LaSalle Generating Station
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Marseilles, IL 61341-9757

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Exelon Nuclear

RA-07-079

10 CFR 50.55a

September 12, 2007

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

LaSalle County Station, Units 1 and 2
Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. 50-373 and 50-374

Subject: Submittal of Program Plan Associated with the Third Inservice Inspection (ISI) Interval and the Second Containment Inservice Inspection (CISI) Interval

References: (1) Letter from S. R. Landahl (Exelon Generation Company, LLC) to U. S. NRC, "In Service Inspection (ISI) Intervals," dated September 22, 2006

(2) Letter from S. R. Landahl (Exelon Generation Company, LLC) to U. S. NRC, "Additional Information Supporting the Relief Requests Associated with the Third Inservice Inspection (ISI) Interval and the Second Containment Inservice Inspection (CISI) Interval," dated July 20, 2007

(3) Letter from S. R. Landahl (Exelon Generation Company, LLC) to U.S. NRC, "Submittal of Relief Requests Associated with the Third Inservice Inspection (ISI) Interval and the Second Containment Inservice Inspection (CISI) Interval

In accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, IWA-1400(c), "Owner's Responsibility," attached for your information is a copy of the Inservice Inspection (ISI) Program Plan Associated with the Third Inservice Inspection (ISI) Interval and the Second Containment Inservice Inspection (CISI) Interval for LaSalle County Station, (LSCS) Units 1 and 2. The ISI Program Plan attached does not include any Relief Requests as they have previously been submitted in References 2 and 3. The Third Interval of the ISI and the Second CISI Interval programs comply with the 2001 Edition through the 2003 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code.

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NRR

Exelon Generation Company, LLC (EGC) recently synchronized the LSCS 10-Year ISI Intervals between Units 1 and 2 and aligned the CISI intervals to assure that the IST Program implemented at LSCS uses the same Code Edition and Addenda for the next and successive intervals. Reference 1 documented the synchronization and alignment between LSCS Units 1 and 2.

LaSalle County Station, Units 1 and 2, are owned and operated by EGC, whose address is:

200 Exelon Way
Kennett Square, PA 19348

Should you have any questions concerning this letter, please contact Mr. Terrence W. Simpkin, Regulatory Assurance Manager, at (815) 415-2800.

Respectfully,

Daniel J. Enright
Site Vice President
LaSalle County Station

Attachment

cc: Regional Administrator - NRC Region III
NRC Senior Resident Inspector - LaSalle County Station

LASALLE COUNTY NUCLEAR POWER STATION
UNITS 1 & 2

ISI PROGRAM PLAN
THIRD TEN-YEAR INSPECTION INTERVAL

Commercial Service Dates:

Unit 1 – 01/01/84
Unit 2 – 10/17/84

LaSalle County Station
2601 North 21st Rd.
Marseilles, Illinois 61341

Exelon Generation Company (EGC), LLC
200 Exelon Way
Kennett Square, Pennsylvania 19348

Prepared By:
Alion Science and Technology Corporation
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ALION
SCIENCE AND TECHNOLOGY

Exelon
Nuclear

REVISION APPROVAL SHEET

TITLE: ISI Program Plan
Third Ten-Year Inspection Interval
LaSalle County Station, Units 1 & 2

DOCUMENT NUMBER: LAS03.G03 REVISION: 0

PREPARED TRANSMITTAL

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EXELON ACCEPTANCE

APPROVED: 08/27/07
Andrew L. Kochis
ISI Program Coordinator

REVISION APPROVAL SHEET

TITLE: ISI Program Plan
Third Ten-Year Inspection Interval
LaSalle County Station, Units 1 & 2

DOCUMENT NUMBER: LAS03.G03 REVISION: 0

EXELON PREPARATION, REVIEW, AND APPROVAL

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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, LaSalle County Station archives should be retrieved.

REVISION CONTROL SHEET

Major changes should be outlined within the table below. Minor editorial and formatting revisions are not required to be logged.

REVISION	DATE	REVISION SUMMARY
0	04/01/07	Initial issuance. (This ISI Program Plan was developed by Alion Science and Technology Corporation as part of the Third Interval ISI Program update.) Prepared: S. Coleman Reviewed: K. Johnson Approved: D. Lamond

Note: 1. This ISI Program Plan (Sections 1 - 9 inclusive) is controlled by the LaSalle County Station Programs Engineering Group.

2. Revision 0 of this document was issued as the Third Interval ISI Program Plan and was submitted to the USNRC. Future revisions of this document made within the Third ISI Interval will be maintained and controlled at the station; however, they are not required to be and will not be submitted to the USNRC. The exception to this is that new or revised Relief Requests shall be submitted to the USNRC for safety evaluation and approval.

REVISION SUMMARY

SECTION	EFFECTIVE PAGES	REVISION	DATE
Preface	i to vi	0	04/01/07
1.0	1-1 to 1-19	0	04/01/07
2.0	2-1 to 2-27	0	04/01/07
3.0	3-1 to 3-4	0	04/01/07
4.0	4-1 to 4-2	0	04/01/07
5.0	5-1	0	04/01/07
6.0	6-1 to 6-2	0	04/01/07
7.0	7-1 to 7-43	0	04/01/07
8.0	8-1 to 8-3	0	04/01/07
9.0	9-1 to 9-4	0	04/01/07

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1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

This Inservice Inspection (ISI) Program Plan details the requirements for the examination and testing of ISI Class 1, 2, 3, MC, and CC pressure retaining components, supports, containment structures, and post-tensioning systems at LaSalle County Station (LSCS), Units 1, 2, and 0 (Common). Common Unit 0 components are included in the Unit 1 sections, reports, and tables. This ISI Program Plan also includes Containment Inservice Inspection (CISI), Risk-Informed Inservice Inspection (RISI), Augmented Inservice Inspections (AUG), and system pressure testing (SPT) requirements imposed on or committed to by LSCS. At LSCS, the Inservice Testing (IST) Program is maintained and implemented separately from the ISI Program. The IST Basis Document and Program Plan contain all applicable inservice testing requirements.

The Third ISI Interval is effective from October 1, 2007 through September 30, 2017 for LSCS Units 1 and 2. With the update to the ISI Program for the Third ISI Interval for Class 1, 2, and 3 components, including their supports, Exelon Generation Company, LLC (Exelon) has also elected to update the CISI Program to its Second CISI Interval for Class MC and CC components at the same time. This update will enable all of the ISI and CISI Program components / elements to be based on the same effective Edition and Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, as well as share a common interval start and end date. The common ASME Code of Record for the Third ISI Interval and the Second CISI Interval is the 2001 Edition through the 2003 Addenda.

Paragraph IWA-2430(d)(1) of ASME Section XI allows an inspection interval to be extended or decreased by as much as one year, and Paragraph IWA-2430(e) allows an inspection interval to be extended when a unit is out of service continuously for six months or more. The extension may be taken for a period of time not to exceed the duration of the outage. See Tables 1.1-1, 1.1-2, 1.1-3, and 1.1-4 for intervals, periods, and extensions that apply to LSCS's Third ISI Interval and Second CISI Interval.

The Third ISI Interval and Second CISI Interval are divided into two or three inspection periods as determined by calendar years within the intervals. Tables 1.1-1, 1.1-2, 1.1-3, and 1.1-4 identify the period start and end dates for the Third ISI Interval and the Second CISI Interval as defined by Inspection Program B. In accordance with Paragraph IWA-2430(d)(3), the inspection periods specified in these Tables may be decreased or extended by as much as 1 year to enable inspections to coincide with LSCS's refueling outages.

Table 1.1-1

LSCS UNIT 1 AND UNIT 2 ISI INTERVAL/PERIOD/OUTAGE MATRIX
(FOR ISI CLASS 1, 2, AND 3 COMPONENT EXAMINATIONS)

Unit 1		Period	Interval	Period	Unit 2	
Outage Number	**Projected Outage Start Date or Outage Duration**	**Start Date to End Date**	**Start Date to End Date**	**Start Date to End Date**	**Projected Outage Start Date or Outage Duration**	**Outage Number**
L1R12	Scheduled 2/08	1st 10/1/07 to 9/30/10	3rd (Unit 1) 10/1/07 to 9/30/17[1] 3rd (Unit 2) 10/1/07 to 9/30/17[2]	1st 10/1/07 to 9/30/10	Scheduled 3/09	L2R12
L1R13	Scheduled 2/10					
L1R14	Scheduled 2/12	2nd 10/1/10 to 9/30/14		2nd 10/1/10 to 9/30/14	Scheduled 3/11	L2R13
L1R15	Scheduled 2/14				Scheduled 3/13	L2R14
L1R16	Scheduled 2/16	3rd 10/1/14 to 9/30/17		3rd 10/1/14 to 9/30/17	Scheduled 3/15	L2R15
					Scheduled 3/17	L2R16

Note 1: The Unit 1 Second ISI Interval was extended by 354 days as permitted by IWA-2430(d). This extension is being carried forward to the Third ISI Interval to facilitate both Units 1 and 2 having the same ISI interval start dates, end dates, and codes of record, as well as this common interval date matching the CISI Program dates. This means that for the rest of the Third ISI Interval, only 11 days remain available to use under the IWA-2430(d) extension. Note that this extension is separate from and in addition to that of IWA-2430(e) which does require the successive interval pattern to be adjusted accordingly.

Note 2: The Unit 2 Second ISI Interval was extended by 88 days as permitted by IWA-2430(d). This extension is being carried forward to the Third ISI Interval to facilitate both Units 1 and 2 having the same ISI interval start dates, end dates, and codes of record, as well as this common interval date matching the CISI Program dates. This means that for the rest of the Third ISI Interval, only 277 days are available to use under the IWA-2430(d) extension. Note that this extension is separate from and in addition to that of IWA-2430(e) which does require the successive interval pattern to be adjusted accordingly.

Table 1.1-2

LSCS UNIT 1 AND UNIT 2 CISI INTERVAL/PERIOD/OUTAGE MATRIX
(FOR CISI CLASS MC COMPONENT EXAMINATIONS)

Unit 1		Period	Interval	Period	Unit 2	
Outage Number	**Projected Outage Start Date or Outage Duration**	**Start Date to End Date**	**Start Date to End Date**	**Start Date to End Date**	**Projected Outage Start Date or Outage Duration**	**Outage Number**
L1R13	Scheduled 2/10	1st 10/1/07 to 9/30/10	2nd (Unit 1) 10/1/07 to 9/30/17[1] 2nd (Unit 2) 10/1/07 to 9/30/17[1]	1st 10/1/07 to 9/30/10	Scheduled 3/09	L2R12
L1R14	Scheduled 2/12	2nd 10/1/10 to 9/30/14		2nd 10/1/10 to 9/30/14	Scheduled 3/11	L2R13
L1R15	Scheduled 2/14				Scheduled 3/13	L2R14
L1R16	Scheduled 2/16	3rd 10/1/14 to 9/30/17		3rd 10/1/14 to 9/30/17	Scheduled 3/15	L2R15
					Scheduled 3/17	L2R16

Note 1: The First CISI Intervals for Units 1 and 2 were reduced by 345 days as permitted by IWA-2430(d). This reduction is being carried forward to the Second CISI Intervals to facilitate the CISI Program sharing common interval start dates, end dates, and codes of record with the ISI Program. This means that the end of the Second CISI Interval can only be moved forward another 20 days or extended out up to one year under IWA-2430(d). Note that this reduction is separate from and in addition to that of IWA-2430(e) which requires the successive interval pattern to be adjusted accordingly.

Table 1.1-3

LSCS UNIT 1 AND UNIT 2 CISI INTERVAL/PERIOD/OUTAGE MATRIX
(FOR CISI CLASS CC-CONCRETE COMPONENT EXAMINATIONS)

Unit 1		5-Year Period	Interval	5-Year Period	Unit 2	
Outage Number	**Projected Outage Start Date or Outage Duration**	**Exam # - Date (2 Year Window)**	**Start Date to End Date**	**Exam # - Date (2 Year Window)**	**Projected Outage Start Date or Outage Duration**	**Outage Number**
L1R12	Scheduled 2/08	No Section XI Exams	2nd (Unit 1) 10/1/07 to 9/30/17[1] 2nd (Unit 2) 10/1/07 to 9/30/17[1]	No Section XI Exams	Scheduled 3/09	L2R12
L1R13	Scheduled 2/10	30th – 9/15/09 (9/15/08 to 9/14/10)[2]		25th – 9/18/10 (9/18/09 to 9/17/11)[2]	Scheduled 3/11	L2R13
L1R14	Scheduled 2/12	No Section XI Exams		No Section XI Exams	Scheduled 3/13	L2R14
L1R15	Scheduled 2/14	35th – 9/15/14 (9/15/13 to 9/14/15)[2]		30th – 9/18/15 (9/18/14 to 9/17/16)[2]	Scheduled 3/15	L2R15
L1R16	Scheduled 2/16	No Section XI Exams		No Section XI Exams	Scheduled 3/17	L2R16

Note 1: The First CISI Intervals for Units 1 and 2 were reduced by 345 days as permitted by IWA-2430(d). This reduction is being carried forward to the Second CISI Intervals to facilitate the CISI Program sharing common interval start dates, end dates, and codes of record with the ISI Program. This means that the end of the Second CISI Interval can only be moved forward another 20 days or extended out up to one year under IWA-2430(d). Note that this reduction is separate from and in addition to that of IWA-2430(e) which requires the successive interval pattern to be adjusted accordingly.

Note 2: The IWL inspection schedule for the concrete containment surface meets the requirements of IWL-2400. IWL-2510 inspections will be performed once every 5 years. They will begin not more than 1 year prior to the specified date and will be completed not more than 1 year after such date. The initial IWL concrete exams for each unit were required to be completed between September 9, 1996 and September 8, 2001 by 10 CFR 50.55a. The rolling 5 year exam date and associated 2 year window for each unit is determined from these first inspection dates (9/15/99 and 9/18/00 for Units 1 and 2 respectively).

Table 1.1-4

LSCS UNIT 1 AND UNIT 2 CISI INTERVAL/PERIOD/OUTAGE MATRIX
(FOR CISI CLASS CC-TENDON COMPONENT EXAMINATIONS)

Unit 1		5-Year Period	Interval	5-Year Period	Unit 2	
Outage Number	**Projected Outage Start Date or Outage Duration**	**Exam # - Date (2 Year Window)**	**Start Date to End Date**	**Exam # - Date (2 Year Window)**	**Projected Outage Start Date or Outage Duration**	**Outage Number**
L1R12	Scheduled 2/08	30th – 12/1/08 (12/1/07 to 11/30/09)[2]	2nd (Unit 1) 10/1/07 to 9/30/17[1] 2nd (Unit 2) 10/1/07 to 9/30/17[1]	25th – 6/1/08 (6/1/07 to 5/31/09)[2]	Scheduled 3/09	L2R12[3]
L1R13	Scheduled 2/10	No Section XI Exams		No Section XI Exams	Scheduled 3/11	L2R13
L1R14	Scheduled 2/12			30th – 6/1/13 (6/1/12 to 5/31/14)[2]	Scheduled 3/13	L2R14
L1R15[3]	Scheduled 2/14	35th – 12/1/13 (12/1/12 to 11/30/14)[2]		No Section XI Exams	Scheduled 3/15	L2R15
L1R16	Scheduled 2/16	No Section XI Exams			Scheduled 3/17	L2R16

Note 1: The First CISI Intervals for Units 1 and 2 were reduced by 345 days as permitted by IWA-2430(d). This reduction is being carried forward to the Second CISI Intervals to facilitate the CISI Program sharing common interval start dates, end dates, and codes of record with the ISI Program. This means that the end of the Second CISI Interval can only be moved forward another 20 days or extended out up to one year under IWA-2430(d). Note that this reduction is separate from and in addition to that of IWA-2430(e) which requires the successive interval pattern to be adjusted accordingly.

Note 2: The IWL inspection schedule for the containment post-tensioning system meets the requirements of IWL-2400. IWL-2520 inspections will be performed once every 5 years. They will begin not more than 1 year prior to the specified date and will be completed not more than 1 year after such date. The initial IWL 5-year exam date for each unit was determined based on the previous inspection dates under the Station Tendon Surveillance program prior to Subsection IWL being endorsed by the USNRC. These original dates were based on the initial SIT tests.

Note 3: ASME Section XI Item Number L2.10 tests and L2.20 exams are performed during this outage. These tests and exams are performed every other 5-year period for each individual Unit such that the two Units alternate every five years. (See Relief Request I3R-05.)

1.2 Background

The Commonwealth Edison Company, now known commercially as Exelon Generation Company or Exelon, obtained Construction Permits to build LSCS on September 10, 1973, for Unit 1, CPPR-99, and for Unit 2, CPPR-100. The Docket Numbers assigned to LSCS are 50-373 for Unit 1 and 50-374 for Unit 2. After satisfactory plant construction and preoperational testing was completed, LSCS was granted a full power operating license for Unit 1, NPF-11, and subsequently commenced commercial operation on January 1, 1984; the full power operating license for Unit 2, NPF-18, was granted and commercial operation commenced on October 17, 1984.

LSCS's piping systems and associated components were designed and fabricated to the examination requirements of ASME Section XI. Although this plant was specifically designed to meet the requirements of ASME Section XI, literal compliance may not be feasible or practical within the limits of the current plant design. Certain limitations are likely to occur due to conditions such as accessibility, geometric configuration, and/or metallurgical characteristics. For some inspection categories, an alternate component may be selected for examination and the code statistical and distribution requirements can still be maintained. If Code required examination criteria cannot be met, a relief request will be submitted in accordance with 10 CFR 50.55a.

1.3 First Interval ISI Program

Pursuant to the Code Of Federal Regulations, Title 10, Part 50, Section 55a, *Codes and standards*, (10 CFR 50.55a), LSCS was required to meet the requirements of Paragraph (g), *Inservice inspection requirements*, of that section.

Specifically, Paragraph 10 CFR 50.55a(g)(4)(i) calls for the inservice inspection requirements of the 120 month inspection interval to comply with the requirements of the latest Edition and Addenda of ASME Section XI (the Code) referenced in Paragraph (b) of 10 CFR 50.55a on the date 12 months prior the date of issuance of the operating license, subject to the limitations and modifications listed in 10 CFR 50.55a(b).

The version of 10 CFR 50.55a in effect 12 months prior to the start of the First Inservice Inspection Interval referenced ASME Section XI, 1980 Edition with Addenda through the Winter 1980 (80W80) of the ASME Boiler and Pressure Vessel (B&PV) Code, ASME Section XI, titled Rules for Inservice Inspection of Nuclear Power Plant Components. The inservice inspection requirements applicable to nondestructive examination and system pressure testing for the First Inservice Inspection Program were based on these rules.

The LSCS First ISI Interval was effective from January 1, 1984 through November 22, 1994 for Unit 1 and from October 17, 1984 through October 16, 1994 for Unit 2, respectively.

1.4 Second Interval ISI Program

Pursuant to 10 CFR 50.55a(g), LSCS was required to update the ISI Program to meet the requirements of the latest ASME Section XI at the end of the First Interval. The ISI Program was required to comply with the latest Edition and Addenda of the Code incorporated by reference in 10 CFR 50.55a 12 months prior to the start of the interval per 10 CFR 50.55a(g)(4)(ii).

The Second Interval Plan was developed in accordance with the requirements of 10 CFR 50.55a including all published changes through November 22, 1993 and October 16, 1993 for Units 1 and 2 respectively, and the 1989 Edition of ASME Section XI. The Plan addressed Subsections IWA, IWB, IWC, IWD, and IWF of ASME Section XI, and utilized Inspection Program B as defined therein.

At the end of the Second Interval and in preparation for the Third Interval, LSCS informed the United States Nuclear Regulatory Commission (USNRC) of extensions and reductions taken in order to synchronize the ISI Intervals between LSCS Units 1 and 2 for ASME Code Classes 1, 2, and 3, and to align the CISI Interval for ASME Code Classes MC and CC with the synchronized LSCS Units 1 and 2 ISI Interval. This letter was sent on September 22, 2006, and the changes assured that both the ISI and CISI Programs would use the same Code Edition and Addenda for the next and successive intervals and would likewise establish common implementing procedures for both units.

To effect the synchronization and alignment between the LSCS Units 1 and 2 ISI and CISI Intervals, Paragraph IWA-2430(d) was used to adjust each inspection interval within the one year allowance. Since the provisions of ASME Section XI Paragraph IWA-2430(d) were adhered to as required, a relief request was not necessary. As such, the LSCS Second ISI Interval was effective from November 23, 1994 through September 30, 2007 for Unit 1 and from October 17, 1994 through September 30, 2007 for Unit 2.

1.5 Third Interval ISI Program

Pursuant to 10 CFR 50.55a(g), licensees are required to update their ISI Programs to meet the requirements of ASME Section XI once every ten years or inspection interval. The ISI Program is required to comply with the latest Edition and Addenda of the Code incorporated by reference in 10 CFR 50.55a twelve (12) months prior to the start of the interval per 10 CFR 50.55a(g)(4)(ii). As discussed in Section 1.4 above, the start of the Third ISI Interval will be on October 1, 2007 for LSCS Units 1 and 2. Based on this date, the latest Edition and Addenda of the Code referenced in 10 CFR 50.55a(b)(2) twelve months prior was the 2001 Edition through the 2003 Addenda.

The LSCS Third Interval ISI Program Plan was developed in accordance with the requirements of 10 CFR 50.55a including all published changes through September 30, 2006, and the 2001 Edition through the 2003 Addenda of ASME Section XI, subject to the limitations and modifications contained within Paragraph (b) of the regulation. These limitations and modifications are detailed in Table 1.8-1 of this section. This Third Interval ISI Program Plan addresses Subsections IWA, IWB, IWC, IWD, IWF, Mandatory Appendices, approved ASME Code Cases, approved alternatives through relief requests and SER's, and utilizes Inspection Program B as defined therein.

LSCS has adopted the EPRI Topical Report TR-112657, Rev. B-A methodology, which was supplemented by Code Case N-578-1, for implementing risk-informed inservice inspections. The RISI Program will be in effect for the entire Third ISI Interval. This approach replaces the categorization, selection, and examination volume requirements of ASME Section XI Examination Categories B-F, B-J, C-F-1, and C-F-2 applicable to LSCS with Examination Category R-A as defined in Code Case N-578-1. Implementation of the RISI Program is in accordance with Relief Request I3R-01.

LSCS has also adopted the EPRI Topical Report TR-1006937, Rev. 0-A, methodology for additional guidance for adaptation of the RISI evaluation process to Break Exclusion Region (BER) piping, also referred to as the High Energy Line Break (HELB) region. This change to the BER program was made under 10 CFR 50.59 evaluation criteria. The BER program will be in effect for the entire Third Inspection Interval.

1.6 First Interval CISI Program

CISI examinations were originally invoked by amended regulations contained within a Final Rule issued by the USNRC. The amended regulation incorporated the requirements of the 1992 Edition through the 1992 Addenda of ASME Section XI, Subsections IWE and IWL, subject to specific modifications that were included in Paragraphs 10 CFR 50.55a(b)(2)(ix) and 10 CFR 50.55a(b)(2)(x). Relief from the examination requirements of the 1992 Edition through the 1992

Addenda of ASME Section XI was granted by the USNRC to allow LSCS to use the 1998 Edition, No Addenda for inspection of containment components.

The final rulemaking was published in the Federal Register on August 8, 1996 and specified an effective date of September 9, 1996. Implementation of the Subsection IWE and IWL Program from a scheduling standpoint was driven by the five year expedited implementation period per 10 CFR 50.55a(g)(6)(ii)(B), which specified that the examinations required to be completed by the end of the first period of the First Inspection Interval (per Table IWE-2412-1) be completed by the effective date (by September 9, 2001).

ASME Section XI Subsections IWE, IWL, approved ASME IWE/IWL Code Cases, and approved alternatives through related relief requests and SER's were added to the ISI Program midway through the Second ISI Interval to address CISI. The First CISI Interval was initially scheduled from September 9, 1996 through September 9, 2008 for both LSCS Units 1 and 2.

The CISI Program Plan was developed and implemented prior to the required date, and examinations for the first, second, and third periods were performed in accordance with the First CISI Interval schedule for LSCS Units 1 and 2. As detailed in Section 1.4, the transition from the First to Second Interval CISI Program occurred approximately one year early for LSCS Units 1 and 2 to allow for a common interval date and Code of record between the ISI and CISI Programs.

To effect the synchronization and alignment between the LSCS Units 1 and 2 ISI and CISI Intervals, Paragraph IWA-2430(d) was used to adjust each inspection interval within the one year allowance. Since the provisions of ASME Section XI Paragraph IWA-2430(d) were adhered to as required, a relief request was not necessary.

LSCS informed the USNRC by letter on September 22, 2006 of this synchronization permitting the subsequent ISI and CISI Programs to share a common inspection interval start and end date and to implement common Code Editions for Class 1, 2, 3, MC, and CC components. As such, the LSCS Units 1 and 2 First CISI Interval was effective from September 9, 1996 through September 30, 2007.

1.7 Second Interval CISI Program

Pursuant to 10 CFR 50.55a(g), licensees are required to update their CISI Programs to meet the requirements of ASME Section XI once every ten years or inspection interval. The CISI Program is required to comply with the latest Edition and Addenda of the Code incorporated by reference in 10 CFR 50.55a twelve (12) months prior to the start of the interval per 10 CFR 50.55a(g)(4)(ii). As discussed in Section 1.6 above, the start of the Second CISI Interval will be on

October 1, 2007 for LSCS Units 1 and 2. Based on this date, the latest Edition and Addenda of the Code referenced in 10 CFR 50.55a(b)(2) twelve months prior was the 2001 Edition through the 2003 Addenda.

The LSCS Second Interval CISI Program Plan was developed in accordance with the requirements of 10 CFR 50.55a including all published changes through September 30, 2006, and the 2001 Edition through the 2003 Addenda of ASME Section XI, subject to the limitations and modifications contained within Paragraph (b) of the regulation. These limitations and modifications are detailed in Table 1.8-1 of this section.

This CISI Program Plan addresses Subsections IWE, IWL, approved ASME IWE/IWL Code Cases, approved alternatives through related relief requests and SER's, and utilizes Inspection Program B as defined therein.

1.8 Code of Federal Regulations 10 CFR 50.55a Requirements

There are certain Paragraphs in 10 CFR 50.55a that list the limitations, modifications, and/or clarifications to the implementation requirements of ASME Section XI. These Paragraphs in 10 CFR 50.55a that are applicable to LSCS are detailed in Table 1.8-1.

TABLE 1.8-1
CODE OF FEDERAL REGULATIONS 10 CFR 50.55a REQUIREMENTS

10 CFR 50.55a Paragraphs	Limitations, Modifications, and Clarifications
10 CFR 50.55a(b)(2)(viii)(E)	**(CISI)** *Examination of concrete containments:* For Class CC applications, the 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 licensee shall provide the following in the ISI Summary Report required by IWA-6000: (*1*) A description of the type and estimated extent of degradation, and the conditions that led to the degradation; (*2*) An evaluation of each area, and the result of the evaluation, and; (*3*) A description of necessary corrective actions.
10 CFR 50.55a(b)(2)(viii)(F)	**(CISI)** *Examination of concrete containments:* Personnel that examine containment concrete surfaces and tendon hardware, wires, or strands must meet the qualification provisions in IWA-2300. The "owner-defined" personnel qualification provisions in IWL-2310(d) are not approved for use.
10 CFR 50.55a(b)(2)(ix)(A)	**(CISI)** *Examination of metal containments and the liners of concrete containments:* For Class MC applications, the 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 licensee shall provide the following in the ISI Summary Report as required by IWA-6000: (*1*) A description of the type and estimated extent of degradation, and the conditions that led to the degradation; (*2*) An evaluation of each area, and the result of the evaluation, and; (*3*) A description of necessary corrective actions.

TABLE 1.8-1
CODE OF FEDERAL REGULATIONS 10 CFR 50.55a REQUIREMENTS

10 CFR 50.55a Paragraphs	Limitations, Modifications, and Clarifications
10 CFR 50.55a(b)(2)(ix)(B)	**(CISI)** *Examination of metal containments and the liners of concrete containments:* 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 indications for which the visual examination is performed can be detected at the chosen distance and illumination.
10 CFR 50.55a(b)(2)(ix)(F)	**(CISI)** *Examination of metal containments and the liners of concrete containments:* VT-1 and VT-3 examinations must be conducted in accordance with IWA-2200. Personnel conducting examinations in accordance with the VT-1 or VT-3 examination method shall be qualified in accordance with IWA-2300. The "owner-defined" personnel qualification provisions in IWE-2330(a) for personnel that conduct VT-1 and VT-3 examinations are not approved for use.
10 CFR 50.55a(b)(2)(ix)(G)	**(CISI)** *Examination of metal containments and the liners of concrete containments:* The VT-3 examination method must be used to conduct the examinations in Items E1.12 and E1.20 of Table IWE-2500-1, and the VT-1 examination method must be used to conduct the examination in Item E4.11 of Table IWE-2500-1. An examination of the pressure-retaining bolted connections in Item E1.11 of Table IWE-2500-1 using the VT-3 examination method must be conducted once each interval. The "owner-defined" visual examination provisions in IWE-2310(a) are not approved for use for VT-1 and VT-3 examinations.

TABLE 1.8-1
CODE OF FEDERAL REGULATIONS 10 CFR 50.55a REQUIREMENTS

10 CFR 50.55a Paragraphs	Limitations, Modifications, and Clarifications
10 CFR 50.55a(b)(2)(ix)(H)	**(CISI)** *Examination of metal containments and the liners of concrete containments:* Containment bolted connections that are disassembled during the scheduled performance of the examinations in Item E1.11 of Table IWE-2500-1 must be examined using the VT-3 examination method. Flaws or degradation identified during the performance of a VT-3 examination must be examined in accordance with the VT-1 examination method. The criteria in the material specification or IWB-3517.1 must be used to evaluate containment bolting flaws or degradation. As an alternative to performing VT-3 examinations of containment bolted connections that are disassembled during the scheduled performance of Item E1.11, VT-3 examinations of containment bolted connections may be conducted whenever containment bolted connections are disassembled for any reason.
10 CFR 50.55a(b)(2)(ix)(I)	**(CISI)** *Examination of metal containments and the liners of concrete containments:* The ultrasonic examination acceptance standard specified in IWE-3511.3 for Class MC pressure-retaining components must also be applied to metallic liners of Class CC pressure-retaining components.
10 CFR 50.55a(b)(2)(xi)	**(ISI)** *Class 1 piping:* Licensees may not apply IWB-1220, "Components Exempt from Examination," of Section XI, 1989 Addenda through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section, and shall apply IWB-1220, 1989 Edition.
10 CFR 50.55a(b)(2)(xviii)(A)	**(ISI)** *Certification of NDE personnel:* Level I and II nondestructive examination personnel shall be recertified on a 3-year interval in lieu of the 5-year interval specified in the 1997 Addenda and 1998 Edition of IWA-2314, and IWA-2314(a) and IWA-2314(b) of the 1999 Addenda through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section.

TABLE 1.8-1
CODE OF FEDERAL REGULATIONS 10 CFR 50.55a REQUIREMENTS

10 CFR 50.55a Paragraphs	Limitations, Modifications, and Clarifications
10 CFR 50.55a(b)(2)(xviii)(B)	**(ISI)** *Certification of NDE personnel:* Paragraph IWA-2316 of the 1998 Edition through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section, may only be used to qualify personnel that observe for leakage during system leakage and hydrostatic tests conducted in accordance with IWA-5211(a) and (b), 1998 Edition through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section.
10 CFR 50.55a(b)(2)(xviii)(C)	**(ISI)** *Certification of NDE personnel:* When qualifying visual examination personnel for VT-3 visual examinations under paragraph IWA-2317 of the 1998 Edition through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section, the proficiency of the training must be demonstrated by administering an initial qualification examination and administering subsequent examinations on a 3-year interval.
10 CFR 50.55a(b)(2)(xix)	**(ISI)** *Substitution of alternative methods:* The provisions for the substitution of alternative examination methods, a combination of methods, or newly developed techniques in the 1997 Addenda of IWA-2240 must be applied. The provisions in IWA-2240, 1998 Edition through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section, are not approved for use. The provisions in IWA-4520(c), 1997 Addenda through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section, allowing the substitution of alternative examination methods, a combination of methods, or newly developed techniques for the methods specified in the Construction Code are not approved for use.
10 CFR 50.55a(b)(2)(xxi)(B)	**(ISI)** *Table IWB-2500-1 examination requirements:* The provisions of Table IWB-2500-1, Examination Category B-G-2, Item B7.80, that are in the 1995 Edition are applicable only to reused bolting when using the 1997 Addenda through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section.

TABLE 1.8-1
CODE OF FEDERAL REGULATIONS 10 CFR 50.55a REQUIREMENTS

10 CFR 50.55a Paragraphs	Limitations, Modifications, and Clarifications
10 CFR 50.55a(b)(2)(xxii)	**(ISI)** *Surface Examination:* The use of the provision in IWA-2220, "Surface Examination," of Section XI, 2001 Edition through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section, that allow use of an ultrasonic examination method is prohibited.
10 CFR 50.55a(b)(2)(xxiv)	**(PDI)** *Incorporation of the Performance Demonstration Initiative and Addition of Ultrasonic Examination Criteria:* The use of Appendix VIII and the supplements to Appendix VIII and Article I-3000 of Section XI of the ASME BPV Code, 2002 Addenda through the latest Edition and Addenda incorporated by reference in Paragraph (b)(2) of this section, is prohibited.
10 CFR 50.55a(b)(2)(xxvii)	**(ISI)** *Removal of Insulation:* When performing visual examinations in accordance with IWA-5242 of Section XI, 2003 Addenda through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of the section, insulation must 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.
10 CFR 50.55a(b)(3)(v)	**(ISI)** *Subsection ISTD:* Article IWF-5000, "Inservice Inspection Requirements for Snubbers," of the ASME BPV Code, Section XI, provides inservice inspection requirements for examinations and tests of snubbers at nuclear power plants. Licensees may use Subsection ISTD, "Inservice Testing of Dynamic Restraints (Snubbers) in Light-Water Reactor Power Plants," ASME OM Code, 1995 Edition through the latest Edition and Addenda incorporated by reference in paragraph (b)(3) of this section, in place of the requirements for snubbers in Section XI, IWF-5200(a) and (b) and IWF-5300(a) and (b), by making appropriate changes to their technical specifications or licensee-controlled documents. Preservice and inservice examinations must be performed using the VT-3 visual examination method described in IWA-2213.

TABLE 1.8-1
CODE OF FEDERAL REGULATIONS 10 CFR 50.55a REQUIREMENTS

10 CFR 50.55a Paragraphs	Limitations, Modifications, and Clarifications
10 CFR 50.55a(b)(5)	**(ISI)** *Inservice Inspection Code Cases:* Licensees may apply the ASME Boiler and Pressure Vessel Code Cases listed in Regulatory Guide 1.147 through Revision 14, without prior USNRC approval subject to the following: (i) When a licensee initially applies a listed Code Case, the licensee shall apply the most recent version of that Code Case incorporated by reference in this paragraph. (ii) If a licensee has previously applied a Code Case and a later version of the Code Case is incorporated by reference in this paragraph, the licensee may continue to apply, to the end of the current 120-month interval, the previous version of the Code Case as authorized or may apply the later version of the Code Case, including any USNRC-specified conditions placed on its use. (iii) Application of an annulled Code Case is prohibited unless a licensee previously applied the listed Code Case prior to it being listed as annulled in Regulatory Guide 1.147. Any Code Case listed as annulled in any Revision of Regulatory Guide 1.147 which a licensee has applied prior to it being listed as annulled, may continue to be applied by that licensee to the end of the 120-month interval in which the Code Case was implemented.

TABLE 1.8-1
CODE OF FEDERAL REGULATIONS 10 CFR 50.55a REQUIREMENTS

10 CFR 50.55a Paragraphs	Limitations, Modifications, and Clarifications
10 CFR 50.55a(b)(6)	**(ISI)** *Operation and Maintenance of Nuclear Power Plants Code Cases:* Licensees may apply the ASME Operation and Maintenance Nuclear Power Plants Code Cases listed in Regulatory Guide 1.192 without prior USNRC approval subject to the following: (i) When a licensee initially applies a listed Code Case, the licensee shall apply the most recent version of that Code Case incorporated by reference in this paragraph. (ii) If a licensee has previously applied a Code Case and a later version of the Code Case is incorporated by reference in this paragraph, the licensee may continue to apply, to the end of the current 120-month interval, the previous version of the Code Case as authorized or may apply the later version of the Code Case, including any USNRC-specified conditions placed on its use. (iii) Application of an annulled Code Case is prohibited unless a licensee previously applied the listed Code Case prior to it being listed as annulled in Regulatory Guide 1.192. If a licensee has applied a listed Code Case that is later listed as annulled in Regulatory Guide 1.192, the licensee may continue to apply the Code Case to the end of the current 120-month interval.

1.9 Code Cases

Per 10 CFR 50.55a(b)(5) and (b)(6), ASME Code Cases that have been determined to be suitable for use in ISI Program Plans by the USNRC are listed in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability-ASME Section XI, Division 1". The approved Code Cases in Regulatory Guide 1.147, which are being utilized by LSCS, are included in Section 2.1.1. The most recent version of a given Code Case incorporated in the revision of Regulatory Guide 1.147 referenced in 10 CFR 50.55a(b)(5)(i) at the time it is applied within the ISI Program shall be used. The latest version of Regulatory Guide 1.147 incorporated into this document is Revision 14. As this guide is revised, newly approved Code Cases should be assessed for plan implementation at LSCS.

The use of other Code Cases (than those listed in Regulatory Guide 1.147) may be authorized by the Director of the office of Nuclear Reactor Regulation upon request pursuant to 10 CFR 50.55a(a)(3). Code Cases not approved for use in Regulatory Guide 1.147, which are being utilized by LSCS through associated relief requests, are included in Section 8.0.

This ISI Program Plan will also utilize Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code". The approved Code Case in Regulatory Guide 1.192, which is being utilized by LSCS, is included in Section 2.1.2. The latest version of Regulatory Guide 1.192 incorporated into this document is Revision 0. As this guide is revised, newly approved Code Cases should be assessed for plan implementation at LSCS.

1.10 Relief Requests

In accordance with 10 CFR 50.55a, when a licensee either proposes alternatives to ASME Section XI requirements which provide an acceptable level of quality and safety, determines compliance with ASME Section XI requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety, or determines that specific ASME Section XI requirements for inservice inspection are impractical, the licensee shall notify the USNRC and submit information to support the determination.

The submittal of this information will be referred to in this document as a "Relief Request". Relief Requests for the Third ISI Interval and the Second CISI Interval are included in Section 8.0 of this document. The text of the Relief Requests contained in Section 8.0 will demonstrate one of the following: the proposed alternatives provide an acceptable level of quality and safety per 10 CFR 50.55a(a)(3)(i), compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety per 10 CFR 50.55a(a)(3)(ii), or the code requirements are considered impractical per 10 CFR 50.55a(g)(5)(iii).

Per 10 CFR 50.55a Paragraphs (a)(3) and (g)(6)(i), the Director of the Office of Nuclear Reactor Regulation will evaluate relief requests and "may grant such relief and may impose such alternative requirements as it determines is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility".

2.0 BASIS FOR INSERVICE INSPECTION PROGRAM

2.1 ASME Section XI Examination Requirements

As required by the 10 CFR 50.55a, this Program was developed in accordance with the requirements detailed in the 2001 Edition through the 2003 Addenda, of the ASME Boiler and Pressure Vessel Code, Section XI, Division 1, Subsections IWA, IWB, IWC, IWD, IWE, IWF, IWL, Mandatory Appendices, Inspection Program B of IWA-2432, approved ASME Code Cases, and approved alternatives through relief requests and Safety Evaluation Reports (SER's).

The ISI Program implements Appendix VIII "Performance Demonstration for Ultrasonic Examination Systems," ASME Section XI 2001 Edition, No Addenda as required by 10 CFR 50.55a(b)(2)(xxiv). Appendix VIII requires qualification of the procedures, personnel, and equipment used to detect and size flaws in piping, bolting, and the reactor pressure vessel (RPV). Each organization (e.g., owner or vendor) will be required to have a written program to ensure compliance with the requirements. These requirements were initially implemented through the Performance Demonstration Initiative (PDI) Program according to the schedule defined in 10 CFR 50.55a(g)(6)(ii)(C).

For the Third Inspection Interval, LSCS's inspection program for ASME Section XI Examination Categories B-F, B-J, C-F-1, and C-F-2 will be governed by risk-informed regulations. The RISI program methodology is described in the EPRI Topical Report TR-112657, Rev. B-A. To supplement the EPRI Topical Report, Code Case N-578-1 (as applicable per Relief Request I3R-01) is also being used for the classification of piping structural elements under the RISI program. The RISI program scope has been implemented as an alternative to the 2001 Edition through the 2003 Addenda of the ASME Section XI Code examination program for Class 1 B-F and B-J welds and Class 2 C-F-1 and C-F-2 welds in accordance with 10 CFR 50.55a(a)(3)(i). The basis for the resulting Risk Categorizations of the nonexempt Class 1 and 2 piping systems at LSCS is defined and maintained in the Final Report "Risk Informed Inservice Inspection Evaluation" as referenced in Section 9.0 of this document.

For the Third Inspection Interval, the RISI program scope has been expanded to include welds in the BER piping, also referred to as the HELB region. The BER program methodology is described in EPRI Topical Report TR-1006937, Rev. 0-A, which has been used to define the inspection scope in lieu of the 100% examination of all piping welds in the previous BER augmented program. Therefore, all welds in the original augmented program for BER were evaluated under the RISI program using an integrated risk-informed approach.

2.1.1 ASME Section XI Code Cases

As referenced by 10 CFR 50.55a(b)(5) and allowed by USNRC Regulatory Guide 1.147, Revision 14, the following Code Cases are being incorporated into the LSCS ISI Program. Several of these Code Cases are included as contingencies, to ensure that they are available for future repair/replacement activities.

N-432-1 Repair Welding Using Automatic or Machine Gas Tungsten-Arc Welding (GTAW) Temper Bead Technique

N-460 Alternative Examination Coverage for Class 1 and Class 2 Welds

N-504-2 Alternative Rules for Repair of Class 1, 2, and 3 Austenitic Stainless Steel Piping

Code Case N-504-2 is acceptable subject to the following condition specified in Regulatory Guide 1.147, Revision 14:

> The provisions of Section XI, Nonmandatory Appendix Q, "Weld Overlay Repair of Class 1, 2, and 3 Austenitic Stainless Steel Piping Weldments," must also be met.

N-508-2 Rotation of Serviced Snubbers and Pressure Relief Valves for the Purpose of Testing

N-513-1 Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping

Code Case N-513-1 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 14:

(1) The specific safety factors in paragraph 4.0 must be satisfied.
(2) and the Code Case may not be applied to:
  (a) Components other than pipe and tubing.
  (b) Leakage through a gasket.
  (c) Threaded connections employing nonstructural seal welds for leakage prevention (through seal weld leakage is not a structural flaw; thread integrity must be maintained).
  (d) Degraded socket welds.

N-516-3 Underwater Welding

Code Case N-516-3 is acceptable subject to the following condition specified in Regulatory Guide 1.147, Revision 14:

> Licensee must obtain USNRC approval in accordance with 10 CFR 50.55a(a)(3) regarding the technique to be used in the weld repair or replacement of irradiated material underwater.

N-517-1 Quality Assurance Program Requirements for Owners

Code Case N-517-1 is acceptable subject to the following condition specified in Regulatory Guide 1.147, Revision 14:

> The Owner's Quality Assurance (QA) Program that is approved under Appendix B to 10 CFR Part 50 must address the use of this Code Case and any unique QA requirements identified by the Code Case that are not contained in the owner's QA Program description. This would include the activities performed in accordance with this Code Case that are subject to monitoring by the Authorized Nuclear Inspector.

N-526 Alternative Requirements for Successive Inspections of Class 1 and 2 Vessels

N-528-1 Purchase, Exchange, or Transfer of Material Between Nuclear Plant Sites

Code Case N-528-1 is acceptable subject to the following condition specified in Regulatory Guide 1.147, Revision 14:

> The requirements of 10 CFR Part 21 are to be applied to the nuclear plant site supplying the material as well as to the nuclear plant site receiving the material that has been purchased, exchanged, or transferred between sites.

N-552 Alternative Methods - Qualification for Nozzle Inside Radius Section from the Outside Surface

Code Case N-552 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 14:

> To achieve consistency with the 10 CFR 50.55a rule change published September 22, 1999 (64 FR 51370), incorporating Appendix VIII, "Performance Demonstration for Ultrasonic Examination Systems," to ASME Section XI, add the following to the specimen requirements:
>
> "At least 50 percent of the flaws in the demonstration test set must be cracks and the maximum misorientation must be demonstrated with cracks. Flaws in nozzles with bore diameters equal to or less than 4 inches may be notches."
>
> Add to detection criteria, "The number of false calls must not exceed three."

N-566-2 Corrective Action for Leakage Identified at Bolted Connections

N-586 Alternative Additional Examination Requirements for Class 1, 2, and 3 Piping, Components, and Supports

Code Case N-586 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 14:

> The engineering evaluations addressed under Item (a) and the additional examinations addressed under Item (b) shall be performed during this outage. If the additional examinations performed under Item (b) reveal indications exceeding the applicable acceptance criteria of Section XI, the engineering evaluations and the examinations shall be further extended to include additional evaluations and examinations at this outage.

N-597-1 Requirements for Analytical Evaluation of Pipe Wall Thinning

Code Case N-597-1 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 14:

(1) Code Case must be supplemented by the provisions of EPRI Nuclear Safety Analysis Center Report 202L-R2, April 1999, "Recommendations for an Effective Flow Accelerated Corrosion Program," for developing the inspection requirements, the method of predicting the rate of wall thickness loss, and the value of the predicted remaining wall thickness. As used in NSAC-202L-R2, the terms "should" and "shall" have the same expectation of being completed.

(2) Components affected by flow-accelerated corrosion to which this Code Case are applied must be repaired or replaced in accordance with the construction code of record and Owner's requirements or a later USNRC approved Edition of Section III of the ASME Code prior to the value of t_p reaching the allowable minimum wall thickness, t_{min}, as specified in -3622.1(a)(1) of this Code Case. Alternatively, use of the Code Case is subject to USNRC review and approval.

(3) For Class 1 piping not meeting the criteria of -3221, the use of evaluation methods and criteria is subject to USNRC review and approval.

(4) For those components that do not require immediate repair or replacement, the rate of wall thickness loss is to be used to determine a suitable inspection frequency so that repair or replacement occurs prior to reaching allowable minimum wall thickness, t_{min}.

(5) For corrosion phenomenon other than flow accelerated corrosion, use of the Code Case is subject to USNRC review and approval. Inspection plans and wall thinning rates may be difficult to justify for certain degradation mechanisms such as MIC and pitting.

N-600 — Transfer of Welder, Welding Operator, Brazer, and Brazing Operator Qualifications Between Owners

N-606-1 — Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique for BWR CRD Housing/Stud Tube Repairs

Code Case N-606-1 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 14:

Prior to welding, an examination or verification must be performed to ensure proper preparation of the base metal, and that the surface is properly contoured so that an acceptable weld can be produced. The surfaces to be welded, and surfaces adjacent to the weld, are to be free from contaminants, such as, rust, moisture, grease, and other foreign material or any other condition that would prevent proper welding and adversely affect the quality or strength of the weld. This verification is to be required in the welding procedures.

N-613-1 Ultrasonic Examination of Full Penetration Nozzles in Vessels, Examination Category B-D, Item No's. B3.10 and B3.90, Reactor Nozzle-to-Vessel Welds, Figs. IWB-2500-7(a), (b), and (c)

N-624 Successive Inspections

N-638-1 Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique

Code Case N-638-1 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 14:

UT examinations shall be demonstrated for the repaired volume using representative samples which contain construction type flaws. The acceptance criteria of NB-5330 of Section III Edition and Addenda approved in 10 CFR 50.55a apply to all flaws identified within the repaired volume.

N-639 Alternative Calibration Block Material

Code Case N-639 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 14:

Chemical ranges of the calibration block may vary from the materials specification if (1) it is within the chemical range of the component specification to be inspected, and (2) the phase and grain shape are maintained in the same ranges produced by the thermal process required by the material specification.

N-648-1 Alternative Requirements for Inner Radius Examination of Class 1 Reactor Vessel Nozzles

Code Case N-648-1 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 14:

> 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.

N-649 Alternative Requirements for IWE-5240 Visual Examination

N-651 Ferritic and Dissimilar Metal Welding Using SMAW Temper Bead Technique Without Removing the Weld Bead Crown of the First Layer

N-661 Alternative Requirements for Wall Thickness Restoration of Classes 2 and 3 Carbon Steel Piping for Raw Water Service

Code Case N-661 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 14:

(a) If the root cause of the degradation has not been determined, the repair is only acceptable for one cycle.
(b) Weld overlay repair of an area can only be performed once in the same location.
(c) When through-wall repairs are made by welding on surfaces that are wet or exposed to water, the weld overlay repair is only acceptable until the next refueling outage.

N-664 Performance Demonstration Requirements for Examination of Unclad Reactor Pressure Vessel Welds, Excluding Flange Welds

N-695 Qualification Requirements for Dissimilar Metal Piping Welds

Additional Code Cases invoked in the future shall be in accordance with those approved for use in the latest published revision of Regulatory Guide 1.147 at that time.

2.1.2 OM Code Cases

As referenced by 10 CFR 50.55a(b)(6) and allowed by USNRC Regulatory Guide 1.192, Revision 0, the following Code Case is being incorporated into the LSCS ISI Program:

OMN-13, Rev. 0 Requirements for Extending Snubber Inservice Visual Examination Interval at LWR Power Plants, OM Code.

Additional Code Cases invoked in the future shall be in accordance with those approved for use in the latest published revision of Regulatory Guide 1.192 at that time.

2.2 Augmented Examination Requirements

Augmented examination requirements are those examinations that are performed above and beyond the requirements of ASME Section XI. Below is a summary of those examinations performed by LSCS that are not specifically addressed by ASME Section XI, or the examinations that will be performed in addition to the requirements of the Code on a routine basis during the Third Inspection Interval. Previous revisions of LSCS's ISI Program categorized some Augmented Inservice Inspections by using AUG types.

2.2.1 Generic Letter 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping," Revision 2 / Supplement 1 to Generic Letter 88-01, NUREG 0313, "Technical Report on Material Selection and Process Guidelines for BWR Coolant Pressure Boundary Piping," Revision 2, and EPRI Report TR-113932 "BWR Vessel and Internals Project Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75)," as conditionally approved by USNRC final SER dated May 14, 2002.

These documents discuss the examination requirements for Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping. References to Generic Letter 88-01 (GL 88-01) within the ISI Program refer to the comprehensive commitments to all of these documents. The final SER of BWRVIP-75 revised the GL 88-01 inspection schedules. The BWRVIP-75 revised inspection schedules were

based on consideration of inspection results and service experience gained by the industry since issuance of GL 88-01 and NUREG-0313, and includes additional knowledge regarding the benefits of improved BWR water chemistry.

The original LSCS commitments concerning Generic Letter 88-01 were sent to the USNRC in letters dated July 29, 1988, June 30, 1989, and November 5, 1990. The USNRC reviewed these commitments in a letter dated August 22, 1990. Since the issuance of GL 88-01, the BWR Vessels and Internals Project (BWRVIP) has been created. This BWR owners group has worked on the mitigation of IGSCC for BWR internal components. As part of their activities, Topical Report BWRVIP-75, "Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules", was submitted to the USNRC. Among other issues, this document proposed alternative inspection schedules for IGSCC susceptible welds. Two different inspection schedules were presented; one for plants on Normal Water Chemistry (NWC) and one for plants on effective Hydrogen Water Chemistry (HWC). The HWC schedule may be utilized if the applicable performance criteria are met.

After review of BWRVIP-75, the USNRC issued a Safety Evaluation Report (SER) approving the document with minor changes. (Letter from USNRC to Carl Terry, BWRVIP Chairman, "Final Safety Evaluation of the BWRVIP Vessels and Internals Project, BWR Vessel and Internals Project, Technical Basis for Revisions to Generic letter 88-01 Inspection Schedules (BWRVIP-75)", dated May 14, 2002.)

Based upon USNRC endorsement of BWRVIP-75, the LSCS conformance to GL 88-01 inspection schedules was changed to BWRVIP-75 for NWC plants except for Category A welds. (See Risk-Informed Inservice Inspection discussion below and BWRVIP discussion in Section 2.2.4) The BWRVIP-75 interval began on January 1, 2003 for both Units 1 and 2.

RISI regulations are being invoked for LSCS in this ISI Program Plan. Under these new guidelines, Class 1 and 2 piping structural elements are inspected in accordance with EPRI Topical Reports 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 existing IGSCC schedules, while IGSCC Category A welds have been subsumed into the RISI program.

Implementation of the LSCS program addressing these documents is included in Exelon Nuclear Procedure ER-AA-330-002, Section 7.0 of this ISI Program Plan, and the associated ISI Database.

2.2.2 Boiling Water Reactor Owners' Group (BWROG) Report GE-NE-523-A71-0594, Revision 1, "Alternate BWR Feedwater Nozzle Inspection Requirements, August 1999," as conditionally approved by USNRC final SER dated March 10, 2000, and USNRC NUREG 0619, BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking, dated November 1980

These documents discuss the current and initial examination requirements for BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking. The alternate approach was developed and submitted to the USNRC by the BWROG. The USNRC conditionally accepted these alternate requirements in the BWROG - Safety Evaluation of Proposed Alternative to BWR Feedwater Nozzle Inspections, dated June 5, 1998.

LSCS committed to the initial examination requirements of USNRC NUREG 0619 in letters to the USNRC dated July 23, 1980, October 2, 1981, and December 8, 1981; and through responses to USNRC FSAR questions 111.35, 121.5, and 121.10. Future inspections will comply with BWROG "Alternate BWR Feedwater Nozzle Inspection Requirements," GE-NE-523-A71-0594-A, Revision 1, dated May 2000 as accepted by USNRC SER (TAC NO. MA6787) dated March 10, 2000.

Implementation of the examination commitments is included in Section 7.0 of this ISI Program Plan and the associated ISI Database.

Previous revisions of LSCS's ISI Program classified augmented examinations of the Feedwater Nozzle Inner Radii, Nozzle Bores, Nozzle Safe Ends and Spargers as Type 1B Augmented Inservice Inspections.

2.2.3 10 CFR 50.55a(g)(6)(ii)(A), Augmented Examination of Reactor Pressure Vessel

Effective September 8, 1992, 10 CFR 50.55a(g)(6)(ii)(A) required implementation of Augmented Inservice 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 LSCS Units 1 and 2. Per the LSCS letter to the USNRC dated February 5, 1996, the LSCS Units 1 and 2 ISI Program complied with the regulations for the First ISI Interval.

The Second Interval ISI Program for LSCS Units 1 and 2 was prepared in accordance with, and complied with, the 1989 Edition, No Addenda of ASME Section XI, as referenced in 10 CFR 50.55a(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 o.d. 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 CR-38 was written by LSCS for the use of Technical Report TR-105697, "BWR Reactor Pressure Vessel Shell Weld Inspection Recommendations (BWRVIP-05)," Electric Power Research Institute, dated September 1995 for LSCS Units 1 and 2. Approval was authorized by the USNRC for permanent relief of the RPV shell welds for the rest of the interval and the remaining term of the initial operating licenses (See below for more details).

This Third ISI Interval augmented ISI Program addresses the specific steps taken by LSCS Units 1 and 2 to satisfy the USNRC augmented examination requirements mandated by 10 CFR 50.55a(g)(6)(ii)(A), including alternatives agreed to by the USNRC and Exelon.

The examinations of RPV shell welds, Examination Category B-A, Item Number B1.10, at LSCS, will be conducted in accordance with Relief Request I3R-06. This Third ISI Interval Relief Request I3R-06 was previously submitted and approved under the Second Interval ISI Program Plan as Relief Request CR-38. The approval authorized under USNRC final SER dated January 28, 2004 was for permanent relief and thus applies to the remaining term of the initial operating licenses, including this Third 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 remaining term of the initial operating licenses. The examinations of the 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.

LSCS compliance with 10 CFR 50.55a(g)(6)(ii)(A) is documented in a letter to the USNRC dated February 5, 1996. Subsequently, the USNRC issued a SER dated January 28, 2004 accepting Second ISI Interval Relief Request CR-38.

Implementation of the examination commitments is included in Section 7.0 of this ISI Program Plan and the associated ISI Database.

2.2.4 BWR Vessel and Internals Project (BWRVIP)

Increased awareness of the presence of in-vessel component degradation has led to the formation of the BWRVIP. BWRVIP is an association of BWR utilities focused on the common purpose of investigating and developing effective, acceptable approaches for addressing in-vessel component degradation through improved detection, mitigation, and/or repair techniques. In accordance with the BWRVIP charter, the organization is tasked with providing generic resolution to BWR issues and representing the member utilities in negotiating with the USNRC for approval of the group's recommended actions. Exelon, as a member utility of the BWRVIP, has endorsed the objectives prescribed by the BWRVIP.

The BWRVIP is comprised of a series of Inspection & Evaluation Guidelines and documents that discuss RPV internals. The BWRVIP encompasses pertinent information and requirements presented in I.E. Bulletins (IEBs), General Electric Service Information Letters (SIL's), and Rapid Information Communication Services Information Letters (RICSIL's).

Exelon's commitments to the BWRVIP are discussed in BWRVIP letters to the USNRC dated May 30, 1997 and October 30, 1997. The USNRC's response to the discussion of BWRVIP utility commitments is discussed in an USNRC letter to the BWRVIP dated July 29, 1997.

Implementation of the LSCS program addressing these documents is included in Exelon Nuclear Procedure ER-AA-330-002.

Previous revisions of LSCS's ISI Program classified augmented examinations of the High and Low Pressure Core Spray Spargers and the associated piping inside the Reactor Pressure Vessel as Type 1C augmented inservice inspections.

2.2.5 USNRC Branch Technical Position MEB 3-1, dated November 1975

The USNRC Branch Technical Position MEB 3-1 discusses protection against postulated piping failures in fluid systems outside containment, and includes requirements for licensees to perform 100% volumetric examination of circumferential and longitudinal pipe welds within the pipe break exclusion areas associated with high energy piping in containment penetration areas.

LSCS has committed to the requirements of the USNRC Branch Technical Position MEB 3-1 per letters to the USNRC date February 5, 1996 and May 9, 1996. Updated Final Safety Analysis Report (UFSAR) Sections

3.6.1 and 3.6.2 detail LSCS's compliance with USNRC Branch Technical Position MEB 3-1.

Implementation of the examination commitments is included in Section 7.0 of this ISI Program Plan and the associated ISI Database.

Previous revisions of LSCS's ISI Program classified augmented examinations of ASME Examination Category B-F and B-J welds within high energy line break exclusion regions identified in the FSAR, as Type 1A augmented inservice inspections.

Note: This commitment was previously maintained in accordance with UFSAR Section 3.6.1 and 3.6.2. With the implementation of the RISI-BER Program, all BER augmented welds were evaluated under the RISI methodology and were integrated into the RISI Program. Additional guidance for adaptation of the RISI evaluation process to BER piping is given in EPRI TR-1006937 Rev. 0-A.

2.2.6 USNRC NUREG-0737, dated November 1980 / USNRC NUREG 0578, dated July 1979.

This document discusses TMI Action Plan Requirements, and includes requirements 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.

LSCS has committed to the requirements of this document Item as discussed in TRM Section 5.0. Commitments made concerning NUREG-0737 are required to be maintained per the LSCS TRM.

Implementation of the LSCS program addressing these requirements is included in LTS-300-07 and LAP-100-14. These procedures address the use of NUREG-0578, Item 2.1.6.a, the predecessor to NUREG-0737.

2.2.7 Technical Requirements Manual Section 2.1.a, Diesel Oil Pressure Testing

A pressure test of the diesel generator fuel oil system designed to Subsection ND, of ASME Section III, is required to be performed every 10 years per LSCS TRM 2.1.a.

Implementation of the examination commitments is included in Section 7.0 of this ISI Program Plan and associated ISI Database.

2.3 System Classifications and P&ID Boundary Drawings

The ISI Classification Basis Document details those systems that are ISI Class 1, 2, 3, or MC that fall within the ISI scope of examinations. The concrete

containment structure is ISI Class CC and is shown on the containment roll-out drawings. Below is a summary of the classification criteria used within the ISI Classification Basis Document.

Each safety related, fluid system containing water, steam, air, oil, etc. included in the LSCS UFSAR was reviewed to determine which safety functions they perform during all modes of system and plant operation. Based on these safety functions, the systems and components were evaluated per classification documents. The systems were then designated as ISI Class 1, 2, 3, MC, or non-classed accordingly.

When a particular group of components is identified as performing an ISI Class 1, 2, or 3 safety function, the components are further reviewed to assure the interfaces (boundary valves and boundary barriers) meet the criteria set by 10 CFR 50.2, 10 CFR 50.55a(c)(1), 10 CFR 50.55a(c)(2), and Regulatory Guide 1.26, Revision 3. SRP 3.2.2 and ANSI/ANS-58.14-1993 (LSCS is not committed to or licensed in accordance with these documents) were also used for guidance in determining the classification boundaries where 10 CFR and the Regulatory Guide did not address a given situation.

According to 10 CFR 50.55a, Paragraph (g)(4), the ISI requirements of ASME Section XI are assigned to these components, within the constraints of existing plant design. The LSCS ISI Class 1, 2, and 3 components that are exempt from examination are those which meet the criteria of ASME Section XI, Subarticles IWB-1220, IWC-1220, and IWD-1220. Supports which meet the criteria of Subarticle IWF-1230 of ASME Section XI are also exempt from examination. For Containment, Class MC components which meet IWE-1220 are exempt from examination, and Class CC components which meet IWL-1220 are exempt from examination. LSCS's ISI Program, including the ISI Database, basis document, and schedule, addresses the nonexempt components which require examination and testing.

The systems and components (piping, pumps, valves, vessels, etc.), which are subject to the examinations of Articles IWB-2000, IWC-2000, IWD-2000, and IWF-2000 are identified on the Piping & Instrument Diagrams (P&IDs) and Control & Instrument Diagrams (C&IDs) within the ISI classification flags as detailed in Tables 2.3-1 and 2.3-2. The exempt components are also identified on these diagrams with various flag codes.

TABLE 2.3-1
LSCS P&ID BOUNDARY DRAWINGS

UNIT 1 & Common	UNIT 2	TITLE
M-55, SH. 1, 2, 3, 7	M-116, SH. 1, 2, 3, 7	Main Steam (MS)
M-56, SH. 2, 3, 4	M-117, SH. 2, 3, 4	Extraction Steam (ES)
M-57, SH. 1	M-118, SH. 1	Feedwater (FW)
M-66, SH. 1, 2, 7	M-66, SH. 3, 4, 7, 8	Drywell Pneumatic (IN)
M-75, SH. 2	M-75, SH. 4	Clean Condensate Storage (MC)
M-82, SH. 3	M-82, SH. 5	Service Air (SA)
M-86, SH. 1	M-133, SH. 1	Primary Containment Chilled Water (VP)
M-87, SH. 1, 2, 3	M-134, SH. 1, 2, 3	Core Standby Cooling System and Equipment Cooling Water System (CSCS & ECWS)
M-89, SH. 1 & M-153 SH. 1, 7	M-89, SH. 1 & M-105 SH. 1	Standby Gas Treatment (SBGT)
M-90, SH. 2	M-136, SH. 2	Reactor Building Closed Cooling Water (WR)
M-91, SH. 4	M-137, SH. 4	Reactor Building Equipment Drains (RF)
M-92, SH. 1, 2	M-138, SH. 1, 2	Primary Containment Vent And Purge (VQ)
M-93, SH. 1, 2, 3, 4, 5, 6	M-139, SH. 1, 2, 3, 4, 5	Nuclear Boiler And Reactor Recirculating (NB & RR)
M-94, SH. 1	M-140, SH. 1	Low Pressure Core Spray (LP, LPCS)
M-95, SH. 1	M-141, SH. 1	High Pressure Core Spray (HP, HPCS)
M-96, SH. 1, 2, 3, 4	M-142, SH. 1, 2, 3, 4	Residual Heat Removal (RH, RHRS)
M-97, SH. 1	M-143, SH. 1	Reactor Water Cleanup (RT, RWCU)
M-98, SH. 1	M-144, SH. 1	Fuel Pool Cooling And Demineralizing (FC)
M-99, SH. 1	M-145, SH. 1	Standby Liquid Control (SC)
M-100, SH. 2, 3, 4, 5	M-146, SH. 2, 3, 4, 6	Control Rod Drive Hydraulics (RD)
M-101, SH. 1, 2	M-147, SH. 1, 2	Reactor Core Isolation Coolant (RI, RCIC)
M-130, SH. 1	M-130, SH. 2	Containment Combustible Gas Control (HG)
M-156, SH. 1, 2, 3, 4	M-158, SH. 1, 2, 3, 4	Containment Monitoring (CM, CAM)

TABLE 2.3-2
LSCS C&ID BOUNDARY DRAWINGS

UNIT 1 & Common	UNIT 2	TITLE
M-2055 SH. 1, 3, 4, 5, 6, 7, 8, 9, 10	M-2116, SH. 1, 3, 4, 5, 6, 7, 8, 9, 10	Main Steam System (MS)
M-2087 SH. 1	M-2134 SH. 1	CSCS Equipment Cooling Water System (RH)
M-2089 SH. 11	M-2089 SH. 23	Air Flow Proof INTLK and Recording On 1PM07J and 2PM07J
M-2093, SH. 1, 2, 3, 4, 5, 6, 7, 8	M-2139, SH. 1, 2, 3, 4, 5, 6, 7, 8	Reactor Recirculating System (RR)
M-2094, SH. 1	M-2140, SH. 1	Low Pressure Core Spray System (LP)
M-2095 SH. 1, 2	M-2141 SH. 1, 2	High Pressure Core Spray System (HP)
M-2096, SH. 1, 2, 3, 4, 5	M-2142, SH. 1, 2, 3, 4, 5	Residual Heat Removal System (RH)
M-2097, SH. 1, 2	M-2143, SH. 1, 2	Reactor Water Cleanup System (RT)
M-2101, SH. 1	M-2147, SH. 1	Reactor Core Isolation Coolant System (RI)

2.4 ISI Isometric and Component Drawings for Nonexempt ISI Class Components and Supports

ISI Isometric and Component Drawings were developed to detail the ISI Class 1, 2, and 3 components (welds, bolting, etc.) and support locations at LSCS. These ISI component and support locations are identified on the ISI Isometric and Component Drawings listed in Table 2.4-1. The CISI Class MC and CC components are identified on the CISI Reference Drawings listed in Table 2.4-2.

LSCS's ISI Program, including the ISI Database, ISI Classification Basis Document, and ISI Selection Document, addresses the nonexempt components, which require examination and testing.

A summary of LSCS Units 1 and 2 ASME Section XI nonexempt components and supports is included in Section 7.0.

TABLE 2.4-1
LSCS ISI ISOMETRIC AND COMPONENT DRAWINGS

UNIT 1 & Common	UNIT 2	TITLE
ISI-GEL-1003, 1004, 1006, 1009, 1049, 1050, 1093, 1094, 1095, 1097, 1098, 1099, 1101, 1102, 1104, 1107, 1109	ISI-GEL-1005, 1060, 1061, 1093, 1094, 1095, 1100, 1105, 1106, 1107, 1108, 1110, 1111, 1112, 1119, 2049, 2050	Component Details
ISI-HG-1001, 1002	ISI-HG-2001, 2002	Containment Combustible Gas Control
ISI-FC-1029	ISI-FC-2006, 2007	Fuel Pool Cooling and Demineralizing
ISI-FW-1001 through ISI-FW-1003	ISI-FW-2001, 2002, 2004, 2005	Feedwater
ISI-HP-1001 through ISI-HP-1007	ISI-HP-2001 through ISI-HP-2008	High Pressure Core Spray
ISI-LP-1001 through ISI-LP-1003, ISI-LP-1010 through ISI-LP-1014	ISI-LP-2001 through ISI-LP-2004, ISI-LP-2010 through ISI-LP-2014	Low Pressure Core Spray
ISI-MS-1001 through ISI-MS-1046, ISI-MS-1048 through ISI-MS-1060	ISI-MS-2001 through ISI-MS-2046 ISI-MS-2048 through ISI-MS-2060	Main Steam
ISI-NB-1001, 1002, 1003	ISI-NB-2001, 2002, 2003	Nuclear Boiler
ISI-RR-1001 through ISI-RR-1003, ISI-RR-1005 through ISI-RR-1010	ISI-RR-2001 through ISI-RR-2003, ISI-RR-2005 through ISI-RR-2010	Reactor Recirculating
ISI-RI-1001 through ISI-RI-1022, ISI-RI-1026 through ISI-RI-1029	ISI-RI-2001 through ISI-RI-2123, ISI-RI-2028 through ISI-RI-2130	Reactor Core Isolation Coolant
ISI-RT-1001	ISI-RT-2001	Reactor Water Cleanup
ISI-RH-1001 through ISI-RH-1025, ISI-RH-1027 through ISI-RH-1078, ISI-RH-1126 through ISI-RH-1128	ISI-RH-2001 through ISI-RH-2025, ISI-RH-2027 through ISI-RH-2056, ISI-RH-2058 through ISI-RH-2083	Residual Heat Removal
ISI-SC-1001, 1002, 1003	ISI-SC-2001, 2002, 2003	Standby Liquid Control

TABLE 2.4-2
LSCS CISI REFERENCE DRAWINGS

UNIT 1	UNIT 2	TITLE
1-CISI-1000 SH. 1	2-CISI-1000 SH. 1	IWE COMPONENT ROLLOUT INSIDE CONTAINMENT LINER (DRYWELL) VIEW LOOKING OUT 0° TO 180° AZIMUTH
1-CISI-1000 SH. 2	2-CISI-1000 SH. 2	IWE COMPONENT ROLLOUT INSIDE CONTAINMENT LINER (DRYWELL) VIEW LOOKING OUT 180° TO 360° AZIMUTH
1-CISI-1000 SH. 3	2-CISI-1000 SH. 3	CONTAINMENT LINER (SUPPRESSION POOL) INSIDE LOOKING OUT 0° TO 360° AZIMUTH
-	2-CISI-1000 SH. 4	IWE COMPONENT DRAWING SUPPRESSION POOL FLOOR LINER PLAN EL. 673' - 4
1-CISI-1000 SH. 4A	2-CISI-1000 SH. 4A	IWE COMPONENT DRAWING SUPPRESSION POOL FLOOR LINER PLAN EL. 673' - 4" 270° TO 360° AZIMUTH
1-CISI-1000 SH. 4B	2-CISI-1000 SH. 4B	IWE COMPONENT DRAWING SUPPRESSION POOL FLOOR LINER PLAN EL. 673' - 4" 0° TO 90° AZIMUTH
1-CISI-1000 SH. 4C	2-CISI-1000 SH. 4C	IWE COMPONENT DRAWING SUPPRESSION POOL FLOOR LINER PLAN EL. 673' - 4" 180° TO 270° AZIMUTH
1-CISI-1000 SH. 4D	2-CISI-1000 SH. 4D	IWE COMPONENT DRAWING SUPPRESSION POOL FLOOR LINER PLAN EL. 673' - 4" 90° TO 180° AZIMUTH
1-CISI-1000 SH. 5	2-CISI-1000 SH. 5	IWE COMPONENT DETAIL SUPPRESSION POOL CEILING PLAN VIEW
1-CISI-1000 SH. 6A	2-CISI-1000 SH. 6A	IWE COMPONENTS DRYWELL HEAD DETAILS
1-CISI-1000 SH. 6B	2-CISI-1000 SH. 6B	IWE COMPONENTS DRYWELL HEAD DETAILS
1-CISI-1000 SH. 6C	2-CISI-1000 SH. 6C	IWE COMPONENTS DRYWELL HEAD DETAILS
1-CISI-1000 SH. 7	2-CISI-1000 SH. 7	IWE COMPONENT DETAIL CRD REMOVAL HATCH
1-CISI-1000 SH. 8	2-CISI-1000 SH. 8	IWE COMPONENT DETAIL SUPPRESSION CHAMBER ACCESS HATCH PENETRATIONS M-113 & M-114
1-CISI-1000 SH. 9A	2-CISI-1000 SH. 9A	IWE COMPONENT DETAIL PERSONNEL AIR LOCK
1-CISI-1000 SH. 9B	2-CISI-1000 SH. 9B	IWE COMPONENT DETAIL PERSONNEL AIR LOCK
1-CISI-1000 SH. 9C	2-CISI-1000 SH. 9C	IWE COMPONENT DETAIL PERSONNEL AIR LOCK
1-CISI-1000 SH. 9D	2-CISI-1000 SH. 9D	IWE COMPONENT DETAIL PERSONNEL AIR LOCK
1-CISI-1000 SH. 10	2-CISI-1000 SH. 10	IWE COMPONENT DETAIL EQUIPMENT HATCH

TABLE 2.4-2
LSCS CISI REFERENCE DRAWINGS

UNIT 1	UNIT 2	TITLE
1-CISI-1000 SH. 11	2-CISI-1000 SH. 11	TYPICAL IWE COMPONENT SURFACE AND ATTACHMENT DETAILS
1-CISI-1000 SH. 12A	2-CISI-1000 SH. 12A	IWE COMPONENT DRAWING VENT SYSTEM DOWNCOMBER DETAILS
1-CISI-1000 SH. 12B	2-CISI-1000 SH. 12B	IWE COMPONENT DRAWING VENT SYSTEM DOWNCOMBER STIFFENER DETAILS AT EL. 722'-0"
1-CISI-1000 SH. 12C	2-CISI-1000 SH. 12C	IWE COMPONENT DRAWING REACTOR CONTAINMENT SRV PIPE SUPPORT LOCATION PLAN AT EL. 720'-0"
1-CISI-1000 SH. 12D	2-CISI-1000 SH. 12D	IWE COMPONENT DRAWING REACTOR CONTAINMENT SRV PIPE SUPPORT LOCATION PLAN AT EL. 706'-101/2"
1-CISI-1000 SH. 12E	2-CISI-1000 SH. 12E	IWE COMPONENT DRAWING VENT SYSTEM DOWNCOMBER STIFFENER DETAILS AT EL. 697'-1"
1-CISI-1000 SH. 12F	2-CISI-1000 SH. 12F	IWE COMPONENT DRAWING REACTOR CONTAINMENT SRV PIPE SUPPORT LOCATION PLAN AT EL. 686'-41/2"
1-CISI-1000 SH. 13A	2-CISI-1000 SH. 13A	IWE COMPONENT DETAIL DRYWELL/SUPPRESSION CHAMBER VACUUM BREAKER LINE LOOP A
1-CISI-1000 SH. 13B	2-CISI-1000 SH. 13B	IWE COMPONENT DETAIL DRYWELL/SUPPRESSION CHAMBER VACUUM BREAKER LINE LOOP B
1-CISI-1000 SH. 13C	2-CISI-1000 SH. 13C	IWE COMPONENT DETAIL DRYWELL/SUPPRESSION CHAMBER VACUUM BREAKER LINE LOOP C
1-CISI-1000 SH. 13D	2-CISI-1000 SH. 13D	IWE COMPONENT DETAIL DRYWELL/SUPPRESSION CHAMBER VACUUM BREAKER LINE LOOP D
1-CISI-1000 SH. 13E	2-CISI-1000 SH. 13E	IWE COMPONENT DETAIL DRYWELL/SUPPRESSION CHAMBER VACUUM BREAKER
1-CISI-1000 SH. 13F	2-CISI-1000 SH. 13F	IWE COMPONENT DETAIL DRYWELL/SUPPRESSION CHAMBER VACUUM BREAKER
1-CISI-1000 SH. 13G	2-CISI-1000 SH. 13G	IWE COMPONENT DETAIL DRYWELL/SUPPRESSION CHAMBER VACUUM BREAKER
1-CISI-1000 SH. 13H	2-CISI-1000 SH. 13H	IWE COMPONENT DETAIL DRYWELL/SUPPRESSION CHAMBER VACUUM BREAKER
1-CISI-1000 SH 14	2-CISI-1000 SH 14	IWE COMPONENT ROLLOUT REACTOR SUPPORT PEDISTEL (SUPPRESSION POOL) EMBEDMENTS FOR SRV SUPPORTS AND DOWNCOMER BRACING AT EL. 697'-1"
1-CISI-1001 SH. 1	2-CISI-1001 SH. 1	PIPING PENETRATION DETAILS CONFIGURATION NO. 1

TABLE 2.4-2
LSCS CISI REFERENCE DRAWINGS

UNIT 1	UNIT 2	TITLE
1-CISI-1001 SH. 2	2-CISI-1001 SH. 2	PIPING PENETRATION DETAILS CONFIGURATION NO. 2
1-CISI-1001 SH. 3	2-CISI-1001 SH. 3	PIPING PENETRATION DETAILS CONFIGURATION NO. 3
1-CISI-1001 SH. 4	2-CISI-1001 SH. 4	PIPING PENETRATION DETAILS CONFIGURATION NO. 4
1-CISI-1001 SH. 5	2-CISI-1001 SH. 5	PIPING PENETRATION DETAILS CONFIGURATION NO. 5
1-CISI-1001 SH. 6	2-CISI-1001 SH. 6	PIPING PENETRATION DETAILS CONFIGURATION NO. 6
1-CISI-1001 SH. 7	2-CISI-1001 SH. 7	PIPING PENETRATION DETAILS CONFIGURATION NO. 7
1-CISI-1001 SH. 8	2-CISI-1001 SH. 8	PIPING PENETRATION DETAILS CONFIGURATION NO. 8
1-CISI-1001 SH. 9	2-CISI-1001 SH. 9	PIPING PENETRATION DETAILS CONFIGURATION NO. 9
1-CISI-1001 SH. 10	2-CISI-1001 SH. 10	PIPING PENETRATION DETAILS CONFIGURATION NO. 10
1-CISI-1001 SH. 11	2-CISI-1001 SH. 11	PIPING PENETRATION DETAILS CONFIGURATION NO. 11
1-CISI-1002 SH. 1A	2-CISI-1002 SH. 1A	ELECTRICAL PENETRATION DETAILS CONFIGURATION NO. 1
1-CISI-1002 SH. 1B	2-CISI-1002 SH. 1B	ELECTRICAL PENETRATION SECTION CONFIGURATION NO. 1
1-CISI-1002 SH. 2A	2-CISI-1002 SH. 2A	ELECTRICAL PENETRATION DETAILS CONFIGURATION NO. 2
1-CISI-1002 SH. 2B	2-CISI-1002 SH. 2B	ELECTRICAL PENETRATION SECTION CONFIGURATION NO. 2
1-CISI-1002 SH. 3A	2-CISI-1002 SH. 3A	ELECTRICAL PENETRATION DETAILS CONFIGURATION NO. 3
1-CISI-1002 SH. 3B	2-CISI-1002 SH. 3B	ELECTRICAL PENETRATION SECTION CONFIGURATION NO. 3
1-CISI-1002 SH. 4A	2-CISI-1002 SH. 4A	ELECTRICAL PENETRATION DETAILS CONFIGURATION NO. 4
1-CISI-1002 SH. 4B	2-CISI-1002 SH. 4B	ELECTRICAL PENETRATION SECTIONS CONFIGURATION NO. 4

TABLE 2.4-2
LSCS CISI REFERENCE DRAWINGS

UNIT 1	UNIT 2	TITLE
1-CISI-1002 SH. 5	-	ELECTRICAL PENETRATION DETAILS PERSONNEL AIRLOCK CONFIGURATION NO. 5
-	2-CISI-1002 SH. 5A	ELECTRICAL PENETRATION DETAILS CONFIGURATION NO. 5
-	2-CISI-1002 SH. 5B	ELECTRICAL PENETRATION SECTIONS CONFIGURATION NO. 5
-	2-CISI-1002 SH. 6	ELECTRICAL PENETRATION DETAILS PERSONNEL AIRLOCK CONFIGURATION NO. 6
1-CISI-1003 SH. 1	2-CISI-1003 SH. 1	INSTRUMENT PENETRATION DETAILS CONFIGURATION NO. 1
1-CISI-1003 SH. 2	2-CISI-1003 SH. 2	INSTRUMENT PENETRATION DETAILS CONFIGURATION NO. 2
1-CISI-1003 SH. 3	2-CISI-1003 SH. 3	INSTRUMENT PENETRATION DETAILS CONFIGURATION NO. 3
1-CISI-1004 SHTS. 1 THRU 8	2-CISI-1004 SHTS. 1 THRU 8	IWE COMPONENT INFORMATION TABLE PIPING PENETRATIONS
1-CISI-1005 SHTS. 1 THRU 3	2-CISI-1005 SHTS. 1 THRU 3	IWE COMPONENT INFORMATION TABLE ELECTRICAL PENETRATIONS
1-CISI-1006 SHTS. 1 THRU 5	2-CISI-1006 SHTS. 1 THRU 5	IWE COMPONENT INFORMATION TABLE INSTRUMENT PENETRATIONS
1-CISI-1007 SHTS. 1 THRU 12	2-CISI-1007 SHTS. 1 THRU 12	IWE COMPONENT INFORMATION TABLE MISCELLANEOUS COMPONENTS
1-CISI-1008 SH. 1	2-CISI-1008 SH. 1	DRYWELL FLOOR PENETRATIONS CONFIGURATION NO. 1
1-CISI-1008 SH. 2	2-CISI-1008 SH. 2	DRYWELL FLOOR PENETRATIONS CONFIGURATION NO. 2
1-CISI-1008 SH. 3	2-CISI-1008 SH. 3	DRYWELL FLOOR PENETRATIONS CONFIGURATION NO. 3
1-CISI-1009 SHTS. 1 THRU 3	2-CISI-1009 SHTS. 1 THRU 3	IWE COMPONENT INFORMATION TABLE DRYWELL FLOOR PENETRATIONS
1-CISI-2000 SH. 1	2-CISI-2000 SH. 1	IWL/IWE COMPONENT DRAWING REACTOR CONTAINMENT POST TENSION SYSTEM & VENT SYSTEM GENERAL ARRANGEMENT
1-CISI-2000 SH. 2	2-CISI-2000 SH. 2	IWL/IWE COMPONENT ROLLOUT OUTSIDE CONTAINMENT 0° TO 360° AZIMUTH

TABLE 2.4-2
LSCS CISI REFERENCE DRAWINGS

UNIT 1	UNIT 2	TITLE
1-CISI-2000 SH. 3	2-CISI-2000 SH. 3	IWL COMPONENT DRAWING DRYWELL FLOOR PLAN EL. 736' 7 1/2"
1-CISI-2000 SH. 4	2-CISI-2000 SH. 4	IWL COMPONENT DRAWING ENDON GALLERY CEILING PLAN VIEW
1-CISI-2000 SH. 5A	2-CISI-2000 SH. 5A	IWL COMPONENT DRAWING REACTOR CONTAINMENT GROUP "A" VERTICAL TENDON UPPER BEARING PLATE LOCATIONS
1-CISI-2000 SH. 5B	2-CISI-2000 SH. 5B	IWL COMPONENT DRAWING REACTOR CONTAINMENT GROUP "B" VERTICAL TENDON UPPER BEARING PLATE LOCATIONS
1-CISI-2000 SH. 5C	2-CISI-2000 SH. 5C	IWL COMPONENT DRAWING REACTOR CONTAINMENT GROUP "C" VERTICAL TENDON UPPER BEARING PLATE LOCATIONS
1-CISI-2000 SH. 6A	2-CISI-2000 SH. 6A	IWL COMPONENT DETAIL TENDON ANCHORAGE ASSEMBLY
1-CISI-2000 SH. 6B	2-CISI-2000 SH. 6B	IWL COMPONENT DETAIL TENDON ANCHORAGE ASSEMBLY
1-CISI-90WAC16	2-CISI-90WAC16	UPPER VERTICAL TENDONS GASKET INSTRUCTIONS

2.5 Technical Approach and Positions

When the requirements of ASME Section XI are not easily interpreted, LSCS has reviewed general licensing/regulatory requirements and industry practice to determine a practical method of implementing the Code requirements. The Technical Approach and Position (TA&P) documents contained in this section have been provided to clarify LSCS's implementation of ASME Section XI requirements. An index which summarizes each technical approach and position is included in Table 2.5-1. This section is reserved for site specific issues. Corporate Policy statements will be tracked and maintained by the Corporate Staff.

TABLE 2.5-1
TECHNICAL APPROACH AND POSITIONS INDEX

Position Number	Revision Date[2]	Status[1]	Description of Technical Approach
I3T-01	0 04/01/07	Active	**(SPT)** System Leakage Testing of Non-Isolable Buried Components.
I3T-02	0 04/01/07	Active	**(SPT)** Valve Seats as Pressurization Boundaries.

Note 1: Technical Approach and Position Status Options: Active - Current ISI Program technical approach and position is being utilized at LSCS; Deleted - Technical approach and position is no longer being utilized at LSCS.

Note 2: The revision listed is the latest revision of the subject technical approach and position. The date noted in the second column is the date of the ISI Program Plan revision when the technical approach and position was incorporated into the document.

TECHNICAL APPROACH AND POSITION NUMBER I3T-01
Revision 0

COMPONENT IDENTIFICATION:

Code Class:	2 and 3
Reference:	IWA-5244(b)(2)
Examination Category:	C-H, D-B
Item Number:	C7.10, D2.10
Description:	System Leakage Testing of Non-Isolable Buried Components
Component Number:	Non-Isolable Buried Pressure Retaining Components

CODE REQUIREMENT:

IWA-5244(b)(2) requires non-isolable buried components be tested to confirm that flow during operation is not impaired.

POSITION:

Article IWA-5000 provides no guidance in setting acceptance criteria for what can be considered "adequate flow". In lieu of any formal guidance provided by the Code, LSCS has established the following acceptance criteria:

- For opened ended lines on systems that require Inservice Testing (IST) of pumps, adherence to IST acceptance criteria is considered as reasonable proof of adequate flow through the lines.

- For lines in which the open end is accessible to visual examination while the system is in operation, visual evidence of flow discharging the line is considered as reasonable proof of adequate flow through the open ended line.

- For open ended portions of systems where the process fluid is pneumatic, evidence of gaseous discharge shall be considered reasonable proof of adequate flow through the open ended line. Such test may include passing smoke through the line, hanging balloons or streamers, using a remotely operated blimp, using thermography to detect hot air, etc.

This acceptance criteria will be utilized in order to meet the requirements of IWA-5244(b)(2).

LSCS's position is that proof of adequate flow is all that is required for testing these open ended lines and that no further visual examination is necessary. This is consistent with the requirements for buried piping, which is not subject to visual examination.

TECHNICAL APPROACH AND POSITION NUMBER I3T-02
Revision 0

COMPONENT IDENTIFICATION:

Code Class:	1, 2, and 3
Reference:	IWA-5221
	IWA-5222
Examination Category:	B-P, C-H, D-B
Item Number:	B15.10, C7.10, D2.10
Description:	Valve Seats as Pressurization Boundaries
Component Number:	All Pressure Testing Boundary Valves

CODE REQUIREMENT:

IWA-5221 requires the pressurization boundary for system leakage testing extend to those pressure retaining components under operating pressures during normal system service.

POSITION:

LSCS's position is that the pressurization boundary extends up to the valve seat of the valve utilized for isolation. For example, in order to pressure test the Class 1 components, the valve that provides the Class break would be utilized as the isolation point. In this case the true pressurization boundary, and Class break, is actually at the valve seat.

Any requirement to test beyond the valve seat is dependent only on whether or not the piping on the other side of the valve seat is ISI Class 1, 2, or 3.

In order to simplify examination of classed components, LSCS will perform a VT-2 visual examination of the entire boundary valve body and bonnet (during pressurization up to the valve seat).

3.0 COMPONENT ISI PLAN

The LSCS Component ISI Plan includes ASME Section XI nonexempt pressure retaining welds, piping structural elements, pressure retaining bolting, attachment welds, pump casings, valve bodies, reactor pressure vessel interior, reactor pressure vessel welded core support structures, and reactor pressure vessel interior attachments of ISI Class 1, 2, and 3 components that meet the criteria of IWA-1300. These components are identified on the P&IDs and C&IDs listed in Section 2.3, Tables 2.3-1 and 2.3-2. Corporate procedure ER-AA-330-002 "Inservice Inspection of Welds and Components", implements the ASME Section XI welds and components program. This Component ISI Plan also includes component augmented inservice inspection program information specified by documents other than ASME Section XI.

3.1 Nonexempt ISI Class Components

The LSCS ISI Class 1 components subject to examination are those which are not exempted under the criteria of Subarticle IWB-1220 in the 1989 Edition, No Addenda of ASME Section XI (see Section 3.1.2 below). The LSCS ISI Class 2 and 3 components identified in ISI Drawings are those not exempted under the criteria of Subarticles IWC-1220 and IWD-1220 in the 2001 Edition through the 2003 Addenda of ASME Section XI. A summary of LSCS Units 1, 2, and Common ASME Section XI nonexempt components is included in Section 7.0.

3.1.1 Identification of ISI Class 1, 2, and 3 Nonexempt Components

ISI Class 1, 2, and 3 components are identified on the ISI Isometrics and Component Drawings listed in Section 2.4, Table 2.4-1. Welded attachments are also identified by controlled LSCS support drawings.

3.1.2

10 CFR 50.55a(b)(2)(xi) specifies that the 1989 Edition, No Addenda of ASME Section XI, Subarticle IWB-1220 shall be used in lieu of the 2001 Edition through the 2003 Addenda of ASME Section XI, Subarticle IWB-1220.

IWB-1220, Components Exempt from Examination - The following components (or parts of components) are exempted from the volumetric and surface examination requirements of IWB-2500 per the Code paragraph referenced:

(a) Components that are connected to the Reactor Coolant System and part of the reactor coolant pressure boundary and that are of such a size and shape so that upon postulated rupture the resulting flow of coolant from the Reactor Coolant System, under normal plant operating conditions, is within the capacity of makeup systems which are operable from on-site emergency power;

Note: Exelon has determined through the calculation criteria of IWB-1200(a) that certain Class 1 components, piping, and associated valves, vessels, (including their supports), that are (1) Water Lines 1.505" ID and (2) Steam Lines 2.878" ID, and smaller are exempt from the volumetric and surface examinations. Sufficient normal makeup capacity using on site power exist. The Reactor Coolant Pressure Boundary Normal Make-up Calculation, is presented in Section 3.3.

(b)(1) piping of Nominal Pipe Size (NPS) 1 and smaller;

(b)(2) components and their connections in piping of NPS 1 and smaller;

(c) Reactor pressure vessel head connections and associated piping, 2" nominal pipe size and smaller, made inaccessible by control rod drive penetrations.

3.2 Risk-Informed Examination Requirements

Piping structural elements that fall under RISI Examination Category R-A are risk ranked as High (1, 2, and 3), Medium (4 and 5), and Low (6 and 7). Per the EPRI Topical Reports TR-112657, Rev. B-A, TR-1006937, Rev. 0-A, and Code Case N-578-1, piping structural elements ranked as High or Medium Risk are subject to examination while piping structural elements ranked as Low Risk are not subject to examinations (except for pressure testing). Thin wall welds that were excluded from volumetric examination under ASME Section XI rules per Table IWC-2500-1 are included in the element scope that is potentially subject to RISI examination at LSCS.

Piping structural elements may be excluded from examination (other than pressure testing) under the RISI Program if the only degradation mechanism present for a given location is inspected for under certain other LSCS programs such as the Flow Accelerated Corrosion (FAC) or Intergranular Stress Corrosion Cracking (IGSCC) Programs. These piping structural elements will remain part of the FAC or IGSCC programs, which already perform "for cause" inspections to detect these degradation mechanisms. Piping structural elements susceptible to FAC or IGSCC along with another degradation mechanism (e.g., thermal fatigue) are retained as part of the RISI scope and are included in the element selection for the purpose of performing exams to detect the additional degradation mechanism. The RISI Program element examinations are performed in accordance with Relief Request I3R-01.

3.3 Reactor Coolant Pressure Boundary Normal Make-up Calculation

3.3.1 Purpose and Scope

The purpose of this calculation is to determine the inside diameter of steam and water lines which are exempted from the surface examination requirements of IWB-2500 per IWB-1200 (Reference 2). This section is a *summary* of Revision 2 to calculation ATD-0204.

3.3.2 Design Input

System	Normal Makeup Rate
Reactor Core Isolation	600 gpm
Control Rod Drive	130 gpm

3.3.3 Approach

The exclusion diameter is the diameter at which the postulated flow rate from the break is equal to the makeup flow rate. The postulated flow rates are based on the average system pressure in the reactor pressure vessel experienced under normal plant operation conditions. The makeup flow rate is from systems which are not part of the emergency core cooling system and operate from on-site emergency power. At LSCS, the systems which meet this criteria are the Reactor Core Isolation Cooling (RCIC) and Control Rod Drive Return (CRDR).

Note that RCIC does not perform an ECCS function, therefore, this system meets the ASME Section XI criteria for inclusion as a makeup source under IWB-1220(a). This same approach applies to the alternative requirements of IWA-4131.1(a)(2).

3.3.4 Calculations

Definition of Terms

D exclusion inside diameter for a one-sided break, in inches
D_2 exclusion inside diameter for a two-sided break, in inches
Q flow rate of makeup in-lb/min.
w flow rate from a line break, lb/min.-in^2

Calculations

Set makeup flow equal to the break flow, solve equation for diameter:

$Q = wA$
$A = (\pi/4)D^2$
$Q = w\ (\pi/4)D^2$
$D = 2 \times (Q\pi w)^{0.5}$

Calculating the exclusion diameter:

for water,
$D = 2 \times (5989.5/\pi\ 3367.87)^{0.5} = 1.505$ in.

for steam,
$D = 2 \times (5989.5/\pi\ 921.01)^{0.5} = 2.878$ in.

The diameters above apply only for a one-sided break. For two-sided break the diameter given above must be divided by the square root of 2. LSCS's current Third Interval ISI Program does not have any regions of question where two-sided breaks are applicable at the given size exemptions.

3.3.5 Results

The exclusion inside diameters for water and steam lines are given below:

Phase of fluid	Diameter (D) (inches)
	one-sided break
Saturated steam	2.878
Saturated water	1.505

4.0 SUPPORT ISI PLAN

The LSCS Support ISI Plan includes the supports of ASME Section XI nonexempt ISI Class 1, 2, and 3 components as described in Section 3.0. Corporate procedure ER-AA-330-003 "Visual Examination of Section XI Component Supports", implements the ASME Section XI Support ISI Plan.

4.1 Nonexempt ISI Class Supports

The LSCS ISI Class 1, 2, and 3 nonexempt supports are those which do not meet the exemption criteria of Subarticle IWF-1230 of ASME Section XI. A summary of LSCS Units 1, 2, and Common ASME Section XI nonexempt supports is included in Section 7.0.

4.1.1 Identification of ISI Class 1, 2, and 3 Nonexempt Supports

ISI Class 1, 2, and 3 supports are identified on the ISI Isometrics and Component Drawings listed in Section 2.4, Table 2.5. Supports are identified by controlled LSCS individual support detail drawings.

4.2 Snubber Examination and Testing Requirements

4.2.1 ASME Section XI Paragraphs IWF-5200(a) and (b) and IWF-5300(a) and (b) require VT-3 Visual Examination and Inservice Tests of snubbers to be performed in accordance with the Operation and Maintenance of Nuclear Power Plants (OM), Standard ASME/ANSI OM, Part 4. As allowed by 10 CFR 50.55a(b)(3)(v), LSCS will use Subsection ISTD, "Inservice Testing of Dynamic Restraints (Snubbers) In Light Water Reactor Power Plants," ASME OM Code, 2001 Edition through the 2003 Addenda, to meet the requirements in ASME Section XI Paragraphs IWF-5200(a) and (b) and IWF-5300(a) and (b). A summary of the LSCS Units 1, 2, and Common safety-related and important to safety snubbers is included in Section 7.0.

Corporate procedure ER-AA-330-004 "Visual Examination of Technical Specification Snubbers", implements the visual inspection program for safety related and important to safety snubbers. Corporate procedures ER-AA-330-010 "Administration of Snubber Functional Testing", ER-AA-330-011 "Snubber Service Life Monitoring Program", and station surveillance test procedures are used to used to implement the functional testing, visual examination, and service life monitoring requirements for safety-related and important to safety snubbers.

The ASME Section XI ISI Program uses Subsection IWF to define support inspection requirements. The ISI Program maintains the Code Class snubbers in the populations subject to inspection per Subsection IWF.

This is done to accommodate scheduling and inspection requirements of the related attachment hardware per Paragraphs IWF-5200(c) and IWF-5300(c). (See Section 4.2.2 below.)

4.2.2 ASME Section XI Paragraphs IWF-5200(c) and IWF-5300(c) require integral and non-integral attachments for snubbers to be examined in accordance with Subsection IWF of ASME Section XI. This results in VT-3 visual examination of the snubber attachment hardware including the bolting, pins, and their interface to the clamp, but does not include the component-to-clamp interface.

The ASME Section XI ISI Program uses Subsection IWF to define the inspection requirements for all Class 1, Class 2, and Class 3 supports, regardless of type. The ISI Program maintains the Code Class snubbers in the support populations subject to inspection per Subsection IWF. This is done to facilitate scheduling and inspection requirements of the snubber attachment hardware (e.g., bolting and pins) per IWF-5200(c) and IWF-5300(c).

It should be noted that the examination of snubber welded attachments will be performed in accordance with the ASME Section XI Subsections IWB, IWC, and IWD welded attachment examination requirements (e.g.; Examination Categories B-K, C-C, and D-A).

5.0 SYSTEM PRESSURE TESTING ISI PLAN

The LSCS System Pressure Testing (SPT) ISI Plan includes all pressure retaining ASME Section XI, ISI Class 1, 2, and 3 components, with the exception of those specifically exempted by Paragraphs IWC-5222(b) and IWD-5240(b). All RISI piping structural elements, regardless of risk classification, remain subject to pressure testing as part of the current ASME Section XI program.

The SPT ISI Plan performs system pressure tests and visual inspections on the ISI Class 1, 2, and 3 pressure retaining components to verify system and component structural integrity. This program conducts both Periodic and Interval (10-Year frequency) pressure tests as defined in ASME Section XI Inspection Program B. Corporate procedure ER-AA-330-001, "Section XI Pressure Testing," as well as LSCS site-specific test procedures, implement the ASME Section XI System Pressure Testing ISI Plan. In addition to the ASME Section XI requirements, LSCS's SPT ISI Plan also includes augmented examination commitments.

5.1 ISI Class Systems

All Class 1 pressure retaining components, typically defined as the reactor coolant pressure boundary, are required to be tested. Those portions of Class 2 and 3 systems that are required to be tested include the pressure retaining boundaries of components required to operate or support the system safety functions. Class 2 and 3 open ended discharge piping and components are excluded from the examination requirements per IWC-5222(b) and IWD-5240(b).

5.1.1 Identification of Class 1, 2, and 3 Components

All components subject to ASME Section XI System Pressure Testing are shown within the ISI classification flags on the P&ID's and C&ID's listed in Section 2.3, Tables 2.3-1 and 2.3-2.

5.1.2 Identification of System Pressure Tests

Individual tests and test segments are identified and maintained in the LSCS ISI Database.

5.2 Risk-Informed Examinations of Socket Welds

Socket welds selected for examination under the RISI program are to be inspected with a VT-2 exam each refueling outage per ASME Code Case N-578-1 (see footnote 12 in Table 1 of the Code Case). To facilitate this, socket welds selected for inspection under the RISI program shall be pressurized each refueling outage in accordance with Paragraph IWA-5211(a).

6.0 CONTAINMENT ISI PLAN

The LSCS Containment ISI Plan includes ASME Section XI CISI Class MC pressure retaining components and their integral attachments, and Class CC components and structures, and post-tensioning systems that meet the criteria of Subarticle IWA-1300. These components are identified on CISI Reference Drawings listed in Table 2.4-2. This Containment ISI Plan also includes information related to augmented examination areas, component accessibility, and examination review.

The inspection of containment structures, components, and post-tensioning systems are performed per corporate procedures:

1. ER-AA-330-005, "Visual Examination of Section XI Class CC Concrete Containment Structures"

2. ER-AA-330-006, "Inservice Inspection and Testing of the Pre-Stresses Concrete Containment Post Tensioning Systems"

3. ER-AA-330-007, "Visual Examination of Section XI Class MC Surfaces and Class CC Liners"

6.1 Nonexempt CISI Class Components

The LSCS CISI Class MC and CC components identified on the CISI Reference Drawings are those not exempted under the criteria of Subarticles IWE-1220 and Subarticle IWL-1220 in the 2001 Edition through the 2003 Addenda of ASME Section XI. A summary of LSCS Units 1 and 2 ASME Section XI nonexempt CISI components is included in Section 7.0.

The process for scoping LSCS components for inclusion in the Containment ISI Plan is included in the containment sections of the ISI Classification Basis Document. These sections include a listing and detailed basis for inclusion of containment components.

Components that are classified as Class MC and CC must meet the requirements of ASME Section XI in accordance with 10 CFR 50.55a(g)(4). Supports of IWE components are not required to be examined in accordance with 10 CFR 50.55a(g)(4).

6.1.1 Identification of ISI Class MC and CC Nonexempt Components

ISI Class MC and CC components are identified on the CISI Reference Drawings listed in Section 2.4, Table 2.4-2.

6.1.2 Identification of ISI Class MC and CC Exempt Components

The process for exempting LSCS components from the Containment ISI Plan per IWE-1220 and IWL-1220 is included in the containment sections of the ISI Classification Basis Document. These sections include discussions of exempt components and the bases for those exemptions.

6.2 Augmented Examinations Areas

Metal containment components potentially subject to augmented examination per IWE-1240 have been evaluated in the containment sections of the ISI Classification Basis Document. These sections define the areas that are subjected to augmented examination.

Similarly, concrete surfaces may be subject to Detailed Visual examination in accordance with IWL-2310, if declared to be 'Suspect Areas' by the examiner or the Responsible Engineer.

No significant conditions were identified in the First CISI Interval and no significant conditions are currently identified in the Second Interval as requiring application of additional augmented examination requirements under IWE-1240 or IWL-2310.

6.3 Component Accessibility

Class MC pressure retaining components subject to examination shall remain accessible for either direct or remote visual examination from at least one side per the requirements of ASME Section XI, Subarticle IWE-1230.

6.4 Responsible Individual and Engineer

ASME Section XI Subsection IWE requires the Responsible Individual to be involved in the development, performance, and review of the CISI examinations. The Responsible Individual shall meet the requirements of ASME Section XI, Subarticle IWE-2320.

ASME Section XI Subsection IWL requires the Responsible Engineer to be involved in the development, approval, and review of the CISI examinations. The Responsible Engineer shall meet the requirements of ASME Section XI, Subarticle IWL-2320.

7.0 COMPONENT SUMMARY TABLES

7.1 Inservice Inspection Summary Tables

The following Tables 7.1-1 and 7.1-2 provide a summary of the ASME Section XI pressure retaining components, supports, containment structures, post-tensioning systems, system pressure testing, and augmented program components for the Third Inservice Inspection Interval and the Second Containment Inservice Inspection Interval at LSCS Units 1, 2, and Common.

The format of the Inservice Inspection Summary Tables is as depicted below and provides the following information:

Examination Category (with Examination Category Description)	Item Number (or Risk Category or Augmented Number)	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Examination Category (with Examination Category Description):

Provides the Examination Category and description as identified in ASME Section XI, Tables IWB-2500-1, IWC-2500-1, IWD-2500-1, IWE-2500-1, IWF-2500-1, and IWL-2500-1.

Examination Category "R-A" from Code Case N-578-1 is used in lieu of ASME Section XI Examination Categories B-F, B-J, C-F-1, and C-F-2 to identify Class 1 and 2 piping structural elements for the RISI program. Only those Examination Categories applicable to LSCS are identified.

Examination Category "NA" is used to identify Augmented ISI examinations and other LSCS commitments.

(2) Item Number (or Risk Category Number or Augmented Number):

Provides the Item Number as identified in ASME Section XI, Tables IWB-2500-1, IWC-2500-1, IWD-2500-1, IWE-2500-1, IWF-2500-1, and IWL-2500-1. Only those Item Numbers applicable to LSCS are identified.

For piping structural elements under the RISI program, the Risk Category Number (1-5) is used in place of the Item Number.

Specific abbreviations such as BWRVIP, BWROG, IGSCC, 10CFR, 0737, and TRM21a have been developed to identify Augmented ISI examinations and other LSCS commitments.

(3) Item Number (or Risk Category Number or Augmented Number) Description:

Provides the description as identified in ASME Section XI, Tables IWB-2500-1, IWC-2500-1, IWD-2500-1, IWE-2500-1, IWF-2500-1, and IWL-2500-1.

For Risk-Informed piping examinations, a description of the Risk Category is provided.

For augmented inspection commitments, a description of the augmented requirement is provided.

(4) Examination Requirements:

Provides the examination methods required by ASME Section XI, Tables IWB-2500-1, IWC-2500-1, IWD-2500-1, IWE-2500-1, IWF-2500-1 and IWL-2500-1.

Provides the examination requirements for piping structural elements under RISI that are in accordance with the EPRI Topical Reports TR-112657, Rev. B-A, TR-1006937, Rev. 0-A, and Code Case N-578-1.

Provides the examination requirements for augmented components from LSCS commitments or relief requests.

(5) Total Number Of Components by System

Provides the system designator (abbreviations). See Section 2.3, Tables 2.3-1 and 2.3-2 for a list of these systems.

This column also provides the number of components within a particular system for that Item Number, Risk Category Number, or Augmented Number.

Note that the total number of components by system are subject to change after completion of plant modifications, design changes, and ISI system classification updates.

(6) Relief Request/Technical Approach & Position Number

Provides a listing of Relief Request/ Technical Approach & Position (TA&P) Numbers applicable to specific components, the ASME Section XI Item Number, Risk Category Number, or Augmented Number. Relief Requests that generically apply to all components, or an entire class are not listed. If a Relief Request/ TA&P Number is identified, see the corresponding relief request in Section 8.0 or the TA&P Number in Section 2.5. If a Relief Request / TA&P Number is generic to all components, the Number is not listed in these tables.

(7) Notes

Provides a listing of program notes applicable to the ASME Section XI Item Number, Risk Category Number, or Augmented Number. If a program note number is identified, see the corresponding program note in Table 7.1-3.

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-A Pressure Retaining Welds in Reactor Vessel	B1.11	Circumferential Shell Welds (Reactor Vessel)	Volumetric	RPV: 0	I3R-06	
	B1.12	Longitudinal Shell Welds (Reactor Vessel)	Volumetric	RPV: 15	I3R-06	
	B1.21	Circumferential Head Welds (Reactor Vessel)	Volumetric	RPV: 4		
	B1.22	Meridional Head Welds (Reactor Vessel)	Volumetric	RPV: 30		
	B1.30	Shell-to-Flange Weld (Reactor Vessel)	Volumetric	RPV: 1		
	B1.40	Head-to-Flange Weld (Reactor Vessel)	Volumetric & Surface	RPV: 1		
B-D Full Penetration Welds of Nozzles in Vessels	B3.90	Nozzle-to-Vessel Welds (Reactor Vessel)	Volumetric	RPV: 33		
	B3.100	Nozzle Inside Radius Section (Reactor Vessel)	Volumetric	RPV: 33		

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-G-1 Pressure Retaining Bolting, Greater Than 2 in. In Diameter	B6.10	Closure Head Nuts (Reactor Vessel)	Visual, VT-1	RPV: 68		
	B6.20	Closure Studs, in Place (Reactor Vessel)	Volumetric	RPV: 68		
	B6.40	Threads in Flange (Reactor Vessel)	Volumetric	RPV: 68		
	B6.50	Closure Washers (Reactor Vessel)	Visual, VT-1	RPV: 68		
	B6.180	Bolts & Studs (Pumps)	Volumetric	RRA: 1 RRB: 1		
	B6.190	Flange Surface, when connection disassembled (Pumps)	Visual, VT-1	RRA: 1 RRB: 1		
	B6.200	Nuts, Bushings, and Washers (Pumps)	Visual, VT-1	RRA: 1 RRB: 1		
	B6.210	Bolts & Studs (Valves)	Volumetric	RRA: 2 RRB: 2		
	B6.220	Flange Surface, when connection disassembled (Valves)	Visual, VT-1	RRA: 2 RRB: 2		
	B6.230	Nuts, Bushings, and Washers (Valves)	Visual, VT-1	RRA: 2 RRB: 2		

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-G-2 Pressure Retaining Bolting, 2 in. and Less In Diameter	B7.50	Bolts, Studs, & Nuts (Piping)	Visual, VT-1	MSA: 4 MSB: 5 MSC: 5 MSD: 4 NB: 1 RI: 5 RPV: 1 RRA: 2 RRB: 2 RT: 2		
	B7.70	Bolts, Studs, & Nuts (Valves)	Visual, VT-1	FWA: 2 FWB: 2 HP: 2 LP: 1 MSA: 4 MSB: 7 MSC: 6 MSD: 4 RHA: 2 RHB: 2 RHC: 1 RI: 2 RRA: 3 RRB: 3		
	B7.80	Bolts, Studs, & Nuts in CRD Housing (Reactor Vessel)	Visual, VT-1	RD: 1		11

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-K Welded Attachments for Vessels, Piping, Pumps, and Valves	B10.10	Welded Attachments (Pressure Vessels)	Surface or Volumetric	RPV: 7	I3R-04	
	B10.20	Welded Attachments (Piping)	Surface	FWA: 6 FWB: 6 HP: 4 LP: 4 MS: 1 MSA: 4 MSB: 6 MSC: 5 MSD: 4 RHA: 8 RHB: 8 RHC: 6 RHSDC: 1 RI: 15 RR: 1 RRA: 1 RRB: 1 RT: 2		
	B10.30	Welded Attachments (Pumps)	Surface	RRA: 1 RRB: 1		

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-L-2 Pump Casings	B12.20	Pump Casings (Pumps)	Visual, VT-3	RRA: 1 RRB: 1		
B-M-2 Valve Bodies	B12.50	Valve Bodies (Exceeding NPS 4) (Valves)	Visual, VT-3	FWA: 3 FWB: 3 HP: 3 LP: 3 MSA: 4 MSB: 7 MSC: 6 MSD: 4 RHA: 8 RHB: 6 RHC: 3 RHSDC: 3 RI: 4 RRA: 3 RRB: 3 RT: 3		
B-N-1 Interior of Reactor Vessel	B13.10	Vessel Interior (Reactor Vessel)	Visual, VT-3	RPV: 1	I3R-02	

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-N-2 Welded Core Support Structures and Interior Attachments to Reactor Vessels	B13.20	Interior Attachments Within Beltline Region (Reactor Vessel)	Visual, VT-1	JPI: 10 RPV: 3	I3R-02	
	B13.30	Interior Attachments Beyond Beltline Region (Reactor Vessel)	Visual, VT-3	FW: 6 HP: 1 LP: 1 RD: 1 RPV: 37 SC: 1	I3R-02	
	B13.40	Core Support Structure (Reactor Vessel)	Visual, VT-3	RD: 1 RPV: 25	I3R-02	
B-O Pressure Retaining Welds in Control Rod Housings	B14.10	Welds in CRD Housing (Reactor Vessel) (10% of Peripheral CRD Housings)	Volumetric or Surface	RD: 185		
B-P All Pressure Retaining Components	B15.10	System Leakage Test (IWB-5220)	Visual, VT-2	FW HP LP MS NB RH RI RR RT SC	I3T-01 I3T-02	

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
C-A Pressure Retaining Welds in Pressure Vessels	C1.10	Shell Circumferential Welds (Pressure Vessels)	Volumetric	RHA: 4 RHB: 4		
	C1.30	Tubesheet-to-Shell-Weld Welds (Pressure Vessels)	Volumetric	RHA: 1 RHB: 1		
C-B Pressure Retaining Nozzle Welds in Vessel s	C2.21	Nozzle-to-Shell (Nozzle to Head or Nozzle to Nozzle) Welds Without Reinforcing Plate, Greater Than 1/2" Nominal Thickness (Pressure Vessels)	Volumetric & Surface	RHA: 2 RHB: 2		
	C2.22	Nozzle Inside Radius Section Without Reinforcing Plate, Greater Than 1/2" Nominal Thickness (Pressure Vessels)	Volumetric	RHA: 2 RHB: 2		
C-C Welded Attachments for Vessels, Piping, Pumps, and Valves	C3.10	Welded Attachments (Pressure Vessels)	Surface	RHA: 24 RHB: 24		
	C3.20	Welded Attachments (Piping)	Surface	FWA: 1 FWB: 1 HG: 7 HP: 13 LP: 11 MS: 2 MSA: 4 MSB: 4 MSC: 3 MSD: 3 RHA: 22 RHB: 20 RHC: 8		
	C3.30	Welded Attachments (Pumps)	Surface	HP: 1 LP: 1 RHA: 1 RHB: 1 RHC: 1		

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
C-G Pressure Retaining Welds in Pumps and Valves	C6.10	Pump Casing Welds (Pumps)	Surface	HP: 11 LP: 7 RHA: 11 RHB: 11 RHC: 11	I3R-03	
C-H All Pressure Retaining Components	C7.10	System Leakage Test (IWC-5220)	Visual, VT-2	CM ES FW HP HG IN LP MS NB PS RD RH RI RR RT VG	I3R-08 I3R-09 I3R-10 I3R-11 I3T-01 I3T-02	

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
D-A Welded Attachments for Vessels, Piping, Pumps, and Valves	D1.10	Welded Attachments (Pressure Vessels)	Visual, VT-1	DG: 1+1 HP: 1		2
	D1.20	Welded Attachments (Piping)	Visual, VT-1	DG: 12+8 HP: 13 MSA: 28 MSB: 49 MSC: 45 MSD: 28 RHA: 21 RHB: 12		2
	D1.30	Welded Attachments (Pumps)	Visual, VT-1	DG: 1+1 HP: 1 RHA: 2 RHB: 2		2
D-B All Pressure Retaining Components	D2.10	System Leakage Test (IWD-5221)	Visual, VT-2	CSCS DG HP LP MS RH VY	I3T-01 I3T-02	

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components	Relief Request/ TAP Number	Notes
E-A Containment Surfaces	E1.11	Containment Vessel Pressure Retaining Boundary - Accessible Surface Areas	General Visual	293		7
	E1.11	Containment Vessel Pressure Retaining Boundary - Bolted Connections, Surfaces	Visual, VT-3	64		7
	E1.12	Containment Vessel Pressure Retaining Boundary - Wetted Surfaces of Submerged Areas	Visual, VT-3	9		8
	E1.20	Containment Vessel Pressure Retaining Boundary - BWR Vent System Accessible Surface Areas	Visual, VT-3	154		8
E-C Containment Surfaces Requiring Augmented Examination	E4.11	Containment Surface Areas - Visible Surfaces	Visual, VT-1	0		9
	E4.12	Containment Surface Areas - Surface Area Grid Grid Line Intersections and Minimum Wall Thickness Locations	Volumetric (Thickness)	0		10

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
F-A Supports	F1.10	Class 1 Piping Supports	Visual, VT-3	FWA: 15 FWB: 14 HP: 12 LP: 9 MS: 10 MSA: 12 MSB: 17 MSC: 15 MSD: 12 NB: 4 RHA: 20 RHB: 19 RHC: 10 RHSDC: 9 RI: 36 RR: 13 RRA: 15 RRB: 10 RT: 28 SC: 1		1

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
F-A Supports (Continued)	F1.20	Class 2 Piping Supports	Visual, VT-3	FWA 2 FWB 2 HG: 65 HP: 33 LP: 41 MS: 20 MSA: 10 MSB: 14 MSC: 14 MSD: 10 RHA: 76 RHB: 69 RHC: 40		1
	F1.30	Class 3 Piping Supports	Visual, VT-3	DG: 82+34 HP: 37 MSA: 35 MSB: 85 MSC: 71 MSD: 42 RHA: 46 RHB: 24		1 2

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
F-A Supports (Continued)	F1.40	Supports Other Than Piping Supports (Class 1, 2, and 3)	Visual, VT-3	DG: 2+2 HP: 1 LP: 1 RHA: 4 RHB: 6 RHC: 1 RPV: 1 RRA: 10 RRB: 10		1 2

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components	Relief Request/ TAP Number	Notes
L-A Concrete Surfaces	L1.11	Concrete Surfaces - All Accessible Surface Areas	General Visual	24		
	L1.12	Concrete Surfaces - Suspect Areas (No Suspect Areas Identified)	Detailed Visual	----		
L-B Unbonded Post-Tensioning System	L2.10	Tendon	IWL-2522	307	I3R-05	
	L2.20	Tendon - Wire or Strand	IWL-2523.2	----	I3R-05	
	L2.30	Tendon - Anchorage Hardware and Surrounding Concrete	Detailed Visual	614		
	L2.40	Tendon - Corrosion Protection Medium	IWL-2525.2(a)	----		
	L2.50	Tendon - Free Water	IWL-2525.2(b)	----		

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Risk Category Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
R-A Risk-Informed Piping Examinations	1	Risk Category 1 Elements	See Notes	FWA: 15 FWB: 15 RHA: 1 RHB: 1	I3R-01	3 4 5 6
	2	Risk Category 2 Elements	See Notes	FWA: 6 FWB: 6 HP: 6 LP: 6 RI: 10	I3R-01	3 4 5 6
	3	Risk Category 3 Elements	See Notes	FWA: 4 FWB: 4 RHA: 2 RHB: 3	I3R-01	3 4 5 6
	4	Risk Category 4 Elements	See Notes	HP: 16 LP: 6 MS: 38 MSA: 56 MSB: 65 MSC: 62 MSD: 57 NB: 18 RHA: 18 RHB: 23 RHC: 11 RHSDC: 2 RI: 36 RR: 1 RRA: 22 RRB: 22 RT: 3	I3R-01	3 4 5 6

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Risk Category Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
R-A Risk-Informed Piping Examinations (Continued)	5	Risk Category 5 Elements	See Notes	RHA: 2 RHB: 2	I3R-01	3 4 5 6

LSCS UNIT 1 & COMMON
INSERVICE INSPECTION SUMMARY TABLE 7.1-1

Examination Category (with Category Description)	Aug Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
NA Augmented Components	BWRVIP	BWRVIP In-vessel Inspections (IGSCC Management Program BWR Vessel Internals and Piping Components)	Various	In accordance with BWRVIP Program		
	BWROG	BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking Components	Volumetric	FWA: 3 FWB: 3		
	IGSCC	Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping Components and BWRVIP-75 "Vessel and Internals Project Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules"	Volumetric	Category B: 125 Category C: 28	I3R-01	4
	10CFR	Reactor Pressure Vessel Shell Welds (10 CFR 50.55a(g)(6)(ii)(A), Final Rule)	Volumetric	RPV: 20		
	MEB31	Examination of High Energy Circumferential and Longitudinal Piping Welds (MEB 3-1, UFSAR 3.6.1 and 3.6.2)	Volumetric or Surface	NA		6
	0737	Leak Testing and Periodic Visual Examinations of Systems Outside of Primary Containment Which Could Contain Highly Radioactive Fluids During a Serious Transient or Accident (NUREG 0737)	Visual, VT-2	HG HP LP RH RI RT		
	TRM21a	Pressure Testing of the Diesel Generator Fuel Oil System Designed to ASME Section III, Subsection ND (LSCS Technical Requirements Manual Section 2.1.a)	Visual, VT-2	DO	I3T-01	

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-A Pressure Retaining Welds in Reactor Vessel	B1.11	Circumferential Shell Welds (Reactor Vessel)	Volumetric	RPV: 0	I3R-06	
	B1.12	Longitudinal Shell Welds (Reactor Vessel)	Volumetric	RPV: 12	I3R-06	
	B1.21	Circumferential Head Welds (Reactor Vessel)	Volumetric	RPV: 2		
	B1.22	Meridional Head Welds (Reactor Vessel)	Volumetric	RPV: 14		
	B1.30	Shell-to-Flange Weld (Reactor Vessel)	Volumetric	RPV: 1		
	B1.40	Head-to-Flange Weld (Reactor Vessel)	Volumetric & Surface	RPV: 1		
B-D Full Penetration Welds of Nozzles in Vessels	B3.90	Nozzle-to-Vessel Welds (Reactor Vessel)	Volumetric	RPV: 33		
	B3.100	Nozzle Inside Radius Section (Reactor Vessel)	Volumetric	RPV: 33		

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-G-1 Pressure Retaining Bolting, Greater Than 2 in. In Diameter	B6.10	Closure Head Nuts (Reactor Vessel)	Visual, VT-1	RPV: 76		
	B6.20	Closure Studs, in Place (Reactor Vessel)	Volumetric	RPV: 76		
	B6.40	Threads in Flange (Reactor Vessel)	Volumetric	RPV: 76		
	B6.50	Closure Washers (Reactor Vessel)	Visual, VT-1	RPV: 76		
	B6.180	Bolts & Studs (Pumps)	Volumetric	RRA: 1 RRB: 1		
	B6.190	Flange Surface, when connection disassembled (Pumps)	Visual, VT-1	RRA: 1 RRB: 1		
	B6.200	Nuts, Bushings, and Washers (Pumps)	Visual, VT-1	RRA: 1 RRB: 1		
	B6.210	Bolts & Studs (Valves)	Volumetric	RRA: 2 RRB: 2		
	B6.220	Flange Surface, when connection disassembled (Valves)	Visual, VT-1	RRA: 2 RRB: 2		
	B6.230	Nuts, Bushings, and Washers (Valves)	Visual, VT-1	RRA: 2 RRB: 2		

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-G-2 Pressure Retaining Bolting, 2 in. and Less In Diameter	B7.50	Bolts, Studs, & Nuts (Piping)	Visual, VT-1	MSA: 4 MSB: 5 MSC: 5 MSD: 4 NB: 1 RI: 5 RPV: 1 RRA: 2 RRB: 2 RT: 2		
	B7.70	Bolts, Studs, & Nuts (Valves)	Visual, VT-1	FWA: 2 FWB: 2 HP: 2 LP: 1 MSA: 4 MSB: 7 MSC: 6 MSD: 4 RHA: 2 RHB: 2 RHC: 1 RI: 2 RRA: 3 RRB: 3		
	B7.80	Bolts, Studs, & Nuts in CRD Housing (Reactor Vessel)	Visual, VT-1	RD: 1		11

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-K Welded Attachments for Vessels, Piping, Pumps, and Valves	B10.10	Welded Attachments (Pressure Vessels)	Surface or Volumetric	RPV: 7	I3R-04	
	B10.20	Welded Attachments (Piping)	Surface	FWA: 6 FWB: 6 HP: 4 LP: 4 MS: 1 MSA: 4 MSB: 5 MSC: 5 MSD: 4 RHA: 10 RHB: 8 RHC: 5 RHSDC: 1 RI: 12 RRA: 1 RRB: 1 RT: 1		
	B10.30	Welded Attachments (Pumps)	Surface	RRA: 1 RRB: 1		

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-L-2 Pump Casings	B12.20	Pump Casings (Pumps)	Visual, VT-3	RRA: 1 RRB: 1		
B-M-2 Valve Bodies	B12.50	Valve Bodies (Exceeding NPS 4) (Valves)	Visual, VT-3	FWA: 3 FWB: 3 HP: 3 LP: 3 MSA: 4 MSB: 7 MSC: 6 MSD: 4 RHA: 8 RHB: 6 RHC: 3 RHSDC: 3 RI: 4 RRA: 3 RRB: 3 RT: 3		
B-N-1 Interior of Reactor Vessel	B13.10	Vessel Interior (Reactor Vessel)	Visual, VT-3	RPV: 1	I3R-02	

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
B-N-2 Welded Core Support Structures and Interior Attachments to Reactor Vessels	B13.20	Interior Attachments Within Beltline Region (Reactor Vessel)	Visual, VT-1	JPI: 10 RPV: 3	I3R-02	
	B13.30	Interior Attachments Beyond Beltline Region (Reactor Vessel)	Visual, VT-3	FW: 6 HP: 1 LP: 1 RD: 1 RPV: 29 SC: 1	I3R-02	
	B13.40	Core Support Structure (Reactor Vessel)	Visual, VT-3	RD: 1 RPV: 3	I3R-02	
B-O Pressure Retaining Welds in Control Rod Housings	B14.10	Welds in CRD Housing (Reactor Vessel) (10% of Peripheral CRD Housings)	Volumetric or Surface	RD: 185		
B-P All Pressure Retaining Components	B15.10	System Leakage Test (IWB-5220)	Visual, VT-2	FW HP LP MS NB RH RI RR RT SC	I3T-01 I3T-02	

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
C-A Pressure Retaining Welds in Pressure Vessels	C1.10	Shell Circumferential Welds (Pressure Vessels)	Volumetric	RHA: 4 RHB: 4		
	C1.30	Tubesheet-to-Shell-Weld Welds (Pressure Vessels)	Volumetric	RHA: 1 RHB: 1		
C-B Pressure Retaining Nozzle Welds in Vessels	C2.21	Nozzle-to-Shell (Nozzle to Head or Nozzle to Nozzle) Welds Without Reinforcing Plate, Greater Than 1/2" Nominal Thickness (Pressure Vessels)	Volumetric & Surface	RHA: 2 RHB: 2		
	C2.22	Nozzle Inside Radius Section Without Reinforcing Plate, Greater Than 1/2" Nominal Thickness (Pressure Vessels)	Volumetric	RHA: 2 RHB: 2		
C-C Welded Attachments for Vessels, Piping, Pumps, and Valves	C3.10	Welded Attachments (Pressure Vessels)	Surface	RHA: 24 RHB: 24		
	C3.20	Welded Attachments (Piping)	Surface	FWA: 1 FWB: 1 HG: 5 HP: 7 LP: 11 MS: 2 MSA: 3 MSB: 3 MSC: 3 MSD: 3 RHA: 17 RHB: 22 RHC: 9		
	C3.30	Welded Attachments (Pumps)	Surface	HP: 1 LP: 1 RHA: 1 RHB: 1 RHC: 1		

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
C-G Pressure Retaining Welds in Pumps and Valves	C6.10	Pump Casing Welds (Pumps)	Surface	HP: 11 LP: 7 RHA: 11 RHB: 11 RHC: 11	I3R-03	
C-H All Pressure Retaining Components	C7.10	System Leakage Test (IWC-5220)	Visual, VT-2	CM ES FW HP HG IN LP MS NB PS RD RH RI RR RT VG	I3R-08 I3R-09 I3R-10 I3R-11 I3T-01 I3T-02	

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
D-A Welded Attachments for Vessels, Piping, Pumps, and Valves	D1.10	Welded Attachments (Pressure Vessel)	Visual, VT-1	DG: 1 HP: 1		
	D1.20	Welded Attachments (Piping)	Visual, VT-1	DG: 13 HP: 7 MSA: 28 MSB: 49 MSC: 44 MSD: 28 RHA: 7 RHB: 15		
	D1.30	Welded Attachments (Pumps)	Visual, VT-1	DG: 1 HP: 1 RHA: 2 RHB: 2		
D-B All Pressure Retaining Components	D2.10	System Leakage Test (IWD-5221)	Visual, VT-2	CSCS DG HP LP MS RH VY	I3T-01 I3T-02	

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components	Relief Request/ TAP Number	Notes
E-A Containment Surfaces	E1.11	Containment Vessel Pressure Retaining Boundary - Accessible Surface Areas	General Visual	293		7
	E1.11	Containment Vessel Pressure Retaining Boundary - Bolted Connections, Surfaces	Visual, VT-3	64		7
	E1.12	Containment Vessel Pressure Retaining Boundary - Wetted Surfaces of Submerged Areas	Visual, VT-3	9		8
	E1.20	Containment Vessel Pressure Retaining Boundary - BWR Vent System Accessible Surface Areas	Visual, VT-3	154		8
E-C Containment Surfaces Requiring Augmented Examination	E4.11	Containment Surface Areas - Visible Surfaces	Visual, VT-1	0		9
	E4.12	Containment Surface Areas - Surface Area Grid Grid Line Intersections and Minimum Wall Thickness Locations	Volumetric (Thickness)	0		10

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
F-A Supports	F1.10	Class 1 Piping Supports	Visual, VT-3	FWA: 15 FWB: 15 HP: 12 LP: 8 MS: 8 MSA: 12 MSB: 17 MSC: 15 MSD: 12 NB: 1 RHA: 21 RHB: 18 RHC: 9 RHSDC: 8 RI: 27 RR: 10 RRA: 15 RRB: 10 RT: 28 SC: 1		1

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
F-A Supports (Continued)	F1.20	Class 2 Piping Supports	Visual, VT-3	FWA 2 FWB 2 HG: 40 HP: 35 LP: 38 MS: 13 MSA: 14 MSB: 16 MSC: 12 MSD: 13 RHA: 60 RHB: 64 RHC: 39		1
	F1.30	Class 3 Piping Supports	Visual, VT-3	DG: 32 HP: 28 MSA: 38 MSB: 85 MSC: 69 MSD: 42 RHA: 25 RHB: 19		1

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
F-A Supports (Continued)	F1.40	Supports Other Than Piping Supports (Class 1, 2, and 3)	Visual, VT-3	DG: 4 HP: 1 LP: 1 RHA: 4 RHB: 4 RHC: 1 RPV: 1 RRA: 10 RRB: 10		1

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Item Number	Description	Exam Requirements	Total Number of Components	Relief Request/ TAP Number	Notes
L-A Concrete Surfaces	L1.11	Concrete Surfaces - All Accessible Surface Areas	General Visual	24		
	L1.12	Concrete Surfaces - Suspect Areas (No Suspect Areas Identified)	Detailed Visual	----		
L-B Unbonded Post-Tensioning System	L2.10	Tendon	IWL-2522	308	I3R-05	
	L2.20	Tendon - Wire or Strand	IWL-2523.2	----	I3R-05	
	L2.30	Tendon - Anchorage Hardware and Surrounding Concrete	Detailed Visual	616		
	L2.40	Tendon - Corrosion Protection Medium	IWL-2525.2(a)	----		
	L2.50	Tendon - Free Water	IWL-2525.2(b)	----		

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Risk Category Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
R-A Risk-Informed Piping Examinations	1	Risk Category 1 Elements	See Notes	FWA: 16 FWB: 16 RHA: 1 RHB: 1	I3R-01	3 4 5 6
	2	Risk Category 2 Elements	See Notes	FWA: 3 FWB: 3 HP: 6 LP: 6 RI: 12	I3R-01	3 4 5 6
	3	Risk Category 3 Elements	See Notes	FWA: 4 FWB: 4 RHA: 1 RHB: 3	I3R-01	3 4 5 6
	4	Risk Category 4 Elements	See Notes	HP: 14 LP: 5 MS: 38 MSA: 57 MSB: 70 MSC: 59 MSD: 58 NB: 12 RHA: 20 RHB: 24 RHC: 12 RHSDC: 4 RI: 26 RR: 3 RRA: 27 RRB: 25 RT: 3	I3R-01	3 4 5 6

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Risk Category Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
R-A Risk-Informed Piping Examinations (Continued)	5	Risk Category 5 Elements	See Notes	RHA: 2 RHB: 2	I3R-01	3 4 5 6

LSCS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7.1-2

Examination Category (with Category Description)	Aug Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TA&P Number	Notes
NA Augmented Components	BWRVIP	BWRVIP In-vessel Inspections (IGSCC Management Program BWR Vessel Internals and Piping Components)	Various	In accordance with BWRVIP Program		
	BWROG	BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking Components	Volumetric	FWA: 3 FWB: 3		
	IGSCC	Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping Components and BWRVIP-75 "Vessel and Internals Project Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules"	Volumetric	Category B: 134 Category C: 8 Category D: 2	I3R-01	4
	10CFR	Reactor Pressure Vessel Shell Welds (10 CFR 50.55a(g)(6)(ii)(A), Final Rule)	Volumetric	RPV: 16		
	MEB31	Examination of High Energy Circumferential and Longitudinal Piping Welds (MEB 3-1, UFSAR 3.6.1 and 3.6.2)	Volumetric or Surface	NA		6
	0737	Leak Testing and Periodic Visual Examinations of Systems Outside of Primary Containment Which Could Contain Highly Radioactive Fluids During a Serious Transient or Accident (NUREG 0737)	Visual, VT-2	HG HP LP RH RI RT		
	TRM21a	Pressure Testing of the Diesel Generator Fuel Oil System Designed to ASME Section III, Subsection ND (LSCS Technical Requirements Manual Section 2.1.a)	Visual, VT-2	DO	I3T-01	

INSERVICE INSPECTION SUMMARY TABLE PROGRAM NOTES TABLE 7.1-3

Note #	Note Summary
1	ISI snubber visual examinations and functional testing are performed in accordance with the ASME OM Code, Subsection ISTD Program. The number of LSCS Unit 1, 2, and Common supports identified, include snubbers for the visual examination and functional testing of the integral and nonintegral attachments per Paragraphs IWF-5200(c), IWF-5300(c), and IWF-2500(a). The snubbers are scheduled and administratively tracked in the ISI Program; however, the ASME OM Code, Subsection ISTD Program will be the mechanism for actually performing the visual examinations and functional testing scheduled within the ISI Program. For a detailed discussion of the snubber program, see Section 4.2.
2	The Unit 1 population counts include those components that are common to both units (typically designated as "Common" or "Unit 0"). These Common components are referenced in Table 7.1-1 following a "+" symbol to designate the Common Unit 0.
3	For the Third Inspection Interval, LSCS's Class 1 and 2 piping inspection program will be governed by risk-informed regulations. The RISI Program methodology is described in the EPRI Topical Reports TR-112657, Rev. B-A, TR-1006937, Rev. 0-A, and Code Case N-578-1. The RISI Program scope has been implemented as an alternative to the 2001 Edition through the 2003 Addenda of the ASME Section XI examination program for Class 1 B-F and B-J welds and Class 2 C-F-1 and C-F-2 welds in accordance with 10 CFR 50.55a(a)(3)(i).
4	Per the EPRI Topical Reports TR-112657, Rev. B-A, TR-1006937, Rev. 0-A, and Code Case N-578-1, welds within the plant that are assigned to IGSCC Categories B through G will continue to meet existing IGSCC schedules, while IGSCC Category A welds have been subsumed into the RISI Program.
5	Examination requirements within the RISI Program are determined by the various degradation mechanisms present at each individual piping structural element. See EPRI Topical Reports TR-112657, Rev. B-A, TR-1006937, Rev. 0-A, and Code Case N-578-1 for specific exam method requirements.
6	For the Third Inspection Interval, the RISI program scope has been expanded to include welds in the BER piping, also referred to as the HELB region, which includes several non-class welds that fall within the BER augmented inspection program. All BER augmented welds have been evaluated under the RISI methodology and have been integrated into the RISI Program under the 10 CFR 50.59 change process. Additional guidance for adaptation of the RISI evaluation process to BER piping is given in EPRI TR-1006937 Rev. 0-A. Thus, these welds have been categorized and selected for examination in accordance with the EPRI Topical Reports TR-112657, Rev. B-A, TR-1006937, Rev. 0-A, and Code Case N-578-1 in lieu of the original commitment to NUREG 0800 in UFSAR Sections 3.6.1 and 3.6.2.
7	Bolted connections examined per Item E1.11 require a VT-3 exam once per interval and each time the connection is disassembled during a scheduled E1.11 exam. Additionally, a VT-1 exam shall be performed if degradation or flaws are identified during the VT-3 exam. These modifications are required by 10 CFR 50.55a(b)(2)(ix)(G) and 10 CFR 50.55a(b)(2)(ix)(H).
8	Items E1.12 and E1.20 require VT-3 visual examination in lieu of General Visual examination, as modified by 10 CFR 50.55a(b)(2)(ix)(G).
9	Item E4.11 requires VT-1 visual examination in lieu of Detailed Visual examination, as modified by 10 CFR 50.55a(b)(2)(ix)(G).
10	The ultrasonic examination acceptance standard specified in IWE-3511.3 for Class MC pressure-retaining components must also be applied to metallic liners of Class CC pressure-retaining components, as modified by 10 CFR 50.55a(b)(2)(ix)(I).
11	Per 10 CFR 50.55a(b)(2)(xxi)(B), *Table IWB-2500-1 examination requirements*, the provisions of Table IWB-2500-1, Examination Category B-G-2, Item B7.80, that are in the 1995 Edition are applicable only to reused bolting when using the 1997 Addenda through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section.

7.2 Snubber Inspection Summary Tables

10 CFR 50.55a "Codes and Standards" allows usage of ASME OM Code Subsection ISTD in place of ASME Section XI Subsections IWF-5200(a) and IWF-5300(a) and (b), using visual VT-3 examination methods described in Subsection IWA-2213.

The following Tables 7.2-1 and 7.2-2 provide a summary of the ASME OM Code, Subsection ISTD, Snubber examinations and testing for the Third Inspection Interval at LSCS Units 1, 2, and Common.

The format of the Snubber Inspection Summary Tables is as depicted below and provides the following information:

ASME O&M Code Subsection	O&M Article Number	Description	Exam Requirements	Totals	Frequency	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) ASME O&M Code Subsection:

Provides the applicable Code for Operation and Maintenance of Nuclear Power Plants (O&M) subsection number and a description as obtained from ISTD. Only applicable subsections to LSCS are identified.

(2) O&M Article Number:

Provides the article number as identified in ISTD. Only those article numbers applicable to LSCS are identified.

(3) Article Number Description:

Provides the article description as identified in ISTD. Identifies the methods selected to be performed at LSCS.

(4) Exam Requirements:

Provides the examination and test method(s) required by ISTD.

(5) Totals:

Provides the total number of snubbers that pertain to that article of ISTD. Note that the total number of snubbers are subject to change after completion of plant modifications and design changes.

(6) Frequency:

Provides the frequency for examinations and testing as addressed in ISTD and approved ISTD Code Cases.

(7) Notes:

Provides a listing of program notes applicable to the ISTD article number. If a program note number is identified, see the corresponding program note in Table 7.2-3.

LSCS UNIT 1 & COMMON
SNUBBER INSPECTION SUMMARY TABLE 7.2-1

ASME O&M Code Subsection (with Subsection Description)	O&M Article Number	Description	Exam Requirements	Totals	Frequency	Notes
ISTD Snubber Examinations	ISTD-4200	Accessible and In-Accessible Snubbers (1 population)	Visual, VT-3	247	Once every 10 Years	1
ISTD Snubber Testing	ISTD-5200	10% Functional Test Plan - Type 1 Snubbers (PSA-1/4, PSA-1/2)	Functional Testing	18	Every Outage	2
		10% Functional Test Plan - Type 2 Snubbers (PSA-1, PSA-3, PSA-10)	Functional Testing	99	Every Outage	2
		10% Functional Test Plan - Type 3 Snubbers (PSA-35)	Functional Testing	76	Every Outage	2
		10% Functional Test Plan - Type 4 Snubbers (LISEGA 30 Series)	Functional Testing	32	Every Outage	2

LSCS UNIT 2
SNUBBER INSPECTION SUMMARY TABLE 7.2-2

ASME O&M Code Subsection (with Subsection Description)	O&M Article Number	Description	Exam Requirements	Totals	Frequency	Notes
ISTD Snubber Examinations	ISTD-4200	Accessible and In-Accessible Snubbers (1 population)	Visual, VT-3	257	Once every 10 Years	1
ISTD Snubber Testing	ISTD-5200	10% Functional Test Plan - Type 1 Snubbers (PSA-1/4, PSA-1/2)	Functional Testing	12	Every Outage	2
		10% Functional Test Plan - Type 2 Snubbers (PSA-1, PSA-3, PSA-10)	Functional Testing	133	Every Outage	2
		10% Functional Test Plan - Type 3 Snubbers (PSA-35)	Functional Testing	63	Every Outage	2
		10% Functional Test Plan - Type 4 Snubbers (LISEGA 30 Series)	Functional Testing	28	Every Outage	2

SNUBBER INSPECTION SUMMARY TABLE PROGRAM NOTES TABLE 7.2-3

Note #	Note Summary
1	Examinations performed per Code Case OMN-13, "Requirements for Extending Snubber Inservice Visual Examination Interval at LWR Power Plants".
2	Per ISTD 2001 Edition through the 2003 Addenda, Article ISTD-5240 "Test Frequency".
3	As part of the removal of the MSIV Leakage control system, certain snubbers are to be visually inspected on the Main Steam lines downstream of the Main Steam Isolation Valves. These snubbers are not functionally tested.

9.0 REFERENCES

The references used to develop this Inservice Inspection Program Plan include:

1) Code of Federal Regulations, Title 10.
- Part 50, Paragraph 2, "Definitions", the definition of "Reactor Coolant Pressure Boundary".
- Part 50, Paragraph 50.55a, "Codes and Standards".
- Part 50, Appendix J, Primary Reactor Containment Testing for Water Cooled Power Reactors.

SECY-96-080, Issuance of Final Amendment To 10 CFR 50.55a To Incorporate By Reference The ASME Boiler And Pressure Vessel Code (ASME Code), Section XI, Division 1, Subsection IWE and IWL.

2) ASME Boiler and Pressure Vessel Code, Section XI, Division 1, "Inservice Inspection of Nuclear Power Plant Components."
- 1989 Edition, No Addenda.
- 1992 Edition through the 1992 Addenda.
- 1995 Edition through the 1995 Addenda.
- 1995 Edition through the 1997 Addenda.
- 1998 Edition, No Addenda.
- 2001 Edition, No Addenda.
- 2001 Edition through the 2003 Addenda.

3) ASME Boiler and Pressure Vessel Code, Section III, Division 1, "Rules For Construction of Nuclear Power Plant Components", the 2001 Edition through the 2003 Addenda.

4) ASME OM Code, Code For Operation and Maintenance of Nuclear Power Plants, 2001 Edition through the 2003 Addenda.

5) USAS B31.1.0-1967, "Power Piping".

6) Regulatory Guide 1.26, Revision 3, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive Waste- Containing Components of Nuclear Power Plants".

7) Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1".

8) Regulatory Guide 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code.

9) LaSalle County Station Units 1 and 2 Final Safety Analysis Report (FSAR).

10) LaSalle County Station Units 1 and 2 Updated Final Safety Analysis Report (UFSAR).

11) LaSalle County Station Units 1 and 2 Technical Specifications (TS).

12) LaSalle County Station Units 1 and 2 Technical Requirements Manual (TRM).

13) USNRC NUREG-0313, Revision 2, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping".

14) USNRC NUREG-0519, dated March 1981, "Safety Evaluation Report related to the operation of LaSalle County Station Units 1 and 2".

15) USNRC NUREG-0578 dated July 1979, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations".

16) USNRC NUREG-0619, dated November 1980, "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking".

17) USNRC NUREG-0737, dated November 1980, "TMI Action Plan Requirements".

18) Generic Letter 88-01, Revision 2, dated January 25, 1988, "NRC Position on Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping".

19) Generic Letter 88-01, Supplement 1, dated February 4, 1992, "NRC Position on Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping".

20) BWR Vessel and Internals Project Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75), EPRI Report TR-113932, October, 1999.

21) USNRC Final SER (TAC NO. MA5012) related to "BWR Vessel and Internals Project Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules BWRVIP-75), EPRI Report TR-113932, October, 1999", dated May 14, 2002.

22) BWROG - Safety Evaluation of Proposed Alternative to BWR Feedwater Nozzle Inspections (TAC M94090), dated June 5, 1998.

23) Boiling Water Reactor Owners' Group (BWROG) Report GE-NE-523-A71-0594, Revision 1, "Alternate BWR Feedwater Nozzle Inspection Requirements," dated August 1999.

24) USNRC Final SER related to the "BWR Owner's Group Alternate Boiling Water Reactor (BWR) Feedwater Nozzle Inspection (TAC No. MA6787)", dated March 10, 2000.

25) Branch Technical Position MEB 3-1, dated November 24, 1975, "High Energy Fluid Systems, Protection Against Postulated Piping Failures in Fluid Systems Outside Containment".

26) Generic Letter 98-05, "Boiling Water Reactor Licensees Use of the BWRVIP-05 Report to Request Relief From Augmented Examination Requirements on Reactor Pressure Vessel Circumferential Shell Welds", dated November 10, 1998.

27) USNRC Final SER related to the "BWR Reactor Vessel Shell Weld Inspection Recommendations (BWRVIP-05), EPRI Report EPRI Report TR-105697, September, 1995", dated July 28, 1998.

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

29) LaSalle County Station Procedures LAP-100-14, "Leak Reduction Program", LTS-300-7, "Leakage Reduction and Control Program", LTS-500-14, "Safety Related Snubber Functional Testing", LTS-600-11, "Safety Related Snubber Visual Examination", LOP-RD-20, "Control Rod Accumulator Recharging/Water Removal", LTS-500-18, "Unit 1 Main Steam Safety Relief Valve Operability", and LTS-500-19, "Unit 2 Main Steam Safety Relief Valve Operability".

30) Exelon Corporate Procedures ER-AA-330, "Conduct of Inservice Inspection Activities", ER-AA-330-001, "Section XI Pressure Testing", ER-AA-330-002, "Inservice Inspection of Welds and Components", ER-AA-330-003, "Visual Examination of Section XI Component Supports", ER-AA-330-004, "Visual Examination of Technical Specification Snubbers", ER-AA-330-005, "Visual Examination of Section XI Class CC Concrete Containment Structures", ER-AA-330-006, "Inservice Inspection and Testing of The Pre-Stressed Concrete Containment Post Tensioning Systems", ER-AA-330-007, "Visual Examination of Section XI Class MC Surfaces and Class CC Liners", ER-AA-330-009, "ASME Section XI Repair/Replacement Program", ER-AA-330-010, "Snubber Functional Testing", and ER-AA-330-011, "Snubber Service Life Monitoring Program".

31) LaSalle County Station Units 1 and 2 ISI Classification Bases Document (SL-4829), Second Ten-Year Inspection Interval.

32) LaSalle County Station Units 1 and 2 ISI Classification Basis Document (LAS03.G04), Third Ten-Year Inspection Interval.

33) LaSalle County Station Units 1 and 2 ISI Selection Document (LAS04.G05), Third Ten-Year Inspection Interval.

34) Sargent & Lundy External Design Information Transmittal (EDIT) DIT-LS-EXT-0045-1. This EDIT transmitted Calculation ATD-0204, Revision 3, "Makeup Calculation in Conjunction with IWB-1220, ASME Section XI, 1989 Edition", approved January 7, 1994.

35) EPRI Topical Report TR-112657, Rev. B-A, Final Report, "Revised Risk-Informed Inservice Inspection Evaluation Procedure", December 1999.

36) USNRC SER related to EPRI Topical Report TR-112657, Rev. B, Final Report, "Revised Risk-Informed Inservice Inspection Evaluation Procedure, July 1999", dated October 28, 1999.

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

38) USNRC SER related to EPRI Topical Report TR-1006937, Rev. 0, "Extension of the EPRI Risk-Informed Inservice Inspection (RI-ISI) Methodology to Break Exclusion Region (BER) Programs", dated June 27, 2002.

39) Exelon Risk-Informed Inservice Inspection Evaluation (Final Report) for LaSalle County Station Units 1 and 2.

40) LaSalle County Station Letter RA06-062 from Susan R. Landahl (Site Vice President) to USNRC (Document Control Desk), dated September 22, 2006, "Inservice Inspection ISI Intervals".