Exelon Generation®

200 Exelon Way
Kennett Square, PA 19348

www.exeloncorp.com

10 CFR 50.55a

RA-14-105

December 11, 2014

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

Oyster Creek Nuclear Generating Station
Renewed Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Submittal of Fifth Ten-Year Interval Inservice Inspection 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 Fifth Ten-Year Interval Inservice Inspection (ISI) Program Plan for Oyster Creek Nuclear Generating Station (OCNGS). The fifth interval of the ISI program complies with the 2007 Edition through the 2008 Addenda of the ASME B&PV Code. The fifth ISI interval began on January 15, 2013.

There are no regulatory commitments in this letter.

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

Respectfully,

James Barstow
Director - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Attachment: Oyster Creek Generating Station 5th Interval ISI Program

cc: Regional Administrator, Region I, USNRC
USNRC Senior Resident Inspector, OCNGS
Project Manager [OCNGS] USNRC

ATTACHMENT

Oyster Creek Generating Station

5th Interval ISI Program

Exelon Generating Company
Oyster Creek Generating Station
5th Interval ISI Program

ISI Program Plan

Fifth Ten-Year Inspection Interval

AES Document: OC-472623-RP04

Prepared By

AUTOMATED ENGINEERING SERVICES CORP.

Automated Engineering Services
One Energy Center
40 Shuman Blvd., Suite 340
Naperville, IL 60563

Prepared For

Exelon

Exelon Generating Company
Oyster Creek Generating Station
Route 9, Lacy Township
Forked River, NJ 08731

REVISION APPROVAL SHEET

TITLE: ISI Program Plan
Fifth Ten-Year Inspection Interval
Oyster Creek Generating Station

ASME CODE OF RECORD: ASME Section XI, 2007 Edition with 2008 Addenda

DOCUMENT: ER-OC-330-5001 REVISION: 1

PREPARED: Greg Harttraft 9/12/14
ISI Program Engineer

REVIEWED: Marty McAllister 9/12/14
ISI Program Engineer

APPROVED: John Clark 9/12/14
Manager Engineering Programs

ANII REVIEW: Gary Gustofson 9/12/14
ANII

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, Oyster Creek Generating Station archives should be retrieved.

REVISION CONTROL SHEET

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

REVISION	DATE	REVISION SUMMARY
0	6/29/12	Initial issuance. (This ISI Program Plan was developed by Automated Engineering Services as part of the Fifth Interval ISI Program update.) Prepared: D. Windhorst Reviewed: K. Johnson Approved: D. Lamond
1	9/12/14	Corrected Drawings numbers and titles in Table 2.4-1 for Scram Discharge Volume System. Updated status of code Relief Requests in Table 8.0 and added Fleet Relief Requests for use of Code Cases N-649 and N-786. Added Code Cases N-786 and N-789 to Section 2.1.1 ASME Section XI Code Cases List. Eliminated listing for number of components for system 531 Service Water identified in Table 7.1-1 because the Service Water system is not part of the ISI Program scope.

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

REVISION CONTROL SHEET

(Continued)

Intentionally Left Blank

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

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, and MC pressure retaining components, supports, and containment structures at Oyster Creek Generating Station (OCGS). This ISI Program Plan also includes Containment Inservice Inspection (CISI), Augmented Inservice Inspections (AUG), and system pressure testing (SPT) requirements imposed on or committed to by OCGS. At OCGS, the Inservice Testing (IST) Program is maintained and implemented separately from the ISI Program. The IST Basis Document and Program Plan contain all of the applicable inservice testing requirements. The Snubber Program is also maintained and implemented separately from the ISI Program at OCGS. The Snubber Administrative Program Document contains all of the applicable snubber examination, testing, and monitoring requirements. The ISI Program Plan is also credited for aging management activities associated with OCGS License Renewal (Reference 9.3.7). **(CM-1, CM-2, CM-3, CM-4, CM-5, CM-6, CM-7, CM-8, CM-9, CM-10, CM-11)**

The Fifth ISI Interval is effective from January 15, 2013 through January 14, 2023 for OCGS. With the update to the ISI Program for the Fifth ISI Interval for ISI Class 1, 2, and 3 components, including their supports, Exelon Generation Company, LLC (Exelon) has also not elected to update the CISI Program to its Second CISI Interval for ISI Class MC components at the same time. This update was previously performed to update the CISI Program to the 2001 Edition through the 2003 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI. The ASME Code of Record for the Fifth ISI Interval is the 2007 Edition through the 2008 Addenda. This ISI Program Plan is controlled and revised in accordance with the requirements of procedure ER-AA-330, "Conduct of Inservice Inspection Activities," which implements the ASME Section XI ISI Program.

Paragraph IWA-2430(c)(1) of ASME Section XI allows an inspection interval to be extended or decreased by as much as one year, and Paragraph IWA-2430(d) 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 and 1.1-2 for intervals, periods, and extensions that apply to OCGS's Fifth ISI Interval and Second CISI Interval.

The Fifth ISI Interval and Second CISI Interval are divided into two or three inspection periods as determined by calendar years within the intervals. Tables

1.1-1 and 1.1-2 identify the period start and end dates for the Fifth ISI Interval and the Second CISI Interval as defined by the Inspection Program. In accordance with Paragraph IWA-2430(c)(3), the inspection periods specified in these Tables may be decreased or extended by as much as 1 year to enable inspections to coincide with OCGS's refueling outages.

Interval	Period	Outages	
Start Date to End Date	**Start Date to End Date**	**Projected Outage Start Date or Outage Duration**	**Outage Number**
5th 1/15/2013 to 1/14/2023[1]	1st 1/15/2013 to 1/14/2016	Scheduled 10/2014	1R25
	2nd 1/15/2016 to 1/14/2020	Scheduled 10/2016	1R26
		Scheduled 10/2018	1R27
	3rd 1/15/2020 to 1/14/2023	Scheduled 10/2020	1R28
		Scheduled 10/2022	1R29

Note 1: The Fourth ISI Interval was extended by 3 months per Fourth Interval Relief Request R-41 and as authorized by NRC SE (TAC No. ME7219) dated 06/14/2012. Note that this relief request allowed OCGS to extend beyond the Code allowed one year and allowed extended outage considerations as both of those were already used in prior intervals. Although inspection periods for an entire Fifth ISI Interval are shown, OCGS operations are planned to cease by the end of 2019 as previously announced.

Interval	Period	Outages	
Start Date to End Date	**Start Date to End Date**	**Projected Outage Start Date or Outage Duration**	**Outage Number**
2nd 9/10/2009 to 9/09/2019[1]	1st 9/10/2009 to 9/09/2012	Scheduled 10/2010	1R23
	2nd 9/10/2012 to 9/09/2015	Scheduled 10/2012	1R24
		Scheduled 10/2014	1R25
	3rd 9/10/2015 to 9/09/2019	Scheduled 10/2016	1R26
		Scheduled 10/2018	1R27

Note 1: The OCGS Containment design does not contain any ISI Class CC components.

1.2 Background

The construction permit for OCGS was issued on December 15, 1964. The Reactor Primary System (i.e., Reactor Vessel, Reactor Recirculating Piping, Isolation Condensers and all piping, pumps, and valves up to the first isolation valve with the exception of the Feedwater System where the break is at the second isolation valve) was fabricated, inspected and tested in accordance with the ASME Boiler and Pressure Vessel Code, Section I, Power Boilers, 1962 Edition and addenda plus the Nuclear Code Cases applicable on December 11, 1963. The vessel purchase specification dated January 22, 1964 further directed the use of Section VIII – Unfired Pressure Vessels where Section 1 did not cover specific details. The piping outboard of the first isolation valves was fabricated, inspected, and tested in accordance with the code for pressure piping American Standards Association (ASA) B31.1, 1955 Edition.

OCGS's piping systems and associated components were designed and fabricated before the inspection and testing requirements of ASME Section XI were formalized and published. Since this plant was not specifically designed to meet the inspection and testing requirements of ASME Section XI, literal compliance is not 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 ASME Section XI required examination criteria cannot be met, a relief request will be submitted in accordance with 10CFR50.55a.

1.3 First Interval ISI Program

Commercial operation of the OCGS began on December 8, 1969, under Facility License number DPR-16 that was issued to Jersey Central Power & Light Company by the Atomic Energy Commission (AEC.) The original ISI Program Plan for the plant was defined in Table 4.3.1, "Examination Schedule of Reactor Coolant System," in Section 4 of the Technical Specifications for the plant. The program was then enhanced with Change Request No. 28 (Revisions 1, 2, 3, and 4) and finally amended by Amendment No. 34, which was approved to incorporate additional inspection requirements. The requirements of Table 4.3.1 did not reference any codes or standards as obligatory requirements. Change Request No. 28; however, did represent the guidelines used for inservice inspection at OCGS during the last 5 years of the first ten-year inspection interval. This program paralleled, to the maximum extent practical, the requirements set forth in the 1971 Edition of Section XI through the summer 1973 Addenda.

1.4 Second Interval ISI Program

Pursuant to 10CFR50.55a(g), OCGS was required to update the ISI Program to meet the requirements of the latest ASME Section XI at the end of the First Interval. The ISI Program was required to comply with the latest Edition and Addenda of ASME Section XI incorporated by reference in 10CFR50.55a 12 months prior to the start of the interval per 10CFR50.55a(g)(4)(ii).

The Second Interval Plan was developed in accordance with the requirements of 10CFR50.55a, and the 1974 Edition through the 1975 Addenda of ASME Section XI. The Plan addressed Subsections IWA, IWB, IWC, IWD, and IWF of ASME Section XI, and utilized Inspection Program B as defined therein.

OCGS underwent a major refueling and maintenance outage during 1983 and 1984 that lasted twenty-two months. In GPUN's letter dated May 20, 1988, GPUN requested a change to the ending date for the Second ten-year Inservice Inspection Interval. Subarticle IWA-2400, "Inspection Intervals," of Section XI of the ASME Code, 1974 Edition, through the summer 1975 Addenda stated that "for plants that are out of service continuously for one year or more, an inspection interval may be extended for an equivalent period." The United States Nuclear Regulatory Commission (NRC) staff evaluated the request. In a letter dated March 6 1989 the NRC staff concluded that OCGS's second ten-year inservice inspection interval may be extended twenty-two months to end on October 14, 1991.

During the final refueling outage 13R, certain pressure tests were not completed. For this reason, it was necessary for GPUN to take an extension in order to satisfy the interval requirements. The necessary extension was five months, which ended the second interval on March 14, 1992.

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 ASME Section XI 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 March 15, 1992 for OCGS. Based on this date, the latest Edition and Addenda of ASME Section XI referenced in 10CFR50.55a(b)(2) twelve months prior was the 1986 Edition, No Addenda.

After refueling outage 16R, the GPUN considered selling OCGS. When the sale appeared not to be an option, the GPUN began to focus on plant decommissioning. Refueling outage 17R was expected to be the last refueling outage for OCGS, so all projects were either dropped, reduced in scope, or deferred in the case of ISI examination to refueling outage 18R should the sale occur.

On August 2, 2000, OCGS was sold to AmerGen Energy LLC. Outage planning had begun for the next scheduled refueling outage 18R. It was recognized that the number of ISI examinations could not be managed safely in the outage. The ISI interval was extended by seven months in accordance with ASME Section XI, Paragraph IWA-2430, to include refueling outage 19R in order to accommodate the ISI overflow. The necessary extension was seven months, which ended the third interval on October 14, 2002.

1.6 Fourth 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 ASME Section XI incorporated by reference in 10CFR50.55a twelve months prior to the start of the interval per 10CFR50.55a(g)(4)(ii). Based on this date, the latest Edition and Addenda of ASME Section XI referenced in 10CFR50.55a(b)(2) twelve months prior to the start of the Fourth ISI Interval was the 1995 Edition through the 1996 Addenda.

The OCGS Fourth Interval ISI Program Plan was developed in accordance with the requirements of 10CFR50.55a and the 1995 Edition through the 1996 Addenda of ASME Section XI, subject to the limitations and modifications contained within Paragraph (b) of the regulation. This Fourth Interval ISI Program Plan 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 there-in.

At the end of the Fourth ISI Interval and in preparation for the Fifth ISI Interval, OCGS sent Relief Request R-41 to the NRC to request a three month extension from the original end date. This relief request was approved by the NRC and the changes allowed OCGS to extend from the original Fourth ISI Interval to beyond one year.

Therefore, the OCGS Fourth ISI Interval was effective from October 14, 2002 through January 14, 2013.

1.7 Fifth 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 ASME Section XI incorporated by reference in 10CFR50.55a twelve months prior to the start of the interval per 10CFR50.55a(g)(4)(ii). Based on this date, the latest Edition and Addenda of ASME Section XI referenced in 10CFR50.55a(b)(2) twelve months prior to the start of the Fifth ISI Interval was the 2007 Edition through the 2008 Addenda.

The OCGS Fifth Interval ISI Program Plan was developed in accordance with the requirements of 10CFR50.55a and the 2007 Edition through the 2008 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 1.10-1 of this section. This Fifth Interval ISI Program Plan addresses Subsections IWA, IWB, IWC, IWD, Mandatory Appendices, approved ASME Code Cases, approved alternatives through relief requests and SER's, and utilizes the Inspection Program as defined therein.

The OCGS Fifth ISI Interval is effective from January 15, 2013 through January 14, 2023. However, OCGS operations are planned to cease by the end of 2019 as previously announced.

1.8 First Interval CISI Program

CISI examinations were originally invoked by amended regulations contained within a Final Rule issued by the NRC. The amended regulation incorporated the requirements of the 1992 Edition through the 1992 Addenda of ASME Section XI, Subsections IWE and IWL, subject to specific modifications that were included in Paragraphs 10CFR50.55a(b)(2)(ix) and 10CFR50.55a(b)(2)(x). Relief from the examination requirements of the 1992 Edition through the 1992 Addenda of ASME Section XI was granted by the NRC to allow OCGS to use the 1998 Edition, No Addenda for inspection of containment components.

The final rulemaking was published in the Federal Register on August 8, 1996 and specified an effective date of September 9, 1996. Implementation of the Subsection IWE 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, approved ASME IWE Code Cases, and approved alternatives through related relief requests and SER's were added to the ISI Program during the Third ISI Interval to address CISI. The First CISI Interval was initially scheduled from September 9, 1996 through September 9, 2009 for OCGS.

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 OCGS.

1.9 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 ASME Section XI 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 1.8 above, the start of the Second CISI Interval was on September 10, 2009 for OCGS. Based on this date, the latest Edition and Addenda of ASME Section XI referenced in 10CFR50.55a(b)(2) twelve months prior was the 2001 Edition through the 2003 Addenda.

The OCGS Second Interval CISI Program Plan was developed in accordance with the requirements of 10CFR50.55a including all published changes through September 9, 2009, 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 1.10-1 of this section.

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

The OCGS Second CISI Interval is effective from September 10, 2009 through September 10, 2019.

1.10 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 OCGS are detailed in Table 1.10-1.

TABLE 1.10-1
CODE OF FEDERAL REGULATIONS 10CFR50.55a REQUIREMENTS

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

TABLE 1.10-1
CODE OF FEDERAL REGULATIONS 10CFR50.55a REQUIREMENTS

10CFR50.55a Paragraphs	Limitations, Modifications, and Clarifications
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.
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)(xii)	**(ISI)** *Underwater Welding:* The provisions in IWA-4660, "Underwater Welding," of Section XI, 1997 Addenda through the latest Edition and Addenda incorporated by reference in Paragraph (b)(2) of this section, are not approved for use on irradiated material.

TABLE 1.10-1
CODE OF FEDERAL REGULATIONS 10CFR50.55a REQUIREMENTS

10CFR50.55a Paragraphs	Limitations, Modifications, and Clarifications
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.
10CFR50.55a(b)(2)(xix)	**(ISI)** *Substitution of alternative methods:* The provisions for substituting alternative examination methods, a combination of methods, or newly developed techniques in the 1997 Addenda of IWA-2240 must be applied when using the 1998 Edition through the 2004 Edition of Section XI of the ASME B&PV Code. The provisions in IWA-4520(c), 1997 Addenda through the 2004 Edition, allowing the substitution of alternative methods, a combination of methods, or newly developed techniques for the methods specified in the Construction Code are not approved for use. The provisions in IWA-4520(b)(2) and IWA-4521 of the 2008 Addenda through the latest edition and addenda approved in paragraph (b)(2) of this section, allowing the substitution of ultrasonic examination for radiographic examination specified in the Construction Code are not approved for use.
10CFR50.55a(b)(2)(xx)(B)	**(ISI)** *System leakage tests:* The NDE provision in IWA-4540(a)(2) of the 2002 Addenda of Section XI must be applied when performing system leakage tests after repair and replacement activities performed by welding or brazing on a pressure retaining boundary using the 2003 Addenda through the latest Edition and Addenda incorporated by reference in paragraph (b)(2) of this section.
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.

TABLE 1.10-1
CODE OF FEDERAL REGULATIONS 10CFR50.55a REQUIREMENTS

10CFR50.55a Paragraphs	Limitations, Modifications, and Clarifications
10CFR50.55a(b)(2)(xxiii)	**(ISI)** *Evaluation of Thermally Cut Surfaces:* The use of the provisions for eliminating mechanical processing of thermally cut surfaces in IWA-4461.4.2 of Section XI, 2001 Edition through the latest Edition and Addenda incorporated by reference in Paragraph (b)(2) of this section are prohibited.
10CFR50.55a(b)(2)(xxiv)	**(PDI)** *Incorporation of the performance demonstration initiative and addition of ultrasonic examination criteria:* The use of Appendix VIII and the supplements to Appendix VIII and Article I-3000 of Section XI of the ASME B&PV Code, 2002 Addenda through the 2006 Addenda is prohibited.
10CFR50.55a(b)(2)(xxv)	**(ISI)** *Mitigation of Defects by Modification:* The use of the provisions in IWA-4340, "Mitigation of Defects by Modification," Section XI, 2001 Edition through the latest Edition and Addenda incorporated by reference in Paragraph (b)(2) of this section are prohibited.
10CFR50.55a(b)(2)(xxvi)	**(SPT)** *Pressure Testing Class 1, 2, and 3 Mechanical Joints:* The repair and replacement activity provisions in IWA-4540(c) of the 1998 Edition of Section XI for pressure testing Class 1, 2, and 3 mechanical joints must be applied when using the 2001 Edition through the latest Edition and Addenda incorporated by reference in Paragraph (b)(2) of this section.
10CFR50.55a(b)(2)(xxvii)	**(ISI)** *Removal of Insulation:* When performing visual examinations in accordance with IWA-5242 of Section XI of the ASME B&PV Code, 2003 Addenda through the 2006 Addenda, or IWA-5241 of the 2007 Edition through the latest Edition and Addenda incorporated in Paragraph (b)(2) of this 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.

TABLE 1.10-1
CODE OF FEDERAL REGULATIONS 10CFR50.55a REQUIREMENTS

10CFR50.55a Paragraphs	Limitations, Modifications, and Clarifications
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, Revision 16, without prior NRC 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 NRC-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.

1.11 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 NRC 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 OCGS, 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 16. As this guide is revised, newly approved Code Cases will be assessed for plan implementation at OCGS per Paragraph IWA-2441(e) and included for use as applicable in revisions to this ISI Program Plan.

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 OCGS through associated relief requests, are included in Section 8.0.

1.12 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 NRC 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 Fifth ISI Interval and the Second CISI Interval are included in Section 8.0 of this document. The Relief Requests 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 2007 Edition through the 2008 Addenda, of the ASME Boiler and Pressure Vessel Code, Section XI, Division 1, Subsections IWA, IWB, IWC, IWD, IWF, IWE, Mandatory Appendices, Inspection Program of Paragraph IWA-2431, approved ASME Code Cases, and approved alternatives through relief requests and Safety Evaluations (SE's). **(CM-1)**

The Performance Demonstration Initiative (PDI) is an organization comprised of all US nuclear utilities that was formed to provide an efficient implementation of Appendix VIII performance demonstration requirements. The Electric Power Research Institute (EPRI) NDE Center was selected as the administrator of this program. The PDI program is administered according to the "PDI Program Description". The ISI Program implements Appendix VIII "Performance Demonstration for Ultrasonic Examination Systems," ASME Section XI 2007 Edition through the 2008 Addenda as required by 10CFR50.55a(b)(2)(xxiv) and with modifications as identified in 10CFR50.55a(b)(2)(xiv), (xv), and (xvi). 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. OCGS maintains the responsibility to ensure that Appendix VIII requirements are properly implemented.

The CISI Program per Subsection IWE is included in Section 6.0, "Containment ISI Plan". The CISI relief requests are included in Section 8.0 of this document.

2.1.1 ASME Section XI Code Cases

As referenced by 10CFR50.55a(b)(5) and allowed by NRC Regulatory Guide 1.147, Revision 16, the following Code Cases are being incorporated into the OCGS 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. Regulatory Guide 1.147, Revision 16.

N-513-3 Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping. Regulatory Guide 1.147, Revision 16.

Code Case N-513-3 is acceptable subject to the following condition specified in Regulatory Guide 1.147, Revision 16:

> The repair or replacement activity temporarily deferred under the provisions of this Code Case shall be performed during the next scheduled outage.

N-516-3 Underwater Welding

Code Case N-516-3 is acceptable subject to the following condition specified in Regulatory Guide 1.147, Revision 16:

> Licensee must obtain NRC 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-526 Alternative Requirements for Successive Inspections of Class 1 and 2 Vessels. Regulatory Guide 1.147, Revision 16.

N-532-4 Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000. Regulatory Guide 1.147, Revision 16.

Note: Limited to the 2005 Addenda by references in Table 3 of the Code Case.

N-586-1 Alternative Additional Examination Requirements for Class 1, 2, and 3 Piping, Components, and Supports. Regulatory Guide 1.147, Revision 16.

N-597-2 Requirements for Analytical Evaluation of Pipe Wall Thinning

Code Case N-597-2 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 16:

(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 term "should" is to be applied as "shall" (i.e., a requirement).

(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 NRC approved Edition of Section III, "Rules for Construction of Nuclear Plant Components," 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 NRC review and approval per 10CFR50.55a(a)(3).

(3) For Class 1 piping not meeting the criteria of -3221, the use of evaluation methods and criteria is subject to NRC review and approval per 10CFR50.55a(a)(3).

(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 NRC review and approval. Inspection plans and wall thinning rates may be difficult to justify for certain degradation mechanisms such as MIC and pitting per 10CFR50.55a(a)(3).

N-600	Transfer of Welder, Welding Operator, Brazer, and Brazing Operator Qualifications Between Owners. Regulatory Guide 1.147, Revision 16.
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 16: 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-609	Alternate Requirements to Stressed-Based Selection Criteria for Category B-J Welds Note: Limited to the 2005 Addenda by references to Examination Category B-J, Note 1 in the Code Case.
N-613-1	Ultrasonic Examination of Full Penetration Nozzles in Vessels, Examination Category B-D, Item Nos. B3.10 and B3.90, Reactor Nozzle-to-Vessel Welds, Figs. IWB-2500-7(a), (b), and (c). Regulatory Guide 1.147, Revision 16.
N-629	Use of Fracture Toughness Test Data to Establish Reference Temperature for Pressure Retaining Materials. Regulatory Guide 1.147, Revision 16.
N-638-4	Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique

Code Case N-638-4 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 16:

(1) Demonstration for ultrasonic examination of the repaired volume is required using representative samples which contain construction type flaws.
(2) The provisions of 3(e)(2) or 3(e)(3) may only be used when it is impractical to use the interpass temperature measurement methods described in 3(e)(1), such as in situations where the weldment area is inaccessible (e.g., internal bore welding) or when there are extenuating radiological conditions

Note: Limited to the 2004 Edition by references in Table 1 of the Code Case.

N-639 Alternative Calibration Block Material

Code Case N-639 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 16:

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-641 Alternative Pressure-Temperature Relationship and Low Temperature Overpressure Protection System Requirements. Regulatory Guide 1.147, Revision 16.

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 16:

In place of a UT examination, licensees may perform a visual examination with enhanced magnification that has a resolution sensitivity to detect a 1-mil width wire

or crack, utilizing the allowable flaw length criteria of Table IWB-3512-1 with limiting assumptions on the flaw aspect ratio. The provisions of Table IWB-2500-1, Examination Category B-D, continue to apply except that, in place of examination volumes, the surfaces to be examined are the external surfaces shown in the figures applicable to this table (the external surface is from point M to point N in the figure).

N-649 Alternative Requirements for IWE-5240 Visual Examination. Regulatory Guide 1.147, Revision 16.

Approved for use in Exelon Fleet Relief Request I5R-08.

N-651 Ferritic and Dissimilar Metal Welding Using SMAW Temper Bead Technique Without Removing the Weld Bead Crown of the First Layer. Regulatory Guide 1.147, Revision 16.

N-661-1 Alternative Requirements for Wall Thickness Restoration of Class 2 and 3 Carbon Steel Piping for Raw Water Service

Code Case N-661-1 is acceptable subject to the following conditions specified in Regulatory Guide 1.147, Revision 16:

(1) If the cause of the degradation has not been determined, the repair is only acceptable until the next refueling outage.
(2) 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.

Note: Limited to the 2005 Addenda in ASME Code Case Applicability Index.

N-663 Alternative Requirements for Classes 1 and 2 Surface Examinations. Regulatory Guide 1.147, Revision 16.

Note: Refer to Structural Integrity Associates Report SIR-03-078, Rev. 1, titled "Damage Mechanism Assessment for Class 1 and 2 Piping Systems at Oyster

	Creek", dated September 2003 for the technical justification on application of this case.
N-666	Weld Overlay of Class 1, 2, and 3 Socket Welded Connections. Regulatory Guide 1.147, Revision 16.Note: Limited to the 2004 Edition by references in Table 1 of the Code Case.
N-705	Evaluation Criteria for Temporary Acceptance of Degradation in Moderate Energy Class 2 or 3 Vessels and Tanks. Regulatory Guide 1.147, Revision 16.
N-712	Class 1 Socket Weld Examinations. Regulatory Guide 1.147, Revision 16. Note: Refer to Structural Integrity Associates Report SIR-03-078, Rev. 1, titled "Damage Mechanism Assessment for Class 1 and 2 Piping Systems at Oyster Creek", dated September 2003 for the technical justification on application of this case.
N-730	Roll Expansion of Class 1 Control Rod Drive Bottom Head Penetrations in BWRs. Regulatory Guide 1.147, Revision 16.
N-733	Mitigation of Flaws in NPS 2 (DN 50) and Smaller Nozzles and Nozzle Partial Penetration Welds in Vessels and Piping by Use of a Mechanical Connection Modification. Regulatory Guide 1.147, Revision 16. Note: Limited to the 2006 Addenda by references to IWA-5242(a) in (h)(2)(d) of the Code Case.
N-735	Successive Inspections of Class 1 and 2 Piping Welds. Regulatory Guide 1.147, Revision 16.
N-786	Alternative Requirements for Sleeve Reinforcement of Class 2 and 3 Moderate-Energy Carbon Steel Piping Section XI, Division 1. Approved for use in Exelon Fleet Relief Request I5R-09.
N-789	Alternative Requirements for Pad Reinforcement of Class 2 and 3 Moderate-Energy Carbon Steel Piping for Raw Water Service.

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 or 10CFR50.55a at that time.

2.2 Augmented Examination Requirements

Augmented examination requirements are those examinations that are performed above and beyond the requirements of ASME Section XI. Below is a summary of those examinations performed by OCGS that are not specifically addressed by ASME Section XI, or the examinations that will be performed in addition to the requirements of ASME Section XI on a routine basis during the Fifth ISI Interval and Second CISI Interval.

2.2.1 Generic Letter 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping," Revision 2 / Supplement 1 to Generic Letter 88-01, NUREG-0313, "Technical Report on Material Selection and Process Guidelines for BWR Coolant Pressure Boundary Piping," Revision 2, EPRI Topical Report TR-113932, "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75)," as conditionally approved by NRC final SER dated May 14, 2002, and EPRI Topical Report TR-1012621, "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75-A)," as conditionally approved by NRC final SER dated March 16, 2006. **(CM-6, CM-7)**

These documents discuss the examination requirements for Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping. References to Generic Letter 88-01 (GL 88-01) within the ISI Program refer to the comprehensive commitments to all of these documents. The final SER's of BWRVIP-75 and BWRVIP-75-A revised the GL 88-01 inspection schedules. The BWRVIP-75 and BWRVIP-75-A revised inspection schedules were based on consideration of inspection results and service experience gained by the industry since issuance of GL 88-01 and NUREG-0313, and includes additional knowledge regarding the benefits of improved BWR water chemistry.

The original OCGS review and commitments were made in GPUN Topical Report No. 050 "GPUN Response to Generic Letter 88-01 and NUREG-0313". Since the issuance of GL 88-01, the BWR Vessels and Internals Project (BWRVIP) has been created. This BWR owners group has worked on the mitigation of IGSCC for BWR internal components. As part of their activities, EPRI Topical Report TR-113932, "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-

01 Inspection Schedules (BWRVIP-75)" and EPRI Topical Report TR-1012621, "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75-A)", were submitted to the NRC. Among other issues, this document proposed alternative inspection schedules for IGSCC susceptible welds. Two different inspection schedules were presented; one for plants on Normal Water Chemistry (NWC) and one for plants on effective Hydrogen Water Chemistry (HWC). The HWC schedule may be utilized if the applicable performance criteria are met.

After review of BWRVIP-75 and BWRVIP-75-A, the NRC issued a Safety Evaluation Report (SER) approving the documents with minor changes. (Letter from NRC to Carl Terry, BWRVIP Chairman, Final Safety Evaluation of the "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75)", dated May 14, 2002 and letter from NRC to Bill Eaton, BWRVIP Chairman, Final Safety Evaluation of the "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75-A)", dated March 16, 2006.)

In June of 2009 EPRI issued Technical Report TR-1018181, *Nondestructive Evaluation: Guideline for Conducting Ultrasonic Examinations of Dissimilar Metal Welds.* This document contains a "Needed" requirement to be implemented in accordance with NEI-03-08, Revision 1 implementation categories. The "Needed" action is applicable to all dissimilar metal welds that require examination in accordance with ASME Section XI, Appendix VIII, Supplement 10. For the examination of such welds a surface condition assessment and improvement process must be implemented. Execution of the surface assessment and improvement process should be performed within two outages prior to the scheduled examination.

The OCGS Technical Specification Amendment 154 incorporated the commitment to follow GL88-01 or in accordance with alternate methods approved by the NRC staff. Reactor coolant leakage monitoring is addressed in TS section 3.3.D.

In 1991, all Isolation Condenser large bore piping outside the drywell (from the drywell penetrations to the Isolation Condensers) that has been susceptible to IGSCC was replaced with IGSCC resistant material, and all new welds were stress improved. All piping within the four Isolation Condenser drywell penetrations and the two RWCU system drywell penetrations, which contain welds that are not accessible, were also

replaced with IGSCC resistant material. Piping at the Isolation Condensers on 95' elevation was also replaced with IGSCC resistant material in 1998, and the Head Cooling Spray Nozzle Assembly, the 4-inch tee and flange of the reactor vent line have also been replaced. These replacements have reduced the number of susceptible welds. This example objectively demonstrates the proactive nature of the program through preventive repair and replacement of susceptible piping before a potential loss of the affected systems' intended function(s) can occur.

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

2.2.2 Boiling Water Reactor Owners' Group (BWROG) Report GE-NE-523-A71-0594-A, Revision 1, "Alternate BWR Feedwater Nozzle Inspection Requirements, May 2000," as approved by NRC final SER dated March 10, 2000, Boiling Water Reactor Owners' Group (BWROG) Report GE-NE-523-A71-0594, "Alternate BWR Feedwater Nozzle Inspection Requirements, August 1999," as conditionally approved by NRC final SER dated June 5, 1998, and NUREG-0619, BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking, dated November 1980.

These documents discuss the current and initial examination requirements for BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking. The alternate approach was developed and submitted to the NRC by the BWROG. The NRC accepted these alternate requirements in a final SER dated March 10, 2000.

This commitment as contained within NRC SER of October 4, 1994 (TAC No. M85751) supercedes previous commitments to the examination requirements of NUREG-0619, titled 'BWR Feedwater Nozzle and Control Rod Return Drain Line Nozzle Cracking.' In the future the recommendations of the BWR Owners' Group Licensing Topical Report "Alternate BWR Feedwater Nozzle Inspection Requirements", GE-NE-523-A71-0594-A, Revision 1 will be used for feedwater nozzle inspections. CRDRL nozzle inspections will be performed using the latest Performance Demonstration Initiative UT technology available at the time the inspections are planned.

The requirement for visual examination of the sparger flow holes and welds in sparger tees and sparger arms was not specifically discussed within the NRC SER and is therefore assumed to continue at a frequency

of least once every fourth refueling outage as required within NUREG-0619. (This position is consistent with the alternative BWROG requirement.)

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

2.2.3 BWR Vessel and Internals Project (BWRVIP)

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

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

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

Examinations of RPV internals, as required by OCGS commitments to BWRVIP and GE SIL documents, are performed in accordance with the separate ER-OC-330-1005 Program Plan titled 'Reactor Vessel Internals Program.'

2.2.4 NRC Branch Technical Position MEB 3-1, dated November 1975

The NRC Branch Technical Position MEB 3-1 discusses protection against postulated piping failures in fluid systems outside containment, and includes requirements for licensees to perform 100% volumetric examination of circumferential and longitudinal pipe welds within the pipe

break exclusion areas associated with high energy piping in containment penetration areas.

OCGS has not committed to the requirements of the NRC Branch Technical Position MEB 3-1.

2.2.5 Augmented inspection activities are required for the Isolation Condensers in accordance with NUREG-1801, "Generic Aging Lessons Learned (Gall) Report," lines IV.C1-4 and IV.C1-5. These enhancement activities consist of eddy current testing of the tubes, with inspection (VT or UT) of the tubesheet and channel head, which will be performed during the first ten years of the extended period of operation. In addition, temperature and radioactivity monitoring of the shell side water will be implemented prior to the extended period of operation. **(CM-2)**

2.2.6 Support augmented inspection requirements are addressed per the License Renewal Aging Management Program during the period of extended operation. The following ISI Class MC supports have been added to the scope of the Subsection IWF inspection program for the license renewal period:

- Torus Support - Base Plate and Saddle
- Torus Support - Inner Support Column and Outer Support Column
- Torus Internal - Downcomer Brace
- Torus Internal - Vent Header Ring Header Support (Above Water)
- Torus Internal - Vent System Inner Support Column (above and below water)
- Torus Internal - Vent System Outer Support Column (above and below water) **(CM-3)**

2.2.7 Exelon is committed to the NRC to credit the implementation of ASME Section XI, Subsection IWE for aging management into the period of extended operation. Exelon is also committed to the NRC to implement certain activities that are not required by ASME Section XI, Subsection IWE during the period of extended operation. These activities are required to minimize or monitor water intrusion into the gap between the drywell shell and the drywell shield wall for the purpose of preventing corrosion of the drywell shell. The activities are implemented through other station procedures and supplement ASME Section XI, Subsection IWE requirements to form Oyster Creek ASME Section XI, Subsection IWE aging management program. **(CM-9, CM-10, CM-11)**

2.3 System Classifications and P&ID Boundary Drawings

The ISI Classification Basis Document details those systems that are ISI Class 1, 2, 3, or MC that fall within the ISI scope of examinations. 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 OCGS UFSAR was reviewed to determine which safety functions they perform during all modes of system and plant operation. Based on these safety functions, the systems and components were evaluated per classification documents. The systems were then designated as ISI Class 1, 2, 3, MC, or non-classed accordingly.

When a particular group of components is identified as performing an ISI Class 1, 2, or 3 safety function, the components are further reviewed to assure the interfaces (boundary valves and boundary barriers) meet the criteria set by 10CFR50.2, 10CFR50.55a(c)(1), 10CFR50.55a(c)(2), and Regulatory Guide 1.26, Revision 3. SRP 3.2.2 and ANSI/ANS-58.14-1993 (OCGS is not committed to or licensed in accordance with these documents) were also used for guidance in determining the classification boundaries where 10CFR and the Regulatory Guide did not address a given situation.

According to 10CFR50.55a, Paragraph (g)(4), the ISI requirements of ASME Section XI are assigned to these components, within the constraints of existing plant design. The OCGS ISI Class 1, 2, and 3 components that are exempt from examination are those which meet the criteria of ASME Section XI, Paragraphs IWB-1220, IWC-1220, and IWD-1220. Supports which meet the criteria of Paragraph IWF-1230 of ASME Section XI are also exempt from examination. For Containment, and ISI Class MC components which meet Paragraph IWE-1220 are exempt from examination are exempt from examination. OCGS's ISI Program, including the ISI Database, basis document, and schedule, addresses the nonexempt components which require examination and testing.

The systems and components (piping, pumps, valves, vessels, etc.), which are subject to the examinations of Articles IWB-2000, IWC-2000, IWD-2000, and IWF-2000, and pressure tests of Articles IWB-5000, IWC-5000, and IWD-5000 are identified on the Piping & Instrument Diagrams (P&IDs) within the ISI classification flags as detailed in Tables 2.3-1 and 2.3-2. The exempt components are not identified on these diagrams.

TABLE 2.3-1
ISI BOUNDARY DRAWINGS

DRAWING NUMBER	TITLE
BR 2002 Sh. 1	Main Steam System
BR 2002 Sh. 2	Main Steam System
BR 2003	Condensate/Feed System
BR 2004 Sh. 1	Demineralized Water Transfer System
BR 2004 Sh. 2	Condensate Transfer System
BR 2005 Sh. 4	Emergency Service Water
BR 2006 Sh. 1	Reactor Building Closed Cooling Water
BR 2006 Sh. 2	Reactor Building Closed Cooling Water
BR 2006 Sh. 3	Reactor Building Closed Cooling Water
BR 2006 Sh. 5	Turbine Building Closed Cooling Water System
BR 2006 Sh. 7	Radwaste Closed Cooling Water System
BR 2011 Sh. 2	Reactor Building Ventilation
BR 2013 Sh. 6	Instrument (Control) Air System
BR 2015 Sh. 1	Heating & Process Steam System
BR 2015 Sh.2	Heating & Process Steam System
BR M0012	Post Accident Sampling
GE 107C5539 Sh. 1	Recirculation Pumps and M/G Set
GE 112C2827 Sh. 3	Spec Control Rack (RK03 Recirc Pump, Reactor Prot & NSS-Sys)
GE 112C2827 Sh. 4	Spec Control Rack (RK03 Recirc Pump, Reactor Prot & NSS-Sys)
GE 112C2827 Sh.2	Spec Control Rack (RK03 Recirc Pump, Reactor Prot & NSS-Sys)
GE 112C2845 Sh. 3	Plant Instr./Piping/Tubing Instrumentation Rack RK04 Recirc Pump Reactor Prot & NSS-System
GE 148F262	Emergency Condenser
GE 148F444	Clean-up Demineralizer System

TABLE 2.3-1
ISI BOUNDARY DRAWINGS

DRAWING NUMBER	TITLE
GE 148F711	Reactor Shutdown Cooling System
GE 148F712	Reactor Vessel Level/Pressure/Temperature Instruments
GE 148F723	Liquid Poison System
GE 148F740	Containment Spray System
GE 197E871	Scram Discharge Volume Sys. Control Rod Drive Hydraulic Sys. and Nitrogen Charging Sys.
GE 237E487	Control Rod Drive System
GE 237E798	Recirculation System
GE 713E802	Turbine Steam Seal
GE 885D781	Core Spray System
GU 3E-243-21-1000	Drywell and Torus Vacuum Relief
GU 3E-551-21-1001 Sh. 1	Nuclear Liquid Sampling Sys Reac. Wtr. Fmplg. Sta. & Thrm. Cont. Unit
GU 3E-666-21-1000	Hydrogen and Oxygen Monitoring System (Drywell)
JC 147434 Sh. 2	Sumps and Waste Collection System
JC 147434 Sh. 3	Sumps and Waste Collection System
JC 19616	Main Steam Line Flow Sensors
SN 13432.19-1	Nitrogen Supply System

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

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

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

A summary of the OCGS ASME Section XI nonexempt components and supports is included in Section 7.0.

TABLE 2.4-1
ISI ISOMETRIC AND COMPONENT SKETCHES

DRAWING NUMBER	TITLE
ISOLATION CONDENSER SYSTEM (NE)	
GU 3E-211-A2-1000 SH 1	ISI configuration drawing isolation condenser
GU 3E-211-A2-1000 SH 2	ISI configuration drawing isolation condenser
GU 3E-211-A2-1000 SH 3	ISI configuration drawing isolation condenser
GU 3E-211-A2-1000 SH 4	ISI configuration drawing isolation condenser
GU 3E-211-A2-1000 SH 5	ISI configuration drawing isolation condenser
GU 3E-211-A2-1000 SH 6	ISI configuration drawing isolation condenser
GU 3E-211-A2-1000 SH 7	ISI configuration drawing isolation condenser
FEEDWATER SYSTEM (RF)	
GU 3E-422-A2-1000 SH 1	ISI configuration drawing feedwater
GU 3E-422-A2-1000 SH 2	ISI configuration drawing feedwater
GU 3E-422-A2-1000 SH 3	ISI configuration drawing feedwater
GU 3E-422-A2-1000 SH 4	ISI configuration drawing feedwater supports
AUTOMATIC DEPRESSURIZATION SYSTEM (NZ)	
GU 3E-212-A2-1001 SH 1	ISI configuration drawing automatic depressurization system
GU 3E-212-A2-1001 SH 2	ISI configuration drawing automatic depressurization system
MAIN STEAM SYSTEM (MS)	
GU 3E-411-A2-1000 SH 1	ISI configuration drawing main steam system
GU 3E-411-A2-1000 SH 2	ISI configuration drawing main steam system
GU 3E-411-A2-1000 SH 3	ISI configuration drawing main steam system
GU 3E-411-A2-1000 SH 4	ISI configuration drawing main steam system
GU 3E-411-A2-1000 SH 5	ISI configuration drawing main steam system
GU 3E-411-A2-1000 SH 6	ISI configuration drawing main steam system
GU 3E-411-A2-1000 SH 7	ISI configuration drawing main steam system
GU 3E-411-A2-1000 SH 8	ISI configuration drawing main steam system

TABLE 2.4-1
ISI ISOMETRIC AND COMPONENT SKETCHES

DRAWING NUMBER	TITLE
GU 3E-411-A2-1000 SH 9	ISI configuration drawing main steam system supports
CONTAINMENT SPRAY SYSTEM (NQ)	
GU 3E-241-A2-1000 SH 1	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 2	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 3	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 4	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 5	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 6	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 7	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 8	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 9	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 10	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 11	ISI configuration drawing containment spray system
GU 3E-241-A2-1000 SH 12	ISI configuration drawing containment spray system
DEMINERALIZED WATER TREATMENT SYSTEM (WD)	
GU 3E-523-A2-1000 SH 1	ISI configuration drawing demineralized water treatment system
REACTOR RECIRCULATION SYSTEM (NG)	
GU 3E-223-A2-1000 SH 1	ISI configuration drawing reactor recirculation system
GU 3E-223-A2-1000 SH 2	ISI configuration drawing reactor recirculation system
GU 3E-223-A2-1000 SH 3	ISI configuration drawing reactor recirculation system
GU 3E-223-A2-1000 SH 4	ISI configuration drawing reactor recirculation system
GU 3E-223-A2-1000 SH 5	ISI configuration drawing reactor recirculation system
GU 3E-223-A2-1000 SH 6	ISI configuration drawing reactor recirculation system
LIQUID POISON SYSTEM (NP)	
GU 3E-213-A2-1000 SH 1	ISI configuration drawing poison system
GU 3E-213-A2-1000 SH 2	ISI configuration drawing poison system supports

TABLE 2.4-1
ISI ISOMETRIC AND COMPONENT SKETCHES

DRAWING NUMBER	TITLE
SHUTDOWN COOLING SYSTEM (NU)	
GU 3E-214-A2-1000 SH 1	ISI configuration drawing shutdown cooling system
GU 3E-214-A2-1000 SH 2	ISI configuration drawing shutdown cooling system
GU 3E-214-A2-1000 SH 3	ISI configuration drawing shutdown cooling system
GU 3E-214-A2-1000 SH 4	ISI configuration drawing shutdown cooling system
GU 3E-214-A2-1000 SH 5	ISI configuration drawing shutdown cooling system
REACTOR BUILDING CLOSED COOLING WATER SYSTEM (CC)	
GU 3E-541-A2-1000 SH 1	ISI configuration drawing reactor building closed cooling water system
GU 3E-541-A2-1000 SH 2	ISI configuration drawing reactor building closed cooling water system
GU 3E-541-A2-1000 SH 3	ISI configuration drawing reactor building closed cooling water system
GU 3E-541-A2-1000 SH 4	ISI configuration drawing reactor building closed cooling water system
CORE SPRAY SYSTEM (NZ) & CLEAN UP DEMINERALIZER SYSTEM (ND)	
GU 3E-212-A2-1000 SH 1	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 2	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 3	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 4	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 5	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 6	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 7	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 8	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 9	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 10	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 11	ISI configuration drawing core spray system
GU 3E-212-A2-1000 SH 12	ISI configuration drawing core spray system

TABLE 2.4-1
ISI ISOMETRIC AND COMPONENT SKETCHES

DRAWING NUMBER	TITLE
CONDENSATE TRANSFER SYSTEM (CH)	
GU 3E-424-A2-1000 SH 1	ISI configuration drawing condensate transfer system
GU 3E-424-A2-1000 SH 2	ISI configuration drawing condensate transfer system
GU 3E-424-A2-1000 SH 3	ISI configuration drawing condensate transfer system
CLEAN UP DEMINERALIZER SYSTEM (ND)	
GU 3E-215-A2-1001 SH 1	ISI configuration drawing clean up Demineralizer system
GU 3E-215-A2-1001 SH 2	ISI configuration drawing clean up Demineralizer system
GU 3E-215-A2-1001 SH 3	ISI configuration drawing clean up Demineralizer system
REACTOR HEAD COOLING SYSTEM (RHC)	
GU 3E-216-A2-1000 SH 1	ISI configuration drawing reactor head cooling system
SCRAM DISCHARGE VOLUME SYSTEM (NC)	
GU 3E-225-A2-1000 SH 1	ISI Configuration Drawing CRD Hydraulic Return System
GU 3E-225-A2-1000 SH 2	ISI Configuration Drawing Scram Discharge Volume System
GU 3E-225-A2-1000 SH 3	ISI Configuration Drawing Scram Discharge Volume North
GU 3E-225-A2-1000 SH 4	ISI Configuration Drawing CRD Scram Discharge Support
CONTROL ROD DRIVE SYSTEM (NC)	
GU 3E-225-A2-1000 SH 1	ISI Configuration Drawing CRD Hydraulic Return System
GU 3E-225-A2-1000 SH 4	ISI Configuration Drawing CRD Scram Discharge Support
REACTOR VESSEL LOWER HEAD	
GU 3E-222-A2-1000	Lower Head coordinates location ISI configuration
EMERGENCY SERVICE WATER SYSTEM (ESW)	
GU 3E-532-A2-1000 SH 1	ISI configuration drawing emergency service water system
GU 3E-532-A2-1000 SH 2	ISI configuration drawing emergency service water system
GU 3E-532-A2-1000 SH 3	ISI configuration drawing emergency service water system

TABLE 2.4-1
ISI ISOMETRIC AND COMPONENT SKETCHES

DRAWING NUMBER	TITLE
DRYWELL FLOOR AND EQUIPMENT (NZ)	
GU 3E-573-A2-1000 SH 1	ISI configuration drawing drywell floor and equipment
GU 3E-573-A2-1000 SH 2	ISI configuration drawing drywell floor and equipment
REACTOR BUILDING VENTILATION SYSTEM	
GE 237E726 SH 1	Drywell and Suppression System

TABLE 2.4-2
CONTAINMENT REFERENCE DRAWINGS

DRAWING NUMBER	TITLE
CONTAINMENT	
PEN 001 Sh. 1	Shell Stretchout
PEN 002 Sh. 1	Primary Containment System
PEN 003 Sh. 1	Torus Vent System
PEN 003 Sh. 2	Torus - Plan View
PEN 003 Sh. 3	Torus - Cross Section
PEN 003 Sh. 4	Torus - Cross Section
PEN 003 Sh. 5	Torus Sway Braces
PEN 004 Sh. 1	Penetration - Type 1
PEN 004 Sh. 2	Penetration - Type 2
PEN 004 Sh. 3	Penetration - Type 2A
PEN 004 Sh. 4	Penetration - Type 2B
PEN 004 Sh. 5	Penetration - Type 3
PEN 004 Sh. 6	Penetration - Electrical
PEN 004 Sh. 7	Penetration - Electrical
PEN 005 Sh. 1	Personnel Airlock/Equipment Hatch
PEN 005 Sh. 2	Drywell Head Assembly
PEN 005 Sh. 3	Personnel Access Hatch - Torus
PEN 005 Sh. 4	Stabilizer Shear Lug Access Hatch
PEN 005 Sh. 5	Drywell Stabilizer Hatch and Assembly
PEN 006 Sh. 1	Torus/Drywell Vacuum Breaker Piping
PEN 007 Sh. 1	Primary Containment System Diagram
PEN 008 Sh. 1	Drywell Manways 24"

2.5 Technical Approach and Positions

When the requirements of ASME Section XI are not easily interpreted, OCGS has reviewed general licensing/regulatory requirements and industry practice to determine a practical method of implementing the Code requirements. The Technical Approach and Position (TAP) documents contained in this section have been provided to clarify OCGS'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

Position Number	Revision Date[2]	Status[1]	(Program) Description of Technical Approach and Position
I5T-01	0 6/29/12	Active	**(SPT)** System Leakage Testing of Non-Isolable Buried Components.
I5T-02	0 6/29/12	Active	**(SPT)** Valve Seats/Discs as Pressurization Boundaries.
I5T-03	0 6/29/12	Active	**(ISI)** ISI Class 2 Ferritic Piping Evaluation.

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

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.

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:

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, OCGS has established the following acceptance criteria:

- For open 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.

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

OCGS's position is that proof of adequate flow is all that is required for testing the buried pipe segments of 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.

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/Discs 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:

OCGS's position is that the pressurization boundary extends up to the valve seat/disc 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/disc.

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

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

COMPONENT IDENTIFICATION:

Code Class:	2
Reference:	IWC-3600
Description:	Use of IWB-3650 and Appendix H

CODE REQUIREMENT:

IWC-3610 references the use of IWB-3610 for criteria to evaluate flaws in ferritic components

POSITION:

IWC-3122.3 of ASME Section XI, 2007 Edition through the 2008 Addenda, states that a component whose examination detects flaws that exceed the acceptance standards of Table IWC-3410-1 is acceptable for continued service without a repair/replacement activity if an analytical evaluation, meets the acceptance criteria of IWC-3600. Table IWC-3410-1 subsequently refers to the acceptance standards of IWC-3514 for ferritic components. IWC-3514, which is in the course of preparation, allows the Class 1 standards of IWB-3514 to be applied.

Likewise, the analytical evaluation criteria for Class 2 is in the course of preparation and references use of the Class 1 evaluation criteria contained in IWB-3610. IWB-3610 is a subsubarticle of IWB-3600, and references the Acceptance Criteria for Ferritic Steel Components 4 in. and greater in thickness which would not apply to OCGS piping welds. However, IWB-3640, of ASME Section XI, 2007 Edition through the 2008 Addenda, which has been approved for use by 10CFR50.55a, provides Evaluation Procedures and Acceptance Criteria for Flaws in Austenitic and Ferritic Piping.

It is Exelon's position that use of the Class 1 Acceptance Criteria also includes the use of the analytical criteria for ASME Section XI, 2007 Edition through the 2008 Addenda, for Class 2 ferritic piping welds when reference to IWB-3610 is made. This is based primarily on the fact that the criteria was prepared and approved by technical experts on the ASME Code committee, and subsequently the 2007 Edition through the 2008 Addenda was approved for use by the NRC without exception for these specific Code requirements. In addition as stated previously, IWC-3122.3 allows the use of an analytical evaluation to accept a component for continued service.

3.0 COMPONENT ISI PLAN

The OCGS Component ISI Plan includes ASME Section XI nonexempt pressure retaining welds, pressure retaining bolting, attachment welds, pump casings, valve bodies, reactor pressure vessel interior, reactor pressure vessel welded core support structures, and reactor pressure vessel interior attachments of ISI Class 1, 2, and 3 components that meet the criteria of Subarticle IWA-1300. These components are identified on the P&IDs and C&IDs listed in Section 2.3, Tables 2.4-1 and 2.4-2. Procedure ER-AA-330-002 "Inservice Inspection of Section XI Welds and Components", implements the ASME Section XI welds and components program. This Component ISI Plan also includes component augmented inservice inspection program information specified by documents other than ASME Section XI.

3.1 Nonexempt ISI Class Components

The OCGS ISI Class 1, 2, and 3 nonexempt components subject to examination are those which are not exempted under the criteria of Paragraphs IWB-1220, IWC-1220, and IWD-1220, respectively. A summary of the OCGS 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 nonexempt components are identified on the ISI Isometric and Component Sketches listed in Section 2.4, Table 2.4-1. Welded attachments are also identified by controlled OCGS individual support detail drawings.

3.2 Exempt ISI Class Components

The OCGS ISI Class 1, 2, and 3 components that are exempt from examination are those which meet the criteria of ASME, Section XI, Paragraphs IWB-1220, IWC-1220, and IWD-1220, respectively.

4.0 SUPPORT ISI PLAN

The OCGS Support ISI Plan includes the supports of ASME Section XI nonexempt ISI Class 1, 2, and 3 components as described in Section 3.0. Procedure ER-AA-330-003 "Inservice Inspection of Section XI Component Supports", implements the ASME Section XI Support ISI Plan.

4.1 Nonexempt ISI Class Supports

The OCGS ISI Class 1, 2, and 3 nonexempt supports are those which do not meet the exemption criteria of Paragraph IWF-1230 of ASME Section XI. A summary of the OCGS 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 Sketches listed in Section 2.4, Table 2.4.1. Supports are identified by controlled OCGS individual support detail drawings.

4.2 Snubber Examination and Testing Requirements

4.2.1 As allowed by 10CFR50.55a(b)(3)(v)(B), OCGS will use Subsection ISTD, "Inservice Testing of Dynamic Restraints (Snubbers) In Light Water Reactor Power Plants," ASME Operation and Maintenance of Nuclear Power Plants Code (ASME OM Code), 2004 Edition through the 2006 Addenda, to meet the visual examination, functional testing, and service life monitoring requirements for safety-related and non safety-related snubbers. This approach is consistent with ASME Section XI, Paragraph IWF-1220, which excludes inservice inspection of snubbers and defers to the ASME OM Code for examination, testing, and monitoring requirements. For a detailed discussion of the snubber program, see the Snubber Administrative Program Document.

4.2.2 The ASME Section XI visual examination boundary of a support containing a snubber is defined in Figure IWF-1300-1(f). This boundary does not include the snubber pin-to-pin and does not include the connections to the snubber assembly (pins) per Paragraph IWF-1300(h).

This results in the remaining ASME Section XI requirements for VT-3 visual examinations of the snubber attachment hardware including bolting and clamps. 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 Code Class snubbers in the support populations subject to inspection per Subsection IWF. This is

done to facilitate scheduling, preparation including insulation removal, and inspection requirements of the snubber attachment hardware (e.g., bolting and clamps).

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 OCGS System Pressure Testing (SPT) ISI Plan includes pressure retaining ASME Section XI, ISI Class 1, 2, and 3 components, with the exception of those specifically exempted by Paragraphs IWA-5110(c), IWC-5222(b), and IWD-5222(b).

The SPT ISI Plan performs system pressure tests and required VT-2 visual examinations 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. Procedure ER-AA-330-001, "Section XI Pressure Testing," as well as OCGS site-specific test procedures, implement the ASME Section XI System Pressure Testing ISI Plan.

Currently, no augmented inservice inspection requirements are included in the OCGS SPT ISI Plan.

5.1 ISI Class Systems

All ISI Class 1 pressure retaining components, typically defined as the reactor coolant pressure boundary, are required to be tested. Those portions of ISI 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 up to and including the first normally closed valve or valve capable of automatic closure when safety function is required. ISI Class 2 and 3 open ended discharge piping and components are excluded from the examination requirements per Paragraphs IWC-5222(b) and IWD-5222(b).

5.1.1 Identification of ISI Class 1, 2, and 3 Components

Components subject to ASME Section XI System Pressure Testing are shown within the ISI classification flags on the P&ID's listed in Section 2.3, Table 2.3-1, and on the ISI Isometric and Component Sketches listed in Section 2.4, Table 2.4-1.

Additional information on the classification of various system boundaries is provided in the ISI Classification Basis Document.

5.1.2 Identification of System Pressure Tests

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

6.0 CONTAINMENT ISI PLAN

The OCGS Containment ISI Plan includes ASME Section XI ISI Class MC pressure retaining components and their integral attachments that meet the criteria of Subarticle IWA-1300. This Containment ISI Plan also includes information related to augmented examination areas, component accessibility, and examination review.

OCGS has no ISI Class CC components which meet the criteria of Subarticle IWL-1100, therefore, no requirements to perform examinations in accordance with Subsection IWL are incorporated into this Containment ISI Plan.

The inspection of containment structures and components are performed per procedures ER-AA-330-007, "Visual Examination of Section XI Class MC Surfaces and Class CC Liners", ER-AA-335-004, "Manual Ultrasonic Measurement of Material Thickness", and ER-AA-335-018, "Detailed, General, VT-1, VT-1C, VT-3, and VT-3C, Visual Examination of ASME Class MC and CC Containment Surfaces and Components".

6.1 Nonexempt Class Components

The OCGS ISI Class MC components identified on the CISI Reference Drawings are those not exempted under the criteria of Paragraph IWE-1220 in the 2001 Edition through the 2003 Addenda of ASME Section XI. A summary of the OCGS ASME Section XI nonexempt CISI components is included in Section 7.0.

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

Components that are classified as ISI Class MC must meet the requirements of ASME Section XI in accordance with 10CFR50.55a(g)(4). ISI Class MC supports of IWE components are not required to be examined in accordance with 10CFR50.55a(g)(4)(v). However, component support augmented inspection requirements are addressed per the License Renewal Aging Management Program during the period of extended operation. ISI Class MC supports have been added to the scope of the Subsection IWF inspection program for the license renewal period. (See Section 2.2.7 of this document for details on this requirement.)

6.1.1 Identification of ISI Class MC Nonexempt Components

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

6.1.2 Identification of ISI Class MC Exempt Components

Certain containment components or parts of components may be exempted from examination based on design and accessibility per the requirements of Paragraph IWE-1220.

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

6.2 Augmented Examinations Areas **(CM-9)**

The containment section of the ISI Classification Basis Document discusses the containment design and components. Metal containment surface areas subject to accelerated degradation and aging require augmented examination per Examination Category E-C and Paragraph IWE-1240.

A significant condition is a condition that is identified as requiring application of additional augmented examination requirements under Paragraph IWE-1240.

The following areas have been identified as augmented areas at OCGS per Subsection IWE Paragraph IWE-1240. The areas also include locations subject to UT measurements under Subsection IWE augmented requirements, as well as additional locations that require UT examinations to satisfy NRC commitments for the period of extended operation.

6.2.1 Drywell Containment Vessel

Since 1987 OCGS has developed and implemented a drywell vessel corrosion-monitoring program (Ref. Specification IS-328227-004, "Functional Requirements for Drywell Containment Vessel Thickness Examination") in which inspections are conducted at identified corroded locations. Inspections have been periodically performed during refueling outages and outages of opportunity in the sand bed region, in the spherical region of the drywell.

For the upper elevations as identified in the reference specification, ultrasonic measurements were conducted during outage 1R18 and inspections are to be scheduled for every second refueling outage thereafter. After each inspection a determination will be made if additional inspection is to be performed. **(CM-9)**

6.2.2 Sand bed Region Coating Inspections

For the sand bed region, visual inspection of the coating is conducted in accordance with IS-328227-004. **(CM-9)** In addition, the ISI Program is enhanced to require inspection of 100% of the coating epoxy of all 10 bays starting in the 2008 refuel outage and every other refueling outage during the period of extended operation. These inspections will be performed in accordance with ASME Section XI, Subsection IWE. The inspection of the seal at the junction between the sand bed region concrete and the embedded drywell shell will be inspected every other outage per the Protective Coatings Program and IWE - E1.30 for moisture barrier. **(CM-9, CM-11)**

6.2.3 Sand bed Region Thickness Measurements

Periodic confirmatory ultrasonic (UT) thickness measurements shall be performed prior to and during the period of extended operation at the 1996 locations indicated in Table E-1 (Sand bed Region) as follows:

Ultrasonic Testing (UT) thickness measurements of the drywell shell in the sand bed region were performed in the 2008 refuel outage and will continue on a frequency of every other refueling outage. The UT measurements will be taken from the inside of the drywell at the same locations where UT measurements were performed in 1996. The inspection results will be compared to previous results. Statistically significant deviations from the 1992, 1994, and 1996 UT results will result in corrective actions that include the following:

- Perform additional UT measurements to confirm the readings.
- Notify NRC within 48 hours of confirmation of the identified condition.
- Conduct visual inspection of the external surface in the sand bed region in areas where any unexpected corrosion may be detected.
- Perform engineering evaluation to assess the extent of condition and to determine if additional inspections are required to assure drywell integrity.
- Perform operability determination and justification for operation until next inspection.

These actions will be completed prior to restart from the associated outage. **(CM-9)**

During the next UT inspections to be performed on the drywell sand bed region, an attempt will be made to locate and evaluate some of the locally

thinned areas identified in the 1992 inspection from the exterior of the drywell. This testing will be performed using the latest UT methodology with existing shell paint in place. The UT thickness measurements for these locally thinned areas may be taken from either inside the drywell or outside the drywell (sand bed region) to limit radiation dose to as low as reasonably achievable (ALARA). (Refer to Specification IS-328227-004 for details)

UT thickness measurements were taken from outside the drywell in the sandbed region during the 2008 refueling outage on the locally thinned areas examined during the October 2006 refueling outage. These inspections will continue every other refueling outage for the period of extended operation. The locally thinned areas are distributed both vertically and around the perimeter of the drywell in all ten bays such that potential corrosion of the drywell shell would be detected. This testing will be performed using the latest UT methodology with existing shell paint in place. **(CM-9)**

6.2.4 Spherical and Cylindrical Regions

The upper regions of the drywell shell require augmented examinations in accordance with Paragraph IWE-1240. Examinations using ultrasonic (UT) thickness measurements are to be conducted every other refueling outage to detect loss of material due to corrosion. The UT results are to be evaluated, and trended to ensure that the drywell shell is capable of performing its intended function throughout the life of the plant. **(CM-9)**

Exelon will conduct UT thickness measurements on the 0.770 inch thick plate at the junction between the 0.770 inch thick and 1.154 inch thick plates in the lower portion of the spherical region of the drywell shell. These measurements will be taken at four locations using the 6"x6" grid. The specific locations to be selected will consider previous operational experience (i.e., will be biased toward areas that have experienced corrosion or have been exposed to water leakage). These measurements will be performed prior to the period of extended operation and repeated at the second refueling outage after the initial inspection, at the same location. If corrosion in this transition area is greater than areas monitored in the upper drywell, UT inspections in the transition area will be performed on the same frequency as those in the upper drywell (every other refueling outage). Exelon will conduct UT thickness measurements in the upper regions of the drywell shell every other refueling outage at the same locations as are currently measured. (Refer to Specification IS-328227-004 for details). **(CM-9)**

Exelon will also conduct UT thickness measurements on the 0.770 inch thick plate at the junction between the 0.770 inch thick and 1.154 inch thick plates in the lower portion of the spherical region of the drywell shell. These measurements will be taken at four locations using the 6"x6" grid. The specific locations to be selected will consider previous operational experience (i.e., will be biased toward areas that have experienced corrosion or have been exposed to water leakage). These measurements will be performed prior to the period of extended operation and repeated at the second refueling outage after the initial inspection, at the same location. If corrosion in this transition area is greater than areas monitored in the upper drywell, UT inspections in the transition area will be performed on the same frequency as those in the upper drywell (every other refueling outage). Exelon will conduct UT thickness measurements in the upper regions of the drywell shell every other refueling outage at the same locations as are currently measured (Refer to Specification IS-328227-004 for details). **(CM-9)**

6.2.5 Embedded Drywell Shell below the Drywell Floor

A visual examination of the drywell shell in the drywell floor inspection access trenches will be performed to assure the material condition of the drywell shell is known (refer to Specification IS-328227-004 for location of the trenches). If degradation is identified, the drywell shell condition will be evaluated and corrective actions taken as necessary. In addition, one-time ultrasonic testing (UT) measurements will be taken to confirm the adequacy of the shell thickness in these areas. Beyond these examinations, these surfaces will either be inspected as part of the scope of the ASME Section XI, Subsection IWE inspection program or they will be restored to the original design configuration using concrete or other suitable material to prevent moisture collection in these areas.

Exelon performed visual inspections of the drywell shell inside the trenches in bay #5 and bay #17 and took UT measurements inside these trenches in 2008 and 2010 at the same locations examined in 2006. In addition, Exelon will monitor the two trenches for the presence of water during refueling outages. Visual and UT inspections of the shell within the trenches will continue to be performed until no water is identified in the trenches for two consecutive refueling outages, at which time the trenches will be restored to their original design configuration (e.g., refilled with concrete) to minimize the risk of future corrosion. Repeat (both the UT and visual) inspections at refueling outages during the period of extended operation until the trenches are restored to the original design

configuration using concrete or other suitable material to prevent moisture collection in these areas. **(CM-9)**

6.3 Additional License Renewal Commitments

The coating inside the torus (including the vent line and vent header) will be visually inspected in accordance with ASME Section XI, Subsection IWE, and the Protective Coatings Program. The scope of each of these inspections will include the wetted area of all 20 torus bays every other refuel outage. Should the current torus coating system be replaced, the inspection frequency and scope will, as a minimum, meet the requirements of ASME Section XI, Subsection IWE. **(CM-9, CM-11)**

6.3.1 The IWE Program will be credited for managing corrosion in the Torus Vent Line and Vent Header exposed to an Indoor Air (External) environment (i.e. outside the torus). Inspection was performed prior to the period of extended operation in compliance with IWE. **(CM-9)**

6.3.2 Visual inspection of the moisture barrier between the drywell shell and the concrete floor/curb, installed inside the drywell during the October 2006 refueling outage, will be performed in accordance with ASME Section XI, Subsection IWE during the period of extended operation. Moisture barrier is inspected in accordance with IWE and the structure monitoring program (SMP). The IWE inspection is a General Visual, and frequency is once per period. The SMP inspection is a visual by the SMP engineer and is to be performed once per outage. The IWE inspection is a license renewal commitment that must be maintained to be in accordance with the NRC approved SER. The SMP inspection is a maintenance rule SMP activity. Therefore, these two inspections have different source document requirements. **(CM-9)**

6.3.3 Exelon will perform a 3-D finite element structural analysis of the primary containment drywell shell using modern methods and current drywell shell thickness data to better quantify the margin that exists above the Code required minimum for buckling. The analysis will include sensitivity studies to determine the degree to which uncertainties in the size of thinned areas affect Code margins. If the analysis determines that the drywell shell does not meet required thickness values, the NRC will be notified in accordance with 10 CFR 50 requirements. Reference Passport AR – 330592.27.16. **(CM-9)**

NOTE: If the 3-D finite element structural analysis of the primary containment drywell shell establishes increased margin, or if ongoing

inspections continue to demonstrate that drywell shell corrosion has been sufficiently arrested, the period between inspections may be increased to minimize personnel radiation exposure. This applies to the UT measurements from inside the drywell, the visual inspections of the drywell external shell epoxy coating in all 10 bays, the Inspection of the seal at the junction between the sand bed region concrete and the embedded drywell shell and the UT measurements at the external locally thinned areas inspected in 2006. **(CM-9)**

6.4 Component Accessibility

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

Paragraph IWE-1231(a)(3) requires 80% of the pressure-retaining boundary that was accessible after construction to remain accessible for either direct or remote visual examination, from at least one side of the vessel, for the life of the plant.

Portions of components embedded in concrete or otherwise made inaccessible during construction are exempted from examination, provided that the requirements of ASME Section XI, Paragraph IWE-1232 have been fully satisfied.

In addition, inaccessible surface areas exempted from examination include those surface areas where 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, or augmented examination in accordance with Paragraph IWE-1240.

6.5 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 assigned to perform these duties shall meet the requirements of ASME Section XI, Paragraph IWE-2320. The CISI Programs Engineer is responsible for the CISI Program.

7.0 COMPONENT SUMMARY TABLES

7.1 Inservice Inspection Summary Tables

The following Table 7.1-1 provides a summary of the ASME Section XI pressure retaining components, supports, containment structures, post-tensioning systems, system pressure testing, and augmented program components for the Fifth ISI Interval and the Second CISI Interval at OCGS.

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

Examination Category (with Examination Category Description)	Item Number (or Augmented Number)	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP 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, and IWF-2500-1. Only those Examination Categories applicable to OCGS are identified.

Examination Category "NA" is used to identify Augmented Inspection Programs and other OCGS requirements.

(2) Item 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, and IWF-2500-1. Only those Item Numbers applicable to OCGS are identified.

Specific abbreviations were developed as necessary to identify Augmented Inspection Programs and other OCGS requirements.

(3) Item 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, and IWF-2500-1.

For Augmented Inspection Programs, a description of the augmented basis is provided.

(4) Examination Requirements:

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

Provides the examination requirements for Augmented Inspection Program components.

(5) Total Number Of Components by System:

Provides the system designator (System Number). 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, or Augmented Number.

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

(6) Relief Request/Technical Approach & Position Number:

Provides a listing of Relief Request/TAP Numbers applicable to specific components, the ASME Section XI Item Number, or Augmented Number. Relief Requests and TAP Numbers that generically apply to all components, or an entire class are not listed. If a Relief Request/TAP Number is identified, see the corresponding relief request in Section 8.0 or the TAP Number in Section 2.5.

(7) Notes:

Provides a listing of program notes applicable to the ASME Section XI Item Number, or Augmented Number. If a program note number is identified, see the corresponding program note in Table 7.1-2.

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
B-A Pressure Retaining Welds in Reactor Vessel	B1.11	Circumferential Shell Welds (Reactor Vessel)	Volumetric	221: 4	I5R-03	9
	B1.12	Longitudinal Shell Welds (Reactor Vessel)	Volumetric	221: 12	I5R-03	
	B1.21	Circumferential Head Welds (Reactor Vessel)	Volumetric	221: 3		
	B1.22	Meridional Head Welds (Reactor Vessel)	Volumetric	221: 22		
	B1.30	Shell-to-Flange Weld (Reactor Vessel)	Volumetric	221: 1		
	B1.40	Head-to-Flange Weld (Reactor Vessel)	Volumetric & Surface	221: 1		
B-D Full Penetration Welds of Nozzles in Vessels	B3.90	Nozzle-to-Vessel Welds (Reactor Vessel)	Volumetric	221: 24		6
	B3.100	Nozzle Inside Radius Section (Reactor Vessel)	Volumetric	221: 24		
B-F Pressure Retaining Dissimilar Metal Welds in Vessel Nozzles	B5.10	NPS 4 (DN 100) or Larger Nozzle-to-Safe End Butt Welds (Reactor Vessel)	Volumetric & Surface	221: 24		11
	B5.20	Less Than NPS 4 (DN 100) Nozzle-to-Safe End Butt Welds (Reactor Vessel)	Surface	221: 1		

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
B-G-1 Pressure Retaining Bolting, Greater Than 2 in. (50mm) In Diameter	B6.10	Closure Head Nuts (Reactor Vessel)	Visual, VT-1	221: 1		
	B6.20	Closure Studs (Reactor Vessel)	Volumetric	221: 1		12
	B6.40	Threads in Flange (Reactor Vessel)	Volumetric	221: 1		
	B6.50	Closure Washers, Bushings (Reactor Vessel)	Visual, VT-1	221: 3 (3 sets of 64)		
	B6.180	Bolts & Studs (Pumps)	Volumetric	223: 5		
	B6.190	Flange Surface, when connection disassembled (Pumps)	Visual, VT-1	223: 5		
	B6.200	Nuts, Bushings, and Washers (Pumps)	Visual, VT-1	223: 5		
	B6.210	Valves, Bolts, and Studs (Valves)	Volumetric	411: 3		
B-G-2 Pressure Retaining Bolting, 2 in. and Less In Diameter	B7.50	Bolts, Studs, & Nuts (Piping)	Visual, VT-1	216: 4 221: 3 223: 5 411: 7		
	B7.60	Bolts, Studs, & Nuts (Pumps)	Visual, VT-1	223: 5		
	B7.70	Bolts, Studs, & Nuts (Valves)	Visual, VT-1	211: 10 212: 15 214: 11 215: 7 223: 10 411: 13 422: 6		

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
B-J Pressure Retaining Welds In Piping	B9.11	Circumferential Welds NPS 4 or Larger (DN 100)	Surface & Volumetric	211: 53 212: 68 213: 1 214: 80 215: 52 216: 11 221: 3 223: 79 411: 60 422: 59		10 11
	B9.21	Circumferential Welds Less Than NPS 4 (DN 100) Other Than PWR High Pressure Safety Injection Systems	Surface	215: 2 216: 1 223: 55 225: 38 411: 1		10
	B9.31	Branch Pipe Connection Welds NPS 4 or Larger (DN 100)	Surface & Volumetric	214: 3 223: 2 411: 20		10 11
	B9.32	Branch Pipe Connection Welds Less Than NPS 4 (DN 100)	Surface	214: 3 223: 22 225: 1 411: 3		10
	B9.40	Socket Welds	Surface	213: 40 215: 2 216: 49 221: 25 223: 10 411: 50		10

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
B-K Welded Attachments for Vessels, Piping, Pumps, and Valves	B10.10	Welded Attachments (Pressure Vessels)	Surface or Volumetric	221: 9		
	B10.20	Welded Attachments (Piping)	Surface	211: 18 212: 15 214: 22 215: 9 216: 1 223: 36 225: 2 411: 55 422: 27		
	B10.30	Welded Attachments (Pumps)	Surface	223: 40		
	B10.40	Welded Attachments (Valves)	Surface	223: 20 411: 2		
B-L-2 Pump Casings	B12.20	Pump Casings (Pumps)	Visual, VT-3	223: 5		
B-M-2 Valve Bodies	B12.50	Valve Bodies Exceeding NPS 4 (DN 100)	Visual, VT-3	211: 10 212: 15 214: 11 215: 7 223: 10 411: 13 422: 6		
B-N-1 Interior of Reactor Vessel	B13.10	Vessel Interior (Reactor Vessel)	Visual, VT-3	221: 46 222: 4	I5R-01	7

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
B-N-2 Welded Core Support Structures and Interior Attachments to Reactor Vessels	B13.20	Interior Attachments Within Beltline Region (Reactor Vessel)	Visual, VT-1	221: 7 222: 17	I5R-01	7
	B13.30	Interior Attachments Beyond Beltline Region (Reactor Vessel)	Visual, VT-3	221: 14	I5R-01	7
	B13.40	Core Support Structure (Reactor Vessel)	Visual, VT-3	221: 2 222: 30	I5R-01	7
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	225: 137		
B-P All Pressure Retaining Components	B15.10	System Leakage Test (IWB-5220(a))	Visual, VT-2	1	I5T-02	
	B15.20	System Leakage Test (IWB-5220(b))	Visual, VT-2	2	I5R-02 I5T-02	

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
C-A Pressure Retaining Welds in Pressure Vessels	C1.10	Shell Circumferential Welds (Pressure Vessels)	Volumetric	241: 16		
	C1.30	Tubesheet-to-Shell-Weld Welds (Pressure Vessels)	Volumetric	211: 8		
C-B Pressure Retaining Nozzle Welds in	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	211: 8		
	C2.31	Reinforcing Plate welds to Nozzle and Vessel	Surface	241: 8		
	C2.33	Nozzle-to-Shell (Nozzle to Head or Nozzle to Nozzle) Welds When Inside of Vessel is Inaccessible	Visual, VT-2	241: 8		
C-C Welded Attachments for Vessels, Piping, Pumps, and Valves	C3.10	Welded Attachments (Pressure Vessels)	Surface	241: 16		
	C3.20	Welded Attachments (Piping)	Surface	211: 32 212: 63 214: 3 241: 78 422: 10 541: 1		
	C3.30	Welded Attachments (Pumps)	Surface	212: 8 241: 4		

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
C-D Pressure Retaining Bolting Greater than 2in. (50mm) In Diameter	C4.20	Bolts and Studs (Piping)	Volumetric	422: 4		
C-F-1 Pressure Retaining Welds in Austenitic Stainless Steel or High Alloy Piping	C5.11	Circumferential Weld (Piping Welds ≥ 3/8 in. (10mm) Nominal Wall Thickness For Piping > NPS 4) (DN 100)	Surface & Volumetric	211: 81 212: 12		11
C-F-2 Pressure Retaining Welds in Carbon or Low Alloy Steel Piping	C5.51	Circumferential Weld (Piping Welds ≥ 3/8 in. (10mm) Nominal Wall Thickness For Piping > NPS 4) (DN 100)	Surface & Volumetric	212: 438 225: 48 241: 303 411: 128 422: 52 523: 2 541: 23		11 13
	C5.81	Circumferential Weld (Pipe Branch Connections of Branch Piping ≥ NPS 2 (DN 50)	Surface	212: 3 241: 2 422: 2		11 13
C-H All Pressure Retaining Components	C7.10	System Leakage Test (IWC-5220)	Visual, VT-2	9	I5R-02 I5R-06 I5T-01 I5T-02	

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
D-A Welded Attachments for Vessels, Piping, Pumps, and Valves	D1.10	Welded Attachments (Pressure Vessels)	Visual, VT-1	211: 6 424: 1 541: 4		
	D1.20	Welded Attachments (Piping)	Visual, VT-1	532: 10 541: 43		
	D1.30	Welded Attachments (Pumps)	Visual, VT-1	424: 2 532: 4 541: 2		
D-B All Pressure Retaining Components	D2.10	System Leakage Test (IWD-5221)	Visual, VT-2	211: 1 424: 2 532: 4 541: 3	I5T-01 I5T-02	

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components	Relief Request/ TAP Number	Notes
E-A Containment Surfaces	E1.11	Containment Vessel Pressure Retaining Boundary - Accessible Surface Areas	General Visual	242		
	E1.11	Containment Vessel Pressure Retaining Boundary - Bolted Connections, Surfaces	Visual, VT-3	23		2
	E1.12	Containment Vessel Pressure Retaining Boundary - Wetted Surfaces of Submerged Areas	Visual, VT-3	1		3
	E1.20	Containment Vessel Pressure Retaining Boundary - BWR Vent System Accessible Surface Areas	Visual, VT-3	3		3
	E1.30	Moisture Barriers	General Visual	2		
E-C Containment Surfaces Requiring Augmented Examination	E4.11	Containment Surface Areas - Visible Surfaces	Visual, VT-1	1		4
	E4.12	Containment Surface Areas - Surface Area Grid Minimum Wall Thickness Location	Ultrasonic Thickness	1		5

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
F-A Supports	F1.10	Class 1 Piping Supports	Visual, VT-3	211: 24 212: 16 213: 14 214: 22 215: 18 216: 12 223: 81 225: 17 411: 24 422: 29		1
	F1.20	Class 2 Piping Supports	Visual, VT-3	211: 48 212: 132 214: 3 225: 26 241: 147 411: 4 422: 16 541: 7		1
	F1.30	Class 3 Piping Supports	Visual, VT-3	424: 25 532: 83 541: 77		1

Examination Category (with Examination Category Description)	Item Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
F-A Supports	F1.40	Supports Other Than Piping Supports (Class 1, 2, 3, and MC)	Visual, VT-3	187: 1 211: 12 214: 9 221: 9 223: 55 241: 16 411: 2 424: 1 532: 4 541: 4		1

Examination Category (with Examination Category Description)	Aug Number	Description	Exam Requirements	Total Number of Components by System	Relief Request/ TAP Number	Notes
NA Augmented Components	BWRVIP	BWRVIP In-vessel Inspections (IGSCC Management Program BWR Vessel Internals and Piping Components)	Various	In accordance with BWRVIP Program	I5R-01	7
	BWROG	BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking Components (BWROG)	Volumetric	221: 10		
	IGSCC	Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping Components, TR-113932, "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75)", and TR-1012621, "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75-A)"	Volumetric	A: 93 C: 151 D: 49 E: 1 ESI: 9 G: 5		
	DWM1	Verification of Elimination of Water Leakage into Sand Bed Region (PM22103R, PM18703M, PM18704M)	Various	5		8
	DWM2	Upper Drywell Shell Monitoring (PM18701M, PM18723M)	UT	3		8
	DWM3	Sand Bed Region Shell Monitoring (PM18714M, PM18706-12M, PM18716-18M)	Various	6		8
	DWM4	General Monitoring (PM18715M, PM18719M, PM18713M)	Various	4		8

Note #	Note Summary
1	Snubber visual examinations, functional testing, and service life monitoring are performed in accordance with the ASME OM Code, Subsection ISTD. For a detailed discussion of the OCGS Snubber Program, refer to the Snubber Administrative Program Document and Section 4.2 of this document.
2	Bolted connections examined per Item Number E1.11 require a General Visual examination each period and a VT-3 visual examination once per interval and each time the connection is disassembled during a scheduled Item Number E1.11 examination. Additionally, a VT-1 visual examination shall be performed if degradation or flaws are identified during the VT-3 visual examination. These modifications are required by 10CFR50.55a(b)(2)(ix)(G) and 10CFR50.55a(b)(2)(ix)(H).
3	Item Numbers 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).
4	Item Number E4.11 requires VT-1 visual examination in lieu of Detailed Visual examination, as modified by 10CFR50.55a(b)(2)(ix)(G).
5	The ultrasonic examination acceptance standard specified in Paragraph IWE-3511.3 for ISI Class MC pressure-retaining components must also be applied to metallic liners of ISI Class CC pressure-retaining components, as modified by 10CFR50.55a(b)(2)(ix)(I).
6	As allowed by Code Case N-613-1, OCGS will perform a volumetric examination using a reduced examination volume (A-B-C-D-E-F-G-H) of Figures 1, 2, and 3 of the Code Case in lieu of the previous examination volumes of ASME Section XI, Figures IWB-2500-7(a), (b), and (c).
7	The RPV interior requires examination per the BWRVIP in lieu of ASME Section XI Examination Categories B-N-1 and B-N-2 per Relief Request I5R-01. Augmented Inspection Programs associated with the BWRVIP and the OCGS Vessel Internals Program are maintained independently. The OCGS BWRVIP procedure ER-OC-331-1005, "Reactor Internals Program" describes these requirements and the BWRVIP in more detail.
8	Drywell monitoring activities that are performed due to license renewal commitment. (**CM-9**) All inspections are scheduled per the listed PM numbers at a frequency listed in the commitment documentation. The inspections are listed here as a tracking tool.
9	In accordance with the Fourth ISI Interval Relief Request R-39, and the NRC SE dated September 15, 2009, Reactor Pressure Vessel circumferential welds are permanently deferred through the period of extended operation.
10	As allowed by Code Case N-609, OCGS will utilize the alternative to the weld selection requirements of Table IWB-2500-1, Examination Category B-J, Footnote 1.
11	As allowed by Code Case N-663, OCGS will utilize the alternative to permit elimination of the surface examination requirements for welds NPS 4" and larger.
12	Examination Category B-G-1, Item Number B6.20 "Closure Studs, In Place" and Item Number B6.30 "Closure Studs, When Removed" have been combined into and renamed as Examination Category B-G-1, Item Number B6.20 "Closure Studs".
13	Thin Wall ISI Class 2 (C-F-2) Carbon or Low Alloy Steel Piping: ASME Section XI requires that ISI Class 2 piping welds > 4" NPS and a wall thickness < 3/8" be included in the population to which the 7.5% examination requirement apply; however, none of these "thin wall" welds are required to be examined per Examination Category C-F-2. The 7.5% is to be comprised of welds > 4" NPS and ≥ 3/8" wall thickness.

8.0 RELIEF REQUESTS FROM ASME SECTION XI

This section contains relief requests written per 10CFR50.55a(a)(3)(i) for situations where alternatives to ASME Section XI requirements provide an acceptable level of quality and safety; per 10CFR50.55a(a)(3)(ii) for situations where compliance with ASME Section XI requirements results in a hardship or an unusual difficulty without a compensating increase in the level of quality and safety; and per 10CFR50.55a(g)(5)(iii) for situations where ASME Section XI requirements are considered impractical.

The following NRC guidance was utilized to determine the correct 10CFR50.55a paragraph citing for OCGS relief requests. 10CFR50.55a(a)(3)(i) and 10CFR50.55a(a)(3)(ii) provide alternatives to the requirements of ASME Section XI, while 10CFR50.55a(g)(5)(iii) recognizes situational impracticalities.

10CFR50.55a(a)(3)(i): Cited in relief requests when alternatives to the ASME Section XI requirements which provide an acceptable level of quality and safety are proposed. Examples are relief requests which propose alternative NDE methods and/or examination frequency.

10CFR50.55a(a)(3)(ii): Cited in relief requests when compliance with the ASME Section XI requirements is deemed to be a hardship or unusual difficulty without a compensating increase in the level of quality and safety. Examples of hardship and/or unusual difficulty include, but are not limited to, excessive radiation exposure, disassembly of components solely to provide access for examinations, and development of sophisticated tooling that would result in only minimal increases in examination coverage.

10CFR50.55a(g)(5)(iii): Cited in relief requests when conformance with ASME Section XI requirements is deemed impractical. Examples of impractical requirements are situations where the component would have to be redesigned, or replaced to enable the required inspection to be performed.

An index for OCGS relief requests is included in Table 8.0-1. The "I5R-XX" relief requests are applicable to ISI, CISI, SPT, and PDI.

The following relief requests are subject to change throughout the inspection interval (e.g., NRC approval, withdrawal). Changes to NRC approved alternatives (other than withdrawal) require NRC approval.

TABLE 8.0-1
RELIEF REQUEST INDEX

Relief Request	Revision Date[3]	Status[2]	(Program) Description/ Approval Summary[1]
I5R-01	1 9/12/14	Authorized	**(ISI)** Use of BWRVIP Guidelines in Lieu of Specific ASME Code Requirements on Reactor Pressure Vessel Internals and Components Inspection.
I5R-02	1 9/12/14	Authorized	**(SPT)** Pressure Testing of the RPV Head Flange Seal Leak Detection Line.
I5R-03 (R-39)	0 6/29/12	Authorized	**(ISI)** Alternative Volumetric Examination of RPV Circumferential Shell Welds. Permanent relief was authorized per SER dated 9/15/09 and thus applies to the remainder of the extended period of operation, including this Fifth Inspection Interval.
I5R-04 (R-42) **Exelon Fleet Relief Request**	0 6/29/12	Authorized	**(ISI)** Use of ASME Code Case N-789, Alternative Requirements for Pad Reinforcement of Class 2 and 3 Moderate-Energy Carbon Steel Piping for Raw Water Service. Authorized per SE dated 5/10/12 for both the Fourth and Fifth Intervals. (See Section 5 of the relief request for details of the NRC SE authorized change.) Note that this relief request was subsequently approved prior to the extension of the OCGS Fourth and Fifth ISI Interval dates. The Fourth ISI Interval was extended by 3 months per Fourth ISI Interval Relief Request R-41, so the interval start and end dates have changed from (10/15/12 through 10/14/22) to (1/15/13 through 1/14/23). Therefore, the duration of I5R-04 is thus modified as such to expire on 1/14/23.

TABLE 8.0-1
RELIEF REQUEST INDEX

Relief Request	Revision Date[3]	Status[2]	(Program) Description/ Approval Summary[1]
I5R-05	1 9/12/14	Authorized	**(ISI)** Expanded Applicability for use of ASME Code Case N-661-1, Alternative Requirements for Wall Thickness Restoration of Class 2 and 3 Carbon Steel Piping for Raw Water Service.
I5R-06	1 9/12/14	Authorized	**(SPT)** Continuous Pressure Monitoring of the Control Rod Drive (CRD) System Accumulators.
I5R-07	1 9/12/14	Authorized	**(ISI)** Expanded Applicability for use of ASME Code Case N-532-4, Repair/Replacement Activity Documentation Requirements and Inservice Summary Report Preparation and Submission.
I5R-08 Exelon Fleet Relief Request	1 9/12/14	Authorized	**(ISI)** Use of ASME Code Case N-649, Alternative Requirements for IWE-5240 Visual Examination to address the requirements for visual examination during post repair pressure tests of portions of steel containments or steel liners of concrete containments affected by repair/replacement on the basis that the alternative provides an acceptable level of quality and safety.
I5R-09 Exelon Fleet Relief Request	1 9/12/14	Authorized	**(ISI)** Use of ASME Code Case N-786, Alternative Requirements for Sleeve Reinforcement of Class 2 and 3 Moderate-Energy Carbon Steel Piping - Section XI, Division 1, for the repair of degraded Class 2 and 3, moderate energy carbon steel piping without removal of the defects.

Note 1: The NRC grants relief requests pursuant to 10CFR50.55a(g)(6)(i) when Code requirements cannot be met and proposed alternatives do not meet the criteria of 10CFR50.55(a)(3). The NRC authorizes relief requests pursuant to 10CFR50.55a(a)(3)(i) if the proposed alternatives would provide an acceptable level of quality and safety or under 10CFR50.55a(a)(3)(ii) if compliance with the specified requirements would result in hardship or unusual difficulties without a compensating increase in the level of safety.

Note 2: This column represents the status of the latest revision. Relief Request Status Options: Authorized - Approved for use in an NRC SE (See Note 1); Granted - Approved for use in an NRC SE (See Note 1); Authorized Conditionally - Approved for use in an NRC SE which imposes certain conditions; Denied - Use denied in an NRC SE; Expired - Approval for relief has expired; Withdrawn - Relief has been withdrawn by OCGS; Not Required - The NRC has deemed the relief unnecessary in an SE or RAI;

Cancelled - Relief has been cancelled by OCGS prior to issue; and Submitted - Relief has been submitted to the NRC by the station and is awaiting approval.

Note 3: The revision listed is the latest revision of the subject relief request. The date this revision became effective is the date of the approving SE which is listed in the fourth column of the table. The date noted in the second column is the date of the ISI Program Plan revision when the relief request was incorporated into the document.

9.0 REFERENCES

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

9.1 NRC References

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

9.1.2 Regulatory Guide 1.147, Revision 16, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1."

9.1.3 Regulatory Guide 1.150, Rev. 1, "Ultrasonic Testing of Reactor Vessel Welds During Preservice and Inservice Examination."

9.1.4 Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code."

9.1.5 Regulatory Guide 1.193, Revision 3, "ASME Code Cases Not Approved For Use."

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

9.1.7 USAS B31.1, 1955 Edition, "Power Piping."

9.1.8 ANSI/ANS 52.1-1983, "Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants."

9.1.9 NRC Final SER related to the "Boiling Water Reactor Owner's Group (BWROG) Report, GE-NE-523-A71-0594-A, Revision 1, "Alternate Boiling Water Reactor (BWR) Feedwater Nozzle Inspection Requirements, May 2000", (TAC No. MA6787), dated March 10, 2000

9.1.10 NRC Final SER related to the Boiling Water Reactor Owners' Group (BWROG) Report, GE-NE-523-A71-0594, "Alternate BWR Feedwater Nozzle Inspection Requirements, August 1999", (TAC No. M94090), dated June 5, 1998

9.1.11 NRC SER from P. F. McKee (NRC) to J. J. Barton (GPU), "Evaluation of the Request for Relief From NUREG-0619 for Oyster Creek Generating Station (TAC No. M85751)" dated October 4, 1994.

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

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

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

9.2 Industry References

9.2.1 ASME Boiler and Pressure Vessel Code, Section XI, Division 1, "Inservice Inspection of Nuclear Power Plant Components," the 2007 Edition through the 2008 Addenda. (5^{th} ISI Interval).

9.2.2 ASME Boiler and Pressure Vessel Code, Section XI, Division 1, "Inservice Inspection of Nuclear Power Plant Components," the 2001 Edition through the 2003 Addenda. (2^{nd} CISI Interval).

9.2.3 ASME Boiler and Pressure Vessel Code, Section V, "Nondestructive Examination," 2007 Edition through the 2008 Addenda [The Edition and Addenda for ASME Section V are the same as the Edition and Addenda of ASME Section XI used for the inspection interval for both ISI and Non-ISI NDE examinations. Reference ASME Interpretation XI-1-89-02]

9.2.4 ASME Boiler and Pressure Vessel Code, Section III, Division 1, "Rules For Construction of Nuclear Power Plant Components," the 2007 Edition through the 2008 Addenda.

9.2.5 ASME Boiler and Pressure Vessel Code, Section I, 1965 Edition.

9.2.6 ASME OM Code, "Code for Operation and Maintenance of Nuclear Power Plants," the 2004 Edition through the 2006 Addenda (Subsection ISTD).

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

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

9.2.9 NUREG-0822, Integrated Plant Safety Assessment, Systematic Evaluation Program, Oyster Creek Generating Station, Docket No. 50-219, Final Report, January 1983.

9.2.10 NUREG-1801, "Generic Aging Lessons Learned."

9.2.11 Boiling Water Reactor Owners' Group (BWROG) Report GE-NE-523-A71-0594-A, Revision 1, "Alternate BWR Feedwater Nozzle Inspection Requirements," dated May 2000.

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

9.2.13 BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75-A), EPRI Report TR-1012621, October 11, 2005.
9.2.14 BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75), EPRI Report TR-113932, October 1999.
9.2.15 Generic Letter 88-01, Revision 2, dated January 25, 1988, "NRC Position on Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping."
9.2.16 Generic Letter 88-01, Supplement 1, dated February 4, 1992, "NRC Position on Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping."
9.2.17 Generic Letter 98-05, "Boiling Water Reactor Licensees Use of the BWRVIP-05 Report to Request Relief From Augmented Examination Requirements on Reactor Pressure Vessel Circumferential Shell Welds", dated November 10, 1998.
9.2.18 BWR Reactor Vessel Shell Weld Inspection Recommendations (BWRVIP-05), EPRI Report TR-105697, September, 1995.
9.2.19 BWR Vessel and Internals Project Program Implementation Guide (BWRVIP-94), EPRI Report TR-1011702, dated December 2005.

9.3 Licensee References

9.3.1 Oyster Creek Generating Station, Updated Final Safety Analysis Report (UFSAR).
9.3.2 Oyster Creek Generating Station, Technical Specifications (TS).
9.3.3 Oyster Creek Generating Station, Operational Quality Assurance Plan (QAP).
9.3.4 Oyster Creek Generating Station ISI Classification Basis Document (ER-OC-330-5002), Fifth Ten-Year Inservice Inspection Interval.
9.3.5 Oyster Creek Generating Station ISI Selection Document (ER-OC-330-5003), Fifth Ten-Year Inservice Inspection Interval.
9.3.6 Oyster Creek Generating Station Snubber Administrative Program Document (ER-OC-330-5004), Fifth Ten-Year Inservice Inspection Interval.
9.3.7 Oyster Creek Generating Station License Renewal Application, July 2005.
9.3.8 Structural Integrity Associates Report "Damage Mechanism Assessment for Class 1 and 2 Piping Systems at Oyster Creek", SIR-03-078, Revision 1, September 2003.
9.3.9 Procedure ER-AA-330, "Conduct of Inservice Inspection Activities."
9.3.10 Procedure ER-AA-330-001, "Section XI Pressure Testing."
9.3.11 Procedure ER-AA-330-002, "Inservice Inspection of Section XI Welds and Components."

9.3.12 Procedure ER-AA-330-003, "Inservice Inspection of Section XI Component Supports."
9.3.13 Procedure ER-AA-330-004, "Visual Examination of Snubbers."
9.3.14 Procedure ER-AA-330-007, "Visual Examination of Section XI Class MC Surfaces and Class CC Liners."
9.3.15 Procedure ER-AA-330-008, "Exelon Service Level 1 and Safety Related (Service Level 3) Protective Coatings."
9.3.16 Procedure ER-AA-330-009, "ASME Section XI Repair/Replacement Program."
9.3.17 Procedure ER-AA-330-010, "Snubber Functional Testing."
9.3.18 Procedure ER-AA-330-011, "Snubber Service Life Monitoring Program."
9.3.19 Procedure ER-AA-335-015, "VT-2 Visual Examination."
9.3.20 Procedure ER-AA-335-016, "VT-3 Visual Examination of Component Supports, Attachments, and Interiors of Reactor Vessels."
9.3.21 Procedure ER-AA-335-043, "Implementation Requirements of Section XI, Appendix VIII, as Amended by 10CFR50.55a."
9.3.22 Procedure ER-OC-331-1005, "Reactor Internals Program."
9.3.23 Procedure EP-011, "Methodology for Assigning and Maintaining the Quality Classification of Components."

9.4 License Renewal References

9.4.1 **CM-1** PASSPORT AR 330592.05, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.05, BWR Feedwater Nozzle (Steps 1.1, 1.6, 2.1, 2.2.2, and Table 2.2-5); and

PASSPORT AR 330592.06, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.06, BWR Control Rod Drive Return Line Nozzle (Steps 1.1, 1.6, 2.1, 2.2.2, and Table 2.2-5).

9.4.2 **CM-2** PASSPORT AR 330592.01, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.01, ASME XI Inservice Inspection, Subsections IWB, IWC, and IWD (Steps 1.1 and 2.2.8).

9.4.3 **CM-3** PASSPORT AR 330592.28, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.28, ASME Section XI, Subsection IWF (Section 1, Steps 1.1, 4.0, 4.3, 5.0, Table 7.0-1, Table 5.2-7 and Table 5.2-8a).

9.4.4 **CM-4** PASSPORT AR 330592.08, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.08, BWR Penetrations (Step 1.1);

PASSPORT AR 330592.09, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1,09, BWR Vessel Internals (Step 1.1);

PASSPORT AR 330592.12, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.12, Bolting Integrity (Step 1.1, Table 2.2-8); and

PASSPORT AR 330592.13, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.13, Open-Cycle Cooling Water System (Step 1.1).

9.4.5 **CM-5** PASSPORT AR 330592.31.11, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.31, Structures Monitoring Program (Steps 1.1, 1.7, and Table 2.2-5).

9.4.6 **CM-6** PASSPORT AR 330592.07, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.07, BWR Stress Corrosion Cracking (Step 1.1, 1.7.2.4, 1.7.2.6, 1.7.3.4, 2.2.1, Table 2.2-8 and Table 2.2-24).

9.4.7 **CM-7** PASSPORT AR 330592.18, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.18, BWR Reactor Water Cleanup System (Step 1.1, Section 2, Step 2.2.1, and Section 2, paragraph 4.1.10).

9.4.8 **CM-8** PASSPORT AR 330592.03, Oyster Creek License Renewal Commitments associated with Aging Management Program B.1.03, Reactor Head Closure Studs (Step 1.1, Table 2.2-24).

9.4.9 **CM-9** Oyster Creek License Renewal Aging Management Program B.1.27, ASME Section XI, Subsection IWE, Action Tracking AR 00330592.27 (Steps 1.0, 2.0, and 3.0).

9.4.10 **CM-10** Safety Evaluation Report Related to the License Renewal of Oyster Creek Generating Station – Docket No. 50-219, ML0708906370 dated March 2007.

9.4.11 **CM-11** Oyster Creek License Renewal Aging Management Program B.1.33, Protective Coating Monitoring and Maintenance Program, Action Tracking AR 00330592.33 (Steps 1.0, 2.0, 3.1.1, and 3.3).

APPENDIX A

Relief Requests

(Drafts and Finals)