B1.12	Reactor Vessel Longitudinal Shell Welds	Volumetric	9	9	100%	9	0	9	0
B-A	B1.21	Reactor Vessel Circumferential Head Welds	Volumetric	1	1	100%	1	0	1	0
B-A	B1.22	Reactor Vessel Meridional Head Welds	Volumetric	4	4	100%	4	0	4	0
B-A	B1.30	Reactor Vessel Shell-to-Flange Weld	Volumetric	1	1	100%	1	0	1	0
		Category Total		**18**	**18**(1)		**18**	**0**	**18**	**0**
		Cumulative Percentage						**0%**	**100%**	**100%**
Notes for Cat. B-A		Note 1: Examination Category B-A weld examinations were deferred under RR-ENG-3-14 to August 20, 2027 (ML18177A425). STP has elected to perform the examinations in 1RE26 which is scheduled in the Spring of 2026.								
B-B	**Pressure Retaining Welds in Vessels Other Than Reactor Vessels**									
B-B	B2.11	Pressurizer Shell-to-Head Welds Circumferential	Volumetric	2	2	100%	2	1	1	0
B-B	B2.12	Pressurizer Shell-to-Head Welds Longitudinal	Volumetric	2	2	100%	2	1	0	1
B-B	B2.40	Steam Generators (Primary Side) Tubesheet-to-Head Weld	Volumetric	4	1	25%(1)	1	0	0	1
		Category Total		**8**	**5**		**5**	**2**	**1**	**2**

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
		Cumulative Percentage						**40%**	**60%**	**100%**
Notes for Cat. B-B		Note 1: The examination may be limited to one vessel among the group of vessels performing a similar function. [Ref. Table IWB- 2500-1, Examination Category B-B, Note (1)].								
B-D	**Full Penetration Welded Nozzles in Vessels**									
B-D	B3.90	Reactor Vessel Nozzle-to-Vessel Welds	Volumetric	8	8(1)	100%	8	0	8	0
B-D	B3.100	Reactor Vessel Nozzle Inside Radius Section	Visual, VT-1(2)	8	8(1)	100%	8	0	8	0
B-D	B3.110	Pressurizer Nozzle-to-Vessel Welds	Volumetric	6	6	100%	6(3)	3	1	2
		Category Total		**22**	**22**		**22**	**3**	**17**	**2**
		Cumulative Percentage(4)						**14%**	**91%**	**100%**
Notes for Cat. B-D		Note 1: Examination Category B-D weld examinations were deferred under RR-ENG-3-14 to August 20, 2027 (ML18177A425). STP has elected to perform the examinations in 1RE26 which is scheduled in the Spring of 2026. Note 2: Visual, VT-1 Examination as allowed by Code Case N-648-2 with the NRC condition "In lieu of a UT examination, licensees may perform a VT-1 examination in accordance with the code of record for the Inservice Inspection Program utilizing the allowable flaw length criteria of Table IWB-3512-1 with limiting assumptions on the flaw aspect ratio." Note 3: Deferral of examination to the end of interval is not permissible. Note 4: Cumulative Percentage is provided for information as some of these items may be deferred to the end of the interval.								
B-G-1	**Pressure Retaining Bolting, Greater Than 2 in. (50 mm) in Diameter**									
B-G-1	B6.10	Reactor Vessel Closure Head Nuts	Visual, VT-1	36	36	100%	36	0	36	0
B-G-1	B6.20	Reactor Vessel Closure Studs	Volumetric(2)	37(3)	36	100%(1)	36	0	36	0

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
B-G-1	B6.40	Reactor Vessel Threads in Flange	Volumetric	36	36	100%(4)	36	0	36	0
B-G-1	B6.50	Reactor Vessel Closure Washers	Visual, VT-1	36(5)	36	100%	36	0	36	0
B-G-1	B6.50	Reactor Vessel Closure Bushings	Volumetric(7)	36	36	100%	36	0	36	0
B-G-1	B6.180	Pump Bolts and Studs	Volumetric(2)	4(8)	1	25%(1)(9)	1	0	0	1
B-G-1	B6.190	Pumps Flange Surface when connection disassembled	Visual, VT-1	4(6)	1	25%(10)	0	0	0	0
Category Total				**152**	**146**		**145**	**0**	**144**	**1**
Cumulative Percentage(11)								**0%**	**99.3%**	**100%**

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Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 1, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Notes for Cat.B-G-1		Note 1: Bolting may be examined in place under tension, when the connection is disassembled or when the bolting is removed. Note 2: When bolts or studs are removed for examination, surface examination meeting the acceptance standards of IWB-3515 may be substituted for volumetric examination. [Ref. Table IWB-2500-1, Examination Category B-G-1, Note (7)]. Note 3: There is one spare RPV stud included in the total population but not scheduled. Note 4: If STP decides to implement Code Case N-864, there would be no examination required. Note 5: There are 36 Closure Washers and 36 Bushings. The Bushings are not required to be examined unless the bolting is removed. Note 6: Not required unless the connection is disassembled. Note 7: An Ultrasonic Examination (UT) of the RPV Roto-Lok flange inserts (bushings) in conjunction with the required UT on the RPV Threads in Flange will be performed per Request for Alternative RR-ENG-4-02. Note 8: Each RCP Bolting (24 ea.) is represented as one record in the database. Note 9: Volumetric examination of bolting of heat exchangers, pumps, or valves may be conducted on one heat exchanger, one pump, or one valve among a group of heat exchangers, pumps, or valves that are similar in design, type, and function. In addition, when the component to be examined contains a group of bolted connections of similar design and size, such as flanged connections, the examination may be conducted on one bolted connection among the group. [Ref. Table IWB-2500-1, Examination Category B-G-1, Note (3)]. Note 10: Visual examination of bolting for heat exchangers, pumps, and valves, is required only when the component is examined under Examination Category B-B, B-L-2, or B-M-2. Examination of a bolted connection is required only once during the interval. [Ref. Table IWB-2500-1, Examination Category B-G-1, Note (4)]. Note 11: Cumulative Percentage is provided for information as some of these items are not required to be examined unless they are disassembled, and others can be deferred to the end of the interval.									
B-G-2	**Pressure Retaining Bolting, 2 in. (50 mm) and Less in Diameter**									
B-G-2	B7.20	Pressurizer Bolts, Studs, and Nuts	Visual, VT-1	1	1	100%(1)	0(2)	0	0	0
B-G-2	B7.30	Steam Generators Bolts, Studs, and Nuts	Visual, VT-1	8	2	25%(1)	0(2)	0	0	0
B-G-2	B7.50 GR.1	Piping Bolts, Studs, and Nuts	Visual, VT-1	3	1(3)	33.3%(1)	0	0	0	0
B-G-2	B7.50 GR.2	Piping Bolts, Studs, and Nuts	Visual, VT-1	4	1(3)	25%(1)	0	0	0	0

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Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 1, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
B-G-2	B7.60	Pumps Bolts, Studs, and Nuts	Visual, VT-1	4	1	25%(1)	0(2)	0	0	0
B-G-2	B7.70 GR. 1	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 2	Valves Bolts, Studs, and Nuts	Visual, VT-1	6	1	16.6%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 3	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 4	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 5	Valves Bolts, Studs, and Nuts	Visual, VT-1	6	1	16.6%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 6	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 7	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 8	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
Category Total				**50**	**14(1)**		**0**	**0**	**0**	**0**
Cumulative Percentage							**0**	**0%**	**0%**	**0%**

Notes for Cat.B-G-2	Note 1: Bolting is required to be examined only when a connection is disassembled or bolting is removed. [Ref. Table IWB-2500-1, Examination Category B-G-2, Note (1)]. Note 2: For components other than piping, examination of bolting is required only when the component is examined under Examination Category B-A, B-B, B-L-2, or B-M-2. Examination of bolted connection is required only once during the interval. [Ref. Table IWB-2500-1, Examination Category B-G-2, Note (2)]. Note 3: The examination of flange bolting in piping systems may be limited to one bolted connection among a group of bolted connections that are similar in design, size, function, and service. Examination is required only when a flange is disassembled. Examination of a bolted connection is required only once during the interval. [Ref. Table IWB-2500-1, Examination Category B-G-2, Note (3)]. Note 4: Only one valve of each group of valves is required as outlined in B-M-2.

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
B-K	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
B-K	B10.10	Pressure Vessels Welded Attachments	Surface	9[3]	1	11%[1][2]	1	1	0	0
			Category Total	**9**	**1**		**1**	**1**	**0**	**0**
			Cumulative Percentage					**100%**	**100%**	**100%**
Notes for Cat. B-K	Note 1: For multiple vessels of similar design, function, and service, only one welded attachment of only one of the multiple vessels shall be selected for examination. For single vessels, only one welded attachment shall be selected for examination. The attachment selected for examination shall be an attachment under continuous load during normal system operation, or an attachment subject to a potential intermittent load (seismic, water hammer, etc.) during normal system operation if an attachment under continuous load does not exist. The Pressurizer Skirt is selected. Note 2: There are nine welded attachments on the Pressurizer. Note 3: Examination is required whenever component support member deformation, e.g., broken, bent, or pulled out parts, is identified during operation, refueling, maintenance, examination, or testing. [Ref. Table IWB-2500-1, Examination Category B-K, Note (6)].									
B-L-2	**Pump Casings**									
B-L-2	B12.20	Pump Casing (B-L-2)	Visual, VT-3	4	1	25%[1][2]	0	0	0	0
			Category Total	**4**	**1**		**0**	**0**	**0**	**0**
			Cumulative Percentage				**0**	**0%**	**0%**	**0%**
Notes for Cat. B-L-2	Note 1: Examinations are limited to at least one pump in each group of pumps performing similar functions in the system. Note 2: Examination is required only when a pump is disassembled for maintenance or repair.									
B-M-2	**Valve Bodies**									

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B-M-2	B12.50 Gr. 1	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 2	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	6	1	16.6%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 3	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 4	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 5	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	6	1	16.6%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 6	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 7	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 8	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
			Category Total	**30**	**8**		**0**	**0**	**0**	**0**
			Cumulative Percentage				**0**	**0%**	**0%**	**0%**
Notes for Cat. B-M-2		Note 1: Examinations are limited to at least one valve within each group of valves that are of the same size, constructural design, and manufacturing method and that perform similar functions in the system. STP valves are grouped into 8 groups and one valve per group is required, if disassembled. Note 2: Examination is required only when a valve is disassembled for maintenance or repair.								
B-N-1	**Reactor Vessel Interior**									
B-N-1	B13.10	Reactor Vessel, Vessel Interior (B-N-1)	Visual, VT-3	1	3(1)(2)	100% each period	3	1	1	1
			Category Total	**1**	**3**(1)		**3**	**1**	**1**	**1**

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
		Cumulative Percentage[3]					**3**	**100%**	**100%**	**100%**
Notes for Cat B-N-1		Note 1: Examination of this item number is required each period. Therefore the number required during the interval is three times the total number of components. This is also reflected in the category total. Note 2: Areas to be examined shall include the spaces above and below the reactor core that are made accessible for examination by removal of components during normal refueling outages. Note 3: Cumulative Percentages are provided for information only and are calculated for each period.								
B-N-2	**Welded Core Support Structures and Interior Attachments to Reactor Vessels**									
B-N-2	B13.60	Reactor Vessel (PWR) Interior Attachments Beyond Beltline Region (B-N-2)	Visual, VT-3	6	6	100%	6	0	6	0
B-N-2	B13.60	Reactor Vessel (PWR) Interior Attachments Beyond Beltline Region (B-N-2) BMI Penetrations 1 and 46	Visual, VT-3	2	2	100%	2	0	2	0
		Category Total		**8**	**8**	**100%**	**8**	**0**	**8**	**0**
		Cumulative Percentage[1]						**0%**	**100%**	**100%**
Notes for Cat. B-N-2		Note 1: Cumulative Percentage is provided for information only as these items can be deferred to the end of the interval.								
B-N-3	**Removable Core Support Structures**									
B-N-3	B13.70	Reactor Vessel (PWR) Core Support Structure (B-N-3)[1]	Visual, VT-3	36	36	100%	36	0	36	0
		Category Total		**36**	**36**	**100%**	**36**	**0**	**36**	**0**

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
		Cumulative Percentage[2]						**0%**	**100%**	**100%**
Notes for Cat. B-N-3		Note 1: The structure shall be removed from the reactor vessel for examination. Note 2: Cumulative Percentage is provided for information only as these items can be deferred to the end of the interval.								
B-O	**Pressure Retaining Welds in Control Rod Drive and Instrument Nozzle Housings**									
B-O	B14.20	Reactor Vessel (PWR) Welds in Control Rod Drive (CRD) Housings	Volumetric or surface	48[1]	12	25%[2]	12[3]	0	0	12
B-O	B14.21	Reactor Vessel (PWR) Welds in IN-Core Instrumentation Nozzle (ICI) Housing >NPS 2	Volumetric or Surface	7[4]	1	10% of peripheral ICI Housings	1[4]	0	0	1
		Category Total		**31**	**13**		**13**	**0**	**0**	**13**
		Cumulative Percentage						**0%**	**0%**	**100%**
Notes for Cat. B-O		Note 1: There are 24 peripheral CRD's each with two welds. 10% of 24 peripheral CRDH's is 3. Note 2: Code Case N-825 will be used for an alternative. Note 3: STP has chosen to examine a total of six CRD Housing welds to equal the combined length of 10% of the CRD housing welds. Note 4: There are 4 peripheral CET and 3 IDD each with one welds. 10% or one IDD is schedule for examination.								
C-A	**Pressure Retaining Welds in Pressure Vessels**									
C-A	C1.10	Pressure Vessels Shell Circumferential Welds	Volumetric[5]	8	2	25%[1][2]	2	0	2	0
C-A	C1.20	Pressure Vessels Head Circumferential Welds	Volumetric[5]	4	1	25%[1][3]	1	1	0	0
C-A	C1.30	Pressure Vessels Tubesheet-to-Shell Weld	Volumetric [5]	4	1	25%[1][4]	1	0	0	1

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
			Category Total	**16**	**4**		**4**	**1**	**2**	**1**
			Cumulative Percentage					**25%**	**75%**	**100%**
Notes for Cat. C-A		Note 1: In the case of multiple vessels of similar design, size, and service, the required examinations may be limited to one vessel or distributed among the vessels and includes essentially 100% of the weld length. (Ref. Table IWC-2500-1, Examination Category C-A, Notes 3 & 4). Note 2: There are two circumferential welds on each Steam Generator (Barrel B to Transition Cone and Transition Cone to Barrel H); therefore 2 of 8 welds are selected for examination. Implementation of Code Case N-716-1 evaluated the Shutdown Heat Exchangers as Low Safety Significant (LSS) therefore no examinations are required. Note 3: There is one Top Head weld (Barrel J to Head) on each Steam Generator; therefore 1 of 4 welds is selected for examination. Note 4: There is one tubesheet-to-shell weld on each steam generator. One tubesheet-to-shell weld on one of the steam generators is selected for examination. Implementation of Code Case N-716-1 evaluated the Shutdown Heat Exchangers Low Safety Significant (LSS) therefore no examinations are required. Note 5: For welds in vessels with nominal wall thickness of 0.2 in. (5 mm) or less, a surface examination may be applied in lieu of a volumetric examination. [Ref. Table IWC-2500-1, Examination Category C-A, Note (2)].								
C-B	**Pressure Retaining Nozzle Welds in Vessels**									
C-B	C2.21	Nozzles Without Reinforcing Plate in Vessels > 1/2 in. (13 mm) Nominal Thickness Nozzle-to-Shell (Nozzle to Head or Nozzle to Nozzle) Weld	Surface and volumetric	8	2	25%(1)(2)	2	0	1	1
C-B	C2.22	Nozzles Without Reinforcing Plate in Vessels > 1/2 in. (13 mm) Nominal Thickness Nozzle Inside Radius Section	Volumetric	4	1	25%(1)(3)	1	0	1	0
			Category Total	**12**	**3**		**3**	**0**	**2**	**1**

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Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 1, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
		Cumulative Percentage						**0%**	**66%(4)**	**100%**
Notes for Cat. C-B		Note 1: In case of multiple vessels of similar design, size, and service, the required examinations may be limited to one vessel or distributed among the vessels. [Ref. Table IWC-2500-1, Examination Category C-B, Note (2)]. Note 2: There is one Feedwater nozzle and one Auxiliary Feedwater nozzle on each Steam Generator. Therefore, only one Feedwater and one Auxiliary Feedwater nozzle of one Steam Generator is required to be examined, which equals the required examination of 2 of 8 nozzles or 25%. Implementation of Code Case N-716-1 evaluated the Shutdown RHR Heat Exchangers Low Safety Significant (LSS) therefore no examinations are required. Note 3: There is one Feedwater nozzle inner radius on each Steam Generator; therefore, 1 of 4 inner radii is required to be examined or 25%. Note 4: After implementation of Code Case N-716-1 which does not require any examinations of the Boron Injection Tanks, Containment Spray, Regenerative Heat Exchangers, and Residual Heat Removal Heat Exchangers, there are only two nozzles in each item number requiring examination. Per IWC-2411(a) "If there are less than three items or welds to be examined in Examination Category, the items or welds may be examined in any two periods, or in any one period if there is only one item or weld, in lieu of the percentage requirements of Table IWC-2411-1." Since only two nozzles are required to be examined (this includes both the nozzle-to-vessel weld and the inner radius section) one is scheduled in the second period and the other is scheduled in the third period. Note 5: Pending RR-ENG-4-01								
C-C	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
C-C	C3.10	Pressure Vessels Welded Attachments	Surface	13	2(1)	15.3%	2(4)	1	0	1
C-C	C3.20	Piping Welded Attachments	Surface	22	3	10%	3(2)(4)	0	1	2
C-C	C3.30	Pump Welded Attachments	Surface	9	1	11.1%	1(3)(4)	0	1	0
		Category Total		**44**	**5**		**6**	**1**	**2**	**3**
		Cumulative Percentage						**16.6%**	**50%**	**100%**

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Notes for Cat. C-C		Note 1: For multiple vessels of similar design, function, and service, only one welded attachment of only one of the multiple vessels shall be selected for examination. For single vessels, only one welded attachment shall be selected for examination. [Ref. Table IWC-2500-1, Examination Category C-C, Note (6)]. Note 2: For piping, pumps, and valves, a sample of 10% of the welded attachments were selected to be examined. [Ref. Table IWC-2500-1 Examination Category C-C, Note (7)]. Note 3: For pumps, a sample of 10% of the welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. [Ref. Table IWC-2500-1 Examination Category C-C, Note (7)]. There are three RHR Pumps with three welded attachments each; one welded attachment is selected for examination. Note 4: Examination is required whenever component support member deformation, e.g., broken, bent, or pulled out parts, is identified during operation, refueling, maintenance, examination, or testing. [Ref. Table IWC-2500-1, Examination Category C-C, Note (5)].								
D-A	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
D-A	D1.10	Vessel Welded Attachments	Visual, VT-1	5	3	50%	3(1)(2)	1	1	1
D-A	D1.20	Piping Welded Attachments	Visual, VT-1	6	1	10%	1(1)(2)	0	0	1
			Category Total	**11**	**4**		**4**	**1**	**1**	**2**
			Cumulative Percentage					**25%**	**50%**	**100%**
Notes for Cat. D-A		Note 1: Selected samples of welded attachments shall be examined each inspection interval. All welded attachments selected for examination shall be those most subject to corrosion, as determined by the Owner, such as the welded attachments of the Service Water or Emergency Service Water systems. For multiple vessels of similar design, function and service, one welded attachment of only one of the multiple vessels shall be selected for examination. For single vessels, only one welded attachment shall be selected for examination. The attachment selected for examination on one of the multiple vessels or the single vessel, as applicable, shall be an attachment under continuous load during normal system operation, or an attachment subject to a potential intermittent load (seismic, water hammer, etc.) during normal system operation if an attachment under continuous load does not exist. For welded attachments of piping, pumps, and valves, a 10% sample shall be selected for examination. This percentage sample shall be proportional to the total number of nonexempt welded attachments connected to the piping, pumps and valves in each system subject to examination. [Ref. Table IWD-2500-1, Category D-A, Note (6)]. Note 2: Examination is required whenever component support member deformation, e.g., broken, bent, or pulled out parts is identified during operation, refueling, maintenance, examination, or testing. [Ref. Table IWD-2500-1, Examination Category D-A, Note (5)].								
F-A	**Supports**									

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
F-A	F1.10A	Class 1 Piping Supports – One Directional	Visual, VT-3	1	1	(1)	1	0	0	1
F-A	F1.10B	Class 1 Piping Supports - Multi-Directional	Visual, VT-3	68	17	(1)	19	6	7	6
F-A	F1.10C	Class 1 Piping Supports - Thermal Movement	Visual, VT-3	77	20	(1)	20	9	5	6
Category F-A, Item F1.10 Total				**146**	**38**		**40(2)**	**15**	**12**	**13**
F-A	F1.20A	Class 2 Piping Supports – One Directional	Visual, VT-3	15	3	(1)	4	1	0	3
F-A	F1.20B	Class 2 Piping Supports - Multi-Directional	Visual, VT-3	352	53	(1)	55	19	16	20
F-A	F1.20C	Class 2 Piping Supports - Thermal Movement	Visual, VT-3	361	55	(1)	59	15	16	28
Category F-A, Item F1.20 Total				**728**	**111**		**118[2)]**	**35**	**32**	**51**
F-A	F1.30A	Class 3 Piping Supports – One Directional	Visual, VT-3	11	2	(1)	3	2	0	1
F-A	F1.30B	Class 3 Piping Supports - Multi-Directional	Visual, VT-3	441	45	(1)	47	19	18	10
F-A	F1.30C	Class 3 Piping Supports - Thermal Movement	Visual, VT-3	461	47	(1)	50	16	15	19
Category F-A, Item F1.30 Total				**913**	**94**		**100(2)**	**37**	**33**	**30**
F-A	F1.40	Supports other than Piping Supports (Class 1,2,3, and MC) – Equipment Supports	Visual, VT-3	225	84	37.3%	84	27	27	30
Category F-A, Item F1.40 Total				**225**	**84**		**84(3)**	**27**	**27**	**30**
Category Total				**2012**	**327**		**342(2)**	**114**	**104**	**124**
Cumulative Percentage								**33.3%**	**63.7%**	**100%**

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Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 1, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Notes for Cat. F-A		Note 1: The total percentage sample shall be comprised of supports from each system, where the individual sample sizes are proportional to the total number of non-exempt supports of each type and function within each system. [Ref. Table IWF-2500-1, Examination Category F-A, Note (4)]. Note 2: Based on proration by system, type, and function, and engineering judgement, the number of supports scheduled exceeds the number of supports required. Note 3: 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. [Ref. Table IWF-2500-1, Examination Category F-A, Note (5)].									
R-A	**Risk Informed Piping Welds - Code Case N-716-1**									
R-A	R1.11	Welds Subject to Thermal Fatigue	Volumetric	174	47	27%	47	14	17	16
R-A	R1.11S	Socket Welds Subject to Thermal Fatigue	Volumetric	4	0	0%	0	0	0	0
			Visual, VT-2	4	0	0%	0	0	0	0
R-A	R1.11/16	Welds Subject to Thermal Fatigue and IGSCC	Volumetric	6	2	33.3%	2	1	1	0
R-A	R1.20	Welds not Subject to a Damage Mechanism	Volumetric	576	32	5.5%	32	8	10	14
R-A	R1.20S	Welds not Subject to a Damage Mechanism	Visual, VT-2	32	0[(2)]	0%	0	0	0	0
			Category Total	**792**	**81**		**81**	**23**	**28**	**30**
			Cumulative Percentage					**28.3%**	**62.9%**	**100%**
Notes for Cat. R-A		Note 1: STP has initiated Risk-Informed ISI (RI-ISI) contained in ASME Code Case N-716-1, approved in Regulatory Guide 1.147 Revision 19 and listed in Table 2.2-1. Note 2: These welds are identified for information only; the welds are governed by Code Case N-770 and scheduled as such. These welds are examined every refueling outage and therefore not counted in the cumulative percentage.								
N-722		**Code Case N-722-1 PWR Class 1 Components Containing Alloy 600/82/182[(1)]**								

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N-722	B15.80	RPV bottom-mounted instrument penetrations	Visual, VE	58	58	Every Other Refueling Outage	58	58	58	58
			Category Total	**58**	**58**		**58**	**58**	**58**	**58**
Notes for Cat. N-722		Note 1: Frequency of examination, examination method, and personnel qualifications are in accordance with Code Case N-722-1, Table 1 as required by 10 CFR 50.55a(g)(6)(ii(E)).								
N-729		**Code Case N-729-6 PWR Reactor Vessel Upper Head (RVUH)(1)**								
N-729	B4.30	Head with nozzles and partial penetration welds of PWSCC-resistant material	Visual, VE	68	68	Every Third RFO or 5 calendar years whichever is less	68(2)	68	0	68
N-729	B4.40	Nozzles and partial penetration welds of PWSCC-resistant materials in head	Volumetric &/or Surface	64	64	Once per Two Inspection Intervals	64(2)	0	0	64
			Category Total	**132**	**132**		**132**	**68**	**0**	**132**
Notes for Cat. N-729		Note 1: These examinations are in accordance with Code Case N-729-6, Table 1 as required by 10 CFR 50.55a(g)(6)(ii)(D). Note 2: Code Case N-729-6, Table 1 which requires all nozzles to be examined not to exceed two intervals (20 nominally calendar years). Based on the replacement of the RPVCH in 2009, the volumetric examination would be required in 1RE28 (Spring 2029).								
N-770		**Code Case N-770-5 Class 1 PWR Pressure Retaining Dissimilar Metal Piping and Vessel Nozzle Butt Welds Containing Alloy 82/182(1)**								
N-770	Item D	Uncracked butt weld mitigated with stress improvement	Volumetric	8	8	100%	Volumetric every inspection interval(1)	0	8	0

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
N-770	Item F-1	Cracked butt weld reinforced by full structural weld overlay of Alloy 52/152 material	Volumetric	12	4	33%	Volumetric every inspection interval(1)	0	0	4
			Category Total	**20**	**12**			**0**	**8**	**4**
Notes for Cat. N-770		Note 1: Frequency of examination, examination method, and personnel qualifications are in accordance with Code Case N-770-5, Table 1 as required by 10 CFR 50.55a. Note 2: An ultrasonic examination from either the ID or the OD in accordance with the requirements of Appendix VIII shall be acceptable in lieu of the Visual, VE.								
RG 1.14		**Reactor Coolant Pump Flywheel Integrity**								
RCPFW	RG 1.14	RCP Flywheels	Volumetric/ Surface	5	5	100%	5	0	0	5
			Category Total	**5**	**5**	100%	**5(1)**	**0**	**0**	**5**
Notes for RG 1.14		Note 1: Inservice inspection of each operating (4) reactor coolant pump flywheels shall be performed once every ISI ten year interval. There is a spare RCP Flywheel.								
EPRI TR-1006937		**Break Exclusion Zone (BEZ)**								
R-A	R1.20	Feedwater 18-inch	Volumetric	36	4	11.1%	4	2	2	0
R-A	R1.20	Main Steam 30-inch	Volumetric	36	4	11.1%	4	2	2	0
R-A	R1.20	Main Steam 16-inch	Volumetric	9	1	11.1%	1	0	0	1
R-A	R1.20	Main Steam 6-inch	Volumetric	20	2	10%	2	0	0	2

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Category Total				**101**	**11**		**11**	**4**	**4**	**3**
Notes for EPRI TR-1006937		None								
MRP-146		**Management of Thermal Fatigue in Normally Stagnant Non-Isolable Reactor Coolant System Branch Lines**								
R-A	R1.11	Circumferential Welds in Non-Isolable RCS Branch Lines Susceptible to Thermal Fatigue (Pipe-Elbow)	Volumetric(1)	3	3	Every RFO(2)	3	6	6	6
R-A	R1.20S	Circumferential Welds in Non-Isolable RCS Branch Lines Susceptible to Thermal Fatigue (Drain Line, Elbow-Pipe)	Volumetric(1)	3	3	Every RFO(2)	3	6	6	6
Category Total				**6**	**6(1)**		**6**	**12**	**12**	**12**
Notes for MRP-146		Note 1: Volumetric examinations shall be performed as determined through the fatigue management program. Note 2: Initial examination was completed in 1RE15.								
MRP-192		**Assessment of RHR Mixing Tee Thermal Fatigue in PWR Plants**								
R-A	R0.00	RHR Mixing Tee	Volumetric	1	1	(1)	1	1	0	0
Category Total				**1**	**1**		**1**	**1**	**0**	**0**
Notes for MRP-192		Note 1: Volumetric examinations shall be performed as determined through the fatigue management program.								

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Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 1, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
NSAL-06-8		**Pressurizer Heaters Sleeves**								
MRP-VT	PRZ	Pressurizer Heaters Sleeves	Bare Metal Visual(1)	1(1)	1	Once per interval	1	0	0	1
			Category Total	**1**	**1**		**1**	**0**	**0**	**1**
Notes for NSAL-06-8		Note 1: Bare Metal Visual of first row exposed heaters and accessible portion of heaters on outer 2 rows. There is one record to identify all Pressurizer Heater Sleeves.								

APPENDIX B

INSERVICE INSPECTION SUMMARY TABLE – COMPONENT SUPPORTS, STEAM GENERATOR TUBING, SYSTEM PRESSURE TESTING, AND WELD INSPECTIONS – UNIT 2, INTERVAL 4

Appendix B Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 2, Interval 4										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number Examined or Scheduled During the Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
B-A	**Pressure Retaining Welds in Reactor Vessel**									
B-A	B1.11	Reactor Vessel Circumferential Shell Welds	Volumetric	3	3	100%	3	0	0	3
B-A	B1.12	Reactor Vessel Longitudinal Shell Welds	Volumetric	9	9	100%	9	0	0	9
B-A	B1.21	Reactor Vessel Circumferential Head Welds	Volumetric	1	1	100%	1	0	0	1
B-A	B1.22	Reactor Vessel Meridional Head Welds	Volumetric	4	4	100%	4	0	0	4
B-A	B1.30	Reactor Vessel Shell-to-Flange Weld	Volumetric	1	1	100%	1	0	0	1
			Category Total	**18**	**18**(1)		**18**	**0**	**0**	**18**
			Cumulative Percentage					**0%**	**0%**	**100%**
Notes for Cat. B-A		Note 1: Examination Category B-A weld examinations were deferred under RR-ENG-3-14 to December 15, 2028 (ML18177A425). STP has elected to perform the examinations in 2RE25 which is scheduled in the Spring of 2027.								
B-B	**Pressure Retaining Welds in Vessels Other Than Reactor Vessels**									
B-B	B2.11	Pressurizer Shell-to-Head Welds Circumferential	Volumetric	2	2	100%	2	1	0	1
B-B	B2.12	Pressurizer Shell-to-Head Welds Longitudinal	Volumetric	2	2	100%	2	1	0	1

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Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 2, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
B-B	B2.40	Steam Generators (Primary Side) Tubesheet-to-Head Weld	Volumetric	4	1	25%(1)	1	0	1	0
			Category Total	**8**	**5**		**5**	**2**	**1**	**2**
			Cumulative Percentage					**40%**	**60%**	**100%**
Notes for Cat. B-B		Note 1: The examination may be limited to one vessel among the group of vessels performing a similar function. [Ref. Table IWB- 2500-1, Examination Category B-B, Note (1)].								
B-D	**Full Penetration Welded Nozzles in Vessels**									
B-D	B3.90	Reactor Vessel Nozzle-to-Vessel Welds	Volumetric	8	8(1)	100%	8	0	0	8
B-D	B3.100	Reactor Vessel Nozzle Inside Radius Section	Visual, VT-1(2)	8	8(1)	100%	8	0	0	8
B-D	B3.110	Pressurizer Nozzle-to-Vessel Welds(3)	Volumetric	6	6	100%	6	3	1	2
			Category Total	**22**	**22**		**22**	**3**	**1**	**18**
			Cumulative Percentage(4)					**13.6%**	**18.18%**	**100%**
Notes for Cat. B-D		Note 1: Examination Category B-D weld examinations were deferred under RR-ENG-3-14 to December 15, 2028 (ML18177A425). STP has elected to perform the examinations in 2RE25 which is scheduled in the Spring of 2027. Note 2: Visual, VT-1 Examination as allowed by Code Case N-648-2 with the NRC condition "In lieu of a UT examination, licensees may perform a VT-1 examination in accordance with the code of record for the Inservice Inspection Program utilizing the allowable flaw length criteria of Table IWB-3512-1 with limiting assumptions on the flaw aspect ratio." Note 3: Deferral of examination to the end of interval is not permissible. Note 4: Cumulative Percentage is provided for information as some of these items may be deferred to the end of the interval.								
B-G-1	**Pressure Retaining Bolting, Greater Than 2 in. (50 mm) in Diameter**									

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Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number Examined or Scheduled During the Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
B-G-1	B6.10	Reactor Vessel Closure Head Nuts	Visual, VT-1	36	36	100%	36	0	0	36
B-G-1	B6.20	Reactor Vessel Closure Studs	Volumetric(2)	36(3)	36	100%(1)	36	0	0	36
B-G-1	B6.40	Reactor Vessel Threads in Flange	Volumetric	36	36	100%(4)	36	0	0	36
B-G-1	B6.50	Reactor Vessel Closure Washers	Visual, VT-1	36(5)	36	100%	36	0	0	36
B-G-1	B6.50	Reactor Vessel Closure Bushings	Volumetric(7)	36	36	100%	36	0	0	36
B-G-1	B6.180	Pump Bolts and Studs	Volumetric(2)	4(8)	1	25%(1)(9)	1	0	0	1
B-G-1	B6.190	Pumps Flange Surface when connection disassembled	Visual, VT-1	4(6)	1	25%(10)	0	0	0	0
Category Total				**152**	**146**		**145**	**0**	**0**	**145**
Cumulative Percentage(11)								**0%**	**0%**	**100%**

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Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 2, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Notes for Cat.B-G-1		Note 1: Bolting may be examined in place under tension, when the connection is disassembled or when the bolting is removed. Note 2: When bolts or studs are removed for examination, surface examination meeting the acceptance standards of IWB-3515 may be substituted for volumetric examination. [Ref. Table IWB-2500-1, Examination Category B-G-1, Note (7)]. Note 3: There is one spare RPV stud included in the total population but not scheduled. Note 4: If STP decides to implement Code Case N-864, there would be no examination required. Note 5: There are 36 Closure Washers and 36 Bushings. The Bushings are not required to be examined unless the bolting is removed. Note 6: Not required unless the connection is disassembled. Note 7: An Ultrasonic Examination (UT) of the RPV Roto-Lok flange inserts (bushings) in conjunction with the required UT on the RPV Threads in Flange will be performed per Request for Alternative RR-ENG-4-02. Note 8: Each RCP Bolting (24 ea.) is represented as one record in the database. Note 9: Volumetric examination of bolting of heat exchangers, pumps, or valves may be conducted on one heat exchanger, one pump, or one valve among a group of heat exchangers, pumps, or valves that are similar in design, type, and function. In addition, when the component to be examined contains a group of bolted connections of similar design and size, such as flanged connections, the examination may be conducted on one bolted connection among the group. [Ref. Table IWB-2500-1, Examination Category B-G-1, Note (3)]. Note 10: Visual examination of bolting for heat exchangers, pumps, and valves, is required only when the component is examined under Examination Category B-B, B-L-2, or B-M-2. Examination of a bolted connection is required only once during the interval. [Ref. Table IWB-2500-1, Examination Category B-G-1, Note (4)]. Note 11: Cumulative Percentage is provided for information as some of these items are not required to be examined unless they are disassembled, and others can be deferred to the end of the interval.									
B-G-2	**Pressure Retaining Bolting, 2 in. (50 mm) and Less in Diameter**									
B-G-2	B7.20	Pressurizer Bolts, Studs, and Nuts	Visual, VT-1	1	1	100%(1)	0(2)	0	0	0
B-G-2	B7.30	Steam Generators Bolts, Studs, and Nuts	Visual, VT-1	8	2	25%(1)	0(2)	0	0	0
B-G-2	B7.50 GR.1	Piping Bolts, Studs, and Nuts	Visual, VT-1	3	1(3)	33.3%(1)	0	0	0	0
B-G-2	B7.50 GR.2	Piping Bolts, Studs, and Nuts	Visual, VT-1	4	1(3)	25%(1)	0	0	0	0

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Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 2, Interval 4

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B-G-2	B7.60	Pumps Bolts, Studs, and Nuts	Visual, VT-1	4	1	25%(1)	0(2)	0	0	0
B-G-2	B7.70 GR. 1	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 2	Valves Bolts, Studs, and Nuts	Visual, VT-1	6	1	16.6%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 3	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 4	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 5	Valves Bolts, Studs, and Nuts	Visual, VT-1	6	1	16.6%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 6	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 7	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
B-G-2	B7.70 GR. 8	Valves Bolts, Studs, and Nuts	Visual, VT-1	3	1	33.3%(1)	0(2)(4)	0	0	0
Category Total				**50**	**14(1)**		**0**	**0**	**0**	**0**
Cumulative Percentage							**0**	**0%**	**0%**	**0%**

Notes for Cat.B-G-2	Note 1: Bolting is required to be examined only when a connection is disassembled or bolting is removed. [Ref. Table IWB-2500-1, Examination Category B-G-2, Note (1)]. Note 2: For components other than piping, examination of bolting is required only when the component is examined under Examination Category B-A, B-B, B-L-2, or B-M-2. Examination of bolted connection is required only once during the interval. [Ref. Table IWB-2500-1, Examination Category B-G-2, Note (2)]. Note 3: The examination of flange bolting in piping systems may be limited to one bolted connection among a group of bolted connections that are similar in design, size, function, and service. Examination is required only when a flange is disassembled. Examination of a bolted connection is required only once during the interval. [Ref. Table IWB-2500-1, Examination Category B-G-2, Note (3)]. Note 4: Only one valve of each group of valves is required as outlined in B-M-2.

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Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 2, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
B-K	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
B-K	B10.10	Pressure Vessels Welded Attachments	Surface	9[3]	1	11%[1][2]	1	1	0	0
			Category Total				**1**	**1**	**0**	**0**
			Cumulative Percentage					**100%**	**100%**	**100%**
Notes for Cat. B-K	Note 1: For multiple vessels of similar design, function, and service, only one welded attachment of only one of the multiple vessels shall be selected for examination. For single vessels, only one welded attachment shall be selected for examination. The attachment selected for examination shall be an attachment under continuous load during normal system operation, or an attachment subject to a potential intermittent load (seismic, water hammer, etc.) during normal system operation if an attachment under continuous load does not exist. The Pressurizer Skirt is selected. Note 2: There are nine welded attachments on the Pressurizer. Note 3: Examination is required whenever component support member deformation, e.g., broken, bent, or pulled out parts, is identified during operation, refueling, maintenance, examination, or testing. [Ref. Table IWB-2500-1, Examination Category B-K, Note (6)].									
B-L-2	**Pump Casings**									
B-L-2	B12.20	Pump Casing (B-L-2)	Visual, VT-3	4	1	25%[1][2]	0	0	0	0
			Category Total	**4**	**1**		**0**	**0**	**0**	**0**
			Cumulative Percentage				**0**	**0%**	**0%**	**0%**
Notes for Cat. B-L-2	Note 1: Examinations are limited to at least one pump in each group of pumps performing similar functions in the system. Note 2: Examination is required only when a pump is disassembled for maintenance or repair.									
B-M-2	**Valve Bodies**									

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B-M-2	B12.50 Gr. 1	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 2	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	6	1	16.6%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 3	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 4	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 5	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	6	1	16.6%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 6	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 7	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
B-M-2	B12.50 Gr. 8	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	3	1	33.3%(1)(2)	0	0	0	0
		Category Total		**30**	**8**		**0**	**0**	**0**	**0**
		Cumulative Percentage					**0**	**0%**	**0%**	**0%**
Notes for Cat. B-M-2		Note 1: Examinations are limited to at least one valve within each group of valves that are of the same size, constructural design, and manufacturing method and that perform similar functions in the system. STP valves are grouped into 4 groups and one valve per group is required, if disassembled. Note 2: Examination is required only when a valve is disassembled for maintenance or repair.								
B-N-1	**Reactor Vessel Interior**									
B-N-1	B13.10	Reactor Vessel, Vessel Interior (B-N-1)	Visual, VT-3	1	3(1)(2)	100% each period	3	1	1	1
		Category Total		**1**	**3**(1)		**3**	**1**	**1**	**1**

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Cumulative Percentage[3]							**3**	**100%**	**100%**	**100%**
Notes for Cat B-N-1		Note 1: Examination of this item number is required each period. Therefore the number required during the interval is three times the total number of components. This is also reflected in the category total. Note 2: Areas to be examined shall include the spaces above and below the reactor core that are made accessible for examination by removal of components during normal refueling outages. Note 3: Cumulative Percentages are provided for information only and are calculated for each period.								
B-N-2	**Welded Core Support Structures and Interior Attachments to Reactor Vessels**									
B-N-2	B13.60	Reactor Vessel (PWR) Interior Attachments Beyond Beltline Region (B-N-2)	Visual, VT-3	6	6	100%	6	0	0	6
Category Total				**6**	**6**	**100%**	**6**	**0**	**0**	**6**
Cumulative Percentage[1]								**0%**	**0%**	**100%**
Notes for Cat. B-N-2		Note 1: Cumulative Percentage is provided for information only as these items can be deferred to the end of the interval.								
B-N-3	**Removable Core Support Structures**									
B-N-3	B13.70	Reactor Vessel (PWR) Core Support Structure (B-N-3)[1]	Visual, VT-3	34	34	100%	34	0	0	34
Category Total				**34**	**34**	**100%**	**34**	**0**	**0**	**34**
Cumulative Percentage[2]								**0%**	**0%**	**100%**
Notes for Cat. B-N-3		Note 1: The structure shall be removed from the reactor vessel for examination. Note 2: Cumulative Percentage is provided for information only as these items can be deferred to the end of the interval.								

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
B-O	**Pressure Retaining Welds in Control Rod Drive and Instrument Nozzle Housings**									
B-O	B14.20	Reactor Vessel (PWR) Welds in Control Rod Drive (CRD) Housings	Volumetric or surface	48(1)	12	25%(2)	12(3)	0	0	12
B-O	B14.21	Reactor Vessel (PWR) Welds in IN-Core Instrumentation Nozzle (ICI) Housing >NPS 2	Volumetric or Surface	7(4)	1	10% of peripheral ICI Housings	1(4)	0	0	1
		Category Total		**31**	**5**		**13**	**0**	**0**	**13**
		Cumulative Percentage						**0%**	**0%**	**100%**
Notes for Cat. B-O		Note 1: There are 24 peripheral CRD's each with two welds. 10% of 24 peripheral CRDH's is 3. Note 2: Code Case N-825 will be used for an alternative. Note 3: STP has chosen to examine a total of six CRD Housing welds to equal the combined length of 10% of the CRD housing welds. Note 4: There are 4 peripheral CET and 3 IDD each with one welds. 10% or one IDD is schedule for examination.								
C-A	**Pressure Retaining Welds in Pressure Vessels**									
C-A	C1.10	Pressure Vessels Shell Circumferential Welds	Volumetric(5)	8	2	25%(1)(2)	2	0	2	0
C-A	C1.20	Pressure Vessels Head Circumferential Welds	Volumetric(5)	4	1	25%(1)(3)	1	1	0	0
C-A	C1.30	Pressure Vessels Tubesheet-to-Shell Weld	Volumetric (5)	4	1	25%(1)(4)	1	0	0	1
		Category Total		**16**	**4**		**4**	**1**	**2**	**1**
		Cumulative Percentage						**25%**	**75%**	**100%**

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Notes for Cat. C-A		Note 1: In the case of multiple vessels of similar design, size, and service, the required examinations may be limited to one vessel or distributed among the vessels and includes essentially 100% of the weld length. (Ref. Table IWC-2500-1, Examination Category C-A, Notes 3 & 4). Note 2: There are two circumferential welds on each Steam Generator (Barrel B to Transition Cone and Transition Cone to Barrel H); therefore 2 of 8 welds are selected for examination. Implementation of Code Case N-716-1 evaluated the Shutdown Heat Exchangers as Low Safety Significant (LSS) therefore no examinations are required. Note 3: There is one Top Head weld (Barrel J to Head) on each Steam Generator; therefore 1 of 4 welds is selected for examination. Note 4: There is one tubesheet-to-shell weld on each steam generator. One tubesheet-to-shell weld on one of the steam generators is selected for examination. Implementation of Code Case N-716-1 evaluated the Shutdown Heat Exchangers Low Safety Significant (LSS) therefore no examinations are required. Note 5: For welds in vessels with nominal wall thickness of 0.2 in. (5 mm) or less, a surface examination may be applied in lieu of a volumetric examination. [Ref. Table IWC-2500-1, Examination Category C-A, Note (2)].									
C-B	**Pressure Retaining Nozzle Welds in Vessels**									
C-B	C2.21	Nozzles Without Reinforcing Plate in Vessels > 1/2 in. (13 mm) Nominal Thickness Nozzle-to-Shell (Nozzle to Head or Nozzle to Nozzle) Weld	Surface and volumetric	8	2	25%[1][2]	2	1	1	0
C-B	C2.22	Nozzles Without Reinforcing Plate in Vessels > 1/2 in. (13 mm) Nominal Thickness Nozzle Inside Radius Section	Volumetric	4	1	25%[1][3]	1	1	0	0
			Category Total	**12**	**3**		**3**	**2**	**1**	**0**
			Cumulative Percentage					**50%**	**100%[4]**	**100%**

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Notes for Cat. C-B		Note 1: In case of multiple vessels of similar design, size, and service, the required examinations may be limited to one vessel or distributed among the vessels. [Ref. Table IWC-2500-1, Examination Category C-B, Note (2)]. Note 2: There is one Feedwater nozzle and one Auxiliary Feedwater nozzle on each Steam Generator. Therefore, only one Feedwater and one Auxiliary Feedwater nozzle of one Steam Generator is required to be examined, which equals the required examination of 2 of 8 nozzles or 25%. Implementation of Code Case N-716-1 evaluated the Shutdown RHR Heat Exchangers Low Safety Significant (LSS) therefore no examinations are required. Note 3: There is one Feedwater nozzle inner radius and one Main Steam nozzle inner radius on each Steam Generator; therefore, 2 of 8 inner radii are required to be examined or 25%. Note 4: After implementation of Code Case N-716-1 which does not require any examinations of the Boron Injection Tanks, Containment Spray, Regenerative Heat Exchangers, and Residual Heat Removal Heat Exchangers, there are only two nozzles in each item number requiring examination. Per IWC-2411(a) "If there are less than three items or welds to be examined in Examination Category, the items or welds may be examined in any two periods, or in any one period if there is only one item or weld, in lieu of the percentage requirements of Table IWC-2411-1." Since only two nozzles are required to be examined (this includes both the nozzle-to-vessel weld and the inner radius section) one is scheduled in the first period and the other is scheduled in the second period. Note 5: Pending RR-ENG-4-01									
C-C	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
C-C	C3.10	Pressure Vessels Welded Attachments	Surface	13	2(1)	15.3%	1(4)	1	0	1
C-C	C3.20	Piping Welded Attachments	Surface	21	3	10%	3(2)(4)	1	1	1
C-C	C3.30	Pump Welded Attachments	Surface	9	1	11.1%	1(3)(4)	0	0	1
		Category Total		**43**	**5**		**5**	**2**	**1**	**2**
		Cumulative Percentage						**40%**	**60%**	**100%**

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Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Notes for Cat. C-C		Note 1: For multiple vessels of similar design, function, and service, only one welded attachment of only one of the multiple vessels shall be selected for examination. For single vessels, only one welded attachment shall be selected for examination. [Ref. Table IWC-2500-1, Examination Category C-C, Note (6)]. Note 2: For piping, pumps, and valves, a sample of 10% of the welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. [Ref. Table IWC-2500-1 Examination Category C-C, Note (7)]. Note 3: For pumps, a sample of 10% of the welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. [Ref. Table IWC-2500-1 Examination Category C-C, Note (7)]. There are three RHR Pumps with three welded attachments each, one welded attachment is selected for examination. Note 4: Examination is required whenever component support member deformation, e.g., broken, bent, or pulled out parts, is identified during operation, refueling, maintenance, examination, or testing. [Ref. Table IWC-2500-1, Examination Category C-C, Note (5)].								
D-A	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
D-A	D1.10	Vessel Welded Attachments	Visual, VT-1	2	2	100%	2(1)(2)	1	1	0
D-A	D1.20	Piping Welded Attachments	Visual, VT-1	7	1	10%	1(1)(2)	0	0	1
			Category Total	**8**	**3**		**3**	**1**	**1**	**1**
			Cumulative Percentage					**33.3%**	**66.6%**	**100%**
Notes for Cat. D-A		Note 1: Selected samples of welded attachments shall be examined each inspection interval. All welded attachments selected for examination shall be those most subject to corrosion, as determined by the Owner, such as the welded attachments of the Service Water or Emergency Service Water systems. For multiple vessels of similar design, function and service, one welded attachment of only one of the multiple vessels shall be selected for examination. For single vessels, only one welded attachment shall be selected for examination. The attachment selected for examination on one of the multiple vessels or the single vessel, as applicable, shall be an attachment under continuous load during normal system operation, or an attachment subject to a potential intermittent load (seismic, water hammer, etc.) during normal system operation if an attachment under continuous load does not exist. For welded attachments of piping, pumps, and valves, a 10% sample shall be selected for examination. This percentage sample shall be proportional to the total number of nonexempt welded attachments connected to the piping, pumps and valves in each system subject to examination. [Ref. Table IWD-2500-1, Category D-A, Note (6)]. Note 2: Examination is required whenever component support member deformation, e.g., broken, bent, or pulled out parts is identified during operation, refueling, maintenance, examination, or testing. [Ref. Table IWD-2500-1, Examination Category D-A, Note (5)].								
F-A	**Supports**									

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F-A	F1.10A	Class 1 Piping Supports – One Directional	Visual, VT-3	1	1	(1)	1	0	0	1
F-A	F1.10B	Class 1 Piping Supports - Multi-Directional	Visual, VT-3	68	17	(1)	19	6	5	8
F-A	F1.10C	Class 1 Piping Supports - Thermal Movement	Visual, VT-3	75	19	(1)	21	6	8	7
Category F-A, Item F1.10 Total				**144**	**37**		**41(2)**	**12**	**13**	**16**
F-A	F1.20A	Class 2 Piping Supports – One Directional	Visual, VT-3	7	2	(1)	2	1	0	1
F-A	F1.20B	Class 2 Piping Supports - Multi-Directional	Visual, VT-3	346	52	(1)	55	18	18	19
F-A	F1.20C	Class 2 Piping Supports - Thermal Movement	Visual, VT-3	375	57	(1)	62	19	15	28
Category F-A, Item F1.20 Total				**728**	**111**		**119(2)**	**38**	**33**	**48**
F-A	F1.30A	Class 3 Piping Supports – One Directional	Visual, VT-3	10	1	(1)	2	2	0	0
F-A	F1.30B	Class 3 Piping Supports - Multi-Directional	Visual, VT-3	458	46	(1)	48	18	11	19
F-A	F1.30C	Class 3 Piping Supports - Thermal Movement	Visual, VT-3	479	48	(1)	52	14	13	26
Category F-A, Item F1.30 Total				**947**	**95**		**103(2)**	**34**	**24**	**45**
F-A	F1.40	Supports other than Piping Supports (Class 1,2,3, and MC) – Equipment Supports	Visual, VT-3	225	84	37.3%	84	26	29	29
Category F-A, Item F1.40 Total				**225**	**84**		**84(3)**	**26**	**29**	**29**
Category Total				**2044**	**327**		**347(2)**	**110**	**99**	**138**
Cumulative Percentage								**31.7%**	**60.2%**	**100%**

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Notes for Cat. F-A		Note 1: The total percentage sample shall be comprised of supports from each system, where the individual sample sizes are proportional to the total number of non-exempt supports of each type and function within each system. [Ref. Table IWF-2500-1, Examination Category F-A, Note (4)]. Note 2: Based on proration by system, type, and function, and engineering judgement, the number of supports scheduled exceeds the number of supports required. Note 3: 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. [Ref. Table IWF-2500-1, Examination Category F-A, Note (5)].									
R-A	**Risk Informed Piping Welds - Code Case N-716-1**									
R-A	R1.11	Welds Subject to Thermal Fatigue	Volumetric	177	45	25.4%	45	22	11	12
R-A	R1.11/16	Welds Subject to Thermal Fatigue and IGSCC	Volumetric	6	2	33.3%	2	0	0	2
R-A	R1.20	Welds not Subject to a Damage Mechanism	Volumetric	596	36	6%	36	7	14	15
R-A	R1.20S	Welds not Subject to a Damage Mechanism	Visual, VT-2	31	0[3]	0%	0	0	0	0
		Category Total		**810**	**83**		**83**	**29**	**25**	**29**
		Cumulative Percentage						**34.9%**	**65%**	**100%**
Notes for Cat. R-A		Note 1: STP has initiated Risk-Informed ISI (RI-ISI) contained in ASME Code Case N-716-1, approved in Regulatory Guide 1.147 Revision 18 and listed in Table 2.2-1. Note 2: These welds are identified for information only; the welds are governed by Code Case N-770 and scheduled as such. These welds are examined every refueling outage and therefore not counted in the cumulative percentage.								
N-722		**Code Case N-722-1 PWR Class 1 Components Containing Alloy 600/82/182[1]**								
N-722	B15.80	RPV bottom-mounted instrument penetrations	Visual, VE[2]	58	58	Every Other Refueling Outage	58	58	58	58

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		Category Total		**58**	**58**		**58**	**58**	**58**	**58**
Notes for Cat. N-722		Note 1: Frequency of examination, examination method, and personnel qualifications are in accordance with Code Case N-722-1, Table 1 as required by 10 CFR 50.55a(g)(6)(ii(E)).								
N-729		**Code Case N-729-6 PWR Reactor Vessel Upper Head (RVUH)(1)**								
N-729	B4.30	Head with nozzles and partial penetration welds of PWSCC-resistant material	Visual, VE	68	68	Every Third RFO or 5 calendar years whichever is less	68	0	68	68
N-729	B4.40	Nozzles and partial penetration welds of PWSCC-resistant materials in head	Volumetric &/or Surface	64	64	Once per Two Inspection Intervals	64(2)	0	0	0
		Category Total		**132**	**132**		**132**	**64**	**68**	**68**
Notes for Cat. N-729		Note 1: These examinations are in accordance with Code Case N-729-6, Table 1 as required by 10 CFR 50.55a(g)(6)(ii)(D). Note 2: Not to exceed two Inspection Intervals (normally 20 calendar years). The RPVCH was replaced in April 2010 and therefore is not required to be volumetrically examined in the 4th Interval.								
N-770		**Code Case N-770-5 Class 1 PWR Pressure Retaining Dissimilar Metal Piping and Vessel Nozzle Butt Welds Containing Alloy 82/182(1)**								
N-770	Item D	Uncracked butt weld mitigated with stress improvement	Volumetric(2)	8	8	100%	Every 2nd Inspection Period not to exceed 7yrs.(1)	0	8	0

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N-770	Item F-1	Cracked butt weld reinforced by full structural weld overlay of Alloy 52/152 material	Volumetric	12	4	33%	Volumetric every inspection interval(1)	0	0	4
			Category Total	**20**	**12**			**0**	**8**	**4**
Notes for Cat. N-770		Note 1: Frequency of examination, examination method, and personnel qualifications are in accordance with Code Case N-770-5, Table 1 as required by 10 CFR 50.55a(g)(6)(ii)(F). Note 2: An ultrasonic examination from either the ID or the OD in accordance with the requirements of Appendix VIII shall be acceptable in lieu of the Visual, VE.								
RG 1.14		**Reactor Coolant Pump Flywheel Integrity**								
RG1.14	RCPFW	RCP Flywheels	Volumetric/ Surface	5	5	100%	5	0	0	5
			Category Total	**5**	**5**	100%	**5(1)**	**0**	**0**	**5**
Notes for RG 1.14		Note 1: Inservice inspection of each operating (4) reactor coolant pump flywheels shall be performed once every ISI ten year interval. There is a spare RCP Flywheel.								
EPRI TR-1006937		**Break Exclusion Zone (BEZ)**								
R-A	R1.20	Feedwater 18-inch	Volumetric	38	4	Each Interval	4	2	0	2
R-A	R1.20	Main Steam 30-inch	Volumetric	36	4	Each Interval	4	0	3	1
R-A	R1.20	Main Steam 16-inch	Volumetric	9	1	Each Interval	1	1	0	0
R-A	R1.20	Main Steam 6-inch	Volumetric	20	2	Each Interval	2	1	0	1

Appendix B
Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 2, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Category Total				**103**	**11**		**11**	**4**	**3**	**4**
Notes for EPRI TR-1006937		None								
MRP-146		**Management of Thermal Fatigue in Normally Stagnant Non-Isolable Reactor Coolant System Branch Lines**								
R-A	R1.11	Circumferential Welds in Non-Isolable RCS Branch Lines Susceptible to Thermal Fatigue (Pipe-Elbow)	Volumetric(1)	4	4	Every RFO(2)	4	8	8	8
R-A	R1.20S	Circumferential Welds in Non-Isolable RCS Branch Lines Susceptible to Thermal Fatigue (Drain Line, Elbow-Pipe)	Volumetric(1)	2	2	Every RFO(2)	2	2	2	2
Category Total				**6**	**6(1)**		**6**	**10**	**10**	**10**
Notes for MRP-146		Note 1: Volumetric examinations shall be performed as determined through the fatigue management program. Note 2: Initial examination was completed in 2RE14.								
MRP-192		**Assessment of RHR Mixing Tee Thermal Fatigue in PWR Plants**								
MRP-UT	MRP-192	RHR Mixing Tee	Volumetric	1	1	(1)	1	1	0	0
Category Total				**1**	**1**		**1**	**1**	**0**	**0**

Appendix B
Inservice Inspection Summary Table – Component Supports, Steam Generator Tubing, System Pressure Testing, and Weld Inspections – Unit 2, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Notes for MRP-192		Note 1: Volumetric examinations shall be performed as determined through the fatigue management program								
LRC-42		**RPV Stud Insert #30**								
B-G-1	B6.10	RPV Stud Insert #30	Visual, VT-1(1)	1	1	Once per interval	1	0	0	1
		Category Total		**1**	**1**		**1**	**0**	**0**	**1**
Notes for LRC-42		Note 1: Remote Visual, VT-1 concurrent with the Volumetric, UT Examination.								
NSAL-06-8		**Pressurizer Heaters Sleeves**								
MRP-VT	PRZ	Pressurizer Heaters Sleeves	Bare Metal Visual(1)	1(1)	1	Once per interval	1	0	0	1
		Category Total		**1**	**1**		**1**	**0**	**0**	**1**
Notes for NSAL 06-8		Note 1: Bare Metal Visual of first row exposed heaters and accessible portion of heaters on outer 2 rows. There is one record to identify all Pressurizer Heater Sleeves.								

APPENDIX C

INSERVICE INSPECTION SUMMARY TABLE – CONTAINMENT METAL LINER – UNIT 1, INTERVAL 4

Appendix C
Inservice Inspection Summary Table – Containment Metal Liner – Unit 1, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
E-A	**Containment Surfaces(1)**									
E-A	E1.11	Accessible Surface Area	General Visual	9	9	100% per period	9	9	9	9
E-A	E1.12	Wetted Surfaces of Submerged Areas	Visual, VT-3	0	0	100% per Interval	0	0	0	0
E-A	E1.30	Moisture Barriers(2)	General Visual	3	3	100% per period	3	3	3	3
		Category Total		**12**	**12(1)**					
		Cumulative Percentage						**0%**	**100%**	**100%**
Notes for Cat. E-A		Note 1: Examination shall include all accessible interior and exterior surfaces of Class MC components, parts, and appurtenances and metallic shell and penetration liners of Class CC components. The following items shall be examined: a. Integral attachments and structures that are parts of reinforcing structure, such as stiffening rings, manhole frames, and reinforcement around openings. b. Surfaces of attachment welds between structural attachments and pressure retaining boundary or reinforcing structure, except for nonstructural or temporary attachments as defined in NE-4435 and minor permanent attachments as defined in CC-4543.4. c. Surfaces of containment structural and pressure boundary welds, including longitudinal welds (Category A), circumferential welds (Category B), flange welds (Category C), and nozzle-to-shell welds (Category D) as defined in NE-3351 for Class MC and CC-3840 for Class CC and surfaces of Flued Head and Bellows Seal Circumferential Welds joined to the Penetration. d. Pressure-retaining bolted connections including bolts, studs, nuts, bushings, washers, and threads in base material and flange ligaments between fastener holes. Bolted connections need not be disassembled for performance of examinations. Note 2: Examination shall include moisture barrier materials intended to prevent intrusion of moisture against inaccessible areas of the pressure retaining metal containment shell or liner at concrete-to-metal interfaces and at metal-to-metal interfaces which are not seal-welded. Containment moisture barrier materials include caulking, flashing, and other sealants used for this application.								
10 CFR 50.55a(b)(2)(ix)(K)(1)		**Leak-Chase Channels**								
E-A	E1.32	Leak Chase Channels	Visual(2)	163	163	Once per period	163	55	56	52
		Category Total		**163**	**163**		**163**	**55**	**56**	**52**

Appendix C
Inservice Inspection Summary Table – Containment Metal Liner – Unit 1, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Notes for 10 CFR		Note 1: 10 CFR 50.55a requires the implementation of the 2017 Edition for Leak Chase Channel Systems [ref. 10 CFR 50.55a(b)(2)(ix)(K)]. Note 2: General Visual of cover plate of the Leak Chase Channel System. Caps of stub tubes extending to or above the concrete floor interface may be inspected provided the configuration of the cap functions as a moisture barrier. Leak chase channel system closures need not be disassembled for performance of examinations if the moisture barrier material is clearly visible without disassembly, or coatings are intact.								
E-C	**Containment Surfaces Requiring Augmented Examination(1)**									
E-C	E4.11	Visible Surface	Visual, VT-1	0	0	100% per period	0	0	0	0
E-C	E4.12	Surface Area Grid, Minimum Wall Thickness Location	UT Thickness	0	0	100% per period	0	0	0	0
			Category Total	**0**	**0**					
			Cumulative Percentage					**0%**	**0%**	**0%**
Notes for Cat. E-C		Note 1: There are no Augmented areas identified by STP at this time.								
E-G	**Pressure Retaining Bolting(1)**									
E-G	E8.10	Bolted Connections	Visual, VT-1	123	123	100% per interval	123	0	0	123
			Category Total	**123**	**123**					
			Cumulative Percentage					**0%**	**0%**	**100%**
Notes for Cat. E-G		Note 1: Examination may be performed with the connection assembled and bolting in place under tension, provided the connection is not disassembled during the interval. If the bolted connection is disassembled for any reason during the interval, the examination shall be performed with the connection disassembled.								

APPENDIX D

INSERVICE INSPECTION SUMMARY TABLE – CONTAINMENT METAL LINER – UNIT 2, INTERVAL 4

Appendix D
Inservice Inspection Summary Table – Containment Metal Liner – Unit 2, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
E-A	**Containment Surfaces(1)**									
E-A	E1.11	Accessible Surface Area	General Visual	9	9	100% per period	9	9	9	9
E-A	E1.12	Wetted Surfaces of Submerged Areas	Visual, VT-3	0	0	100% per Interval	0	0	0	0
E-A	E1.30	Moisture Barriers(2)	General Visual	3	3	100% per period	3	3	3	3
		Category Total		**12**	**12(1)**					
		Cumulative Percentage						**0%**	**100%**	**100%**
Notes for Cat. E-A		Note 1: Examination shall include all accessible interior and exterior surfaces of Class MC components, parts, and appurtenances and metallic shell and penetration liners of Class CC components. The following items shall be examined: e. Integral attachments and structures that are parts of reinforcing structure, such as stiffening rings, manhole frames, and reinforcement around openings. f. Surfaces of attachment welds between structural attachments and pressure retaining boundary or reinforcing structure, except for nonstructural or temporary attachments as defined in NE-4435 and minor permanent attachments as defined in CC-4543.4. g. Surfaces of containment structural and pressure boundary welds, including longitudinal welds (Category A), circumferential welds (Category B), flange welds (Category C), and nozzle-to-shell welds (Category D) as defined in NE-3351 for Class MC and CC-3840 for Class CC and surfaces of Flued Head and Bellows Seal Circumferential Welds joined to the Penetration. h. Pressure-retaining bolted connections including bolts, studs, nuts, bushings, washers, and threads in base material and flange ligaments between fastener holes. Bolted connections need not be disassembled for performance of examinations. Note 2: Examination shall include moisture barrier materials intended to prevent intrusion of moisture against inaccessible areas of the pressure retaining metal containment shell or liner at concrete-to-metal interfaces and at metal-to-metal interfaces which are not seal-welded. Containment moisture barrier materials include caulking, flashing, and other sealants used for this application.								
10 CFR 50.55a(b)(2)(ix)(K)(1)		**Leak-Chase Channels**								
E-A	E1.32	Leak Chase Channels	Visual(2)	163	163	Once per period	163	55	56	52
		Category Total		**163**	**163**		**163**	**55**	**56**	**52**

Appendix D
Inservice Inspection Summary Table – Containment Metal Liner – Unit 2, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Notes for 10 CFR		Note 1: 10 CFR 50.55a requires the implementation of the 2017 Edition for Leak Chase Channel Systems [ref. 10 CFR 50.55a(b)(2)(ix)(K)]. Note 2: General Visual of cover plate of the Leak Chase Channel System. Caps of stub tubes extending to or above the concrete floor interface may be inspected provided the configuration of the cap functions as a moisture barrier. Leak chase channel system closures need not be disassembled for performance of examinations if the moisture barrier material is clearly visible without disassembly, or coatings are intact.								
E-C	**Containment Surfaces Requiring Augmented Examination(1)**									
E-C	E4.11	Visible Surface	Visual, VT-1	0	0	100% per period	0	0	0	0
E-C	E4.12	Surface Area Grid, Minimum Wall Thickness Location	UT Thickness	0	0	100% per period	0	0	0	0
			Category Total	**0**	**0**					
			Cumulative Percentage					**0%**	**0%**	**0%**
Notes for Cat. E-C		Note 1: There are no Augmented areas identified by STP at this time.								
E-G	**Pressure Retaining Bolting(1)**									
E-G	E8.10	Bolted Connections	Visual, VT-1	123	123	100% per interval	123	0	0	123
			Category Total	**123**	**123**					
			Cumulative Percentage					**0%**	**0%**	**100%**
Notes for Cat. E-G		Note 1: Examination may be performed with the connection assembled and bolting in place under tension, provided the connection is not disassembled during the interval. If the bolted connection is disassembled for any reason during the interval, the examination shall be performed with the connection disassembled.								

APPENDIX E

INSERVICE INSPECTION SUMMARY TABLE – CONCRETE CONTAINMENT – UNIT 1, INTERVAL 4

Appendix E Inservice Inspection Summary Table – Concrete Containment – Unit 1, Interval 4									
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number Examined or Scheduled During the Interval**	**Number to be Examined in First Period**	**Number to be Examined in Third Period**
L-A	**Concrete Surfaces**								
L-A	L1.11	Accessible Surface Area(1)	General Visual(2)	1	1	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter	1	0	1
L-A	L1.12	Suspect Areas	Detailed Visual(3)	0	0	100% per Interval	0	0	0
L-A	L1.13	Inaccessible Below-Grade Areas(4)	IWL-2512(c)(5)	1	1	IWL-2512(c)(6)	1	1	1
			Category Total	**2**	**2**				
			Cumulative Percentage					**0%**	**100%**
Notes for Cat. E-A	Note 1: Includes concrete surfaces at tendon anchorage areas not selected by IWL-2521 or exempted by IWL-1220(a). Note 2: Reference IWL-2310(a) for General Visual exam requirements. IWA-2300 for Personnel Qualification requirements. Note 3: Reference IWL-2310(b) for Detailed Visual exam requirements. IWA-2300 for Personnel Qualification requirements. Note 4: Concrete surfaces exposed to foundation soil, backfill, or ground water. Note 5: Method of examination as defines by the Responsible Engineer, based on IWL-2512(b) evaluation. Note 6: Reference IWL-2512(c) for requirements of a condition-monitoring program.								
L-B	**Unbonded Post Tensioning System**								
L-B	L2.10	Tendon	Tendon Force Measurements(1)	229	6	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter(8)	6	0	6
L-B	L2.20	Wire or Strand	Sample Exam and Test(2)	42,594	2	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter(8)	2	0	2
L-B	L2.30	Anchor Hardware and Surrounding Concrete	Detailed Visual(3)(4)(5)	229	10	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter(8)	10	6	4
L-B	L2.40	Corrosion Protection Medium	Sampling Testing(6)	229	10	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter(8)	10	6	4

Appendix E Inservice Inspection Summary Table – Concrete Containment – Unit 1, Interval 4									
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number Examined or Scheduled During the Interval**	**Number to be Examined in First Period**	**Number to be Examined in Third Period**
L-B	L2.50	Free Water	Sampling Testing(7)	229	10	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter(8)	10	6	4
			Category Total		**38**		**38**	**18**	**20**
			Cumulative Percentage					**47%**	**100%**
Notes for Cat. L-B	Note 1: Reference IWL-2522 for Tendon Force and Elongation Measurement requirements. Note 2: Reference IWL-2523 for Tendon Wire and Strand Sample Examination and Testing requirements. Note 3: Relief Request RR-ENG-IWL-01 will be used as authorized for selection of these parts for examination. Note 4: Reference IWL-2524 for Examination of Tendon Anchorage Areas. Note 5: Reference IWL-2310(b) for Detailed Visual Exam requirements. IWA_2300 for Personnel Qualification requirements. Note 6: Reference IWL-2525 for Examination of Corrosion Protection Medium requirements. Note 7: Reference IWL-2525 for Free Water requirements. Note 8: Reference IWL-2421 for frequency of examination for sites with multiple plants may be applied.								

APPENDIX F

INSERVICE INSPECTION SUMMARY TABLE – CONCRETE CONTAINMENT – UNIT 2, INTERVAL 4

Appendix F
Inservice Inspection Summary Table – Concrete Containment – Unit 2, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Third Period
L-A	**Concrete Surfaces**								
L-A	L1.11	Accessible Surface Area(1)	General Visual(2)	1	1	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter	1	0	1
L-A	L1.12	Suspect Areas	Detailed Visual(3)	0	0	100% per Interval	0	0	0
L-A	L1.13	Inaccessible Below-Grade Areas(4)	IWL-2512(c)(5)	1	1	IWL-2512(c)(6)	1	1	1
			Category Total	**2**	**2**				
			Cumulative Percentage					**0%**	**100%**
Notes for Cat. E-A	Note 1: Includes concrete surfaces at tendon anchorage areas not selected by IWL-2521 or exempted by IWL-1220(a). Note 2: Reference IWL-2310(a) for General Visual exam requirements. IWA-2300 for Personnel Qualification requirements. Note 3: Reference IWL-2310(b) for Detailed Visual exam requirements. IWA-2300 for Personnel Qualification requirements. Note 4: Concrete surfaces exposed to foundation soil, backfill, or ground water. Note 5: Method of examination as defines by the Responsible Engineer, based on IWL-2512(b) evaluation. Note 6: Reference IWL-2512(c) for requirements of a condition-monitoring program.								
L-B	**Unbonded Post Tensioning System**								
L-B	L2.10	Tendon	Tendon Force Measurements(1)	229	6	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter(8)	6	6	0
L-B	L2.20	Wire or Strand	Sample Exam and Test(2)	42,594	2	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter(8)	2	2	0
L-B	L2.30	Anchor Hardware and Surrounding Concrete	Detailed Visual(3)(4)(5)	229	10	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter(8)	10	6	4
L-B	L2.40	Corrosion Protection Medium	Sampling Testing(6)	229	10	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter(8)	10	6	4

Appendix F
Inservice Inspection Summary Table – Concrete Containment – Unit 2, Interval 4

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number Examined or Scheduled During the Interval	Number to be Examined in First Period	Number to be Examined in Third Period
L-B	L2.50	Free Water	Sampling Testing(7)	229	10	1, 3, 5, and 10 yrs. and every 5 yrs. thereafter(8)	10	6	4
Category Total					**38**		**38**	**26**	**12**
Cumulative Percentage								**68%**	**100%**
Notes for Cat. L-B	Note 1: Reference IWL-2522 for Tendon Force and Elongation Measurement requirements. Note 2: Reference IWL-2523 for Tendon Wire and Strand Sample Examination and Testing requirements. Note 3: Relief Request RR-ENG-IWL-01 will be used as authorized for selection of these parts for examination. Note 4: Reference IWL-2524 for Examination of Tendon Anchorage Areas. Note 5: Reference IWL-2310(b) for Detailed Visual Exam requirements. IWA_2300 for Personnel Qualification requirements. Note 6: Reference IWL-2525 for Examination of Corrosion Protection Medium requirements. Note 7: Reference IWL-2525 for Free Water requirements. Note 8: Reference IWL-2421 for frequency of examination for sites with multiple plants may be applied.								

APPENDIX G

APPENDIX VIII IMPLEMENTATION PLAN

APPENDIX VIII IMPLEMENTATION PLAN

1.0 Purpose

1.1. The purpose of this program plan is to establish administrative controls for the implementation of the supplements to ASME Section XI Code Mandatory Appendix VIII (Performance Demonstration for Ultrasonic Examination Systems).

2.0 Basis and ASME Code References for Section XI Code Mandatory Appendix VIII.

2.1. This Plan is developed in accordance with the requirements of 10CFR50.55a, 83 FR 2526) which became effective on January 18, 2018.

2.2. As required by 10CFR50.55a the South Texas Project (STP) will implement Mandatory Appendix VIII of the **2013 Edition** of the ASME Section XI Code with the following conditions:

(b) (2) (xviii) (D) ***NDE personnel certification: Fourth provision***. The use of Appendix VII, Table VII–4110–1 and Appendix VIII, Subarticle VIII–2200 of the 2011 Addenda and 2013 Edition of Section XI of the ASME BPV Code is prohibited. When using ASME BPV Code, Section XI editions and addenda later than the 2010 Edition, licensees and applicants must use the prerequisites for ultrasonic examination personnel certifications in Appendix VII, Table VII–4110–1 and Appendix VIII, Subarticle VIII–2200 in the 2010 Edition.

2.3. At any time during the Fourth Interval the provisions of 10 CFR 50.55a(g)(4)(ii) may be used. STP may elect to use Appendix VIII from the latest Edition of ASME Section XI listed in 10 CFR 50.55a(a) as approved by the NRC with corresponding conditions. If this provision is used, it must also include Appendix I. NRC approval is not required.

2.4. Applicable Code Cases are provided in Table 4.1.1.

2.5. 10CFR50.55a conditions are provided in 2.2 and Table 4.4 of this Program Plan.

3.0 Definitions

3.1. **NONDESTRUCTIVE EXAMINATION (NDE)** - An examination by the visual, surface, or volumetric method.

3.2. **PERFORMANCE DEMONSTRATION ADMINISTRATOR (PDA)** - the administrator of the PDI program. The EPRI NDE Center is the PDA for the program

3.3. **PERFORMANCE DEMONSTRATION INITIATIVE (PDI)** - an organization comprised of all U.S. nuclear utilities that was formed to provide an efficient, cost-effective, and technically sound implementation of Appendix VIII performance demonstration requirements. PDI is responsible for preparing the test protocol, providing the NRC/Code interface, and providing technical, financial, and administrative oversight. Under the guidance of PDI and in compliance with the EPRI Quality Program and Procedure Manual, the PDA collects and disperses supplemental funding, provides technical and legal support, and administers the plan provided by PDI. This includes specimen design, sample fabrication, qualification testing, and maintaining registries. The PDA also performs other support activities such as participation in NUPIC and EPRI internal QA audits, coordinating Authorized Nuclear Inservice Inspector involvement in the PDI program, and maintaining generic procedures for manual ultrasonic examinations.

3.4. **PDI PROGRAM** - an industry initiative administered by the EPRI NDE Center

3.5. **PERFORMANCE DEMONSTRATION QUALIFICATION SUMMARY (PDQS)** - the paperwork provided by the PDA (EPRI NDE Center) documenting that an individual or an ultrasonic procedure has been qualified in accordance with the PDI Program.

3.6. **ULTRASONIC EXAMINATION (UT)** - A volumetric NDE method for the purpose of verifying the absence of unacceptable discontinuities throughout the volume of material.

4.0 General Requirements

4.1. Mandatory Appendix VIII provides requirements for performance demonstration for ultrasonic examination procedures, equipment and personnel used to detect and size flaws. The Mandatory Appendix VIII requirements SHALL be implemented by qualified applicable ultrasonic examination procedures, equipment, and personnel through PDI, the additional requirements of the 0PEP10-ZA- 0002 (Inservice Inspection Ultrasonic Non Destructive Examination Written Practice) for certification of ultrasonic examination personnel to Mandatory Appendix VII requirements, and the individual ultrasonic examination procedures

4.2. The Supplements of Mandatory Appendix VIII apply ONLY to ultrasonic examinations (not including thickness measurements). Reference Section 6.0 for PDI compliance with Mandatory Appendix VIII supplements.

4.3. Welds and/or components NOT addressed by Mandatory Appendix VIII supplements SHALL be examined in accordance with Appendix I of the 2013 Edition of the Code, unless otherwise noted.

4.4. In accordance with Mandatory Appendix I-2600, Components to which Mandatory Appendix VIII is not applicable, examination procedures, personnel, and equipment qualified in accordance with Mandatory Appendix VIII may be applied, provided such components, materials, sizes, and shapes are within the scope of the qualified examination procedure. When this provision is used, examination coverage shall be in accordance with I-3000 and no other requirements of I-1000 or I-2000 apply.

4.5. STP will use personnel and techniques that have been qualified to the PDI Program. STP will utilize the EPRI PDI Program for the personnel qualification for the applicable supplements. The Performance Demonstration Qualification Summary (PDQS) will be used to verify qualification. The PDQS will become part of the NDE personnel certification paperwork. The entire certification/qualification paperwork will be retained as a lifetime record.

4.6. STP will utilize ultrasonic procedures equivalent to the "Qualified" Generic PDI procedures (utilizing the same essential variables as described in Paragraph VIII-3130 of Mandatory Appendix VIII of the 2013 Edition). The equipment to be used will be included in the NDE procedure used to qualify the NDE personnel. Examination coverage will be provided in the examination procedures.

4.7. Vendor procedures and personnel certifications SHALL be reviewed (i.e., PDQS) to ensure compliance with the requirements of Mandatory Appendix VIII.

4.8. Prior to the start of the examination process, an initial review is performed to ensure that the examination personnel and equipment meet Mandatory Appendix VIII requirements.

4.9. Augmented examinations will be performed by qualified Mandatory Appendix VIII examination personnel for the components being examined.

5.0 Ultrasonic Evaluations

5.1. Personnel performing NDE evaluations and reviews, other than the examiner, are to be knowledgeable of Mandatory Appendix VIII requirements but need NOT be specifically qualified for the examination supplement being evaluated. Mandatory Appendix VIII examination results can only be changed or over-ruled by a qualified individual.

5.2. Acceptance standards for ultrasonic examinations SHALL be in accordance with the applicable Edition and Addenda of ASME Section XI identified in the ISI Program Plan.

5.3. Indications are classified as either geometrical (including metallurgical) or flaws per Mandatory Appendix III. The STP position is that all reflectors SHALL be evaluated, regardless of amplitude, to the extent necessary to determine shape, identity and location.

6.0 Support Documents

6.1. Attachment A, PDI Cross Reference to Mandatory Appendix VIII Supplements

6.2 Attachment B, Examination References

6.3 Attachment C, PDI Procedures

6.4 EPRI Technical Report 3002010307, "Nondestructive Evaluation Guide for Compliance of Class 1, 2, 3, IWF, and Common Augmented Inservice Inspection Requirements"

Appendix VIII Supplement Number	Appendix VIII Supplement Description	EPRI Qualified PDI Generic Procedure	Remarks
1	Evaluating Electronic Characteristics of Ultrasonic Systems		The PDI Program does not support this activity.
2	Qualification requirements for wrought Austenitic Piping Welds	PDI-UT-2 (PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds) PDI-UT-3 (PDI Generic Procedure for Ultrasonic Through Wall Sizing in Pipe Welds) EPRI-PIPE-MPA-1 (Procedure for Manual Phased Array Ultrasonic Examination of Austenitic and Ferritic Pipe Welds) EPRI-PIPE-TWS-MPA-1(Procedure for Manual Phased Array Ultrasonic Through Wall Sizing In Pipe Welds) EPRI-PA-1 (Procedure for Automated Phased Array Ultrasonic Flaw Detection and Length Sizing in Austenitic and Ferritic Piping Welds) EPRI-SPA-1 (Procedure for Automated Single Phased-Array Probe Ultrasonic Flaw Detection and Length Sizing in Ferritic and Austenitic Piping Welds)	Welds containing clad are excluded. Reference Code Case N-696-1, based on Reg. Guide 1.147, Rev. 18, relief is required.

Appendix VIII Supplement Number	Appendix VIII Supplement Description	EPRI Qualified PDI Generic Procedure	Remarks
3	Qualification Requirements for Ferritic Piping Welds	PDI-UT-1 (PDI Generic Procedure for the Ultrasonic Examination of Ferritic Pipe Welds) PDI-UT-3 (PDI Generic Procedure for Ultrasonic Through Wall Sizing in Pipe Welds) EPRI-PIPE-MPA-1 (Procedure for Manual Phased Array Ultrasonic Examination of Austenitic and Ferritic Pipe Welds) EPRI-PIPE-TWS-MPA-1(Procedure for Manual Phased Array Ultrasonic Through Wall Sizing In Pipe Welds) EPRI-PA-1 (Procedure for Automated Phased Array Ultrasonic Flaw Detection and Length Sizing in Austenitic and Ferritic Piping Welds) EPRI-SPA-1 (Procedure for Automated Single Phased-Array Probe Ultrasonic Flaw Detection and Length Sizing in Ferritic and Austenitic Piping Welds)	Reference Code Case N-696-1, based on Reg. Guide 1.147, Rev. 18, relief is required.
4	Qualification requirements for the Clad / Base Metal Interface of RPV (applies to inner 15% of Clad vessels and may be applied to the inner 15% of unclad vessels in accordance with VIII-S6-1, Note 1.)	PDI-UT-6 (PDI Generic Procedure for the Ultrasonic Examination of RPV Welds) PDI-UT-7 (Generic Procedure for Through Wall and Length Sizing of Ultrasonic Indications in RPV Welds) PDI-UT-12 (Procedure for Manual Phased Array Ultrasonic Examination of Reactor Pressure Vessel Welds) EPRI-RPV-PA-1 (Procedure for Manual Phased Array Ultrasonic Examination of Reactor Pressure Vessel Welds) Note: EPRI does not maintain generic procedures for RPV encoded examination.	

Appendix VIII Supplement Number	Appendix VIII Supplement Description	EPRI Qualified PDI Generic Procedure	Remarks
5	Qualification requirements for Nozzle Examination From the Outside Surface	PDI-UT-11 (PDI Generic Procedure for the Ultrasonic Detection and Sizing of RPV Nozzle-to-Shell Welds and Nozzle-to-Inner Radius) PDI-UT-13 (Procedure for Manual Phased Array Ultrasonic Examination of Reactor Pressure Vessel Nozzle to Shell Welds and Nozzle Inner Radius Regions) Note: EPRI does not maintain generic procedures for RPV nozzle and inner radius encoded examination.	Reference Code Case N-613-2
6	Qualification requirements for RPV welds other than Clad / Base Metal Interface (applies to unclad ferritic components and the outer 85% of clad ferritic components)	PDI-UT-6 (PDI Generic Procedure for the Ultrasonic Examination of RPV Welds) PDI-UT-7 (Generic Procedure for Through Wall and Length Sizing of Ultrasonic Indications in RPV Welds) PDI-UT-12 (Procedure for Manual Phased Array Ultrasonic Examination of Reactor Pressure Vessel Welds) EPRI-RPV-PA-1 (Procedure for Manual Phased Array Ultrasonic Examination of Reactor Pressure Vessel Welds) Note: EPRI does not maintain generic procedures for RPV encoded examination.	
7	Qualification requirements for Nozzle Examination from the inside surface	EPRI does not maintain a generic procedure for Supplement 7.	

Appendix VIII Supplement Number	Appendix VIII Supplement Description	EPRI Qualified PDI Generic Procedure	Remarks
8	Qualification requirements for Bolts and Studs	PDI-UT-4 (PDI Generic Procedure For The Ultrasonic Examination Of Studs And Bolts From The Bore) PDI-UT-5 (PDI Generic Procedure for Straight Beam Ultrasonic Examination Of Studs And Bolts)	Reference Code Case N-845 in lieu of Supplement 8.
9	Qualification requirements for Cast Austenitic Piping Welds (In course of preparation)	None	PDI Qualification is in the course of preparation. The Requirements of Appendix III are applicable.
10	Qualification requirements for Dissimilar Metal Piping Welds	PDI-UT-10, (PDI Generic Procedure For The Ultrasonic Examination Of Dissimilar Metal Piping Welds) EPRI-DMW-PA-1 (Procedure for Manual Phased Array Ultrasonic Examination of Dissimilar Metal Welds) EPRI-ENC-DMW-PA-1 (Procedure for Encoded Phased Array Ultrasonic Examination of Dissimilar Metal Piping Welds)	Reference Code Case N-695-1 and N-696-1, but Relief is required based on RG 1.147, Rev 18.
11	Qualification requirements for full structural overlaid wrought austenitic piping Welds	PDI-UT-8 (PDI Generic Procedure For The Ultrasonic Examination Of Weld Overlay Similar and Dissimilar Metal Welds) EPRI-WOL-PA-1 (Procedure for Manual Phased Array Ultrasonic Examination of Weld Overlaid Similar and Dissimilar Metal Welds)	Reference Code Case N-653-1

Appendix VIII Supplement Number	Appendix VIII Supplement Description	EPRI Qualified PDI Generic Procedure	Remarks
12	Coordinated implementation of selected aspects of Supplements 2 and 3		
13	Deleted in the 2006 Addenda		
14	Coordinated implementation of selected aspects of Supplements 10, 2, and 3 for piping examinations performed from the inside surface		PDI is based on Code Case N-696-1 which based on Reg. Guide 1.147, Rev. 18 requires relief.

ATTACHMENT B (Appendix G)
EXAMINATION REFERENCES

COMPONENT	ASME CODE EXAM. REFERENCES
RPV Shell and Head Welds (Excluding Flange Welds)	2013 Edition, Appendix VIII; Sup. 4 and/or 6
RPV Vessel-to Flange and Head-to-Flange Welds	2013 Edition, Appendix I (I-2110(b))
RPV Nozzle Welds and Nozzle Inside Radius Section Examined from the Outside Surface	2013 Edition, Appendix VIII; Sup. 5
RPV Nozzle Welds and Nozzle Inside Radius Section Examined from the Bore and Inside Surface	2013 Edition, Appendix VIII; Sup. 7
Pressurizer and Steam Generator Shell Welds	2013 Edition, Appendix I (I-2120)
Pressurizer and Steam Generator Nozzle Welds and Nozzle Inside Radius Section	2013 Edition, Appendix I (I-2400)
Other Vessels with Thickness ≤ 2 Inches	2013 Edition, Appendix I (I-2200)
Austenitic Piping Welds	2013 Edition, Appendix VIII; Sup. 2
Ferritic Piping Welds	2013 Edition, Appendix VIII; Sup. 3
Dissimilar Metal Piping Welds	2013 Edition, Appendix VIII; Sup. 10
Weld Overlays	2013 Edition, Appendix VIII; Sup. 11
Bolts and Studs	2013 Edition, Appendix VIII; Sup. 8
Cast Austenitic Piping Welds	2013 Edition, Appendix VIII; Sup. 9 (in course of preparation)

Notes:

1.0 Augmented piping weld examinations will also be typically performed per the applicable Code Appendix VIII Supplement.

ATTACHMENT C (Appendix G)
PDI PROCEDURES

PROCEDURE NUMBER	PROCEDURE TITLE
PDI-UT-1	PDI Generic Procedure for the Ultrasonic Examination of Ferritic Pipe Welds
PDI-UT-2	PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds
PDI-UT-3	PDI Generic Procedure for the Ultrasonic Through Wall Sizing
PDI-UT-4	PDI Generic Procedure for the Ultrasonic Examination of Studs and Bolts from the Bore
PDI-UT-5	PDI Generic Procedure for Straight Beam Ultrasonic Examination of Studs and Bolts
PDI-UT-6	PDI Generic Procedure for the Ultrasonic Examination of RPV Welds
PDI-UT-7	PDI Generic Procedure for Through Wall and Length Sizing of Ultrasonic Indications in RPV Welds
PDI-UT-8	PDI Generic Procedure for the Ultrasonic Examination of Weld Overlay Similar and Dissimilar Welds
PDI-UT-10	PDI Generic Procedure for the Ultrasonic Examination of Dissimilar Metal Piping Welds
PDI-UT-11	PDI Generic Procedure for the Ultrasonic Detection and Sizing of RPV Nozzle-to-Shell Welds and Nozzle-to-Inner Radius
PDI-UT-12	Procedure for Manual Phased Array Ultrasonic Examination of Reactor Vessel Welds
PDI-UT-13	Procedure for Manual Phased Array Ultrasonic Examination of Reactor Pressure Vessel Nozzle to Shell Welds and Nozzle Inner Radius Regions

EPRI-RPV-PA-1	Generic Procedure Manual Phased Array Ultrasonic Examination of Reactor Pressure Vessel Welds
EPRI-PIPE-MPA-1	Procedure for Manual Phased Array Ultrasonic Examination of Austenitic and Ferritic Pipe Welds
EPRI-PIPE-TWS-MPA-1	EPRI-PIPE-TWS-MPA-1Procedure for Manual Phased Array Ultrasonic Through Wall Sizing In Pipe Welds
EPRI-PA-1	Procedure for Automated Phased Array Ultrasonic Flaw Detection and Length Sizing in Austenitic and Ferritic Piping Welds
EPRI-SPA-1	Procedure for Automated Single Phased-Array Probe Ultrasonic Flaw Detection and Length Sizing in Ferritic and Austenitic Piping Welds
EPRI-DMW-PA-1	Procedure for Manual Phased Arras Ultrasonic Examination of Dissimilar Metal Welds
EPRI-ENC-DMW-PA-1	Procedure for Encoded Phased Array Ultrasonic Examination of Dissimilar Metal Piping Welds
EPRI-WOL-PA-1	Procedure for Manual Phased Array Ultrasonic Examination of Weld Overlaid Similar and Dissimilar Metal Welds

APPENDIX H

BMI COMMITMENT IMPLEMENTATION PLAN & HISTORICAL DATA

BMI
IMPLEMENTATION PLAN & HISTORICAL DATA

1.0 Documentation of BMI NDE Historical Commitments

COMMENTARY: The most likely cause of the nozzle cracks and leakage in Unit 1 BMI penetrations #1 and #46 is manufacturing defects and subsequent crack initiation which is limited to those two penetrations. However, since PWSCC and low cycle fatigue cannot be completely eliminated as possible causes, the possibility of future nozzle defects and leakage cannot be eliminated either. Therefore, the objective of future inspections is to validate that the nozzle defects and leakage are limited to Unit 1 nozzles #1 and #46. Because the cracks were tight and the leakage was small and slow to develop, short-term inspections are not expected to provide meaningful results. Consequently, the inspection plan is a longer-term plan designed to detect potential flaws after some reasonable period of time has passed in which leakage might develop. If shorter-term defects and leakage should develop, the routine boric acid walkdowns have demonstrated that small leaks can be detected well before defects become structurally significant.

1.1 Unit 1: Bare Metal Visual (BMV) Examinations of Repaired/Replaced BMI Penetrations (Ref. CR-03-11746-05)

1.1.1 STP Response to RAI on RR-ENG-2-32 (NOC-AE-03001559): "STPNOC will perform successive inspections on repaired/replaced BMI penetration nozzles, weld pads, and J-groove welds that establish a new pressure boundary. Repaired/replaced BMI nozzles, weld pads, and J-groove welds will receive a bare metal visual examination each refueling outage in accordance with the STP Boric Acid Walkdown procedure."

1.1.2 NRC Letter to STP on SIT Review and Staff Evaluation of BMI Leakage Investigation and Repair, July 31, 2003: (AE-NOC-03001093)"First, STPNOC will continue to perform 100 percent bare metal visual examinations of the STP, Unit 1 and 2 RPV bottom heads as part of the STPNOC BACC inspection program in a manner consistent with how the inspections were conducted for STP Unit 1 in April 2003. This is not a change for either unit, only a continuation of the licensee's established program of performing such inspections during unit refueling outages and during unit forced outages if the unit has been in operation for more than three months and the forced outage is scheduled to be 72 hours or greater in duration. The STPNOC BACC inspection program was demonstrated to be effective with regard to finding very small deposits around STP, Unit 1, BMI penetrations 1 and 46. The licensee has concluded that its established program will be effective at finding evidence of future leakage, if any were to occur, prior to the development of degradation which significantly affects the structural integrity of either unit's RPV. The licensee has determined that this conclusion is valid for both the STP, Units 1 and 2, penetrations which maintain the original nozzle/J-groove weld configuration, as well as for the two repaired penetrations on the STP, Unit 1, RPV bottom head."

1.2 Unit 1: Enhanced Visual Examination (EVT) of Boat Sample Cavities at BMI Penetrations 1 and 46 at Next RPV ISI Examinations (Ref. CR-03-11746-06, -07)

COMMENTARY: The enhanced visual will be performed in conjunction with the UT re-examination of the 58 Unit 1 guide tube penetrations. The specific purpose of examining the boat sample excavations on penetrations #1 and #46 is to inspect for stress corrosion cracking of the thermally cut surface. Video documentation of a baseline inspection, which was performed in July 2003, is documented in the NDE records package transmitted to RMS under FSUG no. T0403 with record date of 7/18/03.

1.2.1 STP Response to RAI on RR-ENG-2-35 (NOC-AE-03001560): "ISI examinations of reactor vessel interior attachment welds below the core belt region will be performed in conjunction with the examinations of the vessel shell and bottom head welds when the internals and core barrel are removed. The next ISI VT-3 visual examination of the repaired BMI J-groove welds will be augmented with an enhanced visual examination of the boat sample cavities."

1.2.2 NRC letter to STP authorizing RR-ENG-2-35, August 1, 2003: (AE-NOC-03001095) "the next ISI VT-3 visual examination of the repaired BMI J-groove welds will be augmented with an enhanced visual examination of the cut surfaces.

1.2.3 NRC Letter to STP authorizing RR-ENG-2-35, August 1, 2003: (AE-NOC-03001095) "At the next inspection of the reactor vessel attachment welds, the licensee will perform an enhanced VT-1 examination (defined as the ability to discern a 0.5 mil wire against a neutral gray background) of the EDM surfaces to inspect for potential cracking related to the EDM process.

1.3 Unit 1: Volumetric NDE and EVT of All BMI Penetrations at Next RPV ISI Examinations (Ref. CR-03-11746-06, -07)

COMMENTARY: The intent of this commitment is to re-examine the 58 Unit 1 BMI guide tube penetrations using the same procedures and techniques in order to compare results with the inspections performed in the summer of 2003. The hypothesis is that the five cracks found in penetrations #1 and #46 resulted from manufacturing defects, not PWSCC. Therefore, recurrence of cracking in other tubes is not expected. There were no cracks in a number of tubes, which showed regions of discontinuities. These discontinuities could be weld defects such as porosity, inclusions, or lack of fusion and may be potential future crack initiation sites.

1.3.1 Supplement to STP Commitment to Investigate and Repair BMI Penetration Indications (NOC-AE-03001567): "Perform volumetric and enhanced visual examinations of the Unit 1 penetrations at the next in-service inspection of the Unit 1 reactor pressure vessel."

1.3.2 NRC Letter to STP on SIT Review and Staff Evaluation of BMI Leakage Investigation and Repair, July 31, 2003: "Second, STPNOC has committed to perform volumetric and enhanced visual examinations of the STP, Unit 1, penetrations at the next in-service inspection of the RPV, which is currently planned for 2008 or 2009. Although redesigned tooling may be used for the inspections, it is the NRC staff's understanding that this reflects the licensee's commitment to perform inspections equivalent to those identified as NDE activities (1) and (2). These inspections were demonstrated to be effective at finding and characterizing crack-like indications in the Inconel Alloy 600 nozzle material of BMI penetrations 1 and 46 [References 11 and 12]."

1.3.2.1 NDE Activities (1) and (2) of Section 3.0 of the July 31, 2003 NRC letter:

(1) Ultrasonic testing (UT) of all 58 STP, Unit 1, BMI nozzles from the nozzle ID using axial, circumferential, and zero degree probes to inspect the nozzle wall material for evidence of degradation,

(2) Enhanced visual testing (EVT-1, defined, in part, by the ability to discern a 0.5 mil wire on a neutral gray background) of the J-groove weld surfaces of all 58 STP, Unit 1, BMI penetrations for evidence of cracking,"

1.4 Unit 1: UT of One Repaired BMI Penetration for Wastage of Bore During 1RE13 and 1RE15 Refueling Outages (Ref. CR-03-11746-06, -07)

COMMENTARY: The half-nozzle repair leaves a small gap between the two nozzle halves which results in the carbon steel pressure vessel being exposed to borated primary water. Corrosion of the carbon steel has been determined to be acceptable in this configuration, however, some concerns remain that excessive corrosion could still occur. The purpose of this inspection is to search for the unlikely possibility of vessel wastage resulting from such excessive corrosion. Since this is a slow, time-dependent process, the inspections will occur in 1RE13 and 1RE15 on one repaired nozzle location. Baseline phased array inspections, performed in July 2003, are documented in STP NDE records as "UT Exam-2003-0025" for penetration no. 1 and "UT Exam-2003-0026" for penetration no. 46.

1.4.1 Supplement to STP Commitment to Investigate and Repair BMI Penetration Indications (NOC-AE-03001567): "Perform ultrasonic examinations of the reactor pressure vessel base metal around the repaired penetrations at future selected Unit 1 refueling outages to confirm there are no indications of pressure vessel wastage from RCS water in the gap area of the repaired penetrations. The details of these examinations will be described in ASME Code relief requests for the repairs." (See 1.4.2 below)

1.4.2 STP Response to RAI on RR-ENG-2-32 (NOC-AE-03001563): "STP Nuclear Operating Company (STPNOC) performed UT examination of the reactor vessel bottom head (RVBH) BMI bore hole areas of Penetrations 1 and 46 as a baseline for future wastage monitoring. STPNOC will perform UT examinations of the RVBH base material around one of these two BMI penetrations for the next two alternate refueling outages (i.e., 1RE13 and 1RE15) to confirm there is no indication of RVBH base material wastage from RCS water in the annulus region of the repaired penetration. The results of the UT examination will be applicable to both repaired penetrations because both penetrations have the same design configuration, materials, and operating environment. If any indication of wastage is detected by these UT examinations, the corrosion monitoring will be extended to the other repaired penetration during that outage."

1.4.3 NRC Letter to STP on SIT Review and Staff Evaluation of BMI Leakage Investigation and Repair, July 31, 2003: "Third, STPNOC has committed to perform ultrasonic examinations of the RPV base material around one of the two repaired BMI penetrations for the next two alternate refueling outages (i.e., 1RE13 and 1RE15) to confirm that there are no indications of RPV low-alloy steel wastage from RCS water in the annulus area of the repaired penetrations [References 11 and 12]. It is the NRC staff's understanding that this reflects the licensee's commitment to perform an inspection of either STP, Unit 1, BMI penetration 1 or 46 in 1RE13 and 1RE15 equivalent to those identified as NDE activity (5) in Section 3.0 above."

1.4.3.1 NDE Activity (5) of Section 3.0 of the July 31, 2003 NRC letter: "(5) Phased-array UT from the outside surface of the RPV bottom head to inspect penetrations 1 and 46 for evidence of low-alloy steel base material corrosion due to exposure to borated RCS water."

1.5 Unit 2: Volumetric NDE of All BMI Penetrations at Next Refueling Outage When Core Barrel Is Removed (Ref. CR-03-11746-06, -07)

1.5.1 Supplement to STP Commitment to Investigate and Repair BMI Penetration Indications (NOC-AE-03001567): "Examine Unit 2 penetrations with a volumetric NDE method at the next Unit 2 refueling outage where the core barrel is planned to be removed."

1.5.1.1 NRC Letter to STP – Summary of HQ, Region IV and STP Teleconference of July 10, 2003 (TAC No. MB8435), August 8, 2003 (ST-AE-NOC-03001104) "Unit 2 visual examination has shown no problems. The licensee completed the Unit 2 penetration UT examination in 2005.

1.5.1.2 Revised commitment to inspect STP Unit 2 BMI Penetrations (NOC-AE-05001880 dated May 5, 2005): Volumetric examination of the Unit 2 BMI Penetrations has been rescheduled for the Unit 2 10-year Inservice Inspection (Reactor Vessel) currently scheduled for Spring 2010.

1.5.2 NRC Letter to STP on SIT Review and Staff Evaluation of BMI Leakage Investigation and Repair, July 31, 2003: "Finally, STPNOC has committed to perform volumetric inspections of all STP, Unit 2, BMI penetrations at the next refueling outage when the core barrel is planned to be removed. According to the licensee this is currently planned for refueling outage 2RE11 in 2005. Although redesigned tooling may be used for the inspections, it is the NRC staff's understanding that this reflects the licensee's commitment to perform inspections equivalent to those identified as NDE activity (1)". (See 1.5.1.2 above)

1.5.2.1 NDE Activity (1) of Section 3.0 of the July 31, 2003 NRC letter: "(1) Ultrasonic testing (UT) of all 58 STP, Unit 1, BMI nozzles from the nozzle ID using axial, circumferential, and zero degree probes to inspect the nozzle wall material for evidence of degradation"

2.0 Description of NDE Commitments

2.1 Unit 1: Bare Metal Visual (BMV) Examination of Repaired/Replaced BMI Penetrations Each Refueling Outage

- Commitment is to inspect new welds and materials of repaired/replaced penetrations (i.e., Nos.1 & 46) that are pressure-retaining
- Repaired/replaced BMI nozzles, weld pads, and J-groove welds will receive BMV exam each refueling outage
- BMV exam per Boric Acid Walkdown procedure 0PGP03-ZE-0033

2.2 Unit 1: EVT of Boat Sample Cavities at BMI Penetrations 1 and 46 at Next RPV ISI Examinations

- EVT will be performed in conjunction with VT-3 on original J-groove weld per Examination Category B-N-2, Item B13.60
- B-N-2 welds beyond core belt region are only required to be inspected when made accessible by core barrel removal
- EVT of boat sample cavities will be performed in conjunction with next RPV ISI exams

2.3 Unit 1: Volumetric NDE and EVT of All BMI Penetrations at Next RPV ISI Examinations

2.3.1 NRC Letter to STP – Summary of HQ, Region IV and STP Teleconference of July 10, 2003 (TAC No. MB8435), August 8, 2003 (ST-AE-NOC-03001104) "As part of its post-repair monitoring program, the licensee will commit to do penetration ultrasonic testing (UT) inspections again at the end of the Unit 1 current inservice inspection interval, sometime in 2008 or 2009." (See 1.4.2 above)

2.3.2 Supplement to STP Commitment to Investigate and Repair BMI Penetration Indications (NOC-AE-03001567): "Perform ultrasonic examinations of the reactor pressure vessel base metal around the repaired penetrations at future selected Unit 1 refueling outages to confirm there are no indications of pressure vessel wastage from RCS water in the gap area of the repaired penetrations. The details of these examinations will be described in ASME Code relief requests for the repairs." (See 1.4.2 above)

- Repeat volumetric NDE (UT) of nozzle base material from nozzle ID and EVT of internal (i.e., wetted) J-groove weld surfaces of all penetrations
- Perform NDE and EVT at next RPV ISI exam when core barrel is removed
- Completed 1RE15 (Fall 2009)

2.4 Unit 1: UT of One Repaired BMI Penetration for Wastage of Bore during 1RE13 and 1RE15 Refueling Outages

- Perform phased array UT from Outside Surface of RVBH
- Select either Penetration No. 1 or No. 46 as sample based on access, UT coverage, etc.
- Performed UT during refueling outage 1RE13 (Fall 2006) and during refueling outage 1RE15 (Fall 2009)
- No wastage was detected in sampled penetration

2.5 Unit 2: Volumetric NDE of All BMI Penetrations at Next Refueling Outage when Core Barrel is removed

- Volumetric NDE of penetrations will repeat the UT exams of nozzle material from nozzle ID as performed in Unit 1 during 1RE11
- Performed examination during 2RE14 (Fall 2010) NO wastage was detected.

2.6 10 CFR 50.55a(g)(6)(ii)(E)(1) that became effective July 21, 2011, requires that the STP Inservice Inspection program SHALL be augmented by implementing Code Case N-722-1 "Additional Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated with Alloy 600/82/182 Materials". Code Case N-722-1 includes inspection requirements for BMI penetrations. STP has implemented Code Case N-722-1 starting with outages 1RE15 & 2RE14. Future inspections of BMI penetrations will be performed in accordance with code case N-722-1.

APPENDIX I

ALLOY 600
IMPLEMENTATION PLAN & HISTORICAL DATA

ALLOY 600
IMPLEMENTATION PLAN & HISORTICAL DATA

1.0 Commitments

1.1 Materials-related industry organizations have provided guidance and support for effective RCS materials management and also have the authority by NEI 03-08 to impose industry requirements when deemed necessary. Industry RCS materials actions are designated under NEI 03-08 protocol as one of the following implementation categories:

- Good Practice,
- Needed, or
- Mandatory

STP (and the industry) has committed to implement NEI 03-08, "Needed and Mandatory actions", and will be tracked in accordance with STP procedure for Licensing Commitment Management and Administration (0PGP05-ZN-0002).

1.2 Materials Reliability Program (MRP): MRP-126 "Generic Guidance for Alloy 600 Management" requires an Alloy 600 Management Plan to define the processes used to maintain the integrity and operability of each Alloy 600/82/182 component for the remaining life of the plant. This requirement is implemented under the NEI 03-08 protocol in STP procedure 0PGP04-ZE-0006 (Alloy 600 Materials Management Program).

0PGP04-ZE-0006 establishes short and long term guidance for mitigation, inspection (type and frequency), repair, and replacement of all Alloy 600 base material and Alloy 82/182 weld metal locations.

1.3 NRC Order EA-03-009 Revision 1, dated February 20, 2004 established required inspections of Reactor Pressure vessel Heads and associated penetration nozzles at Pressurized Water Reactors. This Order was effectively immediately and established the criteria for determining the susceptibility category and applicable inspection methods and frequency. Currently, the order applies to heads fabricated with Alloy 600 or 690 materials.

50.55a(g)(6)(ii)(D)(1) states that once Code Case N-729-1 is implemented the First Revised NRC Order EA-03-009 no longer applies and SHALL be withdrawn. Code Case N-729-1 has been implemented at STP (CR: 09-10162).

1.4 The following MRP letters have been issued with needed or mandatory requirements and have been implemented at STP as required under the NEI 03-08 protocol (unless otherwise noted):

1.4.1 MRP letter 2004-05, dated April 2, 2004

This letter categorized the "recommendations" of MRP letter 2003-039 as "Needed" and is applicable to Alloy 82/182 butt welds with the same implementation schedule as MRP 2003-039.

MRP letter 2003-039, dated January 20, 2004 recommended that a bare metal VT be performed on all Alloy 600/82/182 pressure boundary locations that operate at a temperature greater than or equal to 350-deg F in the primary system within the next 2 refueling outages (unless it was performed during the most recent refueling outage).

1.4.2 MRP letter 2005-014, dated September 12, 2005

This letter mandated Section 1.2, Section 5, and Section 6 of MRP-139 Primary System Piping Butt Weld Inspection and Evaluation Guideline. After visual examinations required by MRP 2004-05 are completed, the visual examinations will be performed per the requirements of MRP-139.

MRP-139 identifies butt weld locations susceptible to primary water stress corrosion cracking (PWSCC) and describes approaches for inspection, re-inspection, mitigation, and flaw evaluation. The first inspections required by this guideline will be implemented in a phased approach over several years as outlined in Section 1.2. Section 5 addresses the examination requirements for the applicable welds and Section 6 provides the requirements for categorization the examination schedules applicable to each category.

1.4.3 MRP letter 2007-038, dated November 1, 2007

This letter provided interim guidance to MRP-139 for volumetric examination of butt welds <4" diameter as Mandatory in accordance with NEI 03-08 protocol. By 12-31-2010, Alloy 82/182 butt welds that are greater than or equal to 2" NPS but less than 4" NPS, not explicitly included in implementation items 2 or 3 of MRP-139, Section 1.2, and are either exposed to temperatures equivalent to the hot leg or serve an ECCS function, will be volumetrically inspected per this guideline.

There are no Alloy 82/182 butt welds at STP covered by this interim guidance.

1.4.4 MRP letter 2007-039, dated November 1st, 2007.

This letter provides interim guidance to MRP-139 for bare metal visual examination for dissimilar metal welds 600/82/182 for piping ≥1" but less than 4" as Mandatory in accordance with NEI 03-08 protocol. For those locations ≥1" NPS and <4" NPS within the scope of this document but without an explicit requirement for volumetric examination, the initial MRP-139 visual exam SHALL be performed no later than the first refueling outage which begins after July 1, 2008. Subsequent BMV exams SHALL follow the schedule as specified in MRP Table 6-2.

This letter increases the original scope within MRP-139 for bare metal visual examination to include the 2 butt welds on RV Head vent line at the first elbow above the head. The vent line for the replacement RV heads installed in 2009 for Unit 1 and 2010 for Unit 2 are fabricated with Alloy 690/52/152 material and will not be covered by MRP-139.

1.4.5 MRP letter 2009-031, dated June 8, 2009.

This letter provides guidance on Reconciliation of BMV Requirements with Code Case N-722-1 (Mandatory Element). The letter states that performance of bare metal visual exams in accordance with the requirements of Code Case N-722-1 is an acceptable alternative to the visual examination requirements contained in MRP-139, rev. 1. Code Case N-722-1 has been implemented at STP.

1.5 STP Response dated July 27, 2004 to NRC Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors" (NOC-AE-04001762).

STP committed to perform a bare metal visual inspection of each of the upper pressurizer head (steam space) nozzle to safe end weld locations every refueling outage.

STPNOC will continue to perform these inspections until one of the following conditions justify a change.

- Regulatory or industry guidance changes,
- STP takes measures to mitigate the effects of PWSCC at these locations, or
- STP acquires sufficient acceptable history to propose a revised inspection and/or frequency.

STP has completed a structural weld overlay to mitigate the effects of PWSCC at these locations. Additionally, per MRP-139, rev. 0 [effective date July 14, 2005] "Primary System Piping Butt Weld Inspection and Evaluation Guideline", these locations have been reclassified to an examination extent and schedule Category B based on MRP-139 table 6-1. The use of current ASME Code Examination Program is considered appropriate for Category B welds.

1.6 MRP-139 rev. 1 [effective date December 2008, clarified the examination extent and schedule category classifications of MRP-139 table 6-1. The clarification revised the examination extent and schedule category from "B" to "F" and the frequency has changed to once in the next 5 years following the weld overlay activities. PSI examination of the pressurizer mitigation was performed in April 2008 for Unit 1 and April 2007 for Unit 2. A PDI examination of the pressurizer mitigation was performed in October 2009 for Unit 1 and April 2010 for Unit 2, no indications were found on either of the PDI examinations. The PDI examinations will continue within the existing Code examination program requirements.

1.7 10 CFR 50.55a(g)(6)(ii)(E)(1) that became effective July 21, 2011, requires that the STP Inservice Inspection program SHALL be augmented by implementing Code Case N-722-1 "Additional Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated with Alloy 600/82/182 Materials". STP has implemented Code Case N-722-1. MRP-139 has been superseded by Code Case N-722-1.

1.8 10 CFR 50.55a(g)(6)(ii)(F)(1) that became effective July 21, 2011, requires that the STP Inservice Inspection program SHALL be augmented by implementing Code Case N-770-2 "Examination Requirements for class 1 piping and nozzle dissimilar-metal butt welds". STP has implemented Code Case N-770-2. MRP-139 has been superseded by Code Case N-770-5.

1.9 A description of the STP Bottom Mounted Instruments (BMI) penetrations commitment plan for nondestructive examinations is included in Appendix H.

2.0 Applicable STP Program Procedures

PROCEDURE NUMBER	**PROCEDURE TITLE**
0PGP04-ZE-0006	Alloy 600 Material Management Program
0PGP04-ZA-0013	Reactor Coolant System Materials Management Program
0PSP11-RC-0015	ASME Section XI Inservice Inspection (Surveillance)
0PEP10-ZA-0054	ASME Section XI VE Visual Examinations

APPENDIX J

THERMAL FATIGUE IMPLEMENTATION PLAN

THERMAL FATIGUE IMPLEMENTATION PLAN

1.0 Commitments

1.1 Materials-related industry organizations have provided guidance and support for effective RCS materials management and also have the authority by NEI 03-08 to impose industry requirements when deemed necessary. Industry RCS materials actions are designated under NEI 03-08 protocol as one of the following implementation categories:

- Good Practice,
- Needed, or
- Mandatory

STP (and the industry) has committed to implement NEI 03-08, rev. 1 (April 2007), "Needed and Mandatory actions", and will be tracked in accordance with STP procedure for Licensing Commitment Management and Administration (0PGP05-ZN-0002).

1.2 Materials Reliability Program (MRP): EPRI MRP-146 Rev. 1 "Materials Reliability Program Management of Thermal Fatigue in Normally Stagnant Non-Isolable Reactor Coolant System Branch Lines" is a multi-tasked effort to provide screening, evaluation, monitoring, inspection, operations, maintenance, and modification guidance to enable utilities to avoid thermal fatigue cracking due to valve in-leakage or turbulence/swirl penetration effects in affected lines.

Materials Reliability Program (MRP): EPRI MRP-146S "Materials Reliability Program Management of Thermal Fatigue in Normally Stagnant Non-Isolable Reactor Coolant System Branch Lines Supplemental Guidance" provides additional screening criteria and tools for determining recommended inspection frequencies for normally stagnant non-isolable reactor coolant system branch lines that have been identified as having the potential for thermal fatigue cracking based on the first level of screening required in MRP-146 Rev. 1.

These requirements are implemented under the NEI 03-08 protocol in STP procedure "Reactor Coolant System Materials Management Program" (0PGP04-ZA-0013). This procedure establishes Thermal Fatigue Management for short and long term guidance for mitigation, inspection (type and frequency), repair, and replacement of all potential thermal fatigue cracking locations.

1.3 Based on the criteria established in MRP-146, STP completed a Thermal Fatigue screening and evaluation of Unit 1 & 2 in February 2007. The screened-in locations were inspected during 1RE15 (September 2009) & 2RE14 (April 2010) using the requirements of EPRI PWRMRP-23 "NDE Technology for Detection of Thermal Fatigue Damage in Piping". No indications were detected during the inspection activities. Inspection frequency is based on the requirements of MRP-146 Rev. 1.

STP has implemented the requirements of MRP-146 Rev. 1 in early 2012.

1.4 STP has implemented the requirements of MRP-192 Rev. 2 "Assessment of RHR Mixing Tee Thermal Fatigue in PWR Plants". An evaluation based on MRP-192 has determined that the RHR mixing tees at STP are susceptible to thermal fatigue. The Unit 1 & 2 mixing tees are scheduled for inspection in September 2010 using the inspection requirements of PWRMRP-23

STP has implemented the requirements of MRP-192 Rev. 2 in early 2012.

Applicable STP Program Procedures

PROCEDURE NUMBER	**PROCEDURE TITLE**
0PGP04-ZA-0013	Reactor Coolant System Materials Management Program
0PSP11-RC-0015	ASME Section XI Inservice Inspection (Surveillance)

APPENDIX K

INTERVAL OUTAGE SCHEDULES

Component Support, Repair/Replacement, Steam Generator Tubing, System Pressure Testing, and Weld – Unit 1					
Interval	**Period**	**Dates**	**Outage**	**Dates**	**Remarks**
2	1	9/25/00 - 9/24/03	1RE10	10/3 -10/24/01	
			1RE11	3/26 - 4/20/03	
	2	9/25/03 – 9/24/07	1RE12	3/9 – 4/16/05	
			1RE13	10/1 – 11/4/06	
	3	9/25/07 – 9/24/10	1RE14	3/29 – 4/27/08	
			1RE15	09/30 – 11/18/09	
3	1	9/25/10 – 9/24/13	1RE16	4/2 – 5/08/11	
			1RE17	10/20 – 11/29/12	
	2	9/25/13 – 9/24/17	1RE18	3/15 – 5/12/14	
			1RE19	10/3 – 10/29/15	
			1RE20	4/1 – 4/23/17	
	3	9/25/17 – 9/24/20	1RE21	10/6 – 10/31/18	
			1RE22	3/29 – 4/28/20	
4	1	9/25/20 – 9/24/23	1RE23	Fall 2021	
			1RE24	Spring 2023	
	2	9/25/23 – 9/24/26	1RE25	Fall 2024	
			1RE26	Spring 2026	
	3	9/25/26 – 9/8/29	1RE27	Fall 2027	
			1RE28	Spring 2029	

Component Support, Repair/Replacement, Steam Generator Tubing, System Pressure Testing, and Weld – Unit 2					
Interval	**Period**	**Dates**	**Outage**	**Dates**	**Remarks**
2	1	10/19/00 – 10/18/03	2RE08	3/7 - 4/2/01	
			2RE09	10/2 – 12/6/02	
	2	10/19/03 – 10/18/07	2RE10	3/31 – 4/27/04	
			2RE11	10/2 – 10/31/05	
			2RE12	3/25 – 4/28/07	
	3	10/19/07 – 10/18/10	2RE13	10/04 – 11/04/08	
			2RE14	3/27 – 5/2/10	
3	1	10/19/10 – 10/18/13	2RE15	10/29 – 11/22/11	
			2RE16	11/16 – 12/14/13	
	2	1019/13 – 10/18/16	2RE17	4/4 – 4/29/15	
			2RE18	10/1 – 10/27/16	
	3	10/19/16 – 10/18/20	2RE19	3/31 – 4/24/18	
			2RE20	10/5 – 10/27/19	
4	1	9/25/20 – 9/24/23	2RE21	Spring 2021	

Component Support, Repair/Replacement, Steam Generator Tubing, System Pressure Testing, and Weld – Unit 2					
Interval	**Period**	**Dates**	**Outage**	**Dates**	**Remarks**
			2RE22	Fall 2022	
	2	9/25/23 – 9/24/26	2RE23	Spring 2024	
			2RE24	Fall 2025	
	3	9/25/26 – 9/8/29	2RE25	Spring 2027	
			2RE26	Fall 2028	

Containment Metal Liner (IWE) – Unit 1					
Interval	**Period**	**Dates**	**Outage**	**Dates**	**Remarks**
1	1	9/9/98 – 9/8/01	1RE08	3/27 - 4/28/99	
			1RE09	3/1 – 5/15/00	
	2	9/9/01 – 9/8/05	1RE10	10/3 – 10/24/01	
			1RE11	3/26 – 4/20/03	
			1RE12	3/9 – 4/16/05	
	3	9/9/05 – 9/8/09	1RE13	10/1 – 11/4/06	
			1RE14	4/29 – 4/27/08	
			1RE15	9/30-11/18/09	
2	1	9/9/09 – 9/8/13	1RE16	4/3 – 4/27/11	
			1RE17	10/20 – 11/19/12	
	2	9/9/13 – 9/8/16	1RE18	3/15 - 5/12/14	
			1RE19	10/3 - 10/29/15	
	3	9/9/16 – 9/8/19	1RE20	4/1 - 4/23/17	
			1RE21	10/6 – 10/31/18	
4	1	9/9/19 – 9/8/22	1RE22	Spring 2020	
			1RE23	Fall 2021	
	2	9/9/22 – 9/8/26	1RE24	Spring 2023	
			1RE25	Fall 2024	
			1RE26	Spring 2026	
	3	9/9/26 – 9/8/29	1RE27	Fall 2027	
			1RE28	Spring 2029	

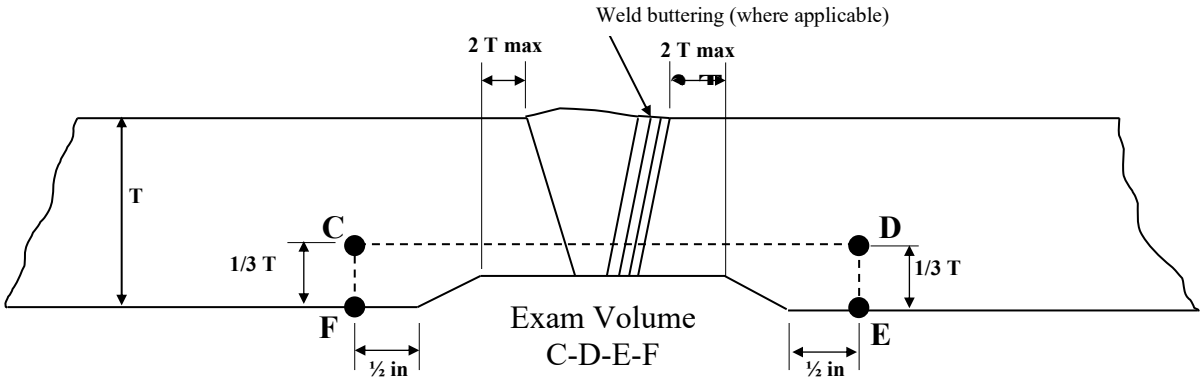
Containment Metal Liner (IWE) – Unit 2					
Interval	**Period**	**Dates**	**Outage**	**Dates**	**Remarks**
1	1	9/9/98 – 9/8/01	2RE06	10/3 -10/24/98	
			2RE07	10/13 – 11/9/99	
			2RE08	3/7 – 4/2/01	
	2	9/9/01 – 9/8/05	2RE09	10/2 – 12/6/02	
			2RE10	3/31 – 4/27/04	
	3	9/9/05 – 9/8/09	2RE11	10/2 – 10/31/05	
			2RE12	3/25 – 4/28/07	
			2RE13	10/4 – 11/4/08	
2	1	9/9/09 – 9/8/13	2RE14	3/27 – 5/2/10	
			2RE15	10/29-11/22/11	
			2RE16	11/16 – 12/14/13	
	2	9/9/13 – 9/8/16	2RE17	4/4 - 4/29/15	
			2RE18	10/1 - 10/27/16	
	3	9/9/16 – 9/8/19	2RE19	3/31 - 4/24/18	
			2RE20	10/5 – 10/27/19	
4	1	9/9/19 – 9/8/22	2RE20	Fall 2019	
			2RE21	Spring 2021	
	2	9/9/22 – 9/8/26	2RE22	Fall 2022	
			2RE23	Spring 2024	
			2RE24	Fall 2025	
	3	9/9/26 – 9/8/29	2RE25	Spring 2027	
			2RE26	Fall 2028	

APPENDIX L

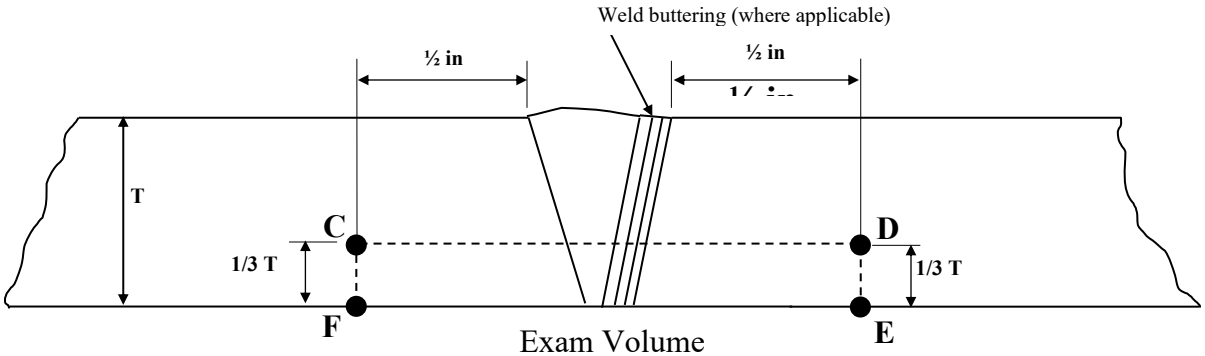
EXAMINATION VOLUME FIGURES

Risk Informed ISI Examination Volume

For
Thermal Fatigue
Stress Corrosion Cracking
No Specific Degradation Mechanism Identified
(Reference Code Case N-716-1(2013 IWB-2500 Figures))

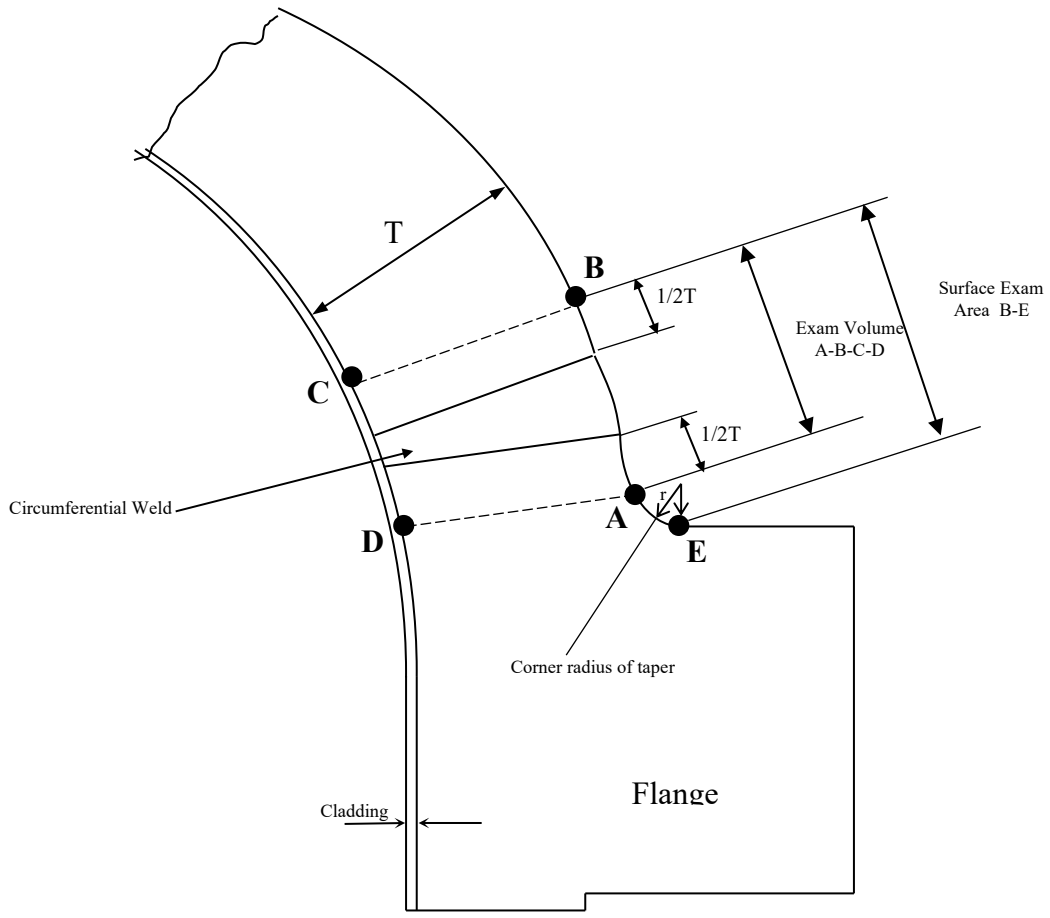


Piping Butt Weld
(When Counterbore is Present within 2T of Weld Fusion Line)



Piping Butt Weld
(When Counterbore is Not Present)

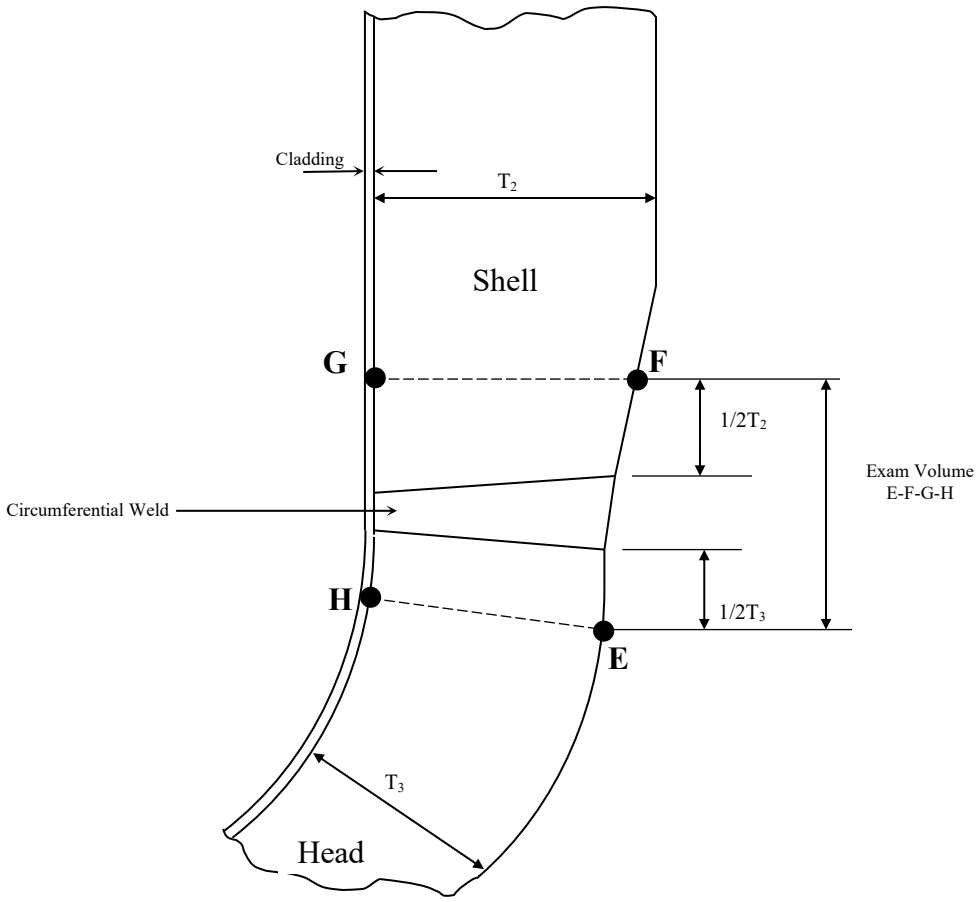
Figure D-1



Reactor Vessel Head to Flange

(Reference ASME Figure IWB-2500-5)

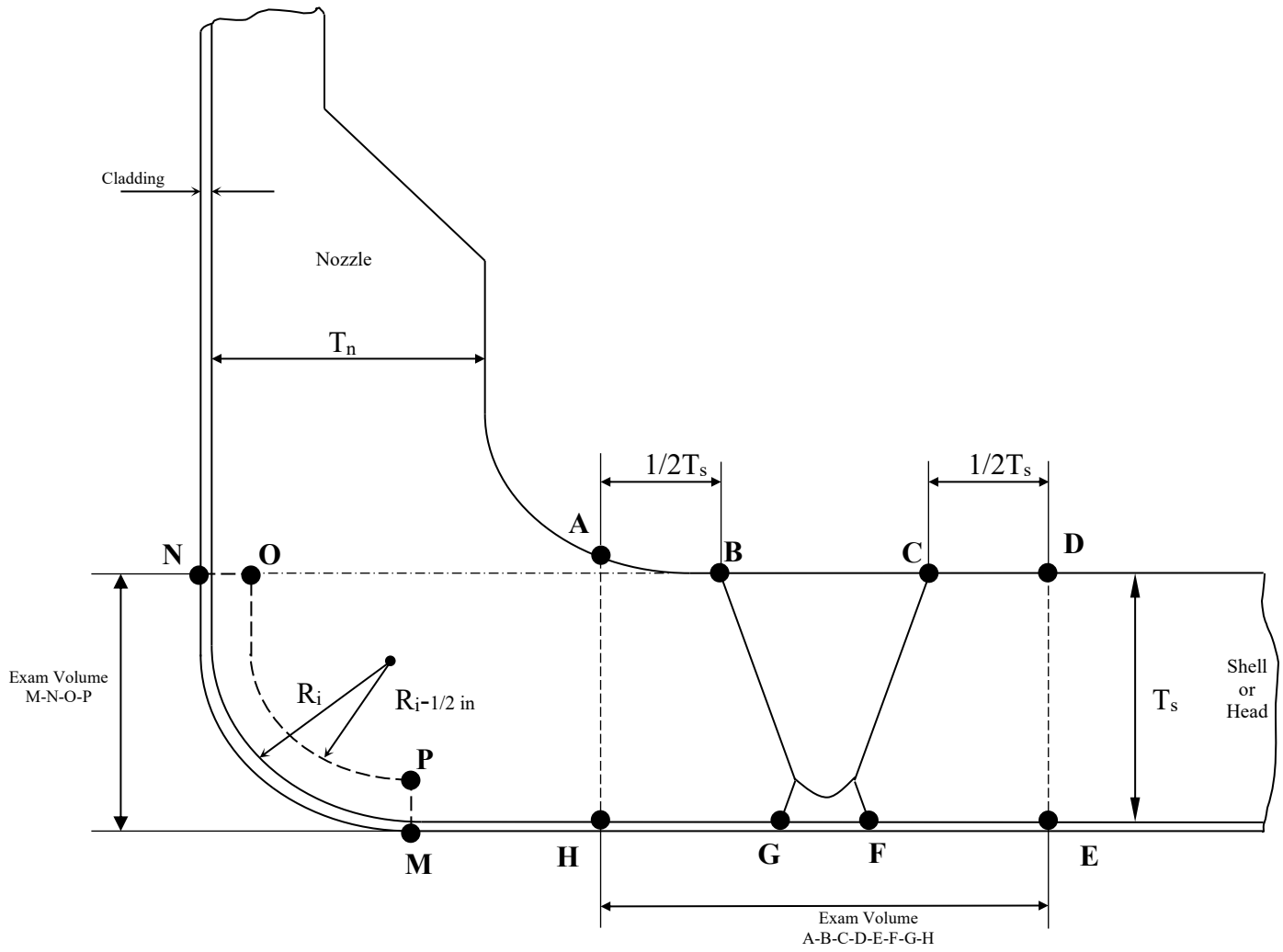
Figure D-2



Class 1 Vessel Shell Circumferential Weld Joints

(Reference ASME Figure IWB-2500-1a)

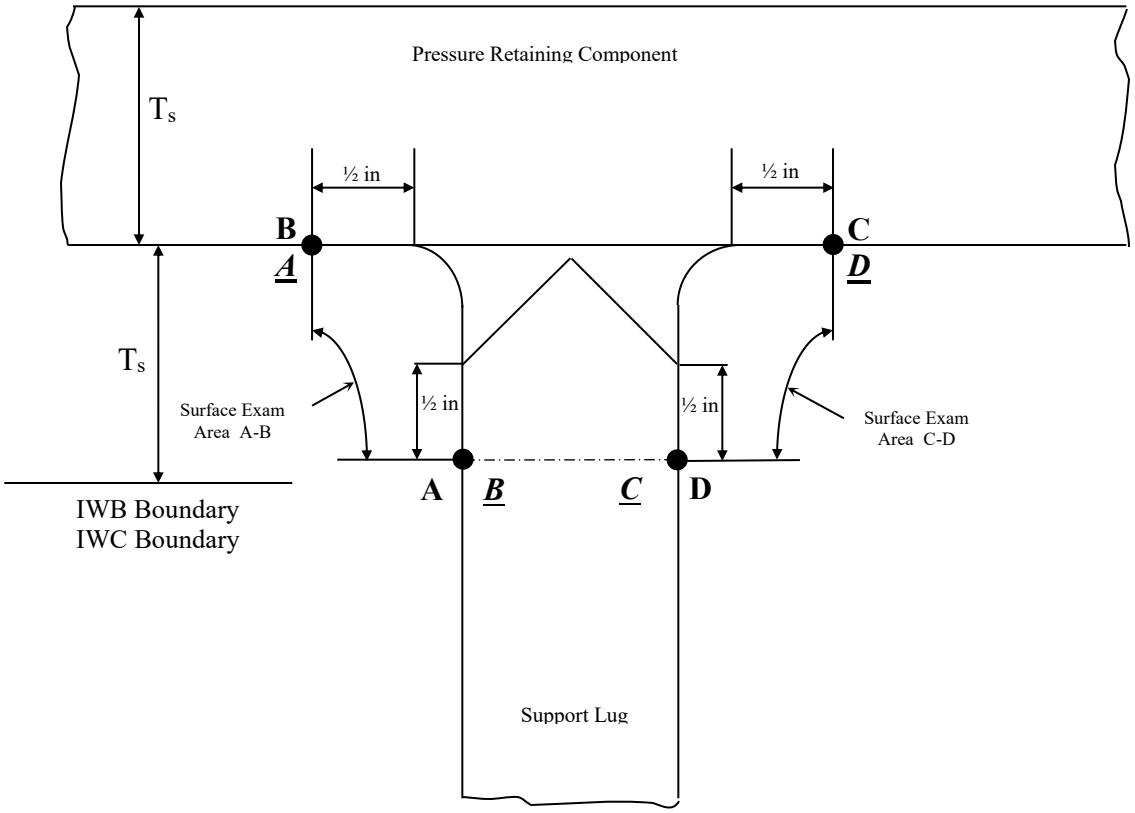
Figure D-3



Class 1 Nozzle in Shell or Head

(Reference ASME Figure IWB-2500-7(b))

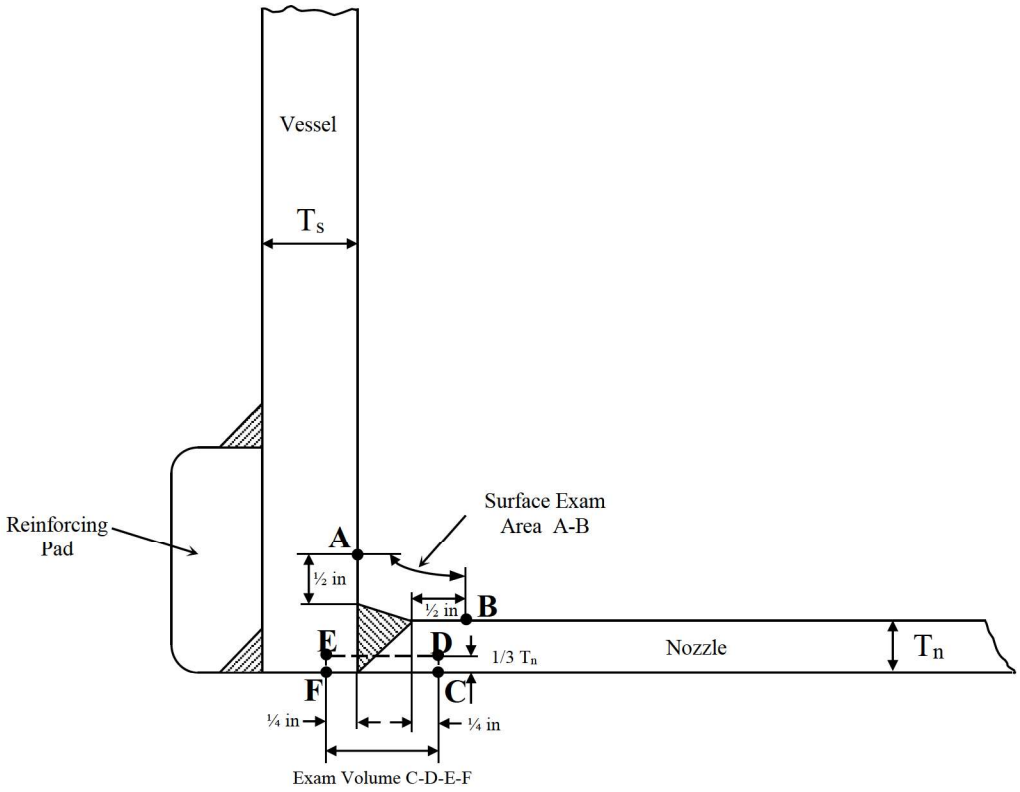
Figure D-4



Integral Attachment Welds

(Reference ASME Figures IWB-2500-15 [A-B-C-D] and IWC-2500-5(a) [*A-B-C-D*])

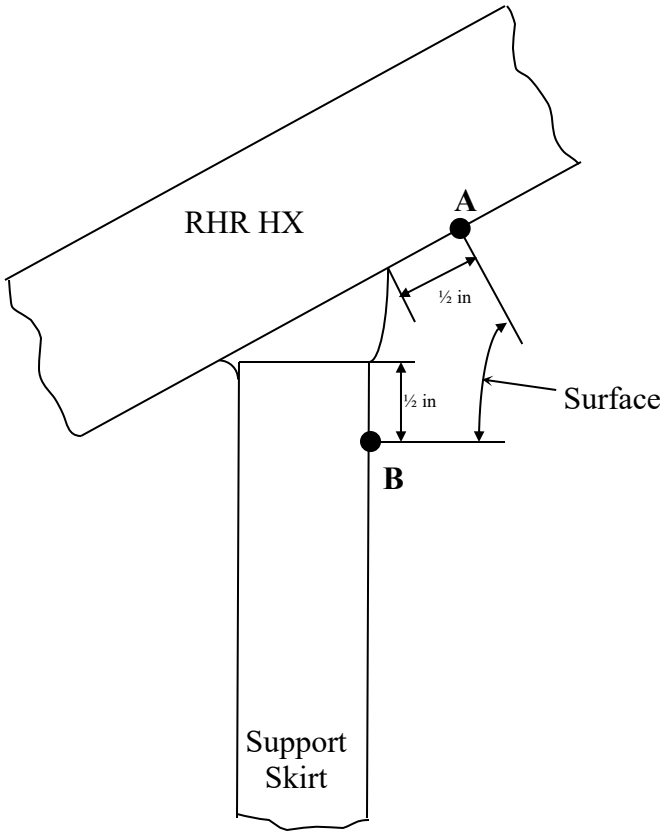
Figure D-5



RHR HX Nozzle to Vessel Weld

(Reference ASME Figure IWC-2500-4)

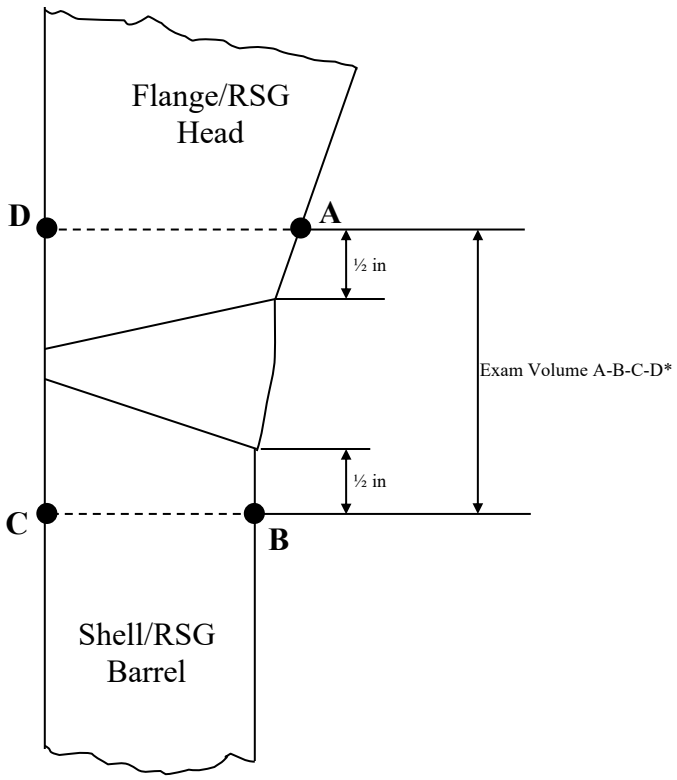
Figure D-6



Class 2 RHR HX Support Skirt Weld

(Reference ASME Figure IWC-2500-5(c))

Figure D-7

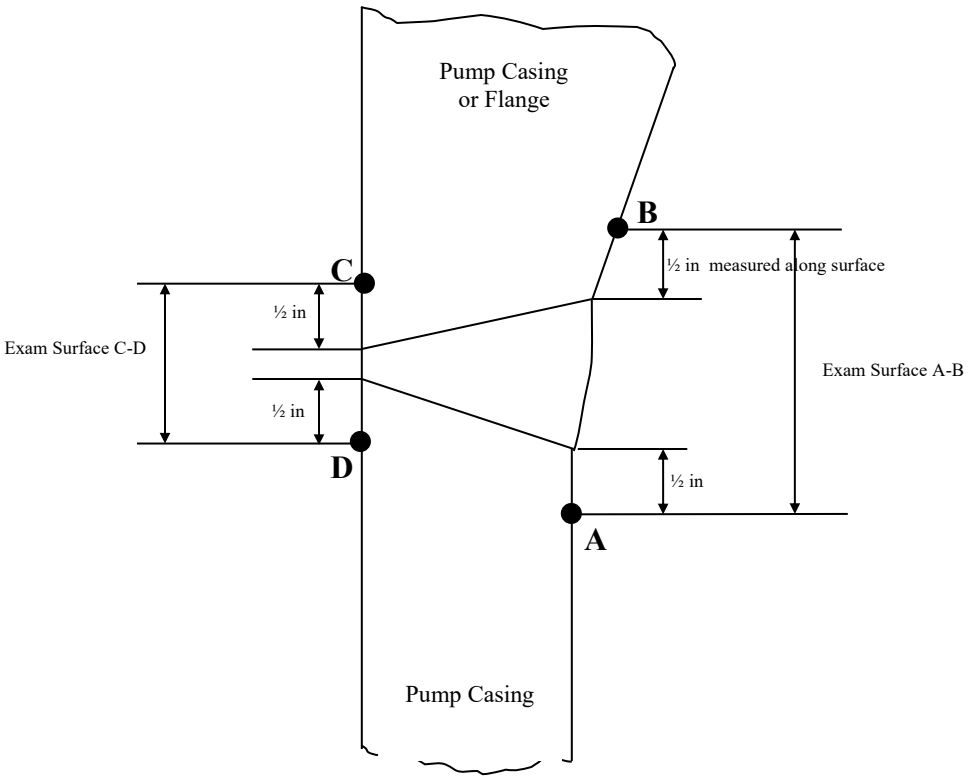


*The angle beam examination for reflectors transverse to the weld shall be performed on the weld crown in two directions along the weld. (Reference ASME Section XI, Appendix III, III-4430)

Class 2 Vessel Shell/RSG Barrel to Flange/RSG Head

(Reference ASME Figure IWC-2500-1)

Figure D-8

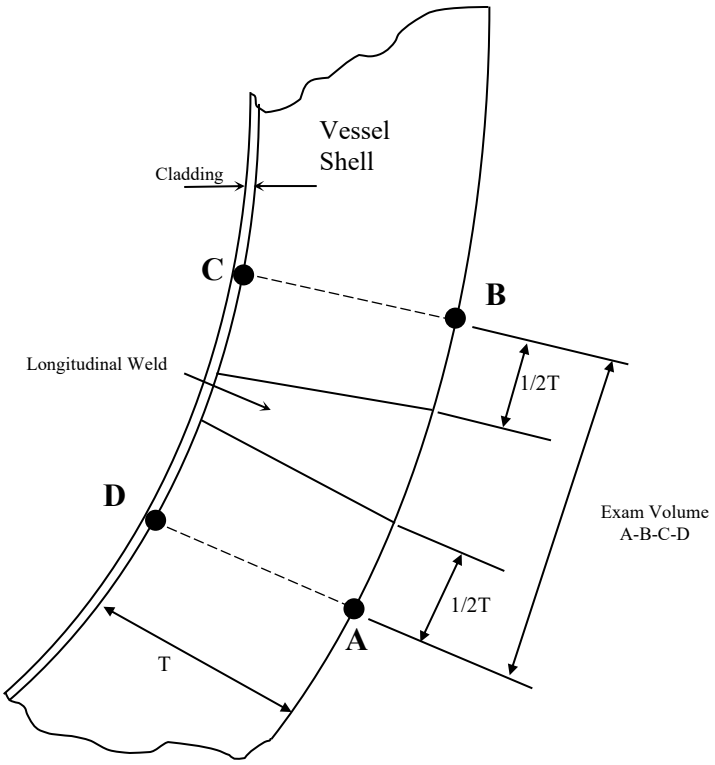


Note: Surface examination may be performed from either inside or outside surface of

Class 2 Pump Casing Welds

(Reference ASME Figure IWC-2500-8)

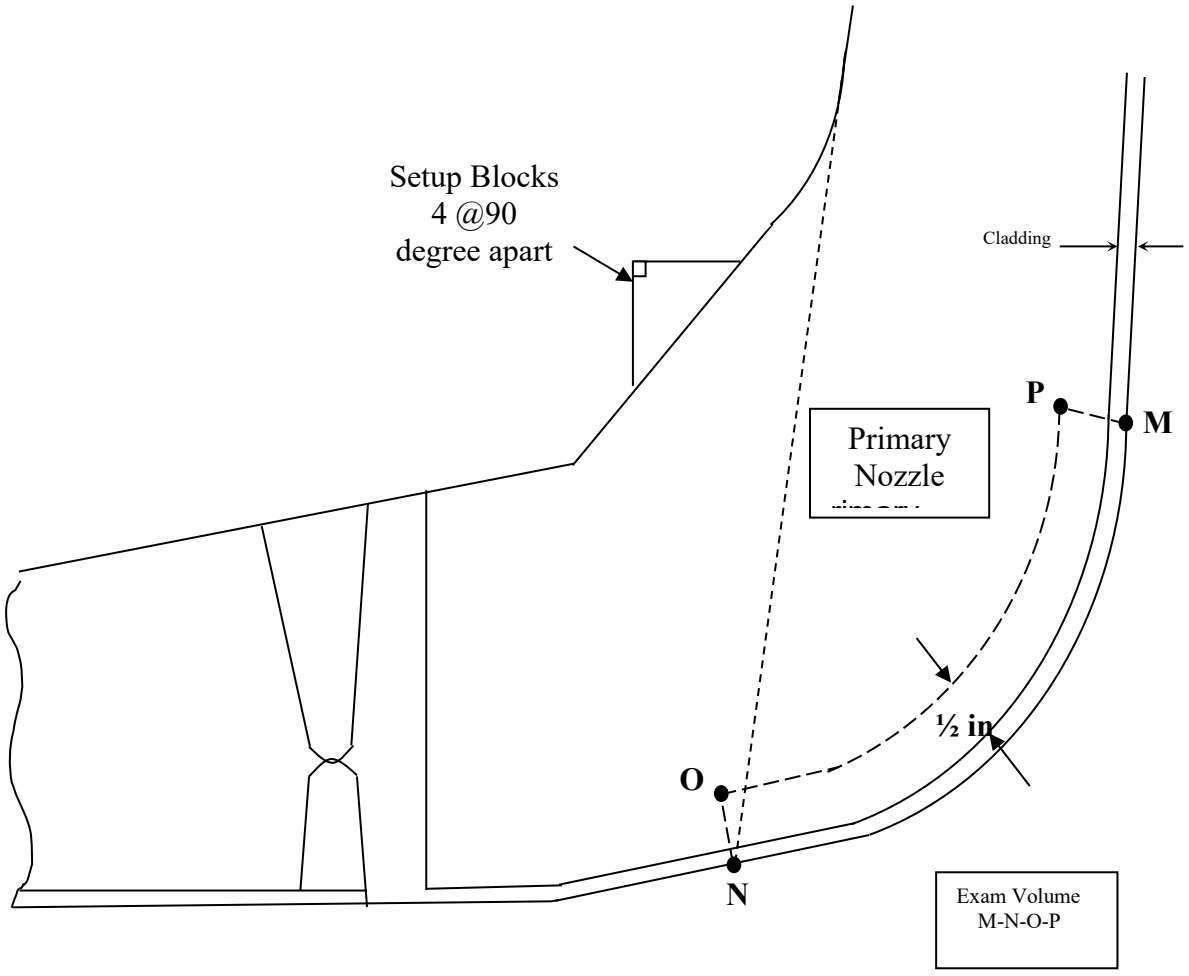
Figure D-9



Class 1 Vessel Shell Longitudinal Weld Joints

(Reference ASME Figure IWB-2500-2)

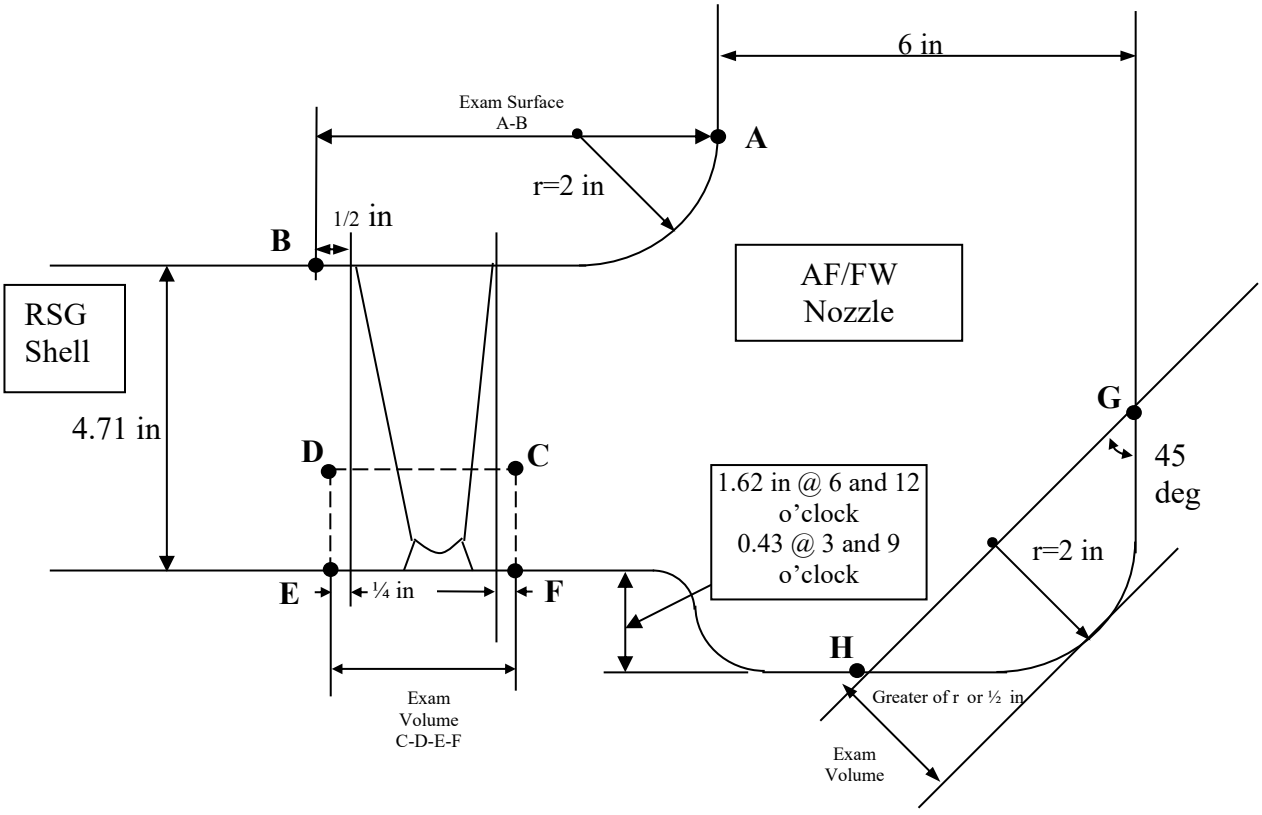
Figure D-10



Class 1 RSG Primary Nozzle Inner Radius

**(Reference ASME Figure IWB-2500-7(d) &
Code Case N-593)**

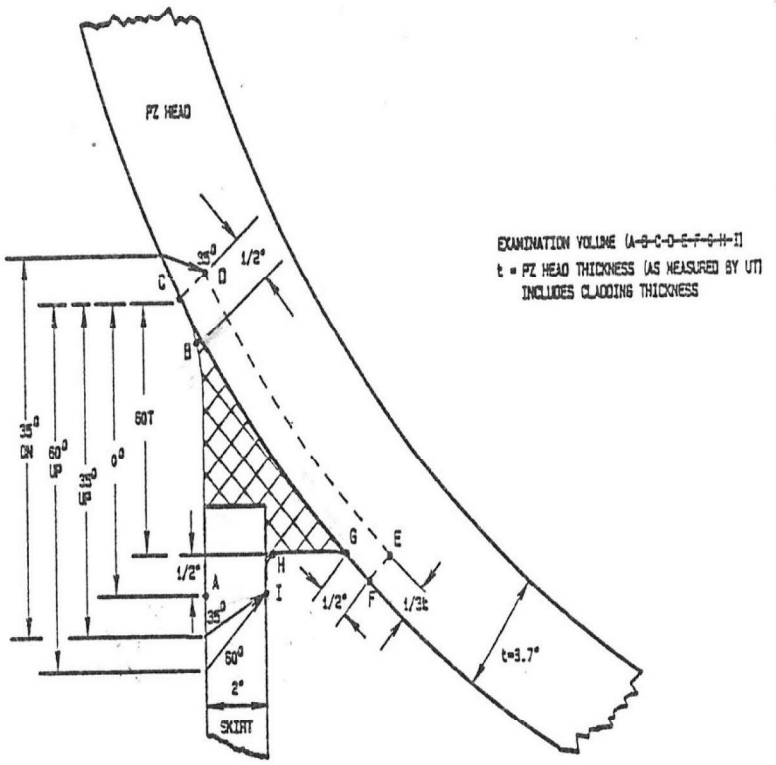
Figure D-11



Class 2 Aux. Feedwater/Feedwater Nozzle to RSG

(Reference ASME Figure IWC-2500-4(a))

Figure D-12



Reference UTI-063
Figure 1

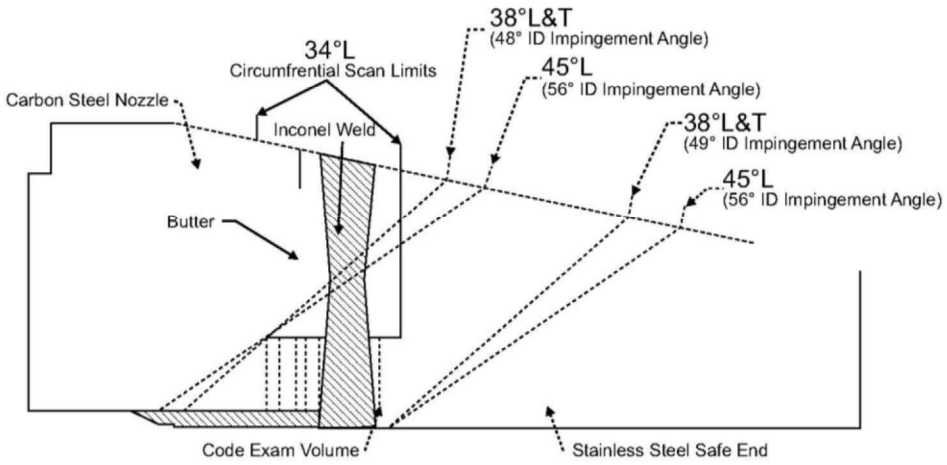
PRZ Support Skirt Weld

Figure D-13

Risk Informed ISI Examination Volume

Reference Figure D-1 for Examination Coverage

Reference the following drawing and table for scan volume coverage from the Outside Diameter ONLY



Class 1 RSG Nozzle to Safe End (Hot Leg)

Figure D-14

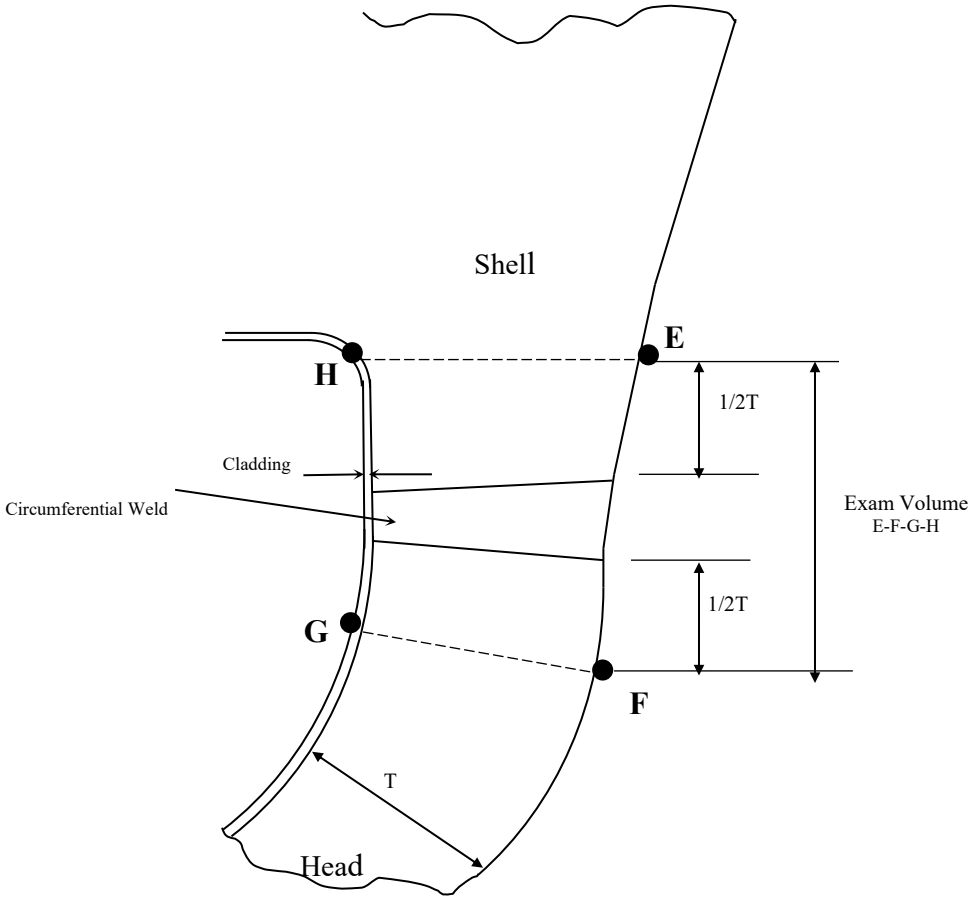
0º			
Transducer		**Transducer S/N**	**Scan Direction/Location**
0º Panametrics 1.0", 1.0 MHz			Interference Scan/Weld and Both Sides. Maintained 80% BR during scanning
Shear Wave			
Angle	**Transducer S/N**	**Scan Sensitivity**	**Scan Direction/Location**
38º Shear		Scanned at reference due to adequate ID roll	Axial – Safe End Side Only
Longitudinal Wave			
Angle	**Transducer S/N**	**Scan Sensitivity**	**Scan Direction/Location**
45ºRL		68.4 dB	Axial – Safe End Side Only
60ºRL		70.8 dB	Axial – Safe End Side Only
38ºRL		67.2 dB	Axial – Safe End Side Only
34ºRL		78.8 dB	Circumferential – Safe End Side Only
34ºRL		79.6 dB	Circumferential – Safe End Side Only
45ºRL		74.0 dB	Circumferential – Safe End Side Only

Comments: 1. All axial scans were performed from the safe end side only due to the nozzle to safe end configuration. Circumferential scans were performed on the weld and both sides in both directions.

2. Reference EPRI "Technical Justification for the Acceptance of Ultrasonic Demonstration Results on Beaver Valley's Steam Generator Nozzle-to-safe-end Dissimilar Metal Weld Mockup" # IR-2005-85.

Class 1 RSG Nozzle to Safe End (Hot Leg)

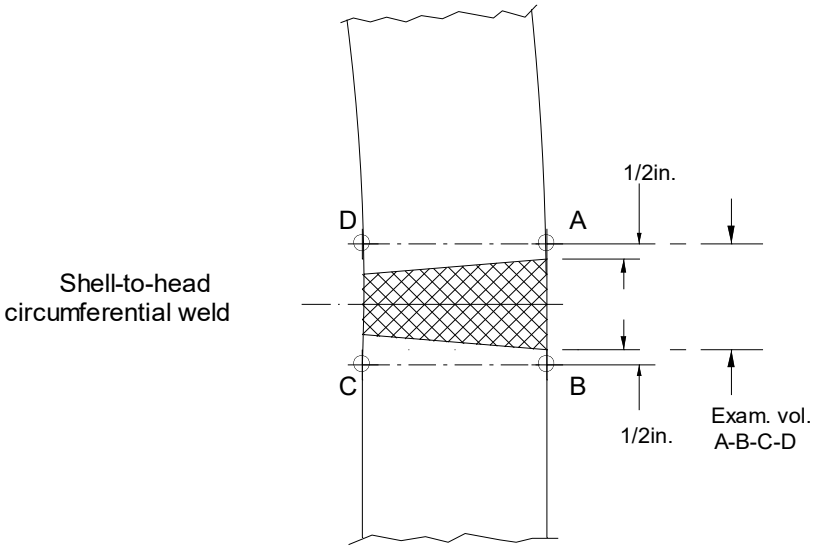
Figure D-14



Class 1 RSG Channel Head to Tubeplate

(Reference ASME Figure IWB-2500-6b)

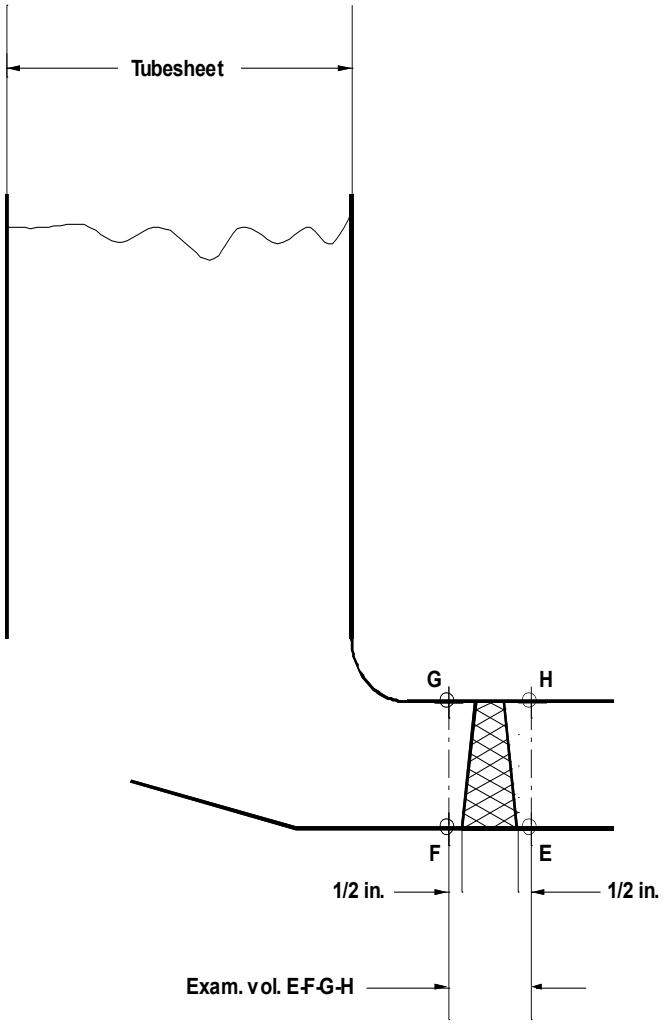
Figure D-15



Class 2 RHX Shell to Head Circ. Weld

(Reference ASME Figure IWC-2500-1)

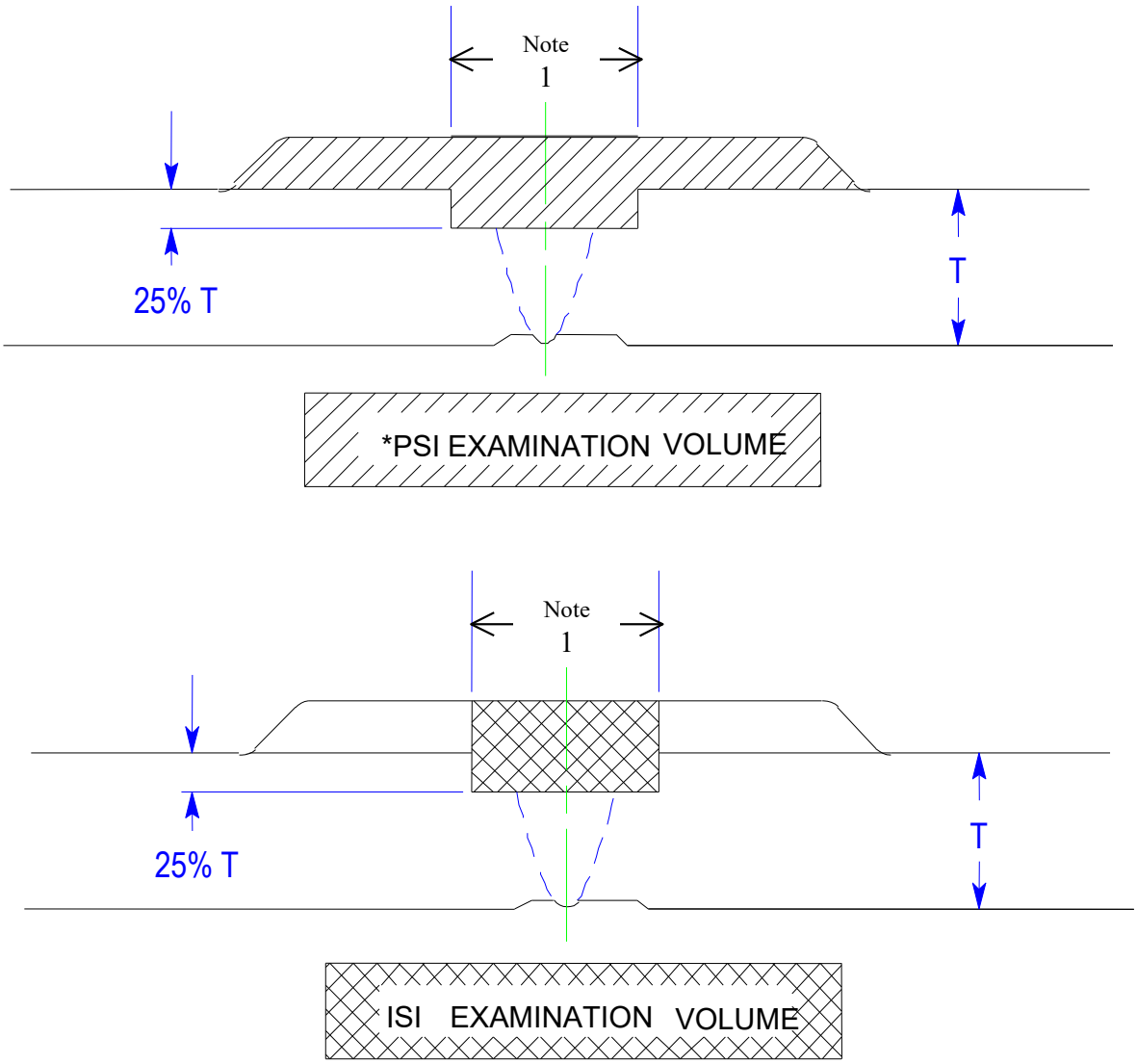
Figure D-16



Class 2 RSG Tubesheet to Shell Circ. Weld

(Reference ASME Figure IWC-2500-2)

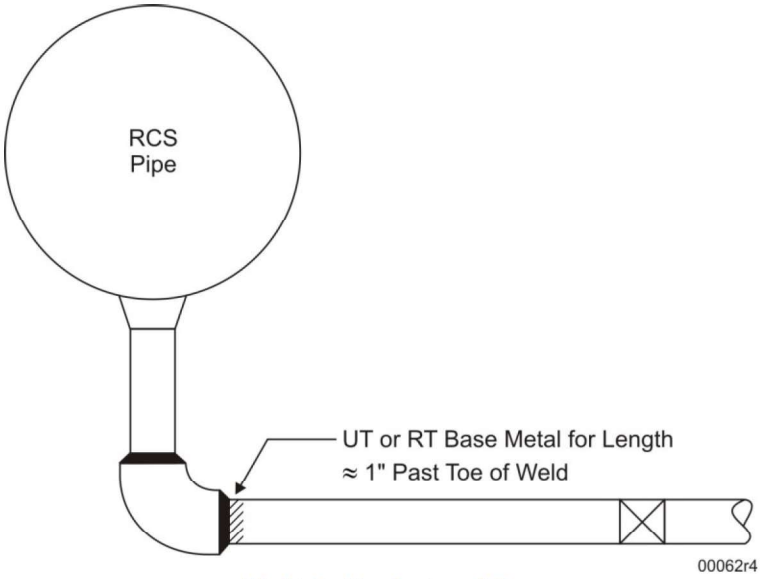
Figure D-17



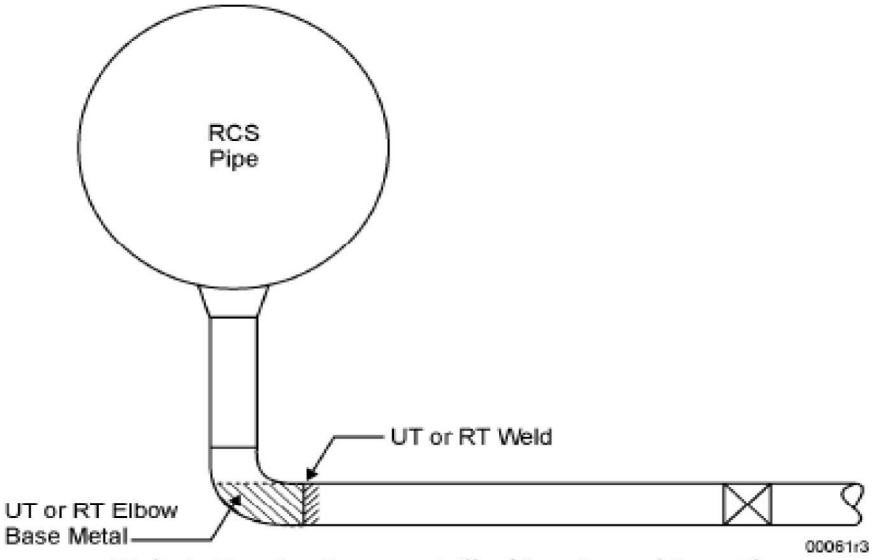
Note 1: The width of the required inspection volume shall include the original pipe weld crown plus a minimum of 0.50” from each weld toe. If the weld crown width or location of the weld with respect to the overlay position is unknown, the examination shall be performed across the entire overlay surface.

Weld Overlaid Examination Volume

Figure D-18



Unit 2- Socket welds

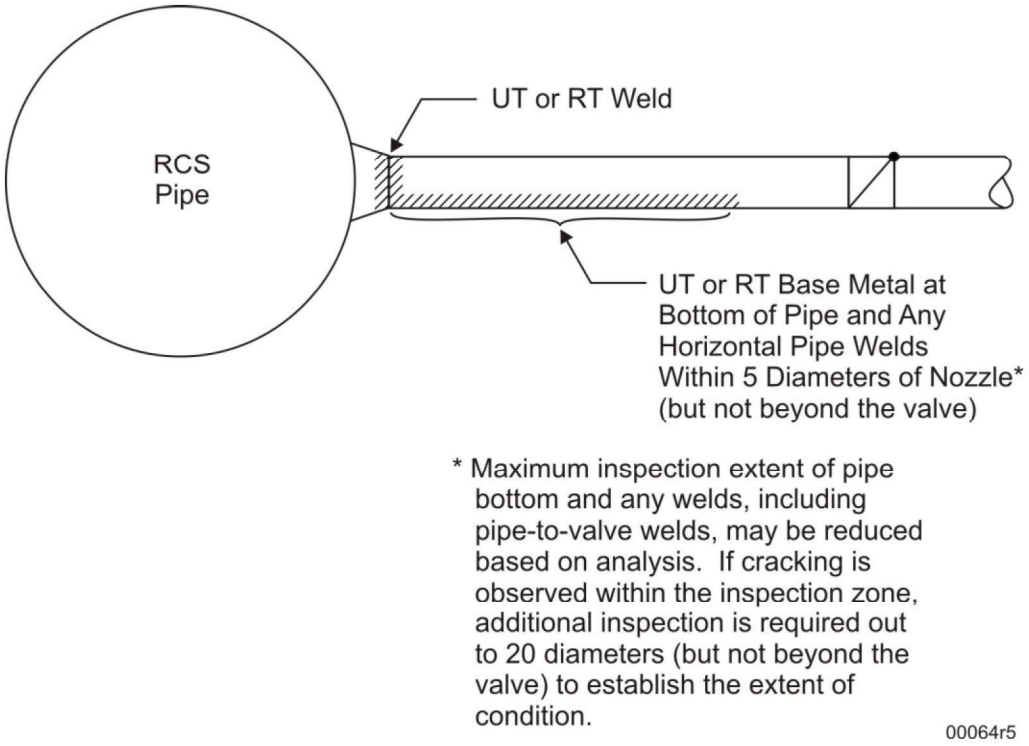


Unit 1- Bends - Inspect 16” of bend outside radius

Examination volume for Line No. : 2”-RC-1418-BB1, 2”-RC-1121-BB1, 2”-RC-1220-BB1, 2”-RC-2418-BB1, 2”-RC-2121-BB1, 2”RC-2220-BB1

Figure D-19

(Reference MRP-146 Rev. 1)

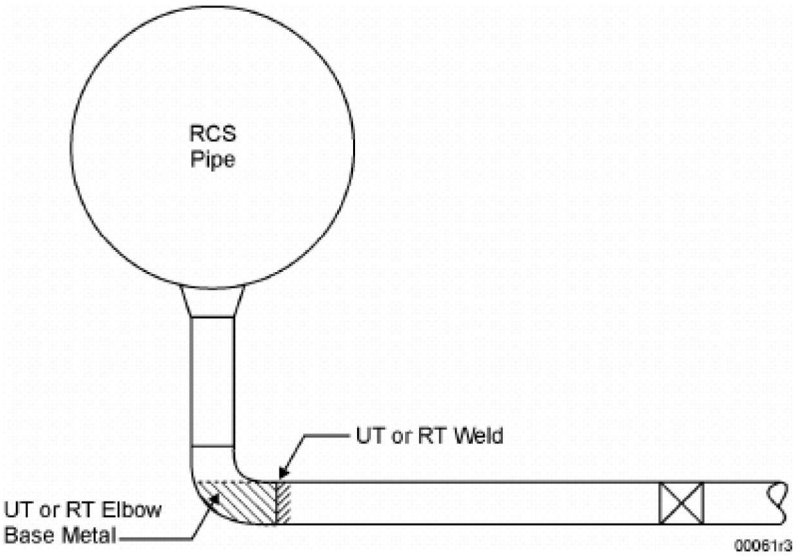


Examination volume for Line No. 4”-RC-1126-BB1, 4”-RC-1323-BB1, 4”-RC-2126-BB1, 4”-RC-2323-BB1 Examination volume shall be a ½” wide zone at the bottom of the piping within 20” of pipe-to-nozzle weld. Piping welds shall also meet the requirements of Exam volume figure D-1

Figure D-20

(Reference MRP-146 Rev. 1)

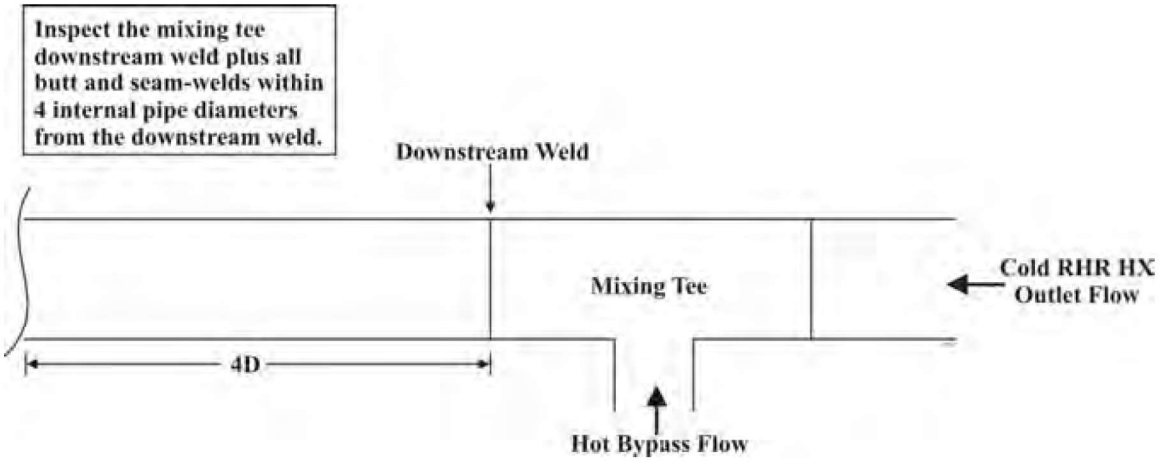
THERMAL FATIGUE EXAMINATION VOLUME



Examination volume for Line No. 4”-RC-2126-BB1
Shaded area of vertical pipe at weld
Examination to include base metal and 2.5” pass toe of weld

Figure D-21

THERMAL FATIGUE EXAMINATION VOLUME



Examination volume for Line No. 8" RH-1106-KB2, 8" RH-2106-KB2 (RHR mixing tee) should include the mixing tee downstream weld plus all butt and seam-welds within at least four internal pipe diameters downstream from the mixing tee downstream weld. All piping welds included within the 4D inspection volume shall meet the requirements of Exam volume figure D-1.

It is not necessary that 100 percent of the recommended examination volumes be inspected. If full examination is not possible due to obstructions (permanent or nonremovable), weld crowns, etc., inspections that cover the accessible examination volume are adequate to detect the presence of thermal fatigue cracking.

Figure D-22

(Reference MRP-192 Rev. 2)

Attachment 2

Inservice Testing Program for STP Units 1 and 2
Snubber Inservice Test Plan

South Texas Project Electric Generating Station
P.O. Box 289
Wadsworth, TX 77483

Revision 1
March 8, 2021
STI: 35134967

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

INSERVICE TESTING PROGRAM
UNIT 1 AND 2 SNUBBER INSERVICE TEST PLAN
FOURTH TEN-YEAR INTERVAL

SOUTH TEXAS PROJECT
UNITS 1 AND 2

DOCKET NOS. STN 50-498, STN 50-499
FACILITY OPERATING LICENSE NOS. NPF-76/80

COMMERCIAL OPERATING DATES
Unit 1: 8/25/1988
Unit 2: 6/19/1989

FOURTH TEN-YEAR INTERVAL DATES
9/25/2020 THROUGH 9/24/2030

Approved by: _____ 03/08/2021
Kellie Harris
IST Snubber Program Engineer
Date

Approved by: _____ 3/9/21
Clayton Bonnot
Supervisor, Testing/Programs Engineering
Date

Approved by: _____ 3-9-21
Michael Chandler
Strategic Engineering Manager
Date

Revision 1

REVISION 1 SUMMARY SHEET

SECTION	EFFECTIVE PAGE(S)	CHANGE
1.1	1	• In the third paragraph, update from "third" to "fourth" IST 10-year interval • In the third paragraph, update to fourth interval dates: "September 25, 2020 and ends on September 24, 2030" • In the fifth paragraph, update from "third" to "fourth" 10-year interval • In the fifth paragraph, update from "2004 Edition" to "2012 Edition"
2.1	2	• In the first paragraph, add, "or in mitigating the consequences of an accident." Should now read, "The scope of the Snubber IST Program includes those Snubbers that are required to perform a specific function in shutting down the reactor to a safe shutdown condition, in maintaining the safe shutdown condition, in mitigating the consequences of an accident, or to ensure the integrity of the reactor coolant pressure boundary."
2.3	3	• For information in the Snubber Database, add bullet for "Accessible/Inaccessible"
4.3.2	15	• At the end of the third paragraph, add, " …(see attachment 3 for additional details)"
Table 3	16	• Update to "OMN-13" to "OMN-13, Revision 2"
Table 6	18	• Update 10CFR50.55a(b)(3)(v) to reflect 10CFR50.55a effective 05/03/2020
Section 5.0	19	• At the end of the third paragraph, add, " …(see attachment 4 for additional details)"

SECTION	EFFECTIVE PAGE(S)	CHANGE
Table 7	19	• Add the following OM Code Interpretations: 09-01 and 09-04
Section 6.0	19	• In the third paragraph, update from "ITS program" to "IST program"
Attachments 1 and 2		• Add column for "Accessible/Inaccessible"
Attachment 3		• Update to OMN-13, Rev. 2
Attachment 4		• Add OM Code Interpretations 09-01 and 09-04

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1.0 INTRODUCTION

1.1 Overview

10CFR50.55a and the South Texas Project (STP) Technical Requirements Manual invoke inservice testing (IST) of Snubbers per ASME OM Code (Code of Operation and Maintenance of Nuclear Power Plants). Part 50.55a establishes the requirements that each nuclear power plant must develop and implement an inservice inspection and testing program. Inservice tests are used to verify operational readiness of Snubbers whose function is required for safety. The tests conducted during successive 120-month intervals must comply with the requirements of the latest edition and addenda of the OM Code that is in effect 12 months prior to the start of the interval.

Title 10, Part 50.55a of the Code of Federal Regulations invoke, by reference, the requirement for inservice inspection (ISI) of Snubbers per Section XI of the ASME Boiler and Pressure Vessel Code.

STP begins its fourth IST 10-year interval of commercial plant operation for Unit 1 & 2 on September 25, 2020 and ends on September 24, 2030.

The Snubber Inservice Test Plan was developed in accordance with the requirements of 10CFR50.55a. Code of Federal Regulations, Codes and Standards.

The edition and addenda of the ASME OM Code for the Snubber IST Program for the fourth 10-year interval is the 2012 Edition, Subsections ISTA & ISTD [the Code].

1.2 Program Test Plan

Since the period of time that the requirement for inservice testing was first incorporated into the Code of Federal Regulations; the NRC, ASME, and the nuclear industry have provided additional interpretations to the Code requirements. These interpretations have been documented through various mechanisms such as 10CFR50.55a Final Rules, Code Cases, Code Interpretations, generic letters, program review meetings, site inspections, and others. It is the intent of the Program Plan to:

- Establish a set criteria and philosophy for determining the Snubber Testing Scope,
- Evaluate each plant Snubber in a consistent manner to identify which Snubbers SHOULD be included in the testing program and to identify the extent,
- Identify Alternative requirements to the Code,
- Identify implementation processes of testing required for each snubber and implementing documents.

2.0 SCOPE

2.1 Overview

The scope of the Snubber IST Program includes those Snubbers that are required to perform a specific function in shutting down the reactor to a safe shutdown condition, in maintaining the safe shutdown condition, in mitigating the consequences of an accident, or to ensure the integrity of the reactor coolant pressure boundary.

This program was developed to encompass system safety requirements defined in 10 CFR 50 as well as Snubber functions required in response to the abnormal operational transients and accidents defined in the UFSAR. The program is not limited to the postulated accidents of UFSAR Chapter 15. The UFSAR, Technical Specifications, and related design basis documents are the primary references used to determine which Snubbers are required to perform specific functions related to the spectrum of postulated accidents.

The only snubbers excluded from this program are those installed on nonsafety-related systems, and then only if their failure or failure of the system on which they are installed would have no adverse effect on any safety-related system.

2.2 Code Classification

The quality group classification system for water, steam, and radioactive waste containing components important to the safety of water-cooled nuclear power plants is established by NRC Regulatory Guide 1.26, in conjunction with 10CFR50.55a. Regulatory Guide 1.26, "Quality Group Classification and Standards", defines the Quality Group Classification System consisting of four Quality Groups, A through D. Quality Group A is defined as "Reactor Coolant Pressure Boundary" (Class 1) by 10CFR50.2. The definitions of Groups B, C, and D (Class 2, Class 3 and non-classed, respectively) are provided by Regulatory Guide 1.26.

2.3 Snubber IST Listing

The Snubber IST Listing was previously known as the Snubber Index prior to invoking ASME OM Code. The Snubber IST Listing is maintained as the Snubber Database, which is an electronic database containing component test and inspection history, acceptance criteria, and references.

The Snubber Database is used to identify snubbers to be tested in accordance with the requirements of the Code. The Snubber Database contains, as a minimum, the following information about each Snubber:

- Snubber identification (Snubber TPNS number, model/size, and serial number)
- Applicable plant system
- ASME Code class (same as Quality Group Classifications in R.G. 1.26)
- TRM/NSR
- Accessible/Inaccessible
- Snubber location information
- Test or examination method
- Test and examination history

Reference Attachment 1 (Unit 1 Snubber IST Listing) & Attachment 2 (Unit 2 Snubber IST Listing) for a listing of snubbers tested and examined in accordance with this plan. The listing provides basic information about the scoped snubbers.

2.4 Implementing Processes

Program inservice tests required by the Code SHALL be implemented using the Surveillance Test Program process. The Surveillance Test Program provides acceptance criteria for the tests and examinations. As a result of the performed tests, any identified corrective actions and subsequent retests SHALL be made per the requirements of the Code and the ASME Section XI Repair/Replacement Program.

In conjunction with the Surveillance Test Program process, other STP site documents detail Code requirements and implementation processes [test or examination methods and frequency or schedule].

The Condition Reporting (CR) process at STP provides a method to document material deficiencies and engineering evaluations required to comply with the Code. Work orders initiated by the CR process will be used to implement corrective maintenance on snubbers identified for Inservice Testing and will allow for recording and tracking component history.

2.5 Applicable Documents

The details of the Snubber IST Program referenced in this Test Plan are contained in documents that are available at STP. These documents include, but are not limited to, piping and instrumentation diagrams, piping isometric drawings, component support drawings, and procedures that support implementation of the Snubber IST program.

2.5.1 Piping and Instrumentation Diagrams (P&IDS)

This section provides a listing of the various piping and instrumentation diagrams applicable to the Snubber IST Program. Table 1 provides a listing of the piping systems containing Class 1, 2, or 3 snubbers, and applicable Instrumentation Diagrams (P&ID's) for these Class 1, 2, and 3 piping systems. Table 1 is arranged in alphabetical system abbreviation.

Table 1
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
AF	Auxiliary Feedwater	5S141F00024	1	Auxiliary Feedwater
		5S141F00024	2	Auxiliary Feedwater
		5S142F00024	1	Auxiliary Feedwater
		5S142F00024	2	Auxiliary Feedwater
		5S199F00020#1		Condensate Storage System (Note 1)
		5S199F00020#2		Condensate Storage System (Note 1)
AP	Post Accident Sampling	5Z549Z47501#1		Post Accident Sampling System
		5Z549Z47501#2		Post Accident Sampling System
		5Z169Z00046#1		Containment Hydrogen Monitoring System (Note 2)
		5Z169Z00046#2		Containment Hydrogen Monitoring System (Note 2)
BA	Breathing Air	5Q129F05044#1		Low Pressure Breathing Air System (Note 3)
		5Q129F05044#2		Low Pressure Breathing Air System (Note 3)
CC	Component Cooling	5R209F05017#1		Component Cooling Water System
		5R209F05017#2		Component Cooling Water System
		5R209F05018#1		Component Cooling Water System
		5R209F05018#2		Component Cooling Water System
		5R209F05019#1		Component Cooling Water System
		5R209F05019#2		Component Cooling Water System
		5R209F05020#1		Component Cooling Water System

Table 1 (Cont'd.)
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
		5R209F05020#2		Component Cooling Water System
		5R209F05021#1		Component Cooling Water System
		5R209F05021#2		Component Cooling Water System
CH	Essential Chilled Water	5V119V10001#1		Essential Chilled Water System
		5V119V10001#2		Essential Chilled Water System
		3V119V10002#1		Essential Chilled Water System
		3V119V10002#2		Essential Chilled Water System
		3V119V10003#1		Essential Chilled Water System
		3V119V10003#2		Essential Chilled Water System
		3V119V10004#1		Essential Chilled Water System
		3V119V10004#2		Essential Chilled Water System
CM	Containment Hydrogen Monitoring	5Z169Z00046#1		Containment Hydrogen Monitoring System
		5Z169Z00046#2		Containment Hydrogen Monitoring System
CS	Containment Spray	5N109F05037#1		Containment Spray System
		5N109F05037#2		Containment Spray System
		5N129F05013#1		Safety Injection System (Note 4)
		5N129F05013#2		Safety Injection System (Note 4)
		5N129F05014#1		Safety Injection System (Note 4)

Table 1 (Cont'd.)
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
		5N129F05014#2		Safety Injection System (Note 4)
		5N129F05015#1		Safety Injection System (Note 4)
		5N129F05015#2		Safety Injection System (Note 4)
CV	Chemical and Volume Control	5R179F05005#1		Chemical & Volume Control System
		5R179F05005#2		Chemical & Volume Control System
		5R179F05006#1		Chemical & Volume Control System
		5R179F05006#2		Chemical & Volume Control System
		5R179F05007#1		Chemical & Volume Control System
		5R179F05007#2		Chemical & Volume Control System
		5R179F05008#1		Chem & Vol Control Sys BTRS Sub Sys
		5R179F05008#2		Chem & Vol Control Sys BTRS Sub Sys
		5R179F05009#1		Chemical & Volume Control System
		5R179F05009#2		Chemical & Volume Control System
DI	Standby Diesel Generator Combustion Air Intake	5Q159F22543#1		Diesel Air Intake & Exhaust Systems
		5Q159F22543#2		Diesel Air Intake & Exhaust Systems
DO	Standby Diesel Generator Fuel Oil	5Q159F00045#1	1	Sdby Gen Fuel Oil Stor & Trans System
		5Q159F00045#1	2	Sdby Gen Fuel Oil Stor & Trans System

Table 1 (Cont'd.)
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
		5Q159F00045#2	1	Sdby Gen Fuel Oil Stor & Trans System
		5Q159F00045#2	2	Sdby Gen Fuel Oil Stor & Trans System
DW	Demineralized Water	5S199F05034#1		Demin Water Dist Sys RCB FHB & MEAB (Note 3)
		5S199F05034#2		Demin Water Dist Sys RCB FHB & MEAB (Note 3)
DX	Standby Diesel Generator Combustion Gas Exhaust	5Q159F22543#1		Diesel Air Intake & Exhaust Systems
		5Q159F22543#2		Diesel Air Intake & Exhaust Systems
ED	Radioactive Vents and Drains	5Q069F05030#1		Radioactive Vents And Drains System (Note 3)
		5Q069F05030#2		Radioactive Vents And Drains System (Note 3)
EW	Essential Cooling Water	5Q159F22541#1		Standby Diesel Gen Sys Cooling Water (Note 5)
		5Q159F22541#2		Standby Diesel Gen Sys Cooling Water (Note 5)
		5R289F05038#1	1	Essential Cooling Water System – TRN 1A
		5R289F05038#1	2	Essential Cooling Water System – TRN 1B
		5R289F05038#1	3	Essential Cooling Water System – TRN 1C
		5R289F05038#2	1	Essential Cooling Water System – TRN 2A
		5R289F05038#2	2	Essential Cooling Water System – TRN 2B
		5R289F05038#2	3	Essential Cooling Water System – TRN 2C
		5R289F05039#1		Essential Cooling Water System

Table 1 (Cont'd.)
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
		5R289F05039#2		Essential Cooling Water System
FC	Spent Fuel Pool Cooling	5R219F05028#1		Spent Fuel Pool Cooling & Cleanup Sys
		5R219F05028#2		Spent Fuel Pool Cooling & Cleanup Sys
		5R219F05029#1		Spent Fuel Pool Cooling & Cleanup Sys
		5R219F05029#2		Spent Fuel Pool Cooling & Cleanup Sys
FP	Fire Protection	5Q279F05047#1		FH,IVC, Contmnt Bldg Fire Protection Sys (Note 3)
		5Q279F05047#2		FH,IVC, Contmnt Bldg Fire Protection Sys (Note 3)
FW	Feedwater	5S139F00062#1		Feedwater System
		5S139F00062#2		Feedwater System
		5S139F00063#1		Feedwater System
		5S139F00063#2		Feedwater System
HC	Containment Building HVAC	5V149V00018#1		Containment Bldg. HVAC System Normal Purge (Note 3)
		5V149V00018#2		Containment Bldg. HVAC System Normal Purge (Note 3)
		5V149V00019#1		Containment Bldg. HVAC System Supplementary Purge (Note 3)
		5V149V00019#2		Containment Bldg. HVAC System Supplementary Purge (Note 3)
IA	Instrument Air	5Q119F05040#1		Fuel Hndlng Bldg & RCB Inst Air System (Note 3)
		5Q119F05040#2		Fuel Hndlng Bldg & RCB Inst Air System (Note 3)
IL	Integrated Leak Test	5C560F05058		Containment Leak Rate Test Pressurization System (Note 3)

Table 1 (Cont'd.)
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
JW	Standby Diesel Generator Jacket Water	5Q159F22540#1		Standby Diesel Generator Sys Jacket Water
		5Q159F22540#2		Standby Diesel Generator Sys Jacket Water
LU	Standby Diesel Generator Lube Oil	5Q159F22542#1		Standby Diesel Generator Sys Lube Oil
		5Q159F22542#2		Standby Diesel Generator Sys Lube Oil
MS	Main Steam	5S109F00016#1		Main Steam System
		5S109F00016#2		Main Steam System
		5S141F00024	1	Auxiliary Feedwater (Note 6)
		5S141F00024	2	Auxiliary Feedwater (Note 6)
		5S142F00024	1	Auxiliary Feedwater (Note 6)
		5S142F00024	2	Auxiliary Feedwater (Note 6)
PO	Reactor Coolant Pump Oil Change-Out	5R379F05042#1		Reactor C/P Oil Changing System (Note 3)
		5R379F05042#2		Reactor C/P Oil Changing System (Note 3)
PS	Primary Sampling	5Z329Z00045#1		Primary Sampling System
		5Z329Z00045#2		Primary Sampling System
RA	Radiation Monitoring	5V149V00017#1		HVAC React. Cntmnt Bldg. Sys. Composite (Note 7)
		5V149V00017#2		HVAC React. Cntmnt Bldg. Sys. Composite (Note 7)
RC	Reactor Coolant	5R149F05001#1		RCS Primary Coolant Loop

Table 1 (Cont'd.)
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
		5R149F05001#2		RCS Primary Coolant Loop
		5R149F05003#1		RCS Pressurizer
		5R149F05003#2		RCS Pressurizer
		5R149F05004#1		RCS Pressurizer Relief Tank
		5R149F05004#2		RCS Pressurizer Relief Tank
RD	Reactor Coolant System Degassing	5R349F05046#1		RCS Vacuum Degassing System (Note 3)
		5R349F05046#2		RCS Vacuum Degassing System (Note 3)
RH	Residual Heat Removal	5R169F20000#1		Residual Heat Removal System
		5R169F20000#2		Residual Heat Removal System
RM	Reactor Makeup Water	5R279F05033#1		Reactor Makeup Water System
		5R279F05033#2		Reactor Makeup Water System
SA	Station Air	5Q109F05041#1		FHB & RCB Service Air System (Note 3)
		5Q109F05041#2		FHB & RCB Service Air System (Note 3)
SB	Steam Generator Blowdown	5S209F20001#1		Steam Generator Blowdown System
		5S209F20001#2		Steam Generator Blowdown System
SD	Standby Diesel Generator Starting Air	5Q159F22546#1		Standby Diesel Starting Air System
		5Q159F22546#2		Standby Diesel Starting Air System
SI	Safety Injection	5N129F05013#1		Safety Injection System

Table 1 (Cont'd.)
Piping and Instrumentation Diagrams

System Abbr.	System Designation	Drawing Number	Sheet No.	Drawing Title
		5N129F05013#2		Safety Injection System
		5N129F05014#1		Safety Injection System
		5N129F05014#2		Safety Injection System
		5N129F05015#1		Safety Injection System
		5N129F05015#2		Safety Injection System
		5N129F05016#1		Safety Injection System
		5N129F05016#2		Safety Injection System
SL	Steam Generator Sludge Lancing	5S209F05057#1		Stm Gen Sludge Lancing & Chem Cleaning Sys (Note 3)
		5S209F05057#2		Stm Gen Sludge Lancing & Chem Cleaning Sys (Note 3)
WL	Liquid Waste Processing	5R309F05022#1		Liquid Waste Processing System (Note 3)
		5R309F05022#2		Liquid Waste Processing System (Note 3)

Notes:
1. Includes AF piping.
2. Includes AP piping.
3. Class 2 containment penetration piping and isolation valves only.
4. Includes CS piping.
5. Includes EW piping.
6. Includes MS piping.
7. Includes RA piping; Class 2 containment penetration piping and isolation valves only.

2.5.2 Procedures

Table 2 lists applicable Snubber IST Program procedures.

Table 2
Snubber Program Procedures

PROCEDURE NUMBER	PROCEDURE TITLE
0PGP03-ZE-0009	Snubber Testing Program
0PSP11-SN-0001	Mechanical Snubber Visual Examination (surveillance procedure)
0PSP11-SN-0002	Hydraulic Snubber Visual Inspection (surveillance procedure)
0PSP11-SN-0003	Mechanical Snubbers Functional Test (surveillance procedure)
0PSP11-SN-0004	Hydraulic Snubber Functional Test (surveillance procedure)
0PSP11-SN-0005	Snubber Service Life Review and Reevaluation (surveillance procedure)

3.0 METHOD OF EVALUATING SNUBBERS

The Master Equipment Database and system design basis documents were reviewed to determine which systems include snubbers that encompass system safety requirements defined in 10 CFR 50 as well as snubbers required in response to the abnormal operational transients and accidents defined in the UFSAR. This review was not limited to the postulated accidents of UFSAR Chapter 15.

Each system was reviewed in the following manner:

The P&ID for each system was reviewed to identify the system boundaries for each class of snubbers that are subject to a specific function in shutting down a reactor to the safe shutdown condition, maintaining the safe shutdown condition, or in mitigating the consequences of an accident.

Each snubber was reviewed for design and installation arrangement for allowances for adequate access and clearances for conduct of tests.

The Snubber IST Listing was developed from the above review activities.

4.0 ALTERNATIVE REQUIREMENTS TO OM CODE

This section lists the alternative requirements to the Code for specific portions of the Snubber IST Program. The alternative requirements identified meet the rules for alternative requirements that are defined in the Code.

4.1 Code Cases

Code Cases to be used during a preservice or inservice test examinations SHALL be identified in the Test Plan [ISTA 3130(a)].

Code Cases SHALL be applicable to the edition and addenda specified in the Test Plan [ISTA-3130(b)].

Code Cases SHALL be in effect at the time the test plan is filed [ISTA-3130(c)].

Code Cases issued subsequent to filing the Test Plan MAY be proposed for use in amendments to the Test Plan [ISTA-3130(d)].

Superseded Code Cases approved for use MAY continue to be used [ISTA-3140].

Code Cases approved for use MAY be used after annulment for the duration of the Test Plan [ISTA-3150].

Endorsement of Regulatory Guide 1.192 "Operation and Maintenance Code Case Acceptability, ASME OM Code", does NOT commit the STP to all code cases listed therein, but rather allows for selection of applicable code cases. The purpose of this endorsement is to identify all code cases that could potentially be incorporated into this IST Program Plan.

4.2 10CFR50.55a Requirements – Code Cases

10CFR50.55a(b)(6) addresses the application of Code Cases and states the following criteria:

Licensees MAY apply the ASME Operation and Maintenance Nuclear Power Plants Code cases listed in Regulatory Guide 1.192 without prior NRC approval subject to the following:

> When a licensee initially applies a listed Code case, the licensee SHALL apply the most recent version of that Code case.

If a licensee has previously applied a Code case and a later version of the Code case is incorporated, the licensee MAY continue to apply, to the end of the current 120-month interval, the previous version of the Code case as authorized or MAY apply the later version of the Code case, including any NRC-specified conditions placed on its use

Application of an annulled Code case is prohibited unless a licensee previously applied the listed Code case prior to it being listed as annulled in Regulatory Guide 1.192. If a licensee has applied a listed Code case that is later listed as annulled in Regulatory Guide 1.192, the licensee MAY continue to apply the Code case to the end of the current 120-month interval.

4.3 Code Case Adoption:

4.3.1 Adoption of Code Cases Accepted for Generic Use in Regulatory Guide 1.192

Code cases that are designated "Acceptable" or "Conditionally Acceptable" for generic use in Regulatory Guide 1.192 (latest revision) have been adopted for use by listing them in Table 3. All conditions or limitations delineated in Regulatory Guide 1.192 for applicable code cases will apply.

4.3.2 Adoption of Code Cases Not Accepted for Generic Use in Regulatory Guide 1.192 via Submittal of Relief Requests

Adoption of code cases that have been approved by the ASME Board of Nuclear Codes and Standards, but that have NOT been accepted for generic use in Regulatory Guide 1.192, MAY be submitted in the form of a relief request in accordance with 10CFR50.55a(a)(3). Once approved, these relief requests will be available for use by STP. The Relief Request is approved for use until the end of the 10-year interval in which it was approved.

Table 4 lists those code cases for which relief requests have been submitted. In addition to the requirements stated in the code cases, criteria MAY be stipulated in the relief request OR MAY be agreed upon through subsequent correspondence with the NRC. STP will implement these additional requirements as applicable (see attachment 3 for additional details).

Table 3
Adopted Code Cases Approved in Regulatory Guide 1.192

Code Case Number	Code Case Title	Affected Program Area
OMN-13, Revision 2	Requirements for Extending Snubber Inservice Visual Examination Interval at LWR Power Plants	Snubber visual exams

Table 4
Code Cases Submitted Through Relief Requests

Code Case Number	Code Case Title	(1) Relief Request No. (2) Correspondence No. (3) Relief Request Date	Affected Program Area
	NONE	(1) (2) (3)	

4.4 Relief Requests

Relief from the requirements of the OM Code SHALL be requested where full compliance with the Code will not be achieved. Relief requests are submitted to the NRC for approval pursuant to the requirements of 10 CFR 50.55a.

Table 5 provides a listing of additional relief requests, not associated with a code case, that have been written in accordance with 10CFR50.55a(a)(3) when specific inservice testing requirements are considered impractical. If other examination requirements are determined to be impractical during the course of the interval, relief requests SHALL be submitted in accordance with 10CFR50.55a.

Table 5
Relief Requests Not Associated With a Code Case

Relief Request Subject	(1) Relief Request No. (2) Correspondence No. (3) Relief Request Date	Affected Program Area
NONE	(1) (2) (3)	

4.5 50.55a Limitations, Modifications and Clarifications

Certain paragraphs in 10CFR50.55a list the limitations, modifications, and/or clarifications to the implementation requirements of the Code. The paragraphs in 10CFR50.55a applicable to STP are listed in Table 6.

TABLE 6
CODE OF FEDERAL REGULATIONS 10CFR50.55a LIMITATIONS

10CFR50.55a Paragraphs	Limitations, Modifications, and Clarifications
10CFR50.55a(b)(3)(v)	*Subsection ISTD.* Article IWF-5000, "Inservice Inspection Requirements for Snubbers," of the ASME BPV Code, Section XI, must be used when performing inservice inspection examinations and tests of snubbers at nuclear power plants, except as conditioned in paragraphs (b)(3)(v)(A) and (B) of this section. (A) *Snubbers: First provision.* Licensees may use Subsection ISTD, "Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers) in Light-Water Reactor Power Plants," ASME OM Code, 1995 Edition through the latest edition and addenda incorporated by reference in paragraph (a)(1)(iv) of this section, in place of the requirements for snubbers in the editions and addenda up to the 2005 Addenda of the ASME BPV Code, Section XI, IWF-5200(a) and (b) and IWF-5300(a) and (b), by making appropriate changes to their technical specifications or licensee-controlled documents. Preservice and inservice examinations must be performed using the VT-3 visual examination method described in IWA-2213. (B) *Snubbers: Second provision.* Licensees must comply with the provisions for examining and testing snubbers in Subsection ISTD of the ASME OM Code and make appropriate changes to their technical specifications or licensee-controlled documents when using the 2006 Addenda and later editions and addenda of Section XI of the ASME BPV Code.

5.0 INTERPRETATIONS TO THE OM CODE

This section lists interpretations to the Code for specific portions of the Snubber IST Program.

Code interpretations provide clarification to the intent of Code requirements. Although the NRC agrees with most interpretations, some are inconsistent with NRC requirements. NRC requirements SHALL be met. Interpretations serve to support the users understanding of Code requirements. Many interpretations address specific circumstances. Therefore, the context of the interpretation must be thoroughly understood prior to its application at STP.

Code interpretations applicable to Snubber IST Program are listed in Table 7 (see attachment 4 for additional detail).

TABLE 7
OM CODE INTERPRETATIONS

Interpretation No.	Interpretation Description / Subject	Application Impact
04-10	ASME Code-1998 through OMb-2000	Snubber testing
09-01	ASME OM Code -1998 Edition through 2005 Addenda, Subsection ISTD	Snubber testing
09-04	ASME OM Code: 1998 Edition Through 2004 Edition up to and Including ASME OM Code 2006)	Snubber testing

6.0 PROGRAM IMPLEMENTATION

The Snubber Testing Program procedure (0PGP03-ZE-0009) details program implementation based on the Code and alternate requirements of the Code.

Snubber program inservice tests required by the Code SHALL be implemented using the Surveillance Test Program. The snubber surveillance test program SHALL be used to identify the test method for verifying operational readiness of the snubber, to identify the frequency of the required tests, to establish plant conditions for performing tests, and to document the results of snubber testing. The surveillance tests act as the record of testing required by the Code.

Reference Table 2 for a listing of the applicable snubber IST program implementing procedures.

7.0 PROGRAM CONFIGURATION CONTROL

As a minimum the program will be reviewed and revised as necessary for compliance with the Code in effect as referenced by 10CFR50.55a 12 months prior to the end of the fourth 120-month interval of commercial operation. Additionally, the scope of the program is subject to revision due to changes in system design, changes in design that affect the snubber safety function, or revisions to the applicable code requirements through Alternate Requirements to the Code. In order to accommodate these changes STP reserves the right to submit program revisions that will enhance or improve the program at any time within the effective interval.

8.0 TEST PLAN ATTACHMENTS

Attachment 1, Unit 1 Snubber IST Listing

Attachment 2, Unit 2 Snubber IST Listing

Attachment 3, Code Cases – Information Only

Attachment 4, Interpretations – Information Only

ATTACHMENT 1

Unit 1 Snubber IST Listing

Revision 1

Mdtpns Tagtpns / Snubber	Model No	Qc Level	Route / Location	Elev	Hang Dwg	Iso Dwg	Pipe Dwg	Accessible/ Inaccessible
2C111XSN0001A	HYD-1300KIP	2	RCB SGA-NE	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0001B	HYD-1300KIP	2	RCB SGB-N/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0001C	HYD-1300KIP	2	RCB SGC-N/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0001D	HYD-1300KIP	2	RCB SGD-N/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0002A	HYD-1300KIP	2	RCB SGA-N/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0002B	HYD-1300KIP	2	RCB SGB-N/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0002C	HYD-1300KIP	2	RCB SGC-N/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0002D	HYD-1300KIP	2	RCB SGD-N/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0003A	HYD-1300KIP	2	RCB SGA-S/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0003B	HYD-1300KIP	2	RCB SGB-S/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0003C	HYD-1300KIP	2	RCB SGC-S/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0003D	HYD-1300KIP	2	RCB SGD-S/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0004A	HYD-1300KIP	2	RCB SGA-S/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0004B	HYD-1300KIP	2	RCB SGB-S/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I

2C111XSN0004C	HYD-1300KIP	2	RCB SGC-S/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C111XSN0004D	HYD-1300KIP	2	RCB SGD-S/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
AF1006HL5003	AD5501	2	RCB SGAD>52'	19	AF9006HL5003	2C369PAF402-02	F00024	I
AF1006HL5015	AD5501	2	RCB SGAD>52'	19	AF9006HL5015	2C369PAF402-02	F00024	I
AF1006HL5018	AD5501	2	RCB OMB >19'	19	AF9006HL5018	2C369PAF402-02	F00024	I
AF1006HL5035N	AD5501	2	RCB SGAD>68'	19	AF9006HL5035	2C369PAF402-02	F00024	I
AF1006HL5035S	AD5501	2	RCB SGAD>68'	19	AF9006HL5035	2C369PAF402-02	F00024	I
AF1008HL5028	AD5501	2	RCB SGAD>68'	19	AF9008HL5028	2C369PAF402-02	F00024	I
AF1008HL5029	AD5501	2	RCB SGAD>68'	19	AF9008HL5029	2C369PAF402-02	F00024	I
AF1008HL5030	AD5501	2	RCB OMB >19'	19	AF9008HL5030	2C369PAF402-02	F00024	I
AF1008HL5041N	AD5501	2	RCB SGAD>68'	19	AF9008HL5041	2C369PAF402-02	F00024	I
AF1008HL5041S	AD5501	2	RCB SGAD>68'	19	AF9008HL5041	2C369PAF402-02	F00024	I
AF1010HL5002L	AD5501	2	RCB OMB >19'	19	AF9010HL5002	2C369PAF402-01	F00024	I
AF1010HL5002U	AD5501	2	RCB OMB >19'	19	AF9010HL5002	2C369PAF402-01	F00024	I
AF1010HL5007E	AD5501	2	RCB SGBC>52'	19	AF9010HL5007	2C369PAF402-01	F00024	I
AF1010HL5007W	AD5501	2	RCB SGBC>52'	19	AF9010HL5007	2C369PAF402-01	F00024	I
AF1010HL5008L	AD5501	2	RCB SGBC>68'	19	AF9010HL5008	2C369PAF402-01	F00024	I

AF1010HL5008U	AD5501	2	RCB SGBC>68'	19	AF9010HL5008	2C369PAF402-01	F00024	I
AF1010HL5009	AD1601	2	RCB SGBC>68'	19	AF9010HL5009	2C369PAF402-01	F00024	I
AF1010HL5017	AD5501	2	RCB SGBC>68'	19	AF9010HL5017	2C369PAF402-01	F00024	I
AF1010HL5018	AD1601	2	RCB SGBC>68'	19	AF9010HL5018	2C369PAF402-01	F00024	I
AF1010HL5020	AD1601	2	RCB SGBC>68'	19	AF9010HL5020	2C369PAF402-01	F00024	I
AF1010HL5026	AD1601	2	RCB SGBC>19'	19	AF9010HL5026	2C369PAF402-01	F00024	I
AF1010HL5035	AD1601	2	RCB SGBC>68'	19	AF9010HL5035	2C369PAF402-01	F00024	I
AF1012HL5014E	AD1601	2	RCB SGBC>68'	19	AF9012HL5014	2C369PAF402-01	F00024	I
AF1012HL5014W	AD1601	2	RCB SGBC>68'	19	AF9012HL5014	2C369PAF402-01	F00024	I
AF1012HL5017	AD5501	2	RCB SGBC>68'	19	AF9012HL5017	2C369PAF402-01	F00024	I
AF1012HL5018	AD1601	2	RCB SGBC>68'	19	AF9012HL5018	2C369PAF402-01	F00024	I
AF1012HL5020	AD1601	2	RCB SGBC>68'	19	AF9012HL5020	2C369PAF402-01	F00024	I
AF1012HL5024	AD5501	2	RCB OMB >19'	19	AF9012HL5024	2C369PAF402-01	F00024	I
AF1012HL5027	AD5501	2	RCB OMB >19'	19	AF9012HL5027	2C369PAF402-01	F00024	I
AF1012HL5038L	AD5501	2	RCB SGBC>68'	19	AF9012HL5038	2C369PAF402-01	F00024	I
AF1012HL5038U	AD5501	2	RCB SGBC>68'	19	AF9012HL5038	2C369PAF402-01	F00024	I
AF1054HL5004N	AD151	3	IVC D	34	AF9054HL5004	5G369PAF602-10	F00024	A

AF1054HL5004S	AD151	3	IVC D	34	AF9054HL5004	5G369PAF602-10	F00024	A
AF1061HL5001	AD1601	2	RCB SGAD>52'	19	AF9061HL5001	2C369PAF402-02	F00024	I
AF1061HL5002	AD1601	2	RCB SGAD>68'	19	AF9061HL5002	2C369PAF402-02	F00024	I
AF1062HL5011	AD1601	2	RCB SGAD>68'	19	AF9062HL5011	2C369PAF402-02	F00024	I
AF1062HL5012	AD1601	2	RCB SGAD>68'	19	AF9062HL5012	2C369PAF402-02	F00024	I
AF1062HL5015	AD1601	2	RCB SGAD>52'	19	AF9062HL5015	2C369PAF402-02	F00024	I
AF1063HL5002	AD1601	2	RCB SGBC>68'	19	AF9063HL5002	2C369PAF402-01	F00024	I
AF1063HL5003	AD151	2	RCB SGBC>68'	19	AF9063HL5003	2C369PAF402-01	F00024	I
AF1063HL5005	AD1601	2	RCB SGBC>68'	19	AF9063HL5005	2C369PAF402-01	F00024	I
AF1063HL5006	AD1601	2	RCB SGBC>68'	19	AF9063HL5006	2C369PAF402-01	F00024	I
AF1064HL5004	AD1601	2	RCB SGBC>52'	19	AF9064HL5004	2C369PAF402-01	F00024	I
AP1003HF5001	AD41	2	MAB RM 108	29	AP1003HF5001	5M369PAP287-A01	Z47501	A
CC1105HL5004	AD5501	3	RCB RHR HX 1A	37	CC9105HL5004	4C369PCC407-08	F05017	I
CC1105HL5009	AD5501	3	RCB OMB >52'	52	CC9105HL5009	4C369PCC407-08	F05017	I
CC1109HL5001N	AD501	3	MAB RM 106A	27	CC9109HL5001	5M361PCC207-07	F05017	A
CC1109HL5001S	AD501	3	MAB RM 106A	27	CC9109HL5001	5M361PCC207-07	F05017	A
CC1110HL5001	AD1601	3	MAB RM 106A	27	CC9110HL5001	5M361PCC207-07	F05017	A

CC1136HL5002	AD501	7	MAB RM 64	10	CC9136HL5002	5M361PCC207-07	F05017	A
CC1205HL5007L	AD501	3	RCB OMB >52'	52	CC9205HL5007	4C369PCC407-07	F05018	I
CC1205HL5007U	AD501	3	RCB OMB >52'	52	CC9205HL5007	4C369PCC407-07	F05018	I
CC1206HL5008	AD501	3	RCB OMB >52'	52	CC9206HL5008	4C369PCC407-10	F05018	I
CC1209HL5002	AD1601	3	MAB RM 216	41	CC9209HL5002	5M369PCC207-11	F05018	A
CC1209HL5003	AD1601	3	MAB RM 216	41	CC9209HL5003	5M369PCC207-11	F05018	A
CC1210HL5001	AD1601	3	MAB RM 106A	27	CC9210HL5001	5M369PCC207-22	F05018	A
CC1215SS0002	AD501	3	RCB OMB >-11	-11	CC9215SS0002	3C369PCC407-16	F05018	I
CC1220SS0002L	AD501	3	MAB RM 64	10	CC9220SS0002	5M369PCC207-11	F05018	A
CC1220SS0002U	AD501	3	MAB RM 64	10	CC9220SS0002	5M369PCC207-11	F05018	A
CC1309SS0002	AD1601	3	MAB RM 216	41	CC9309SS0002	5M361PCC207-01	F05019	A
CC1309SS0003L	AD1601	3	MAB RM 216	41	CC9309SS0003	5M361PCC207-01	F05019	A
CC1309SS0003U	AD1601	3	MAB RM 216	41	CC9309SS0003	5M361PCC207-01	F05019	A
CC1311SS0001	AD1601	3	MAB RM 216	41	CC9311SS0001	5M369PCC207-08	F05019	A
CC1320HL5001	AD1601	3	MAB RM 216	41	CC9320HL5001	5M361PCC207-01	F05019	A
CC1425HL5016	AD151	3	FHB RM 208	30	CC9425HL5016	5M361PCC207-01	F05020	A
CC1613SS0003	AD151	7	RCB OMB >37'	37	CC9613SS0003	5C369PCC407-03	F05021	I

CV1002HL5002	AD71	2	RCB SGBC>52'	19	CV9002HL5002	4C369PCV417-04	F05005	I
CV1002HL5003	AD71	2	RCB SGBC>19'	19	CV9002HL5003	4C369PCV417-04	F05005	I
CV1002HL5004	AD71	2	RCB SGBC>19'	19	CV9002HL5004	4C369PCV417-04	F05005	I
CV1002HL5007	AD151	2	RCB SGBC>19'	19	CV9002HL5007	4C369PCV417-04	F05005	I
CV1002HL5008	AD71	2	RCB SGBC>37'	19	CV9002HL5008	4C369PCV417-04	F05005	I
CV1002HL5009	AD151	2	RCB SGBC>37'	19	CV9002HL5009	4C369PCV417-04	F05005	I
CV1002HL5010	AD151	2	RCB SGBC>19'	19	CV9002HL5010	4C369PCV417-04	F05005	I
CV1002HL5012	AD71	2	RCB SGBC>37'	19	CV9002HL5012	4C369PCV417-04	F05005	I
CV1002HL5019	AD151	2	RCB SGBC>19'	19	CV9002HL5019	4C369PCV417-04	F05005	I
CV1002HL5020	AD151	2	RCB SGBC>19'	19	CV9002HL5020	4C369PCV417-04	F05005	I
CV1002HL5021	AD501	2	RCB SGBC>19'	19	CV9002HL5021	4C369PCV417-04	F05005	I
CV1003HF5003	AD151	2	RCB RGN HX	37	CV1003HF5003	5C369PCV417-A09	F05005	I
CV1003HL5003N	AD151	2	RCB RGN HX	37	CV2003HL5003	4C369PCV417-04	F05005	I
CV1003HL5003S	AD151	2	RCB RGN HX	37	CV1003HL5003	4C369PCV417-04	F05005	I
CV1004HF5001	AD41	2	RCB RGN HX	37	CV1004HF5001	5C369PCV417-A09	F05005	I
CV1005HF5001	AD41	2	RCB RGN HX	37	CV1005HF5001	5C369PCV417-A09	F05005	I
CV1006HL5037L	AD151	2	MAB RM 108	29	CV9006HL5037	4M369PCV217-04		A

CV1006HL5037U	AD151	2	MAB RM 108	29	CV9006HL5037	4M369PCV217-04		A
CV1011HL5009	AD71	2	MAB RM 49	10	CV9011HL5009	4M369PCV217-04	F05006	A
CV1086SS0002	AD71	2	MAB RM 110	29	CV9086SS0002	2M369PCV217-05	F05006	A
CV1088HL5002	AD41	2	MAB RM 31	10	CV9088HL5002	4M369PCV217-04	F05006	A
CV1116HL5018	AD71	2	MAB RM 108	29	CV9116HL5018	2M369PCV217-20	F05007	A
CV1117HF5054	AD41	2	RCB PZR	37	CV1117HF5054	4C369PCV417-A02	F05005	I
CV1117HL5005	AD501	2	RCB SGBC>37'	19	CV9117HL5005	4C369PCV417-02	F05005	I
CV1117SS0006	AD1601	2	RCB SGBC>37'	19	CV9117SS0006	4C369PCV417-02	F05005	I
CV1121HS5007	AD41	1	RCB PZR	37	CV9121HS5007	4C369PCV417-A02	F05005	I
CV1121HS5009	AD151	1	RCB PZR	37	CV9121HS5009	4C369PCV417-A02	F05005	I
CV1121HS5010	AD151	1	RCB PZR	37	CV9121HS5010	4C369PCV417-A02	F05005	I
FC1009SS0001	AD41	3	FHB RM 110	21	FC9009SS0001	4F369PFC530-03	F05028	A
FC1011HL5001	AD1601	2	FHB RM 110	21	FC9011HL5001	4F369PFC530-02	F05028	A
FC1012HL5002	AD501	3	FHB RM 110	21	FC9012HL5002	4F369PFC530-02	F05028	A
FW1012HL5002E	AD5501	2	RCB SGAD>37'	19	FW9012HL5002	2C369PFW433-01	F00062	I
FW1012HL5002W	AD5501	2	RCB SGAD>37'	19	FW9012HL5002	2C369PFW433-01	F00062	I
FW1012HL5003	AD12501	2	RCB SGAD>37'	19	FW9012HL5003	2C369PFW433-01	F00062	I

FW1012HL5005L	AD5501	2	RCB OMB >37'	37	FW9012HL5005	2C369PFW433-01	F00062	I
FW1012HL5005U	AD5501	2	RCB OMB >37'	37	FW9012HL5005	2C369PFW433-01	F00062	I
FW1012HL5011	AD5501	2	RCB SGAD>19'	19	FW9012HL5011	2C369PFW433-01	F00062	I
FW1012HL5016	AD12501	2	RCB SGAD>37'	19	FW1012HL5016	2C369PFW433-01	F00062	I
FW1014HL5001E	AD5501	2	RCB SGBC>37'		FW9014HL5001	2C369PFW433-01	F00062	I
FW1014HL5001W	AD5501	2	RCB SGBC>37'		FW9014HL5001	2C369PFW433-01	F00062	I
FW1014HL5002	AD12501	2	RCB SGBC>37'	19	FW9014HL5002	2C369PFW433-01	F00062	I
FW1014HL5003L	AD5501	2	RCB RGN HX	37	FW9014HL5003	2C369PFW433-01	F00062	I
FW1014HL5003U	AD5501	2	RCB RGN HX	37	FW9014HL5003	2C369PFW433-01	F00062	I
FW1014HL5009	AD12501	2	RCB SGBC>37'	19	FW9014HL5009	2C369PFW433-01	F00062	I
FW1014HL5012	AD5501	2	RCB SGBC>19'	19	FW9014HL5012	2C369PFW433-01	F00062	I
FW1016HL5003	AD5501	2	RCB RGN HX	37	FW9016HL5003	2C369PFW433-11	F00062	I
FW1016HL5004	AD5501	2	RCB SGBC>19'	19	FW9016HL5004	2C369PFW433-01	F00062	I
FW1016HL5006	AD5501	2	RCB SGBC>52'	19	FW9016HL5006	2C369PFW433-01	F00062	I
FW1016HL5007	AD5501	2	RCB SGBC>19'	19	FW9016HL5007	2C369PFW433-01	F00062	I
FW1016HL5008	AD5501	2	RCB RGN HX	37	FW9016HL5008	2C369PFW433-01	F00062	I
FW1016HL5009	AD12501	2	RCB SGBC>37'	19	FW9016HL5009	2C369PFW433-01	F00062	I

FW1016HL5010	AD5501	2	RCB SGBC>37'	19	FW9016HL5010	2C369PFW433-01	F00062	I
FW1016SH0001	AD5501	2	RCB SGBC>37'	19	FW9016SH0001	2C369PFW433-01	F00062	I
FW1016SS0006	AD5501	2	RCB SGBC>52'	19	FW9016SS0006	2C369PFW433-01	F00062	I
FW1018HL5003	AD5501	2	RCB OMB >37'	37	FW9018HL5003	2C369PFW433-01	F00062	I
FW1018HL5004	AD5501	2	RCB SGAD>19'	19	FW9018HL5004	2C369PFW433-01	F00062	I
FW1018HL5006L	AD5501	2	RCB OMB >37'	37	FW9018HL5006	2C369PFW433-01	F00062	I
FW1018HL5006U	AD5501	2	RCB OMB >37'	37	FW9018HL5006	2C369PFW433-01	F00062	I
FW1018HL5007N	AD5501	2	RCB SGAD>37'	19	FW9018HL5007	2C369PFW433-01	F00062	I
FW1018HL5007S	AD5501	2	RCB SGAD>37'	19	FW9018HL5007	2C369PFW433-01	F00062	I
FW1018HL5008	AD12501	2	RCB SGAD>37'	19	FW9018HL5008	2C369PFW433-01	F00062	I
FW1018HL5009	AD12501	2	RCB SGAD>37'	19	FW9018HL5009	2C369PFW433-01	F00062	I
FW1018SS0001	AD5501	2	RCB SGAD>19'	19	FW9018SS0001	2C369PFW433-01	F00062	I
FW1018SS0006	AD5501	2	RCB SGAD>52'	19	FW9018SS0006	2C369PFW433-01	F00062	I
FW1018SS0007	AD12501	2	RCB SGAD>37'	19	FW9018SS0007	2C369PFW433-01	F00062	I
FW1029HL5002E	AD1601	2	IVC A	44	FW9029HL5002	2G369PFW633-02	F00062	A
FW1029HL5002W	AD1601	2	IVC A	44	FW9029HL5002	2G369PFW633-02	F00062	A
FW1029HL5003	AD1601	2	IVC A	44	FW9029HL5003	2G369PFW633-02	F00062	A

FW1030HL5002E	AD1601	2	IVC B	44	FW9030HL5002	2G369PFW633-03	F00062	A
FW1030HL5002W	AD1601	2	IVC B	44	FW9030HL5002	2G369PFW633-03	F00062	A
FW1030HL5003	AD1601	2	IVC B	44	FW9030HL5003	2G369PFW633-03	F00062	A
FW1031HL5002E	AD1601	2	IVC C	44	FW9031HL5002	2G369PFW633-04	F00062	A
FW1031HL5002W	AD1601	2	IVC C	44	FW9031HL5002	2G369PFW633-04	F00062	A
FW1031HL5003	AD1601	2	IVC C	44	FW9031HL5003	2G369PFW633-04	F00062	A
FW1032HL5002E	AD1601	2	IVC D	44	FW9032HL5002	2G369PFW633-01	F00062	A
FW1032HL5002W	AD1601	2	IVC D	44	FW9032HL5002	2G369PFW633-01	F00062	A
FW1032HL5003	AD1601	2	IVC D	44	FW9032HL5003	2G369PFW633-01	F00063	A
FW1117HL5001	AD41	2	IVC C	34	FW9117HL5001	2G369PFW633-05	F00063	A
FW1117HL5003	AD41	2	IVC C	34	FW9117HL5003	2G369PFW633-05	F00063	A
FW1117HL5004	AD41	2	IVC C	44	FW9117HL5004	2G369PFW633-05	F00063	A
FW1119HL5001	AD41	2	IVC B	34	FW9119HL5001	2G369PFW633-05	F00063	A
FW1119HL5003	AD41	2	IVC B	34	FW9119HL5003	2G369PFW633-05	F00063	A
FW1119HL5004	AD41	2	IVC B	44	FW9119HL5004	2G369PFW633-05	F00063	A
FW1121HL5001	AD41	2	IVC A	34	FW9121HL5001	2G369PFW633-05	F00063	A
FW1121HL5003	AD41	2	IVC A	34	FW9121HL5003	2G369PFW633-05	F00063	A

FW1121HL5004	AD41	2	IVC A	34	FW9121HL5004	2G369PFW633-05	F00063	A
FW1123HL5001	AD41	2	IVC D	34	FW9123HL5001	2G369PFW633-05	F00063	A
FW1123HL5003	AD41	2	IVC D	34	FW9123HL5003	2G369PFW633-05	F00063	A
FW1123HL5004	AD41	2	IVC D	34	FW9123HL5004	2G369PFW633-05	F00063	A
MD1147HF5002	AD71	7	IVC A	44	MD1147HF5002	9G369PMD645-A01	F00055	A
MD1148HF5002	AD71	7	IVC B	44	MD1148HF5002	9G369PMD645-A01	F00055	A
MD1149HF5002	AD71	7	IVC C	44	MD1149HF5002	9G369PMD645-A01	F00055	A
MD1150HF5002	AD41	7	IVC D	44	MD1150HF5002	9G369PMD645-A01	F00055	A
MS1001HL5004	AD5501	2	RCB OMB >68'	68	MS9001HL5004	2C369PMS446-01	F00016	I
MS1001HL5007	AD12501	2	RCB SGAD>68'	19	MS9001HL5007	2C369PMS446-01	F00016	I
MS1001HL5010L	AD1601	2	IVC A	51	MS9001HL5010	2G369PMS646-06	F00016	A
MS1001HL5010U	AD1601	2	IVC A	51	MS9001HL5010	2G369PMS646-06	F00016	A
MS1001HL5011E	AD5501	2	IVC A	51	MS9001HL5011	2G369PMS646-06	F00016	A
MS1001HL5011W	AD5501	2	IVC A	51	MS9001HL5011	2G369PMS646-06	F00016	A
MS1001HL5012L	AD1601	2	IVC A	51	MS9001HL5012	2G369PMS646-06	F00016	A
MS1001HL5012U	AD1601	2	IVC A	51	MS9001HL5012	2G369PMS646-06	F00016	A
MS1001HL5015	AD5501	2	RCB SGAD>83'	19	MS9001HL5015	2C369PMS446-01	F00016	I

MS1002HL5006	AD5501	2	RCB OMB >68'	68	MS9002HL5006	2C369PMS466-02	F00016	I
MS1002HL5007	AD12501	2	RCB SGBC>68'	19	MS9002HL5007	2C369PMS446-02	F00016	I
MS1002HL5010L	AD1601	2	IVC B	51	MS9002HL5010	2G369PMS646-07	F00016	A
MS1002HL5010U	AD1601	2	IVC B	51	MS9002HL5010	2G369PMS646-07	F00016	A
MS1002HL5011E	AD5501	2	IVC B	51	MS9002HL5011	2G369PMS646-07	F00016	A
MS1002HL5011W	AD5501	2	IVC B	51	MS9002HL5011	2G369PMS646-07	F00016	A
MS1002HL5012L	AD1601	2	IVC B	51	MS9002HL5012	2G369PMS646-07	F00016	A
MS1002HL5012U	AD1601	2	IVC B	51	MS9002HL5012	2G369PMS646-07	F00016	A
MS1002HL5015	AD5501	2	RCB SGBC>83'	19	MS9002HL5015	2C369PMS446-02	F00016	I
MS1002HL5016	AD5501	2	RCB SGBC>83'	19	MS9002HL5016	2C369PMS446-02	F00016	I
MS1003HL5004	AD5501	2	RCB OMB >68'	68	MS9003HL5004	2C369PMS446-03	F00016	I
MS1003HL5012	AD12501	2	RCB SGBC>68'	19	MS9003HL5012	2C369PMS446-03	F00016	I
MS1003HL5013	AD5501	2	RCB SGBC>83'	19	MS9003HL5013	2C369PMS446-03	F00016	I
MS1003HL5014	AD5501	2	RCB SGBC>83'	19	MS9003HL5014	2C369PMS446-03	F00016	I
MS1003HL5015L	AD1601	2	IVC C	51	MS9003HL5015	2G369PMS646-08	F00016	A
MS1003HL5015U	AD1601	2	IVC C	51	MS9003HL5015	2G369PMS646-08	F00016	A
MS1003HL5016E	AD5501	2	IVC C	51	MS9003HL5016	2G369PMS646-08	F00016	A

MS1003HL5016W	AD5501	2	IVC C	51	MS9003HL5016	2G369PMS646-08	F00016	A
MS1003HL5017L	AD1601	2	IVC C	51	MS9003HL5017	2G369PMS646-08	F00016	A
MS1003HL5017U	AD1601	2	IVC C	51	MS9003HL5017	2G369PMS646-08	F00016	A
MS1004HL5007	AD5501	2	RCB OMB >68'	68	MS9004HL5007	2C369PMS446-04	F00016	I
MS1004HL5012	AD12501	2	RCB SGAD>68'	19	MS9004HL5012	2C369PMS446-04	F00016	I
MS1004HL5013	AD12501	2	RCB PZR	37	MS9004HL5013	2C369PMS446-04	F00016	I
MS1004HL5014	AD12501	2	RCB SGAD>83'	19	MS9004HL5014	2C369PMS446-04	F00016	I
MS1004HL5015L	AD1601	2	IVC D	51	MS9004HL5015	2G369PMS646-09	F00016	A
MS1004HL5015U	AD1601	2	IVC D	51	MS9004HL5015	2G369PMS646-09	F00016	A
MS1004HL5016E	AD5501	2	IVC D	51	MS9004HL5016	2G369PMS646-09	F00016	A
MS1004HL5016W	AD5501	2	IVC D	51	MS9004HL5016	2G369PMS646-09	F00016	A
MS1004HL5017L	AD1601	2	IVC D	51	MS9004HL5017	2G369PMS646-09	F00016	A
MS1004HL5017U	AD1601	2	IVC D	51	MS9004HL5017	2G369PMS646-09	F00016	A
MS1005SS0001N	AD5501	7	TGB B	55	MS9005SS0001	7G369PMS846-05	F00016	A
MS1005SS0001S	AD5501	7	TGB B	55	MS9005SS0001	7G369PMS846-05	F00016	A
MS1005SS0002E	AD5501	7	TGB B	29	MS9005SS0002	7G369PMS846-05	F00016	A
MS1005SS0002W	AD5501	7	TGB B	29	MS9005SS0002	7G369PMS846-05	F00016	A

MS1006SS0001N	AD5501	7	TGB B	55	MS9006SS0001	7G369PMS846-06	F00016	A
MS1006SS0001S	AD5501	7	TGB B	55	MS9006SS0001	7G369PMS846-06	F00016	A
MS1006SS0002E	AD5501	7	TGB B	29	MS9006SS0002	7G369PMS846-06	F00016	A
MS1006SS0002W	AD5501	7	TGB B	29	MS9006SS0002	7G369PMS846-06	F00016	A
MS1007SS0002E	AD5501	7	TGB B	29	MS9007SS0002	7G369PMS846-06	F00016	A
MS1007SS0002W	AD5501	7	TGB B	29	MS9007SS0002	7G369PMS846-06	F00016	A
MS1008HL5001	AD5501	7	TGB B	55	MS9008HL5001	7G369PMS846-05	F00016	A
MS1008SS0001E	AD5501	7	TGB B	29	MS9008SS0001	7G369PMS846-05	F00016	A
MS1008SS0001W	AD5501	7	TGB B	29	MS9008SS0001	7G369PMS846-05	F00016	A
MS1013HL5002E	AD5501	7	TGB B	55	MS9013HL5002	7G369PMS846-08	F00016	A
MS1013HL5002W	AD5501	7	TGB B	55	MS9013HL5002	7G369PMS846-08	F00016	A
MS1013HL5003	AD5501	7	TGB B	55	MS9013HL5003	7G3G9PMS846-05	F00016	A
MS1013HL5004	AD5501	7	TGB B	55	MS9013HL5004	7G369PMS846-05	F00016	A
MS1013SS0002E	AD5501	7	TGB B	55	MS9013SS0002	7G369PMS846-09	F00016	A
MS1013SS0002W	AD5501	7	TGB B	55	MS9013SS0002	7G369PMS846-09	F00016	A
MS1051HL5009	AD71	3	IVC D	10	MS9051HL5009	4G369PMS646-05	F00024	A
PS1020HF5002	AD41	7	MAB RM 108	29	PS1020HF5002	5M369PPS285-A01	Z00045	A

RC1000SS0001	AD151	1	RCB PZR	37	RC9000SS0001	4C369PRC457-07	F05003	I
RC1003HL5006	AD501	1	RCB PZR	37	RC9003HL5006	1C369PRC457-06	F05003	I
RC1003HL5009	AD501	1	RCB PZR	37	RC9003HL5009	1C369PRC457-06	F05003	I
RC1014HL5001	AD5501	7	RCB PZR	37	RC9014HL5001	7C369PRC457-02	F05004	I
RC1014HL5003E	AD5501	7	RCB PZR	37	RC9014HL5003	7C769PRC457-02	F05004	I
RC1014HL5003W	AD5501	7	RCB PZR	37	RC9014HL5003	7C369PRC457-02	F05004	I
RC1014HL5005N	AD5501	7	RCB PZR	37	RC9014HL5005	7C369PRC457-02	F05004	I
RC1014HL5005S	AD5501	7	RCB PZR	37	RC9014HL5005	7C369PRC457-02	F05004	I
RC1014HL5006L	AD5501	7	RCB PZR	37	RC9014HL5006	7C369PRC457-02	F05004	I
RC1014HL5006U	AD5501	7	RCB PZR	37	RC9014HL5006	7C369PRC457-02	F05004	I
RC1014HL5009	AD501	7	RCB PZR	37	RC9014HL5009	7C369PRC457-02	F05004	I
RC1014HL5012N	AD5501	7	RCB PZR	37	RC9014HL5012	7C369PRC457-02	F05004	I
RC1014HL5012S	AD5501	7	RCB PZR	37	RC9014HL5012	7C369PRC457-02	F05004	I
RC1014HL5013	AD1601	7	RCB PZR	37	RC9014HL5013	7C369PRC457-02	F05004	I
RC1014HL5015	AD1601	7	RCB PZR	37	RC9014HL5015	7C369PRC457-02	F05004	I
RC1014HL5019N	AD5501	7	RCB PZR	19	RC9014HL5019	7C369PRC457-02	F05004	I
RC1014HL5019S	AD5501	7	RCB PZR	19	RC9014HL5019	7C369PRC457-02	F05004	I

RC1014HL5026	AD501	7	RCB PZR	19	RC9014HL5026	7C369PRC457-02	F05004	I
RC1014HL5028	AD1601	7	RCB PZR	19	RC9014HL5028	7C369PRC457-02	F05004	I
RC1112HL5002	AD5501	1	RCB SGAD>19'	19	RC9112HL5002	4C369PRC457-09	F05001	I
RC1123HL5013	AD501	1	RCB PZR	37	RC9123HL5013	4C369PRC457-07	F05001	I
RC1125HL5001	AD5501	1	RCB IMB >-11	-11	RC9125HL5001	4C369PRC457-10	F05001	I
RC1125HL5008	AD1601	1	RCB IMB >-11	-11	RC9125HL5008	4C369PRC457-10	F05001	I
RC1221HL5001	AD1601	1	RCB IMB >-11	-11	RC9221HL5001	4C369PRC457-10	F05001	I
RC1221HL5003	AD5501	1	RCB IMB >-11	-11	RC9221HL5003	4C369PRC457-10	F05001	I
RC1221HL5004	AD5501	1	RCB SGBC>19'	19	RC9221HL5004	4C369PRC457-10	F05001	I
RC1221HL5005	AD5501	1	RCB SGBC>19'	19	RC9221HL5005	4C369PRC457-10	F05001	I
RC1221HL5006	AD5501	1	RCB IMB >-11	-11	RC9221HL5006	4C369PRC457-10	F05001	I
RC1221HL5007	AD5501	1	RCB IMB >-11	-11	RC9221HL5007	4C369PRC457-10	F05001	I
RC1320HL5002	AD1601	1	RCB SGBC>19'	19	RC9320HL5002	4C369PRC457-04	F05001	I
RC1320HL5004	AD501	1	RCB SGBC>19'	19	RC9320HL5004	4C369PRC457-04	F05001	I
RC1422HL5019	AD501	1	RCB SGAD>52'	19	RC9422HL5019	1C369PRC457-06	F05001	I
RH1101HL5001	AD1601	1	RCB VLV RM	-2	RH9101HL5001	4C369PRH459-04	F20000	I
RH1101HL5002	AD1601	1	RCB VLV RM	-2	RH9101HL5002	4C369PRH459-04	F20000	I

RH1101HL5003	AD1601	1	RCB VLV RM	19	RH9101HL5003	4C369PRH459-04	F20000	I
RH1101HL5006	AD5501	1	RCB SGAD>19'	19	RH9101HL5006	4C369PRC459-04	F20000	I
RH1101HL5009	AD1601	1	RCB SGAD>19'	19	RH9101HL5009	4C369PRH459-04	F20000	I
RH1110HL5002	AD501	2	RCB SGAD>19'	19	RH9110HL5002	4C369PRH459-03	F20000	I
RH1201HL5001	AD1601	1	RCB VLV RM	-2	RH9201HL5001	4C369PRH459-07	F20000	I
RH1201HL5006	AD5501	1	RCB VLV RM	-2	RH9201HL5006	4C369PRH459-07	F20000	I
RH1202SS0002	AD1601	2	RCB VLV RM	-2	RH9202SS0002	4C369PRH459-07	F20000	I
RH1203HL5001	AD501	2	RCB VLV RM	19	RH9203HL5001	2C369PRH459-02	F20000	I
RH1204HL5001	AD501	2	RCB VLV RM	19	RH9204HL5001	2C369PRH459-02	F20000	I
RH1211HL5002L	AD501	2	RCB SGBC>19'	19	RH9211HL5002	4C369PRH459-07	F20000	I
RH1211HL5002U	AD501	2	RCB SGBC>19'	19	RH9211HL5002	4C369PRH459-07	F20000	I
RH1303HL5007	AD501	2	RCB VLV RM	19	RH9303HL5007	2C369PRH459-05	F20000	I
RH1303HL5009	AD501	2	RCB VLV RM	-2	RH9303HL5009	2C369PRH459-05	F20000	I
RH1306SS0001	AD501	2	RCB VLV RM	-2	RH9306SS0001	4C369PRH459-06	F20000	I
RH1312HL5002	AD501	2	RCB VLV RM	19	RH9312HL5002	4C369PRH459-01	F20000	I
RH1313HL5003L	AD501	2	RCB SGBC>19'	19	RH9313HL5003	4C369PRH459-06	F20000	I
RH1313HL5003U	AD501	2	RCB SGBC>19'	19	RH9313HL5003	4C369PRH459-06	F20000	I

SB1101HL5007	AD1601	2	RCB OMB >19'	19	SB9101HL5007	2C369PSB468-02	F20001	I
SB1101HL5012	AD501	2	RCB SGAD>19'	19	SB9101HL5012	2C369PSB468-02	F20001	I
SB1101HL5017	AD1601	2	RCB OMB >19'	19	SB9101HL5017	2C369PSB468-02	F20001	I
SB1101HL5019	AD501	2	IVC A	10	SB9101HL5019	5G369PSB668-03	F20001	A
SB1101HL5020	AD501	2	IVC A	10	SB9101HL5020	5G369PSB668-03	F20001	A
SB1101HL5022	AD501	2	IVC A	10	SB9101HL5022	5G369PSB668-03	F20001	A
SB1104HL5001	AD501	7	IVC A	10	SB9104HL5001	5G369PSB668-03	F20001	A
SB1104HL5002	AD501	7	IVC A	10	SB9104HL5002	5G369PSB668-03	F20001	A
SB1104HL5006	AD501	7	IVC A	10	SB9104HL5006	5G369PSB668-03	F20001	A
SB1105HL5001	AD71	7	IVC A	10	SB9105HL5001	5G369PSB668-03	F20001	A
SB1107HF5001	AD41	2	IVC A	10	SB1107HF5001	7G369PSB668-A01	F20001	A
SB1201HL5004	AD1601	2	RCB OMB >19'	19	SB9201HL5004	2C369PSB468-02	F20001	I
SB1201HL5010	AD1601	2	RCB OMB >19'	19	SB9201HL5010	2C369PSB468-02	F20001	I
SB1201HL5013	AD501	2	RCB SGBC>19'	19	SB9201HL5013	2C369PSB468-02	F20001	I
SB1201HL5017	AD501	2	IVC B	10	SB9201HL5017	5G369PSB668-05	F20001	A'
SB1201HL5018	AD501	2	IVC B	10	SB9201HL5018	5G369PSB668-05	720001	A
SB1201HL5020	AD501	2	IVC B	10	SB9201HL5020	5G369PSB668-05	F20001	A

SB1202HF5002	AD71	2	RCB SGBC>19'	19	SB1202HF5002	2C361PSB468-A05	F20001	I
SB1204HL5001	AD501	7	IVC B	10	SB9204HL5001	5G369PSB668-05	F20001	A
SB1204HL5002	AD501	7	IVC B	10	SB9204HL5002	5G369PSB668-05	F20001	A
SB1205HL5003	AD151	7	IVC B	10	SB9205HL5003	5G369PSB668-05	F20001	A
SB1207HF5001	AD41	7	IVC B	10	SB1207HF5001	7G369PSB668-A01	F20001	A
SB1250HF5003	AD41	2	RCB SGBC>19'	19	SB1250HF5003	2C361PSB468-A05	F20001	I
SB1274HL5002L	AD151	7	IVC B	10	SB9274HL5002	5G369PSB668-05	F20002	A
SB1274HL5002U	AD151	7	IVC B	10	SB9274HL5002	5G369PSB668-05	F20002	A
SB1301HL5003L	AD501	2	RCB OMB >19'	19	SB9301HL5003	2C369PSB468-02	F20001	I
SB1301HL5003U	AD501	2	RCB OMB >19'	19	SB9301HL5003	2C369PSB468-02	F20001	I
SB1301HL5011L	AD501	2	RCB SGBC>19'	19	SB9301HL5011	2C369PSB468-02	F20001	I
SB1301HL5011U	AD501	2	RCB SGBC>19'	19	SB9301HL5011	2C369PSB468-02	F20001	I
SB1301HL5012N	AD151	2	RCB SGBC>19'	19	SB9301HL5012	2C369PSB468-02	F20001	I
SB1301HL5012S	AD151	2	RCB SGBC>19'	19	SB9301HL5012	2C369PSB468-02	F20001	I
SB1301HL5018	AD501	2	IVC C	10	SB9301HL5018	5G369PSB668-07	F20001	A
SB1301HL5020	AD501	2	IVC C	10	SB9301HL5020	5G369PSB668-07	F20001	A
SB1301HL5021	AD501	2	IVC C	10	SB9301HL5021	5G369PSB668-07	F20001	A

SB1302HF5003	AD41	2	RCB SGBC>19'	19	SB1302HF5003	2C369PSB468-A04	F20001	I
SB1303HF5005	AD151	2	RCB SGBC>37'	19	SB1303HF5005	2C369PSB468-A04	F20001	I
SB1304HL5001	AD501	7	IVC C	10	SB9304HL5001	5G369PSB668-07	F20001	A
SB1304HL5002	AD501	7	IVC C	10	SB9304HL5002	5G369PSB668-07	F20001	A
SB1304HL5006	AD501	7	IVC C	10	SB9304HL5006	5G369PSB668-07	F20001	A
SB1350HF5016	AD41	2	RCB SGBC>19'	19	SB1350HF5016	2C361PSB468-A05	F20001	I
SB1401HL5003	AD1601	2	RCB OMB >19'	19	SB9401HL5003	2C369PSB468-02	F20001	I
SB1401HL5011	AD1601	2	RCB OMB >19'	19	SB9401HL5011	2C369PSB468-02	F20001	I
SB1401HL5012	AD501	2	RCB SGAD>19'	19	SB9401HL5012	2C369PSB468-02	F20001	I
SB1401HL5016L	AD151	2	RCB SGAD>19'	19	SB9401HL5016	2C369PSB468-02	F20001	I
SB1401HL5016U	AD151	2	RCB SGAD>19'	19	SB9401HL5016	2C369PSB468-02	F20001	I
SB1401HL5019	AD501	2	RCB SGAD>19'	19	SB9401HL5019	2C369PSB468-02	F20001	I
SB1401HL5020	AD501	2	IVC D	10	SB9401HL5020	5G369PSB668-01	F20001	A
SB1401HL5022	AD501	2	IVC D	10	SB9401HL5022	5G369PSB668-01	F20001	A
SB1401HL5023	AD501	2	IVC D	10	SB9401HL5023	5G369PSB668-01	F20001	A
SB1402HF5002	AD71	2	RCB SGAD>37'	19	SB1402HF5002	2C369PSB468-A04	F20001	I
SB1402HF5004	AD71	2	RCB SGAD>37'	19	SB1402HF5004	2C369PSB468-A04	F20001	I

SB1403HF5002	AD71	2	RCB SGAD>19'	19	SB1403HF5002	2C368PSB468-A04	F20001	I
SB1404HL5001	AD501	7	IVC D	10	SB9404HL5001	5G369PSB668-01	F20001	A
SB1404HL5002	AD501	7	IVC D	10	SB9404HL5002	5G369PSB668-01	F20001	A
SB1406HL5007	AD41	7	IVC D	10	SB9406HL5007	5G369PSB668-01	F20001	A
SB1407HF5001	AD41	7	IVC D	10	SB1407HF5001	7G369PSB668-A01	F20001	A
SB1474HL5002	AD501	7	IVC D	10	SB9474HL5002	5G369PSB668-01	F20002	A
SI1101SS0008L	AD501	2	FHB HHSI A	-29	SI9101SS0008	2F369PSI572-03	F05013	A
SI1101SS0008U	AD501	2	FHB HHSI A	-29	SI9101SS0008	2F369PSI572-03	F05013	A
SI1107HL5001N	AD501	2	RCB OMB >19'	19	SI9107HL5001	4C369PSI472-01	F05013	I
SI1107HL5001S	AD501	2	RCB OMB >19'	19	SI9107HL5001	4C369PSI472-01	F05013	I
SI1107SS0061	AD501	2	RCB OMB >19'	19	SI9107SS0061	4C369PSI472-01	F05013	I
SI1108HL5001	AD1601	1	RCB SGAD>19'	19	SI9108HL5001	4C369PSI472-01	F05013	I
SI1108HL5003	AD1601	1	RCB SGAD>19'	19	SI9108HL5003	4C369PSI472-01	F05013	I
SI1112HF5023	AD41	7	RCB OMB >19'	19	SI1112HF5023	5C369PSI472-A07	F05013	I
SI1201HL5010L	AD501	2	FHB HHSI B	-29	SI9201HL5010	2F369PSI572-04	F05014	A
SI1201HL5010U	AD501	2	FHB HHSI B	-29	SI9201HL5010	2F369PSI572-04	F05014	A
SI1205HL5022	AD501	2	RCB IMB >-11	-11	SI9205HL5022	2C369PSI472-02	F05014	I

SI1206HL5008	AD151	2	RCB IMB >-11	-11	SI9206HL5008	4C369PSI472-05	F05014	I
SI1206HL5012	AD501	2	RCB IMB >-11	-11	SI9206HL5012	4C369PSI472-05	F05014	I
SI1207SS0001	AD501	2	RCB OMB >19'	19	SI9207SS0001	4C369PSI472-05	F05014	I
SI1208HL5005	AD1601	1	RCB SGBC>19'	19	SI9208HL5005	4C369PSI472-05	F05014	I
SI1217HL5009	AD1601	2	RCB OMB >-11	-2	SI9217HL5009	5C369PSI472-03	F05016	I
SI1301SS0005L	AD501	2	FHB HHSI C	-29	SI9301SS0005	2F369PSI572-06	F05015	A
SI1301SS0005U	AD501	2	FHB HHSI C	-29	SI9301SS0005	2F369PSI572-06	F05015	A
SI1306HL5012	AD151	2	FHB HHSI C	-29	SI9306HL5012	2F369PSI572-05	F05015	A
SI1308HL5001	AD501	1	RCB IMB >-11	-11	SI9308HL5001	4C369PSI472-07	F05015	I
SI1314HL5007	AD5501	2	RCB IMB >-11	-11	SI9314HL5007	5C369PSI472-03	F05016	I
SI1315HL5003	AD12501	1	RCB SGBC>19'	19	SI9315HL5003	5C369PSI472-03	F05016	I
SI1315HL5004	AD5501	1	RCB SGBC>19'	19	SI9315HL5004	5C369PSI472-03	F05016	I
SI1326HL5001	AD501	2	RCB SGBC>19'	19	SI9326HL5001	4C369PSI472-07	F05015	I
SI1327HL5001	AD1601	2	RCB SGBC>19'	19	SI9327HL5001	4C369PSI472-07	F05015	I
WL1019HF5001	AD71	7	RCB IMB >-11	-11	WL1019HF5001	7G369PWL477-A03	F05022	I
WL1284HL5002	AD1601	7	MAB RM 67C	10	WL9284HL5002	7M369PWL277-03	F05026	A
WL1284HL5003	AD501	7	MAB RM 53B	10	WL9284HL5003	7M369PWL277-03	F05026	A

ATTACHMENT 2

Unit 2 Snubber IST Listing

Revision 1

Mdtpns Tagtpns / Snubber	Model No	Qc Level	Route / Location	Elev	Hang Dwg	Iso Dwg	Pipe Dwg	Accessible/ Inaccessible
2C112XSN0001A	HYD-1300KIP	2	RCB SGA-N/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0001B	HYD-1300KIP	2	RCB SGB-N/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0001C	HYD-1300KIP	2	RCB SGC-N/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0001D	HYD-1300KIP	2	RCB SGD-N/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0002A	HYD-1300KIP	2	RCB SGA-N/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0002B	HYD-1300KIP	2	RCB SGB-N/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0002C	HYD-1300KIP	2	RCB SGC-N/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0002D	HYD-1300KIP	2	RCB SGD-N/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0003A	HYD-1300KIP	2	RCB SGA-S/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0003B	HYD-1300KIP	2	RCB SGB-S/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0003C	HYD-1300KIP	2	RCB SGC-S/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0003D	HYD-1300KIP	2	RCB SGD-S/W	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0004A	HYD-1300KIP	2	RCB SGA-S/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0004B	HYD-1300KIP	2	RCB SGB-S/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0004C	HYD-1300KIP	2	RCB SGC-S/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I
2C112XSN0004D	HYD-1300KIP	2	RCB SGD-S/E	58	400290-00010XX	400290--00010XX	0957-0100008WN	I

AF2006HL5003	AD5501	2	RCB SGAD>52'	19	AF9006HL5003	2C369PAF402-02	F00024	I
AF2006HL5015	AD5501	2	RCB SGAD>52'	19	AF9006HL5015	2C369PAF402-02	F00024	I
AF2006HL5018	AD5501	2	RCB OMB >19'	19	AF9006HL5018	2C369PAF402-02	F00024	I
AF2006HL5035N	AD5501	2	RCB SGAD>68'	19	AF9006HL5035	2C369PAF402-02	F00024	I
AF2006HL5035S	AD5501	2	RCB SGAD>68'	19	AF9006HL5035	2C369PAF402-02	F00024	I
AF2008HL5028	AD5501	2	RCB SGAD>68'	19	AF9008HL5028	2C369PAF402-02	F00024	I
AF2008HL5029	AD5501	2	RCB SGAD>68'	19	AF9008HL5029	2C369PAF402-02	F00024	I
AF2008HL5030	AD5501	2	RCB OMB >19'	19	AF9008HL5030	2C369PAF402-02	F00024	I
AF2008HL5041N	AD5501	2	RCB SGAD>68'	19	AF9008HL5041	2C369PAF402-02	F00024	I
AF2008HL5041S	AD5501	2	RCB SGAD>68'	19	AF9008HL5041	2C369PAF402-02	F00024	I
AF2010HL5002L	AD5501	2	RCB OMB >19'	19	AF9010HL5002	2C369PAF402-01	F00024	I
AF2010HL5002U	AD5501	2	RCB OMB >19'	19	AF9010HL5002	2C369PAF402-01	F00024	I
AF2010HL5007E	AD5501	2	RCB SGBC>52'	19	AF9010HL5007	2C369PAF402-01	F00024	I
AF2010HL5007W	AD5501	2	RCB SGBC>52'	19	AF9010HL5007	2C369PAF402-01	F00024	I
AF2010HL5008L	AD5501	2	RCB SGBC>68'	19	AF9010HL5008	2C369PAF402-01	F00024	I
AF2010HL5008U	AD5501	2	RCB SGBC>68'	19	AF9010HL5008	2C369PAF402-01	F00024	I
AF2010HL5009	AD1601	2	RCB SGBC>68'	19	AF9010HL5009	2C369PAF402-01	F00024	I

AF2010HL5017	AD5501	2	RCB SGBC>68'	19	AF9010HL5017	2C369PAF402-01	F00024	I
AF2010HL5018	AD1601	2	RCB SGBC>68'	19	AF9010HL5018	2C369PAF402-01	F00024	I
AF2010HL5020	AD1601	2	RCB SGBC>68'	19	AF9010HL5020	2C369PAF402-01	F00024	I
AF2010HL5026	AD1601	2	RCB SGBC>19'	19	AF9010HL5026	2C369PAF402-01	F00024	I
AF2010HL5035	AD1601	2	RCB SGBC>68'	19	AF9010HL5035	2C369PAF402-01	F00024	I
AF2012HL5014E	AD1601	2	RCB SGBC>68'	19	AF9012HL5014	2C369PAF402-01	F00024	I
AF2012HL5014W	AD1601	2	RCB SGBC>68'	19	AF9012HL5014	2C369PAF402-01	F00024	I
AF2012HL5017	AD5501	2	RCB SGBC>68'	19	AF9012HL5017	2C369PAF402-01	F00024	I
AF2012HL5018	AD1601	2	RCB SGBC>68'	19	AF9012HL5018	2C369PAF402-01	F00024	I
AF2012HL5020	AD1601	2	RCB SGBC>68'	19	AF9012HL5020	2C369PAF402-01	F00024	I
AF2012HL5024	AD5501	2	RCB OMB >19'	19	AF9012HL5024	2C369PAF402-01	F00024	I
AF2012HL5027	AD5501	2	RCB OMB >19'	19	AF9012HL5027	2C369PAF402-01	F00024	I
AF2012HL5038L	AD5501	2	RCB SGBC>68'	19	AF9012HL5038	2C369PAF402-01	F00024	I
AF2012HL5038U	AD5501	2	RCB SGBC>68'	19	AF9012HL5038	2C369PAF402-01	F00024	I
AF2054HL5004N	AD151	3	IVC D	34	AF9054HL5004	5G369PAF602-10	F00024	A
AF2054HL5004S	AD151	3	IVC D	34	AF9054HL5004	5G369PAF602-10	F00024	A
AF2061HL5001	AD1601	2	RCB SGAD>52'	19	AF9061HL5001	2C369PAF402-02	F00024	I

AF2061HL5002	AD1601	2	RCB SGAD>68'	19	AF9061HL5002	2C369PAF402-02	F00024	I
AF2062HL5011	AD1601	2	RCB SGAD>68'	19	AF9062HL5011	2C369PAF402-02	F00024	I
AF2062HL5012	AD1601	2	RCB SGAD>68'	19	AF9062HL5012	2C369PAF402-02	F00024	I
AF2062HL5015	AD1601	2	RCB SGAD>52'	19	AF9062HL5015	2C369PAF402-02	F00024	I
AF2063HL5002	AD1601	2	RCB SGBC>68'	19	AF9063HL5002	2C369PAF402-01	F00024	I
AF2063HL5003	AD151	2	RCB SGBC>68'	19	AF9063HL5003	2C369PAF402-01	F00024	I
AF2063HL5005	AD1601	2	RCB SGBC>68'	19	AF9063HL5005	2C369PAF402-01	F00024	I
AF2063HL5006	AD1601	2	RCB SGBC>68'	19	AF9063HL5006	2C369PAF402-01	F00024	I
AF2064HL5004	AD1601	2	RCB SGBC>52'	19	AF9064HL5004	2C369PAF402-01	F00024	I
AP2003HF5001	AD41	2	MAB RM 108C	29	AP2003HF5001	5M369PAP287-A01	Z47501	A
CC2105HL5004	AD5501	3	RCB RHR HX 2A	37	CC9105HL5004	4C369PCC407-08	F05017	I
CC2105HL5009	AD5501	3	RCB OMB >52'	52	CC9105HL5009	4C369PCC407-08	F05017	I
CC2109HL5001N	AD501	3	MAB RM 106A	27	CC9109HL5001	5M362PCC207-07	F05017	A
CC2109HL5001S	AD501	3	MAB RM 106A	27	CC9109HL5001	5M362PCC207-07	F05017	A
CC2110HL5001	AD1601	3	MAB RM 106A	27	CC9110HL5001	5M362PCC207-07	F05017	A
CC2136HL5002	AD501	7	MAB RM 64	10	CC9136HL5002	5M362PCC207-07	F05017	A
CC2205HL5007L	AD501	3	RCB OMB >52'	52	CC9205HL5007	5M362PCC207-07	F05018	I

CC2205HL5007U	AD501	3	RCB OMB >52'	52	CC9205HL5007	5M362PCC207-07	F05018	I
CC2206HL5008	AD501	3	RCB OMB >52'	52	CC9206HL5008	4C369PCC407-10	F05018	I
CC2209HL5002	AD1601	3	MAB RM 216	41	CC9209HL5002	5M369PCC207-11	F05018	A
CC2209HL5003	AD1601	3	MAB RM 216	41	CC9209HL5003	5M369PCC207-11	F05018	A
CC2210HL5001	AD1601	3	MAB RM 106A	27	CC9210HL5001	5M369PCC207-22	F05018	A
CC2215SS0002	AD501	3	RCB OMB >-11'	-11	CC9215SS02	3C369PCC407-16	F05018	I
CC2220SS0002L	AD501	3	MAB RM 64	10	CC9220SS0002	5M369PCC207-11	F05018	A
CC2220SS0002U	AD501	3	MAB RM 64	10	CC9220SS0002	5M369PCC207-11	F05018	A
CC2309SS0002	AD1601	3	MAB RM 216	41	CC9309SS0002	5M362PCC207-01	F05019	A
CC2309SS0003L	AD1601	3	MAB RM 216	41	CC9309SS0003	5M362PCC207-01	F05019	A
CC2309SS0003U	AD1601	3	MAB RM 216	41	CC9309SS0003	5M362PCC207-01	F05019	A
CC2311SS0001	AD1601	3	MAB RM 216	41	CC9311SS0001	5M369PCC207-08	F05019	A
CC2320HL5001	AD1601	3	MAB RM 216	41	CC9320HL5001	5M362PCC207-01	F05019	A
CC2425HL5016	AD151	3	FHB RM 208	30	CC9425HL5016	5F369PCC507-01	F05020	A
CC2613SS0003	AD151	7	RCB OMB >37'	37	CC9613SS0003	5C369PCC407-03	F05021	I
CV2002HL5002	AD71	2	RCB SGBC>52'	19	CV9002HL5002	4C369PCV417-04	F05005	I
CV2002HL5003	AD71	2	RCB SGBC>19'	19	CV9002HL5003	4C369PCV417-04	F05005	I

CV2002HL5004	AD71	2	RCB SGBC>19'	19	CV9002HL5004	4C369PCV417-04	F05005	I
CV2002HL5007	AD151	2	RCB SGBC>19'	19	CV9002HL5007	4C369PCV417-04	F05005	I
CV2002HL5008	AD71	2	RCB SGBC>37'	19	CV9002HL5008	4C369PCV417-04	F05005	I
CV2002HL5009	AD151	2	RCB SGBC>37'	19	CV9002HL5009	4C369PCV417-04	F05005	I
CV2002HL5010	AD151	2	RCB SGBC>19'	19	CV9002HL5010	4C369PCV417-04	F05005	I
CV2002HL5012	AD71	2	RCB SGBC>37'	19	CV9002HL5012	4C369PCV417-04	F05005	I
CV2002HL5019	AD151	2	RCB SGBC>19'	19	CV9002HL5019	4C369PCV417-04	F05005	I
CV2002HL5020	AD151	2	RCB SGBC>19'	19	CV9002HL5020	4C369PCV417-04	F05005	I
CV2002HL5021	AD501	2	RCB SGBC>19'	19	CV9002HL5021	4C369PCV417-04	F05005	I
CV2003HF5003	AD151	2	RCB RGN HX	37	CV2003HF5003	5C369PCV417-A09	F05005	I
CV2003HL5003N	AD151	2	RCB RGN HX	37	CV2003HL5003	4C369PCV417-04	F05005	I
CV2003HL5003S	AD151	2	RCB RGN HX	37	CV2003HL5003	4C369PCV417-04	F05005	I
CV2004HF5001	AD41	2	RCB RGN HX	37	CV2004HF5001	5C369PCV417-A09	F05005	I
CV2005HF5001	AD41	2	RCB RGN HX	37	CV2005HF5001	5C369PCV417-A09	F05005	I
CV2006HL5037	AD1601	2	MAB RM 108C	29	CV9006HL5037	4M369PCV217-04	F05005	A
CV2011HL5009	AD71	2	MAB RM 49	10	CV9011HL5009	4M369PCV217-04	F05006	A
CV2086SS0002	AD71	2	MAB RM 110	29	CV9086SS0002	2M369PCV217-05	F05006	A

CV2088HL5002	AD41	2	MAB RM 31	10	CV9088HL5002	4M369PCV217-04	F05006	A
CV2116HL5018	AD71	2	MAB RM 108C	29	CV9116HL5018	2M369PCV217-20	F05007	A
CV2117HF5054	AD41	2	RCB PZR	37	CV2117HF5054	4C369PCV417-A02	F05005	I
CV2117HL5005	AD501	2	RCB SGBC>37'	19	CV9117HL5005	4C369PCV417-02	F05005	I
CV2117SS0006	AD1601	2	RCB SGBC>37'	19	CV9117SS0006	4C369PCV417-02	F05005	I
CV2121HS5007	AD41	1	RCB PZR	37	CV9121HS5007	4C369PCV417-A02	F05005	I
CV2121HS5009	AD151	1	RCB PZR	37	CV9121HS5009	4C369PCV417-A02	F05005	I
CV2121HS5010	AD151	1	RCB PZR	37	CV9121HS5010	4C369PCV417-A02	F05005	I
FC2009SS0001	AD41	3	FHB RM 110	21	FC9009SS0001	4F369PFC530-03	F05028	A
FC2011HL5001	AD1601	2	FHB RM 110	21	FC9011HL5001	4F369PFC530-02	F05028	A
FC2012HL5002	AD501	3	FHB RM 110	21	FC9012HL5002	4F369PFC530-02	F05028	A
FW2012HL5002E	AD5501	2	RCB SGAD>37'	19	FW9012HL5002	2C369PFW433-01	F00062	I
FW2012HL5002W	AD5501	2	RCB SGAD>37'	19	FW9012HL5002	2C369PFW433-01	F00062	I
FW2012HL5003	AD12501	2	RCB SGAD>37'	19	FW9012HL5003	2C369PFW433-01	F00062	I
FW2012HL5005L	AD5501	2	RCB OMB >37'	37	FW9012HL5005	2C369PFW433-01	F00062	I
FW2012HL5005U	AD5501	2	RCB OMB >37'	37	FW9012HL5005	2C369PFW433-01	F00062	I
FW2012HL5011	AD5501	2	RCB SGAD>19'	19	FW9012HL5011	2C369PFW433-01	F00062	I

FW2012HL5016	AD12501	2	RCB SGAD>37'	19	FW2012HL5016	2C369PFW433-01	F00062	I
FW2014HL5001E	AD5501	2	RCB SGBC>37'	19	FW9014HL5001	2C369PFW433-01	F00062	I
FW2014HL5001W	AD5501	2	RCB SGBC>37'	19	FW9014HL5001	2C369PFW433-01	F00062	I
FW2014HL5002	AD12501	2	RCB SGBC>37'	19	FW9014HL5002	2C369PFW433-01	F00062	I
FW2014HL5003L	AD5501	2	RCB RGN HX	37	FW9014HL5003	2C369PFW433-01	F00062	I
FW2014HL5003U	AD5501	2	RCB RGN HX	37	FW9014HL5003	2C369PFW433-01	F00062	I
FW2014HL5009	AD12501	2	RCB SGBC>37'	19	FW9014HL5009	2C369PFW433-01	F00062	I
FW2014HL5012	AD5501	2	RCB SGBC>19'	19	FW9014HL5012	2C369PFW433-01	F00062	I
FW2016HL5003	AD5501	2	RCB RGN HX	37	FW9016HL5003	2C369PFW433-11	F00062	I
FW2016HL5004	AD5501	2	RCB SGBC>19'	19	FW9016HL5004	2C369PFW433-01	F00062	I
FW2016HL5006	AD5501	2	RCB SGBC>52'	19	FW9016HL5006	2C369PFW433-01	F00062	I
FW2016HL5007	AD5501	2	RCB SGBC>19'	19	FW9016HL5007	2C369PFW433-01	F00062	I
FW2016HL5008	AD5501	2	RCB RGN HX	37	FW9016HL5008	2C369PFW433-01	F00062	I
FW2016HL5009	AD12501	2	RCB SGBC>37'	19	FW9016HL5009	2C369PFW433-01	F00062	I
FW2016HL5010	AD5501	2	RCB SGBC>37'	19	FW9016HL5010	2C369PFW433-01	F00062	I
FW2016SH0001	AD5501	2	RCB SGBC>19"	19	FW9016SH0001	2C369PFW433-01	F00062	I
FW2016SS0006	AD5501	2	RCB SGBC>52'	19	FW9016SS0006	2C369PFW433-01	F00062	I

FW2018HL5003	AD5501	2	RCB OMB >37'	37	FW9018HL5003	2C369PFW433-01	F00062	I
FW2018HL5004	AD5501	2	RCB SGAD>19'	19	FW9018HL5004	2C369PFW433-01	F00062	I
FW2018HL5006L	AD5501	2	RCB OMB >37'	37	FW9018HL5006	2C369PFW433-01	F00062	I
FW2018HL5006U	AD5501	2	RCB OMB >37'	37	FW9018HL5006	2C369PFW433-01	F00062	I
FW2018HL5007N	AD5501	2	RCB SGAD>37'	19	FW9018HL5007	2C369PFW433-01	F00062	I
FW2018HL5007S	AD5501	1	RCB SGAD>37'	19	FW9018HL5007	2C369PFW433-01	F00062	I
FW2018HL5008	AD12501	2	RCB SGAD>37'	19	FW9018HL5008	2C369PFW433-01	F00062	I
FW2018HL5009	AD12501	2	RCB SGAD>37'	19	FW9018HL5009	2C369PFW433-01	F00062	I
FW2018SS0001	AD5501	2	RCB SGAD>19'	19	FW9018SS0001	2C369PFW433-01	F00062	I
FW2018SS0006	AD5501	2	RCB SGAD>52'	19	FW9018SS0006	2C369PFW433-01	F00062	I
FW2018SS0007	AD12501	2	RCB SGAD>37'	19	FW9018SS0007	2C369PFW433-01	F00062	I
FW2029HL5002E	AD1601	2	IVC A	44	FW9029HL5002	2G369PFW633-02	F00062	A
FW2029HL5002W	AD1601	2	IVC A	44	FW9029HL5002	2G369PFW633-02	F00062	A
FW2029HL5003	AD1601	2	IVC A	44	FW9029HL5003	2G369PFW633-02	F00062	A
FW2030HL5002E	AD1601	2	IVC B	44	FW9030HL5002	2G369PFW633-03	F00062	A
FW2030HL5002W	AD1601	2	IVC B	44	FW9030HL5002	2G369PFW633-03	F00062	A
FW2030HL5003	AD1601	2	IVC B	44	FW9030HL5003	2G369PFW633-03	F00062	A

FW2031HL5002E	AD1601	2	IVC C	44	FW9031HL5002	2G369PFW633-04	F00062	A
FW2031HL5002W	AD1601	2	IVC C	44	FW9031HL5002	2G369PFW633-04	F00062	A
FW2031HL5003	AD1601	2	IVC C	44	FW9031HL5003	2G369PFW633-04	F00062	A
FW2032HL5002E	AD1601	2	IVC D	44	FW9032HL5002	2G369PFW633-01	F00062	A
FW2032HL5002W	AD1601	2	IVC D	44	FW9032HL5002	2G369PFW633-01	F00062	A
FW2032HL5003	AD1601	2	IVC D	44	FW9032HL5003	2G369PFW633-01	F00062	A
FW2117HL5001	AD41	2	IVC C	34	FW9117HL5001	2G369PFW633-05	F00063	A
FW2117HL5003	AD41	2	IVC C	34	FW9117HL5003	2G369PFW633-05	F00063	A
FW2117HL5004	AD41	2	IVC C	44	FW9117HL5004	2G369PFW633-05	F00063	A
FW2119HL5001	AD41	2	IVC B	34	FW9119HL5001	2G369PFW633-05	F00063	A
FW2119HL5003	AD41	2	IVC B	34	FW9119HL5003	2G369PFW633-05	F00063	A
FW2119HL5004	AD41	2	IVC B	44	FW9119HL5004	2G369PFW633-05	F00063	A
FW2121HL5001	AD41	2	IVC A	34	FW9121HL5001	2G369PFW633-05	F00063	A
FW2121HL5003	AD41	2	IVC A	34	FW9121HL5003	2G369PFW633-05	F00063	A
FW2121HL5004	AD41	2	IVC A	34	FW9121HL5004	2G369PFW633-05	F00063	A
FW2123HL5001	AD41	2	IVC D	34	FW9123HL5001	2G369PFW633-05	F00063	A
FW2123HL5003	AD41	2	IVC D	34	FW9123HL5003	2G369PFW633-05	F00063	A

FW2123HL5004	AD41	2	IVC D	34	FW9123HL5004	2G369PFW633-05	F00063	A
MD2147HF5002	AD71	7	IVC A	44	MD2147HF5002	9G369PMD645-A01	F00055	A
MD2148HF5002	AD71	7	IVC B	44	MD2148HF5002	9G369PMD645-A01	F00055	A
MD2149HF5002	AD71	7	IVC C	44	MD2149HF5002	9G369PMD645-A01	F00055	A
MD2150HF5002	AD71	7	IVC D	44	MD2150HF5002	9G369PMD645-A01	F00055	A
MS2001HL5004	AD5501	2	RCB OMB >68'	68	MS9001HL5004	2C369PMS446-01	F00016	I
MS2001HL5007	AD12501	2	RCB SGAD>68'	19	MS9001HL5007	2C369PMS446-01	F00016	I
MS2001HL5010L	AD1601	2	IVC A	51	MS9001HL5010	2G369PMS646-06	F00016	A
MS2001HL5010U	AD1601	2	IVC A	51	MS9001HL5010	2G369PMS646-06	F00016	A
MS2001HL5011E	AD5501	2	IVC A	51	MS9001HL5011	2G369PMS646-06	F00016	A
MS2001HL5011W	AD5501	2	IVC A	51	MS9001HL5011	2G369PMS646-06	F00016	A
MS2001HL5012L	AD1601	2	IVC A	51	MS9001HL5012	2G369PMS646-06	F00016	A
MS2001HL5012U	AD1601	2	IVC A	51	MS9001HL5012	2G369PMS646-06	F00016	A
MS2001HL5015	AD5501	2	RCB SGAD>83'	19	MS9001HL5015	2C369PMS446-01	F00016	I
MS2002HL5006	AD5501	2	RCB OMB >68'	68	MS9002HL5006	2C369PMS466-02	F00016	I
MS2002HL5007	AD12501	2	RCB SGBC>68'	19	MS9002HL5007	2C369PMS446-02	F00016	I
MS2002HL5010L	AD1601	2	IVC B	51	MS9002HL5010	2G369PMS646-07	F00016	A

MS2002HL5010U	AD1601	2	IVC B	51	MS9002HL5010	2G369PMS646-07	F00016	A
MS2002HL5011E	AD5501	2	IVC B	51	MS9002HL5011	2G369PMS646-07	F00016	A
MS2002HL5011W	AD5501	2	IVC B	51	MS9002HL5011	2G369PMS646-07	F00016	A
MS2002HL5012L	AD1601	2	IVC B	51	MS9002HL5012	2G369PMS646-07	F00016	A
MS2002HL5012U	AD1601	2	IVC B	51	MS9002HL5012	2G369PMS646-07	F00016	A
MS2002HL5015	AD5501	2	RCB SGBC>83'	19	MS9002HL5015	2C369PMS446-02	F00016	I
MS2002HL5016	AD5501	2	RCB SGBC>83'	19	MS9002HL5016	2C369PMS446-02	F00016	I
MS2003HL5004	AD5501	2	RCB OMB >68'	68	MS9003HL5004	2C369PMS446-03	F00016	I
MS2003HL5012	AD12501	2	RCB SGBC>68'	19	MS9003HL5012	2C369PMS446-03	F00016	I
MS2003HL5013	AD5501	2	RCB SGBC>83'	19	MS9003HL5013	2C369PMS446-03	F00016	I
MS2003HL5014	AD5501	2	RCB SGBC>83'	19	MS9003HL5014	2C369PMS446-03	F00016	I
MS2003HL5015L	AD1601	2	IVC C	51	MS9003HL5015	2G369PMS646-08	F00016	A
MS2003HL5015U	AD1601	2	IVC C	51	MS9003HL5015	2G369PMS646-08	F00016	A
MS2003HL5016E	AD5501	2	IVC C	51	MS9003HL5016	2G369PMS646-08	F00016	A
MS2003HL5016W	AD5501	2	IVC C	51	MS9003HL5016	2G369PMS646-08	F00016	A
MS2003HL5017L	AD1601	2	IVC C	51	MS9003HL5017	2G369PMS646-08	F00016	A
MS2003HL5017U	AD1601	2	IVC C	51	MS9003HL5017	2G369PMS646-08	F00016	A

MS2004HL5007	AD5501	2	RCB OMB >68'	68	MS9004HL5007	2C369PMS446-04	F00016	I
MS2004HL5012	AD12501	2	RCB SGAD>68'	19	MS9004HL5012	2C369PMS446-04	F00016	I
MS2004HL5013	AD12501	2	RCB PZR	37	MS9004HL5013	2C369PMS446-04	F00016	I
MS2004HL5014	AD12501	2	RCB SGAD>83'	19	MS9004HL5014	2C369PMS446-04	F00016	I
MS2004HL5015L	AD1601	2	IVC D	51	MS9004HL5015	2G369PMS646-09	F00016	A
MS2004HL5015U	AD1601	2	IVC D	51	MS9004HL5015	2G369PMS646-09	F00016	A
MS2004HL5016E	AD5501	2	IVC D	51	MS9004HL5016	2G369PMS646-09	F00016	A
MS2004HL5016W	AD5501	2	IVC D	51	MS9004HL5016	2G369PMS646-09	F00016	A
MS2004HL5017L	AD1601	2	IVC D	51	MS9004HL5017	2G369PMS646-09	F00016	A
MS2004HL5017U	AD1601	2	IVC D	51	MS9004HL5017	2G369PMS646-09	F00016	A
MS2005SS0001N	AD5501	7	TGB B	55	MS9005SS0001	7G369PMS846-05	F00016	A
MS2005SS0001S	AD5501	7	TGB B	55	MS9005SS0001	7G369PMS846-05	F00016	A
MS2005SS0002E	AD5501	7	TGB B	29	MS9005SS0002	7G369PMS846-05	F00016	A
MS2005SS0002W	AD5501	7	TGB B	29	MS9005SS0002	7G369PMS846-05	F00016	A
MS2006SS0001N	AD5501	7	TGB B	55	MS9006SS0001	7G369PMS846-06	F00016	A
MS2006SS0001S	AD5501	7	TGB B	55	MS9006SS0001	7G369PMS846-06	F00016	A
MS2006SS0002E	AD5501	7	TGB B	29	MS9006SS0002	7G369PMS846-06	F00016	A

MS2006SS0002W	AD5501	7	TGB B	29	MS9006SS0002	7G369PMS846-06	F00016	A
MS2007SS0002E	AD5501	7	TGB B	29	MS9007SS0002	7G369PMS846-06	F00016	A
MS2007SS0002W	AD5501	7	TGB B	29	MS9007SS0002	7G369PMS846-06	F00016	A
MS2008HL5001	AD5501	7	TGB B	55	MS9008HL5001	7G369PMS846-05	F00016	A
MS2008SS0001E	AD5501	7	TGB B	29	MS9008SS0001	7G369PMS846-05	F00016	A
MS2008SS0001W	AD5501	7	TGB B	29	MS9008SS0001	7G369PMS846-05	F00016	A
MS2013HL5002E	AD5501	7	TGB B	55	MS9013HL5002	7G369PMS846-08	F00016	A
MS2013HL5002W	AD5501	7	TGB B	55	MS9013HL5002	7G369PMS846-08	F00016	A
MS2013HL5003	AD5501	7	TGB B	55	MS9013HL5003	7G3G9PMS846-05	F00016	A
MS2013HL5004	AD5501	7	TGB B	55	MS9013HL5004	7G369PMS846-05	F00016	A
MS2013SS0002E	AD5501	7	TGB B	55	MS9013SS0002	7G369PMS846-09	F00016	A
MS2013SS0002W	AD5501	7	TGB B	55	MS9013SS0002	7G369PMS846-09	F00016	A
MS2051HL5009	AD71	3	IVC D	10	MS9051HL5009	4G369PMS646-05	F00024	A
PS2020HF5002	AD41	7	MAB RM 108C	29	PS2020HF5002	5M369PPS285-A01	Z00045	A
RC2000SS0001	AD151		RCB PZR	37	RC2000SS0001	4C369PRC457-07	F05003	I
RC2003HL5006	AD501	1	RCB PZR	37	RC9003HL5006	1C369PRC457-06	F05003	I
RC2003HL5009	AD501	1	RCB PZR	37	RC9003HL5009	1C369PRC457-06	F05003	I

RC2014HL5001	AD5501	7	RCB PZR	37	RC9014HL5001	7C369PRC457-02	F05004	I
RC2014HL5003E	AD5501	7	RCB PZR	37	RC9014HL5003	7C769PRC457-02	F05004	I
RC2014HL5003W	AD5501	7	RCB PZR	37	RC9014HL5003	7C369PRC457-02	F05004	I
RC2014HL5005N	AD5501	7	RCB PZR	37	RC9014HL5005	7C369PRC457-02	F05004	I
RC2014HL5005S	AD5501	7	RCB PZR	37	RC9014HL5005	7C369PRC457-02	F05004	I
RC2014HL5006L	AD5501	7	RCB PZR	37	RC9014HL5006	7C369PRC457-02	F05004	I
RC2014HL5006U	AD5501	7	RCB PZR	37	RC9014HL5006	7C369PRC457-02	F05004	I
RC2014HL5009	AD501	7	RCB PZR	37	RC9014HL5009	7C369PRC457-02	F05004	I
RC2014HL5012N	AD5501	7	RCB PZR	37	RC9014HL5012	7C369PRC457-02	F05004	I
RC2014HL5012S	AD5501	7	RCB PZR	37	RC9014HL5012	7C369PRC457-02	F05004	I
RC2014HL5013	AD1601	7	RCB PZR	37	RC9014HL5013	7C369PRC457-02	F05004	I
RC2014HL5015	AD1601	7	RCB PZR	37	RC9014HL5015	7C369PRC457-02	F05004	I
RC2014HL5019N	AD5501	7	RCB PZR	19	RC9014HL5019	7C369PRC457-02	F05004	I
RC2014HL5019S	AD5501	7	RCB PZR	19	RC9014HL5019	7C369PRC457-02	F05004	I
RC2014HL5026	AD501	7	RCB PZR	19	RC9014HL5026	7C369PRC457-02	F05004	I
RC2014HL5028	AD1601	7	RCB PZR	19	RC9014HL5028	7C369PRC457-02	F05004	I
RC2112HL5002	AD5501	1	RCB SGAD>19'	19	RC9112HL5002	4C369PRC457-09	F05001	I

RC2123HL5013	AD501	1	RCB PZR	37	RC9123HL5013	4C369PRC457-07	F05001	I
RC2125HL5001	AD5501	1	RCB IMB >-11'	-11	RC9125HL5001	4C369PRC457-10	F05001	I
RC2125HL5008	AD1601	1	RCB IMB >-11'	-11	RC9125HL5008	4C369PRC457-10	F05001	I
RC2221HL5001	AD1601	1	RCB IMB >-11'	-11	RC9221HL5001	4C369PRC457-10	F05001	I
RC2221HL5003	AD5501	1	RCB IMB >-11'	-11	RC9221HL5003	4C369PRC457-10	F05001	I
RC2221HL5004	AD5501	1	RCB SGBC>19'	19	RC9221HL5004	4C369PRC457-10	F05001	I
RC2221HL5005	AD5501	1	RCB SGBC>19'	19	RC9221HL5005	4C369PRC457-10	F05001	I
RC2221HL5006	AD5501	1	RCB IMB >-11'	-11	RC9221HL5006	4C369PRC457-10	F05001	I
RC2221HL5007	AD5501	1	RCB IMB >-11'	-11	RC9221HL5007	4C369PRC457-10	F05001	I
RC2320HL5002	AD1601	1	RCB SGBC>19'	19	RC9320HL5002	4C369PRC457-04	F05001	I
RC2320HL5004	AD501	1	RCB SGBC>19'	19	RC9320HL5004	4C369PRC457-04	F05001	I
RC2422HL5019	AD501	1	RCB SGAD>52'	19	RC9422HL5019	1C369PRC457-06	F05001	I
RH2101HL5001	AD1601	1	RCB VLV RM	-2	RH9101HL5001	4C369PRH459-04	F20000	I
RH2101HL5002	AD1601	1	RCB VLV RM	-2	RH9101HL5002	4C369PRH459-04	F20000	I
RH2101HL5003	AD1601	1	RCB VLV RM	19	RH9101HL5003	4C369PRH459-04	F20000	I
RH2101HL5006	AD5501	1	RCB SGAD>19'	19	RH9101HL5006	4C369PRC459-04	F20000	I
RH2101HL5009	AD1601	1	RCB SGAD>19'	19	RH9101HL5009	4C369PRH459-04	F20000	I

RH2110HL5002	AD501	2	RCB SGAD>19'	19	RH9110HL5002	4C369PRH459-03	F20000	I
RH2201HL5001	AD1601	1	RCB VLV RM	-2	RH9201HL5001	4C369PRH459-07	F20000	I
RH2201HL5006	AD5501	1	RCB VLV RM	-2	RH9201HL5006	4C369PRH459-07	F20000	I
RH2202SS0002	AD1601	2	RCB VLV RM	-2	RH9202SS0002	4C369PRH459-07	F20000	I
RH2203HL5001	AD501	2	RCB VLV RM	19	RH9203HL5001	2C369PRH459-02	F20000	I
RH2204HL5001	AD501	2	RCB VLV RM	19	RH9204HL5001	2C369PRH459-02	F20000	I
RH2211HL5002L	AD501	2	RCB SGBC>19'	19	RH9211HL5002	4C369PRH459-07	F20000	I
RH2211HL5002U	AD501	2	RCB SGBC>19'	19	RH9211HL5002	4C369PRH459-07	F20000	I
RH2303HL5007	AD501	2	RCB VLV RM	19	RH9303HL5007	2C369PRH459-05	F20000	I
RH2303HL5009	AD501	2	RCB VLV RM	-2	RH9303HL5009	2C369PRH459-05	F20000	I
RH2306SS0001	AD501	2	RCB VLV RM	-2	RH9306SS0001	4C369PRH459-06	F20000	I
RH2312HL5002	AD501	2	RCB VLV RM	19	RH9312HL5002	4C369PRH459-01	F20000	I
RH2313HL5003L	AD501	2	RCB SGBC>19'	19	RH9313HL5003	4C369PRH459-06	F20000	I
RH2313HL5003U	AD501	2	RCB SGBC>19'	19	RH9313HL5003	4C369PRH459-06	F20000	I
SB2101HL5007	AD1601	2	RCB OMB >19'	19	SB9101HL5007	2C369PSB468-02	F20001	I
SB2101HL5012	AD501	2	RCB SGAD>19'	19	SB9101HL5012	2C369PSB468-02	F20001	I
SB2101HL5017	AD1601	2	RCB OMB >19'	19	SB9101HL5017	2C369PSB468-02	F20001	I

SB2101HL5019	AD501	2	IVC A	10	SB9101HL5019	5G369PSB668-03	F20001	A
SB2101HL5020	AD501	2	IVC A	10	SB9101HL5020	5G369PSB668-03	F20001	A
SB2101HL5022	AD501	2	IVC A	10	SB9101HL5022	5G369PSB668-03	F20001	A
SB2104HL5001	AD501	7	IVC A	10	SB9104HL5001	5G369PSB668-03	F20001	A
SB2104HL5002	AD501	7	IVC A	10	SB9104HL5002	5G369PSB668-03	F20001	A
SB2104HL5006	AD501	7	IVC A	10	SB9104HL5006	5G369PSB668-03	F20001	A
SB2105HL5001	AD71	7	IVC A	10	SB9105HL5001	5G369PSB668-03	F20001	A
SB2107HF5001	AD41	2	IVC A	10	SB2107HF5001	7G369PSB668-A01	F20001	A
SB2201HL5004	AD1601	2	RCB OMB >19'	19	SB9201HL5004	2C369PSB468-02	F20001	I
SB2201HL5010	AD1601	2	RCB OMB >19'	19	SB9201HL5010	2C369PSB468-02	F20001	I
SB2201HL5013	AD501	2	RCB SGBC>19'	19	SB9201HL5013	2C369PSB468-02	F20001	I
SB2201HL5017	AD501	2	IVC B	10	SB9201HL5017	5G369PSB668-05	F20001	A
SB2201HL5018	AD501	2	IVC B	10	SB9201HL5018	5G369PSB668-05	F20001	A
SB2201HL5020	AD501	2	IVC B	10	SB9201HL5020	5G369PSB668-05	F20001	A
SB2202HF5002	AD41	2	RCB SGBC>19'	19	SB2202HF5002	2C362PSB468-A05	F20001	I
SB2204HL5001	AD501	7	IVC B	10	SB9204HL5001	5G369PSB668-05	F20001	A
SB2204HL5002	AD501	7	IVC B	10	SB9204HL5002	5G369PSB668-05	F20001	A

SB2205HL5003	AD151	7	IVC B	10	SB9205HL5003	5G369PSB668-05	F20001	A
SB2207HF5001	AD41	7	IVC B	10	SB2207HF5001	7G369PSB668-A01	F20001	A
SB2250HF5003	AD41	2	RCB SGBC>19'	19	SB2250HF5003	2C362PSB468-A05	F20001	I
SB2274HL5002L	AD151	7	IVC B	10	SB9274HL5002	5G369PSB668-05	F20002	A
SB2274HL5002U	AD151	7	IVC B	10	SB9274HL5002	5G369PSB668-05	F20002	A
SB2301HL5003L	AD501	2	RCB OMB >19'	19	SB9301HL5003	2C369PSB468-02	F20001	I
SB2301HL5003U	AD501	2	RCB OMB >19'	19	SB9301HL5003	2C369PSB468-02	F20001	I
SB2301HL5011L	AD501	2	RCB SGBC>19'	19	SB9301HL5011	2C369PSB468-02	F20001	I
SB2301HL5011U	AD501	2	RCB SGBC>19'	19	SB9301HL5011	2C369PSB468-02	F20001	I
SB2301HL5012N	AD151	2	RCB SGBC>19'	19	SB9301HL5012	2C369PSB468-02	F20001	I
SB2301HL5012S	AD151	2	RCB SGBC>19'	19	SB9301HL5012	2C369PSB468-02	F20001	I
SB2301HL5018	AD501	2	IVC C	10	SB9301HL5018	5G369PSB668-07	F20001	A
SB2301HL5020	AD501	2	IVC C	10	SB9301HL5020	5G369PSB668-07	F20001	A
SB2301HL5021	AD501	2	IVC C	10	SB9301HL5021	5G369PSB668-07	F20001	A
SB2302HF5003	AD151	2	RCB SGBC>19'	19	SB2302HF5003	2C369PSB468-A04	F20001	I
SB2303HF5005	AD151	2	RCB SGBC>37'	19	SB2303HF5005	2C369PSB468-A04	F20001	I
SB2304HL5001	AD501	7	IVC C	10	SB9304HL5001	5G369PSB668-07	F20001	A

SB2304HL5002	AD501	7	IVC C	10	SB9304HL5002	5G369PSB668-07	F20001	A
SB2304HL5006	AD501	7	IVC C	10	SB9304HL5006	5G369PSB668-07	F20001	A
SB2350HF5016	AD41	2	RCB SGBC>19'	19	SB2350HF5016	2C362PSB468-A05	F20001	I
SB2401HL5003	AD1601	2	RCB OMB >19'	19	SB9401HL5003	2C369PSB468-02	F20001	I
SB2401HL5011	AD1601	2	RCB OMB >19'	19	SB9401HL5011	2C369PSB468-02	F20001	I
SB2401HL5012	AD501	2	RCB SGAD>19'	19	SB9401HL5012	2C369PSB468-02	F20001	I
SB2401HL5016L	AD151	2	RCB SGAD>19'	19	SB9401HL5016	2C369PSB468-02	F20001	I
SB2401HL5016U	AD151	2	RCB SGAD>19'	19	SB9401HL5016	2C369PSB468-02	F20001	I
SB2401HL5019	AD501	2	RCB SGAD>19'	19	SB9401HL5019	2C369PSB468-02	F20001	I
SB2401HL5020	AD501	2	IVC D	10	SB9401HL5020	5G369PSB668-01	F20001	A
SB2401HL5022	AD501	2	IVC D	10	SB9401HL5022	5G369PSB668-01	F20001	A
SB2401HL5023	AD501	2	IVC D	10	SB9401HL5023	5G369PSB668-01	F20001	A
SB2402HF5002	AD71	2	RCB SGAD>37'	19	SB2402HF5002	2C369PSB468-A04	F20001	I
SB2402HF5004	AD71	2	RCB SGAD>37'	19	SB2402HF5004	2C369PSB468-A04	F20001	I
SB2403HF5002	AD151	2	RCB SGAD>19'	19	SB2403HF5002	2C368PSB468-A04	F20001	I
SB2404HL5001	AD501	7	IVC D	10	SB9404HL5001	5G369PSB668-01	F20001	A
SB2404HL5002	AD501	7	IVC D	10	SB9404HL5002	5G369PSB668-01	F20001	A

SB2406HL5007	AD41	7	IVC D	10	SB9406HL5007	5G369PSB668-01	F20001	A
SB2407HF5001	AD41	7	IVC D	10	SB2407HF5001	7G369PSB668-A01	F20001	A
SB2474HL5002	AD501	7	IVC D	10	SB9474HL5002	5G369PSB668-01	F20002	A
SI2101SS0008L	AD501	2	FHB HHSI A	-29	SI9101SS0008	2F369PSI572-03	F05013	A
SI2101SS0008U	AD501	2	FHB HHSI A	-29	SI9101SS0008	2F369PSI572-03	F05013	A
SI2107HL5001N	AD501	2	RCB OMB >19'	19	SI9107HL5001	4C369PSI472-01	F05013	I
SI2107HL5001S	AD501	2	RCB OMB >19'	19	SI9107HL5001	4C369PSI472-01	F05013	I
SI2107SS0061	AD501	2	RCB OMB >19'	19	SI9107SS0061	4C369PSI472-01	F05013	I
SI2108HL5001	AD1601	1	RCB SGAD>19'	19	SI9108HL5001	4C369PSI472-01	F05013	I
SI2108HL5003	AD501	1	RCB SGAD>19'	19	SI9108HL5003	4C369PSI472-01	F05013	I
SI2201HL5010L	AD501	2	FHB HHSI B	-29	SI9201HL5010	2F369PSI572-04	F05014	A
SI2201HL5010U	AD501	2	FHB HHSI B	-29	SI9201HL5010	2F369PSI572-04	F05014	A
SI2205HL5022	AD501	2	RCB IMB >-11'	-11	SI9205HL5022	2C369PSI472-02	F05014	I
SI2206HL5008	AD151	2	RCB IMB >-11'	-11	SI9206HL5008	4C369PSI472-05	F05014	I
SI2206HL5012	AD501	2	RCB IMB >-11'	-11	SI9206HL5012	4C369PSI472-05	F05014	I
SI2207SS0001	AD501	2	RCB OMB >19'	19	SI9207SS0001	4C369PSI472-05	F05014	I
SI2208HL5005	AD1601	1	RCB SGBC>19'	19	SI9208HL5005	4C369PSI472-05	F05014	I

SI2217HL5009	AD1601	2	RCB OMB >-11'	-2	SI9217HL5009	5C369PSI472-03	F05016	I
SI2301SS0005L	AD501	2	FHB HHSI C	-29	SI9301SS0005	2F369PSI572-06	F05015	A
SI2301SS0005U	AD501	2	FHB HHSI C	-29	SI9301SS0005	2F369PSI572-06	F05015	A
SI2306HL5012	AD151	2	FHB HHSI C	-29	SI9306HL5012	2F369PSI572-05	F05015	A
SI2308HL5001	AD501	1	RCB IMB >-11'	-11	SI9308HL5001	4C369PSI472-07	F05015	I
SI2314HL5007	AD5501	2	RCB IMB >-11'	-11	SI9314HL5007	5C369PSI472-03	F05016	I
SI2315HL5003	AD12501	1	RCB SGBC>19'	19	SI9315HL5003	5C369PSI472-03	F05016	I
SI2315HL5004	AD5501	1	RCB SGBC>19'	19	SI9315HL5004	5C369PSI472-03	F05016	I
SI2326HL5001	AD501	2	RCB SGBC>19'	19	SI9326HL5001	4C369PSI472-07	F05015	I
SI2327HL5001	AD1601	2	RCB SGBC>19'	19	SI9327HL5001	4C369PSI472-07	F05015	I
WL2019HF5001	AD71	7	RCB IMB >-11'	-11	WL2019HF5001	7G369PWL477-A03	F05022	I

ATTACHMENT 3

Snubber Code Cases – Information Only

Revision 1

Code Case OMN-13, Revision 2
Performance-Based Requirements for Extending Snubber Inservice Visual Examination Interval at LWR Power Plants

Inquiry: With the low rate of problem identification through the visual examination process, can the visual examination interval allowed in Table ISTD-4252-1 of the OM Code, Subsection ISTD, 1995 Edition through 2011 Addenda be extended?

Reply: Yes, provided that the following additional service life monitoring requirements are met.

Applicability: ASME OM Code 1995 Edition through 2011 Addenda.

1 APPLICABILITY

This Code Case establishes specific requirements that must be met in order to allow extension of the visual examination interval beyond the maximum interval allowed in Table ISTD-4252-1 for mechanical and hydraulic snubbers. Paragraphs referenced in this Code Case denote the 1998 Edition through the 2011 Addenda. A correlation table (Table 1) is provided for the 1995 Edition. This Code Case supersedes the previously published version.

2 GENERAL REQUIREMENTS

The following requirements shall be implemented in order to extend the visual examination interval beyond the maximum interval allowed in Table ISTD-4252-1:

(a) These requirements are in addition to the service life monitoring requirements in section ISTD-6000.

(b) The requirements of this Code Case shall be implemented after the requirements of paras. ISTD-4251 and ISTD-4252 have been satisfied and the previous examination per Table ISTD-4252-1 was performed at a maximum interval of two fuel cycles.

(c) Demonstrate that the requirements of paras. 3.1 through 3.6 of this Code Case have been met for one interval prior to extending the examination interval.

2.1 Service Life Evaluations

The data and information gathered under this Code Case shall be utilized to reevaluate service life as described in section ISTD-6000.

2.2 Testing for This Code Case

Snubbers tested specifically for this Code Case shall be dispositioned per para. ISTD-6500.

Table 1 Correlation Table

1995 Edition and 1996 Addenda	1998 Edition Through 2006 Addenda
ISTD 1.13	ISTD-1750
ISTD 6	ISTD-4200
ISTD 6.1, 6.2, 6.3, 6.4	ISTD-4210, 4220, 4230, 4240
ISTD 6.5.1	ISTD-4251
ISTD 6.5.2	ISTD-4252
ISTD 8	ISTD-6000
ISTD 8.5	ISTD-6500
Table ISTD 6.5.2-1	Table ISTD-4252-1

3 SPECIFIC REQUIREMENTS

3.1 Examination for Indications of Degradation or Severe Operating Environments

Examinations per paras. ISTD-4210, ISTD-4220, ISTD-4230, and ISTD-4240 shall include examination for indications of degradation and severe operating environments.

3.2 Examination Prior to Maintenance or Testing

All snubbers shall be examined in accordance with the requirements of paras. ISTD-4210, ISTD-4220, ISTD-4230, and ISTD-4240 and para. 3.1 of this Code Case prior to conducting any maintenance, stroking, or testing, and prior to removal, for any reason, from their installed location.

3.3 Monitoring of Reservoir Fluid Level

Fluid level in hydraulic snubber reservoirs shall be sufficient to ensure that the snubber is acceptable for continued service to the next examination interval.

3.4 Review of Operational Readiness Test Data

All inservice test data acquired since implementation of the requirements of this Code Case shall be evaluated for indications of snubber degradation or other anomalies. This includes a review of test traces, where available. The results of this evaluation shall be used

(a) to identify snubbers that are subject to progressive degradation

(b) to identify severe operating environments not previously identified

Where applicable, data gathered prior to implementation of this Code Case shall also be evaluated.

3.5 Examination During Disassembly

Snubbers and snubber parts shall be examined for indications of degradation and severe operating environments during disassembly (e.g., during failure evaluation, refurbishment).

3.6 Transient Dynamic Event

The service life evaluation required by para. 2.1 of this Code Case shall include any transient dynamic event and actions taken under para. ISTD-1750.

3.7 Frequency of Examinations

(a) All snubbers within the scope of Subsection ISTD shall be examined and evaluated per this Code Case at least once every 10 yr.

(b) If at any time during an examination interval the cumulative number of unacceptable snubbers exceeds the applicable value from Column B in Table ISTD-4252-1, the current examination interval shall end, and all remaining examinations must be completed within the current fuel cycle. The duration of the subsequent examination interval shall be reduced in accordance with Table ISTD-4252-1, using the examination interval prior to implementing the code case as the base interval. The beginning of the subsequent fuel cycle shall be the starting date for the new examination interval.

3.8 Examination Corrective Action

The following actions shall be taken for snubbers that do not meet examination requirements:

(a) An evaluation shall be conducted to determine the cause of the unacceptability.

(b) Unacceptable snubbers shall be adjusted, repaired, modified, or replaced.

ATTACHMENT 4

Snubber Interpretations – Information Only

Revision 1

Interpretation: 04-10

Subject: ASME Code-1998 through OMb Code-2000

Date Issued: December 12, 2005

File: OMI 05-04

Question (1): Reference ISTD-4240 and 4252(d). If a snubber requires further evaluation or is classified as unacceptable during inservice examination and subsequently satisfies the operational readiness test criteria of ISTD-5210, is the snubber required to be classified as unacceptable for the purpose of determining the subsequent visual examination interval in accordance with Table ISTD-4252-1?

Reply (1): No. Per ISTD-4240, test results that satisfy the operational readiness criteria of ISTD-5210 shall be used to accept the snubber, provided the test demonstrates that the unacceptable condition did not affect operational readiness. In such cases, the visual examination requirements of ISTD-4230 are considered to be satisfied.

Question (2): It appears that ISTD-5200 and 5240 are conflicting as to when operational readiness testing can be performed. May inservice operational readiness tests be performed on snubbers at any time during a fuel cycle, normal system operation, or system or plant outages?

Reply (2): No. ISTD-5240 restricts snubber testing from beginning earlier than 60 days before a scheduled refueling outage.

Question (3): It appears that ISTD is silent in relation to subsequent operational readiness testing requirements for a snubber that has failed operational readiness testing and, after corrective action, is installed at a different location than where the failure occurred. Is it a requirement of ISTD-5500 for a snubber that has failed operational readiness testing, then after corrective action and subsequently being installed in a different location, to be retested during the next operational readiness testing campaign?

Reply (3): No.

Interpretation: 09-01

Subject: Subsection ISTD (ASME OM Code: 1998 Edition through 2005 Addenda)

Date Issued: June 20, 2007

File: OMI 07-118

Question (1): Does Subsection ISTD allow for the substitution of a snubber being removed for maintenance activities not affecting the snubber, in place of a snubber randomly selected for testing, if the snubber is within the same DTPG?

Reply (1): No; paras. ISTD-5311 and ISTD-5411 do not allow this type of substitution.

Question (2): If the snubber being substituted is NOT within the same DTPG, but its substitution does not make either DTPG fall below the minimum testing requirements (10% or 37 Plan)?

Reply (2): No; paras. ISTD-5311 and ISTD-5411 have specific sample selection criteria for each DTPG and do not allow substitution of snubbers between different DTPGs.

Question (3): If the snubber being substituted is NOT within the same DTPG, and its substitution would result in the DTPG falling below minimal testing requirements (10% or 37 Plan)?

Reply (3): No; paras. ISTD-5311 and ISTD-5411 have specific sample selection criteria for each DTPG and do not allow substitution of snubbers between different DTPGs.

Interpretation: 09-04

Subject: Paragraph ISTD-3220: Test Correction Factors (ASME OM Code: 1998 Edition Through 2004 Edition up to and Including ASME OMb Code-2006)

Date Issued: July 25, 2008

File: OMI 08-262

Question: Are the requirements of para. ISTD-3220 applicable to hydraulic snubbers only?

Reply: No, they are applicable to all snubbers.