



April 22, 2005  
BVY 05-40

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

Subject: **Vermont Yankee Nuclear Power Station**  
**License No. DPR-28 (Docket No. 50-271)**  
**Response to Request for Additional Information - Technical Specification**  
**Proposed Change No. 268**  
**One-time Integrated Leak Rate Test (ILRT) Interval Extension**

By letter dated October 5, 2004<sup>1</sup>, Vermont Yankee Nuclear Power Station (VY) submitted Technical Specification Proposed Change No. 268. The proposed license amendment would revise Technical Specification section 6.7.C "Primary Containment Leak Rate Testing Program" to allow a one-time interval extension of no more than five (5) years for the Type A, Integrated Leakage Rate Test. The exception is to allow Integrated Leakage Rate testing to be performed within fifteen years of the last Integrated Leakage Rate Test, performed in April 1995.

On March 28, 2005<sup>2</sup>, the NRC provided to VY a Draft Request for Additional Information regarding Technical Specification Proposed Change No. 268. Following a discussion with the Staff on March 30, 2005, VY agreed to provide a written response to the draft questions. Accordingly, the following attachments provide the response to the request for additional information.

There are no commitments contained within this letter.

If you have any questions or require additional information, please contact Mr. James M. DeVincentis at (802) 258-4236.

<sup>1</sup> Reference VY Letter to USNRC, BVY 04-77, "Technical Specification Proposed Change No. 268 - One-time Integrated Leak Rate Test (ILRT) Interval Extension," dated October 5, 2004.

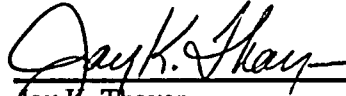
<sup>2</sup> Reference Memorandum from D. Roberts (USNRC) to R. Ennis (USNRC), NRY 05-46, "Vermont Yankee Nuclear Power Station – Draft Request for Additional Information (TAC No. MC4662)," dated March 28, 2005.

AD17

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 22, 2005.

Sincerely,



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Jay K. Thayer  
Site Vice President  
Vermont Yankee Nuclear Power Station

Attachments (3)

cc: USNRC Region 1 Administrator  
USNRC Resident Inspector - VY  
USNRC Project Manager - VY  
Vermont Department of Public Service

ATTACHMENT 1 TO BVY 05-40

**Response to Request for Additional Information –  
Technical Specification Proposed Change No. 268  
One-time Integrated Leak Rate Test (ILRT) Interval Extension**

ENTERGY NUCLEAR OPERATIONS, INC.  
VERMONT YANKEE NUCLEAR POWER STATION  
DOCKET NO. 50-271

On January 4, 2005<sup>1</sup>, the NRC provided to VY a Draft Request for Additional Information regarding Technical Specification Proposed Change No. 268. The Following provides the response to request for additional information.

**Question 1:**

The licensee's discussion of the Inservice Inspection (ISI) Program on page 5 of Attachment 1 of the application indicates that, based on the 1998 Edition of ASME Section XI through the 2000 Addenda, VYNPS performs Category E-A examinations (General Visual Examinations) in accordance with Table IWE-2500-1. These general visual examinations cover the interior and exterior pressure retaining boundary (Item E1.10), accessible surface areas (Item E1.11), and moisture barriers (Item E1.30). Provide a detailed description of the acceptance criteria used for visual examination of containment surfaces and how these general visual examinations are performed.

**Response to Question 1:**

The visual examinations of the interior and external containment surfaces utilize an Entergy Nuclear Northeast common standard, ENN-EP-S-001 "IWE General Visual Containment Inspection." In general, the standard contains criteria derived from various ASTM documents for determining the condition of coated and uncoated surfaces (e.g., extent of corrosion, blistering, flaking, cracking, etc.). For a detailed description of the acceptance criteria used for these visual exams, please reference ENN-EP-S-001 "IWE General Visual Containment Inspection," provided as Attachment 2 to this letter. In addition, for details regarding the inspection schedule of the containment structure, please reference Table 1 from PP 7024 "Containment Inservice Inspection Program (IWE)" which is being provided as Attachment 3 to this letter.

**Question 2:**

For the examination of penetration seals and gaskets, and examination and testing of bolted connections associated with the primary containment pressure boundary (Examination Categories E-D and E-G), relief for the requirements of the Code had been requested by some nuclear plant licensees. As an alternative, these licensees proposed to examine the containment components during the leak-rate testing of the primary containment. Since the application states that there are no Relief Requests in effect for the containment ISI program, the staff requests the licensee to provide a detailed description of how the above items are examined, including the schedule for examinations.

**Response to Question 2:**

The Code of Record does not contain Categories E-D or E-G. However, containment bolted connections, Table IWE-2500-1, Category E-A, Item E1.11, are examined in accordance with the requirements of 10CFR50.55a(b)(2)(ix)(H):

"Containment bolted connections that are disassembled during the scheduled performance of the examinations in Item E1.11 of Table IWE-2500-1 must be examined using the VT-3 examination method. Flaws or degradation identified during the performance of a VT-3 examination must be examined in accordance with the VT-1 examination method. The criteria in the material specification or IWB-3517.1 must be

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<sup>1</sup> Reference Memorandum from D. Roberts (USNRC) to R. Ennis (USNRC), NYY 05-46, "Vermont Yankee Nuclear Power Station - Draft Request for Additional Information (TAC No. MC4662)," dated March 28, 2005.

used to evaluate containment bolting flaws or degradation. As an alternative to performing VT-3 examinations of containment bolted connections that are disassembled during the scheduled performance of Item E1.11, VT-3 examinations of containment bolted connections may be conducted whenever containment bolted connections are disassembled for any reason.”

The enclosed Table 1 of PP 7024 contains the scheduled VT-3 examinations of bolting (Attachment 3).

**Question 3:**

NRC Information Notice 92-20, “Inadequate Local Leak Rate Testing,” was issued to alert licensees of problems with local leak rate testing of two-ply stainless steel bellows used on piping penetrations at some plants. Specifically, local leak rate testing could not be relied upon to accurately measure the leakage rate that would occur under accident conditions since, during testing, the two plies in the bellows were in contact with each other, restricting the flow of the test medium to the crack locations. Any two-ply bellows of similar construction may be susceptible to this problem. Please discuss the applicability of this issue to VYNPS, and if applicable, provide information regarding inspection and testing of the bellows, and how such behavior has been factored into the risk assessment submitted in support of this license amendment request.

**Response to Question 3:**

Vermont Yankee expansion bellows are a single ply design. The conditions identified in IN 92-20 are not applicable to Vermont Yankee due to our configuration. As such, the Type B tests are capable of detecting through wall defects. The bellows are tested in accordance with the VY Primary Containment Leakage Rate Testing Program implementing Option B of 10CFR50 Appendix J at a frequency of 10 years on a staggered basis. It is noted that even though Vermont Yankee’s configuration is of a different design, the potential for undetected through wall defects was factored into the risk assessment.

**ATTACHMENT 2 TO B V Y 05-40**

**Response to Request for Additional Information –  
Technical Specification Proposed Change No. 268  
One-time Integrated Leak Rate Test (ILRT) Interval Extension**

**ENN-EP-S-001 “IWE General Visual Containment Inspection”**

**ENERGY NUCLEAR OPERATIONS, INC.  
VERMONT YANKEE NUCLEAR POWER STATION  
DOCKET NO. 50-271**



**ENERGY**

**FOR INFO ONLY**

**ENN  
ENGINEERING  
STANDARD**

ENN-EP-S-001    Rev. 0    Effective Date: 3/19/04


**IWE General Visual Containment Inspection**

Applicable Site(s):

IP1     IP2     IP3     JAF     PNPS     VY

Safety Related: X Yes

       No

Prepared by: Glen Smith  3/14/04  
Print Name/Signature/Date

Approved by: Robert Penny  Date: 3/18/04  
Engineering Standard Owner

Requirements and Revision Summary


Revision No.	Date	Changes
0		Original issue





**TABLE OF CONTENTS**

<u>Section</u>	<u>Title</u>	<u>Page</u>
1.0	PURPOSE.....	4
2.0	REFERENCES.....	4
3.0	DEFINITIONS.....	5
4.0	RESPONSIBILITIES.....	7
5.0	DETAILS.....	7
6.0	RECORDS.....	11
7.0	ATTACHMENTS.....	12
	ATTACHMENT 7.1, GENERAL VISUAL EXAMINATION CHECKLIST FOR COATED AND UNCOATED SURFACES.....	13
	ATTACHMENT 7.2, IWE GENERAL VISUAL EXAMINATION EVALUATION FORM.....	14
	ATTACHMENT 7.3, QUALIFICATION OF EQUIPMENT.....	15
	ATTACHMENT 7.4, PERSONNEL QUALIFICATION FORM.....	16
	ATTACHMENT 7.5, GENERAL VISUAL EXAMINATION CHECKLIST FOR BOLTING ASSEMBLIES.....	17
	ATTACHMENT 7.6, GENERAL VISUAL EXAMINATION CHECKLIST FOR CONTAINMENT SUPPORTS.....	18


	<b>ENN NUCLEAR MANAGEMENT MANUAL</b>	Engineering Standard	ENN-EP-S-001	Revision 0
		IWE General Visual Containment Inspection	Page	<u>4</u> of <u>18</u>

## 1.0 PURPOSE

- 1.1 This engineering standard is written to document the requirements to perform the IWE visual containment examination. The visual examination is performed to assess the general condition of the containment and to detect evidence of degradation that may affect structural integrity or leak tightness. This examination satisfies the requirements of the ASME Boiler and Pressure Vessel Code, 1992 Edition, 1992 Addenda, Section XI, Subsection IWE examination Category E-A, Item No. E1.11 and 1998 Edition up to 2000 Addenda, Section XI, Subsection IWE Examination Category E-A, Item No. E1.10.
- 1.2 This engineering standard applies to personnel examining components identified in the site specific Containment In-service Inspection Program Plan (CIIPP) identified in references 2.14, 2.15, 2.21, 2.22 and 2.23.
- 1.3 This procedure applies to class MC components consisting of the containment structure and connecting penetrations, appurtenances and parts that form the containment leak tight boundary. The components in the boundary includes:
- 1.3.1 Drywell and Drywell head
  - 1.3.2 Suppression Chamber (Torus) exterior surface
  - 1.3.3 Suppression Chamber vapor phase surface
  - 1.3.4 Containment surfaces (including reinforcing structures such as stiffening rings, manhole frames, and reinforcement around openings)
  - 1.3.5 Suppression Chamber submerged surfaces (at Pilgrim for Detailed Visual Examination only)
  - 1.3.6 Drywell vent system including vent piping, vent header, and downcomers (at Pilgrim Detailed Visual Examination only)
  - 1.3.7 Drywell exterior and penetrations
  - 1.3.8 Containment dome/wall/basement liner
  - 1.3.9 Penetration sleeves
  - 1.3.10 Personnel Air lock/Equipment Hatch
  - 1.3.11 Fuel Transfer Tube

## 2.0 REFERENCES

- 2.1 10CFR50 Appendix J
- 2.2 ASME Boiler and Pressure Vessel Code, Section XI, "Rules for In-service Inspection of Nuclear Power Plant Components, Subsection IWE and IWL, 1992 Edition, 1992 Addenda.
- 2.3 IP2 RR-49; NRC SER TAC NO. MA6949, dated 2/4/00
- 2.4 IP2 RR-43 and RR-48; NRC SER TAC NO. MA6235, dated 10/7/99
- 2.5 10 CFR50.55a, "Codes and Standards"
- 2.6 ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWE, Rules for In-service Inspection of Nuclear Power Plant Components, 1998 Edition, up to 2000 Addenda

	<b>ENN NUCLEAR MANAGEMENT MANUAL</b>	Engineering Standard	ENN-EP-S-001	Revision 0
		IWE General Visual Containment Inspection	Page	<u>5</u> of <u>18</u>

- 2.7 IP3 RR-3-24; NRC SER TAC NO. MA 9757, dated 5/17/2001
- 2.8 American Society of Testing Material (ASTM) D 610-95, "Standard Test Method for Evaluating Degree of Rusting on Painted Steel Surfaces".
- 2.9 ASTM D 660-93, "Standard Test Method for Evaluating Checking of Exterior Paints".
- 2.10 ASTM D 661-93, "Standard Test Method for Evaluating Degree of Cracking of Exterior Paints".
- 2.11 ASTM D 714-87, "Standard Test Method for Evaluating Degree of Blistering of Paints".
- 2.12 ASTM D 772-86, "Evaluating Degree of Flaking (scaling) of Exterior Paints".
- 2.13 Appendix A to Document ID #9.1450.044-S-001, "Design Margins of the IP2 Containment STEEL LINER" RAYTHEON Engineers & Constructors
- 2.14 2-RPT-00003, Rev. 0, "IP2 Containment In-service Inspection Program, First Containment Interval (09/09/96-05/09/08)".
- 2.15 IP3-RPT-VC-03071, Rev. 4, "IP3 Containment In-service Inspection First Ten Year Class MC and CC Program"
- 2.16 IP3-CALC-VC-03067, "Reactor Containment-Minimum Liner Thickness"
- 2.17 IP3-RPT-STR-03398, Rev. 0, "ASME Section XI, IWE MC and Metallic Liners of Class CC Components Inspection"
- 2.18 EP-ML-2002-054, "IWE Remote Visual Equipment Qualification", 7/17/02
- 2.19 Appendix E to Report SL-5408, Rev. 0, "ISI Acceptance Criteria for Containment Liner Thickness"
- 2.20 ENN-DC-105, "Configuration Management"
- 2.21 PP 7024, "VY Containment In-service Inspection Program (IWE)"
- 2.22 JAF-RPT-PC-04088, "JAF First Containment In-service Inspection Interval Program Plan"
- 2.23 QA 20.03, "PNPS First Ten Year Interval IWE Containment Inspection Program"
- 2.24 QA ITI 50.90, "Visual Examination of IWE Components"
- 2.25 QA ITI 50.91, "IWE Augmented Examinations"
- 2.26 ENN-AD-103, "Records management and Document Control Activities"

### 3.0 DEFINITIONS

- 3.1 Accessibility – Visual access by line of sight with adequate lighting from permanent plant structures, equipment, or components, provided these surface areas do not require augmented examination.
- 3.2 Arc strike - A loss or displacement of base metal, caused by the introduction of an electric current of sufficient intensity to change phase from solid to liquid. Arc strikes are rounded depressions in the base metal with some discoloration.



- 3.3 Blisters - Large or small, round or hemispherical projections of the coating from the surface and are either dry or liquid filled. The usual cause of the condition is the penetration of moisture through an area of poor adhesion.
- 3.4 Chalking - A surface phenomenon that appears soft or powdery. The cause is a breakdown in coating binder, which disintegrates, leaving the surface covered with pigment.
- 3.5 Checking - Small breaks in coating surfaces that are formed as coating ages and becomes harder and more brittle. Checking, for the most part, is a formulation related reaction, where the resins and pigments do not properly combine.
- 3.6 Chipping – Small void in coating system, caused by impact from foreign object.
- 3.7 Class MC components - This term applies to pressure retaining metallic components (including their integral attachments) within the boundaries established in the site specific CIIPP for inspection under requirements of ASME Section XI, Subsection IWE as modified by 10 CFR 50.55a. For the purpose of this procedure, all metallic components subject to examination under IWE by 10 CFR 50.55a shall be referred to as Class MC components regardless of the design classification of the component.
- 3.8 Corrosion - The degradation of a substance (usually metal) or its properties because of a reaction with the environment.
- 3.9 Cracking (coating) - A non-linear line running through the coating system. Cracking is caused by expansion or contraction throughout the film (layer) and the film and the substrate (primer or metal surface).
- 3.10 Cracking (metal) - A base metal indication, fissure or separation, either linear or non-linear. The crack will have length and depth.
- 3.11 Dent - The movement/displacement of the base material from its original plane, without signs of metal stress or paint/coating distress.
- 3.12 Discoloration - Change in color of the coating, fading. Cause could be age, heat, dye or pigment bleeding or surface contamination (dye penetrant, grease, dirt, etc.).
- 3.13 Engineering Evaluation - An evaluation done for a reportable condition to determine if the structural integrity or leak tightness of the containment is jeopardized.
- 3.14 Flaking - (Also referred to as scaling or peeling) – the detaching of one layer of a coating from another or from the base metal. Flaking is generally preceded by cracking, checking, or blistering and is the result of loss of adhesion, usually due to stress strain factors.
- 3.15 General corrosion - An approximately uniform wastage of a surface of a component, through chemical or electrochemical action, free of deep pits or cracks.
- 3.16 General Visual Exam - A visual examination performed either directly or remotely to assess the general condition of the accessible primary containment surfaces and to detect evidence of degradation that may affect structural integrity or leak tightness.
- 3.17 Gouge - A loss of base metal caused by impact with a foreign object. Base metal may have sharp edges or be pushed to the far edge of the area of impact.
- 3.18 Integral attachments - Those structural attachments that have a containment pressure retaining function or are in the containment vessel's support load path and are welded, cast, or forged integrally to the inside or outside surface of the containment pressure boundary.



- 3.19 Leak-tightness - Ability of a component to maintain a prescribed maximum leakage rate under service conditions.
- 3.20 Non-integral attachment - (Also referred to as nonstructural, temporary or minor permanent attachments) those structural attachments that do not perform a containment pressure retaining function nor are in the containment vessel's support load path. Non-integral attachments include such items as insulation supports, nameplates, locating and lifting lugs, lighting supports, shear plates or rings, retainer rings, and walkway supports.
- 3.21 Pitting - Localized corrosion that generally produces sharply defined open or closed cavities in a metal surface.
- 3.22 Relevant Condition - A condition observed during a visual examination that requires supplemental examination, corrective measure, and correction by repair/replacement, or analytical evaluation.
- 3.23 Responsible Individual - Individual responsible for implementation of the containment IWE inspection program as described in the program plan, references 2.14, 2.15, 2.21, 2.22, and 2.23.
- 3.24 Rusting - The presence of oxidation in the form of iron oxide on steel.
- 3.25 Structural Integrity - The ability of a structure or component to withstand prescribed design loads.
- 3.26 Undercutting (coating) - Appears as a raised coated rust bloom. Undercutting is actually rust forming under the coating and acting as a wedge to push the coating off the metal surface. The undercutting may crack the coating surface.
- 3.27 Wear - A gradual removal of a substance caused by friction. In paint or coating the wear may appear as a different color or thickness. In base metal the wear areas may appear brighter in appearance or as a low area.

#### 4.0 RESPONSIBILITIES


- 4.1 WPO Engineering Programs or Site Engineering has the responsibility to develop and maintain the Containment IWE program. This may include establishing basis for program content, issuing inspection scope and providing implementation support (scheduling, coordination of inspection, maintaining inspection procedures, etc.). The examination will be performed at intervals specified in the site specific CIIPP.
- 4.2 The Responsible Individual (RI), or designee, from the Engineering Programs group or Site Engineering has the responsibility to evaluate the examination results. The individual is experienced in evaluating the condition of Class MC components.
- 4.3 Engineering Personnel and/or Certified Inspectors shall perform the examination in accordance with the requirements of Table IWE-2500-1 as delineated in the site specific CIIPP. Inspectors shall be qualified in accordance with site-specific requirements.

#### 5.0 DETAILS

- 5.1 General Instructions



- 5.1.1 The General Visual examination shall be performed either directly or remotely with sufficient illumination and resolution to assess the general condition of the accessible Containment surfaces (inside and outside). The examination shall be documented using Attachments 7.1, 7.5, and 7.6 or site-specific documentation. Equipment demonstration and validation reports should be maintained or referenced in the work order; in the inspection report identified in section 6.0 or other appropriate site process.
- 5.1.1.1 Inaccessible areas are not required to be examined unless specifically identified as an inaccessible area requiring examination by either the site specific CIIPP or the RI.
- 5.1.1.2 Accessible areas requiring examination are defined in the site specific CIIPP.
- 5.1.1.3 ISI-IWE drawings in the site specific CIIPP define the components and boundaries for inspection.
- 5.1.2 Examiners shall visually examine non-coated and coated surface areas to be inspected and document the examination results, which require evaluation on the IWE General Visual Examination Evaluation Form (Attachment 7.2).
- 5.1.2.1 Painted or coated areas shall be examined for evidence of flaking, blistering, peeling, discoloration, and other signs of distress.
- 5.1.2.2 Non-coated areas shall be examined for evidence of cracking, discoloration, wear, pitting, excessive corrosion, gouges, surface discontinuities, dents, and other signs of surface irregularities.
- Note: Bolted connections need not be disassembled for performance of general Visual examination.
- 5.1.2.3 Pressure retaining bolting (if required in site CIIPP) shall be examined for defects that may cause the bolted connection to violate either leak tightness or structural integrity.
- 5.1.3 If no indications exceeding the inspection criteria of Sections 5.3, 5.4, 5.5 and 5.6 are noted, the examination is complete. The closeout of the General Visual examinations will be documented in the form of Work Orders written expressly for the performance of the General Visual examinations or other site-specific documentation.
- Following completion of the examinations the detailed results should be documented in an inspection report or other site-specific process. This report will contain a summary of the inspection, including Attachments 7.1 through 7.6 and any pictures, videotapes, CR's, etc. It will cover the IWE examinations performed during the period.
- 5.1.4 If the examiners note indications which need further evaluation:
- 5.1.4.1 The IWE General Visual Examination Evaluation Form (Attachment 7.2) shall be completed. The forms shall be immediately brought to the RI's attention. The RI shall evaluate the results and determine acceptability; or request a

	<b>ENN NUCLEAR MANAGEMENT MANUAL</b>	Engineering Standard	ENN-EP-S-001	Revision 0
		IWE General Visual Containment Inspection	Page	9 of 18

detailed visual, VT-1, examination (or additional examinations as determined by the RI, i.e. UT).

Note: The objective of this examination is to provide sufficient data to the RI to conduct an evaluation. When a detailed visual, VT-1, (or additional examinations) are required, access to the area to be examined must be sufficient to allow for valid measurements of the dimensional data required for the evaluation.

- 5.1.5 At the direction of the RI, the examination personnel will note the condition of the surfaces requiring examination. Areas of specific interest may be photographed and/or videotaped. This will serve as a reference condition to be compared with the results of the next inspection.

## 5.2 Evaluation of Results


Note: The inspection criteria are presented as a guide for IWE examination personnel to determine when an existing condition is acceptable or requires further evaluation. The guide is not intended to be all-inclusive. It relies upon the inspectors' general knowledge of material conditions. When a questionable condition is encountered, the IWE examination personnel should always be conservative and request an evaluation.

- 5.2.1 The inspection criteria (Sections 5.3, 5.4, 5.5 and 5.6) form the basis for accepting existing conditions in plants. These inspection criteria have been evaluated and acceptable by calculation or code and do not deter or compromise the structural integrity of the primary containment pressure boundary.
- 5.2.2 Indications which do not exceed the inspection criteria are not required to be reported and are considered acceptable without the RI's review.
- 5.2.3 The RI will determine if the conditions exceeding the inspection criteria are acceptable. A Condition Report (CR) shall be generated for all unacceptable conditions.
- 5.2.4 Acceptance evaluation for conditions exceeding the inspection criteria will be in accordance with site-specific requirements. Reference drawings and previous examination results should be utilized as necessary. The RI shall document the results of the acceptance review of the General Visual and, if required, detailed visual, VT-1, examination results.

## 5.3 Uncoated Surface Areas

- 5.3.1 If any of the relevant conditions listed below are present, further evaluation may be required. Initiate a CR as required by section 5.2.3. The condition must be recorded on the IWE General Visual Examination Evaluation Form (Attachment 7.2) or other site-specific document and forwarded to the RI for acceptance review.

### 5.3.1.1 Cracking in base metal

	<b>ENN NUCLEAR MANAGEMENT MANUAL</b>	<b>Engineering Standard</b>	<b>ENN-EP-S-001</b> <b>Revision 0</b>
		<b>IWE General Visual Containment Inspection</b>	<b>Page    <u>10</u>    of    <u>18</u></b>

- 5.3.1.2    Discoloration resulting from age, heat, or corrosion
- 5.3.1.3    Wear that could exceed 10% of the nominal wall thickness
- 5.3.1.4    Pits, dents, or gouges of the base metal with depth that could exceed 10% of the nominal wall thickness of the material (e.g. 0.025 inches for a 0.25 inch nominal thickness)
- 5.3.1.5    Corrosion, which results in discernable, base metal loss that could exceed 10 % of the nominal wall thickness.
- 5.3.1.6    Discernable bulges
- 5.3.1.7    Arc strikes
- 5.3.1.8    Other conditions such as mechanical damage causing discernable degradation of the base metal

**5.4    Coated Surface Areas**

5.4.1    If any of the relevant conditions listed below are present, further evaluation may be required. Initiate a CR as required by section 5.2.3. The condition must be recorded on the IWE General Visual Examination Evaluation Form (Attachment 7.2) or other site-specific document and forwarded to the RI for acceptance review.


- 5.4.1.1    Any of the conditions listed in Section 5.3.1 for uncoated surfaces
- 5.4.1.2    Absence of coating
- 5.4.1.3    Blisters equal to or greater than size No. 6 as specified in ASTM D 714-87
- 5.4.1.4    Checking equal to or greater than standard No. 2 as specified in ASTM D 660-93
- 5.4.1.5    Cracking equal to or greater than standard No. 6 as specified in ASTM D 661-93
- 5.4.1.6    Flaking equal to or greater than standard No. 6 as specified in ASTM D 772-86
- 5.4.1.7    Rusting equal to or greater than Rust Grade 7 as specified in ASTM D 610 - 95
- 5.4.1.8    Other distress to the coating that may indicate degradation of the underlying base metal

**5.5    Bolting Assemblies (As required in site CIIPP)**

5.5.1    If any of the relevant conditions listed below are present, further evaluation may be required. Initiate a CR as required by section 5.2.3. The condition must be recorded on the IWE General Visual Examination Evaluation Form (Attachment 7.2) or other site-specific document and forwarded to the RI for acceptance review.

- 5.5.1.1    Bending, twisting, stretching or deforming of bolts or studs
- 5.5.1.2    Missing or loose bolts, studs, nuts, or washers



	<b>ENN NUCLEAR MANAGEMENT MANUAL</b>	Engineering Standard	ENN-EP-S-001	Revision 0
		IWE General Visual Containment Inspection	Page	<u>11</u> of <u>18</u>

- 5.5.1.3 Fractured bolts, studs, or nuts
- 5.5.1.4 Degradation of protective coatings on bolting surfaces
- 5.5.1.5 Evidence of coolant leakage near bolting
- 5.5.1.6 Bolting degradation
- 5.5.1.7 Localized excessive corrosion
- 5.5.1.8 Misalignment of connection or bolting

**5.6 Containment Supports (As required in site CIIPP)**

5.6.1 If any of the relevant conditions listed below are present, further evaluation may be required. Initiate a CR as required by section 5.2.3. The condition must be recorded on the IWE General Visual Examination Evaluation Form (Attachment 7.2) or other site-specific document and forwarded to the RI for acceptance review.


- 5.6.1.1 Any signs of surface irregularities
- 5.6.1.2 Deformations or structural degradations of fasteners, clamps or other support items, and loss of integrity at bolted or welded connections.
- 5.6.1.3 Missing, detached, or loose support parts and bolting.
- 5.6.1.4 Arc strikes, weld spatter, paint, scoring, roughness, or general corrosion on close tolerance, machined or sliding surfaces.
- 5.6.1.5 Misalignment of supports
- 5.6.1.6 Improper clearances of guides and stops
- 5.6.1.7 Wear which visibly reduces the cross-sectional area of the support
- 5.6.1.8 Abnormal corrosion which reduces the load bearing capacity of the support
- 5.6.1.9 Crack like or linear surface flaws
- 5.6.1.10 Evidence of clamp or non-integral attachment movement, damage, or movement of component insulation due to support movement

**6.0 RECORDS**

An ASME, Section XI, IWE MC Components Inspection Report or other site-specific process shall be used to document all examinations, findings, and evaluations. If a report is written, it shall be referenced in the Work Orders used to implement the examinations.

The report shall include Attachments 7.1 through 7.6.

The ASME, Section XI, IWE MC Component Inspection Report is a controlled record, and is transmitted to Administrative Services in accordance with ENN-AD-103C-105, "Document Control and Configuration Management Activities".

	<b>ENN NUCLEAR MANAGEMENT MANUAL</b>	Engineering Standard	ENN-EP-S-001	Revision 0
		IWE General Visual Containment Inspection	Page	<u>12</u> of <u>18</u>

**7.0 ATTACHMENTS**

Note: Site approved equivalents are acceptable for use in lieu of the following attachments.

- 7.1 General Visual Examination Checklist for Coated and Uncoated Surfaces
- 7.2 IWE General Visual Examination Evaluation Form
- 7.3 Qualification of Equipment
- 7.4 Personnel Qualification Form
- 7.5 General Visual Examination Checklist for Bolting Assemblies
- 7.6 General Visual Examination Checklist for Containment Supports



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MANAGEMENT  
MANUAL**

Engineering standard

ENN-EP-S-001 Revision 0

IWE General Visual  
Containment Inspection

Page 13 of 18

**ATTACHMENT 7.1**

**GENERAL VISUAL EXAMINATION CHECKLIST FOR COATED AND UNCOATED SURFACES**

Sheet 1 of 1

Yes = exceeds the recording criteria  
No = does not exceed the recording criteria

Component Number or Zone Number	Identified Conditions for Coated and Uncoated Surfaces																Other conditions	
	Nicks, dents, pits, bulges, gouges, arc strikes		Metal cracking		Metal corrosion, discolorati on, wear, no coating		Blistering (coating)		Checking (coating)		Cracking (coating)		Flaking (coating)		Rust staining			
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		

Examination performed by: \_\_\_\_\_ Date: \_\_\_\_\_

Quality Record



**ENN  
NUCLEAR  
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MANUAL**

**Engineering Standard**

**ENN-EP-S-001 Revision 0**

**IWE General Visual  
Containment Inspection**

**Page 14 of 18**

**ATTACHMENT 7.2,**

**IWE GENERAL VISUAL EXAMINATION EVALUATION FORM**

**Sheet 1 of 1**

**Component Number or Zone Number (\*)**

**Existing Condition Being Evaluated**

**Evaluation of Existing Condition**

**Evaluation Performed By:**

**Evaluation Approved By:**

**Quality Record**



**ATTACHMENT 7.3**

**QUALIFICATION OF EQUIPMENT**

Introduction:

Demonstration of remote examination equipment is required to be performed prior to executing General Visual examinations when the use of remote equipment is required. This demonstration needs to be performed once at the beginning of this examination to qualify the light source and the remote equipment used. The commitments of each site specific Relief Request or Technical Position are to be utilized when qualifying the equipment.

Performance Qualification:

Type of equipment used:

Maximum examination distance:

Description of demonstration:

Demonstration distance:

Demonstration performed by:

Date:

Demonstration witnessed by (ANII):

Date:

**Quality Record**



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**Engineering Standard**

**ENN-EP-S-001 Revision 0**

**IWE General Visual  
Containment Inspection**

**Page 16 of 18**

**ATTACHMENT 7.4**

**PERSONNEL QUALIFICATION FORM**

**Inspection Personnel Qualification Form for General Visual Examination**

Name: \_\_\_\_\_

Education: \_\_\_\_\_

Experience: \_\_\_\_\_

Eye Exam: \_\_\_\_\_

On the basis of the above, I have determined that the subject individual is capable of performing General Visual Examinations at IP2, IP3, JAF, Pilgrim, and/or Vermont Yankee as required by ASME Section XI 1992 Edition, 1992 Addenda, or 1998 Edition, no Addenda, Subsection IWE, Subparagraph IWE-3510.1

This qualification expires one year from the date of the eye examination.

\_\_\_\_\_  
Responsible Individual

\_\_\_\_\_  
Date

**Quality Record**



**ATTACHMENT 7.5**

**GENERAL VISUAL EXAMINATION CHECKLIST FOR BOLTING ASSEMBLIES**

Yes = exceeds the recording criteria

No = does not exceed the recording criteria

Component Number or Zone Number	Identified Conditions for Bolting Assemblies												Comments	
	Bending, twisting, or deforming		Missing or loose bolts, studs, etc.		Fractured bolts, studs, or nuts		Degradation of protective coating		Evidence of coolant leakage		Localized excessive corrosion			
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		

Examination performed by: \_\_\_\_\_ Date: \_\_\_\_\_



ATTACHMENT 7.6

GENERAL VISUAL EXAMINATION CHECKLIST FOR CONTAINMENT SUPPORTS

Yes = exceeds the recording criteria  
No = does not exceed the recording criteria

Component Number or Zone Number	Identified Conditions for Containment Supports												Comments	
	Surface Irregularities/deformation		Missing or loose bolts, parts, etc.		Corrosion		Mis-alignment/Improper clearances		Wear which reduces cross-sectional area		Linear or cracklike surface flaws			
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		

Examination performed by: \_\_\_\_\_ Date: \_\_\_\_\_

Ref. Drawings for JAF: 3.72-6C, 3.72-9E, and 3.72-17

Quality Record



**ATTACHMENT 3 TO BVY 05-40**

**Response to Request for Additional Information –  
Technical Specification Proposed Change No. 268  
One-time Integrated Leak Rate Test (ILRT) Interval Extension**

**Table 1 from PP 7024 “Containment Inservice Inspection Program (IWE)”**

**ENERGY NUCLEAR OPERATIONS, INC.  
VERMONT YANKEE NUCLEAR POWER STATION  
DOCKET NO. 50-271**

FOR INFO ONLY

TABLE 1

ASME CODE CLASS MC EXAMINATION CATEGORY E-A

TORUS and TORUS PENETRATIONS				RFO SCHEDULE PERIOD <sup>1</sup>			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	1	2	3	REMARKS
E1.11	Bay 1	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 2	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 3	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 4	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 5	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 6	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 7	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.

TABLE 1 (Continued)

TORUS and TORUS PENETRATIONS				RFO SCHEDULE PERIOD <sup>1</sup>			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	1	2	3	REMARKS
E1.11	Bay 8	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 9	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 10	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 11	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 12	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 13	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 14	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	Bay 15	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.

TABLE 1 (Continued)

TORUS and TORUS PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			
				1	2	3	REMARKS
E1.11	Bay 16	6202-200 5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-200A	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
			VT-3		27i		Bolting
E1.11	X-200B	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
			VT-3		27i		Bolting
E1.11	X-206A	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-206B	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-206C	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-206D	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Bottom 1/3 is inaccessible.
E1.11	X-206E	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-206F	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-209A	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-209B	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-209C	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.

TABLE 1 (Continued)

TORUS and TORUS PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			
				1	2	3	
E1.11	X-209D	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Bottom 1/3 is inaccessible.
E1.11	X-210A	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces. Piping covered with insulation.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-210B	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces. Piping covered with insulation.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-211A	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Exterior piping covered with insulation.
E1.11	X-211B	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Exterior piping covered with insulation.
E1.11	X-212	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-213A	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces. Piping covered with insulation.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-213B	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.

TABLE 1 (Continued)

TORUS and TORUS PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			
				1	2	3	
E1.11	X-214	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-215	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-216	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-217	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-218	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-219	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-220	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-221	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Exterior piping covered with insulation.
E1.11	X-222	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Exterior piping covered with insulation. Interior is inaccessible -blocked by 24" - HPCI-3.
E1.11	X-223	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.

TABLE 1 (Continued)

TORUS and TORUS PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			
				1	2	3	
E1.11	X-224A	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces. Piping covered with insulation.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-224B	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces. Piping covered with insulation.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-225	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-226A	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-226B	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-227	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-228	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces. Interior is inaccessible - internal to X-202E branch line.
E1.11	X-229	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Interior is inaccessible - internal to X-202C branch line.

TABLE 1 (Continued)

TORUS and TORUS PENETRATIONS				RFO SCHEDULE PERIOD <sup>1</sup>			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	1	2	3	REMARKS
E1.11	X-230	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Interior is inaccessible - internal to X-202J branch line.
E1.11	X-231A	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-231B	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-231C	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-231D	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-231E	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces
E1.11	X-231F	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.
E1.11	X-231G	5920-42	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-231H	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces.
E1.12			VT-3		27i		Wetted surfaces of submerged areas.



TABLE 1 (Continued)

TORUS and TORUS PENETRATIONS				RFO SCHEDULE PERIOD <sup>1</sup>			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	1	2	3	REMARKS
E1.11	X-232	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces. Interior is inaccessible - internal to X-202E branch line.
E1.11	X-233	5920-42	General Visual	24	27	29	Accessible areas of exterior surfaces. Interior is inaccessible - internal to X-202G branch line.

<sup>1</sup> i Indicates refueling outage when an "Interval" test should be performed

TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			
				1	2	3	
E1.11	Drywell elevation 238 to elevation 251 quadrant 0 to 360 degrees	6202-1 6202-2	General Visual	24	27	29	Accessible areas of interior surfaces.
E1.11	Drywell elevation 251 to elevation 269 quadrant 0 to 360 degrees	6202-1 6202-2	General Visual	24	27	29	Accessible areas of interior surfaces. From 251' floor to 269' floor at 150° for 3' CW; 160° for 22.5' CW, and 206° for 3' CW are inaccessible due to permanent shielding.
E1.11	Drywell elevation 269 to elevation 321 quadrant 0 to 360 degrees	6202-1 6202-2	General Visual	24	27	29	Accessible areas of interior surfaces. At 180° for 22' CW from 269' floor to 275' continuing 42' from 269' floor to the bottom of the monorail and at 180° for 18' CCW from 269' floor to 275' continuing 48' from 269' floor to the bottom of the monorail are inaccessible due to permanent shielding.
E1.11	Drywell Head	6202-1 6202-2	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	Stabilizer Assembly "A"	6202-25	General Visual	24	27	29	Accessible areas of interior surfaces (and exterior surfaces if disassembled).
			VT-3		27i		Bolting

TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			
				1	2	3	
E1.11	Stabilizer Assembly "B"	6202-25	General Visual	24	27	29	Accessible areas of interior surfaces (and exterior surfaces if disassembled).
			VT-3		27i		Bolting
E1.11	Stabilizer Assembly "C"	6202-25	General Visual	24	27	29	Accessible areas of interior surfaces (and exterior surfaces if disassembled).
			VT-3		27i		Bolting
E1.11	Stabilizer Assembly "D"	6202-25	General Visual	24	27	29	Accessible areas of interior surfaces (and exterior surfaces if disassembled).
			VT-3		27i		Bolting
E1.11	Stabilizer Assembly "E"	6202-25	General Visual	24	27	29	Accessible areas of interior surfaces (and exterior surfaces if disassembled).
			VT-3		27i		Bolting
E1.11	Stabilizer Assembly "F"	6202-25	General Visual	24	27	29	Accessible areas of interior surfaces (and exterior surfaces if disassembled).
			VT-3		27i		Bolting
E1.11	Stabilizer Assembly "G"	6202-25	General Visual	24	27	29	Accessible areas of interior surfaces (and exterior surfaces if disassembled).
			VT-3		27i		Bolting
E1.11	Stabilizer Assembly "H"	6202-25	General Visual	24	27	29	Accessible areas of interior surfaces (and exterior surfaces if disassembled).
			VT-3		27i		Bolting
E1.11	X-1	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
			VT-3		27i		Bolting

TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			
				1	2	3	
E1.11	X-2	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-3	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces, includes external flange bellows area. Majority of the interior is blocked by duct work.
			VT-3		27i		Bolting
E1.11	X-4	5920-41	General Visual	24	27	29	Accessible areas of exterior surfaces (and interior surfaces if disassembled).
			VT-3		27i		Bolting
E1.11	X-6	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
			VT-3		27i		Bolting
E1.11	X-7A	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-7B	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-7C	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-7D	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-8	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-9A	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.

TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			
				1	2	3	
E1.11	X-9B	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-10	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior surfaces. Exterior of penetration and piping covered with insulation.
E1.11	X-11	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-12	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-13B	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-13A	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-14	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-15	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-16A	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-16B	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-17	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-18	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.

TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			
				1	2	3	
E1.11	X-19	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-20	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-21	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-22	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-23	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-24	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-25	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-26	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-27	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-28	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-29	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-30	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-31	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.

TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE PERIOD <sup>1</sup>			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	1	2	3	REMARKS
E1.11	X-32	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-33	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-34	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-35A	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
			VT-3		27i		Bolting
E1.11	X-35B	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
			VT-3		27i		Bolting
E1.11	X-35C	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
			VT-3		27i		Bolting
E1.11	X-35D	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
			VT-3		27i		Bolting
E1.11	X-35E	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
			VT-3		27i		Bolting
E1.11	X-36	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-37A X-38A	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-37B X-38B	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-37C X-38C	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.

TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			REMARKS
				1	2	3	
E1.11	X-37D X-38D	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-39A	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-39B	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-40A	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-40B	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-40C	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-40D	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-41	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-42	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-43	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-44	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-45	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-46	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.



TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE PERIOD <sup>1</sup>			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	1	2	3	REMARKS
E1.11	X-47	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-48	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-49	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-50	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-51	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-52	G-191179 5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-100A	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Both surfaces have restricted access due to junction box mounting.
E1.11	X-100B	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Both surfaces have restricted access due to junction box mounting.
E1.11	X-100C	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Both surfaces have restricted access due to junction box mounting.

TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			REMARKS
				1	2	3	
E1.11	X-100D	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Both surfaces have restricted access due to junction box mounting.
E1.11	X-101A	5920-41	General Visual	24	27	29	Accessible areas of exterior surfaces. Interior is inaccessible
E1.11	X-101B	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-101C	5920-41	General Visual	24	27	29	Accessible areas of exterior surfaces. Interior is inaccessible
E1.11	X-101D	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-102	5920-41	General Visual	24	27	29	Accessible areas of exterior surfaces. Interior is inaccessible
E1.11	X-103	5920-41	General Visual	24	27	29	Accessible areas of exterior surfaces. Top half exterior is restricted and the interior is inaccessible due to junction box mounting.
E1.11	X-104A	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Both surfaces have restricted access due to junction box mounting.

TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			
				1	2	3	
E1.11	X-104B	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Exterior is restricted and the interior is inaccessible due to junction box mounting.
E1.11	X-104C	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Exterior is restricted and the interior is inaccessible due to junction box mounting.
E1.11	X-105A	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Interior has restricted access due to junction box mounting.
E1.11	X-105B	5920-41	General Visual	24	27	29	Accessible areas of exterior surfaces. Interior is inaccessible.
E1.11	X-105C	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Interior has restricted access due to junction box mounting.
E1.11	X-105D	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces. Interior has restricted access due to junction box mounting.

TABLE 1 (Continued)

DRYWELL and DRYWELL PENETRATIONS				RFO SCHEDULE PERIOD <sup>1</sup>			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	1	2	3	REMARKS
E1.11	X-106	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.11	X-107	5920-41	General Visual	24	27	29	Accessible areas of interior and exterior surfaces.
E1.30	Drywell Moisture Barrier	5920-233 5920-12789	General Visual	24 25	26 27	29	The interface is from the Containment Plate Weld Joint left of X-5B to the Containment Plate Weld Joint right of Penetration X-5E and from the concrete metal interface up ~1 foot.
<sup>1</sup> i Indicates refueling outage when an "Interval" test should be performed							

TABLE 1 (Continued)

VENT SYSTEM ASSEMBLIES				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			REMARKS
				1	2	3	
E1.20	Bay 2 Vent Line; Vacuum Breaker Lines; Vent Header in Bays 2 & 3; and Downcomers	5920-13 6202-200 6202-211	VT-3		27i		Accessible areas of interior and exterior surfaces.
E1.20	Bay 4 Vent Line; Vacuum Breaker Lines; Vent Header in Bays 4 & 5; and Downcomers	5920-13 6202-200 6202-211	VT-3		27i		Accessible areas of interior and exterior surfaces.
E1.20	Bay 6 Vent Line; Vacuum Breaker Lines; Vent Header in Bays 6 & 7; and Downcomers	5920-13 6202-200 6202-211	VT-3		27i		Accessible areas of interior and exterior surfaces.
E1.20	Bay 8 Vent Line; Vacuum Breaker Lines; Vent Header in Bays 8 & 9; and Downcomers	5920-13 6202-200 6202-211	VT-3		27i		Accessible areas of interior and exterior surfaces.
E1.20	Bay 10 Vent Line; Vacuum Breaker Lines; Vent Header in Bays 10 & 11; and Downcomers	5920-13 6202-200 6202-211	VT-3		27i		Accessible areas of interior and exterior surfaces.
E1.20	Bay 12 Vent Line; Vacuum Breaker Lines; Vent Header in Bays 12 & 13; and Downcomers	5920-13 6202-200 6202-211	VT-3		27i		Accessible areas of interior and exterior surfaces.

TABLE 1 (Continued)

VENT SYSTEM ASSEMBLIES				RFO SCHEDULE			EXAMINATION CATEGORY E-A
ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	EXAMINATION METHOD	PERIOD <sup>1</sup>			REMARKS
				1	2	3	
E1.20	Bay 14 Vent Line; Vacuum Breaker Lines; Vent Header in Bays 14 & 15; and Downcomers	5920-13 6202-200 6202-211	VT-3		27i		Accessible areas of interior and exterior surfaces
E1.20	Bay 16 Vent Line; Vacuum Breaker Lines; Vent Header in Bays 16 & 1; and Downcomers	5920-13 6202-200 6202-211	VT-3		27i		Accessible areas of interior and exterior surfaces

<sup>1</sup> i Indicates refueling outage when an "Interval" test should be performed