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10 CFR 50.55a

March 6, 2007

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

Limerick Generating Station, Units 1 and 2
Facility Operating License Nos. NPF-39 and NPF-85
NRC Docket Nos. 50-352 and 50-353

Subject: Submittal of Third Inservice Inspection (ISI) Interval Program Plan

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 Third Ten-Year Interval Inservice Inspection (ISI) Program for Limerick Generating Station (LGS), Units 1 and 2, not including relief requests. Relief requests associated with the program are being submitted separately. The third interval of the LGS, Units 1 and 2 ISI Program complies with the 2001 Edition through 2003 Addenda of the ASME B&PV Code.

Should you have any questions concerning this letter, please contact Tom Loomis at (610) 765-5510.

Sincerely,

Pamela B. Cowan
Director – Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Attachment: Limerick Generating Station (LGS), Units 1 and 2 Third Inservice Inspection (ISI) Interval Program Plan

cc: S. J. Collins, Regional Administrator, Region I, USNRC
S. Hansell, USNRC Senior Resident Inspector, LGS
J. Shea, Project Manager [LGS] USNRC

A047

Limerick Generating Station (LGS)
Units 1 and 2
Third Inservice Inspection (ISI) Interval Program Plan

NUCLEAR SAFETY RELATED

SPECIFICATION FOR

LIMERICK GENERATING STATION

UNIT 1 & 2

INSERVICE INSPECTION PROGRAM

System/Topic No. 101
Use of this Specification is not limited to the Systems/Topics listed above.

Responsible Organization
LEDX Branch

0		Issued per LG ECR 06-00481	M Karaick MAK 2/1/07	2/1/07	2/1/07	HSECP ANII 2/2/07			
			ORIGINATOR	REVIEWER	APPROVAL	APPROVED	APPROVAL	APPROVAL	APPROVAL
REV NO	DATE	REASON FOR ISSUE	LEAD			NON-LEAD			

PECO NUCLEAR	SPECIFICATION FOR LIMERICK GENERATING STATION UNIT 1 & 2 INSERVICE INSPECTION PROGRAM	NO. NE-328 REV. NO 0 PAGE 1 OF

LIMERICK GENERATING STATION
UNITS 1 & 2

ISI PROGRAM PLAN
THIRD TEN-YEAR INSPECTION INTERVAL

Commercial Service Dates:

Unit 1 - 02/01/86
Unit 2 - 01/08/90

Limerick Generating Station
3146 Sanatoga Road
Pottstown, Pennsylvania 19464

Exelon Generation Company (EGC), LLC
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Prepared By:
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ALION
SCIENCE AND TECHNOLOGY

REVISION APPROVAL SHEET

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

DOCUMENT: LIM02.G03 REVISION: 0

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REVISION APPROVAL SHEET

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

DOCUMENT: LIM02.G03 REVISION: 0

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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, Limerick Generating Station archives should be retrieved.

REVISION CONTROL SHEET

Major changes to this document should be outlined within the table below. Editorial and formatting revisions are not required to be logged.

REVISION	DATE	REVISION SUMMARY
0	02/01/07	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

Notes:

1. This ISI Program Plan (Sections 1 - 9 inclusive) is controlled by the Limerick Generating Station, Engineering Programs Group.

2. Revision 0 of this document was issued as the Third Interval ISI Program Plan and was submitted to the NRC for review, including approval of the initial Third ISI Interval Relief Requests. 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 NRC for approval. The exception to this is that new or revised Relief Requests shall be submitted to the NRC for safety evaluation and approval.

REVISION SUMMARY

SECTION	EFFECTIVE PAGES	REVISION	DATE
Preface	i to v	0	02/01/07
1.0	1-1 to 1-15	0	02/01/07
2.0	2-1 to 2-69	0	02/01/07
3.0	3-1 to 3-3	0	02/01/07
4.0	4-1 to 4-2	0	02/01/07
5.0	5-1	0	02/01/07
6.0	6-1 to 6-2	0	02/01/07
7.0	7-1 to 7-32	0	02/01/07
8.0	8-1 to I3R-14-19	0	02/01/07
9.0	9-1 to 9-3	0	02/01/07

TABLE OF CONTENTS

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, and containment structures at Limerick Generating Station (LGS), Units 1, 2, and Common. Common (Unit Common) components are included in the Unit 1 sections, reports, and tables. This ISI Program Plan also includes Containment Inservice Inspection (CISI), Risk-Informed Inservice Inspections (RISI), Augmented Inservice Inspections (AUG), and pressure testing requirements imposed on or committed to by LGS. At LGS, 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 February 1, 2007 through January 31, 2017 for both LGS 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 (Relief Request I3R-01). 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, and 1.1-3 for intervals, periods, and extensions that apply to LGS's Third ISI Interval and Second CISI Interval.

The Third ISI Interval and the 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, and 1.1-3 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 inspection to coincide with LGS's refueling outages.

Table 1.1-1

LGS 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**
1R12	Scheduled 3/08	1st 2/1/07 to 1/31/11	3rd (Unit 1) 2/1/07 to 1/31/17 (Note 1 and 2)	1st 2/1/07 to 1/31/10	Scheduled 3/07	2R09
1R13	Scheduled 3/10				Scheduled 3/09	2R10
1R14	Scheduled 3/12	2nd 2/1/11 to 1/31/14		2nd 2/1/10 to 1/31/13	Scheduled 3/11	2R11
1R15	Scheduled 3/14	3rd 2/1/14 to 1/31/17	3rd (Unit 2) 2/1/07 to 1/31/17 (Note 1 and 3)	3rd 2/1/13 to 1/31/17	Scheduled 3/13	2R12
1R16	Scheduled 3/16				Scheduled 3/15	2R13

Note 1: A request to share a common interval start and end date between LGS Units 1 and 2 was submitted in accordance with Relief Request I3R-01.

Note 2: The LGS Unit 1 and Common Second Period was reduced by one year and the First Period was extended by one year as permitted by IWA-2430(d)(3) in order to coincide with the plant refueling outage schedule.

Note 3: The LGS Unit 2 Second Period was reduced by one year and the Third Period was extended by one year as permitted by IWA-2430(d)(3) in order to coincide with the plant refueling outage schedule.

Table 1.1-2

LGS UNIT 1 AND UNIT 2 CISI INTERVAL/PERIOD/OUTAGE MATRIX
(FOR ISI 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**
1R12	Scheduled 3/08	1st 2/1/07 to 1/31/11	2nd (Unit 1) 2/1/07 to 1/31/17 (Note 1 and 2)	1st 2/1/07 to 1/31/10	Scheduled 3/07	2R09
1R13	Scheduled 3/10				Scheduled 3/09	2R10
1R14	Scheduled 3/12	2nd 2/1/11 to 1/31/14		2nd 2/1/10 to 1/31/13	Scheduled 3/11	2R11
1R15	Scheduled 3/14	3rd 2/1/14 to 1/31/17	2nd (Unit 2) 2/1/07 to 1/31/17 (Note 1 and 3)	3rd 2/1/13 to 1/31/17	Scheduled 3/13	2R12
1R16	Scheduled 3/16				Scheduled 3/15	2R13

Note 1: A request for use of subsequent ASME Section XI Code Edition and Addenda was submitted in accordance with Relief Request I3R-01 which implements the 2001 Edition through the 2003 Addenda of ASME Section XI for the CISI Programs as well as to share a common interval start and end date with the ISI Program.

Note 2: The LGS Units 1 and Common Second Period was reduced by one year and the First Period was extended by one year as permitted by IWA-2430(d)(3) in order to coincide with the plant refueling outage schedule.

Note 3: The LGS Unit 2 Second Period was reduced by one year and the Third Period was extended by one year as permitted by IWA-2430(d)(3) in order to coincide with the plant refueling outage schedule.

Table 1.1-3

LGS UNIT 1 AND UNIT 2 CISI INTERVAL/PERIOD/OUTAGE MATRIX
(FOR ISI CLASS CC COMPONENT EXAMINATIONS)

Unit 1		5-Year Period	Interval	5-Year 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**
1R12	Scheduled 3/08	1st 2/1/07 to 1/31/12	2nd (Unit 1) 2/1/07 to 1/31/17[1]	1st 2/1/07 to 1/31/12	Scheduled 3/07	2R09
1R13	Scheduled 3/10				Scheduled 3/09	2R10
1R14	Scheduled 3/12	2nd 2/1/12 to 1/31/17	2nd (Unit 2) 2/1/07 to 1/31/17[1]		Scheduled 3/11	2R11
1R15	Scheduled 3/14			3rd 2/1/12 to 1/31/17	Scheduled 3/13	2R12
1R16	Scheduled 3/16				Scheduled 3/15	2R13

Note 1: A request for use of subsequent ASME Section XI Code Edition and Addenda was submitted in accordance with Relief Request I3R-01 which implements the 2001 Edition through the 2003 Addenda of ASME Section XI for the CISI Program as well as share a common interval start and end date with the ISI Program.

1.2 Background

The Philadelphia Electric Company, now known commercially as Exelon Generation Company or Exelon, obtained construction permits CPPR-106 for Unit 1 and CPPR-107 for Unit 2 to build LGS on June 19, 1974. The docket numbers assigned to LGS are 50-352 for Unit 1 and 50-353 for Unit 2. After satisfactory plant construction and preoperational testing was completed, LGS was granted a full power operating license for Unit 1, NPF-39, and subsequently commenced commercial operation on February 1, 1986; the full power operating license for Unit 2, NPF-85, was granted and commercial operation commenced on January 8, 1990.

LGS'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 10CFR50.55a.

1.3 First Interval ISI Program

On February 1, 1986, LGS Unit 1 began commercial operation, which marked the beginning of the Unit 1 First Inspection Interval. ISI and Repair and Replacement Programs were developed to implement the requirements of the ASME Boiler and Pressure Vessel (B&PV) Code, Section XI. At the time these programs were implemented, ASME Section XI, 1980 Edition, including Addenda through Winter 1981, were used to develop the ISI and Repair and Replacement Programs, as required by 10CFR50.55a(g)(4)(i).

By letter dated January 24, 1992, LGS notified the United States Nuclear Regulatory Commission (USNRC) that the LGS Unit 1 and Common ISI and Repair and Replacement Programs had been voluntarily upgraded to meet the requirements of the latest USNRC-approved version of ASME Section XI (i.e., 1986 Edition, no Addenda). This voluntary upgrade was adopted following the completion of the LGS Unit 1 third refueling outage, 1R03, and was used for the remainder of the First Inspection Interval. The voluntary upgrade was initiated to allow LGS Unit 1 to use the same ASME Section XI Edition as that required for LGS Unit 2 (i.e., 1986 Edition). This alignment of applicable Code Editions was developed to provide a uniform set of requirements for both units at LGS, and to preclude any confusion that could result from the use of different requirements for each unit.

The First Inspection Interval for LGS Unit 1 was scheduled to end on February 1, 1996. However, by letter dated April 6, 1995, LGS notified the USNRC that the inspection interval would be extended until March 1, 1996, to accommodate the sixth refueling outage (1R06) schedule. Additionally, by letter dated January 5, 1996, LGS notified the USNRC that the inspection interval would be further extended until February 1, 1997, to accommodate the preparation and implementation of ASME Code pressure tests that were now required as a result of the USNRC's conditional approval of Relief Request RR-13. The LGS Unit 1 First Inspection Interval began on February 1, 1986 and ended on January 31, 1997. This one-year extension has not been recovered to date for LGS Unit 1.

The LGS Unit 2 First Inspection Interval began on January 8, 1990 and ended on January 7, 2000. ISI and Repair and Replacement Programs were developed to implement the requirements of the ASME B&PV Code, Section XI, 1986 Edition, No Addenda.

1.4 Second Interval ISI Program

Pursuant to the Code Of Federal Regulations, Title 10, Part 50, Section 55a, *Codes and standards*, (10CFR50.55a), Paragraph (g), *Inservice inspection requirements*, licensees were required to update their ISI Programs to meet the requirements of ASME Section XI once every ten years or inspection interval. The ISI Program was required to comply with the latest Edition and Addenda of the Code incorporated by reference in 10CFR50.55a twelve (12) months prior to the start of the interval per 10CFR50.55a(g)(4)(ii).

As stated above, the end of the LGS Unit 1 First Inspection Interval was January 31, 1997 and the end of the LGS Unit 2 First Inspection Interval was January 7, 2000. In order to avoid the inherent misalignment of the LGS ASME Section XI Programs, LGS obtained approval from the USNRC to begin the LGS Unit 1 and Common Second Inspection Interval, as normally scheduled, using the existing Code requirements (i.e., First Inspection Interval requirements), as described in ASME Section XI, 1986 Edition. Then, in approximately three (3) to four (4) years following the start of the LGS Unit 1 Second Inspection Interval, when LGS Unit 2 completed its First Inspection Interval, both Unit 1 and Unit 2 ISI Programs were simultaneously updated to the latest approved Edition and Addenda of the ASME Section XI, which was the Code requirements in effect 12 months prior to the start of LGS Unit 2 Second Inspection Interval (i.e., 1989 Edition, No Addenda).

The LGS Second Interval ISI Program Plans addressed Subsections IWA, IWB, IWC, IWD, IWF, Mandatory Appendices, approved ASME Code Cases, approved alternatives through relief requests and SER's, and utilized Inspection Program B as defined therein.

As an alternative to the full ten-year interval duration requirements of IWA-2430(b) and (d) and IWA-2432 for the Unit 2 Second Interval ISI Program and the Unit 2 First Interval CISI Program, LGS has proposed Relief Request I3R-01 to modify the interval dates of the Unit 2 Second Interval ISI Program and the Unit 2 First Interval CISI Program. This will permit 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 Second ISI Interval was effective from February 1, 1997 through January 31, 2007 for LGS Unit 1 and from January 8, 2000 through January 31, 2007 for LGS Unit 2.

1.5 Third Interval ISI Program

Pursuant to 10CFR50.55a(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 10CFR50.55a twelve (12) months prior to the start of the interval per 10CFR50.55a(g)(4)(ii). As discussed in Section 1.4 above, the start of the Third ISI Interval will be on February 1, 2007 for LGS Units 1 and 2. Based on this date, the latest Edition and Addenda of the Code referenced in 10CFR50.55a(b)(2) twelve months prior was the 2001 Edition through the 2003 Addenda.

The LGS Third Interval ISI Program Plan was developed in accordance with the requirements of 10CFR50.55a including all published changes through January 31, 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 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.

LGS 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 Inspection 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 LGS with Examination Category R-A as defined in Code Case N-578-1. Implementation of RISI Program is in accordance with Relief Request I3R-02.

LGS 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

10CFR50.59 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 with the 1992 Addenda of the ASME Section XI, Subsections IWE and IWL, subject to specific modifications that were included in Paragraphs 10CFR50.55a(b)(2)(ix) and 10CFR50.55a(b)(2)(x).

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 10CFR50.55a(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, Mandatory Appendices, approved ASME Code Cases, and approved alternatives through relief requests and SER's were added to the ISI Program midway through the Second ISI Interval to address CISI. The First CISI Interval for the LGS CISI Programs was aligned with the Unit 1 and Unit 2 ISI Programs and was effective from February 1, 1997 through January 31, 2007 for Unit 1 and January 8, 2000 through January 7, 2010 for Unit 2, respectively.

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 Unit 1. Only the first and second periods were in accordance with the First CISI Interval schedule for Unit 2. As detailed in the submittal of the Third Interval ISI Program, the transition from the First to Second Interval CISI Program occurred approximately three years early for Unit 2 to allow for a common interval start and end date and Code of record between the ISI and CISI Programs. No significant examination issues were identified in this shortened First CISI Interval requiring application of additional augmented examination requirements as detailed within IWE-1240.

As an alternative to the full ten-year interval duration requirements of IWA-2430(b) and (d) and IWA-2432 for the Unit 2 Second Interval ISI Program and the Unit 2 First Interval CISI Program, LGS has proposed Relief Request I3R-01 to modify the interval dates of the Unit 2 Second Interval ISI Program and the Unit 2 First Interval CISI Program. This will permit 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 Unit 1 First CISI Interval was effective from February 1, 1997

through January 31, 2007 and the Unit 2 First CISI Interval was effective from January 8, 2000 through January 31, 2007 (approximately 3 years early) for LGS Unit 2.

1.7 Second Interval CISI Program

Pursuant to 10CFR50.55a(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 10CFR50.55a twelve (12) months prior to the start of the interval per 10CFR50.55a(g)(4)(ii). As discussed in Section 1.6 above, the start of the Second CISI Interval will be on February 1, 2007 for LGS Units 1 and 2. Based on this date, the latest Edition and Addenda of the Code referenced in 10CFR50.55a(b)(2) twelve months prior was the 2001 Edition through the 2003 Addenda.

The LGS Second Interval CISI Program Plan was developed in accordance with the requirements of 10CFR50.55a including all published changes through February 1, 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, Mandatory Appendices, approved ASME Code Cases, approved alternatives through relief requests and SER's, and utilizes Inspection Program B as defined therein.

1.8 Code of Federal Regulations 10CFR50.55a Requirements

There are certain paragraphs in 10CFR50.55a that list the limitations, modifications, and/or clarifications to the implementation requirements of ASME Section XI. These paragraphs in 10CFR50.55a that are applicable to LGS are detailed in Table 1.8-1.

TABLE 1.8-1
CODE OF FEDERAL REGULATIONS 10CFR50.55a REQUIREMENTS

10CFR50.55a Paragraphs	Limitations, Modifications, and Clarifications
10CFR50.55a(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.
10CFR50.55a(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.
10CFR50.55a(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 10CFR50.55a REQUIREMENTS

10CFR50.55a Paragraphs	Limitations, Modifications, and Clarifications
10CFR50.55a(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.
10CFR50.55a(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.
10CFR50.55a(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 10CFR50.55a REQUIREMENTS

10CFR50.55a Paragraphs	Limitations, Modifications, and Clarifications
10CFR50.55a(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.
10CFR50.55a(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.
10CFR50.55a(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.
10CFR50.55a(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 10CFR50.55a REQUIREMENTS

10CFR50.55a Paragraphs	Limitations, Modifications, and Clarifications
10CFR50.55a(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.
10CFR50.55a(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.
10CFR50.55a(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.
10CFR50.55a(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 10CFR50.55a REQUIREMENTS

10CFR50.55a Paragraphs	Limitations, Modifications, and Clarifications
10CFR50.55a(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.
10CFR50.55a(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.
10CFR50.55a(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.

1.9 Code Cases

Per 10CFR50.55a(b)(5), 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 LGS, 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 10CFR50.55a(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 LGS.

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 10CFR50.55a(a)(3). Code Cases not approved for use in Regulatory Guide 1.147, which are being utilized by LGS through associated relief requests, are included in Section 8.0.

1.10 Relief Requests

In accordance with 10CFR50.55a, 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 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 10CFR50.55a(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 10CFR50.55a(a)(3)(ii), or the code requirements are considered impractical per 10CFR50.55a(g)(5)(iii).

Per 10CFR50.55a 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 10CFR50.55a, 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 10CFR50.55a(b)(2). 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 10CFR50.55a(g)(6)(ii)(C).

For the Third Inspection Interval, LGS'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 requirements. 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-02) 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, 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 10CFR50.55a(a)(3)(i). The basis for the resulting risk categorizations of the non-exempt Class 1 and 2 piping systems at LGS 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, which includes several non-class welds that fall within the BER augmented inspection program. 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 10CFR50.55a(b)(5) and allowed by USNRC Regulatory Guide 1.147, Revision 14, the following Code Cases are being incorporated into the LGS 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 ASME 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 10CFR50.55a(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 10CFR 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 10CFR 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-532-1 Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000

Code Case N-532-1 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 14:

Code Case N-532-1 requires an Owner's Activity Report Form OAR-1 to be prepared and certified upon completion of each refueling outage. The OAR-1 forms must be submitted to the USNRC within 90 days of the completion of the refueling outage.

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 10CFR50.55a 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 ASME Section XI, the engineering evaluations and the examinations shall be further extended to included 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 10CFR50.55a 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.

2.2 Augmented Inspection Requirements

Augmented Inspection Program requirements are those inspections that are performed above and beyond the requirements of ASME Section XI. Below is a summary of those examinations performed by LGS that are not specifically addressed by ASME Section XI, or the inspections that will be performed in addition to the requirements of ASME Section XI on a routine basis during the Third Inspection Interval. Implementation of the examination commitments is included in Section 7.0 of this ISI Program Plan and the associated ISI Database. See the Augmented Inspection Program for details on these additional examination requirements and references.

2.2.1 (AUG-01), Generic Letter 88-01, USNRC 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)

2.2.2 (AUG-02), Boiling Water Reactor Owners' Group (BWROG) Report GE-NE-523-A71-0594, Revision 1, Alternate BWR Feedwater Nozzle Inspection Requirements, and NUREG 0619, BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking

Note: Augmented examination of the Feedwater Spargers has been transferred to procedure ER-LG-331, "Reactor Internals Program Bases and Implementation at LGS", whereas augmented examination of the Feedwater Nozzles remains with this section.

2.2.3 (AUG-05), USNRC Mechanical Engineering Branch (MEB) Technical Position MEB 3-1, NUREG-0800, No Break Boundaries

2.2.4 (AUG-07), SIL No. 455, Recommendation for Additional ISI of Alloy 182 Nozzle Weldments

2.2.5 (AUG-09), Examination of the RPV Closure Head Lifting Lugs

2.2.6 (AUG-10), UFSAR Table 3.2-1, Non-Q Reactor Pressure Vessel Internal Components

2.2.7 (AUG-13), Technical Specification 3/4.7.4, Snubber Examination and Testing Program

2.2.8 (AUG-14), Balance of Plant Snubber Examination Program

2.2.9 (AUG-19), Weld Centerline Marking

2.2.10 (AUG-22), USNRC IEB Nos. 95-02 and 96-03, RHR and CS Suction Strainers

2.2.11 (AUG-30), BWRVIP-05, BWR Reactor Pressure Vessel Shell Welds

2.2.12 Augmented inspection programs associated with the BWRVIP and the LGS Vessel Internals Program have been transferred to procedure ER-LG-331, "Reactor Internals Program Bases and Implementation at LGS." The LGS Vessel Internals Program procedure now includes the following:

AUG-02	Boiling Water Reactor Owners' Group (BWROG) Report GE-NE-523-A71-0594, Revision 1, Alternate BWR Feedwater Nozzle Inspection Requirements, and NUREG-0619, BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking (See Note in Section 2.2.2 for augmented examination details for Feedwater Spargers)
AUG-03	IE Bulletin No. 80-13, Cracking in Core Spray Spargers, and BWRVIP-18, BWR Core Spray Internals
AUG-04	NUREG/CR-3052, Closeout of IE Bulletin 80-07, BWR Jet Pump Assembly Failure, and BWRVIP-41, BWR Jet Pump Assembly
AUG-11	SIL No. 409, Incore Dry Tube Cracks Lines

AUG-15	SIL No. 433, Shroud Head Bolt Cracks
AUG-16	SIL No. 462, Shroud Support Access Hole Cover Cracks
AUG-17	SIL No. 474, Steam Dryer Drain Channel Cracking
AUG-20	BWRVIP-76, BWR Core Shroud
AUG-21	BWRVIP-26, BWR Top Guide
AUG-23	BWRVIP-25, BWR Core Plate
AUG-24	BWRVIP-27, BWR Standby Liquid Control and Core Plate ΔP Nozzle
AUG-25	BWRVIP-38, BWR Core Shroud Support Structure
AUG-26	BWRVIP-42, BWR LPCI Coupling
AUG-27	BWRVIP-47, BWR Lower Plenum
AUG-28	BWRVIP-48, BWR Reactor Pressure Vessel ID Attachment Welds
AUG-29	BWRVIP-49, BWR Instrument Penetrations

2.3 System Classifications and ISI 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 LGS 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. This evaluation followed the guidelines of UFSAR Sections 5.2.4 and 6.6.

When a particular group of components is identified as performing a 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 10CFR50.2, 10CFR50.55a(c)(1), 10CFR50.55a(c)(2), and Regulatory Guide 1.26. The valve positions shown on the system flow diagrams are assumed to be the normal positions during system operation unless otherwise noted.

Components within the reactor coolant pressure boundary, as defined by 10CFR50.2, are typically designated as ISI Class 1 while the other safety related components are evaluated for ISI Class 2 or 3 designation in accordance with the guidelines of Regulatory Guide 1.26. Per Regulatory Guide 1.26 Paragraphs A and B, the ISI Class 2 and 3 boundaries are limited to safety related systems and components (reference UFSAR Section 6.6). Where sufficient classification criteria is not provided within 10CFR50 or Regulatory Guide 1.26, other industry documents such as NUREG-0800 and ANSI/ANS standards are consulted "for

guidance". LGS is only committed to and licensed in accordance with the rules and regulations of 10CFR50 and Regulatory Guide 1.26.

ISI classification boundaries are defined by the ISI Boundary Drawings with a classification line color code. A legend appears on each of the ISI Boundary Drawings defining the ISI classification and exempt/non-exempt status for each of the color coded lines. These drawings are identified with a special prefix of "ISI" for the color-coded P&IDs (e.g.; ISI-M-01).

The systems and components (piping, pumps, valves, vessels, etc.), which are subject to the examinations of Articles IWB-2000, IWC-2000, IWD-2000, IWE-2000, IWF-2000, and IWL-2000 are identified on the ISI Boundary Drawings as detailed in Table 2.3-1.

TABLE 2.3-1
LGS ISI CLASSIFICATION BOUNDARY DRAWINGS

UNIT 1 & Common	UNIT 2	TITLE
ISI-M-01, Sh. 1	ISI-M-01, Sh. 3	Main Steam (MS)
ISI-M-08, Sh. 1	ISI-M-08, Sh. 3	Condensate & Refueling Water Storage (CONDSTE)
ISI-M-11, Sh. 1,1A,2,3,4	ISI-M-11, Sh. 1,4,5	Emergency Service Water (ESW)
ISI-M-12	ISI-M-12	RHR Service Water (RHRSW)
ISI-M-13, Sh. 1	ISI-M-13, Sh. 2	Reactor Enclosure Cooling Water (RECW)
ISI-M-15, Sh. 1,15,16	ISI-M-15, Sh. 29,30	Compressed Air (Service Air)
ISI-M-20, Sh. 3,4,4A,5,6,7,8	ISI-M-20, Sh. 9,10,11,12,13,14	Fuel & Diesel Oil Storage and Transfer (DIESEL)
ISI-M-26, Sh. 1,2,4	ISI-M-26, Sh. 7,8	Plant Process Radiation Monitoring (RADMON)
ISI-M-40, Sh. 1	ISI-M-40, Sh. 2	MSIV Leakage Control System (Abandoned in Place per MOD P00017-1)
ISI-M-41, Sh. 1,2	ISI-M-41, Sh. 4,5	Nuclear Boiler (NB or RPV)
ISI-M-42, Sh. 1,2,5	ISI-M-42, Sh. 3	Nuclear Boiler Vessel Instrumentation (NB or RPV)
ISI-M-43, Sh. 1,2	ISI-M-43, Sh. 3,4	Reactor Recirculation Pump (RR)
ISI-M-44, Sh. 1,2	ISI-M-44, Sh. 3,4	Reactor Water Clean-up (RWCU)
ISI-M-45, Sh. 1	ISI-M-45, Sh. 2	Clean Up Filter Demineralizer (DEMIN)
ISI-M-46, Sh. 1	ISI-M-46, Sh. 2	Control Rod Drive Hydraulic (Part A) (CRD)
ISI-M-47, Sh. 1	ISI-M-47, Sh. 2	Control Rod Drive Hydraulic (Part B) (CRD)
ISI-M-48, Sh. 1	ISI-M-48, Sh. 2	Standby Liquid Control (SLC)
ISI-M-49, Sh. 1	ISI-M-49, Sh. 2	Reactor Core Isolation Cooling (RCIC)
ISI-M-50, Sh. 1	ISI-M-50, Sh. 2	RCIC Pump Turbine (RCIC)
ISI-M-51, Sh. 1,2,3,4	ISI-M-51, Sh. 5,6,7,8	Residual Heat Removal (RHR)
ISI-M-52, Sh. 1,2,2A	ISI-M-52, Sh. 3,4	Core Spray (CS)
ISI-M-53, Sh. 1,2	ISI-M-53, Sh. 3,4	Fuel Pool Cooling and Clean-up (FPC)
ISI-M-55, Sh. 1	ISI-M-55, Sh. 2	High Pressure Coolant Injection (HPCI)
ISI-M-56, Sh. 1	ISI-M-56, Sh. 2	HPCI Pump Turbine (HCPI)
ISI-M-57, Sh. 1,2,3	ISI-M-57, Sh. 4,5,6	Containment Atmospheric Control (CAC)
ISI-M-58, Sh. 1,2	ISI-M-58, Sh. 3,4	Hydrogen Recombiner (HYD REC)

TABLE 2.3-1
LGS ISI CLASSIFICATION BOUNDARY DRAWINGS

UNIT 1 & Common	UNIT 2	TITLE
ISI-M-59, Sh. 1,2	ISI-M-59, Sh. 3,4	Primary Containment Instrument Gas (PCIG)
ISI-M-60, Sh. 1	ISI-M-60, Sh. 2	Primary Containment Leak Testing (PCTL)
ISI-M-61, Sh. 1	ISI-M-61, Sh. 4	Liquid Radwaste Collection (LRW)
ISI-M-87, Sh. 4,5	ISI-M-87, Sh. 9,10	Drywell Chilled Water (DWCW)
ISI-M-90, Sh. 1,2	-	Control Structure Chilled Water (CSCW)

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 Code classified 1, 2, and 3 components (welds, bolting, etc.) and support locations at LGS. These ISI components and supports are identified on the ISI Isometric and Component Drawings listed in Tables 2.4-1, 2.4-2, 2.4-3, 2.4-4, 2.4-5, and 2.4-6. The Class 1 and 2 Isometric Drawings are identified with a special prefix of "FIG" for Unit 1 and "XI" for Unit 2 (e.g.; FIG-01-01 or XI-DCA-204-1). The CISI Class MC and CC components are identified on the CISI Reference Drawings listed in Table 2.4-7. Calibration Block Drawings are identified on the ASME Section XI UT Calibration Block Drawings listed in Tables 2.4-8 and 2.4-9.

LGS's ISI Program, including the ISI Database, ISI Classification Basis Document, and ISI Selection Document, addresses the non-exempt components, which require examination and testing.

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

TABLE 2.4-1
LGS UNIT 1 ISI CLASS 1 AND 2 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 1 & Common (Class 1)	UNIT 1 & Common (Class 2)	TITLE
FIG-01-01	FIG-01-02	Residual Heat Removal
FIG-01-101	FIG-01-102	Residual Heat Removal
FIG-01-04	FIG-01-03	Residual Heat Removal
FIG-01-104	FIG-01-103	Residual Heat Removal
FIG-01-07A	FIG-01-03A	Residual Heat Removal
FIG-01-107A	FIG-01-103A	Residual Heat Removal
FIG-01-09A	FIG-01-05	Residual Heat Removal
FIG-01-109A	FIG-01-105	Residual Heat Removal
FIG-01-11	FIG-01-06	Residual Heat Removal
FIG-01-111	FIG-01-106	Residual Heat Removal
-	FIG-01-06A	Residual Heat Removal
-	FIG-01-106A	Residual Heat Removal
-	FIG-01-07	Residual Heat Removal
-	FIG-01-107	Residual Heat Removal
-	FIG-01-08	Residual Heat Removal
-	FIG-01-108	Residual Heat Removal
-	FIG-01-09	Residual Heat Removal
-	FIG-01-109	Residual Heat Removal
-	FIG-01-10	Reactor Recirculation
-	FIG-01-110	Reactor Recirculation
-	FIG-01-12	Residual Heat Removal
-	FIG-01-112	Residual Heat Removal
-	FIG-01-13	Residual Heat Removal
-	FIG-01-113	Residual Heat Removal
-	FIG-01-14	Residual Heat Removal
-	FIG-01-114	Residual Heat Removal

TABLE 2.4-1
LGS UNIT 1 ISI CLASS 1 AND 2 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 1 & Common (Class 1)	UNIT 1 & Common (Class 2)	TITLE
-	FIG-01-16	Residual Heat Removal
-	FIG-01-116	Residual Heat Removal
-	FIG-01-17	Residual Heat Removal
-	FIG-01-117	Residual Heat Removal
-	FIG-01-22	Residual Heat Removal
-	FIG-01-122	Residual Heat Removal
-	FIG-01-23	Residual Heat Removal
-	FIG-01-123	Residual Heat Removal
-	FIG-01-26	Residual Heat Removal
-	FIG-01-126	Residual Heat Removal
-	FIG-01-127	Residual Heat Removal
-	FIG-01-128	Residual Heat Removal
-	FIG-01-129	Residual Heat Removal
-	FIG-01-130	Residual Heat Removal
FIG-02-01	FIG-02-01A	High Pressure Coolant Injection
FIG-02-101	FIG-02-101A	High Pressure Coolant Injection
-	FIG-02-02	High Pressure Coolant Injection
-	FIG-02-102	High Pressure Coolant Injection
-	FIG-02-03	High Pressure Coolant Injection
-	FIG-02-103	High Pressure Coolant Injection
-	FIG-02-04	High Pressure Coolant Injection
-	FIG-02-104	High Pressure Coolant Injection
-	FIG-02-05	High Pressure Coolant Injection
-	FIG-02-105	High Pressure Coolant Injection
-	FIG-02-06	High Pressure Coolant Injection
-	FIG-02-106	High Pressure Coolant Injection

TABLE 2.4-1
LGS UNIT 1 ISI CLASS 1 AND 2 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 1 & Common (Class 1)	UNIT 1 & Common (Class 2)	TITLE
-	FIG-02-07	High Pressure Coolant Injection
-	FIG-02-107	High Pressure Coolant Injection
-	FIG-02-08	High Pressure Coolant Injection
-	FIG-02-108	High Pressure Coolant Injection
-	FIG-02-09	High Pressure Coolant Injection
-	FIG-02-109	High Pressure Coolant Injection
FIG-03-01	FIG-03-03	Main Steam
FIG-03-101	FIG-03-103	Main Steam
FIG-03-02	FIG-03-05	Main Steam
FIG-03-04	FIG-03-105	Main Steam
FIG-03-104	FIG-03-06	Main Steam
-	FIG-03-106	Main Steam
FIG-04-01	FIG-04-02	Core Spray
FIG-04-101	FIG-04-102	Core Spray
FIG-04-04	FIG-04-03	Core Spray
FIG-04-104	FIG-04-103	Core Spray
-	FIG-04-05	Core Spray
-	FIG-04-105	Core Spray
-	FIG-04-06	Core Spray
-	FIG-04-106	Core Spray
-	FIG-04-07	Core Spray
-	FIG-04-107	Core Spray
-	FIG-04-08	Core Spray
-	FIG-04-108	Core Spray
-	FIG-04-109	Core Spray
-	FIG-04-110	Core Spray

TABLE 2.4-1
LGS UNIT 1 ISI CLASS 1 AND 2 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 1 & Common (Class 1)	UNIT 1 & Common (Class 2)	TITLE
-	FIG-04-111	Core Spray
FIG-05-01	FIG-05-02	Feedwater
FIG-05-101	FIG-05-102	Feedwater
FIG-05-03	FIG-05-04	Feedwater
FIG-05-103	FIG-05-104	Feedwater
-	FIG-05-05	Feedwater (Class 4 Augmented only)
-	FIG-05-06	Feedwater (Class 4 Augmented only)
FIG-06-01	FIG-06-02	Reactor Core Isolation Cooling (06-02 includes a portion of Non-Classed piping)
FIG-06-101	FIG-06-102	Reactor Core Isolation Cooling
-	FIG-06-03	Reactor Core Isolation Cooling
-	FIG-06-103	Reactor Core Isolation Cooling
-	FIG-06-04	Reactor Core Isolation Cooling
FIG-07-01	-	Reactor Recirculation
FIG-07-101	-	Reactor Recirculation
FIG-07-02	-	Reactor Recirculation
FIG-07-102	-	Reactor Recirculation
FIG-07-03	-	Reactor Recirculation
FIG-07-103	-	Reactor Recirculation
FIG-07-04	-	Reactor Recirculation
FIG-07-104	-	Reactor Recirculation
FIG-08-01	-	Reactor Water Clean Up
FIG-08-101	-	Reactor Water Clean Up
FIG-08-02	-	Reactor Water Clean Up (Includes a portion of Non-Classed piping)
FIG-08-102	-	Reactor Water Clean Up
FIG-08-03	-	Reactor Water Clean Up
FIG-08-103	-	Reactor Water Clean Up

TABLE 2.4-1
LGS UNIT 1 ISI CLASS 1 AND 2 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 1 & Common (Class 1)	UNIT 1 & Common (Class 2)	TITLE
FIG-08-04	-	Reactor Water Clean Up
FIG-08-104	-	Reactor Water Clean Up
FIG-08-05	-	Reactor Water Clean Up (Augmented only)
FIG-08-06	-	Reactor Water Clean Up (Augmented only)
FIG-08-07	-	Reactor Water Clean Up (Augmented only)
FIG-08-08	-	Reactor Water Clean Up (Augmented only)
-	FIG-09-01	Control Rod Drive
-	FIG-09-101	Control Rod Drive
-	FIG-09-02	Control Rod Drive
-	FIG-09-102	Control Rod Drive
FIG-11-01	-	Standby Liquid Control
FIG-11-101	-	Standby Liquid Control
FIG-11-02	-	Standby Liquid Control
FIG-11-102	-	Standby Liquid Control
FIG-11-03	-	Standby Liquid Control
FIG-11-103	-	Standby Liquid Control
FIG-12-01	-	RPV Vent

TABLE 2.4-2
LGS UNIT 2 ISI CLASS 1 AND 2 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 2 (Class 1)	UNIT 2 (Class 2)	TITLE
XI-DCA-204-1	XI-EBB-221-1	Residual Heat Removal
XI-DCA-204-2	XI-EBB-221-2	Residual Heat Removal
XI-DCA-204-3	XI-GBB-201-1	Residual Heat Removal
XI-DCA-204-4	XI-GBB-201-2	Residual Heat Removal
XI-DCA-205-1	XI-GBB-202-1	Residual Heat Removal
XI-DCA-205-3	XI-GBB-202-2	Residual Heat Removal
XI-DCA-418-1	XI-GBB-202-3	Residual Heat Removal
XI-DCA-418-2	XI-GBB-203-1	Residual Heat Removal
XI-DCA-418-3	XI-GBB-203-2	Residual Heat Removal
XI-DCA-418-4	XI-GBB-205-1	Residual Heat Removal
XI-DLA-212-1	XI-GBB-205-2	Residual Heat Removal
XI-DLA-212-2	XI-GBB-207-1	Residual Heat Removal
XI-DLA-212-3	XI-GBB-207-2	Residual Heat Removal
XI-DLA-212-4	XI-GBB-208-1	Residual Heat Removal
-	XI-GBB-208-2	Residual Heat Removal
-	XI-GBB-210-1	Residual Heat Removal
-	XI-GBB-211-1	Residual Heat Removal
-	XI-GBB-217-1	Residual Heat Removal
-	XI-GBB-217-2	Residual Heat Removal
-	XI-GBB-218-1	Residual Heat Removal
-	XI-GBB-218-2	Residual Heat Removal
-	XI-GBB-218-3	Residual Heat Removal
-	XI-GBB-218-4	Residual Heat Removal
-	XI-GBB-219-1	Residual Heat Removal
-	XI-GBB-219-2	Residual Heat Removal
-	XI-GBB-219-3	Residual Heat Removal

TABLE 2.4-2
LGS UNIT 2 ISI CLASS 1 AND 2 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 2 (Class 1)	UNIT 2 (Class 2)	TITLE
-	XI-GBB-219-4	Residual Heat Removal
-	XI-GBB-219-5	Residual Heat Removal
-	XI-GBB-219-6	Residual Heat Removal
-	XI-GBB-219-9	Residual Heat Removal
-	XI-GBB-220-1	Residual Heat Removal
-	XI-GBB-220-2	Residual Heat Removal
-	XI-HBB-217-1	Residual Heat Removal
-	XI-HBB-217-1A	Residual Heat Removal
-	XI-HBB-217-2	Residual Heat Removal
-	XI-HBB-217-2A	Residual Heat Removal
-	XI-HBB-217-3	Residual Heat Removal
-	XI-HBB-217-3A	Residual Heat Removal
-	XI-HBB-217-4	Residual Heat Removal
-	XI-HBB-217-4A	Residual Heat Removal
-	XI-HBB-218-1	Residual Heat Removal
-	XI-HBB-218-2	Residual Heat Removal
-	XI-HBB-218-3	Residual Heat Removal
-	XI-HBB-218-4	Residual Heat Removal
-	XI-HBB-218-5	Residual Heat Removal
-	XI-HBB-218-6	Residual Heat Removal
-	XI-HBB-218-7	Residual Heat Removal
-	XI-HBB-219-1	Residual Heat Removal
-	XI-HBB-260-1	Residual Heat Removal
XI-DLA-205-1	XI-DBB-203-1	Feedwater (XI-DBB-203-1 includes "no-break" portions of DBD-203-1 and DBD-205-1)
XI-DLA-206-1	-	Feedwater
XI-DLA-207-1	XI-DBB-203-2	Feedwater

TABLE 2.4-2
LGS UNIT 2 ISI CLASS 1 AND 2 ISOMETRIC DRAWINGS (WELD AND HANGER IDENTIFICATION)

UNIT 2 (Class 1)	UNIT 2 (Class 2)	TITLE
XI-DLA-208-1	XI-DBB-204-1	Feedwater (XI-DBB-204-1 includes "no-break" portions of DBD-204-1 and DBD-205-1)
XI-APE-2MS-LA	XI-EBB-201-1	Main Stream
XI-APE-2MS-LB	XI-EBB-201-2	Main Stream
XI-APE-2MS-LC	XI-EBB-202-1	Main Stream
XI-APE-2MS-LD	XI-EBB-203-1	Main Stream
-	XI-EBB-204-1	Main Stream
-	XI-EBB-204-3	Main Stream
-	XI-EBB-206-1	Main Stream
-	XI-EBB-207-1	Main Stream
-	XI-EBB-207-2	Main Stream
XI-DCA-277-E1	None	Reactor Recirculation
XI-DCA-285-E2	-	Reactor Recirculation
XI-VRR-2RS-2A	-	Reactor Recirculation
XI-VRR-2RS-2B	-	Reactor Recirculation
XI-VRR-2RD-2A	-	Reactor Recirculation
XI-VRR-2RD-2B	-	Reactor Recirculation
XI-DBA-206-1	XI-EBB-208-1	High Pressure Coolant Injection
XI-DBA-206-2	XI-EBB-208-2	High Pressure Coolant Injection
-	XI-EBB-229-1	High Pressure Coolant Injection
-	XI-EBB-229-2	High Pressure Coolant Injection
-	XI-EBB-229-3	High Pressure Coolant Injection
-	XI-EBB-234-1	High Pressure Coolant Injection
-	XI-HBB-208-1	High Pressure Coolant Injection
-	XI-HBB-208-2	High Pressure Coolant Injection
-	XI-HBB-209-1	High Pressure Coolant Injection
-	XI-HBB-210-1	High Pressure Coolant Injection

TABLE 2.4-2
LGS UNIT 2 ISI CLASS 1 AND 2 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 2 (Class 1)	UNIT 2 (Class 2)	TITLE
-	XI-HPP-IP	High Pressure Coolant Injection
XI-DBA-207-1	XI-DBB-201-1	Reactor Core Isolation Cooling
-	XI-EBB-209-1	Reactor Core Isolation Cooling
-	XI-EBB-209-2	Reactor Core Isolation Cooling
-	XI-EBB-226-1	Reactor Core Isolation Cooling
-	XI-EBB-235-1	Reactor Core Isolation Cooling
-	XI-EBB-235-2	Reactor Core Isolation Cooling
-	XI-HBB-201-1	Reactor Core Isolation Cooling
-	XI-HBB-201-2	Reactor Core Isolation Cooling
XI-DCA-419-1	XI-EBB-231-1	Core Spray
XI-DCA-420-1	XI-EBB-232-1	Core Spray
XI-DLA-210-1	XI-GBB-212-1	Core Spray
XI-DLA-211-1	XI-GBB-212-2	Core Spray
-	XI-GBB-212-3	Core Spray
-	XI-GBB-213-1	Core Spray
-	XI-GBB-213-2	Core Spray
-	XI-GBB-213-3	Core Spray
-	XI-GBB-214-1	Core Spray
-	XI-GBB-215-1	Core Spray
-	XI-HBB-220-1	Core Spray
-	XI-HBB-220-1A	Core Spray
-	XI-HBB-220-2	Core Spray
-	XI-HBB-220-2A	Core Spray
-	XI-HBB-220-3	Core Spray
-	XI-HBB-220-3A	Core Spray
-	XI-HBB-220-4	Core Spray

TABLE 2.4-2
LGS UNIT 2 ISI CLASS 1 AND 2 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 2 (Class 1)	UNIT 2 (Class 2)	TITLE
-	XI-HBB-220-4A	Core Spray
-	XI-HBB-234-1	Core Spray
XI-DBA-212-1	XI-DCB-202-1	Reactor Water Clean Up (XI-DCB-202-1 includes "no-break" portion of DCC-203-1)
XI-DCA-201-1	-	Reactor Water Clean Up
XI-DCA-201-2	-	Reactor Water Clean Up
XI-DCA-201-3	-	Reactor Water Clean Up
XI-DCA-201-4	-	Reactor Water Clean Up
XI-DCA-201-E2	-	Reactor Water Clean Up
XI-DCA-202-E1	None	Standby Liquid Control
XI-DCA-202-E2	-	Standby Liquid Control
XI-DCA-212-E1	-	Standby Liquid Control
XI-DCA-212-E2	-	Standby Liquid Control
None	XI-EBB-242-1ES	Control Rod Drive Hydraulics
-	XI-EBB-242-1WS	Control Rod Drive Hydraulics
XI-DBA-210-1	None	RPV Vent
XI-DCA-213-1	None	Nuclear Boiler Instrumentation and Miscellaneous (Includes non-exempt portions of the following lines
XI-DCA-213-E2	-	Nuclear Boiler Instrumentation and Miscellaneous
XI-DCA-213-E3	-	Nuclear Boiler Instrumentation and Miscellaneous
XI-RPV-2IN	-	Nuclear Boiler Instrumentation and Miscellaneous (Includes non-exempt portions of the following lines: DCA-293-E1, DCA-294-E2, DCA-295-E1, DCA-296-E2, DCA-297-E1, DCA-401-E2, DCA-404-E1, DCA-405-E1, DCA-406-E1, DCA-407-E1, and DCA-408-E1)

TABLE 2.4-3
LGS UNIT 1 ISI CLASS 1 AND 2 COMPONENT DETAIL DRAWINGS

UNIT 1 & Common (Class 1)	UNIT 1 & Common (Class 2)	TITLE
XI-1P-201	-	Recirculation Pumps
-	XI-1P-202	RHR Pumps
-	XI-1E-205 - Page 1	RHR Heat Exchangers
-	XI-10P-203	RCIC Pump
-	XI-10P-204	HPCI Pumps
-	XI-1P-206	Core Spray Pumps
XI-BA-1- Page 1	-	Reactor Pressure Vessel
XI-BA-2 - Page 1	-	Reactor Pressure Vessel
XI-BA-3- Page 1	-	Reactor Pressure Vessel
XI-BA-4 - Page 1	-	Reactor Pressure Vessel
XI-BA-5 - Page 1	-	Reactor Pressure Vessel
XI-BA-6 - Page 1	-	Reactor Pressure Vessel
XI-BA-7 - Page 1	-	Reactor Pressure Vessel
XI-BD-1 - Page 1	-	Reactor Pressure Vessel
XI-BD-2 - Page 1	-	Reactor Pressure Vessel
XI-BD-3 - Page 1	-	Reactor Pressure Vessel
XI-BE-1 - Page 1	-	Reactor Pressure Vessel
XI-BE-2 - Page 1	-	Reactor Pressure Vessel
XI-BE-3 - Page 1	-	Reactor Pressure Vessel
XI-BE-4 - Page 1	-	Reactor Pressure Vessel
XI-BE-5 - Page 1	-	Reactor Pressure Vessel
XI-BF - Page 1	-	Reactor Pressure Vessel
XI-BF-1 - Page 1	-	Reactor Pressure Vessel
XI-BF-2 - Page 1	-	Reactor Pressure Vessel
XI-BF-3 - Page 1	-	Reactor Pressure Vessel
XI-BF-4 - Page 1	-	Reactor Pressure Vessel

TABLE 2.4-3
LGS UNIT 1 ISI CLASS 1 AND 2 COMPONENT DETAIL DRAWINGS

XI-BF-5 - Page 1	-	Reactor Pressure Vessel
XI-BF-6 - Page 1	-	Reactor Pressure Vessel
XI-BF-7 - Page 1	-	Reactor Pressure Vessel
XI-BF-8 - Page 1	-	Reactor Pressure Vessel
XI-BF-9 - Page 1	-	Reactor Pressure Vessel
XI-BF-17 - Page 1	-	Reactor Pressure Vessel
XI-BG - Page 1	-	Reactor Pressure Vessel
XI-BH-1 - Page 1	-	Reactor Pressure Vessel
XI-BH-1 - Page 2	-	Reactor Pressure Vessel
XI-BH-2 - Page 1	-	Reactor Pressure Vessel
XI-BH-3 - Page 1	-	Reactor Pressure Vessel
XI-BH-4 - Page 1	-	Reactor Pressure Vessel
XI-BN - Page 1	-	Reactor Pressure Vessel
XI-BN-1 - Page 1	-	Reactor Pressure Vessel
XI-BN-1 - Page 2	-	Reactor Pressure Vessel
XI-BN-1 - Page 3	-	Reactor Pressure Vessel
XI-BN-2 - Page 1	-	Reactor Pressure Vessel
XI-BN-2 - Page 2	-	Reactor Pressure Vessel
XI-BN-2 - Page 3	-	Reactor Pressure Vessel
XI-BN-3 - Page 1	-	Reactor Pressure Vessel
XI-BN-3 - Page 2	-	Reactor Pressure Vessel
XI-BN-4 - Page 1	-	Reactor Pressure Vessel
XI-BN-4 - Page 2	-	Reactor Pressure Vessel
XI-BN-4 - Page 3	-	Reactor Pressure Vessel
XI-BN-4 - Page 4	-	Reactor Pressure Vessel
XI-BN-4 - Page 5	-	Reactor Pressure Vessel
XI-BN-4 - Page 6	-	Reactor Pressure Vessel
XI-BN-4 - Page 7	-	Reactor Pressure Vessel

TABLE 2.4-3
LGS UNIT 1 ISI CLASS 1 AND 2 COMPONENT DETAIL DRAWINGS

XI-BN-5 - Page 1	-	Reactor Pressure Vessel
XI-BN-5 - Page 2	-	Reactor Pressure Vessel
XI-BN-6 - Page 1	-	Reactor Pressure Vessel
XI-BN-6 - Page 2	-	Reactor Pressure Vessel
XI-BN-6 - Page 3	-	Reactor Pressure Vessel
XI-BN-7 - Page 1	-	Reactor Pressure Vessel
XI-BN-7 - Page 2	-	Reactor Pressure Vessel
XI-BN-7 - Page 3	-	Reactor Pressure Vessel
XI-BN-7 - Page 4	-	Reactor Pressure Vessel
XI-BN-8 - Page 1	-	Reactor Pressure Vessel
XI-BN-8 - Page 2	-	Reactor Pressure Vessel
XI-BN-8 - Page 3	-	Reactor Pressure Vessel
XI-BN-8 - Page 4	-	Reactor Pressure Vessel
XI-BN-8 - Page 5	-	Reactor Pressure Vessel
XI-BN-8 - Page 6	-	Reactor Pressure Vessel
XI-BN-8 - Page 7	-	Reactor Pressure Vessel
XI-BN-9 - Page 1	-	Reactor Pressure Vessel
XI-BN-9 - Page 2	-	Reactor Pressure Vessel
XI-BN-10 - Page 1	-	Reactor Pressure Vessel
XI-BN-11 - Page 1	-	Reactor Pressure Vessel
XI-BN-11 - Page 2	-	Reactor Pressure Vessel
XI-BN-12 - Page 1	-	Reactor Pressure Vessel
XI-BN-12 - Page 2	-	Reactor Pressure Vessel
XI-BN-13 - Page 1	-	Reactor Pressure Vessel
XI-BN-14 - Page 1	-	Reactor Pressure Vessel
XI-BNN - Page 1	-	Reactor Pressure Vessel
XI-FA-1 - Page 1	-	Reactor Pressure Vessel
XI-FA-1 - Page 3	-	Reactor Pressure Vessel

TABLE 2.4-3
LGS UNIT 1 ISI CLASS 1 AND 2 COMPONENT DETAIL DRAWINGS

XI-FA-2 - Page 1	-	Reactor Pressure Vessel
XI-FA-2 - Page 2	-	Reactor Pressure Vessel
XI-FA-2 - Page 3	-	Reactor Pressure Vessel
XI-RPV-1 - Page 1	-	Reactor Pressure Vessel
XI-RPV-1 - Page 2	-	Reactor Pressure Vessel
XI-RPV-1 - Page 3	-	Reactor Pressure Vessel
XI-RPV-1 - Page 4	-	Reactor Pressure Vessel
XI-RPV-1IN	-	RPV App

TABLE 2.4-4
LGS UNIT 2 ISI CLASS 1 AND 2 COMPONENT DETAIL DRAWINGS

UNIT 2 (Class 1)	UNIT 2 (Class 2)	TITLE
XI-2P-201	-	Recirculation Pumps
-	XI-2P-202	RHR Pumps
-	XI-2E-205	RHR Heat Exchangers
-	XI-2OP-203	RCIC Pump
-	XI-2OP-204	HPCI Pump
-	XI-2P-206	Core Spray Pumps
XI-RPV-2 - Page 1	-	Reactor Pressure Vessel
XI-RPV-2 - Page 2	-	Reactor Pressure Vessel
XI-RPV-2 - Page 3	-	Reactor Pressure Vessel
XI-RPV-2 - Page 4	-	Reactor Pressure Vessel
XI-BA-1 - Page 1	-	Reactor Pressure Vessel
XI-BA-2 - Page 1	-	Reactor Pressure Vessel
XI-BA-3 - Page 1	-	Reactor Pressure Vessel
XI-BA-4 - Page 1	-	Reactor Pressure Vessel
XI-BA-5 - Page 1	-	Reactor Pressure Vessel
XI-BA-8 - Page 1	-	Reactor Pressure Vessel
XI-BA-9 - Page 1	-	Reactor Pressure Vessel
XI-BD-1 - Page 1	-	Reactor Pressure Vessel
XI-BD-2 - Page 1	-	Reactor Pressure Vessel
XI-BD-3 - Page 1	-	Reactor Pressure Vessel
XI-BE -1 - Page 1	-	Reactor Pressure Vessel
XI-BE-2 - Page 1	-	Reactor Pressure Vessel
XI-BE-3 - Page 1	-	Reactor Pressure Vessel
XI-BE-4 - Page 1	-	Reactor Pressure Vessel
XI-BE-5 - Page 1	-	Reactor Pressure Vessel
XI-BF - Page 1	-	Reactor Pressure Vessel

TABLE 2.4-4
LGS UNIT 2 ISI CLASS 1 AND 2 COMPONENT DETAIL DRAWINGS

XI-BF-1 - Page 2	-	Reactor Pressure Vessel
XI-BF-2 - Page 2	-	Reactor Pressure Vessel
XI-BF-3 - Page 2	-	Reactor Pressure Vessel
XI-BF-4 - Page 2	-	Reactor Pressure Vessel
XI-BF-5 - Page 2	-	Reactor Pressure Vessel
XI-BF-6 - Page 2	-	Reactor Pressure Vessel
XI-BF-7 - Page 2	-	Reactor Pressure Vessel
XI-BF-8 - Page 2	-	Reactor Pressure Vessel
XI-BF-9 - Page 2	-	Reactor Pressure Vessel
XI-BF-17 - Page 2	-	Reactor Pressure Vessel
XI-BG - Page 1	-	Reactor Pressure Vessel
XI-BH-1 - Page 1	-	Reactor Pressure Vessel
XI-BH-1 - Page 2	-	Reactor Pressure Vessel
XI-BH-2 - Page 1	-	Reactor Pressure Vessel
XI-BH-3 - Page 1	-	Reactor Pressure Vessel
XI-BH-4 - Page 1	-	Reactor Pressure Vessel
XI-BN - Page 1	-	Reactor Pressure Vessel
XI-BNN - Page 1	-	Reactor Pressure Vessel
XI-BN-1 - Page 1	-	Reactor Pressure Vessel
XI-BN-1 - Page 2	-	Reactor Pressure Vessel
XI-BN-1 - Page 3	-	Reactor Pressure Vessel
XI-BN-2 - Page 1	-	Reactor Pressure Vessel
XI-BN-2 - Page 2	-	Reactor Pressure Vessel
XI-BN-2 - Page 4	-	Reactor Pressure Vessel
XI-BN-3 - Page 1	-	Reactor Pressure Vessel
XI-BN-3 - Page 2	-	Reactor Pressure Vessel
XI-BN-4 - Page 1	-	Reactor Pressure Vessel
XI-BN-4 - Page 2	-	Reactor Pressure Vessel

TABLE 2.4-4
LGS UNIT 2 ISI CLASS 1 AND 2 COMPONENT DETAIL DRAWINGS

XI-BN-4 - Page 3	-	Reactor Pressure Vessel
XI-BN-4 - Page 4	-	Reactor Pressure Vessel
XI-BN-4 - Page 5	-	Reactor Pressure Vessel
XI-BN-4 - Page 6	-	Reactor Pressure Vessel
XI-BN-4 - Page 7	-	Reactor Pressure Vessel
XI-BN-5 - Page 1	-	Reactor Pressure Vessel
XI-BN-5 - Page 2	-	Reactor Pressure Vessel
XI-BN-6 - Page 1	-	Reactor Pressure Vessel
XI-BN-6 - Page 2	-	Reactor Pressure Vessel
XI-BN-6 - Page 3	-	Reactor Pressure Vessel
XI-BN-7 - Page 1	-	Reactor Pressure Vessel
XI-BN-7 - Page 2	-	Reactor Pressure Vessel
XI-BN-7 - Page 3	-	Reactor Pressure Vessel
XI-BN-7 - Page 4	-	Reactor Pressure Vessel
XI-BN-8 - Page 1	-	Reactor Pressure Vessel
XI-BN-8 - Page 2	-	Reactor Pressure Vessel
XI-BN-8 - Page 3	-	Reactor Pressure Vessel
XI-BN-8 - Page 4	-	Reactor Pressure Vessel
XI-BN-8 - Page 5	-	Reactor Pressure Vessel
XI-BN-8 - Page 6	-	Reactor Pressure Vessel
XI-BN-8 - Page 7	-	Reactor Pressure Vessel
XI-BN-9 - Page 1	-	Reactor Pressure Vessel
XI-BN-9 - Page 2	-	Reactor Pressure Vessel
XI-BN-10 - Page 1	-	Reactor Pressure Vessel
XI-BN-11 - Page 1	-	Reactor Pressure Vessel
XI-BN-11 - Page 2	-	Reactor Pressure Vessel
XI-BN-12 - Page 1	-	Reactor Pressure Vessel
XI-BN-12 - Page 2	-	Reactor Pressure Vessel

TABLE 2.4-4
LGS UNIT 2 ISI CLASS 1 AND 2 COMPONENT DETAIL DRAWINGS

XI-BN-13 - Page 1	-	Reactor Pressure Vessel
XI-BN-14 - Page 1	-	Reactor Pressure Vessel
XI-FA-1 - Page 1	-	Reactor Pressure Vessel
XI-FA-1 - Page 3	-	Reactor Pressure Vessel
XI-FA-2 - Page 1	-	Reactor Pressure Vessel
XI-FA-2 - Page 2	-	Reactor Pressure Vessel
XI-FA-2 - Page 3	-	Reactor Pressure Vessel

TABLE 2.4-5
LGS UNIT 1 ISI CLASS 3 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 1 & Common (Class 3)	TITLE
HBC-081-01	Emergency Service Water
HBC-081-02	Emergency Service Water
HBC-O82-01	Emergency Service Water
HBC-082-02	Emergency Service Water
HBC-082-03	Emergency Service Water
HBC-083-01	Emergency Service Water
HBC-083-02	Emergency Service Water
HBC-084-01	Emergency Service Water
HBC-084-02	Emergency Service Water
HBC-138-01	Emergency Service Water
HBC-138-02	Emergency Service Water
HBC-138-03	Emergency Service Water
HBC-143-01	Emergency Service Water
HBC-143-02	Emergency Service Water
HBC-143-03	Emergency Service Water
HBC-147-01	Emergency Service Water
HBC-147-02	Emergency Service Water
HBC-147-03	Emergency Service Water
HBC-152-01	Emergency Service Water
HBC-152-02	Emergency Service Water
HBC-152-03	Emergency Service Water
HBC-158-01	Emergency Service Water
HBC-159-01	Emergency Service Water
HBC-166-01	Emergency Service Water
HBC-192-01	Emergency Service Water
HBC-192-02	Emergency Service Water

TABLE 2.4-5
LGS UNIT 1 ISI CLASS 3 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

HBC-192-03	Emergency Service Water
HBC-192-04	Emergency Service Water
HBC-193-01	Emergency Service Water
HBC-193-02	Emergency Service Water
HBC-193-03	Emergency Service Water
HBC-193-04	Emergency Service Water
HBC-194-01	Emergency Service Water
HBC-194-02	Emergency Service Water
HBC-194-03	Emergency Service Water
HBC-194-04	Emergency Service Water
HBC-195-01	Emergency Service Water
HBC-195-02	Emergency Service Water
HBC-195-03	Emergency Service Water
HBC-195-04	Emergency Service Water
HBC-238-01	Emergency Service Water (Ends at Unit 2 Boundary)
HBC-243-01	Emergency Service Water (Except from FW51 to FW3)
HBC-247-02	Emergency Service Water
HBC-252-01	Emergency Service Water (Except from FW50 to Unit 1/Unit 2 tie-in)
HBC-266-01	Emergency Service Water
HBC-270-01	Emergency Service Water
HBC-292-01	Emergency Service Water (Ends at Unit 2 N-5 Boundary) (2 Shts)
HBC-292-02	Emergency Service Water (Ends at Unit 2 N-5 Boundary) (2 Shts)
HBC-292-03	Emergency Service Water (Ends at Unit 2 N-5 Boundary) (2 Shts)
HBC-292-04	Emergency Service Water (Ends at Unit 2 N-5 Boundary) (2 Shts)
HBC-293-01	Emergency Service Water (Ends at Unit 2 N-5 Boundary)
HBC-293-02	Emergency Service Water (Ends at Unit 2 N-5 Boundary)
HBC-293-03	Emergency Service Water (Ends at Unit 2 N-5 Boundary)
HBC-293-04	Emergency Service Water (Ends at Unit 2 N-5 Boundary)

TABLE 2.4-5
LGS UNIT 1 ISI CLASS 3 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

HBC-181-01	RHR Service Water
HBC-182-01	RHR Service Water
HBC-183-01	RHR Service Water
HBC-280-01	RHR Service Water (Except from FW1 to Unit 1/Unit 2 tie-in)
HBC-282-01	RHR Service Water (Except from Unit 1/Unit 2 tie-in)
HBC-282-02	RHR Service Water
HBC-507-01	RHR Service Water
HBC-507-02	RHR Service Water
HBC-507-03	RHR Service Water
HBC-507-04	RHR Service Water
HBC-507-05	RHR Service Water
HBC-507-06	RHR Service Water
HBC-507-07	RHR Service Water
HBC-507-08	RHR Service Water
HBC-507-09	RHR Service Water
HBC-507-10	RHR Service Water
HBC-507-11	RHR Service Water
HBC-507-12	RHR Service Water
HBC-507-13	RHR Service Water
HBC-507-14	RHR Service Water
HBC-507-15	RHR Service Water
HBC-507-16	RHR Service Water
HBC-507-17	RHR Service Water
HBC-507-18	RHR Service Water
HBC-508-01	RHR Service Water
HBC-508-02	RHR Service Water
HBC-509-01	RHR Service Water
HBC-509-02	RHR Service Water

TABLE 2.4-5
LGS UNIT 1 ISI CLASS 3 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

HBC-537-01	RHR Service Water
HBC-563-01	RHR Service Water

TABLE 2.4-6
LGS UNIT 2 ISI CLASS 3 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

UNIT 2 (Class 3)	TITLE
HBC-238-1	Emergency Service Water (Starts at Unit 2 Boundary)
HBC-243-1	Emergency Service Water (From FW51 to FW3)
HBC-243-2	Emergency Service Water
HBC-243-3	Emergency Service Water (From FW1 to 6"x4" conc. reducer)
HBC-247-1	Emergency Service Water (From FW6, FW7, and FW8 to 6"x3" conc. reducer)
HBC-252-1	Emergency Service Water (From FW50 to Unit 1/Unit 2 tie-in)
HBC-252-2	Emergency Service Water
HBC-252-3	Emergency Service Water (From 6"x4" conc. Reducer to HBC-252-2)
HBC-258-1	Emergency Service Water
HBC-259-1	Emergency Service Water
HBC-268-1	Emergency Service Water
HBC-292-1	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-292-2	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-292-3	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-292-4	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-293-1	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-293-2	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-293-3	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-293-4	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-294-1	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-294-2	Emergency Service Water (Starts at Unit 2 Boundary)
HBC-294-3	Emergency Service Water (Starts at Unit 2 Boundary)
HBC-294-4	Emergency Service Water (Starts at Unit 2 Boundary)
HBC-295-1	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-295-2	Emergency Service Water (Starts at Unit 2 N-5 Boundary)

TABLE 2.4-6
LGS UNIT 2 ISI CLASS 3 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

HBC-295-3	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
HBC-295-4	Emergency Service Water (Starts at Unit 2 N-5 Boundary)
GBC-202-1	RHR Service Water
GBC-203-1	RHR Service Water
GBC-204-1	RHR Service Water
GBC-206-1	RHR Service Water
GBC-210-1	RHR Service Water
HBC-280-1	RHR Service Water (From FW1 to Unit 1/Unit 2 tie-in)
HBC-280-2	RHR Service Water
HBC-281-1	RHR Service Water (From FW1 to Unit 1/Unit 2 tie-in)
HBC-282-1	RHR Service Water (From Unit 1/Unit 2 tie-in to HBC-282-2)
HBC-282-2	RHR Service Water
HBC-283-1	RHR Service Water (From Unit 1/Unit 2 tie-in to FW1)
GBC-201-1	Main Stream
GBC-201-2	Main Stream
GBC-201-3	Main Stream
GBC-201-4	Main Stream
GBC-201-5	Main Stream
GBC-201-6	Main Stream
GBC-201-7	Main Stream
GBC-201-8	Main Stream
GBC-201-9	Main Stream
GBC-201-10	Main Stream
GBC-201-11	Main Stream
GBC-201-12	Main Stream
GBC-201-13	Main Stream
GBC-201-14	Main Stream
GBC-216-1	Main Stream

TABLE 2.4-6
LGS UNIT 2 ISI CLASS 3 ISOMETRIC DRAWINGS
(WELD AND HANGER IDENTIFICATION)

GBC-216-2	Main Stream
GBC-216-3	Main Stream
GBC-216-4	Main Stream
GBC-216-5	Main Stream
GBC-216-6	Main Stream
GBC-216-7	Main Stream
GBC-216-8	Main Stream
GBC-216-9	Main Stream
GBC-216-10	Main Stream
GBC-216-11	Main Stream
GBV-216-12	Main Stream
GBC-216-13	Main Stream
GBC-216-14	Main Stream

TABLE 2.4-7
LGS CONTAINMENT ISI REFERENCE DRAWINGS

UNIT 1 & Common	UNIT 2	TITLE
C-002-00096	C-002-00096	Exterior Bulkhead Assembly 2'-6" x 6'-0" Personnel Lock
C-002-00139	C-002-00139	12'-0" I.D. Equipment Door for Personnel Lock
C-002-00243	C-002-00243	Top Head, Flange, Bolting Rings and Seal Plate Assembly
C-002-00247	C-002-00247	Top Head Dollar Plates and Access Manhole Shop Assemblies
C-0247	C-0247	Reactor Building Units 1 & 2, Primary Containment General Arrangement
C-0262	C-0262	Reactor Building Primary Containment Downcomer Arrangement
C-0270	C-0270	Reactor Building Units 1 & 2 Primary Containment MSRV Discharge Pipe and Downcomer Bracing
C-0276	C-0276	Liner Plate Requirements General Outline
C-0279	C-0280	Liner Plate Requirements Penetration Schedule
C-0283	C-0283	Reactor Building Units 1 & 2, Liner Plate Requirements, Suppression Pool Details
C-0287	C-0287	Reactor Building Units 1 & 2, Liner Plate Requirements, Drywell Penetration Sections and Details
C-0288	C-0288	Reactor Building Units 1 & 2, Liner Plate Requirements Drywell Penetration Details
C-0293	C-0293	Reactor Building, Primary Containment Downcomer Details
C-0294	C-0294	Diaphragm Floor Plan and Details
C-0776	C-0776	Liner Plate Attachment Acceptance Criteria
C-0867	C-0867	Drywell Wall Sections - Details Units 1 & 2
C-0936	C-0936	Seismic Stabilizer Plan and Details
C-0943	C-0943	Drywell Interior Structural Steel Beam Connection Details
M-0057	M-0057	P&ID Containment Atmospheric Control
M-0060	M-0060	P&ID Primary Containment Leak Testing
M-0061	M-0061	P&ID Liquid Radwaste Collection
M-0391	M-0391	Flued Head Details

TABLE 2.4-8
LGS UNIT 1 ASME SECTION XI UT CALIBRATION BLOCKS

UNIT 1 & Common Cal. Block No.	UNIT 1 & Common Material	UNIT 1 & Common Drawing No. (8031-)
LIM-30-.625-CS	SA333Gr6	M-246A-258
LIM-30-.375-CS	SA155GrKC70	M-246A-61
LIM-28-SS-O'LAY	SA312Gr304	M-246A-275
LIM-22-SS-O'LAY	SA312Gr304	M-246A-275
LIM-20-SS-O'LAY	SA312Gr304	M-246A-275
LIM-28-2.72-SS316	SA358T316L	M-246A-256
LIM-28-1.285-SS316	SA403WP316	M-246A-256
LIM-28-1.076-SS316	SA358T316	M-246A-256
LIM-26-1.013-CS	SA106GrC	M-246A-256
LIM-26-.928-CS	SA106GrC	M-246A-60
LIM-24-1.812-CS-F	SA350LF2	M-246A-256
LIM-24-1.812-CS	SA106GrB	M-246A-60
LIM-24-.375CS	SA106GrB	M-246A-61
LIM-22-1.22-CS	SA234WPB	M-246A-256
LIM-22-1.009-SS316	SA358T316	M-246A-207
LIM-20-1.031-CS	SA333Gr6	M-246A-60
LIM-20-1.031-SS	SA403WP304-W	M-246A-256
LIM-20-.903-SS316	SA358T316L	M-246A-258
LIM-20-.733-SS	SA376T304	M-246A-260
LIM-20-.375-CS	SA106GrB	M-246A-61
LIM-20-.500-CS	SA106GrB	M-246A-260
LIM-18-.500-CS	SA106GrB	M-246A-258
* LIM-18-.938-CS	SA106GrB	M-246A-260
LIM-18-.375CS	SA106GrB	M-246A-61
LIM-16-1.219-CS	SA106GrC	M-246A-60
LIM-16-.500-CS	SA333Gr6	M-246A-258

TABLE 2.4-8
LGS UNIT 1 ASME SECTION XI UT CALIBRATION BLOCKS

UNIT 1 & Common Cal. Block No.	UNIT 1 & Common Material	UNIT 1 & Common Drawing No. (8031-)
LIM-16-.375-CS	SA106GrB	M-246A-61
LIM-14-1.093-CS	SA106GrB	M-246A-256
LIM-14-.937-CS	SA106GrB	M-246A-258
LIM-14-.750-CS	SA106GrB	M-246A-260
LIM-14-.375-CS	SA106GrB	M-246A-61
LIM-12-.843-CS	SA106GrB	M-246A-258
LIM-12-.843-SS316	SA358T316L	M-246A-258
LIM-12-.688-CS	SA333Gr6	M-246A-258
LIM-12-.688-SS	SA312T304	M-246A-260
LIM-12-.688-SS316	SA358T316L	M-246A-258
LIM-12-.586SS	SA358Tp304	M-246A-260
LIM-12-.375-CS	SA106GrB	M-246A-61
LIM-10-.843-CS	SA106GrB	M-246A-258
LIM-10-.718-CS	SA106GrB	M-246A-258
LIM-10-.593-CS	SA106GrB	M-246A-258
LIM-10-.593-SS316	SA358T316L	M-246A-258
LIM-10-.365-CS	SA106GrB	M-246A-61
LIM-8-.906-CS	SA106GrB	M-246A-258
LIM-8-.719-CS	SA106GrB	M-246A-246
LIM-8-.594-CS	SA106GrB	M-246A-246
LIM-8-.500-CS	SA106GrB	M-246A-258
LIM-6-.562-CS	SA106GrB	M-246A-258
LIM-6-.432-CS	SA106GrB	M-246A-61
LIM-6-.432-SS	SA376T304	M-246A-61
LIM-6-.280-CS	SA106GrB	M-246A-61
LIM-6-.432-SS316	SA312T316L	M-246A-276
LIM-4-.437-CS	SA106GrB	M-246A-276

TABLE 2.4-8
LGS UNIT 1 ASME SECTION XI UT CALIBRATION BLOCKS

UNIT 1 & Common Cal. Block No.	UNIT 1 & Common Material	UNIT 1 & Common Drawing No. (8031-)
LIM-4-.337-CS	SA106GrB	M-246A-61
LIM-4-.337-SS304	SA312T304	M-246A-208
LIM-3-.438-CS	SA106GrB	M-246A-230
LIM-SP-515-CS	SA515Gr70	M-246A-194
LIM-SP-350-CS	SA350LF2	M-246A-194
LIM-SP-333-CS	SA333Gr6	M-246A-194
LIM-SP-182-SS316	SA182F316	M-246A-232
LIM-SP-181-CS	SA181Gr2	M-246A-194
LIM-SP-105-CS	SA105Gr2	M-246A-194
LIM-3-STUD-CS	SA540 B-24CL2	M-246A-218
LIM-3-STUD-II-CS	SA540 B-24CL2	M-246A-278
LIM-1.00-P	SA516-Gr70	M-246A-277
LIM-F-1.18-CS	SA516-Gr70	M-246A-211
LIM-F-.812-CS	SA516-Gr70	M-246A-277
LIM-RHR-HT-EX-IR	SA105-CL2	XI-1E-205
RPV STD. No. 1A	SA533	M-246B-184
RPV STD. No.. 2	SA533	M-246B-39
RPV STD. No. 3	SA533	M-246B-127
PRV STD. No. 4	SA533	M-246B-128
RPV FLANGE SEAL	A36	M-246B-254
MAIN STEAM ZONE 3	A285	M-246B-188
RECIRC OUT ZONE 3	A285	M-246B-188
FEEDWATER ZONE 3	A285	M-246B-188
PART NO. 1 THRU 21	SA508	M-246B-2-(1)-8
S/S NO. 4	SA508	M-246B-157
RPV CLOSURE STUD	SA540	M-246B-115
NUT NO. B61	SA540	M-246B-37

TABLE 2.4-8
LGS UNIT 1 ASME SECTION XI UT CALIBRATION BLOCKS

UNIT 1 & Common Cal. Block No.	UNIT 1 & Common Material	UNIT 1 & Common Drawing No. (8031-)
LIM-2-.218SS	SA312TP316L	M-246A-276
LIM-1.5-.200-SS	SA312TP316L	M-246A-276
BF-9-CB-1	SA508	M-246B-163
LIM-2		M-246B-188

TABLE 2.4-9
LGS UNIT 2 ASME SECTION XI UT CALIBRATION BLOCKS

UNIT 2 Cal. Block No.	UNIT 2 Material	UNIT 2 Bechtel Drawing No.
LIM-28-2.72-SS316	SA358T316L	M-246A-256
LIM-28-1.285-SS316	SA403WP316	M-246A-256
LIM-28-1.076-SS316	SA358T316	M-246A-256
LIM-26-1.013-CS	SA106GrC	M-246A-256
LIM-26-.928-CS	SA106GrC	M-246A-60
LIM-24-1.812-CS-F	SA350LF2	M-246A-256
LIM-24-1.812-CS	SA106GrB	M-246A-60
LIM-22-1.22-CS	SA234-WPB	M-246A-256
LIM-22-1.009-SS316	SA358T316	M-246A-207
LIM-20-1.031-CS	SA33Gr6	M-246A-60
LIM-20-1.031-SS	SA403WP304-W	M-246A-256
LIM-20-.903-SS316	SA358T316L	M-245A-258
LIM-20-.840-SS316NG	SA376T316NG	P-151-54
LIM-20-.733-SS	SA376T304	M-246-A-260
LIM-20-.375-CS	SA106GrB	M-246A-61
LIM-18-.938-CS	SA106GrB	M-246A-260
LIM-16-1.219-CS	SA106GrC	M-246A-60
LIM-14-1.093-CS	SA106GrB	M-246A-256
LIM-14-.937-CS	SA106GrB	M-246A-258
LIM-14-.750-CS	SA106GrB	M-246A-260
LIM-12-.843-CS	SA106GrB	M-246A-258
LIM-12-.843-SS316	SA358T316L	M-246A-258
LIM-12-.688-CS	SA333Gr6	M-246A-258
LIM-12-.688-SS	SA312T304	M-246A-260
LIM-12-.688-SS316	SA358T316L	M-246A-258
LIM-12-.688-SS316NG	SA376T316NG	P-151-54

TABLE 2.4-9
LGS UNIT 2 ASME SECTION XI UT CALIBRATION BLOCKS

LIM-10-.843-CS	SA106GrB	M-246A-258
LIM-10-.718-CS	SA106GrB	M-246A-258
LIM-10-.593-CS	SA106GrB	M-246A-258
LIM-10-.593-SS316	SA358T316L	M-246A-258
LIM-8-.906-CS	SA106GrB	M-246A-258
LIM-8-.719-CS	SA106GrB	M-246A-246
LIM-8-.594-CS	SA106GrB	M-246A-246
LIM-6-.562-CS	SA106GrB	M-246A-258
LIM-6-.432-CS	SA106GrB	M-246A-61
LIM-6-.432-SS	SA376T304	M-246A-61
LIM-6-.432-SS316	SA312T316L	M-246A-276
LIM-4-.437-CS	SA106GrB	M-246A-276
LIM-4-.337-CS	SA106GrB	M-246A-61
LIM-4-.337-SS304	SA312T304	M-246A-208
LIM-3-.438-CS	SA106GrB	M-246A-230
LIM-SP-515-CS	SA515Gr70	M-246A-194
LIM-SP-350-CS	SA350LF2	M-246A-194
LIM-SP-333-CS	SA333Gr6	M-246A-194
LIM-SP-182-SS316	SA182F316	M-246A-232
LIM-SP-181-CS	SA181Gr2	M-246A-194
LIM-SP-105-CS	SA105Gr2	M-246A-194
LIM-3-STUD-CS	SA540 B-24CL2	M-246A-218
LIM-1.00-P	SA516-Gr70	M-246A-277
LIM-F-1.18-CS	SA516-Gr70	M-246A-211
LIM-F-.812-CS	SA516-Gr70	M-246A-277
LIM-RHR-HT-EX-IR	SA105-CL2	ISI-2E-205
LIM-28-SS-O'LAY	SA312Gr304	FSC-265-14
LIM-22-SS-O'LAY	SA312Gr304	FSC-265-14

TABLE 2.4-9
LGS UNIT 2 ASME SECTION XI UT CALIBRATION BLOCKS

LIM-20-SS-O'LAY	SA312Gr304	FSC-265-14
RPV STD. 1A	SA533	M-246B-184
RPV STD. 2	SA533	M-246B-39
RPV STD. 3	SA533	M-246B-127
RPV STD. 4	SA533	M-246B-128
RPV FLANGE SEAL LIM-2	SA533	M-246B-188
MAIN STEAM ZONE 3	A285	M-246B-188
RECIRC OUT ZONE 3	A285	M-246B-188
FEEDWATER ZONE 3	A285	M-246B-188
PART 1 THRU 21	SA508	M-246B-2
S/S NO. 4	SA508	M-246B-157
RPV CLOSURE STUD	SA540	M-246B-115
NUT NO. B61	SA540	M-246B-37
LIM-U2-N1-NOZ	SA508	M-246B-206
LIM-U2-N1-SE	SA182	M-246B-207
LIM-U2-N8-SE	SA182	M-246B-208
BF-9-CB-1	SA508	M-246B-163
BF-9-CB-2	SA508	M-246B-164

2.5 Technical Approach and Positions

When the requirements of ASME Section XI are not easily interpreted, LGS has reviewed general licensing/regulatory requirements and industry practice to determine a practical method of implementing the Code requirements. The technical approach and position documents contained in this section have been provided to clarify LGS's implementation of ASME Section XI requirements. An index which summarizes each technical approach and position is included in Table 2.5-1.

TABLE 2.5-1
TECHNICAL APPROACH AND POSITIONS INDEX/SUMMARIES

Position Number	Revision Date[2]	Status[1]	(Program) Description
I3T-01	0 02/01/07	Active	**(SPT)** System Leakage Testing of Non-Isolable Buried Components.
I3T-02	0 02/01/07	Active	**(SPT)** Valve Seats as Pressurization Boundaries.
I3T-03	0 02/01/07	Active	**(CISI)** Accessibility for Containment Examinations.
I3T-04	0 02/01/07	Active	**(ISI)** Position On Visual Examination Anomalies and Required Additional Examinations.
I3T-05	0 02/01/07	Active	**(ISI)** Position on Preservice ISI Baseline Examination Coverage Limitations Less Than 90%.
I3T-06	0 02/01/07	Active	**(ISI)** Position on ASME Section XI, Subsection IWF Successive Exams and Additional Examinations.
I3T-07	0 02/01/07	Active	**(SPT)** Position on Performing ASME Section XI Pressure Testing of the Reactor Coolant Pressure Boundary.
I3T-08	0 02/01/07	Active	**(ISI)** Position on Snubber Operability and LCO Log.

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

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, LGS 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).

LGS'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 13T-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:

LGS'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, LGS will perform a VT-2 visual examination of the entire boundary valve body and bonnet (during pressurization up to the valve seat).

TECHNICAL APPROACH AND POSITION NUMBER I3T-03
Revision 0

COMPONENT IDENTIFICATION:

Code Class:	MC
Reference:	Table IWE-2500-1
Examination Category:	E-A
Item Number:	E1.11, E1.12, E1.20
Description:	Accessibility for Containment Examinations
Components Number:	Various

CODE REQUIREMENT:

Table IWE-2500-1, Examination Category E-A, Note 1, requires examination of all accessible interior and exterior surfaces of Class MC components, parts, appurtenances, and metallic shell and penetration liners of Class CC components.

Interpretation XI-1-98-71 was published in Volume 46 of the ASME Section XI Interpretations. This interpretation confirmed that it was the intent of Table IWE-2500-1, Category E-A, Accessible Surface Areas, that surface areas could be considered inaccessible if visual access by line of sight with adequate lighting from permanent vantage points is obstructed by permanent plant structures, equipment, or components, provided these surface areas do not require examination in accordance with the inspection plan for IWE-1240 (i.e., Surface Areas Requiring Augmented Examination).

This interpretation was incorporated into the 2000 Addenda of the 1998 Edition of sub-paragraphs IWE-1231(b), IWE-1232(c), IWE-2310(a), and IWE-2330(b) under Code Action BC-99-489 and provides the needed clarification to define accessible surface areas.

It should be noted that this definition of accessible surfaces cannot be applied to containment surface areas subject to augmented examination in accordance with IWE-1240 and examined to the requirements of Table IWE-2500-1, Examination Category E-C.

POSITION:

LGS's position on accessibility for containment examinations is that surface areas are considered inaccessible if visual access by line of sight with adequate lighting from permanent vantage points is obstructed by permanent plant structures, equipment, or components, provided these surface areas do not require augmented examination.

TECHNICAL APPROACH AND POSITION NUMBER 13T-04
Revision 0

COMPONENT IDENTIFICATION:

Code Class:	1, 2, and 3
Reference:	IWA-2213
Examination Category:	F-A
Item Number:	F1.10, F1.20, F1.30, F1.40
Description:	Position On Visual Examination Anomalies and Required Additional Examinations
Component Number:	Class 1, 2 and 3 Piping Supports

CODE REQUIREMENT:

IWA-2213 states that VT-3 examinations are conducted to determine the general mechanical and structural condition of components and their supports by verifying parameters as clearances, settings, and physical displacements; and to detect discontinuities and imperfections, such as loss of integrity at bolted or welded connections, loose or missing parts, debris, corrosion, wear, or erosion and conditions that could affect operability or functional adequacy.

POSITION:

In accordance with ASME Section XI, IWA-2213, VT-3 visual examinations are conducted to determine the general mechanical and structural condition of components and their supports by verifying parameters such as clearances, settings, and physical displacements; and to detect discontinuities and imperfections, such as loss of integrity at bolted or welded connections, loose or missing parts, debris, corrosion, wear, or erosion. VT-3 includes examinations for conditions that could affect operability or functional adequacy of snubbers and constant load and spring type supports. Integral to these examinations is the determination of the integrity of the component to perform its intended function.

As such, anomalies identified during performance of the visual examinations that do not negate the integrity of the component to perform its intended function do not require conducting additional or successive examinations (such as those required by paragraphs IWF-2430 or IWF-2420(b), respectively), even if the station chooses to perform corrective measures for the purpose of restoring the component to its original design condition.

One example of this would be a locking nut found to be loose on a sway strut connection with the adjacent main nut found secure. In this example, because the main nut was found to be secure, the sway strut remained capable of performing its intended function, even though corrective measures to tighten the locking nut are performed. This position is consistent with ASME Section XI Interpretation XI-1-86-30R.

Additionally, anomalies identified during performance of the visual examinations that can be clearly determined to <u>not</u> be service-induced failures do not require conducting additional or

TECHNICAL APPROACH AND POSITION NUMBER I3T-04
Revision 0

successive examinations (such as those required by paragraphs IWF-2430 or IWF-2420(b), respectively), even if corrective measures are required to restore the component in order for it to be able to perform its intended function, again consistent with ASME Section XI Interpretation XI-1-86-30R.

Examples are as follows:

A sway strut is found bent as the result of rigging or other physical work activity. In this example, the condition can be directly attributed to a physical work activity and not as a result of system normal or transient operation (i.e., service-induced) that could have potentially impacted other components on the same piping run.

Anomalies are observed that are clearly from workmanship issues and not caused by operating conditions, such as, arc strikes, clearances introduced by original fabrication or improper installation, and bent components caused by welding and not from overloading.

TECHNICAL APPROACH AND POSITION NUMBER I3T-05
Revision 0

COMPONENT IDENTIFICATION:

Code Class:	1, 2, and 3
Reference:	10CFR50.55a(g)(5)(iv)
Examination Category:	N/A
Item Number:	N/A
Description:	Position on Preservice ISI Baseline Examination Coverage Limitations Less Than 90%
Component Number:	N/A

REQUIREMENT:

In accordance with 10CFR50.55a, "Each operating license for a boiling or pressurized water-cooled nuclear power facility is subject to the conditions in paragraphs (f (Inservice Testing Requirements)(pumps and valves)) and (g (Inservice Inspection Requirements)) of this section...in addition to those specified in section 50.55.

Paragraph (g)(5)(iv) states, "Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised Inservice Inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months after the expiration of the initial 120-month period of operation from start of facility commercial operation and each subsequent 120-month period of operation during which the examination is determined to be impractical.

POSITION:

The purpose of this position statement is to clarify the action(s) required for Preservice ISI baseline examinations for which examination coverage is limited to less than 90%, as it pertains to Inservice Inspection requirements. 10CFR50.55a, Codes and Standards, provides the basis for this position statement. Unless otherwise stated, all paragraph and sub-paragraph reference identifiers in this position statement pertain to 10CFR50.55a.

Following in-depth reviews of applicable Code of Federal Regulations sections and ASME Code documents, as well as discussions with industry peers, it is LGS ISI Program's position that paragraph (g)(5)(iv) is also applicable to Preservice ISI baseline examinations performed following repairs/replacements and/or modifications within a current 120-month period of operation (i.e., inspection interval). An example would be the performance of a Preservice ISI baseline ultrasonic exam of a piping weld for which less than 90% examination coverage could only be obtained. In this case, the submittal of a pending relief request would be tracked within the ISI Program for submittal to the Commission to demonstrate the basis for this determination not later than 12 months after the expiration of the 120-month period of operation (inspection interval) in which the limited examination occurred.

TECHNICAL APPROACH AND POSITION NUMBER I3T-06
Revision 0

COMPONENT IDENTIFICATION:

Code Class:	1, 2, and 3
Reference:	IWF-2420
Examination Category:	F-A
Item Number:	F1.10, F1.20, F1.30, F1.40
Description:	Position on ASME Section XI, Subsection IWF Successive Exams and Additional Examinations

CODE REQUIREMENT:

ASME Section XI, IWF-2420, dictates the requirements for Successive Examinations, including the requirements for re-examination of a component support accepted for continued service in accordance with IWF-3112.2 or IWF-3122.2 (i.e., during the next inspection period).

ASME Section XI, IWF-2430, dictates the Additional Examinations required for component support examinations performed in accordance with Table IWF-2500-1 that reveal flaws or relevant conditions exceeding the acceptance standards of IWF-3400.

Table IWF-2500-1 provides the examination requirements and frequency of inspection for Examination Category F-A Supports scheduled for examination during Each Inspection Interval.

POSITION:

A Successive Examination (re-examination) of a component support which had been accepted for continued service in accordance with IWF-3112.2 or IWF-3122.2 is performed per the requirements of IWF-2420, Successive Examinations, and is not an examination scheduled per the 10-year Inspection Interval requirements and frequency of inspection in accordance with Table IWF-2500-1.

Therefore, the additional examination requirements of IWF-2430, Additional Examinations, do not apply to a successive examination that reveals flaws or relevant conditions exceeding the acceptance standards of IWF-3400. Rather, IWF-2420 continues to apply for that component (i.e., accepted for continued service in accordance with IWF-3112.2 or IWF-3122.2 and re-examination during the next inspection period).

TECHNICAL APPROACH AND POSITION NUMBER I3T-07
Revision 0

COMPONENT IDENTIFICATION:

Code Class:	1
Reference:	Table IWB-2500-1; IWA-4500
Examination Category:	B-P
Item Number:	B15.10
Description:	Position on Performing ASME Section XI Pressure Testing of the Reactor Coolant Pressure Boundary

BACKGROUND:

A 1996 revision to 10CFR50 Appendix G, "Fracture Toughness Requirements" for the reactor coolant pressure boundary (RCPB), included an explicit prohibition against completing ASME Section XI pressure tests after initiating core criticality (i.e., nuclear heat may not be used to achieve pressurization). This prohibition was the result of issues involving pressure testing at Plant Hatch, and related backfit appeals by NUBARG in the late 1980's and early 1990's. This issue resurfaced in 1997 when Quad Cities Station performed an ASME Section XI leakage test of the "RPV" after startup from a refueling outage (i.e., the OPS HYDRO was performed using nuclear heat). The USNRC issued Information Notice 98-13 to remind licensees of the prohibition on core criticality prior to the completion of ASME Section XI pressure tests.

Although 10CFR50 Appendix G applies to the entire RCPB (i.e., all ASME Class 1 systems), it is important to note that the specific prohibition applies only to ASME Section XI pressure testing of the "Reactor Vessel". It is also noted that during the 1996 Rule Making process the ACRS and NEI both took specific exception to the Staff's prohibition.

At issue are the three (3) types of pressure tests that include the RPV in the boundary of the test:

1. ASME Section XI, Table IWB-2500-1, Periodic pressure tests of systems comprising the RCPB following each refueling outage.
   - The ASME Code clearly requires that these pressure tests be performed "prior to plant startup" from each refueling outage.
   - Core criticality (i.e., nuclear heat) may not be used to achieve pressurization.

2. ASME Section XI, IWA-4540, Repair and Replacement pressure tests of affected RCPB components.
   - The ASME Code allows the component(s) to be tested "prior to or immediately upon return to service".
   - Per the ASME Code, either flood-up and pressurization from external sources (non-nuclear heat) or core criticality (nuclear heat) may be used for pressurization.

3. Procedure MA-AA-716-012, non-ASME Code, Post Maintenance Tests (PMT), of the RCPB systems or components.

TECHNICAL APPROACH AND POSITION NUMBER I3T-07
Revision 0

- Pressure tests, performed solely to meet MA-AA-716-012 PMT requirements, are not subject to the prohibitions of 10CFR50 Appendix G.
- By procedure, either flood-up and pressurization from external sources (non-nuclear heat) or core criticality (nuclear heat) may be used for pressurization.

In all applicable documentation, the USNRC Staff has identified this as a compliance issue. However, the Staff's basis for their position that ASME Section XI pressure testing provides assurance that GDC-14 requirements to design, fabricate, erect and test the RCPB so as to have an extremely low probability of abnormal leakage, of rapidly propagating failure, and of gross rupture have been met, cannot withstand technical challenge. Extensive research by the American Society of Mechanical Engineers has shown that ASME Section XI pressure testing of the RCPB is adequate for determining leak tight integrity but is of little to no value for determining structural integrity. RCPB structural integrity is best measured by the periodic performance ASME Section XI surface and volumetric nondestructive examinations and best protected by adherence to T.S. operating limits.

The Staff's risk determination also cannot withstand technical challenge. A review of the risks involved in performing ASME Section XI pressure tests by flood-up and pressurization from external sources (non-nuclear heat) has concluded that this type of testing represents the most significant challenge to plant safety. Although there is no USQ involved with the conduct of the pressure test; the margin to brittle fracture is reduced; the highest operating stresses are imposed; an additional thermal cycle is imposed; fatigue usage is increased; infrequently used/abnormal system alignments are required and; the potential for violations of Plant Technical Specifications is increased.

Based on our analysis we concur with the USNRC Staff that the issue of ASME Section XI pressure testing and core criticality is one of compliance and not an issue involving nuclear safety provided we remain in compliance with the applicable Codes, Standards and Regulations. Although permitted by the ASME Code, to ensure compliance with 10CFR50 Appendix G, for ASME Section XI Repair and Replacement pressure tests (Type 2 tests, above) to the RPV shell (pressure retaining membrane excluding bolting), out to and including the safe ends, and interior attachment welds to the RPV shell (pressure retaining membrane only, internal components excluded) shall not use core criticality (nuclear heat) to achieve pressurization.

A review of previous and current pressure testing activities at both PB and LG has determined that LGS, as summarized above, has complied and shall remain in compliance with all requirements related to the issue ASME Section XI pressure testing and core criticality, including the 1996 revision to 10CFR50 Appendix G.

TECHNICAL APPROACH AND POSITION NUMBER I3T-07
Revision 0

CODE REQUIREMENTS:

ASME Section XI 2001 Edition through the 2003 Addenda requires the following pressure testing of the reactor coolant pressure boundary (RCPB):

a) A system leakage test following each refueling outage, prior to plant start-up (Examination Category B-P).

- The ASME Code clearly requires these tests to be performed "prior" to plant startup.
- Flood-up and pressurization from external sources (non-nuclear heat) is required.
- Core criticality (i.e., nuclear heat) may not be used to achieve pressurization.
- Once this test is performed, the Code requirement is satisfied for the entire fuel cycle.

b) A pressure test (hydrostatic, leakage, functional, or inservice) following certain ASME Section XI repairs and replacements (IWA-4540).

- Only required when a non exempt (from pressure testing) ASME Section XI repair or replacement has been performed.
- Test boundary may be limited to the specific component repaired or replaced.
- Code allows the component(s) to be tested "prior to or immediately upon return to service".
- Code does not specify the method for achieving pressurization. Therefore, flood-up or core criticality may be used for pressurization.
- 10CFR50, Appendix G applies to the pressure boundary of the RCPB. Therefore, limitations on the Code pressure tests shall apply only to Code repairs and replacements of the RPV shell (out to and including the nozzle safe ends) and interior attachments to the shell. Either flood-up or core criticality may be used for pressurization to conduct testing of Code repairs and replacements of RPV internal components.
- Repair or replacement of bolting of the RCPB is under the jurisdiction of the Code rules, however bolting is exempt from the Code pressure testing requirements. Therefore, flood-up or core criticality may be used for pressurization to conduct testing of RCPB mechanical connections associated with bolting repair or replacement.

Additionally, Procedure MA-AA-716-012, non-Code, Post Maintenance Tests (PMT) of the RCPB may be needed.

- Opening / closing of the RCPB at a mechanical connection, without repairing or replacing pressure boundary components, is not a Code repair or replacement. Therefore, Code pressure testing does not apply.
- Pressure tests performed solely to meet MA-AA-716-012 PMT requirements are not subject to the prohibition of 10CFR50, Appendix G.

TECHNICAL APPROACH AND POSITION NUMBER I3T-07
Revision 0

- Either flood-up or core criticality may be used for pressurization to perform PMT pressure tests.
- The removal of a fuel bundle from the RPV during a planned or forced maintenance outage is not a Code repair or replacement, nor is it a refueling outage activity. Therefore Code repair / replacement and periodic pressure testing is not required.

ASME Section XI rules for pressure testing do not contain direction regarding core criticality. When asked the specific question regarding use of nuclear heat (via the Code Inquiry Process), the Code Committee's official response was that the Code did not address such issues (Ref. 10).

USNRC STAFF BASIS:

In the USNRC response to the NUBARG appeal (Ref. 5), the USNRC denied the appeal and provided further clarity as to their intent regarding the prohibition on core criticality. The basis of the Staff position is as follows:

Defense in Depth: Any "testing" of a barrier used for the prevention of accidental release of fission products is inappropriate using nuclear power (i.e., core critical)

Examinations: The quality of examinations conducted under the conditions of core criticality are potentially questionable, considering the temperature, radiological, and access conditions.

POSITION:

As required by 10CFR50, Appendix G, core criticality shall not be initiated before the completion of the following ASME Section XI required pressure tests:

1) Post refueling outage leakage or periodic hydrostatic test (Examination Category B-P), or
2) Pressure tests required by ASME Section XI following repairs or replacements associated with the reactor vessel shell (nozzle safe ends inward).

All other pressure tests of the RCPB can be conducted after initiation of core critical.

Examples- Replacement of Main Steam Relief Valves following the completion of the Examination Category B-P pressure testing.

ASME Section XI repair or replacement of mechanical connections associated with lines connecting to the reactor vessel (e.g.; head vent line).

Subsequent non-refueling outage breaches of the RCPB, where no ASME Section XI repair or replacement has been performed (e.g.; change-out of leaking fuel element).

TECHNICAL APPROACH AND POSITION NUMBER I3T-07
Revision 0

LGS BASIS:

The explicit prohibition of 10CFR50 Appendix G applies to ASME Section XI pressure testing of the reactor vessel. Other ASME Section XI pressure tests required for components outside the reactor vessel (but within the RCPB) are not subject to the prohibition.

Defense in Depth:	Following completion of the periodic pressure test required by ASME Section XI, Examination Category B-P or IWA-4540, requiring sub-critical core conditions prior to conducting other pressure tests of the RCPB would result in additional thermal cycling of the reactor vessel. This would represent an unnecessary challenge to the vessel from both a fatigue usage and brittle fracture margin perspective.
Examinations:	Examinations of portions of the RCPB are reasonable to perform successfully, even under core critical conditions, since access and ambient temperatures are not significantly different prior to and following criticality. Radiation exposure for the smaller scope of examinations performed at low power levels is not a concern.
Operational:	Maintaining applicable Mode conditions (i.e., no core criticality) to conduct all pressure tests of the RCPB can result in unnecessary cycling of the RCPB and unnecessary operation of associated components due to Mode limitations. This can contribute to degradation of the structural components, which is contradictory to the goal of safe operation.
Test Performance:	Verification of leak tight integrity may require the benefit of full thermal expansion, which is not achievable with artificial heating. Installation of alternate heating sources, to achieve full thermal expansion, is not warranted.

The Final Rule's prohibition explicitly applies only to the "reactor vessel", and only during required ASME Section XI pressure testing. The ASME Section XI requirements do not explicitly prohibit core criticality. Current Code requirements and Interpretations (Ref. 11 through13) for pressure testing imply core critical conditions may be used (i.e., Inservice Pressure Test, by definition, requires system to be operating). Additionally, the ACRS response to the proposed Final Rule (Ref. 6) included a recommendation to revisit the prohibition, as they felt it could not be justified in terms of risk. Nevertheless, after review of all documents associated with this issue, USNRC Staff challenge for use of nuclear heat to conduct any pressure testing of any portion of the RCPB, cannot be ruled out. Undocumented discussions with the Staff and industry experts indicated some disagreement about the appropriate extent of the subject prohibition.

TECHNICAL APPROACH AND POSITION NUMBER I3T-07
Revision 0

REFERENCES:

1. ASME Boiler & Pressure Vessel Code, Section XI, Rules For Inservice Inspection Of Nuclear Power Plant Components;
   1980 Edition w/ Addenda through Winter 1981 (PBAPS),
   1986 Edition (LGS)
   1995 Edition w/ 1996 Addendum — Code Edition currently proposed for USNRC endorsement per 62FR63892, dated 12/3/97
2. Federal Register, (60FR65456, dated December 19, 1995); Final Rule 10CFR Part 50, "Fracture Toughness Requirements for Light Water Reactor Pressure Vessels"
3. SECY-95-205, Revisions to Regulatory Requirements for Reactor Pressure Vessel Integrity in 10CFR Part 50, dated August 4, 1995.
4. USNRC Information Notice 98-13: Post-Refueling Outage Reactor Pressure Vessel Leak Testing Before Core Criticality, dated April 20, 1998.
5. USNRC letter: James M. Taylor, USNRC Executive Director for Operations, to Messrs. Reynolds and Stenger of the Nuclear Utility Backfitting and Reform Group (NUBARG), dated February 2, 1990.
6. Advisory Committee on Reactor Safeguards (ACRS) letter to J. M. Taylor, "Proposed Final Rule and Regulatory Guide for Fracture Toughness Requirements for Light Water Reactor Pressure Vessels", dated June 16, 1995.
7. ASME Section XI Code Case N-515, Class 1 Mechanical Joint Pressure Tests Section XI, Division 1.
8. ASME Section XI Code Case N-508-1, Rotation of Serviced Snubbers and Pressure Relief Valves for the Purpose of Testing Section XI, Division 1.
9. Draft Regulatory Guide DG-1050 (Revision 12 to Regulatory Guide 1.147), May 1997.
10. ASME Section XI Code Inquiry XI-1-86-53, dated 2/11/97.
11. ASME Section XI Code Case N-416-1, Alternative Pressure Test Requirement for Welded Repairs or Installation of Replacement Items by Welding, Class 1, 2 and 3.
12 ASME Section XI Code Case N-498-1, Alternative Rules for 10-Year System Hydrostatic Testing for Class 1, 2 and 3 Systems.
13. ASME Section XI Code Inquiries:

a.	XI-1-83-25	dated 10/27/83	Use of steam for pressure test
b.	XI-1-83-37R2	dated 9/19/89	Hydro testing repair & replacements
c.	XI-1-83-70R	dated 1/26/90	Leakage test disassembled components
d.	XI-1-86-13R	dated 6/10/91	Pressure tests disassembly / reassembly
e.	XI-1-86-34	dated 9/18/86	Exam Category B-P pressurizing medium
f.	XI-1-89-08	dated 11/14/88	Pressure test for replacement of bolts
g.	XI-1-89-15	dated 5/17/89	Pressure tests Class 1 components
h.	XI-1-89-33	dated 2/7/90	Pressure testing after disassembly
i.	XI-1-92-23	dated 3/16/92	Exam Category B-P pressurizing medium
j.	XI-1-92-30	dated 5/22/92	IWA-5214 pressure tests

TECHNICAL APPROACH AND POSITION NUMBER I3T-07
Revision 0

k.	XI-1-92-65	dated 2/7/94	Pressure test, replacement of bolting
l.	XI-1-95-50	dated 11/12/96	Required pressure tests

TECHNICAL APPROACH AND POSITION NUMBER I3T-08
Revision 0

COMPONENT IDENTIFICATION:

Code Class:	1, 2, and 3
Reference:	IWF-5000
Examination Category:	N/A
Item Number:	N/A
Description:	Position on Snubber Operability and LCO Log

BACKGROUND:

The purpose of this engineering evaluation is to document the process that is currently being used to control the Tech Spec 3/4.7.4, Snubber, Allowed Outage Time and to verify that these additional administrative controls meet the requirements of approved Operations and Maintenance procedures.

The structure of snubber related Work Orders as planned in PIMS does not provide for efficient control of the Tech Spec 3/4.7.4, Snubber, Allowed Outage Time. Accordingly the Snubber LCO Log, a LAN based system similar to a Narrative Log, has been developed for this purpose.

POSITION:

Snubber related Work Order Activities should be statused in PIMS in accordance with the Maintenance/Outage Schedule. The actual equipment (snubber) status shall be documented in the Snubber LCO Log by entries made by the Work Group. The LCO/TS Action and ST/RT Logs in the MCR require only a single entry at the beginning of the Snubber Inspection (outage) and may remain open until the end of the Inspection at which time they may be closed.

The start of the Snubber AOT shall be the "Pin Out" time entered in the Snubber LCO Log. The end of the Snubber AOT shall be the "VT-3 SAT" time entered in the Snubber LCO Log. The PMT for all snubbers removed for testing or maintenance work is a VT-3 Visual Examination after reinstallation. An entry in the Snubber LCO Log documenting the satisfactory completion of the PMT is sufficient to return the snubber to operable status.

BASIS:

OP-AA-108-105, Unavailable Equipment/Equipment Release
Q or Tech Spec snubber activities do not require a clearance. Levels of administrative control, comparable to a Clearance, are provided by the Work Order Activity Description, LCO/TS Action Log and Snubber LCO Log.

Unavailability Review – Unavailability Reviews have been completed for 100% of the snubber population. Engineering and at least two (2) members of Shift Management performed the review. Unavailability Reviews do not require re-review each outage unless there is a

TECHNICAL APPROACH AND POSITION NUMBER I3T-08
Revision 0

Modification involving the addition/deletion of snubbers or other supports within the Snubber Inspection System (SIDS No.). Details of the review are documented in Work Order Activity Description "Special Clearance Requirements".

Two (2) members of Shift Management, one of whom is the Control Room Supervisor, shall authorize snubber Work Order Activities. Shift Management authorization of snubber Work Order Activities releases the snubber to the Work Group but shall not be considered as starting the TS 3/4.7.4 Allowed Outage Time (AOT). See LS-AA-105, Operability, below.

Shift Management authorization of the first snubber Work Order Activity for the Snubber Inspection shall require an entry to be made in the Regulatory Action (LCO/TS Action) Log. See OP-AA-108-104-1000, Regulatory Action, below.

LS-AA-105, Operability
Affected SSC's are identified by the Snubber Inspection System (SIDS No.) and Snubber LCO Log No. SSC's required to be operable, remain operable with the snubber removed during the 72 hour Allowed Outage Time (AOT) provided by TS 3/4.7.4. See USNRC position, below. The snubber AOT shall start with the "Pin Out" time recorded in the Snubber LCO Log and shall end with the "VT-3 SAT" time also entered in the Snubber LCO Log.

USNRC Position on Snubber 72 Hour Action Statement:

If a snubber is removed from its installation for testing, the action requirement for the supported system is not applicable, as long as the 72 hours limit is not exceeded. The snubber could be removed one at a time and replaced, or all snubbers are removed at the same time, and replaced as a group at the same time. The Tech Spec operability requirements do not require consideration of supported system redundancy or impact until the snubbers are out of service in excess of 72 hours. The supported system will have to be declared inoperable if the 72 hours limit is exceeded.

If a snubber is found to be inoperable, the action statement requires that an engineering evaluation of the supported system be performed or that the supported system be declared inoperable immediately. The engineering evaluation is to determine if the supported system was affected by the inoperable snubber. This does not relate to the capacity of the attached system to withstand a seismic event.

If the results of the evaluation show, prior to the end of the 72 hours, that the supported system was made inoperable by the inoperable snubbers and those snubbers were not restored or replaced, then the supported system Tech Specs should be entered then, and not at the end of the 72 hours.

Note: when a snubber is removed from service for the purpose of testing, an engineering evaluation is not required.

TECHNICAL APPROACH AND POSITION NUMBER I3T-08
Revision 0

When a supported system LCO is not met due to a support system LCO not being met, only the support system, and not the supported system LCO actions are required to be entered.

OP-AA-108-104-1000, ST/RT Status Log
Requires only one entry per ST per Snubber Inspection (OUTAGE). The entry may remain open for the duration (until the end) of the Inspection at which time they may be closed.

- ST-4-103-000-1(2), Generic Snubber Visual Inspection
- ST-4-103-301-1(2), Snubber Functional Test
- ST-1-103-300-1(2), 24 Month Snubber Functional Test Program
- ST-1-103-990-1(2), Snubber Service Life Monitor

The Plant Information Monitoring System (PIMS), Regulatory Action (LCO/TS Action) Log and the Snubber LCO Log shall be used to control and document the status of snubber activities on SSC's required to be operable. The most timely information is provided by the Snubber LCO Log.

OP-AA-102-102, Narrative Logs / Scope of Entry
The Snubber LCO Log is analogous to Narrative Logs for the CRS, ACRS, the ROs, and the PRO. The Snubber LCO Log is available to be viewed in the MCR by CRS, ACRS, the ROs, and the PRO on the LAN, which is accessible from terminals in the MCR.

The Snubber LCO Log includes the following information for each snubber:

- Outage number
- Snubber number
- Work Order No.
- Date and time the snubber was removed for testing or maintenance
- Calculates and displays the 72 hr AOT
- Date and time snubber was replaced
- Status of visual/functional examinations, SAT/UNSAT
- The supported system
- Other affected systems

The Snubber LCO Log is updated by the Work Group (Station Maintenance). This update will always precede updates in PIMS W/O Completion Remarks (CREM).

OP-AA-108-104-1000, Regulatory Action
Upon authorization of the first TS Work Order for snubber inspections/maintenance, Shift Management shall make an entry in the LCO/TS Action Log. The entry shall direct the reviewer to the Snubber LCO Log for the status of a specific snubber. Only one (1) entry in the LCO/TS Action Log is required for all inspections/maintenance to be performed on TS snubbers. The LCO/TS Action Log entry may be closed when the last TS snubber Work Order is in "ACT COMPLETE" status in PIMS at the end of the Refueling Outage.

TECHNICAL APPROACH AND POSITION NUMBER I3T-08
Revision 0

MA-AA-716-010, Work Order (W/O) Work Performance
Snubber Work Order Activities may be taken to "SCHED" or "INPROG" status in PIMS any time following authorization by Shift Management. "SCHED" or "INPROG" status in PIMS shall not be considered as starting the TS 3/4.7.4 Allowed Outage Time (AOT).

The entering, by the Maintenance Work Group, of the snubber "PIN OUT" time in the Snubber LCO Log shall constitute:

- The start of the 72 Hour Allowed Outage Time, and
- Prior notification to Shift Management of the actual start of work.

See LS-AA-105, Operability, above.

MA-AA-716-012, Post Maintenance/Modification Testing (PMT)
Snubber Post Maintenance Testing is included in the PIMS Component "C" Type Activity for the removal/maintenance/reinstallation of a particular snubber. Completion of the Post-Installation Verification section of procedures M-200-043, M-200-044 or M-200-045, as applicable to the size and make of the specific snubber shall be considered as completion of the PMT for that snubber.

OP-AA-108-106, Equipment Return to Service
A member of Shift Management shall authorize the return of equipment or systems back to an Operable status after confirmation of the following information as appropriate:

- A snubber is considered returned to service and operable status following the satisfactory completion of the PMT based on the following:
  - Proper housekeeping and equipment condition has been verified by the PMT.
  - Completion of a Work Order search is not required since the PMT is required to be completed satisfactorily and deferral of the VT-3 Visual examination is not permitted.
  - The PMT is the final required Surveillance Test for that snubber and its satisfactory completion indicates the snubber is in surveillance.
  - Required Independent/Double verifications have been completed as specified by individual procedure.
  - The system/equipment has been walked down as appropriate to verify that it can be safely operated to fulfill its design function.
  - The snubber is considered a support system and does not require other auxiliary and support systems for operability.

No Operating Procedures, including COLs, are required to return equipment/systems to service. No compensatory actions other than completing the snubber work within the snubber 72 Hour AOT are taken or needed to be closed out.

3.0 COMPONENT ISI PLAN

The LGS Component ISI Plan includes ASME Section XI nonexempt pressure retaining welds, piping structural elements, pressure retaining bolting, attachment welds, pump casings, valve bodies, reactor vessel interior, reactor vessel core support structures, and reactor vessel interior attachments of ISI Class 1, 2, and 3 components that meet the criteria of Subarticle IWA-1300. These components are identified on the ISI Boundary Drawings listed in Section 2.3, Table 2.3-1. These drawings are identified with a special prefix of "ISI" for the color-coded P&IDs (e.g.; ISI-M-01). 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 as referenced in Section 2.2 of this document. See the Augmented Inspection Program for details on these additional requirements and references.

3.1 Nonexempt ISI Class Components

The LGS ISI Class 1 components subject to examination are those that 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 LGS ISI Class 2 and 3 components identified in ISI Boundary 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 LGS 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 Isometric and ISI Component Drawings listed in Section 2.4, Tables 2.4-1, 2.4-2, 2.4-3, 2.4-4, 2.4-5, and 2.4-6. The Class 1 and 2 Isometric Drawings are identified with a special prefix of "FIG" for Unit 1 and "XI" for Unit 2 (e.g.; FIG-01-01 or XI-DCA-204-1). Welded attachments are also identified by controlled LGS support drawings.

3.1.2

10CFR50.55a(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 (1989 Edition, No Addenda) - 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;

(Refer to Section 3.3 of this document).

(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 vessel head connections and associated piping, NPS 2 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 LGS.

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 LGS programs such as the Flow Accelerated Corrosion (FAC) or 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-02.

3.3 ISI Class 1 Piping Size Exemption for Water and Steam

The basis for determining the size of ISI Class 1 water and steam lines exempted from the surface and volumetric examination requirements of ASME Section XI Article IWB-1200 are provided in LGS Calculation No. MISC-41, Rev. 3.

The ISI Class 1 size exemption for water and steam at LGS (refer to IWB-1220) consists of the following systems:

System	Pump Flow Rate	Maximum Fluid Temp.	Emergency Power
RCIC - (Reactor Core Isolation Cooling). UFSAR, Subsection 5.4.6	600 GPM	95° F	Yes, On-site
CRD - (CRD Cooling Water Flow). UFSAR, Subsection 4.6.1	170 GPM	95° F	Yes, On-site

LGS has determined through the criteria of Subarticle IWB-1220(a) that Class 1 components which are (1) 1.53" ID and smaller for liquid filled components or (2) 2.96" ID and smaller for steam filled components are exempt from the volumetric and surface examinations. In determining the size of the liquid and steam lines excluded from surface and volumetric examination, liquid lines were defined as those that penetrate the RPV below the normal water level and steam lines as those that penetrate the RPV above the normal water level.

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).

4.0 SUPPORT ISI PLAN

The LGS 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 LGS 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 LGS 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 Isometric and Component Drawings listed in Section 2.4, Table 2.4-1, 2.4-2, 2.4-3, 2.4-4, 2.4-5, and 2.4-6. The Class 1 and 2 Isometric Drawings are identified with a special prefix of "FIG" for Unit 1 and "XI" for Unit 2 (e.g.; FIG-01-01 or XI-DCA-204-1). Supports are also identified by controlled LGS 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 Examinations and Inservice Tests (functional tests) of snubbers to be performed in accordance with the Operation and Maintenance of Nuclear Power Plants (OM), Standard ASME/ANSI OM, Part 4. Relief Request I3R-05, which requests relief from the visual examination and functional testing requirements of Paragraphs IWF-5200(a), IWF-5300(a), IWF-5200(b), and IWF-5300(b). The purpose of this relief request is to justify replacing the visual examination and functional testing requirements of Paragraphs IWF-5200(a) and (b) and IWF-5300(a) and (b) and the frequency required by OMa-1988 Addenda to the ASME/ANSI OM-1987 Edition, Part 4, with the requirements of LGS Technical Specifications (TS) snubber program, Section 3/4.7.4. A summary of the LGS Unit 1, 2, and Common TS and non-TS snubbers is included in Section 7.0 under Augmented Components.

Corporate procedure ER-AA-330-004 "Visual Examination of Technical Specification Snubbers", implements the visual inspection program for TS and non-TS 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 implement the functional testing, visual

examination, and service life monitoring requirements for TS and non-TS snubbers, as applicable.

The ASME Section XI ISI Program uses Subsection IWF to define support inspection requirements. The ISI Program maintains the Code classified 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, load pins, and their interface to the clamp, also referred to as "pin-out", 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 ISI Class 1, 2, and 3 supports, regardless of type. The ISI Program maintains the ISI classified 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). Per Relief Request I3R-05, the examination of the snubber body and extension, also referred to as "pin-in", will be performed in accordance with the TS snubber program.

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 LGS 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 several LGS site-specific surveillance test procedures, implement the ASME Section XI System Pressure Testing ISI Plan.

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 in color on the ISI Boundary Drawings listed in Section 2.3, Table 2.3-1. These drawings are identified with a special prefix of "ISI" for the color-coded P&IDs (e.g.; ISI-M-01).

5.1.2 Identification of System Pressure Tests

The System Pressure Test Boundary Drawings used to define which systems, or portions of systems, fall under a specific test are identified in attachments to the site-specific surveillance procedures.

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 LGS CISI Plan includes ASME Section XI ISI Class MC pressure retaining components and their integral attachments, and Class CC components and structures that meet the criteria of Subarticle IWA-1300. This CISI Plan also includes information related to augmented examination areas, component accessibility, and examination review. The CISI Second Inspection Interval for Subsections IWE and IWL is defined in Relief Request I3R-01.

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

6.1 Nonexempt CISI Class Components

The LGS CISI Classified MC and CC components identified in the ISI Database 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 LGS Units 1 and 2 ASME Section XI nonexempt CISI components is included in Section 7.0.

The process for scoping LGS components for inclusion in the CISI 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 10CFR50.55a(g)(4). Supports of IWE components are not required to be examined in accordance with 10CFR50.55a(g)(4).

6.1.1 Identification of ISI Class MC and CC Nonexempt Components

CISI classified MC and CC components are identified on the CISI Reference Drawings listed in Section 2.4, Table 2.4-7. These drawings are identified with special prefixes of "C-" or "M-" for LGS Unit 1 and 2 (e.g.; C-0247 or M-0057).

6.1.2 Identification of ISI Class MC and CC Exempt Components

The process for exempting LGS components from the CISI Plan per IWE-1220 and IWL-1220 is included in the containment sections of the ISI Classification Basis Document. These sections include a listing and basis for exempting applicable components.

6.2 Augmented Examination 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.

The accessibility for containment examinations is documented in technical approach and position I3T-04.

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, system pressure testing, and augmented program components for the Third ISI Interval and Second CISI Interval at LGS 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 Number 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. Only those Examination Categories applicable to LGS are identified.

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.

Examination Category "NA" is used to identify Augmented ISI examinations and other LGS 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 LGS are identified.

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

Specific abbreviations such as AUG-01, AUG-02, and AUG-05 have been developed to identify Augmented ISI examinations and other LGS 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 statement of the Risk Category is provided.

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

(4) Examination Requirements:

Provides the examination method(s) 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 the RISI Program 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 LGS commitments or relief requests.

(5) Total Number Of Components by System

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

This column also provides the number of components within a particular system for that Item Number, Augmented Number, or Risk Category 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, Augmented Number, or Risk Category 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 technical approach and position in Section 2.5.

(7) Notes

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

LGS 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: 5	I3R-04	
	B1.12	Longitudinal Shell Welds (Reactor Vessel)	Volumetric	RPV: 13	I3R-04	
	B1.21	Circumferential Head Welds (Reactor Vessel)	Volumetric	RPV: 2		
	B1.22	Meridional Head Welds (Reactor Vessel)	Volumetric	RPV: 13		
	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: 34		
	B3.100	Nozzle Inside Radius Section (Reactor Vessel)	Volumetric	RPV: 34		

LGS 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: 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, Bushings (Reactor Vessel)	Visual, VT-1	RPV: 76		
	B6.180	Bolts and Studs (Pumps)	Volumetric	RR: 32		
	B6.190	Flange Surface, when connection disassembled (Pumps)	Visual, VT-1	RR: 2		
	B6.200	Nuts, Bushings, and Washers (Pumps)	Visual, VT-1	RR: 32		
B-G-2 Pressure Retaining Bolting, 2 in. and Less In Diameter	B7.10	Bolts, Studs, and Nuts (Reactor Vessel)	Visual, VT-1	RPV: 4		
	B7.50	Bolts, Studs, and Nuts (Piping)	Visual, VT-1	MS: 18 RWCU: 1		
	B7.70	Bolts, Studs, and Nuts (Valves)	Visual, VT-1	CS: 4 FW: 4 MS: 22 RHR: 12 RR: 4		
	B7.80	Bolts, Studs, & Nuts in CRD Housing (Reactor Vessel)	Visual, VT-1	RPV: 185		11

LGS 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: 10		
	B10.20	Welded Attachments (Piping)	Surface	MS: 4 RHR: 1 RR: 4		
	B10.30	Welded Attachments (Pumps)	Surface	RR: 8		
B-L-2 Pump Casings	B12.20	Pump Casings (Pumps)	Visual, VT-3	RR: 2		
B-M-2 Valve Bodies	B12.50	Valve Bodies (Exceeding NPS 4) (Valves)	Visual, VT-3	CS: 6 FW: 6 HPCI: 2 MS: 22 RHR: 21 RR: 4 RWCU: 5		

LGS 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-1 Interior of Reactor Vessel	B13.10	Vessel Interior (Reactor Vessel)	Visual, VT-3	RPV: 1	I3R-03	
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	RPV: 6	I3R-03	
	B13.30	Interior Attachments Beyond Beltline Region (Reactor	Visual, VT-3	RPV: 11	I3R-03	
		Vessel)				
	B13.40	Core Support Structure (Reactor Vessel)	Visual, VT-3	RPV: 842	I3R-03	
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	RPV: 80		12

LGS 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-P All Pressure Retaining Components	B15.10	System Leakage Test (IWB-5220)	Visual, VT-2	CS FW HPCI MS RCIC RHR RPV RPV-APP RR RWCU SLC	I3R-08 I3T-02 I3T-07	

LGS 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	RHR: 6	I3R-06	
	C1.20	Head Circumferential Welds (Pressure Vessels)	Volumetric	RHR: 2		
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	RHR: 4		
	C2.22	Nozzle Inside Radius Section Without Reinforcing Plate, Greater Than 1/2" Nominal Thickness (Pressure Vessels)	Volumetric	RHR: 4		
C-C Welded Attachments for Vessels, Piping, Pumps, and Valve	C3.10	Welded Attachments (Pressure Vessels)	Surface	RHR: 16		
	C3.20	Welded Attachments (Piping)	Surface	CRD: 6 CS: 17 HPCI: 18 MS: 6 RCIC: 9 RHR: 72		
	C3.30	Welded Attachments (Pumps)	Surface	RCIC: 4		
C-G Pressure Retaining Welds in Pumps and Valves	C6.10	Pump Casing Welds (Pumps)	Surface	CS: 28 RCIC: 2 RHR: 28	I3R-07	

LGS 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-H All Pressure Retaining Components	C7.10	System Leakage Test (IWC-5220)	Visual, VT-2	CAC CRD CS DWCW FW HPCI INST LRW MS PASS PCIG RADMON RADW RCIC RECW RHR RWCU SDV SLC	I3R-11 I3R-12 I3T-01 I3T-02	

LGS 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	D1.20	Welded Attachments (Piping)	Visual, VT-1	ESW: 75 + MS: 47 RHRSW: 35		2
D-B All Pressure Retaining Components	D2.10	System Leakage Test (IWD-5221)	Visual, VT-2	CSCW DIESEL ESW FPC FPCC FP-DEMN LRW MS PCIG RHR RHRSW RPV RWCU	I3R-09 I3R-10 I3T-01 I3T-02	

LGS 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/ TA&P Number	Notes
E-A Containment Surfaces	E1.11	Containment Vessel Pressure Retaining Boundary - Accessible Surface Areas	General Visual	9	I3R-01 I3T-03	7
	E1.11	Containment Vessel Pressure Retaining Boundary - Bolted Connections, Surfaces	Visual, VT-3	14	I3R-01 I3T-03	7
	E1.12	Containment Vessel Pressure Retaining Boundary - Wetted Surfaces of Submerged Areas	Visual, VT-3	2	I3R-01 I3T-03	8
	E1.20	Containment Vessel Pressure Retaining Boundary - BWR Vent System Accessible Surface Areas	Visual, VT-3	0	I3R-01 I3T-03	8
E-C Containment Surfaces Requiring Augmented Examination	E4.11	Containment Surface Areas - Visible Surfaces	Visual, VT-1	0	I3R-01	9
	E4.12	Containment Surface Areas - Surface Area Grid Grid Line Intersections and Minimum Wall Thickness Locations	Volumetric (Thickness)	0	I3R-01	10

LGS 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	CS: 14 FW: 36 HPCI: 10 MS: 31 RCIC: 15 RHR: 84 RR: 54 RWCU: 80 SLC: 40	I3R-05 I3T-04 I3T-06	1
	F1.20	Class 2 Piping Supports	Visual, VT-3	CRD: 35 CS: 108 FW: 3 HPCI: 95 MS: 78 RCIC: 69 RHR: 393	I3R-05 I3T-04 I3T-06	1
	F1.30	Class 3 Piping Supports	Visual, VT-3	ESW: 386 + MS: 185 RHRSW: 438	I3R-05 I3T-04 I3T-06	1 2
	F1.40	Supports Other Than Piping Supports (Class 1, 2, and 3)	Visual, VT-3	CS: 4 HPCI: 1 RCIC: 4 RHR: 20 RPV: 9 RR: 20	I3R-05 I3T-04 I3T-06	1

LGS 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/ TA&P Number	Notes
L-A	L1.11	Concrete Surfaces - All Accessible Surface Areas	General Visual	3	I3R-01	
Concrete	L1.12	Concrete Surfaces - Suspect Areas	Detailed Visual	0	I3R-01	

LGS 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	FW: 72	I3R-02	3 4 5 6
	2	Risk Category 2 Elements	See Notes	CS: 14 RHR: 63 RR: 12 RWCU: 2 SLC: 4	I3R-02	3 4 5 6
	3	Risk Category 3 Elements	See Notes	FW: 17 HPCI: 27 RCIC: 28	I3R-02	3 4 5 6
	4	Risk Category 4 Elements	See Notes	CS: 20 HPCI: 40 MS: 237 RCIC: 25 RHR: 126 RPV-APP: 38 RR: 95 RWCU: 94 SLC: 6	I3R-02	3 4 5 6
	5	Risk Category 5 Elements	See Notes	FW: 7 HPCI: 4 RCIC: 9 RHR: 44	I3R-02	3 4 5 6

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

Examination Category (with Category Description)	Aug Number	Description	Exam Requirements	Total Number of Components	Relief Request/ TA&P Number	Notes
NA Augmented Components	AUG-01	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 C: 23 Category D: 1 Category E: 1		4
	AUG-02	BWROG, BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking Components	Volumetric	FW: 12 RPV: 18		
	AUG-05	USNRC Mechanical Engineering Branch (MEB) Technical Position MEB 3-1, NUREG-0800, No Break Boundaries	Volumetric or Surface	NA		6
	AUG-07	SIL No. 455, Recommendation for Additional ISI of Alloy 182 Nozzle Weldments. (Note: This augmented inspection program is in conjunction with the AUG-01 program.)	Volumetric	CS: 2 RR: 4 RPV-APP: 3 RR: 12		
	AUG-09	Examination of the RPV Closure Head Lifting Lugs	Surface	RPV: 4		
	AUG-10	UFSAR Table 3.2-1, Non-Q Reactor Pressure Vessel Internal Components	Volumetric or Visual, VT-3	RPV: 17		
	AUG-13	Technical Specification 3/4.7.4, Snubber Examination and Testing Program	Visual, VT-3	AUX STM: 1 C & RWS: 5 CAC: 26 CE-HVAC: 1 CONDSTE: 5 CS: 61 EDG: 8 ESW:16 FPC: 1 FPCC: 27 FP-DEMN: 3 FW: 26 HPCI: 51 LRW: 6 MS: 147 PCIG: 2 RCIC: 37	I3R-05	1

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

Examination Category (with Category Description)	Aug Number	Description	Exam Requirements	Total Number of Components	Relief Request/ TA&P Number	Notes
NA Augmented Components (Continued)	AUG-13	Technical Specification 3/4.7.4, Snubber Examination and Testing Program	Functional Tests & Visual, VT-3	RECW: 12 RHR: 358 RHRSW: 25 RPV-APP: 24 RR: 123 RWCU: 116 SLC: 6 SW: 13	I3R-05	1
	AUG-14	Balance of Plant Snubber Examination Program	Visual, VT-3	AIR: 6 AUX STM: 1 CAC: 1 DW-CW: 1 ESW: 10 FPCC: 6 FW: 1 HEATING: 3 HPCI: 3 LRW: 1 MS: 97 PCIG: 5 PCLT: 2 RCIC: 2 RECW: 10 RWCU: 22 SW: 21	I3R-05	1
	AUG-19	Weld Centerline Marking	NA	NA		
	AUG-22	USNRC IEB Nos. 95-02 and 96-03, RHR and CS Suction Strainers	Visual, VT-3	CS: 5 RHR: 9		
	AUG-30	BWRVIP-05, BWR Reactor Pressure Vessel Shell Welds	Volumetric	RPV: 18		

LGS 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: 5	I3R-04	
	B1.12	Longitudinal Shell Welds (Reactor Vessel)	Volumetric	RPV: 13	I3R-04	
	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: 34		
	B3.100	Nozzle Inside Radius Section (Reactor Vessel)	Volumetric	RPV: 34		

LGS 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, Bushings (Reactor Vessel)	Visual, VT-1	RPV: 76		
	B6.180	Bolts & Studs (Pumps)	Volumetric	RR: 32		
	B6.190	Flange Surface, when connection disassembled (Pumps)	Visual, VT-1	RR: 2		
	B6.200	Nuts, Bushings, and Washers (Pumps)	Visual, VT-1	RR: 32		
B-G-2 Pressure Retaining Bolting, 2 in. and Less In Diameter	B7.10	Bolts, Studs, and Nuts (Reactor Vessel)	Visual, VT-1	RPV: 3 RPV-APP: 1		
	B7.50	Bolts, Studs, and Nuts (Piping)	Visual, VT-1	HPCI: 1 MS: 17 RWCU: 2		
	B7.70	Bolts, Studs, and Nuts (Valves)	Visual, VT-1	CS: 4 FW: 4 MS: 22 RHR: 12 RR: 4		
	B7.80	Bolts, Studs, & Nuts in CRD Housing (Reactor Vessel)	Visual, VT-1	RPV: 185		11

LGS 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: 10		
	B10.20	Welded Attachments (Piping)	Surface	MS: 16 RHR: 4 RR: 16		
	B10.30	Welded Attachments (Pumps)	Surface	RR: 8		
B-L-2 Pump Casings	B12.20	Pump Casings (Pumps)	Visual, VT-3	RR: 2		
B-M-2 Valve Bodies	B12.50	Valve Bodies, (Exceeding NPS 4) (Valves)	Visual, VT-3	CS: 6 FW: 6 HPCI: 2 MS: 22 RHR: 21 RR: 4 RWCU: 5		

LGS 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-1 Interior of Reactor Vessel	B13.10	Vessel Interior (Reactor Vessel)	Visual, VT-3	RPV: 1	I3R-03	
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	RPV: 6	I3R-03	
	B13.30	Interior Attachments Beyond Beltline Region (Reactor Vessel)	Visual, VT-3	RPV: 11	I3R-03	
	B13.40	Core Support Structure (Reactor Vessel)	Visual, VT-3	RPV: 838	I3R-03	
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	RPV: 80		12

LGS 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-P All Pressure Retaining Components	B15.10	System Leakage Test (IWB-5220)	Visual, VT-2	CS FW HPCI MS RCIC RHR RPV RPV-APP RR RWCU SLC	I3R-08 I3T-02 I3T-07	

LGS 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	RHR: 6	I3R-06	
	C1.20	Head Circumferential Welds (Pressure Vessels)	Volumetric	RHR: 2		
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	RHR: 4		
	C2.22	Nozzle Inside Radius Section Without Reinforcing Plate, Greater Than 1/2" Nominal Thickness (Pressure Vessels)	Volumetric	RHR: 4		
C-C Welded Attachments for Vessels, Piping, Pumps, and Valves	C3.10	Welded Attachments (Pressure Vessels)	Surface	RHR: 16		
	C3.20	Welded Attachments (Piping)	Surface	CRD: 28 CS: 45 HPCI: 71 MS: 41 RCIC: 63 RHR: 209		
	C3.30	Welded Attachments (Pumps)	Surface	RCIC: 4		
C-G Pressure Retaining Welds In Pumps and Valves	C6.10	Pump Casing Welds (Pumps)	Surface	CS: 36 RCIC: 2 RHR: 44	I3R-07	

LGS 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-H All Pressure Retaining Components	C7.10	System Leakage Test (IWC-5220)	Visual, VT-2	CAC CONDSTE CRD CS DWCW FW HPCI INST MS PASS PCIG RADMON RADW RCIC RECW RHR RWCU SDV SLC	I3R-11 I3R-12 I3T-01 I3T-02	

LGS 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	D1.20	Welded Attachments (Piping)	Visual, VT-1	ESW: 88 MS: 175 RHRSW: 9		
D-B All Pressure Retaining Components	D2.10	System Leakage Test (IWD-5221)	Visual, VT-2	CAC CONDSTE DIESEL ESW FPC FPCC LRW MS PCIG RCIC RHRSW RPV RWCU	I3R-09 I3R-10 I3T-01 I3T-02	

LGS 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/ TA&P Number	Notes
E-A Containment Surfaces	E1.11	Containment Vessel Pressure Retaining Boundary - Accessible Surface Areas	General Visual	9	I3R-01 I3T-03	7
	E1.11	Containment Vessel Pressure Retaining Boundary - Accessible Surface Areas Including Bolted Connections	Visual, VT-3	14	I3R-01 I3T-03	7
	E1.12	Containment Vessel Pressure Retaining Boundary - Wetted Surfaces of Submerged Areas	Visual, VT-3	2	I3R-01 I3T-03	8
	E1.20	Containment Vessel Pressure Retaining Boundary - BWR Vent System Accessible Surface Areas	Visual, VT-3	0	I3R-01 I3T-03	8
E-C Containment Surfaces Requiring Augmented Examination	E4.11	Containment Surface Areas - Visible Surfaces	Visual, VT-1	0	I3R-01	9
	E4.12	Containment Surface Areas - Surface Area Grid Grid Line Intersections and Minimum Wall Thickness Locations	Volumetric (Thickness)	0	I3R-01	10

LGS 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	CS: 14 FW: 36 HPCI: 10 MS: 31 RCIC: 15 RHR: 64 RR: 34 RWCU: 63 SBLC: 40	I3R-05 I3T-04 I3T-06	1
	F1.20	Class 2 Piping Supports	Visual, VT-3	CRD: 31 CS: 108 FW: 3 HPCI: 88 MS: 82 RCIC: 80 RHR: 379	I3R-05 I3T-04 I3T-06	1
	F1.30	Class 3 Piping Supports	Visual, VT-3	ESW: 116 MS: 187 RHRSW: 50	I3R-05 I3T-04 I3T-06	1
	F1.40	Supports Other Than Piping Supports (Class 1, 2, and 3)	Visual, VT-3	CS: 4 HPCI: 7 RCIC: 4 RHR: 52 RPV: 9 RR: 18	I3R-05 I3T-04 I3T-06	1

LGS 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/ TA&P Number	Notes
L-A	L1.11	Concrete Surfaces - All Accessible Surface Areas	General Visual	3	I3R-01	
Concrete	L1.12	Concrete Surfaces - Suspect Areas	Detailed Visual	0	I3R-01	

LGS 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	FW: 67	I3R-02	3 4 5 6
	2	Risk Category 2 Elements	See Notes	CS: 17 RHR: 59 RR: 9 RWCU: 2 SLC: 4	I3R-02	3 4 5 6
	3	Risk Category 3 Elements	See Notes	FW: 19 HPCI: 28 RCIC: 26	I3R-02	3 4 5
	4	Risk Category 4 Elements	See Notes	CS: 19 HPCI: 40 MS: 235 RCIC: 30 RHR: 123 RPV-APP: 41 RR: 97 RWCU: 115 SLC: 5	I3R-02	3 4 5 6
	5	Risk Category 5 Elements	See Notes	FW: 5 HPCI: 5 RCIC: 9 RHR: 49	I3R-02	3 4 5 6

LGS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7-1-2

Examination Category (with Category Description)	Aug Number	Description	Exam Requirements	Total Number of Components	Relief Request/ TA&P Number	Notes
NA Augmented Component s	AUG-01	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: 18		4
	AUG-02	BWROG, BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking Components	Volumetric	FW: 12 RPV: 18		
	AUG-05	USNRC Mechanical Engineering Branch (MEB) Technical Position MEB 3-1, NUREG-0800, No Break Boundaries	Volumetric or Surface	NA		6
	AUG-07	SIL No. 455, Recommendation for Additional ISI of Alloy 182 Nozzle Weldments. (Note: This augmented inspection program is in conjunction with the AUG-01 program.)	Volumetric	CS: 2 RR: 4 RPV-APP: 3 RR: 12		
	AUG-09	Examination of the RPV Closure Head Lifting Lugs	Surface	RPV: 4		
	AUG-10	UFSAR Table 3.2-1, Non-Q Reactor Pressure Vessel Internal Components	Volumetric or Visual, VT-3	RPV: 17		
	AUG-13	Technical Specification 3/4.7.4, Snubber Examination and Testing Program	Functional Tests & Visual, VT-3	AUX STM: 3 C & RWS: 3 CAC: 13 CONDSTE: 5 CS: 28 EDG: 4 ESW: 3 FPC: 27 FPCC: 2 FW: 21 HPCI: 30 LRW: 1 MS: 166 RCIC: 28 RHR: 157 RHRSW: 15 RPV-APP: 29	I3R-05	1

LGS UNIT 2
INSERVICE INSPECTION SUMMARY TABLE 7-1-2

Examination Category (with Category Description)	Aug Number	Description	Exam Requirements	Total Number of Components	Relief Request/ TA&P Number	Notes
NA Augmented Components (Continued)	AUG-13	Technical Specification 3/4.7.4, Snubber Examination and Testing Program	Visual, VT-3	RR: 70 RWCU: 46 SW: 5	I3R-05	1
	AUG-14	Balance of Plant Snubber Examination Program	Visual, VT-3	ETS: 13 EXTRSTM: 8 FAS: 8 FCD: 7 FDV: 6 MOS: 8 MS: 18 RETS: 11	I3R-05	1
	AUG-19	Weld Centerline Marking	NA	NA		
	AUG-22	USNRC IEB Nos. 95-02 and 96-03, RHR and CS Suction Strainers	Visual, VT-3	CS: 5 RHR: 9		
	AUG-30	BWRVIP-05, BWR Reactor Pressure Vessel Shell Welds	Volumetric	RPV: 18		

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 Relief Request I3R-05 and the LGS TS snubber program. The number of LGS Unit 1, 2, and Common supports identified, include snubbers for the visual examination and functional testing of the snubber per Relief Request I3R-05, and include the integral and nonintegral attachments per Paragraphs IWF-5200(c), IWF-5300(c), and IWF-2500(a). 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, LGS'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 10CFR50.55a(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 10CFR50.59 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 Section 3.6.
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 10CFR50.55a(b)(2)(ix)(G) and 10CFR50.55a(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 10CFR50.55a(b)(2)(ix)(G).
9	Item F4.11 requires VT-1 visual examination in lieu of Detailed Visual examination, as modified by 10CFR50.55a(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 10CFR50.55a(b)(2)(ix)(I).
11	Per 10CFR50.55a(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.
12	Examination Category B-O (Pressure-Retaining Welds In Control Rod Housings), Item Number B14.10 (Welds in CRD Housing) - the scope of examination is for pressure retaining welds in 10% of the peripheral CRD Housings. These 80 components represent the two welds (lower and upper housing welds) on each of the 40 peripheral CRD Housings to be examined during the interval (10% of 80). Note that welds in the peripheral CRD Housings are exempted from examination per IWB-1220(a). See Calculation LM-0546, CRD Housing Weld Exclusion Evaluation for calculation/justification for more details.