October 17, 2000

Mr. Otto L. Maynard
President and Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
Post Office Box 411
Burlington, KS 66839

SUBJECT: TWO RELIEF REQUESTS TO USE ALTERNATIVE REQUIREMENTS FOR INSERVICE INSPECTIONS FOR WOLF CREEK GENERATING STATION (TAC NO. MA8393)

Dear Mr. Maynard:

By letter dated February 25, 2000 (ET 00-0002), you requested approval for the use of alternatives to the requirements of Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), 1992 Edition with the 1992 Addenda, for (1) Subsection IWE, for the inservice inspection of Class MC and metallic shell and penetration liners of Class CC pressure retaining components and their integral attachments (Relief Request CI1R-01), and (2) Subsection IWL, for inservice inspection of Class CC components (Relief Request CI1R-02) for the Wolf Creek Generating Station. The details of the proposed alternatives were provided in Attachments I and II of the letter. The letter was supplemented by your letters of May 9 (ET 00-0020) and August 24, 2000 (ET 00-0032).

Based on the enclosed safety evaluation and the commitments in your letter of May 9, 2000, the staff concludes that the proposed alternatives in the two relief requests to the inservice inspection requirements of Subsections IWE and IWL of Section XI of the ASME Code provide an acceptable level of quality and safety. Based on this, the Commission authorizes the proposed alternatives in Relief Requests CI1R-01 and CI1R-02 pursuant to 10 CFR 50.55a(a)(3)(i) for Wolf Creek Generating Station. If you have any questions, please contact Jack Donohew, Senior Project Manager, at 301-415-1307 or, through the Internet, at jnd@nrc.gov.

Sincerely,

/RA/

Stephen Dembek, Chief, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosure: Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO RELIEF REQUEST FROM THE REQUIREMENTS OF 10 CFR 50.55a

FOR CONTAINMENT INSERVICE INSPECTION

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

1.0 INTRODUCTION

Section 50.55a(g)(6)(ii)(B) of Title 10 of the Code of Federal Regulations (10 CFR), requires containment inspections per the requirements of Subsections IWE and IWL of the 1992 Edition up to and including the 1992 Addenda of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (the Code), as modified by the requirements of 10 CFR 50.55a(b)(2)(ix) and 10 CFR 50.55a(b)(2)(x). Licensees of all operating nuclear power plants are required to complete their first period inspections by September 9, 2001.

By letter dated February 25, 2000, supplemented by letters dated May 9 and August 24, 2000, Wolf Creek Nuclear Operating Corporation (WCNOC), the licensee for the Wolf Creek Generating Station, submitted a request seeking relief from the requirements of the 1992 Edition and Addenda of the ASME Code, Section XI, Subsections IWE and IWL. As an alternate, WCNOC has proposed to use the 1998 Edition of the ASME Code, Section XI, Subsections IWE and IWL pursuant to 10 CFR 50.55a(a)(3)(i). The 1998 Edition has not yet been incorporated by reference into 10 CFR 50.55a. In its letter dated May 9, 2000, WCNOC provided a table comparing the requirements of the 1998 Edition with the 1992 Edition and Addenda of Subsections IWE and IWL of the Code. This safety evaluation addresses the acceptability of WCNOC's alternative proposal.

2.0 EVALUATION

Idaho National Engineering and Environmental Laboratory (INEEL), as a contractor to the U.S. Nuclear Regulatory Commission (NRC), evaluated the technical acceptability of the subject relief request. The review resulted in a request for additional information (RAI) dated July 13, 2000. The licensee responded to the RAI in a letter dated August 24, 2000.

INEEL's evaluation included a review and comparison of Subsections IWE and IWL requirements in the 1992 Edition and Addenda and 1998 Edition, and an analysis of the changes and/or implications of the Code changes. INEEL's technical letter report (TLR), which is attached to this safety evaluation, describes WCNOC's bases for requesting relief, and discusses the implication of the alternatives in terms of quality and safety as it relates to the

inspection of the Wolf Creek Generating Station containment. Appendix A of the TLR is a table of comparison for Subsection IWE, and Appendix B is a table of comparison for Subsection IWL. The four columns of the tables provide the following information:

Column 1 - Paragraph: The paragraph (sometimes includes articles and sub articles) corresponds to the 1992 Edition and Addenda of Subsections IWE and IWL of the ASME Code, Section XI.

Column 2 - Changes between the 1992 Edition and Addenda and 1998 Edition.

Column 3 - WCNOC's statement of significance and/or basis for use as an alternative examination.

Column 4 - INEEL's recommended disposition/comments: INEEL's disposition is principally related to the acceptance of the requirements of the 1998 Edition of the Code in terms of quality and safety related to the containment inspection.

The table in Appendix C to the TLR provides a summary of WCNOC commitments that supplement the 1998 Code requirements.

Based on the review of the comparative requirements, the staff identified several significant Code changes that required additional information from WCNOC. These changes are discussed in the following paragraphs:

1. IWE-2300: The 1992 Edition and Addenda (Table-2500-1) invoke the use of IWA-2200 and IWA-2300 for visual, surface, and volumetric examination methods, and for qualification of personnel. IWE-2300 (1998) requires the owner (i.e., licensee) to define requirements for visual examination of containment surfaces, and for qualifying the personnel performing visual examinations. Additionally, IWE-2320 requires the owner to designate a responsible individual (RI) who will be responsible for activities related to the containment surface visual examinations and personnel qualification. By letters dated May 9 and August 24, 2000, the licensee provided the following information:

   - The general and detailed visual examinations will be performed by certified examination personnel. The qualification program for personnel performing the general and detailed visual examinations will meet the applicable requirements IWA-2300 of the 1992 Addenda of the Code. The licensee summarized the procedure for demonstrating the adequacy of the standard to be used for general and detailed visual examinations.

   - The procedure will prescribe the use of a "general visual reference standard" that will assure resolution sufficient to detect defects or deterioration which may be identified during a general visual examination. The reference standard will be placed in representative locations during the examination and used to verify that lighting and resolution (either direct or remote viewing) are adequate for the detection of defects.

- Detailed visual examination under Subsection IWE will be demonstrated directly (at a distance not to exceed 24") and remotely using optical equipment demonstrated to achieve a comparable level of acuity as that obtainable from direct visual examination.

- The methodology described above will be demonstrated to the Authorized Nuclear Inservice Inspector. The record of procedure demonstration will be included in the procedure history file.

- Personnel performing augmented ultrasonic thickness examinations will be qualified in accordance with the requirements of IWA-2000 of the 1992 Addenda of the Code.

- Moisture barriers are examined for tears, cracks, or damage that permits moisture to intrude as required by E1.3 of Table IWE-2500-1 of the 1998 Edition of the Code.

The staff finds that WCNOC's containment inservice inspection (ISI) procedures provide reasonable assurance that licensee defined visual examination methods and personnel qualification procedures are adequate.

2. IWE-2500: The requirement to examine paint or coating prior to removal was deleted in the 1998 Code Edition. The staff has no objection to this deletion. However, the staff is concerned that in the absence of any examination for detecting flaws or degradation in the containment base metal, the recoating may be applied to a degraded containment surface. By letter dated August 24, 2000, in response to the RAI related to the subject, the licensee provided the following information:

> As noted in Attachment I to WCNOC letter dated May 9, 2000, during containment ISI examinations, general and detailed visual examinations of coated areas will identify flaws and degradation in the containment base metal, and will result in appropriate corrective actions per Section XI requirements. Should a coating be removed between required inservice inspections, the WCNOC nuclear coatings pre-application inspections, and nonconformance and corrective action programs, would identify and resolve any base metal conditions that could challenge the structural integrity of the containment. The WCNOC procedure for application of coatings in the containment requires that Quality Control (QC) personnel inspect the surface condition prior to application of coatings. The QC personnel performing these inspections also have the VT-1, VT-3, and containment general visual and detailed visual qualifications. Degradation in the containment liner would be observed during this QC inspection and would be identified for resolution prior to application of the coating.

The staff finds that the implementation of the above process will ensure that the base metal degradation will be identified, and appropriate action will be taken, prior to recoating of the base

metal of the Wolf Creek Generating Station containment.

3. IWE 3510.1 and IWE 3511.1 (1998): The owner is required to define the acceptance criteria for visual examination of containment surfaces in performing Category E-A and Category E-C examinations. By letter dated May 9, 2000, the licensee provided the following information:

   - The general visual examination acceptance criteria will be included in the WCNOC Section XI visual examination procedure.

   - The general visual examination of containment liner surfaces examines for indications of degradation that may affect the containment structural integrity or leak tightness.

   - Containment liner welds and dissimilar metal welds are examined as part of the containment liner surfaces. Indications of flaking, blistering, or peeling coating, excessive corrosion, general deformation, bulges, surface irregularities, or other signs of distress, will be recorded.

   - The detailed visual examination will also be included in the WCNOC Section XI visual examination procedure.

   - The detailed visual examination assesses the initial condition of surfaces requiring augmented examinations in accordance with IWE-1241, and determines the magnitude and extent of indications of degradation and distress of these containment surfaces. The detailed visual examination also determines the magnitude and extent of indications of degradation and distress of suspect containment surfaces initially detected by the general visual examination.

   - The detailed visual examination criteria of IWE-2310(e) of the 1998 Edition are used, supplemented by additional criteria for bolted connections and moisture barriers, as defined in items 1. and 5. respectively. The results of the examination will be recorded for evaluation by the Responsible Individual for acceptance by engineering evaluation or correction by repair/replacement activity.

The staff finds that complying with the 1998 Edition of the Code augmented by the specific requirements in WCNOC's containment inspection procedure (as described in the licensee's letters of May 9 and August 24, 2000), will provide reasonable assurance that significant flaws and degradations of the containment pressure boundary components will be adequately identified during Category E-A and Category E-C examinations.

4. In Paragraph IWE-3511.3 of the 1998 Code, examination of Class CC metallic liners has been excluded from the acceptance criterion, which requires disposition of areas where material loss exceeds 10% of the nominal wall thickness. Therefore, the 1998 Code is not acceptable for Class CC metallic liners without augmentation by the licensee.

For the Wolf Creek Generating Station containment, the licensee proposed the following: "WCNOC will apply the ultrasonic examination criteria in IWE-3511.3 to both Class MC

components and the metallic liners of Class CC components." Therefore, the staff concludes that the proposed acceptance criterion for liner wall thinning will ensure that the integrity of the liner plate will be maintained and, thus, will provide an acceptable level of quality and safety.

5. Examination Category E-D, Seals, Gaskets, and Moisture Barriers, and Examination Category E-G, Pressure Retaining Bolting, have been eliminated from the 1998 Code. The examination of pressure-retaining bolting and moisture barriers is now included in Examination Category E-A, footnote (1)(d) and Item E1.30, respectively.

The staff has determined that verification of leak-tight integrity through Appendix J testing provides an adequate method to verify the pressure integrity of bolted connections, seals, and gaskets.

Regarding the examination of the condition of the bolting, by letter dated August 24, 2000, the licensee provided the following information:

> "All accessible bolted connections within the scope of Subsection IWE will be visually examined each inspection period in accordance with the requirements of the 1998 Edition of ASME Section XI, Table IWE-2500-1, Category E-A. This corresponds to an examination of all bolted connections three times per inspection interval. In accordance with these 1998 Section XI requirements, WCNOC will perform a general visual examination on the exposed portions of these connections. Bolted connections will not be disassembled solely for the performance of the general visual examination. However, if the general visual examination indicates possible areas of degradation or damage, a detailed visual examination, as required by the 1998 Edition of Section XI, will be performed. Based on the magnitude and extent of degradation, the Responsible Individual will determine if the bolted connection needs to be disassembled for further evaluation.
>
> If a bolted connection within the scope of Subsection IWE is disassembled, a detailed visual examination will be performed once per inspection interval, consistent with the requirements of the 1992 Addenda of Section XI. This detailed visual examination will be performed on all accessible surface areas of the bolts, studs, nuts, bushings, washers, threads in base material, and flange ligaments between the fastener holes. WCNOC will schedule this detailed visual examination for bolted connections routinely disassembled and will assure that this examination is included in the work orders for disassembly of connections that are not routinely disassembled, such as electrical penetrations."

Considering that the general and detailed visual examinations of bolted connections will be performed by certified examination personnel (see item 1. above), and that the acceptance criteria will meet the performance requirements of IWE 3510.3 (1998 Edition), the staff finds the

licensee's position regarding the examination of the pressure retaining bolted connections acceptable.

6. IWL-2510 Examination of Concrete: The 1992 Edition and Addenda require the use of visual examination procedures VT-3C and VT-1C. In the 1998 Edition, these procedures have been changed to "general visual" and "detailed visual" examinations. The 1998 Code requires that the owner define the qualification requirements for personnel performing examinations of concrete and tendon anchorage hardware, wire, and strands, and that the owner define the requirements for visual examination of tendon anchorage hardware, wire, and strands.

The following provisions define the general and detailed visual examinations to be performed as part of the WCNOC's containment ISI program for Wolf Creek Generating Station:

- The general and detailed visual examinations will be performed by certified examination personnel.

- The qualification program for personnel performing the general and detailed visual examinations will meet the applicable requirements of IWA-2300 of the 1992 Addenda.

- WCNOC procedures will include the general and detailed visual examinations in the functional task descriptions for the VT-3 and VT-1 methods, respectively. Personnel performing the general and detailed visual examinations will be certified to a minimum Level II VT-3 and VT-1, respectively.

- Performance requirements for general and detailed visual examinations will be included in the WCNOC visual examination procedure. The detailed visual examination will meet the resolution requirements for VT-1 contained in Table IWA-2210-1 in the 1992 Addenda. A performance demonstration will be developed and documented to establish the distances and illumination for which the general and detailed visual examinations are sufficient to detect evidence of degradation that may affect the containment structural integrity. The WCNOC visual examination procedure will be prepared by NDE Level III personnel and the Responsible Engineer and demonstrated to the Authorized Nuclear Inservice Inspector.

- The visual examinations will be performed in accordance with the 1998 Edition, Subsections IWL-2310, IWL-2510, and IWL-2524.1. Indications will be recorded, and subsequently evaluated, by the Responsible Engineer in accordance with IWL-2320, IWL-3200, and IWL-3300.

Based on this information, the staff concludes that WCNOC has developed adequate procedures for examination of concrete components required by the 1998 Edition of Subsection IWL of the Code.

7. Table IWL-2500-1: The 1998 Edition of Table IWL-2500-1, Category L-A, Item L1.12 specifies the examination method as a general visual examination. WCNOC recognized

it as a publication error in Section XI. WCNOC will perform detailed visual examinations of suspect areas addressed in Category L-A, Item L1.12, in Table IWL-2500-1.

Based on the information in the letter dated May 9, 2000, the staff concludes that WCNOC's corrections to Table IWL-2500-1 are acceptable.

3.0 CONCLUSION

Based on its review of the licensee's submittal and responses to the staff's RAI, the staff concludes that the use of the 1998 Edition of the Code, as supplemented by WCNOC's commitments in its letter of May 9, 2000, will provide an acceptable level of quality and safety for ensuring the structural integrity of the Wolf Creek containment. The staff concludes that pursuant to 10 CFR 50.55a(a)(3)(i) the use of the proposed alternatives in Relief Requests CI1R-01 and CI1R-02 provide an acceptable level of quality and safety and therefore are authorized.

Attachment: Technical Letter Report

Principal Contributor: Hansraj Ashar

Date: October 17, 2000

TECHNICAL LETTER REPORT
SECOND 10-YEAR INTERVAL INSERVICE INSPECTION
CONTAINMENT REQUESTS FOR RELIEF CI1R-01 AND CI1R-02
FOR
WOLF CREEK NUCLEAR OPERATING CORPORATION
WOLF CREEK GENERATING STATION
DOCKET NUMBERS: 50-482

1.0 INTRODUCTION

By letters dated February 25 and May 7, 2000, the licensee, Wolf Creek Nuclear Operating Corporation, submitted proposed alternatives to the IWE/IWL containment inspection requirements for the Wolf Creek Generating Station second 10-year inservice inspection (ISI) interval. The licensee proposed to use the 1998 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Subsections IWE and IWL, in lieu of the 1992 Edition with 1992 Addenda, as currently specified by the Regulation for containment inspections. In a letter dated August 24, 2000, the licensee provided additional information in response to an NRC request. The Idaho National Engineering and Environmental Laboratory (INEEL) staff's evaluation of the subject requests for relief is in the following section.

2.0 EVALUATION

The information provided by Wolf Creek Nuclear Operating Corporation in support of the requests for relief from Code requirements has been evaluated and the bases for disposition are documented below. The second 10-year interval for the Wolf Creek Generating Station began September 3, 1995. The Code of record for containment inspections performed during the second 10-year inservice inspection (ISI) intervals at these plants is the 1992 Edition through 1992 Addenda of Section XI of the ASME Boiler and Pressure Vessel Code.

2.1 Request for Relief CI1R-01 Revision 1, Proposed Alternative to Use ASME Section XI, 1998 Edition, Subsection IWE, for Examination of Class MC and Metal Liners of Class CC Components

Code of Federal Regulation Requirement: 10 CFR 50.55a(g)(6)(ii)(B) requires that licensees implement the containment inservice examinations specified in Subsection IWE of the 1992 Edition with the 1992 Addenda of Section XI, Division 1, of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code).

Licensee's Proposed Alternative: In accordance with 10 CFR 50.55a(a)(3)(i), the licensee proposed to use the requirements of the 1998 Edition of ASME Section XI for the examination requirements for IWE components. The licensee stated:

1) "IWE-2300: IWE-2300, 1998 Edition, requires the Owner to define requirements for visual examination of containment surfaces and for qualifying personnel performing visual examinations. The following provisions define the general and detailed visual examinations to be

performed as part of the WCNOC Containment ISI Program, as well as personnel qualification requirements:

a) The general and detailed visual examinations will be performed by certified examination personnel.
b) The qualification program for personnel performing the general and detailed visual examinations will meet the applicable requirements of IWA-2300 of the 1992 Addenda.
c) WCNOC procedures will include the general and detailed visual examinations in the functional task descriptions for the VT-3 and VT-1 methods, respectively. Personnel performing the general and detailed visual examinations will be certified to a minimum Level II VT-3 and VT-1, respectively.
d) The acceptance criteria for general and detailed visual examinations for various items in the containment system are discussed in Item 2) below.
e) Performance requirements for general and detailed visual examinations will be included in the visual examination procedure. The detailed visual examinations will meet the resolution requirements for VT-1 in Table IWA-2210-1 in the 1992 Addenda. A performance demonstration will be developed and documented to establish the distances and illumination for which the general and detailed visual examinations are sufficient to detect evidence of degradation that may affect the containment structural integrity or leak tightness. The WCNOC visual examination procedure will be prepared by Non-destructive examination (NDE) Level III personnel and the Responsible Individual and demonstrated to the Authorized Nuclear Inservice Inspector.
f) Personnel performing augmented ultrasonic thickness examinations will be qualified in accordance with the requirements of IWA-2000 in the 1992 Addenda."

2) "IWE-3510.1 and IWE-3511.1: These paragraphs in the 1998 Edition were revised to require the Owner to define acceptance criteria for general and detailed visual examination of containment surfaces. The following provisions define the acceptance criteria for the general and detailed visual examinations to be performed as part of the WCNOC Containment ISI Program:

"The general visual examination acceptance criteria will be included in the WCNOC Section XI visual examination procedure. The general visual examination of containment liner surfaces examines for indications of degradation that may affect the containment structural integrity or leak tightness. Containment liner welds and dissimilar metal welds are examined as part of the containment liner surfaces. Indications of flaking blistering or peeling coating, excessive corrosion, general deformation, bulges, surface irregularities, or other signs of distress, will be recorded. The general visual examination of pressure retaining bolted connections examines for missing or loose bolting materials, corrosion, bolting deformation, or other indications that may affect the integrity of the bolted connection. All indications are recorded. The general visual examination of moisture barriers examines for wear, damage, erosion, tears, surface cracks or other defects that would permit

intrusion of moisture into inaccessible areas. All indications are recorded. All recorded indications will be supplemented with a detailed visual examination.

"The detailed visual examination will also be included in the WCNOC Section XI visual examination procedure. The detailed visual examination assesses the initial condition of surfaces requiring augmented examinations, in accordance with IWE-1241, and determines the magnitude and extent of indications of degradation and distress of these containment surfaces. The detailed visual examination also determines the magnitude and extent of indications of degradation and distress of suspect containment surfaces initially detected by the general visual examination. The detailed visual examination criteria of IWE-2310(e) of the 1998 Edition are used, supplemented by additional criteria for bolted connections and moisture barriers, as defined in the general visual examination criteria above. The results of the examination will be recorded for evaluation by the Responsible Individual for acceptance by engineering evaluation or correction by repair/replacement activity.

3) "IWE-3511.3: The 1998 Edition only applies the criteria in IWE-3511.3 to Class MC pressure retaining components, not to metallic liners of Class CC components. WCNOC will apply the ultrasonic examination criteria in IWE-3511.3 to both Class MC components and the metallic liners of Class CC components."

4) "All accessible bolted connections within the scope of Subsection IWE will be visually examined each inspection period in accordance with the requirements of the 1998 Edition of ASME Section XI, Table IWE-2500-1, Category E-A. This corresponds to an examination of all bolted connections three times per inspection interval. In accordance with these 1998 Section XI requirements, WCNOC will perform a general visual examination on the exposed portions of these connections. Bolted connections will not be disassembled solely for the performance of the general visual examination. However, if the general visual examination indicates possible areas of degradation or damage, a detailed visual examination, as required by the 1998 Edition of Section XI, will be performed. Based on the magnitude and extent of degradation, the Responsible Individual will determine if the bolted connection needs to be disassembled for further evaluation.

"If a bolted connection within the scope of Subsection IWE is disassembled, a detailed visual examination will be performed once per inspection interval, consistent with the requirements of the 1992 Addenda of Section XI. This detailed visual examination will be performed on all accessible surface areas of the bolts, studs, nuts, bushings, washers, threads in base material, and flange ligaments between the fastener holes. WCNOC will schedule this detailed visual examination for bolted connections routinely disassembled and will assure that this examination is included in the work orders for disassembly of connections that are not routinely disassembled, such as electrical penetrations."

Licensee's Basis for Proposed Alternative:

"In the Federal Register, on August 8, 1996 (61 FR 41303), the NRC amended its regulations to incorporate by reference the ASME Code Section XI, 1992 Edition with the 1992 Addenda of Subsection IWE, for expedited examination of containments. Based on the effective date of the rule change of September 9, 1996, licensees have until September 9, 2001, to establish a Containment ISI program and to complete the first period inspection requirements contained in Section XI.

"In the Federal Register, on September 22, 1999 (64 FR 51370), the NRC further amended its regulations to incorporate by reference the ASME Code Section XI, 1995 Edition with the 1996 Addenda. However, in 10 CFR 50.55a(b)(2)(vi), the NRC allowed licensees to implement either the previously required 1992 Edition with 1992 Addenda, or the 1995 Edition with 1996 Addenda, as modified and supplemented by the requirements of 10 CFR 50.55a(b)(2)(ix). This 1999 amendment renumbered the previous 10 CFR 50.55a(b)(2)(x) in the 1996 regulation (containing the modifications and supplements to the 1992 Edition with 1992 Addenda of Subsection IWE) to 10 CFR 50.55a(b)(2)(ix).

"Several changes have been made by the ASME to the Subsection IWE rules contained in the 1992 Edition with 1992 Addenda and the 1995 Edition with 1996 Addenda. These changes were published in the 1998 Edition of ASME Section XI and addressed implementation difficulties with the earlier editions and addenda of Subsection IWE. In a Safety Evaluation Report (SER) dated July 23, 1999, issued to Texas Utilities Electric Company for the Comanche Peak Steam Electric Station, Units 1 and 2, Docket Numbers 50-445 and 50-446, the NRC staff concluded that the 1998 Edition of Subsection IWE, supplemented by the licensee's commitments in responses to the NRC staff's Requests for Additional Information, provided an acceptable level of quality and safety for ensuring the pressure boundary integrity of the Comanche Peak containments.

"The WCNOC proposed alternative utilizes the ASME 1998 Edition of Subsection IWE of Section XI in its entirety, supplemented with the applicable requirements of 10 CFR 50.55a(b)(2)(ix). The 1998 Edition of Subsection IWE incorporates exceptions and changes to the 1992 Addenda to address industry implementation difficulties and provides a more cohesive approach than could be achieved by requesting relief on multiple, individual issues. These requirements were developed in accordance with the ASME Code committee process with input form interested parties, including other licensees, manufacturers, engineering organizations, Authorized Nuclear Inspection Agencies, EPRI and the NRC. The updating of Subsection IWE requirements by this consensus process is intended to ensure the continued safe operation of nuclear power plants and the continued leak-tight structural integrity of metallic containment components. At the NRC's request, a paragraph by paragraph comparison of Subsection IWE requirements between the 1992 Edition with 1992 Addenda and the 1998 Edition has been included as Table 1 and is attached to this relief request.

"However, in the SER for Comanche Peak, the NRC staff identified four changes between the 1992 Edition with 1992 Addenda and the 1998 Edition of Subsection IWE

which were unacceptable to the NRC and for which additional Comanche Peak information was provided. WCNOC has addressed three of these four changes by including commitments in the Proposed Alternative Provisions section of this relief request. The fourth change involved the IWE-2500 deletion of a requirement to examine paint or coatings prior to removal. Information on this Code change is included in the attached Table 1.

"Accordingly, the WCNOC proposed alternative utilizes the 1998 Edition of Subsection IWE of Section XI in its entirety, supplemented with: 1) additional commitments to address concerns the NRC staff had with changes in the 1998 Edition of Subsection IWE, as identified in the SER for Comanche Peak; and 2) the applicable requirements of 10 CFR 50.55a(b)(2)(ix).

"Based on the information presented, WCNOC requests relief from the requirements in the 1992 Edition with the 1992 Addenda of Section XI. This information demonstrates that the proposed alternative provisions provide an acceptable level of quality and safety for the inspection of Subsection IWE components. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested on the basis that the proposed alternatives to ASME Section XI requirements provide an acceptable level of quality and safety."

Evaluation: 10CFR50.55a(g)(6)(ii)(B) requires that licensees implement the containment inservice examinations specified in Subsection IWE of the 1992 Edition with the 1992 Addenda. The licensee is proposing to implement the 1998 Edition of Section XI, Subsection IWE in lieu of the 1992 Edition and Addenda. The licensee prepared and submitted a table comparing both Code Editions (Appendix C of the attached TLR). The INEEL staff has reviewed the licensee's submittal and Subsection IWE of the 1998 Code and compared it with the 1992 Addenda. Appendix A of the TLR contains a comparison table, including the licensee's statements regarding the significance of Code changes and their basis for use as an alternative examination. The table also includes INEEL comments on each change. Significant differences were noted in areas such as personnel qualification, visual examination methods, containment weld inspection, paint and coating inspection, bolting inspection, seals and gasket inspection, and the requirements for successive examinations. Each of these issues will be discussed below.

Article IWE-2100 has been added to the 1998 Edition to include requirements for visual examination and personnel qualification, while taking exception to certain requirements in Subsection IWA. Specifically, in accordance with IWE-2100, to IWA-2210, Visual Examination; IWA-2300, Qualification of Nondestructive Personnel; IWA-2500, Extent of Examination; and IWA-2600, Weld Reference System are not mandatory for Table IWE-2500 visual examinations. It is understandable to exclude the IWA-2500 and IWA-2600 requirements from the containment inspection program. However, excluding the visual examination requirements of IWA-2210 and the personnel qualification requirements of IWA-2300 may reduce the effectiveness of the Code.

Visual Examination Methods

IWE-2300 of the 1998 Edition has invoked *Owner-defined* visual examinations and supporting visual personnel qualification requirements for metallic containments. The INEEL staff notes that Section XI is intentionally organized to refer to the General

Requirements of Article IWA to define the type of examination to be performed (i.e., VT-1, VT-2, or VT-3) and the requirements to certify examination personnel for all visual examinations invoked by subsequent Subsections. Deferring these responsibilities to the individual Owners creates a potential for substantial inconsistencies with respect to ISI of containment structures. To ensure consistent application throughout industry, it is necessary for each licensee to supplement the 1998 Code and provide specific details pertaining to visual examinations included in their Containment Inspection Program(s). Licensees Containment Inspection Programs are currently not required to be submitted for review by the regulatory authorities. For these reasons, the INEEL staff believes the 1998 Edition does not provide an acceptable level of quality and safety. To find the proposed alternative acceptable, the licensee must provide specific information supporting the implementation of visual examination methods.

The licensee has provided acceptance criteria for the General and Detailed visual examinations. The licensee provided information that describes a containment inspection program that parallels, and meets the intent of, the 1992 Edition with the 1992 Addenda. The general and detailed visual examinations have been developed from VT-3 and VT-1 examinations for assessing containment integrity. Resolution and illumination requirements for performing direct and remote general and detailed visual examinations are essentially equivalent to those required for VT-3 and VT-1. The effectiveness of the procedures was demonstrated to the satisfaction of the Authorized Nuclear Inservice Inspector using natural and artificial lighting in a darkened room to meet character height and distance requirements of Section XI, 1992 Addenda. Therefore, it is concluded that the licensee's proposed alternative provides an acceptable level of quality and safety.

Personnel Qualification

The 1992 Addenda has incorporated ANSI/ASNT CP-189 for the qualification of examination personnel. Subsection IWE, of the 1998 Edition, takes exception to the certification requirements of other Subsections of the Code and invokes plant-specific personnel certification requirements for visual examination. Subsection IWE (1998 Edition) deleted the VT-1 and VT-3 visual examination requirements and replaced them with detailed and general visual examinations; subsequently NDE personnel may not be required to perform these examinations. The 1998 Edition relies on the *Responsible Individual* to direct the containment visual examinations. The INEEL staff believes that this approach has a substantial potential for inconsistency with respect to containment ISI. For this reason, the 1998 Edition does not provide an acceptable level of quality and safety and cannot be found acceptable without supplementary information from the licensee describing how the Containment Inspection Program meets the intent of the 1992 Edition for qualification of examination personnel. In the May 9, 2000 submittal, the licensee stated, in part:

“The general and detailed visual examinations will be performed by certified examination personnel. The qualification program for personnel performing the general and detailed visual examinations will meet the applicable requirements of IWA-2300 of the 1992 Addenda.”

Based on the statements above, the INEEL staff concludes that the licensee’s containment inspection program parallels, or meets the intent of, the 1992 Edition with

the 1992 Addenda for examination personnel qualification requirements. Therefore, it is concluded that the licensee's proposed alternative provides an acceptable level of quality and safety in this area.

Successive Examinations

IWE-2420(c) (1992 Edition) requires areas containing flaws, areas of degradation, or repairs that were found acceptable by engineering evaluation, to be reexamined during the next three inspection periods before they are removed from the augmented examination requirements. This is consistent with Subsection IWB-2420 requirements. The 1998 Edition, IWE-2420, has removed repairs from the list of conditions requiring acceptance by evaluation, which is consistent with Class 1, 2 and 3 components. In addition, the later Edition has reduced the observation time required before a suspect area can be removed from the augmented examination requirements. IWE-2420(c) (1998 Edition) requires reexamination, during the next inspection period, of areas containing flaws or areas of degradation that have been accepted for continued service by engineering evaluation. If the suspect area is unchanged during the next period examination, the area no longer requires augmented examination. This approach is consistent with the requirements for Class 2 components. However, even though an area is removed from augmented examination, it may be re-designated for augmented examination at any time during the interval if the Owner determines that conditions that cause degradation still exist. Therefore, it is concluded that this Code change provides an acceptable level of quality and safety.

Additional Examinations

The 1998 Code does not rely on sampling and already examines 100% of containment surfaces. Therefore, elimination of this requirement is appropriate and acceptable.

Paint and Coatings

The IWE-2500(b) requirement to examine paint or coatings prior to removal has been eliminated from the 1998 Edition. Relief from this requirement has been found acceptable when adequate provisions exist either in the licensee's Containment Inspection, Repair/Replacement, Nuclear Coatings, or ISI Programs to examine the base metal for surface anomalies that could affect containment integrity prior to re-application of the coating. In addition, the base metal should be visually examined by qualified inspection personnel.

At WCNOC, general visual examination of accessible surfaces, including coated surfaces, is performed using acceptance criteria that identifies coating deficiencies which could indicate degradation to the pressure boundary integrity. If coating is removed to perform visual examinations, the coatings will be reapplied under the appropriate plant coatings requirements. WCNOC procedures for application of coatings in containment require that Quality Control personnel inspect the surface condition prior to application of coatings. These individuals maintain VT-1, VT-3, and containment general visual and detailed visual qualifications. Therefore, the INEEL staff concludes that the licensee has included adequate provisions to ensure the integrity and compatibility of the paint, coatings, and liner plate, and that the licensee's proposed alternative provides an acceptable level of quality and safety.

Weld Examinations

Subsection IWE, 1998 Edition, has been revised and no longer contains any specific weld examination requirements. This approach is supported by 10 CFR 50.55a(b)(2)(x)(C), which makes the examinations specified in Examination Category E-B, *Pressure Retaining Welds*, and Examination Category E-F, *Pressure Retaining Dissimilar Metal Welds*, optional. Therefore, weld examinations will be addressed during the general visual examination required by Examination Category E-A. Based on the optional nature of the Regulatory requirements for containment welds, the elimination of any direct reference to containment weld examinations in the Code should be considered to provide an acceptable level of quality and safety.

Bolting, Seals, Gaskets, and Moisture Barriers

Examination Category E-D, *Seals, Gaskets, and Moisture Barriers*, and Examination Category E-G, *Pressure Retaining Bolting*, have been eliminated from the 1998 Code. The examination of pressure-retaining bolting and moisture barriers are now included in Examination Category E-A, footnote (1)(d) and Item E1.30, respectively. The NRC staff has determined that verification of leak-tight integrity through Appendix J testing also verifies the integrity of bolted connections, seals and gaskets.

Regarding the condition of bolted connections, the NRC staff has established a technical position that requires all accessible bolted connections to be visually examined each inspection period per the requirements of the 1998 Edition of IWE, Table IWE-2500-1, Category E-A. This corresponds to an examination of all bolted connections three times per inspection interval. In addition, licensees shall perform a general visual examination (VT-3 or equivalent) on the exposed portions of the connection. Bolted connections need not be disassembled solely for the performance of VT-3 examinations. If the general visual examination indicates possible areas of degradation or damage, a detailed visual examination (VT-1 or equivalent) is required. If potentially degraded bolting is assembled, the bolted connection shall be disassembled to facilitate the detailed examination.

Furthermore, if a bolted connection is disassembled at the time of inspection, all accessible surface areas of the connection shall be visually examined (VT-3 or VT-1, if necessary). If a disassembled connection is not visually examined by a VT-3 or VT-1 qualified individual before reassembly, written maintenance procedures shall be followed to ensure that the integrity of reassembled bolted connections are maintained. The written procedures shall include acceptance criteria for the continued use of all parts of the connection including bolts, studs, nuts, bushings, washers, and threads in base material an flange ligaments between fastener holes.

The licensee has stated that all accessible bolted connections within the scope of Subsection IWE will be visually examined each inspection period in accordance with the requirements of the 1998 Edition of ASME Section XI, Table IWE-2500-1, Category E-A. Additionally, in accordance with the 1998 Section XI requirements, WCNOC will perform a general visual examination on the exposed portions of these connections. Bolted connections will not be disassembled solely for the performance of the general visual examination. However, if the general visual examination indicates possible areas of degradation or damage, a detailed visual examination, as required by the 1998 Edition of Section XI, will be performed. Based on the magnitude and extent of degradation,

the Responsible Individual will determine if the bolted connection needs to be disassembled for further evaluation.

The licensee has also stated that if a bolted connection within the scope of Subsection IWE is disassembled, a detailed visual examination will be performed once per inspection interval, consistent with the requirements of the 1992 Addenda of Section XI. This detailed visual examination will be performed on all accessible surface areas of the bolts, studs, nuts, bushings, washers, threads in base material, and flange ligaments between the fastener holes. WCNOC will schedule this detailed visual examination for bolted connections routinely disassembled and will assure that this examination is included in the work orders for disassembly of connections that are not routinely disassembled, such as electrical penetrations.

The licensees alternative to perform a detailed visual examination 'once per inspection interval' if a bolted connection is disassembled does not entirely meet the staffs position regarding the examination of disassembled bolted connections. Specifically, the staff position requires that if a bolted connection is disassembled at *the time of inspection*, the visual examination will be performed. Therefore, the staff position could result in the possibility of disassembled bolted connections being examined three times per interval. However, the INEEL staff believes that the likelihood of this occurrence is slight due to the fact that the component must be disassembled at '*the time of inspection*' for the inspection to occur. Furthermore, the INEEL staff believes that the timing of inspections and bolting disassembly may rarely parallel, resulting in few examinations of disassembled bolted connections. The licensee's alternative however, requires that if a bolted assembly is disassembled the visual examination will be performed. The INEEL staff believes that the licensee's scenario provides as likely as potential for examination as the NRC staffs technical position. Furthermore, the licensee's alternative is consistent with the requirements of the 1992 Addenda of Section XI with regards to the frequency of examination.

Based on the statements above, the INEEL staff concludes that the licensee's containment inspection program is consistent with the intent of the NRC position. Therefore, it is concluded that the licensee's proposed alternative provides an acceptable level of quality and safety in this area.

Ultrasonic Examination

In Paragraph IWE-3511.3, of the 1998 Code, examination of Class CC metallic liners has been excluded from the acceptance criteria, which requires disposition of areas where material loss exceeds 10% of the nominal wall thickness. Therefore, the 1998 Code is not acceptable for Class CC metallic liners without augmentation by the licensee. The WCNOC Program requires that the ultrasonic examinations specified by IWE-3511.3 apply to Class CC components as well as to Class MC components. This is equivalent to the requirements of the 1992 Addenda. Therefore, the INEEL staff concludes that the proposed acceptance criteria for wall thinning will ensure that the integrity of the liner plate is maintained and will provide an acceptable level of quality and safety.

In summary, the licensee has proposed to use the 1998 Edition of Section XI, Subsection IWE, in lieu of the 1992 Edition with the 1992 Addenda as required by 10

CFR 50.55a(g)(6)(ii)(B). Review and evaluation of Subsection IWE of the 1998 Code has exposed several areas that do not provide an equivalent level of quality and safety. Consequently, the 1998 Edition cannot be considered an acceptable alternative to existing Regulatory requirements. However, in letters dated May 9, 2000, and August 24, 2000, the licensee provided further information and committed to supplement the requirements of the 1998 Code. Based on the above evaluation, it is concluded that the use of Subsection IWE of the 1998 Code, as supplemented by the licensee, provides an acceptable level of quality and safety. Therefore, it is recommended that the licensee's proposed alternative be authorized pursuant to 10 CFR 50.55a(a)(3)(i).

2.2 Request for Relief CI1R-02, Proposed Alternative to Use ASME Section XI, 1998 Edition, Subsection IWL, for Examination of Class CC Concrete Components

Code of Federal Regulation Requirement: 10 CFR 50.55a(g)(6)(ii)(B) requires that licensees implement the inservice examinations specified in Subsection IWL of the 1992 Edition with the 1992 Addenda of Section XI, Division 1, of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code).

Licensee's Proposed Alternative: In accordance with 10 CFR 50.55a(a)(3)(i), the licensee proposed to use the requirements of the 1998 Edition of ASME Section XI for the examination requirements for IWL components. The licensee stated:

"Wolf Creek Nuclear Operating Corporation (WCNOC) will perform inservice inspection (ISI) of Class CC components in accordance with Subsection IWL of the 1998 Edition of ASME Section XI, supplemented with the applicable requirements of 10 CFR 50.55a(b)(2)(viii) and the following additional commitments related to the identified Section XI paragraphs:

1) "IWL-2300: IWL-2300, 1998 Edition, requires the Owner to define requirements for qualifying personnel performing visual examination. The following provisions define the general and detailed visual examinations to be performed as part of the WCNOC Containment ISI Program as well as personnel qualification requirements:

   a) The general and detailed visual examinations will be performed by certified examination personnel
   b) The qualification program for personnel performing the general and detailed visual examinations will meet the applicable requirements of IWA-2300 of the 1992 Addenda.
   c) WCNOC procedures will include the general and detailed visual examinations in the functional task descriptions for the VT-3 and VT-1 methods, respectively. Personnel performing the general and detailed visual examinations will be certified to a minimum Level II VT-3 and VT-1, respectively
   d) Performance requirements for general and detailed visual examinations will be included in the WCNOC visual examination procedure. The detailed visual examination will meet the resolution requirements for VT-1 contained in Table IWA-2210-1 in the 1992 Addenda. A performance demonstration will be developed and documented to establish the distances and illumination for

which the general and detailed visual examinations are sufficient to detect evidence of degradation that may affect the containment structural integrity. The WCNOC visual examination procedure will be prepared by NDE Level III personnel and the Responsible Engineer and demonstrated to the Authorized Nuclear Inservice Inspector.

e) The visual examinations will be performed in accordance with the 1998 Edition, Subsections IWL-2310, IWL-2510, and IWL-2524.1. Indications will be recorded, and subsequently evaluated, by the Responsible Engineer in accordance with IWL-2320, IWL-3200, and IWL-3300."

2) "Table IWL-2500-1: The 1998 Edition of Table IWL-2500-1, Category L-A, Item L1.12 specifies the examination method as a general visual examination. This is a publication error in Section XI. The correct examination method should be a detailed visual examination. WCNOC will perform detailed visual examinations of suspect areas addressed in Category L-A, Item L1.12, in Table IWL-2500-1."

Licensee's Basis for Proposed Alternative (as stated):

"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 with 1992 Addenda of Subsection IWL for expedited examination of containments. Based on the effective date of the rule change (September 9, 1996), Licensee have until September 9, 2001, to establish a Containment ISI program and to complete the first period inspection requirements contained in Section XI.

"In the Federal Register, dated September 22, 1999 (64 FR 51370), the NRC further amended its regulations to incorporate by reference the ASME Code Section XI, 1995 Edition with the 1996 Addenda. However, in 50.55a(b)(2)(vi) of this regulation, the NRC allowed licensees to implement either the previously required 1992 Edition with 1992 Addenda, or the 1995 Edition with 1996 Addenda, as modified and supplemented by the requirements of 50.55a(b)(2)(viii). This 1999 amendment renumbered the previous 50.55a(b)(2)(ix) in the 1996 regulation (containing the modifications and supplements to the 1992 Edition with 1992 Addenda of Subsection IWL) to 50.55a(b)(2)(viii).

"Several changes have been made by the ASME to Subsection IWL contained in the 1992 Edition with 1992 Addenda. These changes were published in several addenda between the 1992 Addenda and the 1998 Edition of the ASME Code Section XI, and address implementation difficulties with the 1992 Addenda. In a Safety Evaluation Report (SER) dated July 23, 1999, issued to Texas Utilities Electric Company for the Comanche Peak Steam Electric Station, Units 1 and 2, Docket Number 50-445 and 50-446, the NRC staff concluded that the 1998 Edition of Subsection IWL, supplemented by the licensee's commitments in responses to the NRC staff's' Requests for Additional Information, provided an acceptable level of quality and safety for ensuring the pressure boundary integrity of the Comanche Peak containments.

"The WCNOC proposed alternative utilizes the 1998 Edition of Section XI, Subsection IWL, in its entirety, supplemented with the applicable requirements of 10 CFR 50.55a(b)(2)(viii). The 1998 Edition of Subsection IWL incorporates exceptions and changes to the 1992 Addenda to address industry implementation difficulties and provides a more cohesive approach than could be achieved by requesting relief on multiple individual issues. These requirements were developed in accordance with the ASME Code committee process with input from interested parties, including other licensees, manufacturers, engineering organizations, Authorized Nuclear Inspection Agencies, EPRI and the NRC. The updating of Subsection IWL requirements by this consensus process is intended to ensure the continued safe operation of nuclear power plants and the continued structural integrity of containment components. At the NRC's request, a paragraph by paragraph comparison of Subsection IWL requirements between the 1992 Edition with 1992 Addenda and the 1998 Edition has been included as Table 1 and is attached to this relief request.

"However, in the SER for Comanche Peak, the NRC staff identified two changes between the 1992 Edition with 1992 Addenda and the 1998 Edition of Subsection IWL which were unacceptable to the NRC, and for which additional Comanche Peak information was provided. WCNOC has addressed these two changes by including commitments in the Proposed Alternative Provisions section of this relief request.

"Accordingly, the WCNOC proposed alternative utilizes the 1998 Edition of Subsection IWL of Section XI in its entirety, supplemented with: 1) additional commitments to address concerns the NRC staff had with changes contained in the 1998 Edition of Subsection IWL, as identified in the SER for Comanche Peak; and 2) the applicable requirements of 10 CFR 50.55a(b)(2)(viii).

"Based on the information presented, WCNOC requests relief from the requirements in the 1992 Edition with the 1992 Addenda of Section XI. This information demonstrates that the proposed alternative provisions provide an acceptable level of quality and safety for the inspection of Subsection IWL components. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested on the basis that the proposed alternatives to ASME Section XI requirements provide an acceptable level of quality and safety."

Evaluation: 10CFR50.55a(g)(6)(ii)(B) requires that licensees perform the inservice examinations which are specified in Subsection IWL of the 1992 Edition with the 1992 Addenda, corresponding to the number of years of plant operation. The licensee is proposing to implement the 1998 Edition of Section XI, Subsection IWL in lieu of the 1992 Edition and Addenda. The licensee prepared and submitted a table comparing both Code Editions (Appendix C of this report). The INEEL staff has reviewed the licensee's submittal and Subsection IWL of the 1998 Code and compared it with the 1992 Edition,1992 Addenda. Appendix B of this report contains a comparison table, including the licensee's statements regarding the significance of Code changes and their basis for use as an alternative examination. The table also includes INEEL comments on each change. Significant differences were noted in the areas of personnel qualification and visual examination procedure qualification. Each of these

issues are discussed below.

Personnel Qualification

The 1992 Addenda incorporates ANSI/ASNT CP-189 for the qualification of examination personnel. Subsection IWL of the 1998 Edition, takes exception to the certification requirements of the remainder of the Code and invokes plant-specific personnel certification requirements for visual examination. By deleting the VT-1C and VT-3C visual examinations, replacing them with the general and detailed visual examinations, and excluding the personnel qualification requirements of IWA-2300, NDE personnel are not needed to perform containment visual examinations. Subsection IWL of the 1998 Edition relies on the Responsible Engineer to direct the containment visual examinations. The INEEL staff believes that this approach has the potential for substantial inconsistency with respect to containment ISI. For this reason, the 1998 Edition does not provide an acceptable level of quality.

However, the licensee's qualification of examination personnel for detailed and general visual examinations will conform to the requirements for VT-1 and VT-3, respectively, per the existing WCNOC Procedures. WCNOC's procedures will meet the applicable requirements of IWA-2300 of the 1992 Addenda for IWL examinations. Therefore, it is concluded that the licensee's proposed alternative provides an acceptable level of quality and safety in this area.

Visual Examination

The 1992 Edition with 1992 Addenda, Subsection IWL, used VT-1C and VT-3C to designate visual examinations to be performed on concrete containment structures. In addition, minimum illumination, maximum direct examination distance, and procedure demonstration using specified lower case character height are required by IWA-2210. The licensee performance requirements for general and detailed visual examinations will be included in the WCNOC visual examination procedure. The detailed visual examination will meet the resolution requirements for VT-1 contained in Table IWA-2210-1 of the 1992 Addenda.

The licensee has provided information that describes a containment inspection program that parallels, the intent of the 1992 Edition, with the 1992 Addenda. The general and detailed visual examinations have been developed that are essentially equivalent to VT-1 and VT-3 examinations for assessing containment integrity. In addition the visual examination procedure for detailed and general visual examinations have been demonstrated and qualified to the satisfaction of the Authorized Nuclear Inservice Inspector (ANII). Therefore, it is concluded that the licensee's proposed alternative provides an acceptable level of quality and safety.

The general and detailed visual examinations have been developed that are essentially equivalent to VT-1 and VT-3 examinations for assessing containment integrity. Therefore, it is concluded that the licensee's proposed alternative provides an acceptable level of quality and safety.

The licensee has proposed to use the 1998 Edition of Section XI, Subsection IWL, in lieu of the 1992 Edition with the 1992 Addenda as required by 10 CFR 50.55a(g)(6)(ii)(B). Review and evaluation of Subsection IWL of the 1998 Code has

revealed several areas that do not appear to provide an equivalent level of quality and safety when compared to the 1992 Addenda. Consequently, the 1998 Edition should not be considered an acceptable alternative to the Regulatory requirements without supplemental information from the licensee. However, in letters dated May 9, 2000, and August 24, 2000, the licensee provided specific information and committed to supplement the requirements of the 1998 Code. Based on the above evaluation, it is concluded that the use of Subsection IWL of the 1998 Code, as supplemented by the licensee, provides an acceptable level of quality and safety. Therefore, it is recommended that the licensee's proposed alternative be authorized pursuant to 10 CFR 50.55a(a)(3)(i).

3.0 CONCLUSION

Based on the review of the proposed alternatives to IWE and IWL Containment Inspections and commitments included in the licensee's response to the NRC's request for additional information, it is concluded that for Relief Request CI1R-01, Revision 1, and CI1R-02, Revision 1, the intent of the Regulations will be satisfied at the Wolf Creek Generating Station. The licensee's proposed alternative, to use the 1998 Edition of Subsection IWE and IWL as supplemented by specific details contained in the WCNOC Containment Inspection Program, will provide an acceptable level of quality and safety and should be authorized pursuant to 10 CFR 50.55a(a)(3)(i).

Attachments:
1. Appendix A
2. Appendix B
3. Appendix C

APPENDIX A
WOLF CREEK GENERATING STATION
IWE COMPARISON TABLE

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-1100	No Change	n/a	
IWE-1200	No Change	n/a	
IWE-1210	No Change	n/a	
IWE-1220	Changed "containment" to "containment system"	Nonsignificant	Acceptable
IWE-1230	No Change	n/a	
IWE-1231	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. Changed wording from "80% of the surface area" to "80% of the pressure retaining boundary" and stated exclusions from that 80%. Reworded paragraph b).	These single welded butt joints were removed as a separately listed examination item and are now included within the item for the pressure retaining boundary as discussed in the changes to Table IWE-2500-1 below. The exclusions from 80% incorporate an existing Table IWE-2500-1 note and clarify that areas made inaccessible during construction are also excluded. Change to b) is for clarity and is Nonsignificant	Examination of welds is optional in 10 CFR 50.55a – Acceptable Acceptable Acceptable
IWE-1232	ASME XI generic change from repair and/or replacement to repair/replacement activities. Deleted paragraph (a)(3) addressing inaccessible welded joints	Nonsignificant Welded joints were removed as a separately listed examination item and are now included within the item for the pressure retaining boundary as discussed in the changes to Table IWE-2500-1 below.	Acceptable Examination of welds is optional in 10 CFR 50.55a – Acceptable
IWE-1241	Added stiffeners and, by reference to IWE-2420, flaws accepted by evaluation as areas requiring augmented examination.	The additional areas subject to augmented examination further assure containment integrity	Appears to be a conservative change – Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-1242	Changed IWE-2500(c) to (b).	Nonsignificant	
IWE-2000	No Change	n/a	
IWE-2100	Added new Subarticle 2100 - "General" - to provide reference to IWA-2000 with exceptions from IWA-2210, -2300, -2500 and-2600.	The additional general requirements invoked by reference to IWA-2000 where none were referenced previously further assure containment integrity. The exceptions provided are significant in that related requirements have been incorporated into IWE-2310, 2320 and 2330. These changes are discussed below. WCNOC's visual examination requirements are defined in Relief Request CI1R-01, Proposed Alternatives, item 1).	‣IWE examinations will not require the visual examinations identified in IWA-2210. ‣Per the 1998 Code, personnel will not have to be certified to CP-189 (IWA-2300)-Licensee has committed to certify inspection personnel in accordance with 1992 Addenda (CP-189). ‣IWA-2500 excludes repair welds from the requirements of examination. ‣IWA-2600 requires that a weld reference system be established for surface or volumetric examinations. However, IWE-2500(c)(4) requires reproducible grid markings for augmented ultrasonic thickness measurement. Details in appropriate sections below.
IWE-2200	Deleted paragraph c) which provided allowances for the use of shop or field examinations in lieu of on site preservice examinations. Deleted paragraph g) which required the condition of new coating to be documented in the preservice examination record. ASME XI generic change from repair and or replacement to repair/replacement activities.	The deletion of an allowance for an alternative examination ensures that proper pre-service examinations are performed and documented. The deletion of the requirement to document the condition of "new" non-pressure retaining coatings in the pre-service examination record provides for more efficient program implementation without affecting component integrity. The WCNOC containment coating procedure adequately inspects new coating applications without the need for an additional Code examination. Nonsignificant	Appears to be a conservative change – Acceptable See the comments below under Paragraph IWE-2500 of this table for additional discussion on WCNOC coatings program. Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-2300	Added new Subarticle -2300 -"Visual Examination, Personnel Qualification and Responsible Individual."	The paragraphs within this subarticle are considered significant and contain requirements that either did not previously exist or that were contained in other areas. Placing these requirements that either did not previously exist or that were contained in other areas. Placing these requirements within Article IWE-2000 further ensures proper "Examination and Inspection" of areas important to containment integrity and provides consistency with Subsection IWB, IWC and IWD. The specific paragraphs added are discussed below. Based on the NRC SER for Comanche Peak, WCNOC has submitted additional commitments, as detailed in Relief Request CI1R-01. Reference to the applicable additional commitments are identified in the discussion below.	See below.
IWE-2310	Added new paragraph -2310 - Visual Examinations - which a) states the owner shall define requirements for visual examination of containment surfaces;	a) Adding requirements for the owner to define visual examination requirements provides for more efficient containment ISI program implementation by allowing examinations that may be more consistent with existing ISI, containment coating, maintenance rule and Appendix J programs. WCNOC's visual examination requirements are defined in Relief Request CI1R-01, Proposed Alternatives, item 1).	Consistency with existing ISI visual examination requirements provide for an efficient internal program, coupled with the program established by WCNOC should provide uniformity and consistency industry wide. 1998 Code with specific details from the licensee should be acceptable.

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-2310 (con't)	b) and c) define general and detailed visual examinations; and	b) and c): The general visual examination is performed to indicate the general condition of the containment. The detailed visual examination is performed to determine the magnitude and extent of any deterioration or distress. Referring to visual examinations by new general visual and detailed visual terms does not adversely affect the integrity of the containment components examined. The provisions of WCNOC's general visual and detailed visual examinations are defined in Relief Request CI1R-01, Proposed Alternatives, item 1).	There are no acceptance criteria specified since the proposal maintains owner defined examination requirements. Don't agree with the philosophy of a new visual examination method for IWE examinations. 1998 Code is unacceptable. The licensee has provided specific acceptance criteria for general and detailed visual examinations – Acceptable
	d) and e) provide the requirements for the conditions of areas affected by repair/replacement activities, painted or coated areas, non coated areas.	d) and e) Previously these examination requirements did not exist within Article IWE-2000 but rather only in the acceptance criteria of Article IWE-3000. Adding these specific attributes here ensure proper containment examinations. The WCNOC acceptance criteria for general and detailed visual examination further defines the examination criteria to be used. The WCNOC acceptance criteria is defined in Relief Request CI1R-01, Proposed Alternatives, item 2).	Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-2320	Added new paragraph 2320 - "Responsible Individual" - which a) states the qualification requirements of the Responsible Individual and 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.	a) The details for the Responsible Individual qualification requirements were previously contained in the acceptance standards of IWE-3510.1. b) The added detailed responsibilities for the Responsible Individual ensure proper performance of those related activities. Having an individual possessing the qualifications described in paragraph 2320 a) performing the responsibilities defined in paragraph 2320 b) ensures the reliable detection of conditions adverse to containment integrity.	Acceptable The duties identified must be performed regardless of who is assigned to do them. However, the 1998 philosophy gives the responsible individual complete control over the Program. Section XI consistency maintains that licensee containment programs meet the requirements of Subsection IWA.
IWE-2330	Added new paragraph 2330 - *Personnel Qualification* - which a) states that the owner is responsible for defining the qualification requirements for personnel performing visual examinations and b) provides minimum qualification requirements that were previously contained in the acceptance criteria of IWE-3510.1.	a) Adding requirements for the owner to define personnel qualification requirements provides for more efficient containment ISI program implementation by permitting personnel performing containment examinations to be qualified to written practices that are more consistent to those used for other NDE personnel. WCNOC's personnel qualification requirements are defined in Relief Request CI1R-01, Proposed Alternatives, item 1). b) Providing these details in the qualification requirements paragraph focuses the containment visual qualification on areas important to containment integrity. WCNOC's personnel qualification and examination provisions that supplement the Code requirements are defined in Relief Request CI1R-01, Proposed Alternatives, item 1).	Personnel should be qualified in accordance with Subsection IWA. 1998 Code is unacceptable. The licensee provided specific details on personnel qualification - Acceptable 1998 Code is unacceptable without licensee augmentation. 10 CFR 50.55a(b)(x)(B) requires the qualification of remote visual examinations. Licensee provided qualification requirements for direct and remote visual examinations – Acceptable.
IWE-2400	**INSPECTION SCHEDULE**		
IWE-2410	No Change	n/a	

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-2411	Deleted a subparagraph (b) discussing decreasing and extending inspection periods.	The deleted subparagraph eliminates duplication with IWA-2400.	Acceptable
IWE-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 requirement for the scheduling of added welds or components was added prior to the 1998 Edition rewrite of Subsection IWE and is a marginal value with the 1998 revisions to Table IWE-2500-1 (refer to the evaluation later in this table).	Acceptable
IWE-2420	Revised (b) to remove repaired areas as areas requiring reexaminations during the next successive inspection period. Changed (c) to require that areas which remain essentially unchanged for the next inspection period no lon(g)er require augmented examinations. The 1992 Addenda 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. Not having to repeat examinations of these non augmented repaired areas provides for more efficient program implementation without adversely affecting component integrity. This is now consistent with Class 2 successive inspections. The engineering evaluation of IWE-3122.3, along with the reexamination in the next inspection, is sufficient to assure that augmented examinations need not be continued.	Changing duration of reexamination of areas that remain essentially unchanged from "*three consecutive inspection periods" to* "*the next successive inspection period"* is consistent with the requirements for Class 2 components -- Acceptable.
IWE-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.	The 1998 Code does not rely on sampling as 100% of the containment surface is already examined. Therefore, elimination of this requirement is appropriate -- Acceptable.

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-2500	Reworded the existing subparagraphs consistent with the previous paragraph changes and with Table IWE-2500-1 changes	The reworded subparagraphs add clarity and provide consistency within IWE.	Acceptable
	Deleted the requirement to examine paint or coatings prior to removal.	The 1998 Edition increases the frequency of examination when compared to the 1992 Addenda. During examinations, the general and detailed visual examinations of coated areas will identify flaws and degradation in the containment base metal and result in appropriate corrective actions per the Code requirements. Should a coating be removed between required inservice inspections, the WCNOC nuclear coatings pre-application inspections, and nonconformance and corrective action programs, would identify and resolve any base metal conditions that could challenge the structural integrity of the containment. As a result, there is no anticipated benefit from a separate Code requirement to inspect coatings prior to removal. This deletion provides for a more efficient program implementation without affecting component integrity.	1998 Code is unacceptable. Elimination of the paint or coatings exam prior to removal has been found acceptable provided adequate provisions exist in the licensee's program to examine the base metal prior to re application of the coating. Licensee has addressed base metal examinations – Acceptable
	Replaced the requirement for one foot square grids in thickness measurements with a reference to Table IWE-2500-2.	The new Table IWE 2500-2 provides more detailed requirements for thickness measurements and is discussed below.	The ultrasonic gridline approach is a sampling methodology similar to that of other portions of the Code and other erosion/corrosion monitoring programs utilized throughout the industry -- Acceptable.
	Added a reference to IWE-5000 for pressure tests.	The added reference to IWE-5000 provides direction for the performance of pressure tests.	Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-2600	Deleted a sentence discussing compatibility of paint and coating systems and a requirement to examine the new paint.	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 addressed in the WCNOC containment coating specification and procedure.	Elimination of this sentence considered acceptable when covered by existing nuclear coatings program.
IWE-3000	**ACCEPTANCE STANDARDS**		
IWE-3100	Removed the word nondestructive from the heading	Nonsignificant	Consistent with IWB and IWC wording – Acceptable
IWE-3110	No change	n/a	
IWE-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 paragraph 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.	Under the 1998 scheme, Table IWE-3410-1 probably isn't necessary because there are only two examination categories and the acceptance criteria are specified in Table IWE-2500-1 – Acceptable
IWE-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.	Nonsignificant	Same as above.
IWE-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.	Nonsignificant	Same as above.
IWE-3115	Deleted subparagraph which addressed repair programs and evaluations being subject to review by authorities.	Nonsignificant - there were no submittal or retention requirements changed by the deletion of the subparagraph.	The Regulations do not require the licensees to submit their containment inspection programs -- Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-3120	Removed the word nondestructive from the heading.	Nonsignificant	Consistent with IWB and IWC –Acceptable
IWE-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 Nonsignificant. The referenced subparagraphs did not actually apply to the acceptance of flaws for continued service.	Acceptable
IWE-3122	Replaced the references to Table IWE-2500-1 and to 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.	Nonsignificant - the changes are for clarity and to reconcile paragraph numbering. There were no submittal or retention requirements changed by the deletion of the sentence addressing evaluation reviews.	Consistent with IWB and IWC -- Acceptable
IWE-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.	Nonsignificant	Acceptable
IWE-3125	Deleted subparagraph which addressed repair programs and reexamination results being subject to review by authorities.	Nonsignificant - there were no submittal or retention requirements changed by the deletion of the subparagraph.	Acceptable
IWE-3130	No Change	n/a	
IWE-3200	Added a statement to the end of the paragraph that states supplemental surface or volumetric examinations are required when specified by 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.	Acceptable
IWE-3410	Replaced the reference to Table IWE-3410-1 with a reference to Subarticle IWE-3500.	Nonsignificant	Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-3430	No Change	n/a	
IWE-3500	No Change	n/a	
IWE-3510	Reconciled acceptance standards with the IWE-2300 changes discussed above and the Table IWE-2500-1 changes discussed below by: Adding the requirement that the owner shall define acceptance criteria for visual examination of containment surfaces	Previously examination requirements were contained in the acceptance standards of IWE-3500. This has been corrected by the addition of IWE-2300 as discussed above. This change directly corresponds to the addition of IWE-2310(a) discussed above. WCNOC's visual examination acceptance criteria is defined in Relief Request CI1R-01. Proposed Alternatives, item 2).	Owner defined visual examination requirements do not provide uniformity and consistency industry wide. 1998 Code is unacceptable without specifics provided by licensee. Specifics have been provided by the licensee. – Acceptable.
	Removing the wording for responsible individual and for personnel qualifications;	This change directly corresponds to the addition of IWE-2320 discussed above.	Acceptable
	Combining 3510.2 and 3510.3 and removing specific VT-1 and VT-3 examination attribute wording; and Incorporating IWE-3511;3513,3514 and 3515 with changes into IWE-3510.	These changes directly correspond to the addition of IWE-2310(e)(1) and (2) discussed above. 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 standard paragraphs.	Acceptable
	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.	The resulting acceptance standards for bolting provide for more practical containment ISI program implementation without adversely affecting containment leak tight or structural integrity.	The examination of bolting, seals and gaskets to determine their ability to maintain containment leak tight integrity as a separate inspection is considered unnecessary. The Appendix J test is considered sufficient for determining the leak-tight integrity of the penetration – Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-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.	Owner defined acceptance criteria do not provide consistency through out the industry. Therefore, the 1998 Code is unacceptable. WCNOC has provided those specifics. – Acceptable
IWE-3512	Renumbered subparagraph to IWE-3511. Reconciled acceptance standards with the IWE-2300 changes discussed above and the Table IWE-2500-1 changes discussed below	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 has been corrected by the addition of IWE-2300 as discussed above.	Based on Regulatory requirements excluding containment welds, the elimination of any direct references to containment weld examinations in the Code – Acceptable
	Added the requirement that the owner shall define acceptance criteria for visual examination of containment surfaces;	This change directly corresponds to the addition of IWE-2310(a) discussed above. WCNOC's visual examination acceptance criteria is defined in Relief Request CI1R-01, Proposed Alternatives, item 2).	
	Combined 3512.2 and 3512.3 with changes into 3511.2 and removed specific VT-1 examination attribute wording; and	These changes directly correspond to the addition of IWE-2310(e)(1) and (2) discussed above and eliminate potential duplication or contradiction of requirements.	
	Reworded ultrasonic examination subparagraph and limited the UT to Class MC components.	This change eliminates the need to perform the UT examinations on metallic liners of Class CC components. WCNOC will apply the provisions of IWE-3511.3 to both Class MC components and metallic liners of Class CC components, as stated in Relief Request CI1R-01, Proposed Alternatives, item 3).	
IWE-3513, 3514, 3515	Deleted subparagraph IWE-3513, 3514 and 3515 which addressed examination categories E-D, E-F, and E-G, respectively.	Examination category 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.	

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-4100	No Change	WCNOC's relief request does not include using the 1998 Edition of IWA-4000. WCNOC will continue to use IWA-4000 from the 1992 Addenda as required by NRC clarification of the 10 CFR 50 regulations that mandated implementation of IWE and IWL.	
IWE-5200	No Change	n/a	
IWE-5210	No Change	n/a	
IWE-5220	ASME XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable
IWE-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.	Nonsignificant - the requirement to meet the requirements of the Appendix J paragraph referenced is not affected by removing the quoted Appendix J paragraph.	Acceptable
IWE-5222	ASME XI generic change from repair and or replacement to repair/replacement activities. Changed repair to weld. Added (DN25).	Nonsignificant	Acceptable
IWE-5240	Replaced a reference to IWA-5240 with requirements to perform detailed visual examination of repair/replacement areas during pressure tests.	The addition of specific IWE examination requirements during pressure testing in lieu of referencing IWA general requirements focuses requirements on issues specific to containment integrity and therefore provides added assurance of the integrity of repaired/replaced areas.	Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
IWE-5250	Changed Corrective Measures to Corrective Action in the heading. ASME XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable
IWE-7100	No Change	n/a	
TABLE CHANGES			
Table IWE-2411-1	No Change	n/a	
Table IWE-2412-1	Replaced the separate entries for 1st and successive intervals with one entry for All intervals. Changed minimum and maximum examination completion percentages and added Note (1) which states that if the first period completion percentage for any examination category exceeds 34%, at least 16% of required examinations shall be performed in the second period.	Nonsignificant - The previous requirements for the 1st and successive intervals were identical. Therefore, combining the entries does not affect any requirements. Provides more flexibility in scheduling examinations, but ensures allocation of examinations are done throughout the 10 year interval. The IWE change is consistent with changes made in IWB, IWC, IWD, and IWF.	Acceptable
Table IWE-2500-1 Examination Category E-A	Item E1.11: Revised frequency of examination from "prior to each type A test" to "100%" during each period".	Removing the requirement to coordinate examinations with type A tests allows for more efficient containment ISI program implementation without adversely affecting containment integrity. The requirement to perform general visual examinations every inspection period increases the total number of examinations on the containment surface in the interval.	Conservative change. Appendix J, Option A, requires periodic (one each period) Type A tests. Appendix J, Option B, is based on historical performance and requires periodic visual inspection for Type A tests – Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
Table IWE-2500-1 Examination Category E-A (con't)	Item E1.12: Redesignated item from "*accessible surface areas*" to "*wetted surfaces of submerged areas*". Replaced examination method VT-3 with general visual.	Replacing the accessible surface area designation (which is now included in E1.11) was wetted surface areas (which were previously included in 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 examination are the same conditions that would be detected by a general visual examination (refer to the evaluation of IWE-2300 above). The requirement to perform a detailed examination on any suspect area has not changed. The new requirement in item E1.11 to perform general visual examinations every inspection period increases the total number of examinations on the containment surface in the interval. 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.	Acceptable with licensee provided general visual examination requirements and acceptance criteria.
	Item E1.20: Added BWR to item description. Replaced examination method VT-3 with general visual.	This item is not applicable to WCGS containment.	The change to general visual removes the emphasis on containment welds. Should be acceptable when visual criteria provided.
	Item E1.30: Added item for moisture barriers with a general VT required each period.	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.	Acceptable
	All items no.'s - Replaced reference to IWE-3510 for examination requirements with IWE-2310.	Nonsignificant - Previously some examination requirements were contained in IWE-3500. They now exist in IWE-2300.	Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
Table IWE-2500-1 Examination Category E-A (con't)	Notes – Revised to specifically include welds and bolting as part of the pressure retaining boundary requiring examination.	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.	Acceptable with licensee provided general visual examination requirements and acceptance criteria.
Table IWE-2500-1. CAT. E-B	Deleted examination category which addressed pressure retaining welds.	Pressure retaining welds are now included in Examination Category E-A as addressed above.	10 CFR 50.55a makes containment weld inspections optional – Acceptable
Table IWE-2500-1 Examination Category E-C	Item E4.11: Replaced examination method VT-1 with detailed visual.	The conditions of distress or deterioration which 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.	Acceptable with licensee provided general visual examination requirements and acceptance criteria.
	Item E4.12: Added grid line intersections to description of parts examined. Changed examination method from volumetric to ultrasonic thickness.	The added wording clarifies inspection requirements and ensures repeatability in the location of subsequent thickness measurement points.	The recommended ultrasonic gridline sample requirements provide a more practical approach to augmented container examinations – Acceptable
	All item no.'s - Added examination requirement paragraph number references. Updated acceptance standard references.	Previously no references existed for examination requirements. These requirements have been added to IWE-2300 and -2500 as discussed above. Adding new references and updating paragraph numbers ensure proper requirements are applied to examinations.	Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
Table IWE-2500-1 Examination Category E-C (con't)	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.	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. Deletion of note 3 is non-significant.	Change from three consecutive periods to one period consistent with the requirements for Class 2 components – Acceptable
	Extent and Frequency of Examination 2500: (c) is changed to (b).	Non-significant.	
Table IWE-2500-1 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. Seals and gaskets previously required examination once per an interval with the acceptance criteria of leak tightness. Leak tight integrity is verified during each 10CFR50 App. J leak test. Removing these inspection items has been approved by the staff in relief requests submitted by Davis-Besse and others.	Appendix J, Type A test considered sufficient for determining the leak-tight integrity. - Acceptable
Table IWE-2500-1 CAT. E-F	Deleted examination category which addressed dissimilar metal welds.	Dissimilar metal welds are now included in examination category E-A as addressed above.	10 CFR 50.55a makes containment weld inspections optional – Acceptable
Table IWE-2500-1 CAT. E-G	Deleted examination category which addressed pressure retaining bolting.	Pressure retaining bolting is now included in Examination Category E-A as addressed above.	1992 required VT-1 visual of bolting when a connection was disassembled. The 1998 Edition requires general visual, in place, with no requirement when the joint is disassembled. Licensee has agreed to conditions as stated in the NRC position.
Table IWE-2500-1 CAT. E-P	Deleted examination category which addressed 10CFR50 Appendix 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.	Acceptable

APPENDIX A -- WOLF CREEK GENERATING STATION – IWE COMPARISON TABLE			
Paragraph	**Changes between IWE 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Comments**
Table IWE-2500-2	Added new Table IWE-2500-2 - Ultrasonic Thickness Measurements For Augmented Examinations - which details grid ine 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.	Acceptable
Table IWE-3410-1	Deleted table.	Nonsignificant - the contents of the previous table are adequately addressed in IWE-3500.	Acceptable

APPENDIX B
WOLF CREEK GENERATING STATION
IWL COMPARISON TABLE

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
IWL-1100	ASME Section XI generic wording change from repair, replacement and or modification terms to repair/replacement activities.	Nonsignificant	None
IWL-1200	No Change	n/a	
IWL-1210	No Change	n/a	
IWL-1220	No Change	n/a	
IWL-2100	Changed "Inspection" to "General" in heading.	Nonsignificant	
	(a) Provided reference to IWA-2000 with exceptions from IWA-2210 and -2300 for visual examinations and for qualification of visual examination personnel.	The additional requirements invoked by reference to IWA-2000 where none were referenced to IWA-2000 where none where referenced previously further assure containment integrity. The exceptions from IWA-2210 and IWA-2300 are significant in that the related previous requirements have been changed and incorporated into IWL-2310. The IWL-2310 changes are addressed below. WCNOC's visual examination requirements are defined in Relief Request CI1R-02, Proposed Alternatives, item 1).	IWL examinations will not require the visual examinations identified in IWA-2100. Personnel will not have to be certified to CP-189 (IWA-2300). Licensee has written practice meeting the requirements of SNT-TC-1A -- Acceptable
	(b) Provided requirements for Authorized Nuclear Inservice Inspectors.	Not addressed by licensee	Inspector responsibilities addressed in IWA - Acceptable
IWL-2200	Delete reference to IWL 2500.	The reference to IWL-2500 in the 1992 Addenda was incorrect. The preservice examination requirements were always to be performed in accordance with IWL-2210. IWL-2220, and IWL-2230. This is a non-significant change.	Acceptable
IWL-2210	No Change	n/a	
IWL-2220	No Change	n/a	

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
IWL-2230	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable
IWL-2300	No change; content changes in IWL-2310.	The philosophy of Subsection 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 and safety defined in the 1992 Edition. The specific changes to IWL-2310 and IWL-2320 will be discussed below. Based on the NRC SER for Comanche Peak, WCNOC has submitted additional commitments, as detailed in Relief Request CI1R-02. Reference to the applicable additional commitments are identified in the discussion below.	
IWL-2310	(a) Replaced VT-1C and VT-3C visual examination terminology with new VT general visual and detailed visual 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 general and detailed visual examinations are equivalent to the VT-3C and VT-1C examinations in terms of assessing the general conditions and potential for deterioration within the containment system. The definition of critical examination items and acceptable conditions has not changed. Therefore, any conditions adversely affecting quality or safety are not impacted by this change. The provisions of WCNOC's general visual and detailed visual examinations are defined in Relief Request CI1R-02, Proposed Alternatives, item 1).	Open-ended, owner defined visual examination requirements do not provide uniformity and consistency industry wide. 1998 Code is unacceptable and proposed alternative cannot be found acceptable without specific details from the licensee. The 1998 Code is unacceptable. Acceptable as supplemented by the licensee.

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
IWL-2310 (con't)	(b) Eliminated reference to IWA-2210 for illumination levels, examination distances and resolution requirements.	Direct visual examination is not practical on all areas of containment surfaces. The previous VT requirements precluded the ability to demonstrate that remote visual examination was equivalent to direct visual examination. Providing examination attributes in IWL as opposed to referencing the generic requirements of IWA focuses the visual examination on areas important to the verification of containment integrity. WCNOC's visual examination requirements addressing illumination, examination distances, and resolution requirements are defined in Relief Request CI1R-02. Proposed Alternatives, item 1).	Specific illumination and resolution details from the licensee's program should be provided. The 1998 Code is unacceptable, Acceptable as supplemented by the licensee.
	(c) Replaced reference to IWA-2300 for concrete examination personnel qualification requirements with provisions for the owner to define the examination personnel qualification requirements.	Requiring an owner defined program provides for more efficient program implementation by permitting personnel performing containment examinations to be qualified to written practices that are more consistent to those used for other NDE personnel. WCNOC's personnel qualification requirements are defined in Relief Request CI1R-02. Proposed Alternative, item 1).	Consistency with existing ISI visual examination requirements could provide for an efficient internal program. However, open-ended, owner-defined visual examination requirements do not provide uniformity and consistency industry-wide. The 1998 Code is unacceptable. Acceptable as supplemented by the licensee.

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
	(d) Added requirement for the Owner to define requirements for visual examination of tendon anchorage hardware, wires, or stands	The provisions of WCNOC's detailed visual examinations, including tendon anchorage hardware, are defined in Relief Request CI1R-02. Proposed Alternatives, item 1). Examination of wires or st(r)ands are performed by qualified subcontract quality control personnel as part of a tendon surveillance inspection contract. The examination meet the requirements of IWL-2523.2. Because neither the 1992 Addenda nor the 1998 Editions specify qualification requirements for these examinations, the NRC approved provisions of the WCNOC Quality Assurance Program for Operations contained in the Updated Safety Analysis Report. Section 17.2. are used to specify minimum personnel qualifications.	
IWL-2320	Changed wording slightly.	Nonsignificant - clarifies wording.	Acceptable
	Made the ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable
	Added a responsibility for the Responsible Engineer to review certain pressure test procedures.	The added pressure test responsibilities for the Responsible Engineer ensures proper performance of pressure testing activities.	Acceptable
IWL-2400	No Change	n/a	
IWL-2410	A condition which allows for deferral of concrete visual exams to the next scheduled plant outage for inaccessible portions of concrete surface was added to para. (c).	This change insures that all surfaces that can be inspected are examined, but recognizes the personnel safety of the inspectors.	Acceptable, licensee agrees that credit for both intervals will not be taken.
IWL-2420	No Change	n/a	

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
IWL-2421	Changed wording for sites with more than one plant. Changed frequencies by adding "and every 10 years thereafter".	Nonsignificant - clarifies wording and accommodates plant life extensions.	Acceptable
IWL-2500	No Change	n/a	Acceptable
IWL-2510	Changed heading.	Nonsignificant.	Acceptable
	Changed wording consistent with the changes to IWL-2310 addressed above.	Nonsignificant	
	In (a), eliminated the reference to the specific revision (R-68) of ACI 201.1	This is an editorial change for consistency in the Code. The revision of referenced documents are contained in Table IWA-1600-1 which still requires the same revision as specified in the 1992 Addenda.	
	Added two new subparagraphs (b) and (c) providing more detailed examination requirements for tendon anchorage areas.	The added details ensure proper tendon anchorage area examinations. The addition of (c) is consistent with the rule in 10 CFR 50	
IWL-2520	No Change	n/a	
IWL-2521	Changed random sample wording in (a)	Nonsignificant - the random sample was always by type of tendon as shown in Table IWL-2521-1.	Acceptable
IWL-2522	Changed the heading and added a subparagraph to address tendon elongation.	The added details ensure proper tendon examinations.	Acceptable
IWL-2523	No Change	n/a	
IWL-2524	Changed wording consistent with the changes to IWL-2310 addressed above.	Nonsignificant	Acceptable with licensee provided general visual examination requirements and acceptance criteria.
IWL-2525	Changed wording for sample analysis.	Nonsignificant.	Acceptable

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
IWL-2526	Added a subparagraph addressing replacement of corrosion protection medium.	The added details ensure tendon integrity.	Acceptable
IWL-3100	No Change	n/a	
IWL-3110	No Change	n/a	
IWL-3111	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant.	Acceptable
IWL-3112	No Change	n/a	
IWL-3113	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant.	Acceptable
IWL-3120	No change.	n/a	
IWL-3200	No change.	n/a	
IWL-3210	Removed the word concrete from the heading.	Nonsignificant.	
IWL-3211	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. ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant.	Added clarification - Acceptable
IWL-3212	No change.	Not Applicable.	
IWL-3213	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant.	

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
IWL-3220	No Change	n/a	
IWL-3221	Added acceptance criteria attributes for prestress loss prediction, tendon elongation, free water content and corrosion protection medium reduction.	The added details ensure proper tendon examinations.	Acceptable
IWL-3222	No Change	n/a	
IWL-3223	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant.	
IWL-3300	No Change	n/a	
IWL-3310	Added applicability for other plants at the same site. ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant. Nonsignificant.	Acceptable
IWL-3320	Deleted paragraph which addressed engineering evaluations being subject to review by authorities.	Nonsignificant - there were no submittal or retention requirements changed by the deletion of the subparagraph.	Acceptable. The Regulations do not require the licensees to submit their containment inspection programs.
IWL-4000	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant - all related repair and replacement requirements have been consolidated into IWL-4000.	Acceptable
IWL-4100	No Change	n/a	

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
IWL-4110	Exempted grease cups and installation screws from the scope. ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant - the exempted items are non structural items. Nonsignificant	Acceptable
IWL-4120	Reworded to use the new repair/replacement activity wording and combined paragraph (a) and (b). Changed the paragraph reference to the Repair/Replacement Program and Plan to address paragraph renumbering in IWA-4000.	Nonsignificant - WCNOC's relief request does not include using the 1998 Edition of IWA-4000. WCNOC will continue to use IWA-4000 from the 1992 Addenda as required by NRC clarification of the 10 CFR 50 regulations that mandated implementation of IWE and IWL.	Acceptable
IWL-4200 ------	ASME Section XI generic change from repair and/or replacement to repair/replacement activities. Added a paragraph number (IWL -4210) to the information included under IWL-4200 and changed terminology from repair and/or replacement activities.	Nonsignificant Nonsignificant	Acceptable Acceptable

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
IWL-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. Changed wording consistent with the changes to IWL-2310 addressed above. ASME Section XI generic change from repair and/or replacement to repair/replacement activities. Changed repair material to new material in several places.	Nonsignificant	Acceptable
IWL-4220	Changed paragraph number to 4230.	Nonsignificant	Acceptable
IWL-4230	Changed paragraph number to 4240 and clarified by removing the word repair. ASME Section XI generic change from repair and/or replacement to repair/replacement activities. Added detailed requirements for the contents of a repair/replacement plan.	Nonsignificant. Nonsignificant. The added detailed requirements ensure proper repair/replacement plan development for post-tensioning systems	Acceptable Acceptable Acceptable
IWL-4300	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant.	Acceptable
IWL-5100	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant.	Acceptable
IWL-5200	No Change	n/a	

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
IWL-5210	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant.	Acceptable
IWL-5220	No Change	n/a	
IWL-5230	Changed wording by removing some specific IWE related requirements while maintaining the reference to IWE-5000.	Nonsignificant - the removed wording was IWE specific and is contained in IWE-5000.	Acceptable
IWL-5240	Deleted paragraph which addressed the scheduling of pressure tests.	Nonsignificant - the schedule of pressure tests are contained in IWE-500(0) as referenced in IWL-5230.	Acceptable
IWL-5250	Changed wording regarding the role of the Responsible Engineer in pressure test activities. ASME Section XI generic change from repair and/or replacement to repair/replacement activities. Changed visual examination terminology consistent with the changes to IWL-2310 addressed above.	The clarified role of the Responsible Engineer ensures proper pressure test procedures and examinations. Nonsignificant. The visual examination terminology changes are discussed in IWL-2310 above.	Acceptable
IWL-5260	Changed heading from Corrective Measures to Correction Action. ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant Nonsignificant	Acceptable Acceptable
IWL-5300	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable

APPENDIX B -- WOLF CREEK GENERATING STATION – IWL COMPARISON TABLE			
Paragraph	**Changes between IWL 1992 Edition/ 1992 Addenda and the 1998 Edition**	**Licensee's statement of significance and/or basis for use as an alternative examination**	**Disposition/Comments**
IWL-7000	Deleted Article including IWL-7100, -7110, 7120, consistent with the IWL-4000 changes above.	Nonsignificant - all related repair and replacement requirements have been incorporated into IWL-4000.	Acceptable
Table IWL-2500-1	Changed item L1.11 from all areas to all accessible areas Changed visual examination method terminology consistent with the paragraph IWL-2310 changes above. Note: the item L1.12 examination method in the 1998 Edition contains a publication error. The "general visual" should be "detailed visual"	Changing item L1.11 provides for more practical examination implementation than previous requirements. The visual examination terminology changes are discussed in IWL-2310 above. As stated in WCNOC's Relief Request CI1R-02, Proposed Alternatives, item 2), WCNOC will implement item L1.12 examinations using a detailed visual examination as intended by Section XI.	Acceptable Acceptable with licensee provided general visual examination requirements and acceptance criteria.
Table IWL-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". Added optional test methods for corrosion protection medium analysis. Added acceptance criteria for water content	Nonsignificant - accommodates plant life extensions for tendon examinations. Nonsignificant - additional test method options provides for more practical test implementation. Previous acceptance criteria was noted as "in course of preparation." Providing the acceptance criteria assures consistent implementation.	Acceptable

Appendix C
WCNOC Supplements to 1998 Code

Appendix C WCNOC Supplemental Information to the 1998 Code Edition		
Initial 1998 Code Proposed Alternative	**Supplemented Proposed Alternative**	**Recommendations/Comments**
IWE-2300 - “Visual Examinations”- a) the owner shall define requirements for visual examination of containment surfaces.	• The general and detailed visual examinations will be performed by certified examination personnel. • The qualification program for personnel performing the general and detailed visual examinations will meet the applicable requirements of IWA-2300 of the 1992 Addenda. • WCNOC procedures will include the general and detailed visual examinations in the functional task descriptions for the VT-3 and VT-1 methods, respectively. Personnel performing the general and detailed visual examinations will be certified to a minimum Level II VT-3 and VT-1, respectively. • The acceptance criteria for general and detailed visual examinations for various items in the containment system are discussed in Item 2) below.	Authorize per 10 CFR 50.55a(a)(3)(i).

Appendix C WCNOC Supplemental Information to the 1998 Code Edition		
Initial 1998 Code Proposed Alternative	**Supplemented Proposed Alternative**	**Recommendations/Comments**
IWE-2300 (Continued)	• Performance requirements for general and detailed visual examinations will be included in the visual examination procedure. The detailed visual examination will meet the resolution requirements for VT-1 in Table IWA-2210-1 in the 1992 Addenda. A performance demonstration will be developed and documented to establish the distances and illumination for which the general and detailed visual examinations are sufficient to detect evidence of degradation that may affect the containment structural integrity or leak tightness. The WCNOC visual examination procedure will be prepared by Non-destructive examination (NDE) Level III personnel and the Responsible Individual and demonstrated to the Authorized Nuclear Inservice Inspector. • Personnel performing augmented ultrasonic thickness examinations will be qualified in accordance with the requirements of IWA-2000 in the 1992 Addenda.	

Appendix C WCNOC Supplemental Information to the 1998 Code Edition		
Initial 1998 Code Proposed Alternative	**Supplemented Proposed Alternative**	**Recommendations/Comments**
IWE-3510.1 and IWE-3511.1	These paragraphs in the 1998 Edition were revised to require the Owner to define acceptance criteria for general and detailed visual examination of containment surfaces. The following provisions define the acceptance criteria for the general and detailed visual examinations to be performed as part of the WCNOC Containment ISI Program: "The general visual examination acceptance criteria will be included in the WCNOC Section XI visual examination procedure. The general visual examination of containment liner surfaces examines for indications of degradation that may affect the containment structural integrity or leak tightness. Containment liner welds and dissimilar metal welds are examined as part of the containment liner surfaces. Indications of flaking blistering or peeling coating, excessive corrosion, general deformation, bulges, surface irregularities, or other signs of distress, will be recorded. The general visual examination of pressure retaining bolted connections examines for missing or loose bolting materials, corrosion, bolting deformation, or other indications that may affect the integrity of the bolted connection. All indications are recorded. The general visual examination of moisture barriers examines for wear, damage, erosion, tears, surface cracks or other defects that would permit intrusion of moisture into inaccessible areas. All indications are recorded. All recorded indications will be supplemented with a detailed visual examination.	Authorize per 10 CFR 50.55a(a)(3)(i).

Appendix C WCNOC Supplemental Information to the 1998 Code Edition		
Initial 1998 Code Proposed Alternative	**Supplemented Proposed Alternative**	**Recommendations/Comments**
IWE-3510.1 and IWE-3511.1	"The detailed visual examination will also be included in the WCNOC Section XI visual examination procedure. The detailed visual examination assesses the initial condition of surfaces requiring augmented examinations, in accordance with IWE-1241, and determines the magnitude and extent of indications of degradation and distress of these containment surfaces. The detailed visual examination also determines the magnitude and extent of indications of degradation and distress of suspect containment surfaces initially detected by the general visual examination. The detailed visual examination criteria of IWE-2310(e) of the 1998 Edition are used, supplemented by additional criteria for bolted connections and moisture barriers, as defined in the general visual examination criteria above. The results of the examination will be recorded for evaluation by the Responsible Individual for acceptance by engineering evaluation or correction by repair/replacement activity."	
IWE-3511.3	"IWE-3511.3: The 1998 Edition only applies the criteria in IWE-3511.3 to Class MC pressure retaining components, not to metallic liners of Class CC components. WCNOC will apply the ultrasonic examination criteria in IWE-3511.3 to both Class MC components and the metallic liners of Class CC components.	Authorize per 10 CFR 50.55a(a)(3)(i).

Appendix C WCNOC Supplemental Information to the 1998 Code Edition		
Initial 1998 Code Proposed Alternative	**Supplemented Proposed Alternative**	**Recommendations/Comments**
Table IWE-2500-1	"All accessible bolted connections within the scope of Subsection IWE will be visually examined each inspection period in accordance with the requirements of the 1998 Edition of ASME Section XI, Table IWE-2500-1, Category E-A. This corresponds to an examination of all bolted connections three times per inspection interval. In accordance with these 1998 Section XI requirements, WCNOC will perform a general visual examination on the exposed portions of these connections. Bolted connections will not be disassembled solely for the performance of the general visual examination. However, if the general visual examination indicates possible areas of degradation or damage, a detailed visual examination, as required by the 1998 Edition of Section XI, will be performed. Based on the magnitude and extent of degradation, the Responsible Individual will determine if the bolted connection needs to be disassembled for further evaluation. If a bolted connection within the scope of Subsection IWE is disassembled, a detailed visual examination will be performed once per inspection interval, consistent with the requirements of the 1992 Addenda of Section XI. This detailed visual examination will be performed on all accessible surface areas of the bolts, studs, nuts, bushings, washers, threads in base material, and flange ligaments between the fastener holes. WCNOC will schedule this detailed visual examination for bolted connections routinely disassembled and will assure that this examination is included in the work orders for disassembly of connections that are not routinely disassembled, such as electrical penetrations."	Authorize per 10 CFR 50.55a(a)(3)(i).

Appendix C WCNOC Supplemental Information to the 1998 Code Edition		
Initial 1998 Code Proposed Alternative	**Supplemented Proposed Alternative**	**Recommendations/Comments**
IWL-2300	• The general and detailed visual examinations will be performed by certified examination personnel • The qualification program for personnel performing the general and detailed visual examinations will meet the applicable requirements of IWA-2300 of the 1992 Addenda. • WCNOC procedures will include the general and detailed visual examinations in the functional task descriptions for the VT-3 and VT-1 methods, respectively. Personnel performing the general and detailed visual examinations will be certified to a minimum Level II VT-3 and VT-1, respectively • Performance requirements for general and detailed visual examinations will be included in the WCNOC visual examination procedure. The detailed visual examination will meet the resolution requirements for VT-1 contained in Table IWA-2210-1 in the 1992 Addenda. A performance demonstration will be developed and documented to establish the distances and illumination for which the general and detailed visual examinations are sufficient to detect evidence of degradation that may affect the containment structural integrity. The WCNOC visual examination procedure will be prepared by NDE Level III personnel and the Responsible Engineer and demonstrated to the Authorized Nuclear Inservice Inspector. • The visual examinations will be performed in accordance with the 1998 Edition, Subsections IWL-2310, IWL-2510, and IWL-2524.1. Indications will be recorded, and subsequently evaluated, by the Responsible Engineer in accordance with IWL-2320, IWL-3200, and IWL-3300.	Authorize per 10 CFR 50.55a(a)(3)(i).

Appendix C WCNOC Supplemental Information to the 1998 Code Edition		
Initial 1998 Code Proposed Alternative	**Supplemented Proposed Alternative**	**Recommendations/Comments**
Table IWL-2500-1	The 1998 Edition of Table IWL-2500-1, Category L-A, Item L1.12 specifies the examination method as a general visual examination. This is a publication error in Section XI. The correct examination method should be a detailed visual examination. WCNOC will perform detailed visual examinations of suspect areas addressed in Category L-A, Item L1.12, in Table IWL-2500-1.	Authorize per 10 CFR 50.55a(a)(3)(i).