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Nuclear Business Unit

OCT 7 1999

LR-N990409

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

**ISI RELIEF REQUESTS FOR CONTAINMENT EXAMINATIONS
HOPE CREEK AND SALEM GENERATING STATION
FACILITY OPERATING LICENSES DPR-70, DPR-75, AND NPF-57
DOCKET NOS. 50-272, 50-311, AND 50-354**

Pursuant to 10CFR50.55a(a)(3), Public Service Electric and Gas Company (PSE&G) requests relief associated with containment examinations at the Hope Creek and Salem Generating Stations. Specifically, PSE&G requests relief from the requirements of Subsection IWE and IWL of the 1992 Edition and Addenda of the ASME Code. As an alternative, PSE&G proposes to use Subsection IWE and IWL of the 1998 Edition of the Code.

Attachment 1 to this letter includes the proposed alternatives and supporting justification for the relief requests as well as the basis for concluding that the proposed alternatives provide an acceptable level of quality and safety. Accordingly, the proposed alternative satisfies the requirements of 10CFR50.55a(a)(3)(i). Attachment 2 includes a comparison of the 1992 Edition/Addenda with the 1998 Edition for IWE while Attachment 3 includes the comparison for IWL.

The containment examinations must be performed during the upcoming ninth refueling outage at Hope Creek (scheduled to begin in April 2000). Since Hope Creek would realize immediate benefits from the proposed Relief Request RR-E1 during the upcoming refueling outage, PSE&G is requesting that the NRC approve this relief request by March 15, 2000.

Changes similar to the changes proposed in this letter were approved by the NRC for Comanche Peak Steam Electric Station, Units 1 and 2, in a safety evaluation report, dated July 23, 1999 (TAC NOS. MA2038 and 2039).

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Should you have any questions regarding this request, please contact Mr. C. E. Manges, Jr. at 609-339-3234.

Sincerely,



G. Salamon
Manager – Licensing

Attachment

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ATTACHMENT 1 TO LR-990409
RELIEF REQUESTS RR-E1 AND RR-L1

RELIEF REQUEST RR-E1

NRC Approved (Yes or No): _____ Date _____

Component Description:

Metallic containment shell and penetration liners and their integral attachments

ASME Code Class:

MC

ASME Examination Requirement:

1992 Edition, 1992 Addenda of Subsection IWE, "Requirements for Class MC and Metallic Liners of Class CC Components of Light-Water Cooled Power Plants", of Section XI, Division 1, of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code).

Basis for Relief:

In the Federal Register, dated August 8, 1996 (61 FR 41303), the NRC amended its regulations to incorporate, by reference, the ASME Code Section XI, 1992 Edition and Addenda of Subsection IWE for expedited examination of containments. Considerable comments were provided by the industry to this rule change, and the NRC staff took appropriate action to provide exceptions to allow licensees a flexible implementation schedule and relaxation in specific areas to meet these requirements. Based on the effective date of the rule change of September 9, 1996, licensees have until September 9, 2001 to have a Containment ISI program in place and to complete the first period inspection requirements contained in Section XI.

ASME has made extensive changes to the Subsection IWE contained in the 1992 Edition and Addenda concerning the examination requirements for containments. These changes were based on industry concerns and comment and are now published in the 1998 Edition of the ASME Code Section XI. Publication of the 1998 Edition by the ASME, with NRC participation, provides the basis for the approval of these new 1998 Edition requirements that have been determined by the ASME consensus process to provide an acceptable level of quality and safety.

The proposed alternative is to utilize the current ASME approved 1998 Edition of Subsection IWE of Section XI in its entirety as augmented by the additional requirements contained in the "Alternative Examinations" section below. Utilizing the 1998 Edition of IWE in its entirety incorporates other exceptions to the 1992 addenda stated in NRC rulemaking and provides more cohesiveness than could be achieved by requesting relief on several individual subjects separately. The examination requirements of the 1998 Edition of the Code were developed in accordance with the ASME Code committee process with input from interested parties, other utilities, manufacturers, engineering organizations, Authorized Nuclear Inspection Agencies, EPRI and the NRC. The updating of requirements by this consensus process is intended to ensure the continued safe operation of nuclear power plants and specifically, in this case, ensures the continued leak-tight and structural integrity of metallic containment components. Therefore, the overall level of plant quality and safety will not be adversely affected by utilizing the requirements of the 1998 Edition of IWE.

PSE&G has determined that the use of the 1998 Edition requirements as augmented by the additional requirements contained in the "Alternative Examinations" section below in lieu of the 1992 Edition and Addenda requirements for our Containment ISI program represents an equivalent level of quality and safety. A line by line comparison was made of the 1998 Edition to the 1992 Edition and Addenda. The 1998 Edition provides an equivalent, and in some cases an increased, level of quality and safety to our proposed containment inspection program.

Salem Generating Station Unit 1 is in its 2nd Interval, 3rd Period, Salem Generating Station Unit 2 is in its 2nd Interval, 2nd Period, and Hope Creek Generating Station Unit 1 is in its 2nd Interval, 1st Period. Based on schedules and the requirement of the new rulemaking for full implementation by September 9, 2001, a containment ISI examination program must be established immediately. Implementing this relief request at the present time would reduce the overall impact to resources (PSE&G's and the NRC's) compared to incorporating the mandated edition and addenda of IWE in conjunction with the initial establishment of a containment ISI program followed by updating to a later edition and or addenda or to a series of Code Cases at a later date (e.g., upon either formal NRC endorsement or during the next ten year ISI plan issuance).

Alternative Examinations:

The 1998 Edition of Subsection IWE provides the alternate examinations of this relief request. The requirements of the 1998 Edition of the Code are augmented by the requirements described below.

The PSE&G program governing containment visual examinations and personnel qualifications includes the following:

1. "General Visual Examination" criteria are developed from VT-3 procedures that are used to examine ASME Class 1, 2, and 3 components.
2. Pressure retaining bolting recording criteria are developed from the VT-1 procedure used for Class 1 bolting.
3. Moisture barriers are examined for tears, cracks or damage that permits moisture to intrude.
4. Detailed Visual exam criteria are developed similar to VT-1 and VT-3 procedures.
5. The containment visual examination procedure qualification requirement for lighting and illumination are similar to, and developed from, the procedures used for VT-1 and VT-3 examinations of ASME Class 1, 2, and 3 components.
6. In applications where remote visual examination systems are to be used, those systems will be demonstrated to have a resolution capability at least equivalent to that attainable by direct visual examination.
 - Containment visual examination procedures will be demonstrated to the authorized nuclear inspector for capability to detect flaws and degradation levels defined within the procedure, and
 - The containment visual examination program is developed from the guidelines of SNT-TC-1A and ANSI/ANST CP-189. Certified personnel will have "demonstrated skill, demonstrated knowledge, documented training, and documented experience required to properly perform the duties of a specific job."

The PSE&G Program for examination of paints or coatings requires that procedures exist to ensure the following:

1. In areas important to containment integrity, coating deficiencies identified on the containment liner are brought to the attention of the IWE Responsible Individual; and
2. Base metal conditions that could challenge the structural integrity of the containment are examined by properly qualified personnel.

The PSE&G Program requires that the ultrasonic examinations required by IWE 3511.3 apply to Class CC components as well as to Class MC components.

Anticipated Impact on the Overall Level of Plant Quality and Safety:

None

RELIEF REQUEST RR-L1

NRC Approved (Yes or No): _____ Date _____

Component Description:

Reinforced concrete and post-tensioning systems of Class CC components.

ASME Code Class:

CC

ASME Examination Requirement:

1992 Edition, 1992 Addenda of Subsection IWL, "Requirements for Class CC Concrete Components of Light-Water Cooled Power Plants", of Section XI, Division 1, of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code).

Basis for Relief:

In the Federal Register, dated August 8, 1996 (61 FR 41303), the NRC amended its regulations to incorporate by reference the ASME Code Section XI, 1992 Edition and Addenda of Subsection IWL for expedited examination of containments. Considerable comments were provided by the industry to this rule change and the NRC staff took appropriate action to provide exceptions to allow licensees a flexible implementation schedule and relaxation in specific areas to meet these requirements. Based on the effective date of the rule change of September 9, 1996, licensees have until September 9, 2001 to have a Containment ISI program in place and to complete the first period inspection requirements contained in Section XI.

ASME has made extensive changes to the Subsection IWL contained in the 1992 Edition and Addenda concerning the examination requirements for containments. These changes were based on industry concerns and comments and are now published in the 1998 Edition of the ASME Code Section XI. The 1998 Edition provides the Responsible Engineer, adds a requirement to train personnel, and establishes the examination categories of general and detailed visual. The 1998 Edition also provides additional inspections of tendon end caps, as well as guidelines to inspect for leakage of corrosion protection medium. Publication of the 1998 Edition by the ASME, with NRC participation, provides the basis for the approval of these new 1998 Edition requirements that have been determined by the ASME consensus process to provide an acceptable level of quality and safety.

The proposed alternative is to utilize the current ASME approved 1998 Edition of Subsection IWL of Section XI in its entirety as augmented by the additional requirements contained in the "Alternative Examinations" section below. Utilizing the 1998 Edition of IWL in its entirety incorporates other exceptions to the 1992 addenda stated in NRC rulemaking and provides more cohesiveness than could be achieved by requesting relief on several individual subjects separately. The examination requirements of the 1998 Edition of the Code were developed in accordance with the ASME Code committee process with input from interested parties, other utilities, manufacturers, engineering organizations, Authorized Nuclear Inspection Agencies, EPRI and the NRC. The updating of requirements by this consensus process is intended to ensure the continued safe operation of nuclear power plants and specifically, in this case, ensures the continued leak-tight and structural integrity of concrete containment components. Therefore, the overall level of plant quality and safety will not be adversely affected by utilizing the requirements of the 1998 Edition of IWL.

PSE&G has determined that the use of the 1998 Edition requirements as augmented by the additional requirements contained in the "Alternative Examinations" section below in lieu of the 1992 Edition and Addenda requirements for our Containment ISI program represents an equivalent level of quality and safety. A line by line comparison has been made of the 1998 Edition to the 1992 Edition and Addenda. The 1998 Edition provides an equivalent, and in some cases an increased, level of quality and safety to our proposed containment inspection program.

Salem Generating Station Unit 1 is in its 2nd Interval, 3rd Period, Salem Generating Station Unit 2 is in its 2nd Interval, 2nd Period, and Hope Creek Generating Station Unit 1 is in its 2nd Interval, 1st Period. Based on schedules and the requirement of the new rulemaking for full implementation by September 9, 2001, a containment ISI examination program must be established immediately. Implementing this relief request at the present time would reduce the overall impact to resources (PSE&G's and the NRC's) compared to incorporating the mandated edition and addenda of IWL in conjunction with the initial establishment of a containment ISI program followed by updating to a later edition and or addenda or to a series of Code Cases at a later date (e.g., upon either formal NRC endorsement or during the next ten year ISI plan issuance).

Alternative Examinations:

The 1998 Edition of Subsection IWL provides the alternate examinations of this relief request. The requirements of the 1998 Edition of the Code are augmented by the requirements described below.

The PSE&G program governing containment visual examinations and personnel qualifications includes the following:

1. General and Detailed Visual Examinations are developed to identify areas of concrete deterioration and distress as defined in ACI 201.1 and are equivalent to the VT-3C and VT-1C examinations in terms of assessing the condition and potential for deterioration within the containment system.
2. In applications where remote visual examination systems are to be used, those systems will be demonstrated to have a resolution capability at least equivalent to that attainable by direct visual examination.
 - Containment visual examination procedures will be demonstrated to the authorized nuclear inspector for capability to detect flaws and degradation levels defined within the procedure, and
 - The containment visual examination program is developed from the guidelines of SNT-TC-1A and ANSI/ANST CP-189. Certified personnel will have "demonstrated skill, demonstrated knowledge, documented training, and documented experience required to properly perform the duties of a specific job."

The PSE&G Program requires a detailed inspection on suspect areas (Item L1.12).

Anticipated Impact on the Overall Level of Plant Quality and Safety:

None

ATTACHMENT 2 TO LR-990409

IWE COMPARISON

IWE COMPARISON

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
IWE-1000	No change	None
1100	ASME Section XI generic wording change from repair, replacement and or modification terms to repair/replacement activities.	Non significant
1200	No change	None
1210	No change	None
1220	Changed "containment" to "containment system"	Non significant
1230	No change	None
1231	<p>Removed Item 3) - "single welded butt joints from the weld side" - as a specific item required to remain accessible for the life of the plant.</p> <p>Changed wording from "80% of the surface area" to "80% of the pressure retaining boundary" and stated exclusions from that 80%.</p> <p>Reworded paragraph b).</p>	<p>The single welded butt joints were removed as a separately listed examination item and is now included within the item for the pressure retaining boundary as discussed in the changes to Table IWE-2500-1 below. Examination of pressure retaining welds and pressure retaining dissimilar metal welds are optional as specified in 10CFR50.55a(b)(2)(x)(C).</p> <p>The exclusions from 80% incorporate an existing Table IWE 2500-1 note and clarify that areas made inaccessible during construction are also excluded.</p> <p>Change to b) is for clarity and is non significant.</p>
1232	ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
1232 (cont.)	Deleted paragraph (a)(3) addressing inaccessible welded joints.	Welded joints were removed as a separately listed examination items and are now included within the item for the pressure retaining boundary as discussed in the changes to Table IWE-2500-1 below. Examination of pressure retaining welds and pressure retaining dissimilar metal welds are optional as specified in 10CFR50.55a(b)(2)(x)(C).
1240	No change	None
1241	Added stiffeners and, by reference to IWE-2420, flaws accepted by evaluation as areas requiring augmented examination.	Clarifies the intent of the Code that areas identified in IWE 2420(b) require an augmented exam in the next period.
1242	Changed (c) to (b)	Non significant
2000	No change	None
2100	Added new Subarticle 2100- "General"-to provide reference to IWA-2000 with exceptions from IWA-2210, 2300, 2500, and 2600.	The containment examinations are completely defined within the jurisdiction of IWE, and thus reference to IWA 2210, and IWA 2300 are not applicable. However, to ensure that industry-wide consistency is maintained with respect to containment visual examinations and personnel qualifications, the PSE&G program governing these areas is described in the "Alternative Examinations" section of Relief Request RR-E1. The exceptions to IWA 2500, and IWA 2600 are to weld base exams, which do not apply to IWE. The examinations of IWE in the 1998 Edition coupled with the described PSE&G program governing containment visual examinations and personnel qualifications provide an equivalent level of quality an safety as defined in IWA of the 1992 Edition.
2200	Deleted paragraph c), which provided allowances for the use of shop or field examinations in lieu of on site preservice examinations.	The deletion of an allowance for an alternative examination ensures that proper preservice examinations are performed and documented.

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2200 (cont.)	<p>Deleted paragraph g), which required the condition of new coating to be documented in the preservice examination record.</p> <p>ASME XI generic change from repair and or replacement to repair/replacement activities.</p>	<p>The deletion of the requirement to document the condition of "new" non pressure retaining coatings in the preservice examination record provides for more efficient program implementation without affecting component integrity. See the discussion under Paragraph 2500 below for additional discussion on PSE&G's coating program.</p> <p>Non significant.</p>
2300	Added new Subarticle 2300 - "Visual Examination, Personnel Qualification and Responsible Individual"	The philosophy of IWE to be an engineering inspection under the direction of the Responsible Individual is contained in this new subarticle. The most significant change is the definition of the roles and responsibilities of the Responsible Individual. This individual will be accountable for the entire inspection program, which will meet or exceed the level of quality and safety defined in the 1992 Edition. The specific paragraphs added will be discussed below. Also, see discussion under IWE 2100 above.
2310	Added new paragraph 2310 – Visual Examinations - which a) states that the owner shall define requirements for visual examination of containment surfaces; b) and c) defines general and detailed visual examinations; and d) and e) provides the requirements for the conditions of areas affected by repair/replacement activities, painted or coated areas, non coated areas, pressure retaining materials and moisture barriers.	The VT-3 and VT-1 inspections of IWA have been replaced by Owner (Responsible Individual) defined general and detailed visual exams, respectively. As identified in IWE 2100 above, to ensure that industry-wide consistency is maintained with respect to containment visual examinations and personnel qualifications, the PSE&G program governing these areas is described in the "Alternative Examinations" section of Relief Request RR-E1. The definition of critical examination items and acceptable conditions has not changed, such that any conditions adversely affecting quality or safety are not impacted by this change.

Para- Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2310 (cont.)		<p>The general and detailed visual examinations are equivalent to the VT-3 and VT-1 exams in terms of assessing the general condition and potential for deterioration within the containment system.</p> <p>Visual criteria will be developed from VT-3 procedures that are used to examine ASME Class 1, 2, and 3 components.</p> <p>10CFR50.55a(b)(x)(B) mandates qualification of the remote examination procedure for Subsection IWE. The lighting and resolution qualification requirements will be developed and similar to the procedures used for Code Class 1,2 and 3 components.</p> <p>Pressure retaining bolting recording criteria will be developed from the VT-1 procedure used for Class 1 bolting.</p> <p>Moisture barriers will be examined for tears, cracks or damage that permits moisture to intrude.</p> <p>Detailed Visual exam criteria will be developed similar to VT-1 and VT-3 procedures</p> <p>The use of owner defined inspection types allows for the involvement of qualified engineering personnel with backgrounds in programs such as the Maintenance Rule, containment coatings, and Appendix J. This provides for a containment inspection program that is performed by individuals with knowledge in containment degradation mechanisms.</p> <p>The code provides some specific examples of unacceptable conditions when performing "detailed" exams. These types of conditions were previously stated in IWE 3000.</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2310 (cont.)		The overall impact of the changes in IWE 2310 coupled with the PSE&G program governing containment visual examinations and personnel qualifications is a inspection program that is consistent with other containment monitoring programs, and thus provides an equivalent level of quality and safety as the 1992 Edition.
2320	<p>Added new paragraph 2320 - "Responsible Individual" - which</p> <p>a) states the qualification requirements of the responsible individual and</p> <p>b) defines the responsibilities of the responsible individual for the development of plans and procedures; instruction, training and approval of visual examination personnel; performance or direction of visual examinations; evaluation of results and documenting results.</p>	The qualifications along with the roles and responsibilities of the Responsible Individual are clearly delineated within this subarticle. This section clearly states the expectations for the Responsible Individual, and brings accountability for the entire program to an individual knowledgeable in containment and their degradation mechanisms. This individual will develop the inspection plans, train personnel, direct or perform inspections, and finally evaluate the results. The cohesiveness of the inspection program has been improved by the addition of this subarticle. This, along with the containment visual examinations and personnel qualifications program described in the "Alternative Examinations" section of Relief Request RR-E1, results in an increase of the level of quality and thus no adverse impact on safety.
2330	Added new paragraph 2330 - "Personnel Qualification" - which	Adding requirements for the owner to define personnel qualification requirements is consistent with the philosophy that the Responsible Individual must qualify the inspection personnel. The code recognizes that the qualifications may differ depending on the containment type and even the inspection period in question.

Para- Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2330 (cont.)		The Containment Visual Examination Personnel will be certified with the PSE&G program and will satisfy the requirements of SNT-TC-1A and ANSI/ANST CP-189. Certified personnel will have "demonstrated skill, demonstrated knowledge, document training and documented experience required to properly perform the duties of a specific job." This change is consistent with the other changes discussed above and serves to improve the level of quality and thus has no adverse impact on safety.
2400	No change	None
2410	No change	None
2411	Deleted a subparagraph discussing decreasing and extending inspection periods.	The deleted subparagraph eliminates duplication with IWA-2400.
2412	Deleted a subparagraph discussing decreasing and extending inspection periods. Added a subparagraph detailing requirements for the scheduling of added welds or components.	The deleted subparagraph eliminates duplication with IWA-2400. The added requirements for the scheduling of added welds or components ensure that a representative sampling of examinations is maintained. There are no plans to add items to the IWE inspection program. If items were added to IWE program, the methodology would be essentially the same as that for adding items to the ASME Code Class 1,2 or 3 ISI program.
2420	Removed repaired areas as areas requiring reexaminations during the next successive inspection period, and changed (c) to require that areas that remain essentially unchanged for the next inspection period no longer require augmented examinations. The 1992 Edition required three consecutive examinations to reach this conclusion.	Repaired areas that are likely to experience accelerated degradation and aging are already subject to augmented examinations per IWE-1241. Some repairs may be located in non augmented areas and may be necessary to correct physical damage caused by construction or craft activities. The evaluation that determines that flaws or areas of degradation remain unchanged is sufficient to conclude that there are no active corrosion mechanisms present.

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2420 (cont.)		<p>The requirements for reexamination of augmented examination areas has been revised to be consistent with Class 1 and 2 such that only one additional examination is required during the next inspection period before the item can be removed from an Owner's augmented examination program. Areas may be subject to augmented examination during successive ISI intervals if an Owner determines that conditions that could cause degradations in these areas still exist. The ability to designate an area as augmented during successive examinations ensures that the area is monitored for as long as necessary.</p> <p>These changes do not adversely affect the level of quality or safety within the containment inspection program.</p>
2430	Deleted the paragraph – Additional Examinations – which discussed adding examination items of the same category if flaws or areas of degradation are identified during an examination.	The changes to Table IWE 2500-1 eliminate several examination categories. The categories that remain all require 100% examination. Therefore no items are available for additional examinations.
2500	<p>Reworded the existing subparagraphs consistent with the previous paragraph changes and with Table IWE-2500-1 changes.</p> <p>Deleted the requirement to examine paint or coatings prior to removal.</p>	<p>The reworded subparagraphs add clarity and provide consistency within IWE.</p> <p>The code jurisdiction is the pressure boundary, and not the non pressure retaining coatings. Eliminating this requirement does not adversely impact the level of quality or the safety of the containment inspection program. The PSE&G coating program that is in place has the Coatings Program Engineer and IWE Responsible Engineer reporting to the same person.</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
	<p>Replaced the requirement for one foot square grids in thickness measurements with a reference to Table IWE 2500-2.</p> <p>Added a reference to IWE-5000 for pressure tests.</p>	<p>Procedures are in place that require notification to the IWE Responsible Individual for coating deficiencies or containment integrity issues. Prior to final disposition of the coating deficiency by the Coatings Program Engineer, the IWE Responsible Engineer has the opportunity to establish visual examination hold points for any point in the coating removal and reapplication process. These procedural requirements ensure that base metal conditions that could challenge the structural integrity of the containment are identified and appropriate action taken prior to recoating the plant containment liner.</p> <p>The new Table IWE 2500-2 provides more detailed requirements for thickness measurement and is discussed below.</p> <p>The added reference to IWE-5000 provides direction for the performance of pressure test.</p>
2600	Deleted a sentence discussing compatibility of paint and coating systems and a requirement to examine new paint.	<p>The removal of this sentence addressing "new" non pressure retaining paint and coatings provides for more efficient containment ISI Program implementation without adversely affecting component integrity. The compatibility of paint and coating systems with the existing system, and the examination of newly applied coatings, is covered in the PSE&G nuclear coatings Program.</p> <p>The code jurisdiction is the pressure boundary, and not the non pressure retaining coatings. Eliminating this requirement does not adversely impact the level of quality or the safety of the</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2600 (cont.)		containment inspection program. PSEG Coating program in place has the Coatings Program engineer and IWE Responsible engineer under the same person. Procedures are in place that requires notification to the IWE Responsible individual for coating deficiencies or containment integrity issues.
3000	No change	None
3100	Removed the word nondestructive from the heading.	Non significant
3110	No change	None
3111	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500. Removed reference to paragraph IWE-3115.	Table IWE-3410-1 and paragraphs IWE-3115 have been deleted and are discussed below. IWE-3500 adequately captures all of the information previously contained in the deleted table and paragraph.
3112	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500. ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3114	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500. ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3115	Deleted subparagraph, which addressed repair programs and evaluations being subject to review by authorities.	Non significant - there were no submittal or retention requirements changed by the deletion of the subparagraph.
3120	Removed the word nondestructive from the heading.	Non significant

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
3121	Removed the word nondestructive and deleted references to IWE-3124 and IWE-3125 for the acceptance of flaws for continued service.	The removal of nondestructive is non-significant. The referenced subparagraphs did not actually apply to the acceptance of flaws for continued service.
3122	Replaced the references to Table IWE-2500-1 and IWE-3000 with a reference to Subarticle IWE-3500. ASME XI generic change from repair and or replacement to repair/ replacement activities. Reworded several sentences. Deleted sentence, which addressed evaluations being subject to review by authorities.	Non significant - the changes are for clarity and to reconcile paragraphed numbering. There was no submittal or retention requirements changed by the deletion of the sentence addressing evaluation reviews. See IWE 3125 discussed below.
3124	Replaced the reference to Table IWE-3410-1 with a reference to Subarticle IWE-3500. ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3125	Deleted subparagraph, which addressed repair programs and reexamination results being subject to review by authorities.	No submittal or retention requirements changed by the deletion of the subparagraph. NRC Rulemaking (Page 41312 of Federal Register dated August 8, 1996, Volume 61, Number 154, Rule and Regulations) states in part, "Licensees do not have to submit to the NRC staff for approval of their containment inservice inspection program which was developed to satisfy the requirements of Subsection IWE and IWL with specified modifications and a limitation. PSE&G will maintain required documentation on site for review or audit.
3130	No change	None

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
3200	Added a statement to the end of the paragraph that states supplemental surface or volumetric examinations are required when specified by the engineering evaluation.	The added statement clarifies requirements and eliminates potential duplication or contradiction of requirements in stating that the engineering evaluation requirements of IWE-3122 determine what and when supplemental examinations are required.
3400	No change	None
3410	Replaced the reference to Table IWE-3410-1 with a reference to Subarticle IWE-3500.	Non significant
3430	No change	None
3500	No change	None
3510	<p>Reconciled acceptance standards with the IWE-2300 changes discussed above and the Table IWE-2500-1 changes discussed below by:</p> <p>Adding the requirement that the owner shall define acceptance criteria for visual examination of containment surfaces;</p> <p>Removing the wording for responsible individual and for personnel qualifications;</p> <p>Combining 3510.2 and 3510.3 and removing specific VT-1 and VT-3 examination attribute wording; and</p>	<p>Previously, examination requirements were contained in the acceptance standards of IWE-3500. This section has been restructured by the addition of IWE-2300 as discussed above.</p> <p>This change directly corresponds to the addition of IWE-2310(a) discussed above. See discussion under IWE 2100, and 2310 above for additional discussion and justification.</p> <p>This change directly corresponds to the addition of IWE-2320 discussed above.</p> <p>These changes directly correspond to the addition of IWE-2310(e)(1) and (2) discussed above.</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
3510 (cont.)	<p>Incorporating IWE-3511, 3513, 3514, and 3515 with changes into IWE-3510.</p> <p>By the incorporation of 3515 the acceptance standards for bolting were changed from referencing material specs and torque or tension limits to conditions affecting leak tight or structural integrity.</p>	<p>These changes correspond to the changes in the examination categories of Table IWE-2500-1 as discussed below and to the removal of examination requirements from the acceptance standards paragraphs per the addition of IWE-2310 (e)(3) and (4) as discussed above.</p> <p>The resulting acceptance standards for bolting provide for more practical containment ISI program implementation without adversely affecting containment leak tight or structural integrity.</p>
3511	Deleted subparagraph, which addressed examination category E-B.	Examination category E-B has been incorporated into examination category E-A per the changes to Table IWE-2500-1 discussed below.
3512	<p>Renumbered subparagraph to IWE-3511. Reconciled acceptance standards with the IWE-2300 changes discussed above and the Table IWE-2500-1 changes discussed below</p> <p>Added the requirement that the owner shall define acceptance criteria for visual examination of containment surfaces</p> <p>Combined 3512.2 and 3512.3 with changes into 3511.2 and removed specific VT-1 examination attribute wording</p>	<p>The subparagraph was renumbered based on the deletion of previous IWE-3511 as discussed above. Previously, examination requirements were contained in the acceptance standards of IWE-3500. This section has been restructured by the addition of IWE-2300 as discussed above.</p> <p>This change directly corresponds to the addition of IWE-2310 (a) discussed above. See discussion under IWE-2300 and IWE-2310 above for justification.</p> <p>These changes directly correspond to the addition of IWE-2310 (e)(1) and (2) discussed above and eliminate potential duplication or contradiction of requirements.</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
3512 (cont.)	Reworded ultrasonic examination subparagraph.	This change is for clarity. The 1998 code specifically states MC and not CC. Metallic liner inspections will be done as required by IWE-3200. NRC Rulemaking (61FR41312, dated 8/8/96) states that metallic shell and penetration liners which are pressure retaining components and their integral attachments must meet the inservice inspection, repair and replacement requirements applicable to components which are classified as ASME Code MC.
3513 3514 3515	Deleted subparagraphs IWE-3513, 3514 and 3515, which addressed examination categories E-D, E-F, and E-G respectively.	Examination categories E-D, E-F and E-G have been incorporated into examination category E-A per the changes to Table IWE-2500-1 discussed below.
4000	No change	None
4100	No change	None
5000	No change	None
5200	No change	None
5210	No change	None
5220	ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant
5221	ASME XI generic change from repair and or replacement to repair/replacement activities. Removed the quotation of 10 CFR 50 Appendix J paragraph IV.A.	Non significant - the requirement to meet the requirements of the Appendix J paragraph referenced is not affected by removing the quoted App J paragraph.
5222	ASME XI generic change from repair and or replacement to repair/replacement activities. (b) changed repair to weld (c) added (DN25)	Non significant, DN25 is a standard measurement identification.

Para- Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
5240	Replaced a reference to IWA 5240 with requirements to perform detailed visual examination of repair/replacement areas during pressure tests.	The types of examinations performed in the containment program are all contained in IWE 2300. The requirements of IWA 5240 to detect evidence of leakage will be satisfied through the use of the detailed visual examination of IWE 2300. This change does not alter or impact the level of quality or safety of the containment inspection program.
5250	Changed Corrective Measures to Corrective Action in the heading. ASME XI generic change from repair and or replacement to repair/replacement activities. IWE-4000 now IWA-4000	Non significant
7000	No change	None
7100	No change	None
Table 2411-1	No change	None
Table 2412-1	Replaced the separate entries for 1st and successive intervals with one entry for all intervals. Added note: first period completion percentage for any exam category exceeds 34%, at least 16% of required exams shall be performed in the second period.	Non significant - The previous requirements for the 1 st and successive intervals were identical. Therefor combining the entries does not affect any requirements. Ensures allocations of exams are done through out the 10-year interval. No change in PSE&G's philosophy.
Table 2500-1 Exam Cat. E-A	Revised all examination categories.	

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
Table 2500-1 Exam Cat. E-A (cont.)	<p>Item E1.10: Added Note 1 to examine all accessible interior and exterior surfaces of class MC components, parts, and appurtenances, and metallic shell and penetration liners of Class CC components. A list of items is listed to consider for examination.</p> <p>Item E1.11: Revised frequency of examination from "prior to each Type A test" to "100% during each period".</p> <p>Item E1.12: Re-designated item from "accessible surface areas" to "wetted surfaces of submerged areas". Replaced examination method VT-3 with general visual.</p>	<p>Added for clarification. NRC rulemaking removes the emphasis from specific weld based examinations.</p> <p>Removing the requirement to coordinate examinations with Type A tests, and requiring a general visual during every inspection period is more restrictive. This change corresponds with the rule as stated in 10CFR50.55a.</p> <p>Replacing the accessible surface area designation (which is included in Item E1.11) with wetted surface areas (which were previously included in Item E1.12, Footnote 4) does not eliminate or reduce any required examination areas. The conditions of distress, which would be detected by a VT-3 exam, are the same conditions that will be detected by a general visual exam, as defined in IWE 2300. The requirement to perform a detailed exam on any suspect area has not changed. The new requirement to perform general visual exams every inspection period increases the total number of potential examinations on the containment surface in the interval. The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained with respect to containment visual examinations. The overall impact of this change is to increase the level of quality and does not adversely affect the safety of the containment inspection program.</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
Table 2500-1 Exam Cat. E-A (cont.)	<p>Item E1.20: Added BWR to item description. Replaced examination method VT-3 with general visual.</p> <p>E1.30 Added item for moisture barriers with a general VT required each period.</p> <p>All Item No.'s were replaced with reference to IWE-3510 for examination requirements with IWE-2310.</p> <p>Notes were revised to specifically include welds and bolting as part of the pressure retaining boundary requiring examination.</p>	<p>See the above for a description of the equivalency of the general visual to the VT-3, and the increased frequency of exams. This change has no impact on the level of quality or the safety of the containment inspection program.</p> <p>Moisture barriers were previously included in Examination Category E-D with a VT-3 required each interval. Examining moisture barriers more frequently will assure reliable detection of conditions adverse to containment integrity.</p> <p>Non significant - Previously some examination requirements were contained in IWE-3500. They now exist in IWE-2300 as discussed above.</p> <p>Welds and bolting were previously included in Examination Categories E-B, E-F and E-G. Including these items in the examination category for the containment pressure retaining boundary provides for more efficient program implementation. This change will not alter the level of quality or adversely affect the safety of the containment inspection program.</p>
Table 2500-1 Exam Cat. E-B	This examination category, which addressed pressure retaining welds, was deleted.	Pressure retaining welds are now included in Examination Category E-A as addressed above. Examination of pressure retaining welds are optional (See 10CFR50.55a(b)(2)(x)(C)). The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained.

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
<p>Table 2500-1 Exam Cat. E-C</p>	<p>Item E4.11: Replaced examination method VT-1 with detailed visual.</p> <p>E4.12 Added grid line intersections to description of parts examined. Changed examination method from volumetric to ultrasonic thickness.</p> <p>All Item No.'s: Added examination requirement paragraph number references. Updated acceptance standard references.</p> <p>Notes: Changed Note 2 from requiring augmented examination until an area remains unchanged for three consecutive inspection periods to the next inspection period. Deleted Note 3, which discussed inspection deferrals.</p> <p>Extent and Frequency of Examination 2500 (c) is changed to (b)</p>	<p>The conditions of distress or deterioration, that would be detected by a VT-1, are the same conditions that will be detected by a detailed visual exam, as defined in IWE 2300. The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained.</p> <p>The added wording clarifies inspection requirements and ensures repeatability in the location of subsequent thickness measurement points.</p> <p>Previously no references existed for examination requirements. These requirements have been added to IWE 2310 and 2500 as discussed above. Adding new references and updating paragraph numbers ensure proper requirements are applied to examinations.</p> <p>Three inspection periods cover a ten year interval. Performing augmented examinations for at least two periods while continuing general visual examinations each period provides for more efficient program implementation without adversely affecting component integrity. See discussion in 2420 above. Deletion of Note 3 is non significant.</p> <p>Non significant</p>

Para- Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
Table 2500-1 Exam Cat. E-D	Deleted examination category which addressed seals, gaskets and moisture barriers.	Moisture barriers have been included in Examination Category E-A as addressed above. The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained with respect to containment visual examinations. Seals and gaskets previously required examination once per an interval with an affective acceptance criteria of leak tightness. Leak tight integrity is verified during each 10CFR50 Appendix J leak test.
Table 2500-1 Exam Cat. E-F	Deleted this examination category which addressed dissimilar metal welds.	Dissimilar metal welds are now included in Examination Category E-A as addressed above. Examination of pressure retaining dissimilar metal welds are optional as specified in 10CFR50.55a(b)(2)(x)(C). The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained.
Table 2500-1 Exam Cat. E-G	E-G Deleted examination category which addressed pressure retaining bolting.	Pressure retaining bolting is now included in Examination Category E-A as addressed above. Pressure retaining bolting has been removed as a separate examination. Bolting is under Examination Category E-A and is done in place and not disassembled. Local pressure tests of bolted and gasketed joints performed in accordance with 10CFR50, Appendix J demonstrate leak-tight integrity. Examination of bolting in place is consistent with the requirements for ASME Code Class 1, 2 and 3 bolting. The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained.

Para- Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
Table 2500-1 Exam Cat. E-P	E-P Deleted examination category which addressed 10CFR50 App J testing for all pressure retaining components.	Appendix J testing is mandated by plant Technical Specifications. Removing this duplicate requirement from IWE does not adversely affect component integrity.
----	Added new Table 2500-2 – Ultrasonic Thickness Measurements For Augmented Examinations – which details girding and thickness measurement requirements.	The new requirements provide for consistency and repeatability in obtaining thickness measurements and thus assure the reliable detection of conditions adverse to containment integrity.
Table 3410-1	Deleted table.	Non significant: the contents of the previous table are adequately addressed in IWE-3500.
Figure IWE 2500-2	Changed Figure IWE-2500-2 in 1992 to Figure IWE-2500-1 in 1998	Non significant

ATTACHMENT 3 TO LR-990409

IWL COMPARISON

IWL COMPARISON

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
IWL-1000	No change	None
1100	ASME Section XI generic wording change from repair, replacement and or modification terms to repair/replacement activities	Non significant
1200	No change	None
1210	No change	None
1220	No change	None
2000	No change	None
2100	<p>Changed "Inspection" to "General" in heading.</p> <p>(a) Provided reference to IWA-2000 with exceptions from IWA-2210 and 2300 for visual examinations and for qualification of visual examination personnel.</p>	<p>Non significant</p> <p>The containment examinations are completely defined within the jurisdiction of IWL, and thus reference to IWA 2210, and IWA 2300 are not applicable. However, to ensure that industry-wide consistency is maintained with respect to containment visual examinations and personnel qualifications, the PSE&G program governing these areas is described in the "Alternative Examinations" section of Relief Request RR-L1. The examinations of IWL in the 1998 Edition provide an equivalent level of quality and safety as defined in IWA of the 1992 Edition. The examinations of IWE in the 1998 Edition coupled with the described PSE&G program governing containment visual examinations and personnel qualifications provide an equivalent level of quality an safety as defined in IWA of the 1992 Edition.</p>

Para-Graph	Changes between IWL 1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
2200	Delete reference to IWL 2500.	The reference to IWL 2500 in the '92 Edition was incorrect, and this non significant change is associated with a subsequent inquiry.
2210	No change	None
2220	No change	None
2230	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
2300	No change; content changes in IWL-2310	The philosophy of IWL to be an engineering inspection under the direction of the Responsible Engineer is contained in this revised subarticle. This individual will be accountable for the entire inspection program, which will meet or exceed the level of quality a safety defined in the 1992 Edition. The specific changes to IWL-2310 and IWL-2320 will be discussed below.
2310	(a) Replaced VT-3C and VT-1C visual examination terminology with new general and detailed examination terms.	The VT-3C and VT-1C inspections of IWA have been replaced by Owner (Responsible Engineer) defined general and detailed visual exams, respectively. The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-L1 to ensure that industry-wide consistency is maintained with respect to containment visual examinations. The definition of critical examination items and acceptable conditions has not changed, such that any conditions adversely affecting quality or safety are not impacted by this change.

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
2310 (cont.)	<p>(b) Eliminated reference to IWA-2210 for illumination levels, examination distances and resolution requirements.</p> <p>(c) Replaced reference to IWA-2300 for concrete examination personnel qualification requirements with provisions for the owner to define the examination personnel qualification requirements.</p>	<p>10CFR50.55a(b)(2)(x)(B) mandates a qualification of the remote examination procedure for Subsection IWE. The lighting and resolution qualification requirements for IWL will be developed similar to the procedures used for IWE.</p> <p>General and Detailed Visual exams will be developed to identify areas of concrete deterioration and distress as defined in ACI 201.1.</p> <p>The general and detailed visual examinations are equivalent to the VT-3C and VT-1C exams in terms of assessing the condition and potential for deterioration within the containment system.</p> <p>The use of owner defined inspection qualifications allows for the involvement of qualified engineering personnel with backgrounds in programs such as the Maintenance Rule, R.G. 1.135, and Appendix J. This provides for a containment inspection program that is performed by individuals with knowledge in containment degradation mechanisms.</p> <p>The Containment Visual Examination Personnel will be certified with our written practice. It will satisfy the requirements of SNT-TC-1A and ANSI/ANST CP-189. Certified personnel will have demonstrated skill, demonstrated knowledge, document training and documented experience required to properly perform the duties of a specific job.</p> <p>The Responsible Engineer has accountability for personnel qualification, and all the requirements are contained within IWL.</p>

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
2310 (cont.)		The overall impact of the changes in IWL-2310 results in an inspection program, which is consistent with other containment monitoring programs, and thus provides an equivalent level of quality and safety as the 1992 Edition.
2320	<p>Changed wording slightly.</p> <p>Made the ASME Section XI generic change from repair and or replacement to repair/replacement activities.</p> <p>Added a responsibility for the Responsible Engineer to review certain pressure test procedures.</p>	<p>Non significant - clarifies wording</p> <p>Non significant</p> <p>The added pressure test responsibilities for the Responsible Engineer ensures proper performance of pressure testing activities.</p>
2400	No change	None
2410	Added to (c) condition, which allows for deferral of concrete visual exams to the next scheduled plant outage for inaccessible portions of concrete surface.	This change insures that all surfaces that can be inspected are examined, but recognizes the personnel safety of the inspectors. This change increases the level of quality and does not adversely affect the safety of the Containment Inspection Program.
2420	No change	None
2421	Changed wording for sites with more than one plant. Changed frequencies by adding "and every 10 years thereafter".	Non significant - clarifies wording and accommodates plant life extensions.
2500	No change	None
2510	Changed heading.	Non significant

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
2510 (cont.)	<p>Eliminated the reference to VT-3C and VT-1C and refers to the general and detailed visual exams of IWL-2310.</p> <p>Adds the requirement to (b) that the Responsible Engineer will designate areas as suspect and requiring additional examinations.</p> <p>Adds the requirement (c) for a visual examination of all tendon anchorage areas and tendon end caps shall be examined for specific conditions.</p>	<p>The conclusion that this change to owner defined inspection types has no adverse impact on the level of quality or safety is reached in the IWL-2310 discussion.</p> <p>Increases the level of quality and safety of the examinations.</p> <p>Increases the level of quality of the exams associated with the tendon anchorage and end caps. This requirement is consistent with the rule in 10CFR50.55a. This change does not apply to PSE&G.</p> <p>Overall the changes made in this subarticle improve the level of quality and do not adversely affect the safety of the containment inspection plan described in the 1992 Ed.</p>
2520	No change	None
2521	No change	None
2522	Changed the heading and added a subparagraph to address tendon elongation.	The added details ensure proper tendon examinations. However, these changes do not apply to PSE&G.
2523	No change	None
2524	Eliminated the VT-1 exam and replaced it with the detailed visual exam described in IWL-2310 above.	This change is consistent with the changes described in IWL-2310 above, and the change in IWE 2310, which eliminated the VT-1 exam and replaced with a detailed visual exam.

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
2524 (cont.)		This change does not affect the level of quality or safety of the inspection program previously described in the 1992 Ed. However these changes do not apply to PSE&G.
2525	Changed wording for sample analysis.	Non significant
2526	Added a subparagraph addressing replacement of corrosion protection medium.	The new paragraph provides the Responsible Engineer some options from which to specify corrosion medium replacement. This change adds to the level of quality and does not adversely impact the safety of the inspection program described in the 1992 Ed. However, these changes do not apply to PSE&G containments.
3000	No change	None
3100	No change	None
3110	No change	None
3111	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3112	No change	None
3113	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3120	No change	None
3200	No change	None
3210	Removed the word concrete from the heading	Non significant

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
3211	<p>Added tendon end and anchorage areas to the scope of the subparagraph and added corrosion protection medium leakage and end cap deformation as acceptance criteria attributes.</p> <p>ASME Section XI generic change from repair and or replacement to repair/replacement activities.</p>	<p>The acceptance criteria has expanded to recognize that the surface area being examined per IW-2510 includes the concrete surrounding the tendon end anchorage, and the tendon end caps. This increases the overall quality of the exam, and is consistent with the rule in 10 CFR 50.55a. However, these changes do not apply to PSE&G containments.</p> <p>Non significant.</p>
3212	No change	None
3213	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3220	No change	None. However, these changes do not apply to PSE&G containments.
3221	<p>Added acceptance criteria attributes for unbonded post-tensioning systems in the following areas:</p> <p>3221.1(c) evaluates the predicted force for the next scheduled exam meets the minimum design prestress force.</p> <p>3221.1(d) compares the elongation with the last measurement and specifies that it can not vary by more than 10%.</p>	<p>The additions to the acceptance criteria of IWL-3221 have provided further assurance that the Responsible Engineer will evaluate all potential conditions that could impact the post-tensioning system integrity. These enhancements to the 1998 Edition increase the level of quality of the inspection program and has no adverse impact on the safety of the inspection program described in the 1992 Edition. These additions are consistent with the requirements of the rule as stated in 10CFR 50.55a.</p> <p>However, these changes do not apply to PSE&G containments.</p>

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
3221 (cont.)	3221.3(e) added evidence of free water as an unacceptable condition. 3221.4 added criteria to compare the difference of the amount of corrosion protection medium removed with that replaced.	
3222	No change	None
3223	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3300	No change	None
3310	Added applicability for other plants at the same site. ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant Non significant
3320	Deleted paragraph, which addressed engineering evaluations being subject to review by authorities.	Non significant - there were no submittal or retention requirements changed by the deletion of the subparagraph. NRC Rulemaking (Page 41312 of Federal Register dated August 8, 1996, Volume 61, Number 154, Rules and Regulations) states in part, "Licensees do not have to submit to the NRC staff for approval of their containment inservice inspection program which was developed to satisfy the requirements of Subsection IWE and IWL with specified modifications and a limitation. PSE&G will maintain required documentation on site for review and audit.
4000	ASME Section XI changes from repair and or replacement to repair/replacement activities.	Non significant - all related repair and replacement requirements have been consolidated into IWL-4000.

Para-Graph	Changes between IWL 1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
4100	No change	None
4110	<p>Exempted grease cups and installation screws from the scope.</p> <p>ASME Section XI generic change from repair and or replacement to repair/replacement activities.</p>	<p>Non significant - the exempted items are non structural items and the exemption of these items is consistent with the ASME position on other such items, i.e. seals, gaskets.</p> <p>However these exemptions do not apply to PSE&G containments.</p> <p>Non significant</p>
4120	<p>Removed (a), (b), (c).</p> <p>Added "/replacements activities", "/Replacement", and "Plan".</p> <p>Changed IWA-4140 to IWA-4150.</p> <p>Deleted (b) repairs shall be completed in accordance with the Repair Plan of IWL-4200.</p>	<p>Non significant. Added for clarification.</p> <p>Non significant</p> <p>Non significant – IWL-4200 still applies.</p>
4200	ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant
----	Added a new paragraph 4210 to require Repair/Replacement Plans to be developed under the direction of a Responsible Engineer per IWL-2300.	Non significant -this is a paragraph numbering change from the '92 Ed.
4210	Changed paragraph number to 4220, removed the word repair from heading and changed referenced paragraph numbers consistent with the addition of a new paragraph 4210 above.	Non significant

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
4210 (cont.)	<p>Changed wording consistent with the changes to IWL-2310 addressed above.</p> <p>ASME Section XI generic change from repair and or replacement to repair/replacement activities.</p> <p>Changed repair material to new material in several places.</p>	<p>Non significant</p> <p>Non significant</p> <p>Non significant</p>
4220	Changed paragraph number to 4230.	Non significant
4230	<p>Changed paragraph number to 4240 and clarified by removing the word repair.</p> <p>ASME Section XI generic change from repair and or replacement to repair/ replacement activities.</p> <p>Added detailed requirements for the contents of a repair/ replacement plan.</p>	<p>Non significant</p> <p>Non significant</p> <p>The 1998 Edition is more prescriptive in terms of the details that are expected to be addressed in the repair/replacement plan developed by the Responsible Engineer. This increases the level of quality of the plan developed under the 1998 Edition. However, these changes do not apply to PSE&G containments.</p>
4300	ASME Section XI generic change from repair and or replacement to repair/ replacement activities.	Non significant
5000	No change	None

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
5100	ASME Section XI generic change from repair and or replacement to repair/ replacement activities.	Non significant
5200	No change	None
5210	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
5220	No change	None
5230	Changed wording by removing some specific IWE related requirements while maintaining the reference to IWE-5000.	Non significant - the removed wording was IWE specific and is contained in IWE-5000.
5240	Deleted paragraph that addressed the scheduling of pressure tests.	Non significant - the schedule of pressure tests are contained in IWE-5000 as referenced in IWL-5230.
5250	<p>Changed wording regarding the role of the Responsible Engineer in pressure test activities.</p> <p>Replaced the VT-1 exam with a reference to IWL-2310 (b) for a detailed visual.</p> <p>ASME Section XI generic change from repair and or replacement to repair/replacement activities.</p>	<p>The clarified role of the Responsible Engineer ensures proper pressure test procedures and examinations.</p> <p>The acceptability of the change to an owners defined detailed visual inspection is discussed in the IWL-2310 section.</p> <p>Non significant</p>
5260	Changed heading from Corrective Measures to Corrective Action.	Non significant

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
5260 (cont.)	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
5300	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
7000	Deleted Article including IWL-7100, 7110, 7120 consistent with the IWL-4000 changes above.	Non significant - all related repair and replacement requirements have been incorporated into IWL-4000.
Table 2500-1	<p>Changed item L1.11 from all areas to all accessible areas.</p> <p>Changed Item L1.12 from Visual, VT-1C to general examination to all suspect areas.</p> <p>Replaced the VT-3C, VT-1C, and the VT-1 exams with general visual and detailed visual, respectively, as described in the paragraph IWL-2310 changes above.</p>	<p>The addition of accessible provides consistency with the requirements of the scope of IWL-1000, and does not alter the level of quality of the inspection plan described in the 1992 Edition.</p> <p>This is a less stringent inspection. PSE&G will perform a detailed inspection on suspect areas to be more consistent with the intent of the code.</p> <p>The acceptability of the change to an owners defined general and detailed visual inspection is discussed in the IWL-2310 section.</p>
Table 2521-1	Changed inspection periods to state every 5th year in lieu of listing out each year and changed note 2 for having to meet acceptance criteria from "each of the earlier inspections" to "for the last 3 inspections".	Non significant - accommodates plant life extensions for tendon examinations. However, these requirements do no apply to PSE&G containments.

Para- Graph	Changes between IWL 1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
Table 2525-1	Added optional test methods for corrosion protection medium analysis	Non significant - additional test method options provides for more practical test implementation. However, these requirements do not apply to PSE&G containments.

ATTACHMENT 1 TO LR-990409
RELIEF REQUESTS RR-E1 AND RR-L1

RELIEF REQUEST RR-E1

NRC Approved (Yes or No): _____ Date _____

Component Description:

Metallic containment shell and penetration liners and their integral attachments

ASME Code Class:

MC

ASME Examination Requirement:

1992 Edition, 1992 Addenda of Subsection IWE, "Requirements for Class MC and Metallic Liners of Class CC Components of Light-Water Cooled Power Plants", of Section XI, Division 1, of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code).

Basis for Relief:

In the Federal Register, dated August 8, 1996 (61 FR 41303), the NRC amended its regulations to incorporate, by reference, the ASME Code Section XI, 1992 Edition and Addenda of Subsection IWE for expedited examination of containments. Considerable comments were provided by the industry to this rule change, and the NRC staff took appropriate action to provide exceptions to allow licensees a flexible implementation schedule and relaxation in specific areas to meet these requirements. Based on the effective date of the rule change of September 9, 1996, licensees have until September 9, 2001 to have a Containment ISI program in place and to complete the first period inspection requirements contained in Section XI.

ASME has made extensive changes to the Subsection IWE contained in the 1992 Edition and Addenda concerning the examination requirements for containments. These changes were based on industry concerns and comment and are now published in the 1998 Edition of the ASME Code Section XI. Publication of the 1998 Edition by the ASME, with NRC participation, provides the basis for the approval of these new 1998 Edition requirements that have been determined by the ASME consensus process to provide an acceptable level of quality and safety.

The proposed alternative is to utilize the current ASME approved 1998 Edition of Subsection IWE of Section XI in its entirety as augmented by the additional requirements contained in the "Alternative Examinations" section below. Utilizing the 1998 Edition of IWE in its entirety incorporates other exceptions to the 1992 addenda stated in NRC rulemaking and provides more cohesiveness than could be achieved by requesting relief on several individual subjects separately. The examination requirements of the 1998 Edition of the Code were developed in accordance with the ASME Code committee process with input from interested parties, other utilities, manufacturers, engineering organizations, Authorized Nuclear Inspection Agencies, EPRI and the NRC. The updating of requirements by this consensus process is intended to ensure the continued safe operation of nuclear power plants and specifically, in this case, ensures the continued leak-tight and structural integrity of metallic containment components. Therefore, the overall level of plant quality and safety will not be adversely affected by utilizing the requirements of the 1998 Edition of IWE.

PSE&G has determined that the use of the 1998 Edition requirements as augmented by the additional requirements contained in the "Alternative Examinations" section below in lieu of the 1992 Edition and Addenda requirements for our Containment ISI program represents an equivalent level of quality and safety. A line by line comparison was made of the 1998 Edition to the 1992 Edition and Addenda. The 1998 Edition provides an equivalent, and in some cases an increased, level of quality and safety to our proposed containment inspection program.

Salem Generating Station Unit 1 is in its 2nd Interval, 3rd Period, Salem Generating Station Unit 2 is in its 2nd Interval, 2nd Period, and Hope Creek Generating Station Unit 1 is in its 2nd Interval, 1st Period. Based on schedules and the requirement of the new rulemaking for full implementation by September 9, 2001, a containment ISI examination program must be established immediately. Implementing this relief request at the present time would reduce the overall impact to resources (PSE&G's and the NRC's) compared to incorporating the mandated edition and addenda of IWE in conjunction with the initial establishment of a containment ISI program followed by updating to a later edition and or addenda or to a series of Code Cases at a later date (e.g., upon either formal NRC endorsement or during the next ten year ISI plan issuance).

Alternative Examinations:

The 1998 Edition of Subsection IWE provides the alternate examinations of this relief request. The requirements of the 1998 Edition of the Code are augmented by the requirements described below.

The PSE&G program governing containment visual examinations and personnel qualifications includes the following:

1. "General Visual Examination" criteria are developed from VT-3 procedures that are used to examine ASME Class 1, 2, and 3 components.
2. Pressure retaining bolting recording criteria are developed from the VT-1 procedure used for Class 1 bolting.
3. Moisture barriers are examined for tears, cracks or damage that permits moisture to intrude.
4. Detailed Visual exam criteria are developed similar to VT-1 and VT-3 procedures.
5. The containment visual examination procedure qualification requirement for lighting and illumination are similar to, and developed from, the procedures used for VT-1 and VT-3 examinations of ASME Class 1, 2, and 3 components.
6. In applications where remote visual examination systems are to be used, those systems will be demonstrated to have a resolution capability at least equivalent to that attainable by direct visual examination.
 - Containment visual examination procedures will be demonstrated to the authorized nuclear inspector for capability to detect flaws and degradation levels defined within the procedure, and
 - The containment visual examination program is developed from the guidelines of SNT-TC-1A and ANSI/ANST CP-189. Certified personnel will have "demonstrated skill, demonstrated knowledge, documented training, and documented experience required to properly perform the duties of a specific job."

The PSE&G Program for examination of paints or coatings requires that procedures exist to ensure the following:

1. In areas important to containment integrity, coating deficiencies identified on the containment liner are brought to the attention of the IWE Responsible Individual; and
2. Base metal conditions that could challenge the structural integrity of the containment are examined by properly qualified personnel.

The PSE&G Program requires that the ultrasonic examinations required by IWE 3511.3 apply to Class CC components as well as to Class MC components.

Anticipated Impact on the Overall Level of Plant Quality and Safety:

None

RELIEF REQUEST RR-L1

NRC Approved (Yes or No): _____ Date _____

Component Description:

Reinforced concrete and post-tensioning systems of Class CC components.

ASME Code Class:

CC

ASME Examination Requirement:

1992 Edition, 1992 Addenda of Subsection IWL, "Requirements for Class CC Concrete Components of Light-Water Cooled Power Plants", of Section XI, Division 1, of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code).

Basis for Relief:

In the Federal Register, dated August 8, 1996 (61 FR 41303), the NRC amended its regulations to incorporate by reference the ASME Code Section XI, 1992 Edition and Addenda of Subsection IWL for expedited examination of containments. Considerable comments were provided by the industry to this rule change and the NRC staff took appropriate action to provide exceptions to allow licensees a flexible implementation schedule and relaxation in specific areas to meet these requirements. Based on the effective date of the rule change of September 9, 1996, licensees have until September 9, 2001 to have a Containment ISI program in place and to complete the first period inspection requirements contained in Section XI.

ASME has made extensive changes to the Subsection IWL contained in the 1992 Edition and Addenda concerning the examination requirements for containments. These changes were based on industry concerns and comments and are now published in the 1998 Edition of the ASME Code Section XI. The 1998 Edition provides the Responsible Engineer, adds a requirement to train personnel, and establishes the examination categories of general and detailed visual. The 1998 Edition also provides additional inspections of tendon end caps, as well as guidelines to inspect for leakage of corrosion protection medium. Publication of the 1998 Edition by the ASME, with NRC participation, provides the basis for the approval of these new 1998 Edition requirements that have been determined by the ASME consensus process to provide an acceptable level of quality and safety.

The proposed alternative is to utilize the current ASME approved 1998 Edition of Subsection IWL of Section XI in its entirety as augmented by the additional requirements contained in the "Alternative Examinations" section below. Utilizing the 1998 Edition of IWL in its entirety incorporates other exceptions to the 1992 addenda stated in NRC rulemaking and provides more cohesiveness than could be achieved by requesting relief on several individual subjects separately. The examination requirements of the 1998 Edition of the Code were developed in accordance with the ASME Code committee process with input from interested parties, other utilities, manufacturers, engineering organizations, Authorized Nuclear Inspection Agencies, EPRI and the NRC. The updating of requirements by this consensus process is intended to ensure the continued safe operation of nuclear power plants and specifically, in this case, ensures the continued leak-tight and structural integrity of concrete containment components. Therefore, the overall level of plant quality and safety will not be adversely affected by utilizing the requirements of the 1998 Edition of IWL.

PSE&G has determined that the use of the 1998 Edition requirements as augmented by the additional requirements contained in the "Alternative Examinations" section below in lieu of the 1992 Edition and Addenda requirements for our Containment ISI program represents an equivalent level of quality and safety. A line by line comparison has been made of the 1998 Edition to the 1992 Edition and Addenda. The 1998 Edition provides an equivalent, and in some cases an increased, level of quality and safety to our proposed containment inspection program.

Salem Generating Station Unit 1 is in its 2nd Interval, 3rd Period, Salem Generating Station Unit 2 is in its 2nd Interval, 2nd Period, and Hope Creek Generating Station Unit 1 is in its 2nd Interval, 1st Period. Based on schedules and the requirement of the new rulemaking for full implementation by September 9, 2001, a containment ISI examination program must be established immediately. Implementing this relief request at the present time would reduce the overall impact to resources (PSE&G's and the NRC's) compared to incorporating the mandated edition and addenda of IWL in conjunction with the initial establishment of a containment ISI program followed by updating to a later edition and or addenda or to a series of Code Cases at a later date (e.g., upon either formal NRC endorsement or during the next ten year ISI plan issuance).

Alternative Examinations:

The 1998 Edition of Subsection IWL provides the alternate examinations of this relief request. The requirements of the 1998 Edition of the Code are augmented by the requirements described below.

The PSE&G program governing containment visual examinations and personnel qualifications includes the following:

1. General and Detailed Visual Examinations are developed to identify areas of concrete deterioration and distress as defined in ACI 201.1 and are equivalent to the VT-3C and VT-1C examinations in terms of assessing the condition and potential for deterioration within the containment system.
2. In applications where remote visual examination systems are to be used, those systems will be demonstrated to have a resolution capability at least equivalent to that attainable by direct visual examination.
 - Containment visual examination procedures will be demonstrated to the authorized nuclear inspector for capability to detect flaws and degradation levels defined within the procedure, and
 - The containment visual examination program is developed from the guidelines of SNT-TC-1A and ANSI/ANST CP-189. Certified personnel will have "demonstrated skill, demonstrated knowledge, documented training, and documented experience required to properly perform the duties of a specific job."

The PSE&G Program requires a detailed inspection on suspect areas (Item L1.12).

Anticipated Impact on the Overall Level of Plant Quality and Safety:

None

ATTACHMENT 2 TO LR-990409

IWE COMPARISON

IWE COMPARISON

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
IWE-1000	No change	None
1100	ASME Section XI generic wording change from repair, replacement and or modification terms to repair/replacement activities.	Non significant
1200	No change	None
1210	No change	None
1220	Changed "containment" to "containment system"	Non significant
1230	No change	None
1231	<p>Removed Item 3) - "single welded butt joints from the weld side" - as a specific item required to remain accessible for the life of the plant.</p> <p>Changed wording from "80% of the surface area" to "80% of the pressure retaining boundary" and stated exclusions from that 80%.</p> <p>Reworded paragraph b).</p>	<p>The single welded butt joints were removed as a separately listed examination item and is now included within the item for the pressure retaining boundary as discussed in the changes to Table IWE-2500-1 below. Examination of pressure retaining welds and pressure retaining dissimilar metal welds are optional as specified in 10CFR50.55a(b)(2)(x)(C).</p> <p>The exclusions from 80% incorporate an existing Table IWE 2500-1 note and clarify that areas made inaccessible during construction are also excluded.</p> <p>Change to b) is for clarity and is non significant.</p>
1232	ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
1232 (cont.)	Deleted paragraph (a)(3) addressing inaccessible welded joints.	Welded joints were removed as a separately listed examination items and are now included within the item for the pressure retaining boundary as discussed in the changes to Table IWE-2500-1 below. Examination of pressure retaining welds and pressure retaining dissimilar metal welds are optional as specified in 10CFR50.55a(b)(2)(x)(C).
1240	No change	None
1241	Added stiffeners and, by reference to IWE-2420, flaws accepted by evaluation as areas requiring augmented examination.	Clarifies the intent of the Code that areas identified in IWE 2420(b) require an augmented exam in the next period.
1242	Changed (c) to (b)	Non significant
2000	No change	None
2100	Added new Subarticle 2100- "General"-to provide reference to IWA-2000 with exceptions from IWA-2210, 2300, 2500, and 2600.	The containment examinations are completely defined within the jurisdiction of IWE, and thus reference to IWA 2210, and IWA 2300 are not applicable. However, to ensure that industry-wide consistency is maintained with respect to containment visual examinations and personnel qualifications, the PSE&G program governing these areas is described in the "Alternative Examinations" section of Relief Request RR-E1. The exceptions to IWA 2500, and IWA 2600 are to weld base exams, which do not apply to IWE. The examinations of IWE in the 1998 Edition coupled with the described PSE&G program governing containment visual examinations and personnel qualifications provide an equivalent level of quality an safety as defined in IWA of the 1992 Edition.
2200	Deleted paragraph c), which provided allowances for the use of shop or field examinations in lieu of on site preservice examinations.	The deletion of an allowance for an alternative examination ensures that proper preservice examinations are performed and documented.

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2200 (cont.)	<p>Deleted paragraph g), which required the condition of new coating to be documented in the preservice examination record.</p> <p>ASME XI generic change from repair and or replacement to repair/replacement activities.</p>	<p>The deletion of the requirement to document the condition of "new" non pressure retaining coatings in the preservice examination record provides for more efficient program implementation without affecting component integrity. See the discussion under Paragraph 2500 below for additional discussion on PSE&G's coating program.</p> <p>Non significant.</p>
2300	Added new Subarticle 2300 - "Visual Examination, Personnel Qualification and Responsible Individual"	The philosophy of IWE to be an engineering inspection under the direction of the Responsible Individual is contained in this new subarticle. The most significant change is the definition of the roles and responsibilities of the Responsible Individual. This individual will be accountable for the entire inspection program, which will meet or exceed the level of quality and safety defined in the 1992 Edition. The specific paragraphs added will be discussed below. Also, see discussion under IWE 2100 above.
2310	Added new paragraph 2310 – Visual Examinations - which a) states that the owner shall define requirements for visual examination of containment surfaces; b) and c) defines general and detailed visual examinations; and d) and e) provides the requirements for the conditions of areas affected by repair/replacement activities, painted or coated areas, non coated areas, pressure retaining materials and moisture barriers.	The VT-3 and VT-1 inspections of IWA have been replaced by Owner (Responsible Individual) defined general and detailed visual exams, respectively. As identified in IWE 2100 above, to ensure that industry-wide consistency is maintained with respect to containment visual examinations and personnel qualifications, the PSE&G program governing these areas is described in the "Alternative Examinations" section of Relief Request RR-E1. The definition of critical examination items and acceptable conditions has not changed, such that any conditions adversely affecting quality or safety are not impacted by this change.

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2310 (cont.)		<p>The general and detailed visual examinations are equivalent to the VT-3 and VT-1 exams in terms of assessing the general condition and potential for deterioration within the containment system.</p> <p>Visual criteria will be developed from VT-3 procedures that are used to examine ASME Class 1, 2, and 3 components.</p> <p>10CFR50.55a(b)(x)(B) mandates qualification of the remote examination procedure for Subsection IWE. The lighting and resolution qualification requirements will be developed and similar to the procedures used for Code Class 1,2 and 3 components.</p> <p>Pressure retaining bolting recording criteria will be developed from the VT-1 procedure used for Class 1 bolting.</p> <p>Moisture barriers will be examined for tears, cracks or damage that permits moisture to intrude.</p> <p>Detailed Visual exam criteria will be developed similar to VT-1 and VT-3 procedures</p> <p>The use of owner defined inspection types allows for the involvement of qualified engineering personnel with backgrounds in programs such as the Maintenance Rule, containment coatings, and Appendix J. This provides for a containment inspection program that is performed by individuals with knowledge in containment degradation mechanisms.</p> <p>The code provides some specific examples of unacceptable conditions when performing "detailed" exams. These types of conditions were previously stated in IWE 3000.</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2310 (cont.)		The overall impact of the changes in IWE 2310 coupled with the PSE&G program governing containment visual examinations and personnel qualifications is a inspection program that is consistent with other containment monitoring programs, and thus provides an equivalent level of quality and safety as the 1992 Edition.
2320	<p>Added new paragraph 2320 - "Responsible Individual" - which</p> <p>a) states the qualification requirements of the responsible individual and</p> <p>b) defines the responsibilities of the responsible individual for the development of plans and procedures; instruction, training and approval of visual examination personnel; performance or direction of visual examinations; evaluation of results and documenting results.</p>	The qualifications along with the roles and responsibilities of the Responsible Individual are clearly delineated within this subarticle. This section clearly states the expectations for the Responsible Individual, and brings accountability for the entire program to an individual knowledgeable in containment and their degradation mechanisms. This individual will develop the inspection plans, train personnel, direct or perform inspections, and finally evaluate the results. The cohesiveness of the inspection program has been improved by the addition of this subarticle. This, along with the containment visual examinations and personnel qualifications program described in the "Alternative Examinations" section of Relief Request RR-E1, results in an increase of the level of quality and thus no adverse impact on safety.
2330	Added new paragraph 2330 - "Personnel Qualification" - which	Adding requirements for the owner to define personnel qualification requirements is consistent with the philosophy that the Responsible Individual must qualify the inspection personnel. The code recognizes that the qualifications may differ depending on the containment type and even the inspection period in question.

Para- Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2330 (cont.)		The Containment Visual Examination Personnel will be certified with the PSE&G program and will satisfy the requirements of SNT-TC-1A and ANSI/ANST CP-189. Certified personnel will have "demonstrated skill, demonstrated knowledge, document training and documented experience required to properly perform the duties of a specific job." This change is consistent with the other changes discussed above and serves to improve the level of quality and thus has no adverse impact on safety.
2400	No change	None
2410	No change	None
2411	Deleted a subparagraph discussing decreasing and extending inspection periods.	The deleted subparagraph eliminates duplication with IWA-2400.
2412	Deleted a subparagraph discussing decreasing and extending inspection periods. Added a subparagraph detailing requirements for the scheduling of added welds or components.	The deleted subparagraph eliminates duplication with IWA-2400. The added requirements for the scheduling of added welds or components ensure that a representative sampling of examinations is maintained. There are no plans to add items to the IWE inspection program. If items were added to IWE program, the methodology would be essentially the same as that for adding items to the ASME Code Class 1,2 or 3 ISI program.
2420	Removed repaired areas as areas requiring reexaminations during the next successive inspection period, and changed (c) to require that areas that remain essentially unchanged for the next inspection period no longer require augmented examinations. The 1992 Edition required three consecutive examinations to reach this conclusion.	Repaired areas that are likely to experience accelerated degradation and aging are already subject to augmented examinations per IWE-1241. Some repairs may be located in non augmented areas and may be necessary to correct physical damage caused by construction or craft activities. The evaluation that determines that flaws or areas of degradation remain unchanged is sufficient to conclude that there are no active corrosion mechanisms present.

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2420 (cont.)		<p>The requirements for reexamination of augmented examination areas has been revised to be consistent with Class 1 and 2 such that only one additional examination is required during the next inspection period before the item can be removed from an Owner's augmented examination program. Areas may be subject to augmented examination during successive ISI intervals if an Owner determines that conditions that could cause degradations in these areas still exist. The ability to designate an area as augmented during successive examinations ensures that the area is monitored for as long as necessary.</p> <p>These changes do not adversely affect the level of quality or safety within the containment inspection program.</p>
2430	Deleted the paragraph – Additional Examinations – which discussed adding examination items of the same category if flaws or areas of degradation are identified during an examination.	The changes to Table IWE 2500-1 eliminate several examination categories. The categories that remain all require 100% examination. Therefore no items are available for additional examinations.
2500	<p>Reworded the existing subparagraphs consistent with the previous paragraph changes and with Table IWE-2500-1 changes.</p> <p>Deleted the requirement to examine paint or coatings prior to removal.</p>	<p>The reworded subparagraphs add clarity and provide consistency within IWE.</p> <p>The code jurisdiction is the pressure boundary, and not the non pressure retaining coatings. Eliminating this requirement does not adversely impact the level of quality or the safety of the containment inspection program. The PSE&G coating program that is in place has the Coatings Program Engineer and IWE Responsible Engineer reporting to the same person.</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
	<p>Replaced the requirement for one foot square grids in thickness measurements with a reference to Table IWE 2500-2.</p> <p>Added a reference to IWE-5000 for pressure tests.</p>	<p>Procedures are in place that require notification to the IWE Responsible Individual for coating deficiencies or containment integrity issues. Prior to final disposition of the coating deficiency by the Coatings Program Engineer, the IWE Responsible Engineer has the opportunity to establish visual examination hold points for any point in the coating removal and reapplication process. These procedural requirements ensure that base metal conditions that could challenge the structural integrity of the containment are identified and appropriate action taken prior to recoating the plant containment liner.</p> <p>The new Table IWE 2500-2 provides more detailed requirements for thickness measurement and is discussed below.</p> <p>The added reference to IWE-5000 provides direction for the performance of pressure test.</p>
2600	Deleted a sentence discussing compatibility of paint and coating systems and a requirement to examine new paint.	<p>The removal of this sentence addressing "new" non pressure retaining paint and coatings provides for more efficient containment ISI Program implementation without adversely affecting component integrity. The compatibility of paint and coating systems with the existing system, and the examination of newly applied coatings, is covered in the PSE&G nuclear coatings Program.</p> <p>The code jurisdiction is the pressure boundary, and not the non pressure retaining coatings. Eliminating this requirement does not adversely impact the level of quality or the safety of the</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
2600 (cont.)		containment inspection program. PSEG Coating program in place has the Coatings Program engineer and IWE Responsible engineer under the same person. Procedures are in place that requires notification to the IWE Responsible individual for coating deficiencies or containment integrity issues.
3000	No change	None
3100	Removed the word nondestructive from the heading.	Non significant
3110	No change	None
3111	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500. Removed reference to paragraph IWE-3115.	Table IWE-3410-1 and paragraphs IWE-3115 have been deleted and are discussed below. IWE-3500 adequately captures all of the information previously contained in the deleted table and paragraph.
3112	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500. ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3114	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500. ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3115	Deleted subparagraph, which addressed repair programs and evaluations being subject to review by authorities.	Non significant - there were no submittal or retention requirements changed by the deletion of the subparagraph.
3120	Removed the word nondestructive from the heading.	Non significant

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
3121	Removed the word nondestructive and deleted references to IWE-3124 and IWE-3125 for the acceptance of flaws for continued service.	The removal of nondestructive is non-significant. The referenced subparagraphs did not actually apply to the acceptance of flaws for continued service.
3122	Replaced the references to Table IWE-2500-1 and IWE-3000 with a reference to Subarticle IWE-3500. ASME XI generic change from repair and or replacement to repair/ replacement activities. Reworded several sentences. Deleted sentence, which addressed evaluations being subject to review by authorities.	Non significant - the changes are for clarity and to reconcile paragraphed numbering. There was no submittal or retention requirements changed by the deletion of the sentence addressing evaluation reviews. See IWE 3125 discussed below.
3124	Replaced the reference to Table IWE-3410-1 with a reference to Subarticle IWE-3500. ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3125	Deleted subparagraph, which addressed repair programs and reexamination results being subject to review by authorities.	No submittal or retention requirements changed by the deletion of the subparagraph. NRC Rulemaking (Page 41312 of Federal Register dated August 8, 1996, Volume 61, Number 154, Rule and Regulations) states in part, "Licensees do not have to submit to the NRC staff for approval of their containment inservice inspection program which was developed to satisfy the requirements of Subsection IWE and IWL with specified modifications and a limitation. PSE&G will maintain required documentation on site for review or audit.
3130	No change	None

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
3200	Added a statement to the end of the paragraph that states supplemental surface or volumetric examinations are required when specified by the engineering evaluation.	The added statement clarifies requirements and eliminates potential duplication or contradiction of requirements in stating that the engineering evaluation requirements of IWE-3122 determine what and when supplemental examinations are required.
3400	No change	None
3410	Replaced the reference to Table IWE-3410-1 with a reference to Subarticle IWE-3500.	Non significant
3430	No change	None
3500	No change	None
3510	<p>Reconciled acceptance standards with the IWE-2300 changes discussed above and the Table IWE-2500-1 changes discussed below by:</p> <p>Adding the requirement that the owner shall define acceptance criteria for visual examination of containment surfaces;</p> <p>Removing the wording for responsible individual and for personnel qualifications;</p> <p>Combining 3510.2 and 3510.3 and removing specific VT-1 and VT-3 examination attribute wording; and</p>	<p>Previously, examination requirements were contained in the acceptance standards of IWE-3500. This section has been restructured by the addition of IWE-2300 as discussed above.</p> <p>This change directly corresponds to the addition of IWE-2310(a) discussed above. See discussion under IWE 2100, and 2310 above for additional discussion and justification.</p> <p>This change directly corresponds to the addition of IWE-2320 discussed above.</p> <p>These changes directly correspond to the addition of IWE-2310(e)(1) and (2) discussed above.</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
3510 (cont.)	<p>Incorporating IWE-3511, 3513, 3514, and 3515 with changes into IWE-3510.</p> <p>By the incorporation of 3515 the acceptance standards for bolting were changed from referencing material specs and torque or tension limits to conditions affecting leak tight or structural integrity.</p>	<p>These changes correspond to the changes in the examination categories of Table IWE-2500-1 as discussed below and to the removal of examination requirements from the acceptance standards paragraphs per the addition of IWE-2310 (e)(3) and (4) as discussed above.</p> <p>The resulting acceptance standards for bolting provide for more practical containment ISI program implementation without adversely affecting containment leak tight or structural integrity.</p>
3511	Deleted subparagraph, which addressed examination category E-B.	Examination category E-B has been incorporated into examination category E-A per the changes to Table IWE-2500-1 discussed below.
3512	<p>Renumbered subparagraph to IWE-3511. Reconciled acceptance standards with the IWE-2300 changes discussed above and the Table IWE-2500-1 changes discussed below</p> <p>Added the requirement that the owner shall define acceptance criteria for visual examination of containment surfaces</p> <p>Combined 3512.2 and 3512.3 with changes into 3511.2 and removed specific VT-1 examination attribute wording</p>	<p>The subparagraph was renumbered based on the deletion of previous IWE-3511 as discussed above. Previously, examination requirements were contained in the acceptance standards of IWE-3500. This section has been restructured by the addition of IWE-2300 as discussed above.</p> <p>This change directly corresponds to the addition of IWE-2310 (a) discussed above. See discussion under IWE-2300 and IWE-2310 above for justification.</p> <p>These changes directly correspond to the addition of IWE-2310 (e)(1) and (2) discussed above and eliminate potential duplication or contradiction of requirements.</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
3512 (cont.)	Reworded ultrasonic examination subparagraph.	This change is for clarity. The 1998 code specifically states MC and not CC. Metallic liner inspections will be done as required by IWE-3200. NRC Rulemaking (61FR41312, dated 8/8/96) states that metallic shell and penetration liners which are pressure retaining components and their integral attachments must meet the inservice inspection, repair and replacement requirements applicable to components which are classified as ASME Code MC.
3513 3514 3515	Deleted subparagraphs IWE-3513, 3514 and 3515, which addressed examination categories E-D, E-F, and E-G respectively.	Examination categories E-D, E-F and E-G have been incorporated into examination category E-A per the changes to Table IWE-2500-1 discussed below.
4000	No change	None
4100	No change	None
5000	No change	None
5200	No change	None
5210	No change	None
5220	ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant
5221	ASME XI generic change from repair and or replacement to repair/replacement activities. Removed the quotation of 10 CFR 50 Appendix J paragraph IV.A.	Non significant - the requirement to meet the requirements of the Appendix J paragraph referenced is not affected by removing the quoted App J paragraph.
5222	ASME XI generic change from repair and or replacement to repair/replacement activities. (b) changed repair to weld (c) added (DN25)	Non significant, DN25 is a standard measurement identification.

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
5240	Replaced a reference to IWA 5240 with requirements to perform detailed visual examination of repair/replacement areas during pressure tests.	The types of examinations performed in the containment program are all contained in IWE 2300. The requirements of IWA 5240 to detect evidence of leakage will be satisfied through the use of the detailed visual examination of IWE 2300. This change does not alter or impact the level of quality or safety of the containment inspection program.
5250	Changed Corrective Measures to Corrective Action in the heading. ASME XI generic change from repair and or replacement to repair/replacement activities. IWE-4000 now IWA-4000	Non significant
7000	No change	None
7100	No change	None
Table 2411-1	No change	None
Table 2412-1	Replaced the separate entries for 1st and successive intervals with one entry for all intervals. Added note: first period completion percentage for any exam category exceeds 34%, at least 16% of required exams shall be performed in the second period.	Non significant - The previous requirements for the 1 st and successive intervals were identical. Therefor combining the entries does not affect any requirements. Ensures allocations of exams are done through out the 10-year interval. No change in PSE&G's philosophy.
Table 2500-1 Exam Cat. E-A	Revised all examination categories.	

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
Table 2500-1 Exam Cat. E-A (cont.)	<p>Item E1.10: Added Note 1 to examine all accessible interior and exterior surfaces of class MC components, parts, and appurtenances, and metallic shell and penetration liners of Class CC components. A list of items is listed to consider for examination.</p> <p>Item E1.11: Revised frequency of examination from "prior to each Type A test" to "100% during each period".</p> <p>Item E1.12: Re-designated item from "accessible surface areas" to "wetted surfaces of submerged areas". Replaced examination method VT-3 with general visual.</p>	<p>Added for clarification. NRC rulemaking removes the emphasis from specific weld based examinations.</p> <p>Removing the requirement to coordinate examinations with Type A tests, and requiring a general visual during every inspection period is more restrictive. This change corresponds with the rule as stated in 10CFR50.55a.</p> <p>Replacing the accessible surface area designation (which is included in Item E1.11) with wetted surface areas (which were previously included in Item E1.12, Footnote 4) does not eliminate or reduce any required examination areas. The conditions of distress, which would be detected by a VT-3 exam, are the same conditions that will be detected by a general visual exam, as defined in IWE 2300. The requirement to perform a detailed exam on any suspect area has not changed. The new requirement to perform general visual exams every inspection period increases the total number of potential examinations on the containment surface in the interval. The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained with respect to containment visual examinations. The overall impact of this change is to increase the level of quality and does not adversely affect the safety of the containment inspection program.</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
Table 2500-1 Exam Cat. E-A (cont.)	<p>Item E1.20: Added BWR to item description. Replaced examination method VT-3 with general visual.</p> <p>E1.30 Added item for moisture barriers with a general VT required each period.</p> <p>All Item No.'s were replaced with reference to IWE-3510 for examination requirements with IWE-2310.</p> <p>Notes were revised to specifically include welds and bolting as part of the pressure retaining boundary requiring examination.</p>	<p>See the above for a description of the equivalency of the general visual to the VT-3, and the increased frequency of exams. This change has no impact on the level of quality or the safety of the containment inspection program.</p> <p>Moisture barriers were previously included in Examination Category E-D with a VT-3 required each interval. Examining moisture barriers more frequently will assure reliable detection of conditions adverse to containment integrity.</p> <p>Non significant - Previously some examination requirements were contained in IWE-3500. They now exist in IWE-2300 as discussed above.</p> <p>Welds and bolting were previously included in Examination Categories E-B, E-F and E-G. Including these items in the examination category for the containment pressure retaining boundary provides for more efficient program implementation. This change will not alter the level of quality or adversely affect the safety of the containment inspection program.</p>
Table 2500-1 Exam Cat. E-B	This examination category, which addressed pressure retaining welds, was deleted.	Pressure retaining welds are now included in Examination Category E-A as addressed above. Examination of pressure retaining welds are optional (See 10CFR50.55a(b)(2)(x)(C)). The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained.

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
<p>Table 2500-1 Exam Cat. E-C</p>	<p>Item E4.11: Replaced examination method VT-1 with detailed visual.</p> <p>E4.12 Added grid line intersections to description of parts examined. Changed examination method from volumetric to ultrasonic thickness.</p> <p>All Item No.'s: Added examination requirement paragraph number references. Updated acceptance standard references.</p> <p>Notes: Changed Note 2 from requiring augmented examination until an area remains unchanged for three consecutive inspection periods to the next inspection period. Deleted Note 3, which discussed inspection deferrals.</p> <p>Extent and Frequency of Examination 2500 (c) is changed to (b)</p>	<p>The conditions of distress or deterioration, that would be detected by a VT-1, are the same conditions that will be detected by a detailed visual exam, as defined in IWE 2300. The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained.</p> <p>The added wording clarifies inspection requirements and ensures repeatability in the location of subsequent thickness measurement points.</p> <p>Previously no references existed for examination requirements. These requirements have been added to IWE 2310 and 2500 as discussed above. Adding new references and updating paragraph numbers ensure proper requirements are applied to examinations.</p> <p>Three inspection periods cover a ten year interval. Performing augmented examinations for at least two periods while continuing general visual examinations each period provides for more efficient program implementation without adversely affecting component integrity. See discussion in 2420 above. Deletion of Note 3 is non significant.</p> <p>Non significant</p>

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
Table 2500-1 Exam Cat. E-D	Deleted examination category which addressed seals, gaskets and moisture barriers.	Moisture barriers have been included in Examination Category E-A as addressed above. The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained with respect to containment visual examinations. Seals and gaskets previously required examination once per an interval with an affective acceptance criteria of leak tightness. Leak tight integrity is verified during each 10CFR50 Appendix J leak test.
Table 2500-1 Exam Cat. E-F	Deleted this examination category which addressed dissimilar metal welds.	Dissimilar metal welds are now included in Examination Category E-A as addressed above. Examination of pressure retaining dissimilar metal welds are optional as specified in 10CFR50.55a(b)(2)(x)(C). The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained.
Table 2500-1 Exam Cat. E-G	E-G Deleted examination category which addressed pressure retaining bolting.	Pressure retaining bolting is now included in Examination Category E-A as addressed above. Pressure retaining bolting has been removed as a separate examination. Bolting is under Examination Category E-A and is done in place and not disassembled. Local pressure tests of bolted and gasketed joints performed in accordance with 10CFR50, Appendix J demonstrate leak-tight integrity. Examination of bolting in place is consistent with the requirements for ASME Code Class 1, 2 and 3 bolting. The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-E1 to ensure that industry-wide consistency is maintained.

Para-Graph	Changes between IWE1992 Edition/1992 Addenda and the 1998 Edition	Significance of change and or basis for use as an alternative examination
Table 2500-1 Exam Cat. E-P	E-P Deleted examination category which addressed 10CFR50 App J testing for all pressure retaining components.	Appendix J testing is mandated by plant Technical Specifications. Removing this duplicate requirement from IWE does not adversely affect component integrity.
----	Added new Table 2500-2 – Ultrasonic Thickness Measurements For Augmented Examinations – which details girding and thickness measurement requirements.	The new requirements provide for consistency and repeatability in obtaining thickness measurements and thus assure the reliable detection of conditions adverse to containment integrity.
Table 3410-1	Deleted table.	Non significant: the contents of the previous table are adequately addressed in IWE-3500.
Figure IWE 2500-2	Changed Figure IWE-2500-2 in 1992 to Figure IWE-2500-1 in 1998	Non significant

ATTACHMENT 3 TO LR-990409

IWL COMPARISON

IWL COMPARISON

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
IWL-1000	No change	None
1100	ASME Section XI generic wording change from repair, replacement and or modification terms to repair/replacement activities	Non significant
1200	No change	None
1210	No change	None
1220	No change	None
2000	No change	None
2100	<p>Changed "Inspection" to "General" in heading.</p> <p>(a) Provided reference to IWA-2000 with exceptions from IWA-2210 and 2300 for visual examinations and for qualification of visual examination personnel.</p>	<p>Non significant</p> <p>The containment examinations are completely defined within the jurisdiction of IWL, and thus reference to IWA 2210, and IWA 2300 are not applicable. However, to ensure that industry-wide consistency is maintained with respect to containment visual examinations and personnel qualifications, the PSE&G program governing these areas is described in the "Alternative Examinations" section of Relief Request RR-L1. The examinations of IWL in the 1998 Edition provide an equivalent level of quality and safety as defined in IWA of the 1992 Edition. The examinations of IWE in the 1998 Edition coupled with the described PSE&G program governing containment visual examinations and personnel qualifications provide an equivalent level of quality an safety as defined in IWA of the 1992 Edition.</p>

Para-Graph	Changes between IWL 1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
2200	Delete reference to IWL 2500.	The reference to IWL 2500 in the '92 Edition was incorrect, and this non significant change is associated with a subsequent inquiry.
2210	No change	None
2220	No change	None
2230	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
2300	No change; content changes in IWL-2310	The philosophy of IWL to be an engineering inspection under the direction of the Responsible Engineer is contained in this revised subarticle. This individual will be accountable for the entire inspection program, which will meet or exceed the level of quality a safety defined in the 1992 Edition. The specific changes to IWL-2310 and IWL-2320 will be discussed below.
2310	(a) Replaced VT-3C and VT-1C visual examination terminology with new general and detailed examination terms.	The VT-3C and VT-1C inspections of IWA have been replaced by Owner (Responsible Engineer) defined general and detailed visual exams, respectively. The PSE&G program governing containment visual examinations is described in the "Alternative Examinations" section of Relief Request RR-L1 to ensure that industry-wide consistency is maintained with respect to containment visual examinations. The definition of critical examination items and acceptable conditions has not changed, such that any conditions adversely affecting quality or safety are not impacted by this change.

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
2310 (cont.)	<p>(b) Eliminated reference to IWA-2210 for illumination levels, examination distances and resolution requirements.</p> <p>(c) Replaced reference to IWA-2300 for concrete examination personnel qualification requirements with provisions for the owner to define the examination personnel qualification requirements.</p>	<p>10CFR50.55a(b)(2)(x)(B) mandates a qualification of the remote examination procedure for Subsection IWE. The lighting and resolution qualification requirements for IWL will be developed similar to the procedures used for IWE.</p> <p>General and Detailed Visual exams will be developed to identify areas of concrete deterioration and distress as defined in ACI 201.1.</p> <p>The general and detailed visual examinations are equivalent to the VT-3C and VT-1C exams in terms of assessing the condition and potential for deterioration within the containment system.</p> <p>The use of owner defined inspection qualifications allows for the involvement of qualified engineering personnel with backgrounds in programs such as the Maintenance Rule, R.G. 1.135, and Appendix J. This provides for a containment inspection program that is performed by individuals with knowledge in containment degradation mechanisms.</p> <p>The Containment Visual Examination Personnel will be certified with our written practice. It will satisfy the requirements of SNT-TC-1A and ANSI/ANST CP-189. Certified personnel will have demonstrated skill, demonstrated knowledge, document training and documented experience required to properly perform the duties of a specific job.</p> <p>The Responsible Engineer has accountability for personnel qualification, and all the requirements are contained within IWL.</p>

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
2310 (cont.)		The overall impact of the changes in IWL-2310 results in an inspection program, which is consistent with other containment monitoring programs, and thus provides an equivalent level of quality and safety as the 1992 Edition.
2320	<p>Changed wording slightly.</p> <p>Made the ASME Section XI generic change from repair and or replacement to repair/replacement activities.</p> <p>Added a responsibility for the Responsible Engineer to review certain pressure test procedures.</p>	<p>Non significant - clarifies wording</p> <p>Non significant</p> <p>The added pressure test responsibilities for the Responsible Engineer ensures proper performance of pressure testing activities.</p>
2400	No change	None
2410	Added to (c) condition, which allows for deferral of concrete visual exams to the next scheduled plant outage for inaccessible portions of concrete surface.	This change insures that all surfaces that can be inspected are examined, but recognizes the personnel safety of the inspectors. This change increases the level of quality and does not adversely affect the safety of the Containment Inspection Program.
2420	No change	None
2421	Changed wording for sites with more than one plant. Changed frequencies by adding "and every 10 years thereafter".	Non significant - clarifies wording and accommodates plant life extensions.
2500	No change	None
2510	Changed heading.	Non significant

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
2510 (cont.)	<p>Eliminated the reference to VT-3C and VT-1C and refers to the general and detailed visual exams of IWL-2310.</p> <p>Adds the requirement to (b) that the Responsible Engineer will designate areas as suspect and requiring additional examinations.</p> <p>Adds the requirement (c) for a visual examination of all tendon anchorage areas and tendon end caps shall be examined for specific conditions.</p>	<p>The conclusion that this change to owner defined inspection types has no adverse impact on the level of quality or safety is reached in the IWL-2310 discussion.</p> <p>Increases the level of quality and safety of the examinations.</p> <p>Increases the level of quality of the exams associated with the tendon anchorage and end caps. This requirement is consistent with the rule in 10CFR50.55a. This change does not apply to PSE&G.</p> <p>Overall the changes made in this subarticle improve the level of quality and do not adversely affect the safety of the containment inspection plan described in the 1992 Ed.</p>
2520	No change	None
2521	No change	None
2522	Changed the heading and added a subparagraph to address tendon elongation.	The added details ensure proper tendon examinations. However, these changes do not apply to PSE&G.
2523	No change	None
2524	Eliminated the VT-1 exam and replaced it with the detailed visual exam described in IWL-2310 above.	This change is consistent with the changes described in IWL-2310 above, and the change in IWE 2310, which eliminated the VT-1 exam and replaced with a detailed visual exam.

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
2524 (cont.)		This change does not affect the level of quality or safety of the inspection program previously described in the 1992 Ed. However these changes do not apply to PSE&G.
2525	Changed wording for sample analysis.	Non significant
2526	Added a subparagraph addressing replacement of corrosion protection medium.	The new paragraph provides the Responsible Engineer some options from which to specify corrosion medium replacement. This change adds to the level of quality and does not adversely impact the safety of the inspection program described in the 1992 Ed. However, these changes do not apply to PSE&G containments.
3000	No change	None
3100	No change	None
3110	No change	None
3111	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3112	No change	None
3113	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3120	No change	None
3200	No change	None
3210	Removed the word concrete from the heading	Non significant

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
3211	<p>Added tendon end and anchorage areas to the scope of the subparagraph and added corrosion protection medium leakage and end cap deformation as acceptance criteria attributes.</p> <p>ASME Section XI generic change from repair and or replacement to repair/replacement activities.</p>	<p>The acceptance criteria has expanded to recognize that the surface area being examined per IW-2510 includes the concrete surrounding the tendon end anchorage, and the tendon end caps. This increases the overall quality of the exam, and is consistent with the rule in 10 CFR 50.55a. However, these changes do not apply to PSE&G containments.</p> <p>Non significant.</p>
3212	No change	None
3213	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3220	No change	None. However, these changes do not apply to PSE&G containments.
3221	<p>Added acceptance criteria attributes for unbonded post-tensioning systems in the following areas:</p> <p>3221.1(c) evaluates the predicted force for the next scheduled exam meets the minimum design prestress force.</p> <p>3221.1(d) compares the elongation with the last measurement and specifies that it can not vary by more than 10%.</p>	<p>The additions to the acceptance criteria of IWL-3221 have provided further assurance that the Responsible Engineer will evaluate all potential conditions that could impact the post-tensioning system integrity. These enhancements to the 1998 Edition increase the level of quality of the inspection program and has no adverse impact on the safety of the inspection program described in the 1992 Edition. These additions are consistent with the requirements of the rule as stated in 10CFR 50.55a.</p> <p>However, these changes do not apply to PSE&G containments.</p>

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
3221 (cont.)	3221.3(e) added evidence of free water as an unacceptable condition. 3221.4 added criteria to compare the difference of the amount of corrosion protection medium removed with that replaced.	
3222	No change	None
3223	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
3300	No change	None
3310	Added applicability for other plants at the same site. ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant Non significant
3320	Deleted paragraph, which addressed engineering evaluations being subject to review by authorities.	Non significant - there were no submittal or retention requirements changed by the deletion of the subparagraph. NRC Rulemaking (Page 41312 of Federal Register dated August 8, 1996, Volume 61, Number 154, Rules and Regulations) states in part, "Licensees do not have to submit to the NRC staff for approval of their containment inservice inspection program which was developed to satisfy the requirements of Subsection IWE and IWL with specified modifications and a limitation. PSE&G will maintain required documentation on site for review and audit.
4000	ASME Section XI changes from repair and or replacement to repair/replacement activities.	Non significant - all related repair and replacement requirements have been consolidated into IWL-4000.

Para-Graph	Changes between IWL 1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
4100	No change	None
4110	<p>Exempted grease cups and installation screws from the scope.</p> <p>ASME Section XI generic change from repair and or replacement to repair/replacement activities.</p>	<p>Non significant - the exempted items are non structural items and the exemption of these items is consistent with the ASME position on other such items, i.e. seals, gaskets.</p> <p>However these exemptions do not apply to PSE&G containments.</p> <p>Non significant</p>
4120	<p>Removed (a), (b), (c).</p> <p>Added "/replacements activities", "/Replacement", and "Plan".</p> <p>Changed IWA-4140 to IWA-4150.</p> <p>Deleted (b) repairs shall be completed in accordance with the Repair Plan of IWL-4200.</p>	<p>Non significant. Added for clarification.</p> <p>Non significant</p> <p>Non significant – IWL-4200 still applies.</p>
4200	ASME XI generic change from repair and or replacement to repair/replacement activities.	Non significant
----	Added a new paragraph 4210 to require Repair/Replacement Plans to be developed under the direction of a Responsible Engineer per IWL-2300.	Non significant -this is a paragraph numbering change from the '92 Ed.
4210	Changed paragraph number to 4220, removed the word repair from heading and changed referenced paragraph numbers consistent with the addition of a new paragraph 4210 above.	Non significant

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
4210 (cont.)	<p>Changed wording consistent with the changes to IWL-2310 addressed above.</p> <p>ASME Section XI generic change from repair and or replacement to repair/replacement activities.</p> <p>Changed repair material to new material in several places.</p>	<p>Non significant</p> <p>Non significant</p> <p>Non significant</p>
4220	Changed paragraph number to 4230.	Non significant
4230	<p>Changed paragraph number to 4240 and clarified by removing the word repair.</p> <p>ASME Section XI generic change from repair and or replacement to repair/ replacement activities.</p> <p>Added detailed requirements for the contents of a repair/ replacement plan.</p>	<p>Non significant</p> <p>Non significant</p> <p>The 1998 Edition is more prescriptive in terms of the details that are expected to be addressed in the repair/replacement plan developed by the Responsible Engineer. This increases the level of quality of the plan developed under the 1998 Edition. However, these changes do not apply to PSE&G containments.</p>
4300	ASME Section XI generic change from repair and or replacement to repair/ replacement activities.	Non significant
5000	No change	None

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
5100	ASME Section XI generic change from repair and or replacement to repair/ replacement activities.	Non significant
5200	No change	None
5210	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
5220	No change	None
5230	Changed wording by removing some specific IWE related requirements while maintaining the reference to IWE-5000.	Non significant - the removed wording was IWE specific and is contained in IWE-5000.
5240	Deleted paragraph that addressed the scheduling of pressure tests.	Non significant - the schedule of pressure tests are contained in IWE-5000 as referenced in IWL-5230.
5250	<p>Changed wording regarding the role of the Responsible Engineer in pressure test activities.</p> <p>Replaced the VT-1 exam with a reference to IWL-2310 (b) for a detailed visual.</p> <p>ASME Section XI generic change from repair and or replacement to repair/replacement activities.</p>	<p>The clarified role of the Responsible Engineer ensures proper pressure test procedures and examinations.</p> <p>The acceptability of the change to an owners defined detailed visual inspection is discussed in the IWL-2310 section.</p> <p>Non significant</p>
5260	Changed heading from Corrective Measures to Corrective Action.	Non significant

Para-Graph	Changes between IWL1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
5260 (cont.)	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
5300	ASME Section XI generic change from repair and or replacement to repair/replacement activities.	Non significant
7000	Deleted Article including IWL-7100, 7110, 7120 consistent with the IWL-4000 changes above.	Non significant - all related repair and replacement requirements have been incorporated into IWL-4000.
Table 2500-1	<p>Changed item L1.11 from all areas to all accessible areas.</p> <p>Changed Item L1.12 from Visual, VT-1C to general examination to all suspect areas.</p> <p>Replaced the VT-3C, VT-1C, and the VT-1 exams with general visual and detailed visual, respectively, as described in the paragraph IWL-2310 changes above.</p>	<p>The addition of accessible provides consistency with the requirements of the scope of IWL-1000, and does not alter the level of quality of the inspection plan described in the 1992 Edition.</p> <p>This is a less stringent inspection. PSE&G will perform a detailed inspection on suspect areas to be more consistent with the intent of the code.</p> <p>The acceptability of the change to an owners defined general and detailed visual inspection is discussed in the IWL-2310 section.</p>
Table 2521-1	Changed inspection periods to state every 5th year in lieu of listing out each year and changed note 2 for having to meet acceptance criteria from "each of the earlier inspections" to "for the last 3 inspections".	Non significant - accommodates plant life extensions for tendon examinations. However, these requirements do not apply to PSE&G containments.

Para- Graph	Changes between IWL 1992 Ed. '92 Ad. and the 1998 Ed.	Significance of change and or basis for use as an alternative examination
Table 2525-1	Added optional test methods for corrosion protection medium analysis	Non significant - additional test method options provides for more practical test implementation. However, these requirements do not apply to PSE&G containments.