Jon A. Franke
Site Vice President

PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603
Tel. 570.542.2904 Fax 570.542.1504
jfranke@pplweb.com

JUN 0 2 2014

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

SUSQUEHANNA STEAM ELECTRIC STATION
INSERVICE INSPECTION PROGRAM PLAN
FOR THE FOURTH TEN-YEAR INTERVAL **Docket No. 50-387**
PLA-7178 **and No. 50-388**

Pursuant to 10 CFR 50.55a(g)(5)(i), PPL Susquehanna, LLC (PPL) is submitting the Inservice Inspection (ISI) Program Plan for the fourth ten-year ISI interval, for Susquehanna Steam Electric Station (SSES) Units 1 and 2. 10 CFR 50.55a(g) requires ISI of American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components and their supports. 10 CR 50.55a(g)(4)(ii) requires that ISI programs conducted during successive ten-year inspection intervals following the initial ten-year interval comply with the requirements of the latest edition and addenda of the Code, incorporated by reference in paragraph (b) of 10 CFR 50.55a, twelve months prior to the start of the ten-year interval, subject to the limitations and modifications listed within paragraph (b) of that section. Therefore, the SSES fourth ten-year interval ISI program is based on the requirements of the ASME Boiler and Pressure Vessel (B&PV) Code, Section XI, 2007 Edition with 2008 Addenda.

The fourth interval ISI program plan is provided as Enclosure 1 to this submittal. The implementation date for the fourth ten-year inspection interval is June 1, 2014. Also enclosed is the SSES third interval Containment ISI (CI) program.

There are no new regulatory commitments contained in this letter.

If you have any questions or require additional information, please contact Mr. Duane L. Filchner (570) 542-6501.

Sincerely,

J. A. Franke

A047
NRR

Designated as Original Per Jan 7

Received @ DCO on 1/20/15

Enclosure: SSES Fourth Ten-Year Interval Inservice Inspection (ISI) and Third Ten-Year Interval Containment Inspection (IWE/IWL) Program Plan

Copy: NRC Region I
Mr. J. Greives, NRC Sr. Resident Inspector
Mr. J. Whited, NRC Project Manager
Mr. L. Winker, PA DEP/BRP

bc:	M. Cummings	NUCSB2
	R. E. Day	NUCSA1
	D. Deretz	NUCSB2
	N. E. Fairchild (SRC)	NUCSB3
	D. L. Filchner	NUCSA4
	R. J. Franssen	NUCSB3
	J. M. Helsel	NUCSB3
	B. P.Hyduk	NUCSB2
	A. A. Jardine	NUCSB3
	J. R. Jennings	NUCSA4
	J. G. Kanute	NUCSB2
	T. J. Kupetz	NUCSB3
	L. G. Oberrender	NUCLC
	G. G. Maertz	NUCSB2
	R. W. McIntosh	NUCSA4
	M. R. Mjaatvedt	NUCSB2
	P. M. Scanlan	NUCSB2
	J. J. Scopelliti	SSO
	S. W. Sienkiewicz	NUCSB2
	T. L. Tripoli	NUCSA4
	J. J. Waclawski	NUCSB2
	T. G. Wales (DBD)	GENPL5
	NRA File	GENPL4
	DCS	GENPL4

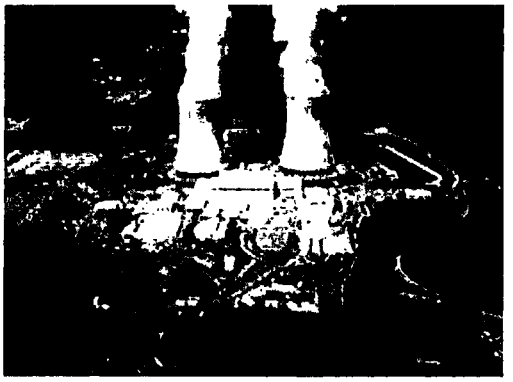
Enclosure to PLA-7178

SSES Fourth Ten-Year Interval Inservice Inspection (ISI) and Third Ten-Year Interval Containment Inspection (IWE/IWL) Program Plan

Susquehanna Steam Electric Station
Units 1 and 2
Program Section Title:

SSES FOURTH TEN-YEAR INTERVAL INSERVICE INSPECTION (ISI) And THIRD TEN-YEAR INTERVAL CONTAINMENT INSPECTION (IWE/IWL) PROGRAM PLAN

Effective Date: June 1, 2014



Commercial Service Dates:

Unit 1 – 06/08/83
Unit 2 – 02/12/85

Susquehanna Steam Electric Station
769 Salem Boulevard
Berwick, Pennsylvania 18603

Prepared for SSES by
Iddeal Solutions, LLC

REVISION APPROVAL SHEET

TITLE: ISI Program Plan
Fourth Ten-Year Inspection Interval
and
IWE/IWL Program Plan
Third Ten-Year Inspection Interval
Susquehanna Steam Electric Station, Units 1 & 2

DOCUMENT: ISI-LTP4-Plan REVISION: 0

PREPARED TRANSMITTAL

PREPARED: _____ / 5/19/14
Gary Park
Senior Programs Engineer
Iddeal Solutions

REVISION APPROVAL SHEET

TITLE: ISI Program Plan
Fourth Ten-Year Inspection Interval
and
IWE/IWL Program Plan
Third Ten-Year Inspection Interval
Susquehanna Steam Electric Station, Units 1 & 2

DOCUMENT: ISI-LTP4-Plan REVISION: 0

PROGRAM ACCEPTANCE

REVIEWED: _____ 5/19/14
Programs Engineering

ANII: _____ 5-27-14
Authorized Nuclear Inservice Inspector

APPROVED: _____ 5·27·14
Manager – Programs Engineering

Each time this document is revised, the Revision Approval Sheet will be signed and the following Revision Control Sheet should be completed to provide a detailed record of the revision history. The signatures above apply only to the changes made in the revision noted. If historical signatures are required, Susquehanna Steam Electric Station archives should be retrieved.

REVISION STATUS SHEET

REVISION SUMMARY

Revision	Issue Date	Description
0	June 1, 2014	Initial Revision Issued for Use: ISI-LTP4-Plan for the Fourth Ten-Year Interval ISI Program Plan and Third Ten-Year Interval IWE/IWL Program Plan

Notes:

1. This ISI Program Plan (Sections 1 - 10 inclusive) is controlled by the PPL Susquehanna, LLC, ISI Engineering Programs Group.
2. Revision 0 of this document was issued as the Fourth Interval ISI Program Plan and Third Interval IWE/IWL Program Plan was submitted to the NRC for review, including approval of the initial Fourth ISI Interval and Third IWE/IWL Relief Requests. Future revisions of this document made within the Fourth ISI Interval or Third IWE/IWL Interval will be maintained and controlled at the station; however, they are not required to be and will not be submitted to the NRC for approval. The exception to this is that new or revised Relief Requests shall be submitted to the NRC for safety evaluation and approval.

TABLE OF CONTENTS

1.0 ASME SECTION XI INSERVICE INSPECTION PROGRAM

1.1 Purpose

This plan's objective is to provide a traceable link between the governing code requirements and the implementing procedures in order to ensure that Regulatory rules and ASME Section XI Code requirements for the inservice inspection of safety related systems, components and structures are being fulfilled.

These instructions provide the necessary guidance for the personnel at PPL's Susquehanna Steam Electric Station (SSES) Units 1, 2, and Common[1]. This ISI Program also includes Containment Inservice Inspection (CISI), Risk-Informed Inservice Inspections (RI-ISI), Augmented Inservice Inspection (AUG), Owner Elected Inspections, and System Pressure Testing (SPT). This document ensures compliance to the following:

1.1.1 Conformance to Title 10, Section 50.55a of the Code of Federal Regulations (10 CFR 50.55a).

1.1.2 Conformance to the 2007 Edition through the 2008 Addenda of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code.

1.1.3 The necessary technical content is included in SSES Inservice Inspection Program and implementing procedures.

1.1.4 The proper ASME Section XI Code required examinations, tests and administrative procedures are implemented.

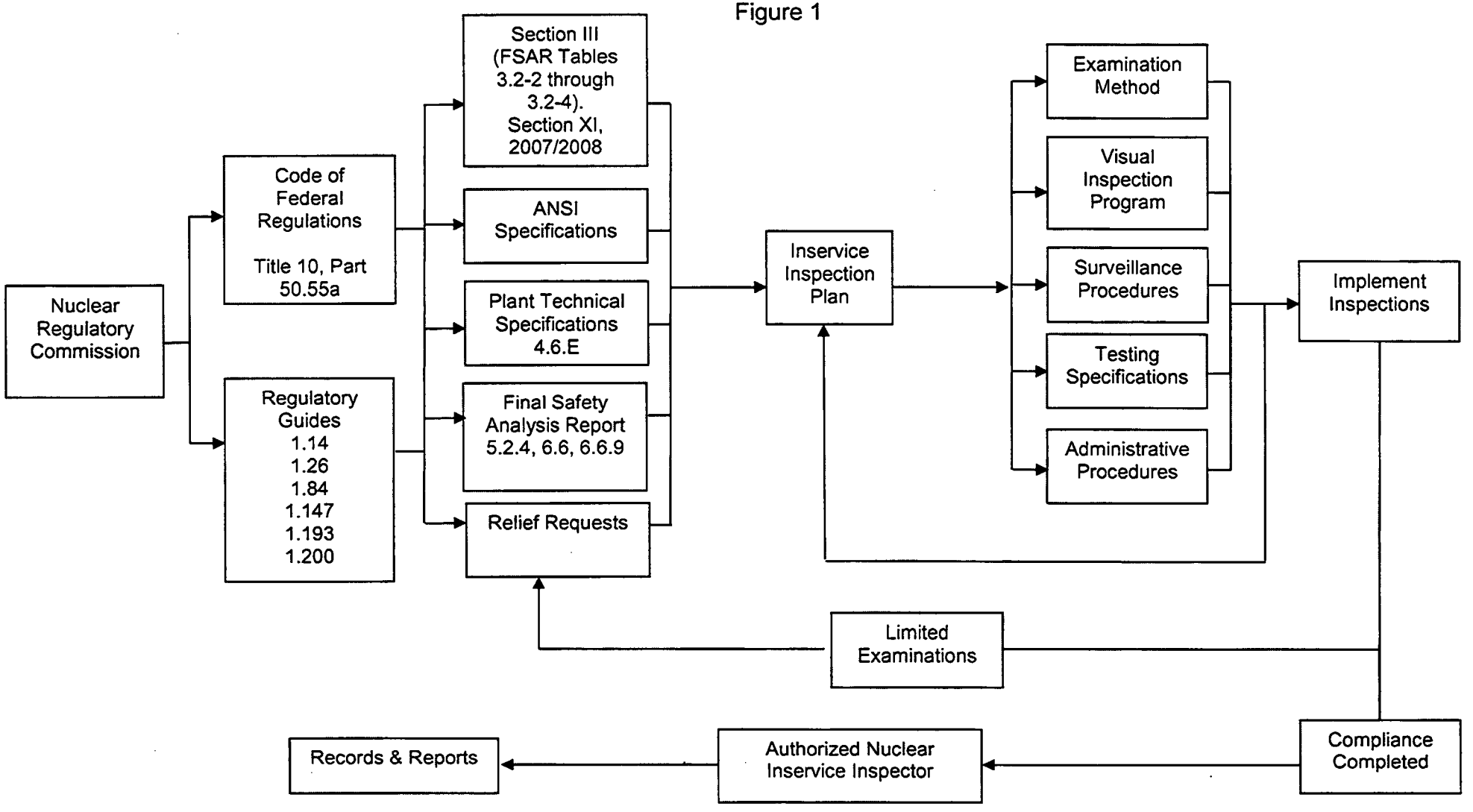
1.1.5 The proper ASME Code request for alternatives and relief requests are submitted to and approved by the regulatory authority.

Section 5.0 contains examinations that are outside the scope of 10 CFR 50.55a and ASME Section XI. Additions, deletions, or changes to this section require review in accordance with 10CFR50.59. Changes and revisions to all other sections of this program plan remain excluded from 10CFR50.59 screening requirements.

Figure 1 show how this program plan effectively functions as a central source to help ensure all regulatory rules and SSES requirements are incorporated into the Inservice Inspection Program. This program plan provides a useful aid in program self assessments, procedure preparation and/or revision, management quick reference, and program familiarization.

[1] Common components are included in the Unit 1 sections, reports, and tables.

Figure 1


Nuclear Regulatory Commission
Code of Federal Regulations
Title 10, Part 50.55a
Regulatory Guides
1.14
1.26
1.84
1.147
1.193
1.200
Section III (FSAR Tables 3.2-2 through 3.2-4). Section XI, 2007/2008
ANSI Specifications
Plant Technical Specifications 4.6.E
Final Safety Analysis Report 5.2.4, 6.6, 6.6.9
Relief Requests
Inservice Inspection Plan
Examination Method
Visual Inspection Program
Surveillance Procedures
Testing Specifications
Administrative Procedures
Implement Inspections
Limited Examinations
Compliance Completed
Authorized Nuclear Inservice Inspector
Records & Reports

1.2 General

The Susquehanna Steam Electric Station (SSES) is a General Electric designed boiling water reactor (BWR) power plant built in accordance with ASME Section III, Construction (reference FSAR Table 5.2-10 "RCPB Components in Compliance with 10CFR50.55a(2)(ii)" and Table 3.2-1 "SSES Design Criteria Summary"). The safety class boundaries used by this program are based on the assignment of safety classification as designed in accordance with ISI Basis Document "ISI-LTP4-Basis".

The SSES Fourth Interval Inservice Inspection Program is established in accordance with Title 10 Code of Federal Regulations Part 50.55a (10 CFR 50.55a). This program has been developed to comply with the American Society of Mechanical Engineers (ASME) Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components and implements the requirements of Final Safety Analysis Report (FSAR) 5.2.4, "Inservice Inspection and Testing of Reactor Coolant Pressure Boundary" and 6.6 "Inservice Inspection of Class 2 and 3 Components".

This program procedure scope also includes the examination requirements for metal and concrete containment (Subsection IWE and IWL respectively). This portion implements the requirements of FSAR 6.6.9.

All inspection results, associated procedures and documentation, and calibration standards are maintained on-site for the life of the plant.

Completed examination summary reports and supporting documentation must be submitted to the NRC within 90 days.

1.3 Inspection Intervals

The Renewed Operating License (NFP-14) for SSES, Docket No. 50-387 (Unit 1) and 50-388 (Unit 2) were issued on November 24, 2009. The original operating license date for SSES Unit 1 was issued July 17, 1982. The original operating license for Unit 2 was issued March 23, 1984. The fourth (ISI) and third (IWE/IWL) inspection intervals for both Units will start on June 1, 2014 and extends to May 31, 2024. With the update to the ISI Program for the Fourth ISI Interval for Class 1, 2, and 3 components, including their supports, PPL Susquehanna, LLC (PPL) is also updating the Containment ISI Program (CISI) to its Third CISI Interval for Class MC and CC components at the same time. The tables below identify the period start and end dates for each Inspection Interval.

TABLE 1.3-1

UNITS 1 & 2 FOURTH INTERVAL PERIOD/OUTAGE MATRIX
(FOR ISI CLASS 1, 2, AND 3 COMPONENT EXAMINATIONS)

UNIT 1		Period	Interval	Period	Unit 2	
Outage Number	Project Outage Start Date	Start Date to End Date	Start Date to End Date	Start Date to End Date	Projected Outage Start Date	Outage Number
19	Scheduled 03/16	1st 06/01/14 to 05/31/17	4th (Unit 1) 06/01/14 to 05/31/24(1)	1st 06/01/14 to 05/31/17	Scheduled 03/15	17
20	Scheduled 03/18	2nd 06/01/17 to 05/31/21			Scheduled 03/17	18
21	Scheduled 03/20			2nd 06/01/17 to 05/31/21	Scheduled 03/19	19
22	Scheduled 03/22	3rd 06/01/21 to 05/31/24	4th (Unit 2) 06/01/14 to 05/31/24(2)		Scheduled 03/21	20
23	Scheduled 03/24			3rd 06/01/21 to 05/31/24	Scheduled 03/23	21

Note 1: The Unit 1 Second ISI Interval was extended by 358 days as permitted by Paragraph IWA-2430(d) to accommodate both Units 1 and 2 having the same interval start date. This extension was carried to the Third ISI Interval and thus is being carried forward to the Fourth ISI Interval. As required by Paragraph IWA-2430(d)(1), successive intervals shall not be altered by more than one year from the original pattern. This means that for the remainder of the Fourth ISI Interval, only 7 days are available to use under the Paragraph IWA-2430(d) extension.

Note 2: The Unit 2 Second ISI Interval was reduced by 256 days as permitted by Paragraph IWA-2430(d) to accommodate both Units 1 and 2 having the same interval start date. This reduction was carried to the Third ISI Interval and thus is being carried forward to the Fourth ISI Interval. As required by Paragraph IWA-2430(d)(1), successive intervals shall not be altered by more than one year from the original pattern. This means that for the remainder of the Fourth ISI Interval, the allowable one year (365 days) is still available to use under Paragraph IWA-2430(d).

Table 1.3-2

UNITS 1 & 2 CISI THIRD INTERVAL/PERIOD/OUTAGE MATRIX
(FOR CLASS MC COMPONENT EXAMINATIONS)

UNIT 1		Period	Interval	Period	Unit 2	
Outage Number	Project Outage Start Date	Start Date to End Date	Start Date to End Date	Start Date to End Date	Projected Outage Start Date	Outage Number
19	Scheduled 03/16	1st 06/01/14 to 05/31/17	3rd (Unit 1) 06/01/14 to 05/31/24(1)	1st 06/01/14 to 05/31/17	Scheduled 03/15	17
20	Scheduled 03/18	2nd 06/01/17 to 05/31/21			Scheduled 03/17	18
21	Scheduled 03/20			2nd 06/01/17 to 05/31/21	Scheduled 03/19	19
22	Scheduled 03/22	3rd 06/01/21 to 05/31/24	3rd (Unit 2) 06/01/14 to 05/31/24(1)		Scheduled 03/21	20
23	Scheduled 03/24			3rd 06/01/21 to 05/31/23	Scheduled 03/23	21

Note 1: A request for alternative was submitted for the Second CISI Interval (see 3RR-10) to align the interval start and end dates with the ISI Program Intervals.

Table 1.3-3

UNITS 1 & 2 CISI THIRD INTERVAL/PERIOD/OUTAGE MATRIX

(FOR CLASS CC COMPONENT EXAMINATIONS)

UNIT 1		5-Year Period	Interval	5-Year Period	Unit 2	
Outage Number	Project Outage Start Date	Start Date to End Date	Start Date to End Date	Start Date to End Date	Projected Outage Start Date	Outage Number
19	Scheduled 03/16	1st 06/01/14 to 05/31/19	3rd (Unit 1) 06/01/14 to 05/31/24(1) 3rd (Unit 2) 06/01/14 to 05/31/24(1)	1st 06/01/14 to 05/31/19	Scheduled 03/15	17
20	Scheduled 03/18				Scheduled 03/17	18
21	Scheduled 03/20	2nd 06/01/19 to 05/31/24			Scheduled 03/19	19
22	Scheduled 03/22			2nd 06/01/19 to 05/31/24	Scheduled 03/21	20
23	Scheduled 03/24				Scheduled 03/23	21

Note 1: A request for alternative was submitted for the Second CISI Interval (see 3RR-10) to align the interval start and end dates with the ISI Program Intervals.

In accordance with ASME Section XI, IWA-2430, that portion of an inspection interval described as an inspection period may be decreased or extended by as much as 1 year to enable inspections to coincide with a plant refueling outage. However, the adjustments must not cause successive intervals to be altered by more than 1 year (see Notes 1 and 2 of Table 1.3-1).

1.4 ASME Section XI Code of Record for the Fourth Inservice Inspection (ISI) Interval and Third Containment (IWE/IWL) Inspection Interval

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(b), one year prior to the beginning of each 120-month ISI interval. This is considered the Code of Record. The Code of Federal Regulation in effect one year prior to the beginning of the fourth interval was CFR 76FR36232 published in June 2011[2]. This CFR incorporated, by reference, the ASME Section XI, 2007 Edition through the 2008 Addenda in paragraph (b)(2) with limits and conditions.

Based on the referenced CFR in 1.4, the SSES Fourth Ten-Year Interval ISI and Third Ten-Year Interval CISI Program Plans are based on the requirements of the 2007 Edition with the 2008 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI with the conditions contained in 10 CFR 50.55a(b)(2) as defined below.

1.4.1 10 CFR 50.55a(b)(2)(viii), licensees applying Subsection IWL, 2007 Edition through the latest edition and addenda incorporated by reference in paragraph (b)(2) of this section, shall apply paragraph (b)(2)(viii)(E) of this section.

1.4.2 10 CFR 50.55a(b)(2)(viii)(E), For Class CC applications, the applicant or licensee shall evaluate the acceptability of inaccessible areas when conditions exist in accessible areas that could indicate the presence of or result in degradation to such inaccessible areas. For each inaccessible area identified, the applicant or licensee shall provide the following in the ISI Summary Report required by IWA-6000:

1.4.2.1 10 CFR 50.55a(b)(2)(viii)(E)(1), A description of the type and estimated extent of degradation, and the conditions that led to the degradation;

[2] 10CFR50.55a was editorial revised in Vol. 77, No. 14 page 2073 on January 23,2012.

1.4.2.2 10 CFR 50.55a(b)(2)(viii)(E)(2), An evaluation of each area, and the result of the evaluation, and;

1.4.2.3 10 CFR 50.55a(b)(2)(viii)(E)(3), A description of necessary corrective actions.

1.4.3 10 CFR 50.55a(b)(2)(ix), licensees applying Subsection IWE, 2007 Edition through the latest addenda incorporated by reference in paragraph (b)(2) of this section, shall satisfy the requirements of paragraphs (b)(2)(ix)(A)(2), (b)(2)(ix)(B) and (b)(2)(ix)(J) of this section:

1.4.4 10 CFR 50.55a(b)(2)(ix)(A)(2), For each inaccessible area identified for evaluation, the licensee shall provide the following in the ISI Summary Report as required by IWA-6000:

1.4.4.1 10 CFR 50.55a(b)(2)(ix)(A)(2)(i), A description of the type and estimated extent of degradation, and the conditions that led to the degradation;

1.4.4.2 10 CFR 50.55a(b)(2)(ix)(A)(2)(ii), An evaluation of each area, and the result of the evaluation, and;

1.4.4.3 10 CFR 50.55a(b)(2)(ix)(A)(2)(iii), A description of necessary corrective actions

1.4.5 10 CFR 50.55a(b)(2)(ix)(B), When performing remotely the visual examinations required by Subsection IWE, the maximum direct examination distance specified in Table IWA-2210-1 may be extended and the minimum illumination requirements specified in Table IWA-2210-1 may be decreased provided that the conditions or indication for which the visual examination is performed can be detected at the chosen distance and illumination.

1.4.6 10 CFR 50.55a(b)(2)(ix)(J), In general, a repair/replacement activity such as replacing a large containment penetration, cutting a large construction opening in the containment pressure boundary to replace steam generators, reactor vessel heads, pressurizers, or other major equipment; or other similar modification is considered a major containment modification. When applying IWE-5000 to Class MC pressure-retaining components, any major containment modification or repair/replacement, must be followed by a Type A test to provide assurance of

both containment structural integrity and leaktight integrity prior to returning to service, in accordance with 10 CFR part 50 Appendix J, Option A or Option B on which the licensee's Containment Leak-Rate Testing Program is based. When applying IWE-5000, if a Type A, B, or C Test is performed, the test pressure and acceptance standard for the test must be in accordance with 10 CFR part 50, Appendix J.

1.4.7 10 CFR 50.55a(b)(2)(x), when applying Section XI edition and addenda later than the 1989 Edition, the requirements of NQA-1, "Quality Assurance Requirements for Nuclear Facility," 1979 Addenda through the 1989 Edition, are acceptable as permitted by IWA-1400 of Section XI, if the licensee uses its 10 CFR Part 50, Appendix B, quality assurance program, in conjunction with Section XI requirements. Commitments contained in the licensee's quality assurance program description that are more stringent than those contained in NQA-1 must govern Section XI activities. Further, where NQA-1 and Section XI do not address the commitments contained in the licensee's Appendix B quality assurance program description, the commitments must be applied to Section XI activities.

1.4.8 10 CFR 50.55a(b)(2)(xiv), licensees applying the 1999 Addenda through the latest edition and addenda incorporated by reference in paragraph (b)(2) of this section may use the annual practice requirements in VII-4240 of Appendix VII of Section XI in place of the 8 hours of annual hands-on training provided that the supplemental practice is performed on material or welds that contain cracks, or by analyzing pre-recorded data from material or welds that contain cracks. In either case, training used must be completed no earlier than 6 months prior to performing ultrasonic examinations at a licensee's facility.

1.4.9 10 CFR 50.55a(b)(2)((xviii)(A), requires that Level I and II nondestructive examination personnel be recertified on a 3-year interval in lieu of the 5-year interval specified in IWA-2314(a) & (b) of the 1999 Addenda through the latest edition and addenda incorporated by reference in paragraph (b)(2) of this section.

1.4.10 10 CFR 50.55a(b)(2)(xxii), prohibits the use of IWA-2220 allowing the use of ultrasonic examination as a surface examination.

1.4.11 10 CFR 50.55a(b)(2)(xxvii), requires when performing visual examination in accordance with IWA-5241 that insulation be removed from 17-4 PH or 410 stainless steel studs or bolts aged at a temperature below 1100°F or having a Rockwell Method C hardness value above 30, and from A-286 stainless steel studs or bolts preloaded to 100,000 pounds per square inch or higher.

1.4.12 10 CFR 50.55a(b)(xxix), prohibits the use of Nonmandatory Appendix R "Risk-Informed Inspection Requirements for Piping" without prior approval by the NRC.

1.5 ASME Section XI Inservice Inspection Program Description

The ASME Section XI Inservice Inspection Program for the Fourth Inspection Interval is comprised of the following individual programs:

- The ASME Section XI Inservice Inspection (ISI), Containment Inservice Inspection (CISI), and Augmented ISI Program for pressure retaining components and their supports,
- The Snubber Program (ref. 4RR-06),
- The ASME Section XI System Pressure Test Program, and
- The ASME Section XI Repair and Replacement Program

These programs are separate documents or procedures, each bearing the title of the program.

1.5.1 Ten-Year Inservice Inspection (ISI/CISI) Program Description

The Ten-Year Inservice Inspection Program details SSES compliance with ASME Code, Section XI 2007, Edition through 2008 Addenda, Articles IWA, IWB, IWC, IWD, IWE/IWL, and IWF for examination of Class 1, 2, 3 pressure retaining items and their supports and Class MC and CC pressure retaining items. This document defines the Class 1, 2, 3, MC and CC components and the Code required examinations for each ASME Section XI examination category, and the augmented inspection scope.

The purpose of the Ten-Year ISI/CISI Program is to periodically perform nondestructive examination of ASME Class 1, 2, 3, MC or CC safety related components and Class 1, 2, and 3 supports in order to identify the presence of service related degradation.

The administrative procedures and Inspection Schedule described in the Ten-Year ISI/CISI Program, combined with applicable SSES and approved vendor

procedures, constitute the ISI/CISI portion of the Ten-Year ISI Program required by UFSAR Sections 5.2.4, 6.6, and 6.6.9.

For convenience, the Ten-Year ISICISI Program also contains augmented examinations that are 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 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. These augmented examinations are not required by the ASME Code and are not included in the summary totals for the specific examination category.

The Ten-Year ISI/CISI Program schedule is contained in the IDDEAL Software Suite® ScheduleWorks® computer database. This information is retained at the plant site and is available for review.

1.5.2 Repair and Replacement Program Description

ASME Section XI requirements for repairs and replacements are not contained in this plan. NDAP-QA-1214 is the implementing procedure which describes the implementation process for the repair and replacement provisions of ASME Code, Section XI, Article IWA-4000.

1.5.4 Pressure Test Program Description

ASME Section XI requirements for pressure testing are not contained in this plan. NDAP-QA-0480 "ASME Section XI System and Component Pressure Testing" satisfies the requirements established in ASME, Section XI, Articles IWA-5000, IWB-5000, IWC-5000, and IWD-5000.

1.5.6 Pump and Valve Program Description

The Inservice Testing (IST) Program requirements are not contained in this plan. SUS-ISTPLN-100.0 "Susquehanna Steam Electric Station Unit 1 Inservice Testing Program Plan" and SUS-ISTPLN-200.0 "Susquehanna Steam Electric Station Unit 2 Inservice Testing Program Plan".

1.6 Records, Reports, and Submittals

The requirements of Code Case N-532-4 shall be met in lieu of whenever completion of Form NIS-1 or NIS-2 or an inservice inspection summary report is required. All other requirements of IWA-6000 and the other requirements of Section XI applicable to records and reporting shall be met as described below.

1.6.1 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 Section XI and this program are safety related and 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 IWA-6320(a) are met. Radiographs may be microfilmed or digitally reproduced. Digital reproduction shall be in accordance with IWA-6320(b).

Inservice Inspection Records, as a minimum shall include:

a. Record Index

b. Inservice inspection plans and schedules

c. Inservice examination/inspection reports

d. Records and reports of repair/replacement activities

e. Records of flaw acceptance by analytical evaluation

f. Records of regions in ferritic class 1 components with modified acceptance criteria

g. Nondestructive examination procedures

h. Nondestructive examination records

i. Pressure Test Procedures

j. Pressure Test Records

1.6.2. 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. 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 IWA-1400(c), the initial ISI Program and its revisions shall be provided to the NRC. Subsequent Program Revisions are not required to be submitted.

The Summary Reports required by IWA-6000 are replaced by the Owner's Activity Report described by Code Case N-532-4. The Owner's Activity Report 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. The report shall include all applicable activities of the operating cycle not included in the previous report.

Analytical evaluations that accept items for continued service in accordance with IWB-3132.3, IWB-3142.4, IWC-3122.3, IWC-3132.3, and IWD-3600 shall be submitted to the NRC. If the evaluation is performed during a refueling outage, the submittal may be included with the Owner's Activity Report provided the cover letter makes specific reference to the contained analytical evaluation. Evaluations performed during the operating cycle between refuel outages shall be submitted independent of the Owner's Activity Report. As a guide, these submittals should be timely and within 30 calendar days of completing the analytical evaluation.

Evaluation procedures used in analytical evaluations of flaws in austenitic and ferritic piping shall be provided to the NRC in accordance with IWB-3640, IWC-3640, and IWD-3640. A onetime submittal is acceptable provided subsequent revisions are provided and the scope and application of the procedure does not change. The cover letter should indicate that the procedure is only submitted once (not for each use) and what criteria will be used to determine when additional submittals will be made.

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

1.7 Administrative Controls

This program is implemented per NEPM-QA-1160 "Nuclear Design Engineering Inservice Inspection Program."

This program will be maintained current to reflect applicable changes to plant configuration through the review process defined by NDAP-QA-0002 "Procedure Program and Procedure Change/Process" and NEIM-00-1184 "Administrative Control of ISI Program Plan Documents."

Additions of items to the program resulting from changes to the plant configuration will be incorporated and scheduled for inspection or examination in accordance with IWB/IWC/IWD/IWE-2411, IWF-2410 and IWL-2400.

Organizational and divisions of responsibilities for the management and implementation of the ISI Program are defined in NEPM-QA-1160 "Nuclear Design Engineering Inservice Inspection Program."

The initial ISI Program Plan and revisions are subject to review by the Authorized Nuclear Inservice Inspector (ANII).

2.0 ASME CODE CASE APPLICABILITY

This section contains ASME Code Cases applicable to the SSES ISI Fourth Inspection Interval and the CISI Third Inspection Interval.

2.1 Adoption of Code Cases

ASME Section XI Code Cases adopted for ISI/CISI activities for the Fourth/Third Intervals 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. 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:

2.1.1 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 provisions specified in the Regulatory Guide are also incorporated. Table 2.2-1 identifies the Code Cases approved for generic use and adopted for the ISI fourth and CISI third intervals.

2.1.2 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(a)(3). Once 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 is required.

Table 2.3-1 identifies those Code Cases that have been requested through Requests for Alternatives. For convenience to the user of this ISI/CISI Program, the appropriate internal correspondence number is provided to assist in their retrieval from Document Control. All other Requests for Alternatives and Relief Requests (those not associated with NRC approval of Code Cases) are addressed in Section 3.

2.1.3 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 and that are applicable to SSES are identified in Table 2.4-1.

2.1.4 Use of Annulled Code Cases

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

2.1.5 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. An exception to this provision would be the inclusion of a limitation or condition on the later revision necessary to enhance safety. In this situation, the limitation imposed on the later revision must be incorporated into the program.

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

Code Cases issued by ASME subsequent to filing 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 this 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.

2.1.7 Non Inservice Inspection Code Cases

Only Code Cases applicable to ISI/CISI requirements for Class 1, 2, and 3 components and component supports and Class MC or CC (including pressure testing) are included in Table 2.2-1 and 2.3-1. Code Cases applicable to Nondestructive Examination and Repair/Replacement Activities are addressed in their respective programs.

2.1.8 Code Cases not approved for use by the NRC

Certain Code Cases that have been approved by the ASME Board of Nuclear Codes and Standards have been reviewed and are not 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. However, the NRC may approve their use in

specific cases. Code Cases listed in the Regulatory Guide will not be used at SSES without an approved Request for Alternative in accordance with 10 CFR 50.55a(a)(3).

2.2 Regulatory Guide 1.147, Revision 16 Approved Code Cases

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

Code Case Number	Title	NRC Limitations
N-513-3	Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping	The repair or replacement activity temporarily deferred under the provisions of this Code Case shall be performed during the next scheduled outage
N-516-3	Underwater Welding	Licensees must obtain NRC approval in accordance with 10 CFR 50.55a(3) regarding the technique to be used in the weld repair or replacement of irradiated material underwater.
N-526	Alternative Requirements for Successive Inspections of Class 1 and 2 Vessels	None
N-586-1	Alternative Additional Examination Requirements for Classes 1, 2, and 3 Piping, Components, and Supports	None

Table 2.2-1 - Code Cases Adopted from Regulatory Guide 1.147		
Code Case Number	Title	NRC Limitations
N-648-1	Alternative Requirements for Inner Radius Examination of Class 1 Reactor Vessel Nozzles	In place of a UT examination, licensees may perform a visual examination with enhanced magnification that has a resolution sensitivity to detect a 1-mil width wire or crack, utilizing the allowable flaw length criteria of Table IWB-3512-1 with limiting assumptions on the flaw aspect ratio. The provisions of Table IWB-2500-1, Examination Category B-D, continue to apply except that, in place of examination volumes, the surfaces to be examined are the external surfaces shown in the figures applicable to this table (the external surface is from point M to point N in the figure).
N-735	Successive Inspections of Class 1 and 2 Piping Welds	None
N-751	Pressure Testing of Containment Penetration Piping	When a 10 CFR50, Appendix J, Type C Test is performed as an alternative to the requirements of IWA-4540 (IWA-4700 in the 1989 edition through the 1995 edition) during repair and replacement activities, NDE must be performed in accordance with IWA-4540(a)(2) of the 2002 Addenda of Section XI.

2.3 Code Cases Approved Through Request for Alternatives

The following ASME Code Cases are not contained in Regulatory Guide 1.147, Revision 16 and require a request for alternative prior to implementation. See 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.
N-578-1	Alternative Piping Classification and Examination Requirements	4RR-01
N-702	Alternative Requirements for Boiling Water Reactor (BWR) Nozzle Inner Radius and Nozzle-to-Shell Welds	4RR-04
N-795	Alternative Requirements for BWR Class 1 System Leakage Test Pressure Following Repair/Replacement Activities	4RR-05
N-798	Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Vent, Drain, and Test Isolation Devices	4RR-09

2.4 Code Cases Required by 10 CFR 50.55a

The following ASME Code Cases are not contained in Regulatory Guide 1.147, Revision 16, but are mandated in 10 CFR 50.55a and applicable to SSES.

Table 2.4-1 - Code Cases Required by 10 CFR 50.55a		
Code Case Number	Title	Notes
	NONE	

3.0 RELIEF REQUESTS

Throughout this program, the term "relief request" is used to refer 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 or Addenda 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)(3) and (g)(5). The applicable SSES submittal and NRC Safety Evaluation Report (SER) correspondence numbers are also included for each request.

Only requests associated with the ISI/CISI or Pressure Testing program are listed in Table 3.0-1. Requests applicable to the Nondestructive Examination or Repair/Replacement Activities are identified in the respective program documents.

3.1 Request for Alternatives

When seeking an alternative to the rules contained in 10 CFR 50.55a(c), (d), (e), (f), (g), or (h) the request is submitted under the provision of 10 CFR 50.55a(3). Once approved by the Director, Office of Nuclear Reactor Regulation, the alternative may be incorporated into the ISI program. These types of requests are typically used to request use of Code Cases, Code Edition, 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(3) there are two specific methods of submittal:

3.1.1 10 CFR 50.55a(a)(3)(i) allows alternatives when authorized by the NRC, if the proposed alternatives would provide an acceptable level of quality and safety. Requests submitted under these provisions are not required to demonstrate hardship or burden.

3.1.2 10 CFR 50.55a(a)(3)(ii) also allows alternatives when authorized by the NRC, if compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. When submitted under this provision, there must be evidence of unusual hardship or difficulty. Typically this hardship will be dose or excessive disassembly.

3.2 Relief Request 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)(iv), relief requests for examination impracticalities must be provided to the NRC no later than 12 months after the end of the active 120-month interval

In cases where the ASME Section XI requirements for inservice inspection are considered impractical, SSES 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, then in accordance with IWA-2200(c), a reduction in examination volume or area is acceptable if the reduction is less than 10%. In the event that the reduction in examination volume or area is 10% or greater, a request for relief will be submitted. NRC Information Notice 98-42 provides additional guidance that all ASME Section XI examinations should meet the examination coverage criteria established in Code Case N-460 (the examination coverage established in Code Case N-460 was incorporated into the 2008 Addenda in paragraph IWA-2200(c)). Therefore, the guidance included in NRC Information Notice 98-42 will be followed by SSES when determining whether to prepare a relief request or apply the criteria of IWA-2200(c) for examinations where less than 100% coverage of any Section XI examination is obtained.

3.3 Requests to use Later Edition and Addenda of ASME Section XI

On July 28, 2004, the NRC published Regulatory Issue Summary (RIS) 2004-12, "Clarification on Use of Later Editions and Addenda to ASME OM Code and Section XI". This RIS clarifies the NRC position on using Editions and Addenda of Section XI, in whole or in part, later than those specified in the ISI program. If the desired Edition or Addenda are referenced in 10 CFR 50.55a(b)(2), the request is submitted following the guidance of the RIS. These types of request are not required to demonstrate hardship, difficulty, or provide evidence of quality and safety. They do need to ensure that all related requirements are also used. Requests to use edition and/or addenda of ASME Section XI that are referenced in 10 CFR 50.55a(b)(2) that are later than the initial Code of Record established for the ISI program shall be submitted under the provisions of 10 CFR 50.55a(g)(4)(iv).

Table 3.0-1
SSES
Fourth Interval Relief Requests

Relief Request	Relief Request Description	SSES Correspondence	NRC SER Correspondence
4RR-01	Request to Use Code Case N-578-1, Alternative Piping Classification and Examination Requirements	To be submitted at a later date	
4RR-02	Request to Use BWRVIP-05 for Reactor Pressure Vessel Circumferential Weld Inspections	PLA-7052	
4RR-03	Not Used	N/A	N/A
4RR-04[3]	Request to Use Code Case N-702, Alternative Requirements for Boiling Water Reactor (BWR) Nozzle Inner Radius and Nozzle-to-Shell Welds	Not Submitted	

[3] The BWRVIP is working on the fluence and cycle issues (ref. BWRVIP Letter 2012-138) awaiting resolution of these issues prior to submitting for request for alternative.

Table 3.0-1 SSES Fourth Interval Relief Requests			
Relief Request	Relief Request Description	SSES Correspondence	NRC SER Correspondence
4RR-05	Request to Use Code Case N-795, Alternative Requirements for BWR Class 1 System Leakage Test Pressure Following R/R Activities	PLA-7052	
4RR-06	Request for Alternative for examination of snubber attachments	PLA-7052	
4RR-07	Exemption from Pressure Testing Reactor Pressure Vessel Head Flange Seal Leak Detection System	PLA-7052	
4RR-08	Continuous Pressure Monitoring of the Control Rod Drive (CRD) System Accumulators	PLA-7052	
4RR-09[4]	Request to Use Code Case N-798, Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Vent, Drain, and Test Isolation Devices	Not Submitted	

[4] Relief Request 4RR-09 has not yet been submitted, awaiting incorporation into Regulatory Guide 1.147 in a later revision. This code case will not be required until the end of the interval.

4.0 References and Commitments

4.1 Technical Specifications and Site Documents

4.1.1 NDAP-QA-0480 "ASME Section XI System and Component Pressure Testing"

4.1.2 SUS-ISTPLN-100-0 "Susquehanna Steam Electric Station Unit 1 Inservice Testing Program Plan"

4.1.3 SUS-ISTPLN-200-0 "Susquehanna Steam Electric Station Unit 2 Inservice Testing Program Plan"

4.1.4 NDAP-QA-0002 "Procedure Program and Procedure Change/Process"

4.1.5 UFSAR Sections 5.2.4, 6.6, 6.6.8, 6.6.9

4.1.6 ISI-LTP4-Basis "Susquehanna Steam Electric Station Units 1 and 2 ISI Classification Basis Document, Fourth Ten-Year Interval"

4.1.7 PPL ISI Class 1 Piping Size Exemption for Water and Steam (Calculation EC-PIPE-0011, Revision 0)

4.2 License Renewal Commitments

4.2.1 License Renewal Commitment #1 (FSAR 3.14.2.48): Thermal Aging and Neutron Embrittlement of Cast Austenitic Stainless Steel (CASS) Program

4.2.2 License Renewal Commitment #3 (FSAR 3.14.2.3): Buried Piping and Tank Inspections

4.3 Industry and Regulatory

4.3.1 NRC Generic Letter 88-01 "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping," Rev 2 and Supplement 1 to the Generic Letter.

4.3.2 NUREG-0619 Rev. 1 "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking: Resolution of Generic Technical Activity A-10 (Technical Report)"

4.3.3 BWR Owner's Group Licensing Topical Report General Electric (GE) NE-523-A71-0594-A Rev. 1 "Alternative Boiling Water Reactor (BWR) Feedwater Nozzle Inspection Requirements"

4.3.4 GE SIL-512 "Recirculation Loop Unisolable Leakage", dated May 2, 1980

4.3.5 BWR Vessel and Internal Project, "Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75-A), EPRI Report TR-1012621, October 2005"

4.3.6 NRC Final SER related to "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75-A) EPRI Report TR-1012621, October 2005", dated March 16, 2006

4.3.7 BWR Reactor Vessel Shell Weld Inspection Recommendations (BWRVIP-05), EPRI Report TR-105697, September, 1995

4.4 Administrative Limits

None

4.5 Code, Standards, and Regulations

4.5.1 ASME Boiler and Pressure Vessel Code, Section XI 2007 Edition with the 2008 Addenda

4.5.2 Code of Federal Regulations, 10 CFR50.55a

4.5.4 Regulatory Guide 1.147, "Inservice Inspection Code Case Applicability"

4.6 Supplemental References

4.6.1 NDAP-QA-1608 "Inservice Inspection (ISI)"

4.6.2 NEIM-00-1153 "ISI Outage Planning and Exam Selection"

4.6.3 NEIM-00-1162 "ISI Data Review and Approval"

4.6.4 NEIM-00-1163 "Storage, Control, and Maintenance of ISI Calibration Standards"

4.6.5 NEIM-00-1170 "ISI Database Management"

4.6.6 NEIM-00-1181 "ISI Risk-Informed Inspection Program"

4.6.7 NEIM-00-1184 "Administrative Control of ISI Program Plan Documents"

4.6.8 NEPM-QA-1156 "ISI Owner's Activity Report Preparation and Submittal"

4.6.9 NEPM-QA-1160 "Nuclear Design Engineering Inservice Inspection Program"

4.6.10 PPL Operational Policy Statement, OPS-15, "Inservice Inspection and Testing"

5.0 Augmented Inservice Inspection Requirements

The Ten-Year ISI Program also contains augmented examinations that are 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 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. These examinations are not required by the ASME Code and are not included in

the summary totals for the specific examination category. Changes to these examination requirements and schedules are outside of 10 CFR 50.55a and are required to be evaluated using the 10 CFR 50.59 screening/review process unless otherwise specified.

5.1. Augmented Examination Programs

Augmented Examination Programs are those that have been developed to address NRC or industry concerns in which SSES has committed to perform. The augmented examinations addressed by the SSES Program during the ISI fourth inspection interval are as follows:

5.1.1. (AUG1), FSAR 6.6.8, Augmented Inservice Inspection to Protect Against Postulated Piping Failures, Units 1 and 2

Source Document: UFSAR 5.2.4.7 and 6.6.8

Associated Document: Electric Power Research Institute (EPRI) TR-1006937, Rev. 0-A "Extension of the EPRI Risk-Informed Inservice Inspection (RI-ISI) Methodology to Break Exclusion Region (BER) Programs."

Purpose: This augmented inspection program is to provide assurance against piping failures of high energy systems between the containment isolation valves for which no breaks are postulated. Commencing with the 3rd 10 year inspection interval, the risk-informed break exclusion region program methodology, described in EPRI TR-1006937 was implemented in lieu of 100% examination of all piping welds. There is no guard pipes used to enclose high energy piping.

Scope: Piping welds of high energy systems between the containment isolation valves which no breaks have been postulated. Using the EPRI RI-ISI (TR-112657, Rev. B-A "Revised Risk-Informed Inservice Inspection Evaluation Procedure), the BER piping would be grouped into the different risk categories. Those welds in Risk Category 1, 2, or 3 would require 25% selected for examination, Risk Category 4 or 5 would require 10% selected for examination, and those in Risk Category 6 or 7 would not be selected for examination.

Method: Volumetric or surface examination depending on the degradation mechanism defined for the weld location.

Industry Code or Standards: ASME Section XI

Frequency: Each weld shall be inspected once during the ten year ISI interval, except if the weld is also included in the Intergranular Stress Corrosion Cracking

(IGSCC) (5.1.2) or Flow Accelerated Corrosion Programs where the frequencies specified in those programs are used.

Acceptance Criteria or Standard: ASME Section XI, IWB-3514

Regulatory Basis: FSAR 6.6.8 references the use of EPRI TR-1006937 methodology which is approved via a relief request in the ISI Program.

Responsible Organization: NDE-SSES is responsible for performing the examinations based on a schedule by the relief request. Design Engineering is responsible for evaluating conditions of degradation for acceptance or corrective action.

5.1.2. (AUG2), Generic Letter 88-01, Augmented Inspection Program for the detection of Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping.

Source Document: NRC GL 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping," Rev. 2 / Supplement 1 to Generic Letter 88-01" as applicable to SSES Units 1 and 2.

Associated Document: NUREG 0313, "Technical Report on Material Selection and Process Guidelines for BWR Coolant Pressure Boundary Piping," Rev. 2, Electric Power Research Institute (EPRI) TR-113932, "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75-A)," as conditionally approved by NRC final Safety Evaluation Report (SER) dated March 16, 2006.

Purpose: Generic Letter 88-01 was issued by the NRC in 1988 to seek information regarding implementation of the new staff positions covering the industry issues with IGSCC. The staff positions were developed to cover the following subjects:

1. Materials
2. Processes
3. Water Chemistry
4. Weld Overly Reinforcement
5. Partial Replacement
6. Stress Improvement of Cracked Weldments
7. Camping Devices
8. Crack Characterization and Repair Criteria
9. Inspection Methods and Personnel
10. Inspection Schedules

11. Sample Expansion
12. Leak Detection
13. Reporting Requirements

The NRC states in the Generic Letter "The Commission has determined that, unless appropriate remedial actions are taken, BWR plants may not be in conformance with their current design and licensing bases, including 10 CFR 50, Appendix A, General Design Criteria 4, 14, and 31."

This augmented inspection program implements the NRC Positions related to inspection of austenitic stainless steel piping in boiling water reactor environment which are susceptible to IGSCC. Note that the inspection frequencies of BWRVIP-75-A are used at SSES.

Scope: This Augmented Program applies to all piping made of austenitic stainless steel that is four inches or larger in nominal diameter and contains reactor coolant at a temperature above 200°F during normal power operation regardless of code classification. RI-ISI has been implemented at both Units. Under this program, ISI Class 1 and 2 piping structural elements are inspected in accordance with EPRI Topical Report TR-112657, Rev. B-A, TR-1006937, Rev. 0-A, and Code Case N-578-1. Per these topical reports and this code case, welds within the plant that are assigned to IGSCC Categories B through G will continue to meet the schedules of BWRVIP-75A, while IGSCC Category A welds have been subsumed into the RI-ISI Program.

Method: Volumetric

Industry Code or Standards: ASME Section XI

Frequency: SSES implements the revised inspection schedules in BWRVIP-75-A.

Acceptance Criteria or Standard: ASME Section XI, IWB-3640 (IWB-3514 does not apply to austenitic stainless steels and associated welds in BWR environments which are subject to stress corrosion cracking).

Regulatory Basis: GL 88-01 and the NRC Safety Evaluation for BWRVIP-75A

Responsible Organization: NDE-SSES is responsible for the development and implementation of the augmented inspection program. Design Engineering is responsible for evaluating conditions of degradation for acceptance or corrective action.

5.1.3. (AUG3) Feedwater Nozzles, "Augmented Inspection of Feedwater Nozzles"

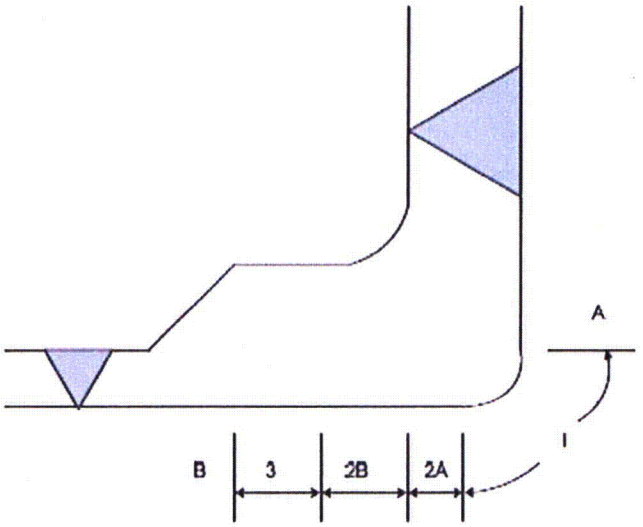
Source Document: NUREG-0619 Rev. 1 "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking: Resolution of Generic Technical Activity A-10 (Technical Report)"

Associated Document: BWR Owner's Group Licensing Topical Report General Electric (GE) NE-523-A71-0594-A Rev. 1 "Alternative Boiling Water Reactor (BWR) Feedwater Nozzle Inspection Requirements", BWR Owner's Group Licensing Topical Report General Electric (GE) NE-523-A71-0594 "Alternative Boiling Water Reactor (BWR) Feedwater Nozzle Inspection Requirements" Revision 1, NRC Final Safety Evaluation of BWR Owner's Group Alternative Boiling Water Reactor (BWR) Feedwater Nozzle Inspection, TAC NO. MA6787, Dated March 10, 2000, PLA-5253 "Susquehanna Steam Electric Station Licenses NPF-14 and NPF-22: Alternate Feedwater Nozzle Inspection Requirements" dated November 2, 2000.

Purpose: NUREG-0619 was issued by the NRC in 1980 describing a cracking phenomenon of BWR RPV feedwater (FW) nozzle and control rod drive nozzle inner radii. This report describes the technical issues, the independent technical evaluations performed by the staff and GE, and the staff's technical positions and plans for continued implementation of the technical positions. As a result of the evaluations, the following inspection requirements were established based on the current state of the art. The inservice inspection program incorporated both UT of the entire nozzle and PT of varying portions of the blend radius and bore (depending on results of an initial PT of accessible blend radius areas). The NRC encouraged the continued development of UT techniques for the feedwater examinations and noted that if future developments demonstrate that UT techniques could detect small nozzle thermal fatigue cracks with acceptable reliability and consistency, these techniques could then form the basis for modification of the inspection criteria. GE-NE-523-A71-0594 documents the result of enhanced technology and more sophisticated techniques for stress, fracture mechanics analysis, and improved ultrasonic examinations. SSES informed the NRC via PLA-5253 the decision to modify its commitment as contained in letters dated June 11, 1981 (PLA-807) and May 3, 1982 (PLA-1075) and perform future feedwater nozzle inspections using the NRC approved recommendations of Boiling Water Reactor Owner's Group (BWROG) Report GE-NE-523-A71-0594 Rev. 1. The scope of GE-NE-523-A71-0594 did not include the nozzle-to-safe-end welds identified as Zone 5 in NUREG-0619 documentation. However the March 10, 2000 SER accepted the BWROG recommendation that Zone 5 examinations are to be conducted in accordance with the ASME Code Section XI ISI Program. Therefore, future Zone 5

inspections will be done in accordance with the ASME Section XI code requirements.

Scope: The scope of this augmented examination program includes all five (total ten for both units) of the FW nozzle bore and inner radii as depicted in Figure 1. Visual inspection of the FW spargers is managed under AUG9 (BWRVIP Program).



Method: The FW nozzle blend radii shall be ultrasonically examined. Procedures, techniques, and personnel shall meet ASME Section XI, Appendix VIII using one of the two methods below:

- Automated, full RF recording (no threshold), or
- Phased array (no threshold)

The selected method shall be qualified to identify base material cracks of ¼" in depth or smaller. For clad regions, the UT method must be qualified to identify sub-clad cracks in the base material of ¼" or less.

Industry Code or Standards: ASME Section XI

Frequency: Every ten years which is based on time and events (cycles) as documented in GE-NE-508-038-0394 Rev 2 "GERIS 2000 Ultrasonic Inspection of Feedwater Nozzles" dated August 29, 1994.

Acceptance Criteria or Standard: Any cracking is evaluated in accordance with ASME Code, Section XI, IWB-3100 by comparing inspection results with the acceptance standards of ASME Code, Section XI, IWB-3400 and IWB-3500.

Regulatory Basis: NUREG-0619 and PLA-5253

Responsible Organization: Design Engineering is responsible for establishing the examination frequencies and ensuring that plant conditions do not exceed the assumptions and basis contained in GE-NE-508-038-0394 Rev. 2 "GERIS 2000 Ultrasonic Inspection of Feedwater Nozzles". Operations is responsible for tracking operating cycles and providing the required information to Design Engineering. Engineering Programs is responsible for development and implementation of the augmented examinations to meet the requirements of GE-NE-0523-A71-0594 and GE-NE-508-038-0394.

5.2. OWNER ELECTED EXAMINATIONS FOR INTERNAL COMMITMENTS

This section identifies the examinations that are internal to SSES to address various conditions and items. These examinations typically result from request made by other organizations or groups to address known or potential degradation that requires recurring examination to ensure continued integrity or performance. Examinations in this section can be adjusted or deleted as determined by the ISI Program Owner and the initiating organization. Based on the origin of the examination, other plant processes may be required to alter or eliminate the examination. The owner elected examinations are as follows:

5.3.1. (AUG8) Vibration, "Augmented Inservice Inspection for Vibration Induced Failures"

Source Document: General Electric SIL-512 "Recirculation Loop Unisolable Leakage" dated May 2, 1980 and Root Cause for CR 1589390.

Associated Document: PPL Letter, PLI-91211 "Susquehanna Steam Electric Station Socket Weld Scope for ISI Augmented 8 UT Inspection Program", dated November 27, 2001, Industry Event Review Program (IERP) No. 90103 "Recirculation Loop Unisolable Leakage", dated May 29-1990, IERP Implementation Form IIF No. 90103A, "Recirculation Loop Unisolable Leakage", dated April 30, 1992.

Purpose: This augmented inservice inspection program defines the NDE requirements to investigate and identify areas where vibration induced cracking/failure could affect plant reliability and/or safety. The site engineering group is managing this program by working on upgrading or replacing the welds

within the scope of this augmented program. Work Orders are issued to perform the Ultrasonic Examination with the results driving the next course of action. If the UT results are acceptable, the weld is repaired with a 2 to 1 taper. If the UT results are unacceptable, the weld is replaced with a more "resistant" configuration. The root cause for CR 1589390 identified welds that are subject to vibration and requires examination each outage until the line is either modified or eliminated.

Scope: PLI-91211 defines the welds that are included in the scope of AUG8. There are currently 35 welds from Unit 1 and 22 welds from Unit 2. Root cause for CR 1589390 defined three welds each Unit to be examined each outage by a surface examination (Unit 1 – VRR-B31-1-FW-A24, VRR-B31-1-FW-A23, and DCA-102-1-FW-1, Unit 2 – VRR-B31-3-FW-A20, VRR-B31-3-FW-A23, and DCA-202-1-FW-1).

Method: Ultrasonic and Surface Examination

Industry Code or Standards: None

Frequency: As determined in PLI-91211 every four years for all welds except those three welds each Unit noted above that are examined every outage.

Acceptance Criteria or Standard: No cracks

Regulatory Basis: None

Responsible Organization: Site engineering group is responsible for the identification of welds and the scheduling for the ultrasonic and surface examinations. NDE-SSES is responsible for performing the examinations and reporting the results to site engineering the results.

5.3. LICENSE RENEWAL EXAMINATIONS FOR AGING MANAGEMENT COMMITMENTS

SSES License Renewal Application credits the ISI Program for aging management in the following sections: Reactor Vessel Internals, Reactor Coolant System, Reactor Pressure Vessel and Component Supports.

5.3.1. Thermal Aging and Neutron Embrittlement of Cast Austenitic Stainless Steel (CASS) Program

Source Document: FSAR Section 3.14.2.48, Table 3.14-1, Item 10 "Thermal Aging and Neutron Embrittlement of Cast Austenitic Stainless Steel (CASS)

Program." This program will be consistent with the program described in NUREG-1801, Section XI.M13. Thermal Aging and Neutron Embrittlement of Cast Austenitic Stainless Steel (CASS) Program. The program will identify susceptible components, evaluate those components to determine their susceptibility to loss of fracture toughness, and examine those components that are evaluated to be susceptible. This program will be implemented prior to the period of extended operation.

Associated Document: NUREG-1801, Section XI.M13.

Purpose: This program augments the visual examination of the reactor vessel internals done in accordance with the ASME Code, Section XI, Subsection IWB, Examination, Examination Category B-N-2.

Scope: The scope for this license renewal program is still under development but will include those reactor vessel internal components that are identified as susceptible to thermal aging and neutron embrittlement. The program includes (a) identification of susceptible components determined to be limiting from the standpoint of thermal aging susceptibility (i.e. ferrite and molybdenum contents, casting process, and operating temperature) and/or neutron irradiation embrittlement (neutron fluence), and (b) for each potentially susceptible component, aging management is accomplished through either a supplement examination of the affected component based on the neutron fluence to which the component has been exposed as part of the 10-year ISI Program during the license renewal term, or a component specific evaluation to determine its susceptibility to loss of fracture toughness.

Method: Visual Examination

Industry Code or Standards: None

Frequency: 10 years or component specific frequency

Acceptance Criteria or Standard: no cracking identified

Regulatory Basis: FSAR, Section 3.14.2.48

Responsible Organization: Design Engineering Programs Group is responsible for the identification of components and the scheduling for the visual examinations. NDE-SSES is responsible for performing the visual examinations and reporting the results to site engineering.

5.3.2. Buried Piping and Tank Inspections

Source Document: FSAR, Section 3.14.2.3, Table 3.14-1, Item 26.

Associated Document: NUREG-1931, Section 3.0.3.2.13

Purpose: This license renewal program manages the effects of corrosion of the external surfaces of piping and tanks exposed to a buried environment. This program consists of a combination or a preventative program (protective coatings and wrappings) and a condition monitoring program of visual inspections.

Scope: The scope of the Buried Piping and Tanks Inspection Program is still under development.. The program is credited for managing loss of material due to crevice, general, and pitting corrosion and microbiologically influenced corrosion (MIC) for buried steel piping components. In addition, the program is credited with managing loss of material for buried stainless steel piping components. The Buried Piping and Tanks Inspection Program is also credited for managing loss of material due to crevice, general, and pitting corrosion and MIC for buried steel tanks in the Diesel Fuel Oil System.

Method: Visual Examination

Industry Code or Standards: N/A

Frequency: Every 10-year period

Acceptance Criteria or Standard: As defined by Design Engineering

Regulatory Basis: FSAR 3.14.2.3

Responsible Organization: Design Engineering is responsible for identifying the components and locations to be examined, the examination frequency and the acceptance criteria for evaluating examination results. Maintenance is responsible for making the underground locations accessible for examinations. NDE-SSES is responsible for performing the visual examinations and reporting to site engineering the results

5.4. HISTORICAL AUGMENTED AND OWNER ELECTED EXAMINATIONS

5.4.1. BWR Jet Pump Assembly Failure (NUREG/CR-3052)

This Augmented Examination was identified as AUG5 in the 2nd Interval ISI Program Plan. IE Bulletin 80-07 was issued providing information concerning

the failure of jet pump beams at some operating nuclear plants in the US. The NRC required plants to perform visual and ultrasonic examination of jet pump components, as described in NUREG/CR-3052. These examinations have now been incorporated into BWRVIP-41.

5.4.2. Augmented Inservice Inspection of Non-Code Reactor Pressure Vessel Internals – Visual Examination

This Augmented Examination was identified as AUG6 in the 2nd Interval ISI Program Plan. This augmented examination defined the nondestructive examination requirements established by SSES to investigate and visually examine surfaces/areas within the RPV internals where cracking/failures could affect RPV internals reliability and/or safety. Components were examined with varying frequencies and examination techniques based on industry group recommendations, BWR plant experience, and internal operating experience (OE). These examinations are redundant to the examinations required by the BWRVIP.

5.3.3. Augmented Inservice Inspection of Non-Code Reactor Pressure Vessel Internals – Ultrasonic Examination

This Augmented Examination was identified as AUG7 in the 2nd Interval ISI Program Plan. This augmented examination defined the nondestructive examination requirements established by SSES to investigate and ultrasonically examine components within the RPV internals where cracking/failures could affect RPV internals reliability and/or safety. Components were examined with varying frequencies and examination techniques based on industry group recommendations, BWR plant experience (external OE), and internal operating experience (OE). These examinations are redundant to the examinations required by the BWRVIP.

5.3.4. NUREG-0803, Generic Safety Evaluation Report Regarding Integrity of BWR Scram System Piping

NUREG-0803 requires periodic inspection of the Scram Discharge Volume (SDV) of the Control Rod Drive (CRD) system. The SDV piping at SSES is designed to ASME Section III, Class 2 and is within the scope of the ISI Program. As such, SDV piping components and their supports are subject to the applicable ASME Section XI ISI requirements for ISI Class 2, therefore no additional augmented inspections are required.

5.3.5. 10CFR50.55a(g)(6)(ii)(A), Augmented Examination of Reactor Pressure Vessel

Effective September 8, 1992, 10CFR50.55a(g)(6)(ii)(A) required implementation of Augmented Inspections of RPV shell welds - Item Number B1.10 of Examination Category B-A of ASME Section XI. In addition, all previously granted relief requests pertaining to these welds were revoked. The interval in effect on September 8, 1992 was the First ISI Interval for both SSES Units 1 and 2. Per the PPL letter PLA-4011, R. G. Byram (PPL) to C. L. Miller (NRC), dated September 7, 1993 (RE: Response to Requests for Additional Information Dated 2/11/93 and 5/20/93 on First 10-Year Inservice Inspection (ISI) Program Plan), the SSES Units 1 and 2 ISI Program complied with the regulations for the First ISI Interval.

The Second Interval ISI Program for SSES Units 1 and 2 was prepared in accordance with, and complied with, the 1989 Edition of ASME Section XI, as referenced in 10CFR50.55a(g)(6)(ii)(A)(2). Initially, RPV shell welds were ultrasonically examined during the Second ISI Interval with 96% examination coverage (based on total overall weld length), as evidenced by examinations completed during the First ISI Interval. This examination coverage was achieved using ultrasonic examination techniques conducted from the OD of the RPV. RPV shell welds AD (circumferential), B-K and B-M (longitudinal), exhibited limited examination coverage due to permanent physical obstructions. Second ISI Interval Relief Request 2RR-04 originally addressed these welds. Then, the Second ISI Interval Relief Request 2RR-22 was written by PPL and approval was authorized by the NRC for permanent relief of the RPV shell welds for the rest of the interval and the balance of plant life (See below for more details).

This Third ISI Interval Augmented Inspection Program addressed the specific steps taken by SSES Units 1 and 2 to satisfy the NRC augmented inspection requirements mandated by 10CFR50.55a(g)(6)(ii)(A), including alternatives agreed to by the NRC and PPL.

The examinations of RPV shell welds, Examination Category B-A, Item Number B1.10, at SSES, were conducted in accordance with Relief Request 3RR-05. The Third ISI Interval Relief Request 3RR-05 was previously submitted and approved under the Second Interval ISI Program Plan as Relief Request 2RR-22. The approval authorized under NRC final SER dated February 28, 2001 was for permanent relief and thus applies to the balance of plant life, including this Fourth ISI Interval. The planned alternative program to the 90% coverage of each weld uses the recommendations of BWRVIP-05 as a basis for doing no additional examinations beyond the described "best effort" approach.

Relief has been authorized to not perform examinations of Examination Category B-A, Item Number B1.11 circumferential (horizontal) welds for the life of the current license. The examinations of Examination Category B-A, Item Number B1.12 Longitudinal (vertical) welds need only be performed to the maximum extent practical using automated ultrasonic testing (UT) techniques. Manual UT examinations of volumes missed by automated UT techniques are not required.

SSES compliance with 10CFR50.55a(g)(6)(ii)(A) is documented in a letter to the NRC dated November 7, 2000. Subsequently, the NRC issued a SER dated February 28, 2001 accepting Second ISI Interval Relief Request 2RR-22.

Implementation of the examination commitments is included in this ISI Program Plan and the associated ISI Database.

5.3.6. NUREG-0737 "Clarification of TMI Action Plan Requirements"

This document discusses the Three Mile Island (TMI) Action Plan Requirements and includes requirement in Item III.D.1.1 for leak testing and periodic visual examinations of systems outside of primary containment, which could contain highly radioactive fluids during a serious transient or accident. SSES has committed to the requirements of this document as discussed in Technical Specifications Section 5.4.1. Commitments made concerning NUREG-0737 are required to be maintained per the SSEs Operating Licenses. Implementation of the SSES program addressing these requirements is included in the Technical Specifications Leakage Quantification Program.

6.0 ASME SYSTEMS & EXAMINATION BOUNDARIES

6.1 Per IWA-1400(a) of the 2007 Edition through the 2008 Addenda 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), footnote 1, states that classification criteria are specified in 10 CFR 50. This reference is to footnote 9 of 10 CFR 50.55a which references Regulatory Guide 1.26 and Section 3.2.2 of NUREG-0800. The classification boundaries used for the ISI/CISI Program are contained in ISI Classification Basis Document (ISI-LTP4-Basis).

7.0 APPLICATION CRITERIA AND CODE COMPLIANCE

7.1 ASME Section XI

The following provides a summary of the application of ASME Code, Section XI, 2007 Edition through the 2008 Addenda to the SSES Ten-Year Program for the ISI Fourth and CISI Third Inspection Intervals. The application and distribution of examinations for this interval is based upon the requirements as defined by Articles IWB-2411, IWC-2411, IWD-2411, IWE-2411, IWF-2410, and IWL-2410 of Section XI.

The results of this application are summarized by ASME Category and Item number and are contained within Tables 7.1 (Unit 1) and 7.2 (Unit 2). **These tables only contain those ASME Item numbers that are relevant to SSES.**

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

Reactor vessel examinations are scheduled on the reactor pressure vessel to meet the alternative requirements of relief request 4RR-02 "Relief Request No. 22, Alternatives for Examination of Reactor Pressure Vessel Shell Welds" to use the provisions of BWRVIP-05 for the Reactor Pressure Vessel Circumferential Shell Welds during the remaining term of operation. This alternative is based on the Boiling Water Reactor Vessel Internals Project (BWRVIP) report BWRVIP-05 "BWR Reactor Pressure Vessel Shell Weld Inspection Recommendations." This alternative provision is summarized below:

The examination requirements of ASME Code Section XI, Table IWB-2500-1, Examination Category B-A, Item No. B1.12, for the RPV longitudinal shell welds will be performed as required to the extent possible. The examination requirements for Item No. B1.11, RPV circumferential shell welds will be limited to the segment of the weld that intersects with the longitudinal weld.

The examination requirements of Item No. B1.21 and B1.22, for the Reactor Vessel Head Circumferential and Meridional Welds will be performed as required (Note that deferral is permitted), so the circumferential weld in the top head will be deferred until the 3rd Period while the circumferential weld in the bottom head will be performed in the 2nd Period as was done in the previous interval. The Meridional welds will be examined in conjunction with the circumferential welds.

Examinations will be completed in accordance with Appendix VIII of the 2007 Edition with the 2008 Addenda.

This meets the Examination Category B-A examination requirements in the 2007 Edition with the 2008 Addenda as modified by Relief Request 4RR-02.

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

SSES does not have any Class 1 vessels other than the RPV therefore this examination category is not applicable.

7.1.3 EXAMINATION CATEGORY B-D, FULL PENETRATION WELDED NOZZLES IN VESSELS

The category applies to the reactor pressure vessel. 100% of the full penetration welded nozzles are scheduled in the interval in accordance with Examination Category B-D.

This meets Examination Category B-D examination requirements in the 2007 Edition with the 2008 Addenda. Consideration of using Code Case N-702 will be taken in the future and will be documented as Relief Request 4RR-04.

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

This category addresses Nozzle-to-Safe End Welds and Piping Welds. SSES has developed a RI-ISI Program. All Examination Category B-F welds have been re-categorized as R-A welds in accordance with the RI-ISI Program. The RI-ISI Program has been submitted to the NRC via Request for Alternative 4RR-01. Therefore, no examinations will be performed per Examination Category B-F.

7.1.5 EXAMINATION CATEGORY B-G-1, PRESSURE RETAINING BOLTING,GREATER THAN 2" IN DIAMETER

The examination of the Reactor Vessel Bolting (nuts, studs, threads in flange, washer, and bushings) will be deferred to the end of the interval and performed in the 3rd Period. For volumetric examination of Recirculation Pump Studs, one of two sets of reactor recirculation pump studs is selected for volumetric examination. For the visual examination of the flange surface and nuts, bushings and washers, one of the reactor recirculation pumps will be examined only if disassembled and examined under Examination Category B-L-2.

Valve HV141F028A has a "Dual Diameter Stud" at location 16. The stud is 2.125" by 2" and will be examined under Category B-G-1 with a volumetric examination.

This meets the Examination Category B-G-1 examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

7.1.6 EXAMINATION CATEGORY B-G-2, PRESSURE RETAINING BOLTING, 2" AND LESS IN DIAMETER

This category includes the reactor vessel top head flange bolts (Nozzles N6A, N6B, and N7), flange bolts on the Main Steam, Residual Heat Removal, Recirculation, and Reactor Water Cleanup systems. In addition this category includes valve bolting of the Core Spray, Feedwater, High Pressure Coolant Injection, Main Steam, Residual Heat Removal, Recirculation, and Reactor Water Cleanup Systems. Examinations will be conducted as required in Table IWB-2500-1 in the 2007 Edition with the 2008 Addenda of Section XI. This bolting will only be examined when the associated connections are disassembled. For bolting other than piping, bolting examinations will be required only when the associated component is examined under Examination Category B-L-2 or B-M-2. Valve Groupings are identified in the "Multi-group" field in the Scheduleworks Database and in Table 7.1.6a below. For bolting on piping systems, the examination will be performed on only one of the bolted connections among a group of bolted connections that are similar in design, size, function, and service. The groups for piping are identified in the "Multi-group" field in the Scheduleworks Database and in Table 7.1.6b below. Examination will be performed only when the flange is disassembled.

This meets the Examination Category B-G-2 examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

TABLE 7.1.6a			
UNIT 1		UNIT 2	
Valve Group #	Valve ID#	Valve Group #	Valve ID#
1V-001	1F006A, 1F006B,	2V-001	2F006A, 2F006B
1V-002	1F005A, 1F005B	2V-002	2F005A, 2F005B
1V-003	1F007A, 1F007B	2V-003	2F007A, 2F007B
1V-004	1F010A, 1F010B,	2V-004	2F010A, 2F010B
1V-005	141818A, 141818B	2V-005	241818A, 241818B
1V-006	1F011A, 1F011B,	2V-006	2F011A, 2F011B
1V-007	1F002, 1F003	2V-007	2F002, 2F003
1V-008	1F013A, 1F013B, 1F013C, 1F013D, 1F013E, 1F013F, 1F013G, 1F013H, 1F013J, 1F013K, 1F013L, 1F013M, 1F013N, 1F013P, 1F013R, 1F013S	2V-008	2F013A, 2F013B, 2F013C, 2F013D, 2F013E, 2F013F, 2F013G, 2F013H, 2F013J, 2F013K, 2F013L, 2F013M, 2F013N, 2F013P, 2F013R, 2F013S
1V-009	1F022A, 1F022B, 1F022C, 1F022D, 1F028A, 1F028B, 1F022C, 1F022D	2V-009	2F022A, 2F022B, 2F022C, 2F022D, 2F028A, 2F028B, 2F028C, 2F028D
1V-010	1F019	2V-010	2F019
1V-011	1F022	2V-011	2F022
1V-012	1F023	2V-012	2F023
1V-013	1F067	2V-013	2F067
1V-014	1F008, 1F009	2V-014	2F008, 2F009
1V-015	1F050A, 1F050B	2V-015	2F050A, 2F050B
1V-016	1F060A, 1F060B	2V-016	2F060A, 2F060B
1V-017	1F015A, 1F050B	2V-017	2F015A, 2F015B
1V-018	1F023A, 1F023B, 1F031A, 1F031B	2V-018	2F023A, 2F023B, 2F031A, 2F031B
1V-019	1F102	2V-019	2F102
1V-020	1F001, 1F004,	2V-020	2F001, 2F004

TABLE 7.1.6b			
UNIT 1		UNIT 2	
Piping Group #	Piping ID#	Piping Group #	Piping ID#
1Pipe-001	DCA1112-FW16, DCA1112-FW17	2Pipe-001	DCA2113-2A, DCA2113-FW11
1Pipe-002	DCA1411-FL-1, DCA1421-FL-1	2Pipe-002	DCA2411-3D, DCA2421-3D
1Pipe-003	SPDCA1021-FL-1, SPDCA1022-FL-1	2Pipe-003	SPDCA2021-FL-1, SPDCA2022-FL-1
1Pipe-004	Flange bolting for the following valves: 1F013A, 1F013B, 1F013C, 1F013D, 1F013E, 1F013F, 1F013G, 1F013H, 1F013J, 1F013K, 1F013L, 1F013M, 1F013N, 1F013P, 1F013R, 1F013S	2Pipe-004	Flange bolting for the following valves: 2F013A, 2F013B, 2F013C, 2F013D, 2F013E, 2F013F, 2F013G, 2F013H, 2F013J, 2F013K, 2F013L, 2F013M, 2F013N, 2F013P, 2F013R, 2F013S
1Pipe-005	VRRB311-14-G, VRRB312-3-G	2Pipe-005	VRRB313-14G, VRRB314-3G

7.1.7 EXAMINATION CATEGORY B-J, PRESSURE RETAINING WELDS IN PIPING

This category addresses piping welds. SSES has developed a RI-ISI program. All Examination Category B-J Welds have been re-categorized as R-A welds in accordance with the RI-ISI Program. The RI-ISI Program has been submitted to the NRC via Request for Alternative 4RR-01. Therefore, no examinations will be performed per Examination Category B-J.

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

Examination Category B-K of the ASME Code, Section XI, 2007 Edition with the 2008 Addenda requires examination of welded attachments. For the reactor pressure vessel welded attachments footnote 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 attachment weld shall be selected. The attachment selected shall be an attachment under continuous load during the normal system operation. The RPV for both Units have 9 welded attachments with the vessel skirt on each Unit RPV being selected for examination.

For piping, pumps, and valves, inspection of 10% of the total population of welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. 10% of all piping and pump welded attachments associated with the component supports selected for examination under IWF-2510 are selected for examination.

UNIT 1

There are a total of 149 piping supports and 4 pump supports, 40 of those piping supports have been selected for examination under IWF-2510. Of those supports selected for examination only 6 have welded attachments, 10% or 1 would require examination. There are two reactor recirculation pumps which have 4 supports each. Four supports on one pump are selected for examination; there are four welded attachments (HA6 and H47 on Pump A share the same welded attachment. HB6 and H42 on Pump B share the same welded attachment), 10% or 1 welded attachment is required to be examined. One of the welded attachments on one of the reactor recirculation pump is selected for examination.

UNIT 2

There are a total of 156 piping supports and 4 pump supports, 42 of those piping supports have been selected for examination under IWF-2510. Of those supports selected for examination only 4 have welded attachments, 10% or 1 would require examination. There are two reactor recirculation pumps which have 4 supports each. Four supports on one pump are selected for examination; there are four welded attachments (HA6 and H47 on Pump A share the same welded attachment. HB6 and H42 on Pump B share the same welded attachment), 10% or 1 welded attachment is required to be examined. One of the welded attachments on one of the reactor recirculation pump is selected for examination.

This meets the Examination Category B-K examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

7.1.9 EXAMINATION CATEGORY B-L-2, PUMP CASINGS

This category involves only the Reactor Recirculation Pumps and requires a visual examination on the pump casing internal surfaces when the pump is disassembled. The examination is limited to one pump. No pump is scheduled for disassembly so no pumps have been selected; however the requirement will be met during the repair/replacement and/or maintenance activity that is performed on either of the pumps.

This meets the Examination Category B-L-2 examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

7.1.10 EXAMINATION CATEGORY B-M-2, VALVE BODIES

This category involves the valves that exceed NPS 4 in the Core Spray, Feedwater, Main Steam, Nuclear Boiler and Residual Heat Removal Systems. This category requires examination of one valve in each group of valves that are of the same size, constructural design, and manufacturing method, and that performs similar functions in the system. There are 57 Class 1 valves (each Unit) which have been divided into 20 Groups which are identified in the "Multi-group" field in Scheduleworks and in Table 7.1.6a. However, this examination is only required when a valve is disassembled for maintenance, repair, or volumetric examination. No valve body internal surfaces have been selected. This requirement will be met during the maintenance or repair/replacement activity.

This meets the Examination Category B-M-2 examination requirements in the 2007 Edition with the 2008 Addenda.

7.1.11 EXAMINATION CATEGORIES B-N-1, B-N-2 AND B-N-3

To better define what these examination categories consist of it is important to review the basis for the development of the category. A paper titled "Development of In-Service Inspection Safety Philosophy for U.S.A Nuclear Power Plant" by S.H. Bush and R.R. MacCary was reviewed which defined the philosophy behind the development of the Inspection Category N in the 1971 Edition of the ASME Section XI Code. This paper stated:

"The special examination category N covers the examination of the interior surfaces and internal components of the reactor vessel; it is considered one of the most critical examination requirements in the A.S.M.E Section XI Code. Among the consideration contributing to the development of this examination category were the reported experiences and difficulties encountered in the operating facilities. These interior examination areas should assure:

7.1.11.1 Inspection of all internal support attachments welded to the reactor vessel whose failure could result in reactor core disarrangement.

7.1.11.2 Discovery of any loose parts which might have accumulated at the bottom of the reactor vessel during service.

7.1.11.3 Detection of undue wear as a result of flow-induced vibrations of components of the reactor core structure.

7.1.11.4 Verification of the overall structural integrity of the core structure, including supplementary internal components such as moisture separators, material surveillance capsules, instrumentation, and reactor control rod assembly guides."

The 2007 Edition with the 2008 Addenda does not have a Category N but now has three categories of which two are applicable to a Boiling Water Reactor (BWR) such as SSES Units 1 and 2, Category B-N-1, and B-N-2. The above basis for Category N in the 1971 Edition of Section XI is interpreted as follows:

Item 7.1.11.1 above is interpreted to be addressed by the VT-1 and VT-3 visual examinations for Examination Category B-N-2, Item Numbers B13.20 and B13.30 "Interior Attachments within and beyond the beltline region".

Item 7.1.11.2 above is interpreted to be addressed by the VT-3 visual examination for Examination Category B-N-1, Item Number B13.10, "Vessel Interior" covering spaces above and below the reactor core looking for foreign material.

Item 7.1.11.3 above is interpreted to be addressed by the VT-3 visual examination for Examination Category B-N-2, Item Number B13.40 "Core Support Structure"

Item 7.1.11.4 above is also interpreted to be addressed by the VT-3 visual examination for Examination Category B-N-2, Item B13.40 "Core Support Structure", except that the supplementary components were not included when the Examination Categories B-N-1, B-N-2, B-N-3 or B-I-1 replaced the former Examination Category N in the 1974 Edition. The reactor vessel interior surfaces referred to in the former Examination Category N were addressed by Examination Category B-I-1 in the 1974 Edition as sample "clad patches" which was eliminated in the Summer 1976 Addenda.

7.1.12 EXAMINATION CATEGORY B-N-1, INTERIOR OF REACTOR VESSEL

This category involves the examination of spaces above and below the reactor core that are made accessible by removal of components during normal refueling outages. These examinations will be conducted each inspection period. Based on the explanation above this would only be performing a VT-3 visual examination looking for loose parts or FME.

This meets the Examination Category B-N-1 examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

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

These examinations include the interior welded attachments for vessel internal components as well as those welded core support structures. The welded attachments within the beltline region (Jet Pump Riser Brace and Surveillance

Sample holder) will receive a Visual, VT-1 examination and the welded attachments outside the beltline region (Core Spray Piping Support, Steam Dryer Holddown, Steam Dryer Support, Feedwater Sparger, Guide Rod and Shroud Support Legs) will receive a Visual, VT-3 examination. Per UFSAR 3.9.5.1, the core structure consists of the shroud, shroud support, core plate and holddown bolts, top guide, fuel supports, control rod guide tubes and control rod guide housings. These structures form partitions within the reactor vessel, to sustain pressure differentials across the partitions, direct the flow of the coolant water, and laterally locate and support the fuel assemblies. The accessible surfaces of the core shroud (defined as being the area between Jet Pump 20 and Jet Pump 1 and the area between Jet Pump 10 and Jet Pump 11), shroud head, steam separator, core plate (including surfaces of fuel support castings made accessible), and the top guide will receive a VT-3 examination.

This meets the Examination Category B-N-2 examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

7.1.14 EXAMINATION CATEGORY B-N-3, REMOVALBLE CORE SUPPORT STRUCTURES

SSES does not have removable core support structures; therefore this category is not applicable.

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

This examination category requires a volumetric or surface examination of 10% of peripheral control drive housings during the inspection interval. There are 40 peripheral control rod drives on the reactor vessel bottom head. To meet the category examination requirements 2 welds (upper and lower weld) on 4 of the peripheral control rod drive housings will be selected for examination.

This meets the Examination Category B-O examination requirements in the 2007 Edition with the 2008 Addenda.

7.1.16 EXAMINATION CATEGORY B-Q, STEAM GENERATOR TUBING

SSES does not have Steam Generators therefore this examination category is not applicable.

7.1.17 **EXAMINATION CATEGORY C-A, PRESSURE RETAINING WELDS IN PRESSURE VESSELS**

This category applies to the Residual Heat Removal Heat Exchangers (A and B). Note 3 in Table IWC-2500-1, Examination Category C-A states "In the case of multiple vessels of similar design, size, and service (such as steam generators, heat exchangers), the required examinations may be limited to one vessel or distributed among vessels." The shell to head weld and the shell to flange welds on one of the Residual Heat Removal Heat Exchanger is selected for examination. The Tube-sheet-to-Shell Weld is on the Class 3 side of the RHR Heat Exchanger (reference Drawing 8856-M1-E11-32-5) therefore Item Number C1.30 is not applicable to SSES.

This meets the Examination Category C-A examination requirements in the 2007 Edition with the 2008 Addenda.

7.1.18 **EXAMINATION CATEGORY C-B, PRESSURE RETAIING NOZZLE WELDS IN VESSELS**

This category applies to the Residual Heat Removal Heat Exchangers. Note 1 in Table IWC-2500-1, Category C-B, excludes manways and handholes. Note 3 require that nozzles selected initially for examination shall be reexamined over the service life of the component. Note 4 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. Two nozzles were selected on one of the Residual Heat Removal Heat Exchangers.

This meets the Examination Category C-B examination requirements in the 2007 Edition with the 2008 Addenda.

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

Examination Category C-C of the ASME Code Section XI, 2007 Edition with the 2008 Addenda requires examination of Welded Attachments. For vessel 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. The welded attachment selected shall be an attachment under continuous load during normal system operation or an attachment subject to a potential intermittent load during normal system operation if an attachment under

continuous load does not exist. A welded attachment on one of the Residual Heat Removal Heat Exchangers was selected for examination.

For piping pumps and valves, inspection of 10% of the total population of integral welded attachments associated with the component supports selected for examination under IWF-2510 is required. 10% of all piping and pump welded attachments associated with the component supports selected for examination under IWF-2510 was selected for examination.

UNIT 1

There are a total of 433 piping supports of which 67 piping supports have been selected for examination under IWF-2510. Of those 67 piping supports selected for examination under IWF-2510, 28 have welded attachments (totaling 159 welded attachments amongst those 28 supports), therefore 10% or 16 welded attachments on piping supports require examination. There is one pump that has four welded attachments (RCIC Pump); all of the associated pump supports will be selected for examination under IWF-2510, therefore 10% of 4 is 1 pump welded attachment requires examination.

UNIT 2

There are a total of 464 piping supports of which 71 piping supports have been selected for examination under IWF-2510. Of those 71 piping supports selected for examination under IWF-2510, 34 have welded attachments (totaling 195 welded attachments amongst those 34 supports), therefore 10% or 20 welded attachments on piping supports require examination. There is one pump that has four welded attachments (RCIC Pump); all of the associated pump supports will be selected for examination under IWF-2510, therefore 10% of 4 is 1 pump welded attachment requires examination.

This meets the Examination Category C-C examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

7.1.20 EXAMINATION CATEGORY C-D, PRESSURE RETAINING BOLTING GREATER THAN 2" IN DIAMETER

SSES does not have any Class 2 Bolting that is greater than 2" in diameter therefore this examination category does not apply.

7.1.21 **EXAMINATION CATEGORIES C-F-1, PRESSURE RETAINING WELDS IN AUSTENITIC STAINLESS STEEL OR HIGH ALLOY PIPING**

This category addresses Class 2 stainless steel piping welds. SSES has developed a RI-ISI program. All Examination Category C-F-1 welds have been re-categorized as R-A welds in accordance with the RI-ISI Program. This RI-ISI Program has been submitted to the NRC via Request for Alternative 4RR-01. Therefore no examinations will be performed per Examination Category C-F-1.

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

This category addresses Class 2 carbon steel piping welds. SSES has developed a RI-ISI program. All Examination Category C-F-2 welds have been re-categorized as R-A welds in accordance with the RI-ISI Program. This RI-ISI Program has been submitted to the NRC via Request for Alternative 4RR-01. Therefore no examinations will be performed per Examination Category C-F-2.

7.1.23 **EXAMINATION CATEGORY D-A, WELDED ATTACHMENTS FOR VESSELS, PIPING, PUMPS, AND VALVES**

Examination Category D-A of the ASME Code Section XI, 2007 Edition with the 2008 Addenda requires examination of welded attachments on those systems that are determined to be susceptible to corrosion, such as the welded attachments of the Service Water or Emergency Service Water systems. 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 these examinations. The Class 3 systems at SSES that are not exempt from examination and considered subject to corrosion is the Main Steam, Fuel Pool Cooling, Emergency Service Water, and Residual Heat Removal Service Water Systems.

UNIT 1

There are a total of 714 piping welded attachments (snubber attachments (51) are not included in the total requiring examination (714-51=663), 10% or 67 welded attachments are required to be examined.

There are 2 RHRSW Pumps. Each pump has six welded attachment totaling 12 welded attachments, 10% or 2 welded attachments were selected to be examined.

UNIT 2

There are a total of 474 piping welded attachments (snubber attachments (53) are not included in the total requiring examination (474-53=421), 10% or 42 welded attachments are required to be examined.

There are 2 RHRSW Pumps. Each pump has six welded attachment totaling 12 welded attachments, 10% or 2 welded attachments were selected to be examined.

UNITs 1 and 2

There are 4 ESW Pumps each with six welded attachments, 10% or 3 welded attachments were selected for examination.

For multiple vessels of similar design, function and service, the welded attachments of only one of the multiple vessels shall be selected for examination. There are 1 Diesel Generator Lube Oil Heat Exchanger (OE-506E), 4 Diesel Generator Jacket Water Heat Exchangers (OE-507A through D), and 2 Chiller Condensers (OS-117A and B). Each vessel has two welded attachments, therefore the welded attachments on one of the vessel groups were selected for examination.

This meets Examination Category D-A examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

7.1.24 EXAMINATION CATEGORY E-A, CONTAINMENT SURFACES

Examination Category E-A of the ASME Code Section XI, 2007 Edition through the 2008 Addenda requires a General Visual examination of 100% of the accessible interior and exterior surfaces of the Class MC components and the metallic shell and penetration liners of Class CC components each Inspection Period. Footnote 1 helps define the areas requiring examination:

1. integral attachments and structures that are parts of reinforcing structure, such as stiffening rings, manhole frames, and reinforcement around openings,
2. surfaces of attachment welds between structural attachments and the pressure retaining boundary or reinforcing structure, except for nonstructural or temporary attachments,

3. surfaces of containment structural and pressure boundary welds and surfaces of Flued Head and Bellows Seal Circumferential Welds joined to the Penetration, and
4. pressure-retaining bolted connections, including bolts, studs, nuts, bushings, washers, and threads in base material and flange ligaments between fastener holes.

Accessible is defined in IWE-2310(c) which states: "Visual examinations shall be performed, either directly or remotely, by line of sight from available viewing angles from floors, platforms, walkways, ladders, or other permanent vantage points, unless temporary access is required by the inspection plan."

In addition wetted Surfaces of Submerged Areas and BWR Vent Systems shall receive a Visual VT-3 Examination each interval and the Moisture Barriers shall receive a General Visual Examination each Inspection Period. Footnote 2 of Table IWE-2500-1, states the BWR Vent System shall include flow channeling devices within the containment vessel.

Note the SSES Units 1 or 2 do not have moisture barriers as part of the containment design.

The containment vessel pressure retaining boundary has been divided up into inspection zones that include each penetration. The table below shows the number of inspection zones for each Unit:

Table 7.2.24 "Inspection Zones"				
Unit 1	Item No. E1.11	General Visual	69 Inspection Zones	DW Head and DW Head Manhole Exterior and Interior are counted as separate zones. Zones 25, 26, 27, 28, 69, 70, 71, and 72 are considered inaccessible and therefore not scheduled.
Unit 1	Item No. E1.12	Visual, VT-3	8 Inspection Zones	4 zones for the Suppression Chamber Floor and 4 zones for the Interior Liner.
Unit 1	Item No. E1.20	Visual, VT-3	12 Inspection Zones	12 Zones for the Suppression Vent Systems. Also included are four Supports for EPU considerations.
Unit 2	Item No. E1.11	General Visual	68 Inspection Zones	DW Head and DW Head Manhole Exterior and Interior are counted as separate zones. Zones 25, 26, 27, 28, 69, 70, 71, and 72 are considered inaccessible and therefore not scheduled.

Table 7.2.24 "Inspection Zones"				
Unit 2	Item No. E1.12	Visual, VT-3	8 Inspection Zones	4 zones for the Suppression Chamber Floor and 4 zones for the Interior Liner.
Unit 2	Item No. E1.20	Visual, VT-3	12 Inspection Zones	12 Zones for the Suppression Vent Systems. Also included are four Supports for EPU considerations.

This meets Examination Category E-A examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

7.2.25 EXAMINATION CATEGORY E-C, AUGMENTED EXAMINATIONS

There are currently no areas identified for augmented examinations per IWE-1240 in either Unit.

7.1.26 EXAMINATION CATEGORY E-G, PRESSURE RETAINING BOLTING

Examination Category E-G of the ASME Code Section XI, 2007 Edition through the 2008 Addenda requires 100% of each bolted connection on the containment vessel to be examined once each inspection interval. Per footnote 1, the examination shall include bolts, studs, nuts, bushings, washers, and threads in base material and flange ligaments between fastener holes. Per footnote 2, the 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.

Unit 1 has 36 bolted connections.
Unit 2 has 37 bolted connections.

This meets Examination Category E-G examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

7.1.27 EXAMINATION CATEGORY F-A, SUPPORTS

Examination Category F-A of the ASME Code Section XI, 2007 Edition through the 2008 Addenda 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 and function as defined in Note (1) to Examination Category F-A. A letter designation has been added to the Item Number to clearly identify each support by type. PPL has defined the following letter designations for classifying supports.

a = Anchors or Flued Heads
b = Single directional supports
c = Multiple directional supports

UNIT 1	
CLASS 1	
Description	Item No.
Anchor	F1.10(a)
Const Supp	F1.10(b)
Flued Head	F1.10(a)
Rigid St	F1.10(b)
Rigid Supp	F1.10(b)
Rigid Sup/Guide	F1.10(c)
Sway St	F1.10(b)
Var Supp	F1.10(b)
CLASS 2	
Description	Item No.
Anchor	F1.20(a)
Anchor/Sway	F1.20(a)
Flued Head	F1.20(a)
Penetration	F1.20(a)
Rigid Hang	F1.20(b)
Rigid St	F1.20(b)
Rigid Supp	F1.20(b)
Rigid Sup/Guide	F1.20(c)
Rigid Sup/Slide	F1.20(c)
Rigid Sup/Sway St	F1.20(b)
Rigid Guide	F1.20(b)
Rigid/Slide	F1.20(b)
Rigid/Slide/Guide	F1.20(b)
Sway St	F1.20(b)
Var Supp	F1.20(b)
Var Sup/Slide	F1.20(c)
Var Sup/Sway St	F1.20(c)
CLASS 3	
Description	Item No.

Anchor	F1.30(a)
T-Quencher	F1.30(b)
Flued Head	F1.30(a)
Guide	F1.30(b)
Rigid Hang	F1.30(b)
Rigid St	F1.30(b)
Rigid Sup	F1.30(b)
Rigid Sup/Guide	F1.30(c)
Sway St	F1.30(b)
To Chiller OK-112A	F1.30(a)
Var Supp	F1.30(b)

UNIT 2	
CLASS 1	
Description	Item No.
Anchor	F1.10(a)
Flued Head	F1.10(a)
Guide	F1.10(b)
Rigid	F1.10(b)
Rigid Sup/Guide	F1.10(c)
Sway St	F1.10(b)
Var Supp	F1.10(b)
CLASS 2	
Description	Item No.
Anchor	F1.20(a)
Flued Head	F1.20(a)
Rigid	F1.20(b)
Rigid Sup/Guide	F1.20(c)
Sway St	F1.20(b)
Var Supp	F1.20(b)
CLASS 3	
Description	Item No.
Anchor	F1.30(a)
T-Quencher	F1.30(b)
Flued Head	F1.30(a)
Rigid	F1.30(b)
Rigid Sup/Guide	F1.30(c)
Sway St	F1.30(b)
Var Supp	F1.30(b)

Twenty-five percent (25%) of the Class 1 supports have been selected and are prorated by type/function and system. Fifteen percent (15%) of the Class 2 supports have been selected and are prorated by type/function and system. Ten percent (10%) of the Class 3 supports have been selected and are prorated by type/function and system.

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

UNIT 1

One of two RHR Heat Exchangers (2 supports ea.)
One of four Core Spray Pumps (1 support ea.)
One Diesel Generator Lube Oil Coolers (3 supports ea.)
One of four Diesel Generator Jacket Water Heat Exchangers (2 supports ea.)
One of four ESW Pumps (1 support ea.)
One of two Chiller Condensers (2 supports ea.)
One HPCI Main Pump (1 support)
One HPCI Booster Pump (1 support)
One RCIC Pump (1 support)
One of four RHR Pumps (1 support ea.)
One of two RHRSW Pumps (1 support ea.)
One Reactor Pressure Vessel (9 supports)
One of two Recirculation Pumps (5 supports ea.)

Thirty of fifty five non piping supports were selected for examination or 54% of all non-piping supports.

UNIT 2

One of two RHR Heat Exchangers (2 supports ea.)
One of four RHR Pump (1 support ea.)
One RCIC Pump (1 support)
One HPCI Main Pump (1 support)
One of four Core Spray Pump (1 support ea.)
One HPCI Booster Pump (1 support)
One of two RHRSW Pump (1 support ea.)
One Reactor Pressure Vessel (9 supports)
One of two Recirculation Pump (5 supports ea.)

Twenty two of thirty six non piping supports was selected for examination or 61% of all non-piping supports.

The selection of these component supports for examination meets Examination Category F-A examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

7.1.28 EXAMINATION CATEGORY L-A

Examination Category L-A, Item Number L1.11 requires all accessible surface areas to be examined per IWL-2510 and at a frequency defined in IWL-2410. IWL-2510(a) requires concrete surface areas, including coated areas, except those exempted by IWL-1220(b), to be visually examined for evidence of conditions indicative of damage or degradation. IWL-2410 requires this visual examination to be completed at five year intervals (after the 1, 3, and 5 years interval following the Structural Integrity Test).

The Unit 1 Suppression Pool is divided up into 12 inspection zones while the Drywell is divided up into 16 inspection zones.

The Unit 2 Suppression Pool is divided up into 12 inspection zones while the Drywell is divided up into 16 inspection zones.

If the examinations performed under Item Number L1.11 reveal areas that are suspect, Item Number L1.12 requires a "detailed" visual examination to be performed. There are currently no areas for either unit that is being tracked by Item Number L1.12.

This meets Examination Category L-A examination requirements in the 2007 Edition with the 2008 Addenda of Section XI.

7.1.29 EXAMINATION CATEGORY R-A

The alternative RI-ISI Program for piping as described in Request for Alternative 4RR-01 is being utilized. The RI-ISI Program has been substituted for the Examination Categories B-F, B-J, C-F-1, and C-F-2 in accordance with 10 CFR 50.55a(3)(i) by alternatively providing an acceptable level of quality and safety. The welds are selected in accordance with the final calculation provided by Structural Integrity Associates, Inc. (SI) Calculation 1100859.401, "Risk-Informed Inservice Inspection Interval Evaluation for Susquehanna Steam Electric Station Units 1 and 2". The calculation requires 66 welds (Unit 1) and 65 welds (Unit 2) to be examined. The N-578-1 program contains 345 welds (Unit 1) and 368 welds (Unit 2) that are susceptible to FAC-only and 130 weld (Unit 1) and 129 welds

(Unit 2) that are susceptible to IGSCC-only. Code Case N-578-1 refers to the utility FAC and IGSCC Programs for the management of these welds.

7.2 Augmented Programs

7.2.1 (AUG1), FSAR 6.6.8, Augmented Inservice Inspection to Protect Against Postulated Piping Failures (Units 1 and 2)

This augmented inspection program is to provide assurance against piping failures of high energy systems between the containment isolation valves for which no breaks are postulated. Commencing with the 3rd 10 year inspection interval, the risk-informed break exclusion region program methodology described in EPRI-TR-1006937 was implemented in lieu of 100% examination of all piping welds. The welds are subsumed within the Risked-Informed Examination Program. The inspection are summarized in Table 7-3 (Unit 1) and 7-4 (Unit 2).

7.2.2 (AUG2), Generic Letter 88-01, Augmented Inspection Program for the detection of Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping

This augmented inspection program applies to all piping made of austenitic stainless steel that is four inches or larger in nominal diameter and contains reactor coolant at a temperature above 200°F during normal power operation regardless of code classification. The inspections are summarized in Table 7-3 (Unit 1) and 7-4 (Unit 2).

7.2.3 (AUG3) Feedwater Nozzles, "Augmented Inspection of Feedwater Nozzles"

This augmented inspection program includes inspection of all five of the FW nozzle bore and inner radii looking for thermal cracking as documented in NUREG-0619. The inspections are summarized in Table 7-3 (Unit 1) and 7-4 (Unit 2).

7.3 Owner Elected Programs

7.3.1 (AUG8), "Augmented Inservice Inspection for Vibration Induced Failures"

This augmented inspection program defines the NDE requirements to investigate and identify areas where vibration induced cracking/failure could affect plant

reliability and/or safety. The site engineering group is managing this program. These inspections are summarized in Table 7-5 (Unit 1) and 7-6 (Unit 2).

7.4 License Renewal Programs

7.4.1 Thermal Aging and Neutron Embrittlement of Cast Austenitic Stainless Steel (CASS Program)

This program augments the visual examination of the reactor vessel internals done in accordance with ASME Code Section XI Subsection IWB, Examination Category B-N-2. These examinations are required to be completed by December 2016.

7.4.2 Buried Piping and Tanks Inspection

Per FSAR, Section 3.14.2.3, Table 3.14-1, Item 26, the license renewal program will manage the effects of corrosion of the external surfaces of piping and tanks exposed to a buried environment. This program consists of a combination of a preventative program (protective coatings and wrappings) and a condition monitoring program of NDE Examination. This License Renewal Program is included in a separate document.

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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	5	0	0%(1)	All Welds	0	0	0
B-A	B1.12	Reactor Vessel Longitudinal Shell Welds	Volumetric	13	13	100%	All Welds	6	0	7
B-A	B1.21	Reactor Vessel Circumferential Head Welds	Volumetric	2	2	100%	Accessible Length of All Welds	0	1	1
B-A	B1.22	Reactor Vessel Meridional Head Welds	Volumetric	14	14	100%	Accessible Length of All Welds	0	14	0
B-A	B1.30	Reactor Vessel Shell-to-Flange Weld	Volumetric	1	1	100%	Weld	0	0	1
B-A	B1.40	Reactor Vessel Head-to-Flange Weld	Volumetric and Surface	1	1	100%	Weld	0	0	1
			Category Total	36	31			6	15	10

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
CUMULATIVE INTERVAL PERCENTAGE								**19%**	**68%**	**100%**
Notes for Cat. B-A		Note 1: Request for Alternative 4RR-02 was submitted to use BWRVIP-05. This excludes the examination of the vessel circumferential welds (Item No. B1.11)								
B-D	**Full Penetration Welded Nozzles in Vessels**									
B-D	B3.90	Reactor Vessel Nozzle-to-Vessel Welds	Volumetric	30(1)	30	100%(2)	Same as 1st Interval	10	10	10
B-D	B3.100	Reactor Vessel Nozzle Inside Radius Section	Volumetric	30(1)	30	100%(2)	Same as 1st Interval	10	10	10
Category Total				**60**	**60**			**20**	**20**	**20**
CUMULATIVE INTERVAL PERCENTAGE								**33%**	**66%**	**100%**
Notes for Cat. B-D		Note 1: Bottom Head Drain Nozzle (N-15) is inaccessible and exempted per IWB-1220(c). Note 2: Future plans are to use Code Case N-702 which will change the total number of nozzles examined and the examination percentage.								

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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	Pressure Retaining Bolting, Greater Than 2 in. (50 mm) in Diameter									
B-G-1	B6.10	Reactor Vessel Closure Head Nuts	Visual, VT-1	76	76	100%	Same as for 1st interval	0	0	76
B-G-1	B6.20	Reactor Vessel Closure Studs	Volumetric(1)	76	76	100%	Same as for 1st interval	0	0	76
B-G-1	B6.40	Reactor Vessel Threads in Flange	Volumetric	76	76	100%	Same as for 1st interval	0	0	76
B-G-1	B6.50	Reactor Vessel Closure Washers, Bushings	Visual, VT-1	76	76	100%	Same as for 1st interval	0	0	76
B-G-1	B6.180	Pump Bolts and Studs	Volumetric(1)	32	16	50%(2)	Same as for 1st interval	0	0	16
B-G-1	B6.190	Pumps Flange Surface when connection disassembled	Visual, VT-1	32	0	0%(3)(4)	Same as for 1st interval	0	0	0
B-G-1	B6.200	Pumps Nuts, Bushings, and Washers	Visual, VT-1	32	0	0%(3)(4)	Same as for 1st interval	0	0	0

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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	B6.210	Valve Bolts and Studs	Volumetric[1]	1[5]	1	100%	Same as for 1st interval	0	0	1
			Category Total	**401**	**321**			**0**	**0**	**321**
			CUMULATIVE INTERVAL PERCENTAGE					**0%**	**0%**	**100%**
Notes for Cat.B-G-1	Note 1: If bolts or studs are removed for examination, surface examination meeting the acceptance standards of IWB-3515 may be substituted for volumetric examination. Note 2: Volumetric examination of bolting of heat exchangers, pump, 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. (Ref. Table IWB-2500-1, Examination Category B-G-1, Note 3). There are two Reactor Recirculation Pumps with 16 studs each. Therefore, only one of the pumps will be examined. Note 3: Not Required unless disassembled Note 4: For heat exchangers, piping, pumps, and valves, visual examinations are limited to components selected for examination under Examination Categories B-B, B-J, B-L-2, and B-M-2. (Ref. Table IWB-2500-1, Examination Category B-G-1, Note 4) Note 5: Valve HV141F028A has a "Dual Diameter" Stud at location 16 and is included in Category B-G-1. The stud is 2.125" x 2".									

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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	**Pressure Retaining Bolting, 2in. (50 mm) and Less in Diameter**									
B-G-2	B7.10	Reactor Vessel Bolts, Studs, and Nuts	Visual, VT-1	3(2)	0	0%(1)	Same as for 1st interval(4)	0	0	0
B-G-2	B7.50	Piping Bolts, Studs, and Nuts	Visual, VT-1	24	0	0%(1)(3)	Same as for 1st interval (4)	0	0	0
B-G-2	B7.70	Valves Bolts, Studs, and Nuts	Visual, VT-1	57	0	0%(1)(5)	Same as for 1st interval (4)(6)	0	0	0
Category Total				**84**	**0**			**0**	**0**	**0**
CUMULATIVE INTERVAL PERCENTAGE								**0%**	**0%**	**0%**

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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-2		Note 1: Not required unless disassembled Note 2: Number of components consists of the bolting off of the Reactor Vessel Head Nozzles (N6A, N6B, and N7). The total number of bolting is 32 (12 for each of the N6 Nozzles and 8 for the N7 Nozzle). Note 3: Examination is limited to at least one piping flange in each group of piping flanges that are of the similar design, size, function, and service in the system. Note 4: Examination is only required once per interval Note 5: Only one valve of each group of valves is required as outlined in B-M-2. Valve HV141F028A has one stud at location 16 that is examined under Examination Category B-G-1. Note 6: For components other than piping, examinations are limited to components selected for examination under Examination Categories B-B, B-L-2, and B-M-2. (Ref. Table IWB-2500-1, Examination Category B-G-2, Note 2)								
B-K	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
B-K	B10.10	Pressure Vessels Welded Attachments	Surface	9	1	11%(1)	Same as for 1st interval	0	0	1
B-K	B10.20	Piping Welded Attachments	Surface	43(3)(5)	1(3)	2.3%(2)	Same as for 1st interval	0	1	0
B-K	B10.30	Pump Welded Attachments	Surface	6(4)	1	16.6%	Same as for 1st interval	1	0	0

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Category Total				58	3			1	1	1
CUMULATIVE INTERVAL PERCENTAGE								33%	66%	100%

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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-K		Note 1: For single vessels, only one welded attachment shall be selected for examination. The welded attachment selected for examination, shall be an attachment under continuous load during normal operation or an attachment subject to a potential intermittent load during normal operation. Note 2: For piping and pumps, a sample of 10% of the welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. There are a total of 149 piping supports, 40 of those supports have been selected for examination under IWF-2510. Of those supports selected for examination only 6 have welded attachments, 10% or 1 (6%) would require examination. Note 3: Each welded attachment is given a unique weld ID. For example a piping support may have four welded lugs around the pipe to which the piping support is using; each welded lug will have a specific weld ID totaling four welded attachments for this location. The 43 welded attachments under "Number of Components in Item No." equates to 12 support locations. Note 4: There are two reactor recirculation pumps which have 4 supports (one of the four is a snubber which is addressed by Request for Alternative 4RR-06, therefore making the total number of supports 3 each) each. Three supports on one pump are selected for examination; there are two welded attachments (HA6 and H47 share the same welded attachment. HB6 and H47 share the same welded attachment), 10% or 1 (16.6%) welded attachment is required to be examined. Note 5: Total number of piping welded attachments is 91, however all snubber welded attachments (48) are addressed by Request for Alternative 4RR-06 therefore making the total number of supports 43 (91 – 48). Total number of pump welded attachments is 8, however the snubber welded attachments (2) are addressed by Request for Alternative 4RR-06 therefore making the total number of pump support welded attachments 6 (8 – 2).								

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
B-L-2	**Pump Casings**									
B-L-2	B12.20	Pumps Pump Casing (B-L-2)	Visual, VT-3	2	0	0%[(1)(2)]	Same as for first interval	0	0	0
			Category Total	**2**	**0**			**0**	**0**	**0**
			CUMULATIVE INTERVAL PERCENTAGE					**0%**	**0%**	**0%**
Notes for Cat. B-L-2		Note 1: Examination is limited to at least one pump in each group of pumps performing similar functions in the system. Note 2: Not required unless disassembled								
B-M-2	**Valve Bodies**									
B-M-2	B12.50	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	57	0	0%[(1)(2)(3)]	Same as for first interval	0	0	0
			Category Total	**57**	**0**			**0**	**0**	**0**
			CUMULATIVE INTERVAL PERCENTAGE					**0%**	**0%**	**0%**

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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-M-2		Note 1: Examination is limited to at least one valve in each group of valves that are of the same size, constructural design, manufacturing method, and that perform similar functions in the system. Note 2: Not required unless disassembled Note 3: Valves have been grouped into 20 categories. One from each group is required to be examined per interval totaling 20 valves.								
B-N-1	**Interior of Reactor Vessel**									
B-N-1	B13.10	Reactor Vessel, Vessel Interior (B-N-1)	Visual, VT-3	11	33	100%	Each inspection period[2]	11	11	11
			Category Total	**11**	**33[1]**			**11**	**11**	**11**
			CUMULATIVE INTERVAL PERCENTAGE					**100%**	**200%**	**300%**

TABLE 7.1 SSES UNIT 1 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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-N-1		Note 1: Examination of this item number is required each period. Because these examinations are performed every period, the number required during the interval is three times the number of components. This is also reflected in the category total. Note 2: Examination is limited to the spaces above and below the core made accessible by removal of components during normal refueling operations looking for loose parts or foreign material.								
B-N-2	**Welded Core Support Structures and Interior Attachments to Reactor Vessels**									
B-N-2	B13.20	Reactor Vessel (BWR) Interior Attachments Within Beltline Region (B-N-2)	Visual, VT-1	23(1)	23	100%	Same as for 1st interval	5	9	9
B-N-2	B13.30	Reactor Vessel (BWR) Interior Attachments Beyond Beltline Region (B-N-2)	Visual, VT-3	98(2)	34(3)	34.6%	Same as for 1st interval	4	20	10
B-N-2	B13.40	Core Support Structure	Visual, VT-3	597(4)	10(5)	1.6%	Same as for 1st Interval	3	4	3

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
		Category Total		718	67			12	33	22
		CUMULATIVE INTERVAL PERCENTAGE						18%	67%	100%
Notes for Cat. B-N-2		Note 1: There are twenty (20) Riser Brace Pads (2 pads per riser) and three (3) lower surveillance bracket welds. The examination requirement is the accessible welds. Note 2: There are ninety eight (98) attachments consisting of four (4) steam dryer holddown brackets, four (4) steam dryer support brackets, two (2) guide rod brackets, twelve (12) feedwater sparger brackets, eight (8) core spray piping brackets, three (3) surveillance holder brackets, shroud support weld (H9), fourteen (14) shroud legs (H12) and fifty (50) stub tubes. The examination requirement is the accessible welds. Note 3: Those welds that are considered accessible are the steam dryer support brackets, steam dryer holddown brackets, guide rod brackets, feedwater sparger brackets, core spray brackets, surveillance holder brackets and the shroud support weld (totaling 34 welds). Note 4: Per FSAR 3.9.5.1 the core support structure consists of the accessible surfaces of the core shroud, the shroud support, core plate and holddown bolts, top guide (including bolts and keepers), fuel supports, control rod guide tubes, and the Control Rod Drive housing. The examination requirement is the accessible surfaces. Note 5: The accessible surfaces are the shroud flange, shroud horizontal welds H7 and H8, shroud, access hole covers @ 0° and 180°, and the Top Guide C-Clamps (totaling 10 locations).								

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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	B14.10	Reactor Vessel (BWR) Welds in Control Rod Drive CRD Housing	Volumetric or surface	80	8	10%(1)(2)	10% peripheral CRD housings	0	0	8
		Category Total		**80**	8			**0**	**0**	**8**
		CUMULATIVE INTERVAL PERCENTAGE						**0%**	**0%**	**100%**
Notes for Cat. B-O		Note 1: There are 40 Peripheral CRDs, 10% of 40 is 4. Note 2: There are two welds per Peripheral CRD, therefore the total required to be examined is twice the number of CRDs selected for examination. This results in a total of eight (8) welds being selected for examination or 10% of total population of welds.								
C-A	**Pressure Retaining Welds in Pressure Vessels**									
C-A	C1.10	Pressure Vessels Shell Circumferential Welds	Volumetric	2	1	50%(1)(2)	Each inspection interval	0	1	0

TABLE 7.1 SSES UNIT 1 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
C-A	C1.20	Pressure Vessels Head Circumferential Welds	Volumetric	2	1	50%(1)(3)	Each inspection interval	0	0	1
Category Total				**4**	**2**			**0**	**1**	**1**
CUMULATIVE INTERVAL PERCENTAGE								**0%**	**50%**	**100%**

Notes for Cat. C-A

Note 1: The examination may be limited to one vessel among the group of vessels of similar design, size, and function. (Ref. Table IWC-2500-1, Examination Category C-A, Note 3)

Note 2: There is 1 circumferential shell weld (Cylindrical-shell-to-conical-shell-junction welds or shell (or head)-to-flange welds) on each RHRHX, requiring only 1 RHRHX to be scheduled or 1 of 2 shell welds are required to be examined for 50%

Note 3: There is 1 circumferential head welds on each RHRHX, requiring only 1 RHRHX to be scheduled or 1 of 2 head circumferential welds are required to be examined for 50%.

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
C-B	**Pressure Retaining Nozzle Welds in Vessels**									
C-B	C2.21	Nozzle-to-Shell (Nozzle to Head or Nozzle to Nozzle) Weld	Surface and Volumetric	4	2	50%[(1)(2)(3)]	Each inspection interval	1	0	1
C-B	C2.22	Nozzle Inside Radius	Volumetric	4	2	50%[(1)(2)(3)]	Each inspection period	0	1	1
Category Total				**8**	**4**			**1**	**1**	**2**
CUMULATIVE INTERVAL PERCENTAGE								**25%**	**50%**	**100%**
Notes for Cat. C-B	Note 1: The examination may be limited to one vessel or distributed among the group of vessels of similar design, size, and function. (Ref. Table IWC-2500-1, Examination Category C-B, Note 4) Note 2: Includes nozzles welded to or integrally cast in vessel that connect to piping runs (manways and handholes are excluded). Note 3: The nozzles selected initially for examination shall be reexamined in the same sequence over the service lifetime of the component, to the extent practical.									

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
C-C	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
C-C	C3.10	Pressure Vessels Welded Attachments	Surface	16	1	6.25%[(1)(2)]	Each identified occurrence and each inspection interval[(6)]	0	1	0
C-C	C3.20	Piping Welded Attachments	Surface	651[(5)(7)]	16	2.45%[(3)]	Each identified occurrence and each inspection interval[(6)]	4	4	8
C-C	C3.30	Pump Welded Attachments	Surface	4	1	25%[(4)(5)]	Each identified occurrence and each inspection interval[(6)]	0	0	1

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Category Total				671	18			4	5	9
CUMULATIVE INTERVAL PERCENTAGE								22%	50%	100%

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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. 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 during normal system operation if an attachment under continuous load does not exist (Ref. Table IWC-2500-1, Examination Category C-C, Note 4) Note 2: There are 8 welded attachments on both Heat Exchangers (4 welded attachments each), therefore 1 of 16 welded attachments are required to be examined for 6.25% Note 3: For piping welded attachments, a sample of 10% of the welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. There are a total of 433 piping supports, 67 of those supports have been selected for examination under IWF-2510. Of those supports selected for examination only 28 have welded attachments (totaling 159 welded attachments amongst those 28 supports), 10% or 16 would require examination. Note 4: For pump welded attachments, a sample of 10% of the welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. There is 1 pump support on one pump (1P203 RCIC Pump) with 4 welded attachments, 10% or 1 (25%) would require examination. Note 5: Each welded attachment is given a unique weld ID. For example a piping support may have four welded lugs around the pipe to which the piping support is using; each welded lug will have a specific weld ID totaling four welded attachments for this location. Note 6: Examination is required whenever component support member deformation is identified. (Ref. Table IWC-2500-1, Examination Category C-C, Note 6) Note 7: Total number of welded attachments is 709, however all snubber welded attachments (58) are addressed by Request for Alternative 4RR-06 therefore making the total number of supports 651 (709 – 58).								

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
D-A	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
D-A	D1.10	Pressure Vessel Welded Attachments	Visual, VT-1	14	6	42.8%(1)(2)	Each Identified occurrence and each Inspection Interval	0	0	6
D-A	D1.20	Piping Welded Attachments	Visual, VT-1	663(3)	67	10%(1)(2)	Each identified occurrence and each inspection interval(4)	24	22	21
D-A	D1.30	Pump Welded Attachments	Visual, VT-1	30	3	10%(1)(2)	Each identified occurrence and each Inspection Interval(4)	0	0	3
		Category Total		**707**	**76**			**24**	**22**	**30**

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
CUMULATIVE INTERVAL PERCENTAGE								31.6%	60.5%	100%
Notes for Cat. D-A	Note 1: All welded attachments selected for examination shall be those most subject to corrosion, such as the welded attachments of the Service Water or Emergency Service Water systems. For multiple vessels of similar design, function and service, the welded attachments of only one of the multiple vessels shall be selected for examination. For welded attachments of piping and pumps, 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 in each system subject to these examinations. (Ref. Table IWD-2500-1, Examination Category D-A, Note 3). Note 2: Each welded attachment is given a unique weld ID. For example a piping support may have four welded lugs around the pipe to which the piping support is using; each welded lug will have a specific weld ID totaling four welded attachments for this location. Note 3: Total number of welded attachments is 714, however all snubber welded attachments (51) are addressed by Request for Alternative 4RR-06 therefore making the total number of supports 663 (714 – 51). Note 4: Examination is required whenever component support member deformation is identified. (Ref. Table IWD-2500-1, Examination Category D-A, Note 4)									

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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 Areas	General Visual	69[2]	69[3]	100%[4]	Each inspection period	69	69	69
E-A	E1.12	Wetted Surface of Submerged Areas	Visual, VT-3	8[5]	8[3]	100%	Each Inspection Interval	0	0	8
E-A	E1.20	BWR Vent System Accessible Surface Areas	Visual, VT-3	16	16[6]	100%	Each Inspection Interval	8	4	4
Category Total				**93**	**93**			**8**	**4**	**12**
CUMULATIVE INTERVAL PERCENTAGE								**33%[7]**	**50%[7]**	**100%[7]**

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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. E-A		Note 1: Units 1 Containment is divided up into 81 separate examination zones. Note that Zones 25, 26, 27, 28, 69, 70, 71, and 72 are inaccessible. Note 2: 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 (Ref. Table IWE-2500-1, Examination Category E-A, Note 1). Note 3: Because these examinations are performed every period, the number required during the interval is three times the number of components selected for examination. In order to keep the percentages accurate, only the number of components selected is reflected in the category total and not the total number of examinations required to be completed over the interval. Note 4: The total percentage required is for each period. Note 5: This Item Number is divided up into 8 zones for each Unit. Note 6: This Item Number includes four supports being examined per EPU Note 7: The Cumulative Interval Percentage only includes Item Numbers E1.12 and E1.20 as Item Number E1.11 is required each period.								
E-C	**Containment Surfaces Requiring Augmented Examinations**									
E-C	E4.11	Visible Surfaces	Visual, VT-1	(1)		100%(2)	Each inspection interval			

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
E-C	E4.12	Surface Area Grid Minimum Wall Thickness Location	UT Thickness	(1)		100%(2)	Each Inspection Interval			
Category Total										
CUMULATIVE INTERVAL PERCENTAGE										
Notes for Cat. E-A	Note 1: There are no containment surfaces that have been identified requiring augmented examinations per IWE-1240. Note 2: The extent of examination shall be 100% for each inspection period until the areas examined remain essentially unchanged for the next inspection period. Such areas no longer require augmented examination in accordance with IWE-1240(c).									
E-G	**Pressure Retaining Bolting**									
E-G	E8.10	Bolted Connections	Visual, VT-1	36(1)	36	100%	Each inspection interval(2)	0	0	36
Category Total				**36**				**0**	**0**	**36**
CUMULATIVE INTERVAL PERCENTAGE								**0%**	**0%**	**100%**

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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. E-G		Note 1: Examination shall include bolts, studs, nuts, bushings, washers, and threads in base material and flange ligaments between fastener holes. Note 2: Examination may be performed with the connections assembled and bolting in place under tension, provided the connection is not disassembled during the interval. If the bolted connections is disassembled for any reason during the interval, the examination shall be performed with the connection disassembled.								
F-A	**Supports**									
F-A	F1.10(a)	Class 1 Piping Supports - Anchor	Visual, VT-3	18		(1)	Each inspection interval	2	1	1
F-A	F1.10(b)	Class 1 Piping Supports - One Directional	Visual, VT-3	27		(1)	Each inspection interval	3	2	2
F-A	F1.10(c)	Class 1 Piping Supports - Multi-directional	Visual, VT-3	104		(1)	Each inspection interval	4	12	13
F-A	**F1.10**	**Total Class 1 Piping Supports**	**Visual, VT-3**	**149**	**40 (2)**	**25%**	**Each inspection interval**	**9**	**15**	**16**

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
F-A	F1.20(a)	Class 2 Piping Supports - Anchor	Visual, VT-3	27		(1)	Each inspection interval	1	3	1
F-A	F1.20(b)	Class 2 Piping Supports - One Directional	Visual, VT-3	97		(1)	Each inspection interval	6	5	6
F-A	F1.20(c)	Class 2 Piping Supports - Multi-directional	Visual, VT-3	309		(1)	Each inspection interval	12	15	18
F-A	**F1.20**	**Total Class 2 Piping Supports**	**Visual, VT-3**	**433**	**67 (2)**	**15%**	**Each inspection interval**	**19**	**23**	**25**
F-A	F1.30(a)	Class 3 Piping Supports - Anchor	Visual, VT-3	71		(1)	Each inspection interval	0	4	3
F-A	F1.30(b)	Class 3 Piping Supports - One Directional	Visual, VT-3	232		(1)	Each inspection interval	7	8	9

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
F-A	F1.30(c)	Class 3 Piping Supports - Multi-directional	Visual, VT-3	301		(1)	Each inspection interval	5	13	13
F-A	**F1.30**	**Class 3 Piping Supports**	**Visual, VT-3**	**604**	**62 (2)**	**10%**	**Each inspection interval**	**12**	**25**	**25**
F-A	**F1.40**	**Supports other than Piping Supports (Class 1,2, and 3)**	**Visual, VT-3**	**55**	**30**	**54.5%(3)**	**Each inspection interval**	**7**	**13**	**10**
Category Total				**1241**	**199(2)**	(1)(2)		**47**	**76**	**76**
CUMULATIVE INTERVAL PERCENTAGE								**24%**	**64%**	**100%**

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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 2) Note 2: Based on Engineering Judgment with the Proration by System and Item Number as required by Footnote 1 above, the total number of supports selected for examination exceeds the number of supports required. The numbers of supports selected are reflected in the First, Second, and Third Period columns whereas the total number of supports required is reflected in the "Required to be Examination During the Interval" column. 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 3) Note 4: One RPV (1 of 9 supports), one of two Reactor Recirculation Pumps (5 supports each (10 total)), one of four RHR Pumps (1 support each (4 total)), one of two RHR Heat Exchangers (2 supports each (4 total)), one of four CS Pumps (1 support each (4 total)), one HPCI Main/Booster Pump (2 supports), one RCIC Pump (1 support), one of two RHRSW Pumps (1 support each, (2 total)), one of four ESW Pumps (1 support each (4 total)), one Lube Oil Coolers (3 supports (0E-506E)), one of four Jacket Water Heat Exchangers (2 supports ea. (0E-507A/B/C/D)(total 8)), and one of two Chiller Condensers (2 supports ea. (total 4)). Therefore 22 of 55 component supports are required to be examined for 40%.								
L-A	**Concrete Surfaces**									
L-A	L1.11	All accessible surface areas	General Visual	28[1]	28[2]	100%	Each inspection period[2]	28	28	28[3]

TABLE 7.1 SSES UNIT 1 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
L-A	L1.12	Suspect Areas	Detailed Visual	0[4]	0	100%	Each inspection period			
Category Total				**28**	**28**			**28**	**28**	**28**
CUMULATIVE INTERVAL PERCENTAGE								**50%**	**100%**	**N/A**

Notes for Cat. L-A

Note 1: Includes concrete surfaces at tendon anchorage areas not selected by IWL-2521 or exempted by IWL-1220(a).
Note 2: Because these examinations are performed every period, the number required during the interval is twice the number of components selected for examination. In order to keep the percentages accurate, only the number of components selected is reflected in the category total and not the total number of examinations required to be completed over the interval.
Note 3: Examinations are completed in 5 years periods, based on the scheduling of the outages to perform the examinations, this examination will be performed three times during this interval.
Note 4: There have been no suspect areas identified.

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
R-A	Risk Informed Piping Welds									
R-A	R1.11-1	N-578-1 Elements Subject to Thermal Fatigue - Risk Category 1	Volumetric (1)	58	15	25.8%	Each Inspection Interval	6	4	5
R-A	R1.11-2	N-578-1 Elements Subject to Thermal Fatigue - Risk Category 2	Volumetric (1)	36	10	27.7%	Each Inspection Interval	7	1	2
R-A	R1.11-3	N-578-1 Elements Subject to Thermal Fatigue - Risk Category 3	Volumetric (1)	11	4	36.3%	Each Inspection Interval	0	0	4
R-A	R1.11-5	N-578-1 Elements Subject to Thermal Fatigue - Risk Category 5	Volumetric (1)	12	2	16.6%	Each Inspection Interval	1	0	1

TABLE 7.1 SSES UNIT 1 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
R-A	R1.11-6	N-578-1 Elements Subject to Thermal Fatigue - Risk Category 6	Volumetric (1)	48	0	0%	Each Inspection Interval	0	0	0
R-A	R1.16	N-578-1 Element Subject to Intergranular Stress Corrosion Cracking (IGSCC)	Volumetric	130(1)	0(1)	0%(1)	(1)	0(1)	0(1)	0(1)
R-A	R1.18	N-578-1 Elements Subject to Flow Accelerated Corrosion (FAC)	(2)	345(2)	(2)	(2)	(2)	(2)	(2)	(2)
R-A	R1.20-4	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 4	Volumetric	290	34	11.7%	Each Inspection Interval	7	16	11

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
R-A	R1.20-4S	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 4S	Volumetric	11	1(3)	8.3%	Every Refueling Outage	1(3)	2(3)	2(3)
R-A	R1.20-6	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 6	Volumetric	571	0	0%	Each Inspection Interval	0	0	0
R-A	R1.20-6S	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 6S	Volumetric	35	0	0%	Every Refueling Outage	0	0	0
R-A	R1.20-7	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 7	Volumetric	243	0	0%	Each Inspection Interval	0	0	0
R-A	R1.20-7S	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 7S	Volumetric	9	0	0%	Every Refueling Outage	0	0	0

TABLE 7.1 SSES UNIT 1 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Category Total				1799	65			21	21	23
CUMULATIVE INTERVAL PERCENTAGE								32.3%	64.6%	100%
Notes for Cat. R-A	Note 1: These elements are examined in accordance with the IGSCC Program (ref. 5.1.2). Note 2: These elements are examined in accordance with the FAC Program. This includes gridding and UT Thickness measurements. Note 3: Visual, VT-2 examination in conjunction with pressure test used for socket welds each refueling outage. This weld is not counted in the cumulative interval percentage.									

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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	5	0	0%(1)	All Welds	0	0	0
B-A	B1.12	Reactor Vessel Longitudinal Shell Welds	Volumetric	13	13	100%	All Welds	7	0	6
B-A	B1.21	Reactor Vessel Circumferential Head Welds	Volumetric	2	2	100%	Accessible Length of All Welds	0	1	1
B-A	B1.22	Reactor Vessel Meridional Head Welds	Volumetric	14	14	100%	Accessible Length of All Welds	1	10	3
B-A	B1.30	Reactor Vessel Shell-to-Flange Weld	Volumetric	1	1	100%	Weld	0	0	1
B-A	B1.40	Reactor Vessel Head-to-Flange Weld	Volumetric and Surface	1	1	100%	Weld	0	0	1

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
		Category Total		**36**	**31**			**8**	**11**	**12**
		CUMULATIVE INTERVAL PERCENTAGE						**26%**	**61%**	**100%**
Notes for Cat. B-A		Note 1: Request for Alternative 4RR-02 was submitted to use BWRVIP-05. This excludes the examination of the vessel circumferential welds (Item No. B1.11)								
B-D	**Full Penetration Welded Nozzles in Vessels**									
B-D	B3.90	Reactor Vessel Nozzle-to-Vessel Welds	Volumetric	30[1]	30	100%[2]	Same as 1st Interval	12	7	11
B-D	B3.100	Reactor Vessel Nozzle Inside Radius Section	Volumetric	30[1]	30	100%[2]	Same as 1st Interval	12	7	11
		Category Total		**60**	**60**			**24**	**14**	**22**
		CUMULATIVE INTERVAL PERCENTAGE						**40%**	**63%**	**100%**
Notes for Cat. B-D		Note 1: Bottom Head Drain Nozzle (N-15) is inaccessible and exempted per IWB-1220(c).								

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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	Pressure Retaining Bolting, Greater Than 2 in. (50 mm) in Diameter									
B-G-1	B6.10	Reactor Vessel Closure Head Nuts	Visual, VT-1	76	76	100%	Same as for 1st interval	0	0	76
B-G-1	B6.20	Reactor Vessel Closure Studs	Volumetric(1)	76	76	100%	Same as for 1st interval	0	0	76
B-G-1	B6.40	Reactor Vessel Threads in Flange	Volumetric	76	76	100%	Same as for 1st interval	0	0	76
B-G-1	B6.50	Reactor Vessel Closure Washers, Bushings	Visual, VT-1	76	76	100%	Same as for 1st interval	0	0	76
B-G-1	B6.180	Pump Bolts and Studs	Volumetric(1)	32	16	50%(2)	Same as for 1st interval	0	0	16
B-G-1	B6.190	Pumps Flange Surface when connection disassembled	Visual, VT-1	32	0	0%(3)(4)	Same as for 1st interval	0	0	0
B-G-1	B6.200	Pumps Nuts, Bushings, and Washers	Visual, VT-1	32	0	0%(3)(4)	Same as for 1st interval	0	0	0

TABLE 7.2 SSES UNIT 2 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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	B6.210	Valve Bolts and Studs	Volumetric(1)	7(5)	7	100%	Same as for 1st interval	0	0	7
B-G-1	B6.220	Valve Flange Surface when connection disassembled	Visual, VT-1	1(5)	0	0%(3)(4)	Same as for 1st Interval	0	0	0
Category Total				**407**	**327**			**0**	**0**	**327**
CUMULATIVE INTERVAL PERCENTAGE								**0%**	**0%**	**100%**

Notes for Cat.B-G-1

Note 1: If bolts or studs are removed for examination, surface examination meeting the acceptance standards of IWB-3515 may be substituted for volumetric examination.

Note 2: Volumetric examination of bolting of heat exchangers, pump, 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. (Ref. Table IWB-2500-1, Examination Category B-G-1, Note 3). There are two Reactor Recirculation Pumps with 16 studs each. Therefore, only one of the pumps will be examined.

Note 3: Not Required unless disassembled

Note 4: For heat exchangers, piping, pumps, and valves, visual examinations are limited to components selected for examination under Examination Categories B-B, B-J, B-L-2, and B-M-2. (Ref. Table IWB-2500-1, Examination Category B-G-1, Note 4)

Note 5: Valve HV141F028D has "Dual Diameter" Studs at locations 3, 6, 8, 11, 12, 18, and 20. The stud is 2.125" x 2".

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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	Pressure Retaining Bolting, 2in. (50 mm) and Less in Diameter									
B-G-2	B7.10	Reactor Vessel Bolts, Studs, and Nuts	Visual, VT-1	3(2)	0	0%(1)	Same as for 1st interval(4)	0	0	0
B-G-2	B7.50	Piping Bolts, Studs, and Nuts	Visual, VT-1	24	0	0%(1)(3)	Same as for 1st interval (4)	0	0	0
B-G-2	B7.70	Valves Bolts, Studs, and Nuts	Visual, VT-1	57	0	0%(1)(5)	Same as for 1st interval (4)(6)	0	0	0
Category Total				84	0			0	0	0
CUMULATIVE INTERVAL PERCENTAGE								0%	0%	0%

TABLE 7.2 SSES UNIT 2 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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-2		Note 1: Not required unless disassembled Note 2: Number of components consists of the bolting off of the Reactor Vessel Head Nozzles (N6A, N6B, and N7). The total number of bolting is 32 (12 for each of the N6 Nozzles and 8 for the N7 Nozzle). Note 3: Examination is limited to at least one piping flange in each group of piping flanges that are of the similar design, size, function, and service in the system. Note 4: Examination is only required once per interval Note 5: Only one valve of each group of valves is required as outlined in B-M-2. Valve HV141F028D has seven studs that is examined under Examination Category B-G-1. Note 6: For components other than piping, examinations are limited to components selected for examination under Examination Categories B-B, B-L-2, and B-M-2. (Ref. Table IWB-2500-1, Examination Category B-G-2, Note 2)								
B-K	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
B-K	B10.10	Pressure Vessels Welded Attachments	Surface	9	1	11%[1]	Same as for 1st interval	0	0	1
B-K	B10.20	Piping Welded Attachments	Surface	40[3][5]	1[3]	2.5%[2]	Same as for 1st interval	1	0	0
B-K	B10.30	Pump Welded Attachments	Surface	6[4]	1	16.6%	Same as for 1st interval	0	1	0
		Category Total		**55**	**3**			**1**	**1**	**1**

TABLE 7.2 SSES UNIT 2 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
CUMULATIVE INTERVAL PERCENTAGE								33%	66%	100%
Notes for Cat. B-K	Note 1: For single vessels, only one welded attachment shall be selected for examination. The welded attachment selected for examination, shall be an attachment under continuous load during normal operation or an attachment subject to a potential intermittent load during normal operation. Note 2: For piping and pumps, a sample of 10% of the welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. There are a total of 156 piping supports, 42 of those supports have been selected for examination under IWF-2510. Of those supports selected for examination only 4 have welded attachments, 10% or 1 (16.6%) would require examination. Note 3: Each welded attachment is given a unique weld ID. For example a piping support may have four welded lugs around the pipe to which the piping support is using; each welded lug will have a specific weld ID totaling four welded attachments for this location. The 40 welded attachments under "Number of Components in Item No." equates to 11 support locations. Note 4: There are two reactor recirculation pumps which have 4 supports (one of the four is a snubber which is addressed by Request for Alternative 4RR-06, therefore making the total number of supports 3 each) each. Three supports on one pump are selected for examination; there are two welded attachments (HA6 and H47 share the same welded attachment. HB6 and H42 share the same welded attachment), 10% or 1 (16.6%) welded attachment is required to be examined. Note 5: Total number of welded attachments is 70; however, all snubber welded attachments (30) are addressed by Request for Alternative 4RR-06 therefore making the total number of supports 40 (70 – 30).									

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
B-L-2	**Pump Casings**									
B-L-2	B12.20	Pumps Pump Casing (B-L-2)	Visual, VT-3	2	0	0%(1)(2)	Same as for first interval	0	0	0
			Category Total	**2**	**0**			**0**	**0**	**0**
			CUMULATIVE INTERVAL PERCENTAGE					**0%**	**0%**	**0%**
Notes for Cat. B-L-2		Note 1: Examination is limited to at least one pump in each group of pumps performing similar functions in the system. Note 2: Not required unless disassembled								
B-M-2	**Valve Bodies**									
B-M-2	B12.50	Valve Body, Exceeding NPS 4 (DN 100) (B-M-2)	Visual, VT-3	57	0	0%(1)(2)(3)	Same as for first interval	0	0	0
			Category Total	**57**	**0**			**0**	**0**	**0**
			CUMULATIVE INTERVAL PERCENTAGE					**0%**	**0%**	**0%**

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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-M-2		Note 1: Examination is limited to at least one valve in each group of valves that are of the same size, constructural design, manufacturing method, and that perform similar functions in the system. Note 2: Not required unless disassembled Note 3: Valves have been grouped into 20 categories. One from each group is required to be examined per interval totaling 20 valves.								
B-N-1	**Interior of Reactor Vessel**									
B-N-1	B13.10	Reactor Vessel, Vessel Interior (B-N-1)	Visual, VT-3	11	33	100%	Each inspection period[2]	11	11	11
			Category Total	**11**	**33[1]**			**11**	**11**	**11**
			CUMULATIVE INTERVAL PERCENTAGE					**100%**	**200%**	**300%**

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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-N-1		Note 1: Examination of this item number is required each period. Because these examinations are performed every period, the number required during the interval is three times the number of components. This is also reflected in the category total. Note 2: Examination is limited to the spaces above and below the core made accessible by removal of components during normal refueling operations looking for loose parts or foreign material.								
B-N-2	**Welded Core Support Structures and Interior Attachments to Reactor Vessels**									
B-N-2	B13.20	Reactor Vessel (BWR) Interior Attachments Within Beltline Region (B-N-2)	Visual, VT-1	23(1)	23	100%	Same as for 1st interval	7	12	4
B-N-2	B13.30	Reactor Vessel (BWR) Interior Attachments Beyond Beltline Region (B-N-2)	Visual, VT-3	98(2)	34(3)	34.6%	Same as for 1st interval	16	7	11
B-N-2	B13.40	Core Support Structure	Visual, VT-3	425(4)	10(5)	2.34%	Same as for 1st Interval	5	3	2

TABLE 7.2 SSES UNIT 2 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
			Category Total	546	67			28	22	17
			CUMULATIVE INTERVAL PERCENTAGE					42%	75%	100%
Notes for Cat. B-N-2										

Note 1: There are twenty (20) Riser Brace Pads (2 pads per riser) and three (3) lower surveillance bracket welds. The examination requirement is the accessible welds.

Note 2: There are ninety eight (98) attachments consisting of four (4) steam dryer holddown brackets, four (4) steam dryer support brackets, two (2) guide rod brackets, twelve (12) feedwater sparger brackets, eight (8) core spray piping brackets, three (3) surveillance holder brackets, shroud support weld (H9), fourteen (14) shroud legs (H12) and fifty (50) stub tubes. The examination requirement is the accessible welds.

Note 3: Those welds that are considered accessible are the steam dryer support brackets, steam dryer holddown brackets, guide rod brackets, feedwater sparger brackets, core spray brackets, surveillance holder brackets and the shroud support weld (totaling 34 welds).

Note 4: Per FSAR 3.9.5.1 the core support structure consists of the accessible surfaces of the core shroud, the shroud support, core plate and holddown bolts, top guide (including bolts and keepers), fuel supports, control rod guide tubes, and the Control Rod Drive housing. The examination requirement is the accessible surfaces.

Note 5: The accessible surfaces are the shroud flange, shroud horizontal welds H7 and H8, shroud, access hole covers @ 0° and 180°, and the Top Guide C-Clamps (totaling 10 locations).

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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	B14.10	Reactor Vessel (BWR) Welds in Control Rod Drive CRD Housing	Volumetric or surface	80	8	10%[(1)(2)]	10% peripheral CRD housings	0	0	8
		Category Total		**80**	**8**			**0**	**0**	**8**
		CUMULATIVE INTERVAL PERCENTAGE						**0%**	**0%**	**100%**
Notes for Cat. B-O		Note 1: There are 40 Peripheral CRDs, 10% of 40 is 4. Note 2: There are two welds per Peripheral CRD, therefore the total required to be examined is twice the number of CRDs selected for examination. This results in a total of eight (8) welds being selected for examination or 10% of total population.								
C-A	**Pressure Retaining Welds in Pressure Vessels**									
C-A	C1.10	Pressure Vessels Shell Circumferential Welds	Volumetric	2	1	50%[(1)(2)]	Each inspection interval	0	1	0

TABLE 7.2 SSES UNIT 2 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
C-A	C1.20	Pressure Vessels Head Circumferential Welds	Volumetric	2	1	50%[1][3]	Each inspection interval	1	0	0
Category Total				**4**	**2**			**1**	**1**	**0**
CUMULATIVE INTERVAL PERCENTAGE								**50%**	**100%**	**100%**

Notes for Cat. C-A

Note 1: The examination may be limited to one vessel among the group of vessels of similar design, size, and function. (Ref. Table IWC-2500-1, Examination Category C-A, Note 3)

Note 2: There is 1 circumferential shell weld (Cylindrical-shell-to-conical-shell-junction welds or shell (or head)-to-flange welds) on each RHRHX, requiring only 1 RHRHX to be scheduled or 1 of 2 shell welds are required to be examined for 50%

Note 3: There is 1 circumferential head welds on each RHRHX, requiring only 1 RHRHX to be scheduled or 1 of 2 head circumferential welds are required to be examined for 50%.

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
C-B	**Pressure Retaining Nozzle Welds in Vessels**									
C-B	C2.21	Nozzle-to-Shell (Nozzle to Head or Nozzle to Nozzle) Weld	Surface and Volumetric	4	2	50%(1)(2)(3)	Each inspection interval	1	0	1
C-B	C2.22	Nozzle Inside Radius	Volumetric	4	2	50%(1)(2)(3)	Each inspection interval	1	1	0
Category Total				**8**	**4**			**2**	**1**	**1**
CUMULATIVE INTERVAL PERCENTAGE								**50%**	**75%**	**100%**

Notes for Cat. C-B	Note 1: The examination may be limited to one vessel or distributed among the group of vessels of similar design, size, and function. (Ref. Table IWC-2500-1, Examination Category C-B, Note 4) Note 2: Includes nozzles welded to or integrally cast in vessel that connect to piping runs (manways and handholes are excluded). Note 3: The nozzles selected initially for examination shall be reexamined in the same sequence over the service lifetime of the component, to the extent practical.

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
C-C	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
C-C	C3.10	Pressure Vessels Welded Attachments	Surface	16	1	6.25%[1][2]	Each identified occurrence and each inspection interval	1	0	0
C-C	C3.20	Piping Welded Attachments	Surface	587[7]	21	3.57%[3][5]	Each identified occurrence and each inspection interval[6]	8	4	8
C-C	C3.30	Pump Welded Attachments	Surface	4	1	25%[4][5]	Each identified occurrence and each inspection interval[6]	1	0	0

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Category Total				607	23			10	4	8
CUMULATIVE INTERVAL PERCENTAGE								43%	61%	100%

TABLE 7.2 SSES UNIT 2 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in 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. 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 during normal system operation if an attachment under continuous load does not exist (Ref. Table IWC-2500-1, Examination Category C-C, Note 4) Note 2: There are 8 welded attachments on both Heat Exchangers (4 welded attachments each), therefore 1 of 16 welded attachments are required to be examined for 6.25% Note 3: For piping welded attachments, a sample of 10% of the welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. There are a total of 464 piping supports, 71 of those supports have been selected for examination under IWF-2510. Of those supports selected for examination only 34 have welded attachments (totaling 195 welded attachments amongst those 34 supports), 10% or 20 would require examination. Note 4: For pump welded attachments, a sample of 10% of the welded attachments associated with the component supports selected for examination under IWF-2510 shall be examined. There is 1 pump support on one pump (1P203 RCIC Pump) with 4 welded attachments, 10% or 1 (25%) would require examination. Note 5: Each welded attachment is given a unique weld ID. For example a piping support may have four welded lugs around the pipe to which the piping support is using; each welded lug will have a specific weld ID totaling four welded attachments for this location. Note 6: Examination is required whenever component support member deformation is identified. (Ref. Table IWC-2500-1, Examination Category C-C, Note 6) Note 7: Total number of welded attachments is 660, however all snubber welded attachments (73) are addressed by Request for Alternative 4RR-06 therefore making the total number of supports 587 (660 – 73).								

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
D-A	**Welded Attachments for Vessels, Piping, Pumps, and Valves**									
D-A	D1.10	Pressure Vessel Welded Attachments	Visual, VT-1	(1)	N/A	N/A	Each Identified occurrence and each Inspection Interval	N/A	N/A	N/A
D-A	D1.20	Piping Welded Attachments	Visual, VT-1	421[4]	42	10%[2][3]	Each identified occurrence and each inspection interval [5]	9	12	21
D-A	D1.30	Pump Welded Attachments	Visual, VT-1	9	1	10%[2][3]	Each identified occurrence and each Inspection Interval[5]	0	0	1
		Category Total		**430**	**43**			**9**	**12**	**22**

TABLE 7.2 SSES UNIT 2 Code Category Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
CUMULATIVE INTERVAL PERCENTAGE				**430**	**43**			**21%**	**49%**	**100%**
Notes for Cat. D-A		Note 1: All Class 3 Pressure Vessels are covered under the Table 7.1 "SSES Unit 1 Code Category Summary" Note 2: All welded attachments selected for examination shall be those most subject to corrosion, such as the welded attachments of the Service Water or Emergency Service Water systems. For welded attachments of piping and pumps, 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 in each system subject to these examinations. (Ref. Table IWD-2500-1, Examination Category D-A, Note 3). Note 3: Each welded attachment is given a unique weld ID. For example a piping support may have four welded lugs around the pipe to which the piping support is using; each welded lug will have a specific weld ID totaling four welded attachments for this location. Note 4: Total number of welded attachments is 474, however all snubber welded attachments (53) are addressed by Request for Alternative 4RR-06 therefore making the total number of supports 421 (474 – 53). Note 5: Examination is required whenever component support member deformation is identified. (Ref. Table IWD-2500-1, Examination Category D-A, Note 4)								
E-A	**Containment Surfaces[1]**									
E-A	E1.11	Accessible Surface Areas	General Visual	68[2]	68[3]	100%[4]	Each inspection Period	68	68	68

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
E-A	E1.12	Wetted Surface of Submerged Areas	Visual, VT-3	8[5]	8[3]	100%	Each Inspection Interval	8	0	0
E-A	E1.20	BWR Vent System Accessible Surface Areas	Visual, VT-3	16	16[6]	100%	Each Inspection Interval	4	4	8
Category Total				**92**	**92**			**12**	**4**	**8**
CUMULATIVE INTERVAL PERCENTAGE								**50%[7]**	**67%[7]**	**100%[7]**

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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. E-A		Note 1: Units 2 Containment is divided up into 81 separate examination zones. Note that Zones 25, 26, 27, 28, 69, 70, 71, and 72 are inaccessible. Note 2: 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 (Ref. Table IWE-2500-1, Examination Category E-A, Note 1). Note 3: Because these examinations are performed every period, the number required during the interval is three times the number of components selected for examination. In order to keep the percentages accurate, only the number of components selected is reflected in the category total and not the total number of examinations required to be completed over the interval. Note 4: The total percentage required is for each period. Note 5: This Item Number is divided up into 8 zones for each Unit. Note 6: This Item Number includes four supports being examined per EPU Note 7: The Cumulative Interval Percentage only includes Item Numbers E1.12 and E1.20 as Item Number E1.11 is required each period.								
E-C	**Containment Surfaces Requiring Augmented Examinations**									
E-C	E4.11	Visible Surfaces	Visual, VT-1	(1)		100%(2)	Each inspection interval			

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
E-C	E4.12	Surface Area Grid Minimum Wall Thickness Location	UT Thickness	(1)		100%(2)	Each Inspection Interval			
Category Total										
CUMULATIVE INTERVAL PERCENTAGE										
Notes for Cat. E-A		Note 1: There are no containment surfaces that have been identified requiring augmented examinations per IWE-1240. Note 2: The extent of examination shall be 100% for each inspection period until the areas examined remain essentially unchanged for the next inspection period. Such areas no longer require augmented examination in accordance with IWE-1240(c).								
E-G	**Pressure Retaining Bolting**									
E-G	E8.10	Bolted Connections	Visual, VT-1	37(1)	37	100%	Each inspection interval(2)	0	0	37
Category Total				**37**				**0**	**0**	**37**
CUMULATIVE INTERVAL PERCENTAGE								**0%**	**0%**	**100%**

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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. E-G		Note 1: Examination shall include bolts, studs, nuts, bushings, washers, and threads in base material and flange ligaments between fastener holes. Note 2: Examination may be performed with the connections assembled and bolting in place under tension, provided the connection is not disassembled during the interval. If the bolted connections is disassembled for any reason during the interval, the examination shall be performed with the connection dissassembled.								
F-A	**Supports**									
F-A	F1.10(a)	Class 1 Piping Supports - Anchor	Visual, VT-3	20		(1)	Each inspection interval	3	3	0
F-A	F1.10(b)	Class 1 Piping Supports - One Directional	Visual, VT-3	120		(1)	Each inspection interval	11	10	11
F-A	F1.10(c)	Class 1 Piping Supports - Multi-directional	Visual, VT-3	16		(1)	Each inspection interval	0	2	2
F-A	**F1.10**	**Total Class 1 Piping Supports**	**Visual, VT-3**	**156**	**39 (2)**	**25%**	**Each inspection interval**	**14**	**15**	**13**

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
F-A	F1.20(a)	Class 2 Piping Supports - Anchor	Visual, VT-3	30		(1)	Each inspection interval	0	4	1
F-A	F1.20(b)	Class 2 Piping Supports - One Directional	Visual, VT-3	387		(1)	Each inspection interval	23	18	18
F-A	F1.20(c)	Class 2 Piping Supports - Multi-directional	Visual, VT-3	47		(1)	Each inspection interval	1	5	1
F-A	**F1.20**	**Total Class 2 Piping Supports**	**Visual, VT-3**	**464**	**71 (2)**	**15%**	**Each inspection interval**	**24**	**27**	**20**
F-A	F1.30(a)	Class 3 Piping Supports - Anchor	Visual, VT-3	45		(1)	Each inspection interval	1	3	1
F-A	F1.30(b)	Class 3 Piping Supports - One Directional	Visual, VT-3	228		(1)	Each inspection interval	11	7	6

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
F-A	F1.30(c)	Class 3 Piping Supports - Multi-directional	Visual, VT-3	73		(1)	Each inspection interval	0	3	4
F-A	**F1.30**	**Class 3 Piping Supports**	**Visual, VT-3**	**346**	**36 (2)**	**10%**	**Each inspection interval**	**12**	**13**	**11**
F-A	**F1.40**	**Supports other than Piping Supports (Class 1,2, and 3)**	**Visual, VT-3**	**36**	**22**	**61%(3)**	**Each inspection interval**	**7**	**9**	**6**
Category Total				**1002**	**168**	(1)(2)		**57**	**64**	**50**
CUMULATIVE INTERVAL PERCENTAGE								**34%**	**72%**	**100%**

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in 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 2) Note 2: Based on Engineering Judgment with the Proration by System and Item Number as required by Footnote 1 above, the total number of supports selected for examination exceeds the number of supports required. The numbers of supports selected are reflected in the First, Second, and Third Period columns whereas the total number of supports required is reflected in the "Required to be Examination During the Interval" column. 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 3) Note 4: One RPV (1 of 9 supports), one of two Reactor Recirculation Pumps (5 supports each (10 total)), one of four RHR Pumps (1 support each (4 total)), one of two RHR Heat Exchangers (2 supports each (4 total)), one of four CS Pumps (1 support each (4 total)), one HPCI Main/Booster Pump (2 supports), one RCIC Pump (1 support), one of two RHRSW Pumps (1 support each, (2 total)), one of four ESW Pumps (1 support each (4 total)), one Lube Oil Coolers (3 supports (0E-506E)), one of four Jacket Water Heat Exchangers (2 supports ea. (0E-507A/B/C/D)(total 8)), and one of two Chiller Condensers (2 supports ea. (total 4)). Therefore 22 of 55 component supports are required to be examined for 40%.								
L-A	**Concrete Surfaces**									
L-A	L1.11	All accessible surface areas	General Visual	28[1]	28[2]	100%	Each inspection period[2]	28	28	28[3]

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
L-A	L1.12	Suspect Areas	Detailed Visual	0[4]	0	100%	Each inspection period			
Category Total				**28**	**28**			**28**	**28**	**28**
CUMULATIVE INTERVAL PERCENTAGE								**50%**	**100%**	**N/A**

Notes for Cat. L-A

Note 1: Includes concrete surfaces at tendon anchorage areas not selected by IWL-2521 or exempted by IWL-1220(a).
Note 2: Because these examinations are performed every period, the number required during the interval is twice the number of components selected for examination. In order to keep the percentages accurate, only the number of components selected is reflected in the category total and not the total number of examinations required to be completed over the interval.
Note 3: Examinations are completed in 5 years periods, based on the scheduling of the outages to perform the examinations, this examination will be performed three times during this interval.
Note 4: There have been no suspect areas identified.

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
R-A	Risk Informed Piping Welds									
R-A	R1.11-1	N-578-1 Elements Subject to Thermal Fatigue - Risk Category 1	Volumetric (1)	62	16	25.8%	Each Inspection Interval	7	6	3
R-A	R1.11-2	N-578-1 Elements Subject to Thermal Fatigue - Risk Category 2	Volumetric (1)	35	9	32.1%	Each Inspection Interval	3	4	2
R-A	R1.11-3	N-578-1 Elements Subject to Thermal Fatigue - Risk Category 3	Volumetric (1)	12	4	30.7%	Each Inspection Interval	0	0	4
R-A	R1.11-5	N-578-1 Elements Subject to Thermal Fatigue - Risk Category 5	Volumetric (1)	9	3	33.3%	Each Inspection Interval	3	0	0

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
R-A	R1.11-6	N-578-1 Elements Subject to Thermal Fatigue - Risk Category 6	Volumetric (1)	41	0	0%	Each Inspection Interval	0	0	0
R-A	R1.16	N-578-1 Element Subject to Intergranular Stress Corrosion Cracking (IGSCC)	Volumetric	129(2)	0(2)	0%(2)	(2)	0(2)	0(2)	0(2)
R-A	R1.18	N-578-1 Elements Subject to Flow Accelerated Corrosion (FAC)	(3)	368	(3)	(3)	(3)	(3)	(3)	(3)
R-A	R1.20-4	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 4	Volumetric	271	32	11.8%	Each Inspection Interval	11	12	9

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
R-A	R1.20-4S	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 4S	Volumetric	8	1	12.5%	Every Refueling Outage	2[(4)]	2[(4)]	1[(4)]
R-A	R1.20-6	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 6	Volumetric	558	0	0%	Each Inspection Interval	0	0	0
R-A	R1.20-6S	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 6S	Volumetric	50	0	0%	Every Refueling Outage	0	0	0
R-A	R1.20-7	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 7	Volumetric	241	0	0%	Each Inspection Interval	0	0	0
R-A	R1.20-7S	N-578-1 Elements not Subject to a Damage Mechanism- Risk Category 7S	Volumetric	6	0	0%	Every Refueling Outage	0	0	0

TABLE 7.2 SSES UNIT 2 Code Category Summary										
Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Category Total				1789	64			24	22	18
CUMULATIVE INTERVAL PERCENTAGE								37.5%	71.8%	100%
Notes for Cat. R-A	Note 1: N5 A/B Safe-End to Safe-End Extension welds (N5A SE-SEXT and N5B SE-SEXT) were conditioned to meet the requirements of the Performance Demonstration Initiative (PDI). After review of the EPRI Document "Dissimilar Metal Piping Weld Examination – Guidance and Technical Basis for Qualification (1008007, published 2003) and communication with the EPRI / PDI Project Manager it was concluded that the existing PDI mock-up library would include the configuration of both welds. Therefore a need for a specific mock-up will not be needed to perform PDI examinations of these two welds. This may change if a weld build-up or an overlay is required in the future. Note 2: These elements are examined in accordance with the IGSCC Program (ref. 5.1.2). Note 3: These elements are examined in accordance with the FAC Program. This includes gridding and UT Thickness measurements. These welds are not included in the total count. Note 4: Visual, VT-2 examination in conjunction with pressure test used for socket welds each refueling outage. This weld is not counted in the cumulative interval percentage.									

Table 7.3 SSES UNIT 1 Augmented Inspection Summary										
Augmented Plan		Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Category	Item Number									
FSAR 6.6.8 (AUG 1)		Augmented Inservice Inspection to Protect Against Postulated Piping Failures								
Various		High energy welds between the containment isolation valves for which no breaks are postulated	Volumetric or Surface	143(1)						
		Category Total								
Notes for FSAR 6.6.8 (AUG 1)		Note 1: The numbers of welds to be examined are being considered. This is documented under the corrective action program.								
AUG 2		Augmented Inspection Program for IGSCC(1)								
BWRVIP-75A Cat. B	N/A	Non-Resistant Materials Stress Improved within 1st 2 years of Operation	Volumetric	57 50	6 13	10% (HWC) 25% (NWC)	Each Inspection Interval	3 4	3 2	0 7
BWRVIP-75A Cat. C	N/A	Non-Resistant Materials Stress Improved after 2 years of Operation	Volumetric	17 11	2 3	10% (HWC) 25% (NWC)	Each Inspection Interval	2 0	0 3	0 0

Table 7.3 SSES UNIT 1 Augmented Inspection Summary

Augmented Plan		Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Category	Item Number									
BWRVIP-75A Cat. D	N/A	Non-Resistant Materials, No Stress Improvement	Volumetric	3 0	3[2] 0	100% (HWC) 100% (NWC)	Each Inspection Interval	1 0	1 0	1 0
BWRVIP-75A Cat. E	N/A	Cracked – Reinforced by Weld Overlay	Volumetric	2 0	1 0	10% (HWC) 25% (NWC)	Each Inspection Interval	1 0	0 0	0 0
Category Total				79 61	12 16			7 4	4 5	1 7
Notes for AUG2		Note 1: All Reactor Water Cleanup, Residual Heat Removal, and Core Spray welds were considered under Normal Water Chemistry. All Recirculation and Reactor Nozzle-Safeend Welds were considered under Hydrogen Water Chemistry. Note 2: At least 50% of the Category D Welds under Hydrogen Water Chemistry is required in first six (6) years.								
AUG3		**Augmented Inspection of Feedwater Nozzles**								
N/A	AUG3	Feedwater Nozzle Bore	Volumetric	6	6	100%	Each Inspection Interval	6	0	0
Category Total				6	**6**			6	**0**	0
Notes for AUG3		None								

Table 7.4 SSES Unit 2 Augmented Inspection Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
FSAR 6.6.8 (AUG 1)		**Augmented Inservice Inspection to Protect Against Postulated Piping Failures**								
Various		High energy welds between the containment isolation valves for which no breaks are postulated	Volumetric or Surface	131[(1)]						
Notes for FSAR 6.6.8 (AUG 1)		Note 1: The numbers of welds to be examined are being considered. This is documented under the corrective action program.								
AUG 2		**Augmented Inspection Program for IGSCC[(1)]**								
BWRVIP-75A Cat. B	N/A	Non-Resistant Materials Stress Improved within 1st 2 years of Operation	Volumetric	61 47	6 12	10% (HWC) 25% (NWC)	Each Inspection Interval	1 4	2 4	3 4
BWRVIP-75A Cat. C	N/A	Non-Resistant Materials Stress Improved after 2 years of Operation	Volumetric	20[(2)] 8	2 2	10% (HWC) 25% (NWC)	Each Inspection Interval	1 0	1 1	0 1

Table 7.4 SSES Unit 2 Augmented Inspection Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
Category Total				81 55	8 14			2 4	3 5	3 5
Notes for AUG2		Note 1: All Reactor Water Cleanup, Residual Heat Removal, and Core Spray welds were considered under Normal Water Chemistry. All Recirculation and Reactor Nozzle-Safeend Welds were considered under Hydrogen Water Chemistry. Note 2: See Table 7.2, Note 2 under Category R-A, Item Number R1.11.								
AUG3		**Augmented Inspection of Feedwater Nozzles**								
N/A	AUG3	Feedwater Nozzle Bore	Volumetric	6	6	100%	Each Inspection Interval	6	0	0
Category Total				6	**6**			6	**0**	0
Notes for AUG3		None								

Table 7.5 SSES Unit 1 Owner Elected Inspection Summary

Category	Item Number	Description	Exam Method	Number of Components in Item No.	Required to be Examined During Interval	Examination Percentage Required	Number to be Examined in Interval	Number to be Examined in First Period	Number to be Examined in Second Period	Number to be Examined in Third Period
AUG 8		**Augmented Inservice Inspection for Vibration Induced Failures**								
N/A	AUG 8	Socket Welds	Volumetric	185	34[1]	19%	Every 4 years	34	34	34
N/A	N/A	Socket Welds	Volumetric	3	3[3]	100%	Every Outage	3	6	6
		Category Total		185	35[2]	100%	Every 18 month cycle	38	41	41
Notes for AUG 8		Note 1: The frequency of examination is every 4 years. The total required to be examined is established by PLI-91211. Note that weld SPDCB1066-FW-26 was replaced by weld SPDCB1066-FW-48. Note 2: The total number is based on the total number of welds being examined every four years (RF19 in 2016, RF21 in 2020, and RF23 in 2024). Note 3: CR 1589390 defined three welds each Unit to be examined each outage by a surface examination (Unit 1 – VRR-B31-1-FW-A24, VRR-B31-1-FW-A23, and DCA-102-1-FW-1).								

Table 7.6 SSES Unit 2 Owner Elected Inspection Summary										
Category	**Item Number**	**Description**	**Exam Method**	**Number of Components in Item No.**	**Required to be Examined During Interval**	**Examination Percentage Required**	**Number to be Examined in Interval**	**Number to be Examined in First Period**	**Number to be Examined in Second Period**	**Number to be Examined in Third Period**
AUG 8		**Augmented Inservice Inspection for Vibration Induced Failures**								
N/A	AUG 8	Socket Welds	Volumetric	29	21[1]	36.6%	Every 4 years	21	21	21
N/A	N/A	Socket Welds	Volumetric	3	3[3]	100%	Every Outage	6	6	3
		Category Total		32	24[2]	100%	Every 18 month cycle	27	27	24
Notes for AUG 8		Note 1: The frequency of examination is every 4 years. The total required to be examined is established by PLI-91211 (Note that SPDCA2102-DB-1 has been noted that the configuration does not allow for examination and is not scheduled). Note 2: The total number is based on the total number of welds being examined every four years (RF17 in 2015, RF19 in 2019, and RF21 in 2023). Note 3: CR 1589390 defined three welds each Unit to be examined each outage by a surface examination (Unit 2 – VRR-B31-3-FW-A20, VRR-B31-3-FW-A23, and DCA-202-1-FW-1).								

8.0 Examination Evaluation Criteria

Evaluation of indications detected by volumetric or surface examination during the preservice or inservice inspection of components will be performed in accordance with the Corrective Action Program. Evaluation of conditions detected by visual examinations during the preservice or inservice inspection of components and component supports will be performed in accordance with the applicable visual examination procedure.

Evaluation of indications detected during the augmented examination of components and component supports will be performed in accordance with this section and the applicable document that governs each augmented examination.

8.1 Successive Inspections

8.1.1 Successive Inspections on Class 1 components will be performed in accordance with IWB-2420 which includes the following criteria in IWB-2420(b), (c) and (e):

(b) If a component is accepted for continued service in accordance with IWB-3132.3 or IWB-3142.4, the areas containing flaws or relevant conditions shall be reexamined during the next three inspection periods listed in the schedule of the inspection program of IWB-2400. Alternatively, acoustic emission may be used to monitor growth of existing flaws in accordance with IWA-2234.

(c) If the reexaminations required by IWB-2420(b) reveal that the flaws or relevant conditions remain essentially unchanged for three successive inspection periods, the component examination schedule may revert to the original schedule of successive inspections.

(e) If welded attachments are examined as a result of identified component support deformation, and the results of these examinations exceed the acceptance standards of Table IWB-3410-1, successive examinations shall be performed, if determined necessary, based on an evaluation by Entergy.

8.1.2 Successive Inspection on Category R-A will be performing in accordance with Code Case N-578-1, -2400 which includes the following criteria in (b) and (c):

(b) If piping structural elements are accepted for continued service by analytical evaluation in accordance with -3200, the areas containing flaws or relevant conditions shall be reexamined ruing the next three inspection periods referenced in the schedule of the inspection program of -2400.

(c) If the reexaminations required by (b) reveal that the flaws or relevant conditions remain essentially unchanged for three successive inspection periods, the piping examination schedule shall revert to the original schedule of successive inspections.

8.1.3 Successive Inspections on Class 2 components will be performed in accordance with IWC-2420 which includes the following criteria in IWC-2420(b), (c) and (d):

(b) If a component is accepted for continued service in accordance with IWC-3122.3 or IWC-3132.3, the areas containing flaws or relevant conditions shall be reexamined during the next inspection period listed in the schedule of the inspection program of IWC-2400. Alternatively, acoustic emission may be used to monitor growth of existing flaws in accordance with IWA-2234.

(c) If the reexaminations required by IWC-2420(b) reveal that the flaws or relevant conditions remain essentially unchanged for the next inspection period, the component examination schedule may revert to the original schedule of successive inspections.

(d) If welded attachments are examined as a result of identified component support deformation, and the results of these examinations exceed the acceptance standards of Table IWC-3410-1, successive examinations shall be performed, if determined necessary, based on an evaluation by Entergy.

8.1.4 As an alternative to 8.1.1 and 8.1.2 for Class 1 and 2 vessels, the requirements of Code Case N-526 may be used to eliminate successive examinations. The requirements of Code Case N-526 are outlined below.

(a) The flaw is characterized as subsurface in accordance with Figure 1 of Code Case N-526.

(b) The NDE technique and evaluation that detected and characterized the flaw, with respect to both sizing and location, shall be documented in the flaw evaluation report.

(c) The vessel containing the flaw is acceptable for continued service in accordance with IWB-3600, and the flaw is demonstrated acceptable for the intended service life of the vessel.

8.1.5 Successive Inspections on Class 3 components will be performed in accordance with IWD-2420 which includes the following criteria in IWD-2420(b), (c) and (d):

(b) If components are accepted for continued service by evaluation in accordance with IWD-3000, the areas containing flaws or relevant conditions shall be reexamined during the next inspection period listed in the schedule of the inspection program of IWD-2400.

(c) If the reexaminations required by IWD-2420(b) reveal that the flaws or relevant conditions remain essentially unchanged for the next inspection period, the component examination schedule may revert to the original schedule of successive inspections.

(d) If welded attachments are examined as a result of identified component support deformation, and the results of these examinations exceed the acceptance standards of IWD-3000, successive examinations shall be performed, if determined necessary, based on an evaluation by Entergy.

8.1.6 Successive Inspections on Class 1, 2 and 3 component supports will be performed in accordance with IWF-2420 which includes the following criteria in IWF-2420(b) and (c):

(b) When a component support is accepted for continued service in accordance with IWF-3112.2 or IWF-3122.2, the component support shall be reexamined during the next inspection period listed in the schedules of the inspection programs of IWF-2410

(c) When the examinations required by IWF-2420(b) do not require additional corrective measures during the next period, the inspection schedule may revert to the requirements of IWF-2420(a).

8.1.7 Successive Inspections on Augmented examinations will be performed in accordance with its' Augmented Program requirements document.

8.2 Additional Examinations

8.2.1 Additional examinations of Examination Category R-A welds shall be determined in accordance with Code Case N-578-1 -2430 which includes the following criteria in (a), (b) and (c):

(a) Examination performed in accordance with -2500 that reveal flaws or relevant conditions exceeding the acceptance standards of -3000, shall be extended to include additional examinations. The additional examination shall include piping structural elements described in Table 1 with the same postulated failure mode and the same or higher failure potential.

1) The number of additional elements shall be the number of piping structural elements with the same postulated failure mode originally scheduled for that fuel cycle.

2) The scope of the additional examinations may be limited to those High-Safety-Significant (HSS) piping structural elements within systems, whose materials and service conditions are determined by an evaluation to have the same

postulated failure mode as the piping structural element that contained the original flaw or relevant condition.

(b) If the additional examinations required by (a) reveal flaws or relevant conditions exceeding the acceptance standards of -3000, the examination shall be further extended to include a second sample of additional examinations.

1) The examinations shall include all remaining piping elements within Table 1 whose postulated failure modes are the same as the piping structural elements originally examined in -2430(a).

(c) For the inspection period following the period in which the examinations of (a) or (b) were completed, the examinations shall be performed as originally scheduled in accordance with -2400.

8.2.2 Additional examinations on Class 1 components will be performed in accordance with IWB-2430 which includes the following criteria in IWB-2430(a), (b) and (c):

(a) Examinations performed in accordance with Table IWB-2500-1, except for Examination Category B-P, that reveal flaws or relevant conditions exceeding the acceptance standards of Table IWB-3410-1 shall be extended to include additional examinations during the current outage. The additional examinations shall include an additional number of welds, areas, or parts included in the inspection item equal to the number of welds, areas, or parts[5] included in the inspection item[6] that were scheduled to be performed during the present inspection period. The additional examinations shall be selected from welds, areas, or parts of similar material and service. This additional selection may require inclusion of piping systems other than the one containing the flaws or relevant conditions.

(b) If additional examinations required by (a) reveal flaws or relevant conditions exceeding the acceptance standards of Table IWB-3410-1, the examinations shall be further extended to include additional examinations during the current outage. These additional examinations shall include the remaining number of welds, areas, or parts of similar material and service subject to the same type of flaws or relevant conditions.

(c) For the inspection period following the period in which the examinations of (a) or (b) were completed, the examinations shall be performed as originally scheduled in accordance with IWB-2400.

---

[5] Welds, areas or parts are those described or intended in a particular inspection item of Table IWB-2500-1.

[6] An inspection item, as listed in Table IWB-2500-1, may comprise a number of welds, areas, or parts of a component required to be examined in accordance with the inspection plan and schedule (IWA-2420).

8.2.3 Additional examinations on Class 2 components will be performed in accordance with IWC-2430 which includes the following criteria in IWC-2430(a), (b) and (c):

(a) Examinations performed in accordance with Table IWC-2500-1, except for Examination Category C-H, that reveal flaws or relevant conditions exceeding the acceptance standards of Table IWC-3410-1 shall be extended to include additional examinations during the current outage. The additional examinations shall include an additional number of welds, areas, or parts[7] included in the inspection item[8] equal to 20% of the number of welds, areas, or parts included in the inspection item that are scheduled to be performed during the interval. The additional examinations shall be selected from welds, areas, or parts of similar material and service. This additional selection may require inclusion of piping systems other than the one containing the flaws or relevant conditions.

(b) If additional examinations required by (a) reveal flaws or relevant conditions exceeding the acceptance standards of Table IWC-3410-1, the examinations shall be further extended to include additional examinations during the current outage. These additional examinations shall include the remaining number of welds, areas, or parts of similar material and service subject to the same type of flaws or relevant conditions.

(c) For the inspection period following the period in which the examinations of (a) or (b) were completed, the examinations shall be performed as originally scheduled in accordance with IWC-2400

8.2.4 Additional examinations on Class 3 components will be performed in accordance with IWD-2430 which includes the following criteria in IWD-2430(a), (b) and (c):

(a) Examinations performed in accordance with Table IWD-2500-1, except for Examination Category D-B, that reveal flaws or relevant conditions exceeding the acceptance standards of IWD-3000 shall be extended to include additional examinations during the current outage. The additional examinations shall include an additional number of welds, areas, or parts[9] included in the inspection item[10] equal to 20% of the number of welds, areas, or parts included in the inspection item that were scheduled to be performed during the interval. The additional examinations shall be selected from welds, areas, or parts of similar material and service. This additional

[7] Welds, areas or parts are those described or intended in a particular inspection item of Table IWC-2500-1.
[8] An inspection item, as listed in Table IWC-2500-1, may comprise a number of welds, areas, or parts of a component required to be examined in accordance with the inspection plan and schedule (IWA-2420).
[9] Welds, areas or parts are those described or intended in a particular inspection item of Table IWD-2500-1.
[10] An inspection item, as listed in Table IWD-2500-1, may comprise a number of welds, areas, or parts of a component required to be examined in accordance with the inspection plan and schedule (IWA-2420).

selection may require inclusion of piping systems other than the one containing the flaws or relevant conditions.

(b) If additional examinations required by (a) reveal flaws or relevant conditions exceeding the acceptance standards of IWD-3000, the examinations shall be further extended to include additional examinations during the current outage. The extent of the additional examinations shall be determined by SSES based upon an engineering evaluation of the root cause of the flaws or relevant conditions. SSES's corrective actions shall be documented in accordance with IWA-6000.

(c) For the inspection period following the period in which the examinations of (a) or (b) were completed, the examinations shall be performed as originally scheduled in accordance with IWD-2400

8.2.5 Additional examinations on Class 1, 2 and 3 component supports will be performed in accordance with IWF-2430 which includes the following criteria in IWF-2430(a), (b), (c) and (d):

(a) Component support examinations performed in accordance with Table IWF-2500-1 that reveal flaws or relevant conditions exceeding the acceptance standards of IWF-3400, and that require corrective measures, shall be extended, during the current outage, to include the component supports immediately adjacent to those component supports for which corrective measures are required. If one or both of the adjacent supports contains a snubber, the examination will be performed on the snubber with its attachment hardware. If the snubber is found unacceptable, then Relief Request 4RR-06 will apply to the snubber expanded scope. The additional examinations for the original support shall be extended, during the current outage, to include additional supports within the system, equal in number and of the same type and function as those scheduled for examination during the inspection period.

(b) When the additional examinations required by (a) reveal flaws or relevant conditions exceeding the acceptance standards of IWF-3400, and that require corrective measures, the examinations shall be further extended to include additional examinations during the current outage. These additional examinations shall include the remaining component supports within the system of the same type and function.

(c) When the additional examinations required by (b) reveal flaws or relevant conditions exceeding the acceptance standards of IWF-3400, and that require corrective measures, the examinations shall be extended, during the current outage, to include all nonexempt supports potentially subject to the same failure modes that required corrective measures in accordance with (a)

and (b). Also, these additional examinations shall include nonexempt component supports in other systems when the support failures requiring corrective actions indicate non-system-related support failure modes.

(d) When the additional examinations required by (c) reveal flaws or relevant conditions exceeding the acceptance standards of IWF-3400, and that require corrective measures, SSES shall examine, during the current outage, those exempt component supports that could be affected by the same observed failure modes and could affect nonexempt components.

8.2.6 The following criteria of Code Case N-586-1 may be applied for the performance of additional examinations on Class 1, 2 or 3 components or component supports.

(a) An engineering evaluation shall be performed. Topics to be addressed in the engineering evaluation shall include:

1) A determination of the root cause of the flaws or relevant conditions.

2) An evaluation of applicable service conditions and degradation mechanisms to establish the affected welds, areas, or supports will perform their intended safety functions during subsequent operation.

3) A determination of which additional welds, areas, or supports could be subject to the same root cause conditions and degradation mechanisms. This may require the inclusion of piping systems other than the one containing the original flaws or relevant conditions.

(b) Additional examinations shall be performed on those welds, areas, or supports subject to the same root cause conditions and degradation mechanisms. No additional examinations are required if the engineering evaluation concludes that either:

1) There are no additional welds, areas, or supports subject to the same root cause conditions, or

2) No degradation mechanism exists.

(c) Any required additional examinations shall be performed during the current outage.

(d) The engineering evaluation shall be retained in accordance with IWA-6000.

Plant specific additional examinations are identified in the IDDEAL® database ScheduleWorks® module.

8.3 Preservice Examinations

8.3.1 Class 1 Components

For all Class 1 components, except for Examination Category B-P, the visual VT-3 examination of the internal surfaces of Categories B-L-2 and B-M-2, and Examination Category B-O for non-peripheral CRD housing welds, the examinations required by the applicable examination category in 7.1 shall be performed as a preservice examination.

Shop and field examinations may be used to satisfy preservice requirements provided:

- Vessel examination is performed after the Section III hydrostatic test is completed
- Examinations use equivalent equipment and techniques to those used for inservice examinations
- Shall be documented in accordance with IWA-6000

8.3.2 Class 2 Components

For all Class 2 components, except for Examination Category C-H, that are selected for Inservice Inspection, the examinations required in 7.1 above (applicable examination category) shall be performed as a preservice.

Shop and field examinations may be used to satisfy preservice requirements provided:

- Vessel examination is performed after the Section III hydrostatic test is completed
- Examinations use equivalent equipment and techniques to those used for inservice examinations
- Shall be documented in accordance with IWA-6000

8.3.3 Class 3 Components

For all Class 3 components, except for Examination Category D-B, all examinations required in 7.1 above shall be completed as a preservice.

8.3.4 Class 1, 2, and 3 Supports

For all new component supports on pressure boundaries not exempted, the examinations required above (Category F-A) shall be performed as a preservice.

For systems that operate at a temperature greater than 200°F during normal plant operation a preservice shall be performed prior to return to service to meet the requirements of IWA-4540(a) and again during or following system heatup and cooldown to meet the requirements of IWF-2220(b).

9.0 Inservice Inspection Data Management Software

9.1 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 NETWORK based within the PPL system and is accessible by any computer within PPL.

9.2 The Iddeal Software Suite® is a quality level 2 software. It is the Controlled copy of the ISI Schedule. The software has limited access to protect the contents of the databases. Access to the software is limited through the use of a user defined password controlled via Procedure NEIM-00-1170.

9.3 Access to the Iddeal Software Suite® is obtained through the Windows Citrix™ icon entitled the "Iddeal Software Suite®." The following programs comprise the IDDEAL SOFTWARE SUITE®:

- **IDDEAL®** - IDDEAL® is used to track and progress completion of outage examinations. Generates various reports to status examinations.
- **SCHEDULEWORKS®** - Maintains the complete ISI database. Outage schedules are assembled and progressed for interval and period statistics.
- **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.

9.4 The ScheduleWorks® Module contains the SSES information necessary to perform ISI and Augmented Program. Maintenance of the Module is controlled via Procedure NEIM-00-1170. All changes to data in the SSES ISI Database must be made in accordance with NDAP-QA-1608.

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

9.5.1 Identification of the components selected for examination and test, including successive exams from prior periods;

9.5.2 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.

9.5.3 Identification of drawings showing items that require examination;

9.5.4 List of examination procedures;

9.5.5 Description of alternative examinations and identification of components to be examined using alternative methods;

9.5.6 Identification of calibration blocks used for ultrasonic examination.

10.0 Risk-Informed ISI Program

SSES has submitted a request for alternative to use the Risk-Informed ISI (RI-ISI) very similar to that contained in ASME Code Case N-578-1. Otherwise known as the Risk-Informed / Safety-Based ISI Process. The request and any NRC correspondence are contained in Table 3.0-1.

10.1 RISK-INFORMED / SAFETY-BASED ISI PROCESS

The process used to develop the RIS_B Program conformed to the methodology described in Code Case N-578-1 and consisted of the following steps:

- System Identification
- Segment Risk Assessment
- Element Assessment
- Inspection Location and Examination Methods
- Reevaluation of Risk-Informed Selections

10.1.1 System Identification

The systems that will be included in the Risked-Informed Program are defined. Within each system boundary, the risk-informed evaluation may include Class 1, 2, and 3 piping in the Section XI Program and piping outside the Section XI examination boundaries.

10.1.2 Segment Risk Assessment

Piping within a system is grouped into segments of common failure consequence and susceptibility to common degradation mechanisms. To accomplish this grouping for each pipe segment within a system, both the potential for failure (i.e., susceptibility to potential degradation mechanisms) and the direct and indirect consequences of failure shall be assessed.

10.1.3 Element Assessment

Code Case N-578-1 provides criteria for identifying the number and location of required examinations. The number of elements to be examined in each risk category shall be as follows:

(a) For those segments that are in Risk Category 1, 3, or 5 and are included in the existing FAC Inspection Program, the number of inspection locations shall be the same as the existing FAC Inspection Program.

(b) For those segments that are Risk Category 1, 2, 3 or 5 and are included in the existing IGSCC Inspection Program, the number of inspection locations shall be the same as the existing IGSCC Inspection Program.

(c) For segments determined to have degradation mechanisms other than those included in the existing FAC and IGSCC Inspection Programs, the following number of locations shall be examined as part of the risk-based program:

1. For Risk Categories 1, 2, and 3 the number of inspection locations in each category shall be at least 25% of the total number of elements in each risk category.
2. For Risk Categories 4 or 5, the number of inspection locations in each category shall be at least 10% of the total number of elements in each risk category.

(d) For those segments in Risk Category 6 or 7, volumetric and surface element examinations are not required.

(e) All elements, regardless of risk category, shall be pressure tested and leak tested.

10.1.4 Inspection Locations and Examination Methods

Examination programs used for the implementation of the RI-ISI Program will use suitable NDE techniques that will detect the specific degradation mechanisms. The examination volumes and methods are appropriate for each degradation mechanism. The methods and procedures used for the examinations shall be qualified to reliably detect and size the relevant degradation mechanisms identified for each element. Personnel performing the examinations shall be qualified to use the procedures.

10.1.5 Reevaluation of Risk-Informed Selections

The affected portions of the risk-informed inservice inspection program shall be reevaluated as new information affecting implementation of the program becomes available. Examples include piping system design changes, industry-wide failure notifications, and prior examination results.