

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

October 19, 2005

United States Nuclear Regulatory Commission  
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**VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)**  
**NORTH ANNA POWER STATION UNITS 1 AND 2**  
**SURRY POWER STATION UNITS 1 AND 2**  
**CONTAINMENT IWL INSERVICE INSPECTION PLAN AND**  
**RELIEF REQUESTS IWL1**

In accordance with IWA-1400(c) of the ASME Section XI, 2001 Edition through the 2003 Addenda, North Anna and Surry are submitting the second ten-year containment IWL inservice inspection plan. This plan describes the examinations planned for the next ten-year interval. However, in order to implement the plan as written, NRC review and approval of the associated relief requests is required. Specifically, relief request RR-IWL1, for North Anna Units 1 and 2 and Surry Units 1 and 2, requests relief from Section XI of the ASME Code, 2001 Edition, through 2003 Addenda, Subarticle IWL-2310 and IWA-2300, which establishes qualification/certification requirements for examination personnel. The proposed alternative will permit the Responsible Engineer described in IWL-2320 to perform examinations without meeting the specific qualification/certification requirements of IWA-2300.

Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), Dominion requests relief from the specific requirements Section XI of the ASME Code, 2001 Edition, through 2003 Addenda, Subarticle IWL-2310 and IWA-2300. These relief requests are similar to relief request RR-IWL3 approved in the first ten-year interval for North Anna and Surry.

If you have any questions or require additional information, please contact Mr. Thomas Shaub at (804) 273-2763.

Very truly yours,



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Attachments

Commitments made in this letter: None

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**Serial No. 05-650**

**VIRGINIA ELECTRIC & POWER COMPANY  
(DOMINION)  
CONTAINMENT IWL INSERVICE INSPECTION PLAN**

**SECOND TEN YEAR CONTAINMENT INSPECTION INTERVAL  
09/01/2006 to 08/31/2016**

**Revision 0  
September 2005**

**NORTH ANNA POWER STATION 1/2  
SURRY POWER STATION 1/2**

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## 1.0 PLAN DESCRIPTION

The Containment IWL Inservice Inspection Plan outlines the requirements for Inservice Inspection (ISI) of the primary containment concrete pressure boundary. The plan addresses both North Anna Power Station (Units 1 & 2) and Surry Power Station (Units 1 & 2) for the second containment inspection interval (09/01/2006 to 08/31/2016).

The Code of Federal Regulations, Title 10, Part 50, Section 55a, (10CFR50.55a) was amended by the NRC to incorporate by reference the 2001 Edition through the 2003 Addenda of Subsection IWL of Section XI of the ASME Boiler & Pressure Vessel Code. The regulation contained several amendments to the Section XI requirements, some of which are optional, and some which are mandatory and must be implemented as part of the owners plan to comply with the regulation. Subsection IWL contains the requirements for ISI of Class CC (concrete containments) of light-water cooled nuclear power plants.

## 2.0 REFERENCES

### 2.1 Regulatory Documents

- 2.1.1 Code of Federal Regulations; Title 10, Energy; Part 50, Domestic Licensing of Production and Utilization Facilities; Section 50.55a, Codes and Standards
- 2.1.2 Code of Federal Regulations; Title 10, Energy; Part 50, Domestic Licensing of Production and Utilization Facilities; Appendix J, Primary Containment Leakage Testing for Water-Cooled Power Reactors
- 2.1.3 Regulatory Guide 1.147, Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1
- 2.1.4 USNRC NUREG-1522, Assessment of Inservice Conditions of Safety-Related Nuclear Plant Structures
- 2.1.5 USNRC Inspection Manual, Inspection Procedure 62003, Inspection of Steel and Concrete Containment Structures at Nuclear Power Plants

### 2.2 Codes and Standards

- 2.2.1 ASME Boiler and Pressure Vessel Code, Section XI, Subsections IWL 2001 Edition through 2003
- 2.2.2 ACI 201.1R-68, 1984, Guide for Making a Condition Survey of Concrete In-Service
- 2.2.3 ACI 349.3R, 1996, Evaluation of Nuclear Safety-Related Concrete Structures

## 2.3 Dominion Documents

- 2.3.1 Dominion Inservice Inspection Manual
- 2.3.2 VPAP-0307, Repair and Replacement
- 2.3.3 VPAP-1103, Visual Examination
- 2.3.4 TRCP-0014, Visual Testing Training Program Written Practice
- 2.3.5 North Anna Power Station, Units 1&2, Technical Specifications
- 2.3.6 Surry Power Station, Units 1&2, Technical Specifications
- 2.3.7 North Anna Power Station, Units 1&2, Updated Final Safety Analysis Report
- 2.3.8 Surry Power Station, Units 1&2, Updated Final Safety Analysis Report
- 2.3.9 North Anna Stone and Webster Specification NAS-41
- 2.3.10 North Anna Stone and Webster Specification NAS-31
- 2.3.11 ENAP-0028, Inservice Examination of Containment Concrete

## 3.0 DEFINITIONS

- 3.1 **Primary Containment:** Those parts of the containment structure that serve as a leak tight barrier and serve to prevent the uncontrolled release of radioactivity to the environment under normal or postulated accident conditions.
- 3.2 **Primary Containment Component:** Reinforced concrete parts (i.e.: concrete containment shell) that have been classified as ASME Code Class CC for the purpose of performing Section XI ISI.
- 3.3 **Accessible Areas:** Those areas of the containment concrete surface that can be examined directly or remotely.
- 3.4 **Inaccessible Areas:** Surface areas were considered inaccessible if visual access by line of sight with adequate lighting from permanent vantage points is obstructed by permanent plant structures, equipment, components, or cannot otherwise be seen by permanent vantage points, and provided these surface areas do not require examination in accordance with the inspection plan (specific location).

- 3.5 **General Visual Examination:** General visual examination of concrete surfaces shall be performed to assess the general structural condition of containments. The general visual examination shall be performed in sufficient detail to identify areas of concrete deterioration and distress, such as described in ACI 201.1 and ACI 349.3R.
- 3.6 **Detailed Visual Examination:** Detailed visual examinations shall be performed to determine:
- 3.6.1 the magnitude and extent of deterioration and distress of suspect concrete surfaces initially detected by general visual examinations;
  - 3.6.2 the condition of concrete surfaces affected by repair/replacement activities, in accordance with IWL-5250; and
  - 3.6.3 the condition of reinforcing steel exposed as a result of removal of defective concrete as described in IWL-4220(c).

#### 4.0 PRIMARY CONTAINMENT DESIGN

The containment is a cylindrical, carbon steel lined, reinforced concrete structure with a hemispherical dome including foundations, access openings and penetrations which function to contain the mechanical systems, components and major piping which comprise the reactor coolant boundary. The containment is designed to operate at subatmospheric pressure. (Ref. UFSAR Chapter 5 for Surry, Chapter 6 for North Anna)

The containment was designed and constructed in accordance with requirements found in referenced specifications, drawings, and codes in force at the time of construction prior to the implementation of ASME Code, Section III, Subsections MC and CC. The descriptions for Class CC given in Paragraph 5.4 of this document were established and reviewed by Dominion Nuclear Engineering and is based on descriptions found in the UFSAR, currently applicable ASME Code sections, and the original design/construction specifications and drawings. These scopes and boundaries are consistent with the requirements of 10 CFR 50.55a.

#### 5.0 CONTAINMENT INSERVICE INSPECTION

##### 5.1 Contents of Containment IWL Inservice Inspection Plan

The Containment IWL Inservice Inspection Plan addresses the requirements for the inservice inspection of primary containment components to satisfy the regulations of 10CFR50.55a for the second ten-year IWL ISI interval (09/01/2006 to 08/31/2016). Where other regulatory requirements or specific North Anna Power Station or Surry Power Station commitments impose additional examinations or NDE techniques exceeding Code requirements, these augmented

requirements will be addressed in the Containment IWL ISI Implementation Schedule specific to each unit.

The intent of this document is to provide information regarding the scope of the Containment IWL ISI Plan, and to provide references to other documents and programs that form a part of the Containment IWL ISI Plan, or provide supporting information, and identify applicable exemptions and relief requests.

## 5.2 ASME Section XI Edition and Addenda Implemented

The current regulatory requirements in 10CFR50.55a requires licensees to implement a containment inspection program in accordance with the rules and requirements of the 2001 Edition through the 2003 Addenda of ASME Section XI, Subsection IWL, as amended in the regulation. North Anna and Surry will implement this Containment IWL ISI Plan in accordance with the rules and requirements of the 2001 Edition through the 2003 Addenda of ASME Section XI, Subsection IWL, as amended in the regulation.

## 5.3 Containment ISI Initial Interval

The initial ten-year interval for the Containment IWL ISI Plan started 09/01/1996 and is scheduled for completion on 08/31/2006. Up to one year's grace may be used to complete the examination.

## 5.4 ISI Primary Containment Boundaries and Classification

### 5.4.1 ASME Class CC

The reinforced concrete containment structure was designed to function as the load bearing containment structure. This class shall be inspected per the requirements of ASME Subsection IWL, Table IWL-2500-1, as modified by 10CFR50.55a, Code Cases, or Relief Requests approved by the NRC.

Neither North Anna Power Station nor Surry Power Station has a post-tensioning system. Therefore, the requirements of 10CFR50.55a and ASME Section XI pertaining to a post-tensioning system do not apply.

## 5.5 Containment Preservice Inspections

The North Anna Power Station and Surry Power Station containments were not designed to accommodate inspections. There were no regulatory requirements to implement Subsection IWL of ASME Section XI prior to North Anna Power Station and Surry Power Station commencing operations. Therefore, no preservice inspections were initially performed. The first examination performed in the first containment ISI interval was treated as a baseline inspection. These examinations essentially serve as the preservice inspections.



## 5.6 Containment ISI Schedule

### 5.6.1 Examination Schedule - IWL Scope

ASME Section XI, Subarticle IWL-2400, sets forth the concrete containment inspection schedule. The concrete containment for each unit is required to be examined once every five years.

## 5.7 Containment Components Exempt From Examination

### 5.7.1 IWL Components

5.7.1.1 Per Subarticle IWL-1220 the following items are exempt from the examination Requirements of IWL-2000:

- (a) Portions of the concrete surface that are covered by the liner, foundation material, or backfill, or are otherwise obstructed by adjacent structures, components, parts, or appurtenances.

5.7.1.2 The definition of “inaccessible” is given in Section 3.0 above.

## 5.8 Containment IWL ISI Implementation Schedule

Containment IWL ISI Implementation Schedules have been developed for North Anna Power Station and Surry Power Station in accordance with the Dominion Inservice Inspection Manual. These Implementation Schedules identify the components to be examined during the ISI interval with the schedule requirements of Subsection IWL.

The schedule will include detailed information as to the implementation of examinations in order to satisfy the mandated containment inspection rules. This will include itemization of components by category and item number, examination methods, relief requests, and reference to drawings.

## 5.9 Repair & Replacement of Primary Containment Components

Repair/Replacement and modification activities for items within the scope of IWL are to be performed in accordance with VPAP-0307, Repair and Replacement.

## 5.10 Acceptance Standards

Acceptance of components for continued service shall be subject to the rules of Article IWL-3000. If examination results require evaluation, the evaluation shall

be performed in accordance with IWL-3000 and the regulatory amendments per 10CFR50.55a.

#### 5.10.1 Evaluation of Items within the Scope of IWL

5.10.1.1 Items with examination results that do not meet the acceptance standards of IWL-3100 or IWL-3200 shall be evaluated by the Responsible Engineer. An Engineering Evaluation Report shall be prepared which includes the following information as a minimum:

- (a) the cause of the condition which does not meet the acceptance standard;
- (b) the applicability of the condition to any other plants at the same site;
- (c) the acceptability of the concrete containment without repair of the item;
- (d) whether or not repair/replacement activity is required and, if required, the extent, method, and completion date for the repair/replacement activity;
- (e) extent, nature, and frequency of additional examinations.

5.10.1.2 An evaluation of the acceptability of inaccessible areas shall be performed when conditions exist in accessible areas that could indicate the presence of, or result in, degradation to such inaccessible areas per 10CFR50.55a(b)(2)(viii)(E). For each inaccessible area identified, the following information shall be reported:

- (a) a description of the type and estimated extent of degradation, and the conditions that led to the degradation;
- (b) an evaluation of each area, and the result of the evaluation;
- (c) a description of necessary corrective actions.

The reports required by 10CFR50.55a(b)(2)(viii)(E) shall be submitted within 90 days of the completion of the refueling outage in which the condition was identified to the NRC.

#### 5.11 Containment ISI Drawings

Containment ISI drawings show the containment in developed elevations. These drawings (IWL series) are utilized to identify and locate the areas requiring examination. A list of the IWL series drawings follows by unit.

#### North Anna Unit 1 IWL Drawings

11715-IWL-01	GENERAL NOTES AND REFERENCE DRAWINGS
11715-IWL-C001	WALL AND DOME SEGMENT LOCATION SCHEDULE
11715-IWL-C01-A	WALL SEGMENT BETWEEN AZ. 270° & 324° ABOVE ELEV. 281'-0"
11715-IWL-C01-B	WALL SEGMENT BETWEEN AZ. 270° & 324° BELOW ELEV. 281'-0"
11715-IWL-C01-C	WALL SEGMENT BETWEEN AZ. 324° & 19° ABOVE ELEV. 272'-0"
11715-IWL-C01-D	WALL SEGMENT BETWEEN AZ. 324° & 19° BELOW ELEV. 272'-0"
11715-IWL-C01-E	WALL SEGMENT BETWEEN AZ. 19° & 67° ABOVE ELEV. 280'-0"
11715-IWL-C01-F	WALL SEGMENT BETWEEN AZ. 19° & 67° ABOVE ELEV. 280'-0"
11715-IWL-C01-G	WALL SEGMENT BETWEEN AZ. 67° & 120° ABOVE ELEV. 274'-0"
11715-IWL-C01-H	WALL SEGMENT BETWEEN AZ. 67° & 120° ABOVE ELEV. 274'-0"
11715-IWL-C01-J	WALL SEGMENT BETWEEN AZ. 120° & 270°
11715-IWL-C02-A	EXTERIOR DOME PLAN & ELEVATION

#### North Anna Unit 2 IWL Drawings

12050-IWL-01	GENERAL NOTES AND REFERENCE DRAWINGS
12050-IWL-C001	WALL AND DOME SEGMENT LOCATION SCHEDULE
12050-IWL-C01-A	WALL SEGMENT BETWEEN AZ. 246° & 141°
12050-IWL-C01-B	WALL SEGMENT BETWEEN AZ. 141° & 83° ABOVE ELEV. 271'-6"
12050-IWL-C01-C	WALL SEGMENT BETWEEN AZ. 141° & 83° BELOW ELEV. 271'-6"
12050-IWL-C01-D	WALL SEGMENT BETWEEN AZ. 83° & 19° ABOVE ELEV. 274'-0" & 280'-0"
12050-IWL-C01-E	WALL SEGMENT BETWEEN AZ. 83° & 19° BELOW ELEV. 274'-0" & 280'-0"
12050-IWL-C01-F	WALL SEGMENT BETWEEN AZ. 19° & 344° ABOVE ELEV. 272'-6"
12050-IWL-C01-G	WALL SEGMENT BETWEEN AZ. 19° & 344° BELOW ELEV. 272'-6"
12050-IWL-C01-H	WALL SEGMENT BETWEEN AZ. 344° & 293° ABOVE ELEV. 272'-0"
12050-IWL-C01-J	WALL SEGMENT BETWEEN AZ. 344° & 293° BELOW ELEV. 273'-6"
12050-IWL-C01-K	WALL SEGMENT BETWEEN AZ. 293° & 246° ABOVE ELEV. 281'-0"
12050-IWL-C01-L	WALL SEGMENT BETWEEN AZ. 293° & 246° BELOW ELEV. 281'-0"
12050-IWL-C02-A	EXTERIOR DOME PLAN & ELEVATION

#### Surry Unit 1 IWL Drawings

11448-IWL-01	GENERAL NOTES AND REFERENCE DRAWINGS
11448-IWL-C001	WALL AND DOME SEGMENT LOCATION SCHEDULE
11448-IWL-C01-A	WALL SEGMENT BETWEEN AZ. 270° & 216° ABOVE ELEV. 26'-6"
11448-IWL-C01-B	WALL SEGMENT BETWEEN AZ. 270° & 216° BELOW ELEV. 28'-6"
11448-IWL-C01-C	WALL SEGMENT BETWEEN AZ. 216° & 161° ABOVE ELEV. 27'-6"
11448-IWL-C01-D	WALL SEGMENT BETWEEN AZ. 216° & 161° BELOW ELEV. 27'-6"
11448-IWL-C01-E	WALL SEGMENT BETWEEN AZ. 161° & 112° ABOVE ELEV. 35'-6"
11448-IWL-C01-F	WALL SEGMENT BETWEEN AZ. 161° & 112° ABOVE ELEV. 35'-6"
11448-IWL-C01-G	WALL SEGMENT BETWEEN AZ. 112° & 60° ABOVE ELEV. 27'-6"
11448-IWL-C01-H	WALL SEGMENT BETWEEN AZ. 112° & 60° BELOW ELEV. 27'-6"

11448-IWL-C01-J WALL SEGMENT BETWEEN AZ. 60° & 270°  
11448-IWL-C02-A EXTERIOR DOME PLAN & ELEVATION

### Surry Unit 2 IWL Drawings

11548-IWL-01 GENERAL NOTES AND REFERENCE DRAWINGS  
11548-IWL-C001 WALL AND DOME SEGMENT LOCATION SCHEDULE  
11548-IWL-C01-A WALL SEGMENT BETWEEN AZ. 65° & 300°  
11548-IWL-C01-B WALL SEGMENT BETWEEN AZ. 300° & 247° ABOVE ELEV. 27'-6"  
11548-IWL-C01-C WALL SEGMENT BETWEEN AZ. 300° & 247° BELOW ELEV. 27'-6"  
11548-IWL-C01-D WALL SEGMENT BETWEEN AZ. 247° & 180° ABOVE ELEV. 27'-6" &  
35'-6"  
11548-IWL-C01-E WALL SEGMENT BETWEEN AZ. 247° & 180° BELOW ELEV. 27'-6"  
& 35'-6"  
11548-IWL-C01-F WALL SEGMENT BETWEEN AZ. 180° & 112° ABOVE ELEV. 27'-6"  
11548-IWL-C01-G WALL SEGMENT BETWEEN AZ. 180° & 112° BELOW ELEV. 27'-6"  
11548-IWL-C01-H WALL SEGMENT BETWEEN AZ. 112° & 65° ABOVE ELEV. 28'-6"  
11548-IWL-C01-J WALL SEGMENT BETWEEN AZ. 112° & 65° BELOW ELEV. 28'-6"  
11548-IWL-C02-A EXTERIOR DOME PLAN & ELEVATION

## 5.12 Containment ISI Implementation Procedures

The Dominion procedures required for implementation of containment IWL inservice inspections are referenced in Paragraph 2.3.

## 5.13 ASME Section XI Key Personnel Requirements

### 5.13.1 Responsible Engineer

IWL-2320 requires owners to designate a Responsible Engineer. The Responsible Engineer shall be a Registered Professional Engineer experienced in evaluating the inservice condition of structural concrete. The Responsible Engineer shall have knowledge of the design and construction Codes and other criteria used in design and construction of concrete containments in nuclear power plants. The Responsible Engineer shall be responsible for the following:

- (a) development of plans and procedures for the examination of concrete surfaces;
- (b) approval, instruction and training of concrete examination personnel;
- (c) evaluation of concrete examination results;
- (d) preparation or review of concrete Repair/Replacement Plans and procedures;

- (e) review of procedures for pressure tests following concrete repair/replacement activities;
- (e) submittal of reports documenting results of concrete examinations, repair/replacement activities and pressure tests;
- (f) and when performed, general and detailed examinations in accordance with relief request RRIWL-1.

#### 5.13.2 Examination Personnel

- (a) Personnel other than the Responsible Engineer that examine concrete surfaces must meet the qualification provisions in IWA-2300.
- (b) The "owner defined" personnel qualification provisions in IWL-2310(d) shall not be used per 10 CFR 50.55a(b)(2)(viii)(F).

## 6.0 CONTAINMENT EXAMINATION SCOPE

The following tables outline the scope of the examinations required to comply with regulatory requirements for the inspection of containment. These tables represent the requirements prescribed in Subsection IWL. Code Cases and relief requests are also referenced, including their status, for the affected containment items. These tables are intended to mirror the IWL-2500-1 Tables found in Section XI, except that they have been modified to specifically apply to North Anna and Surry. However, these tables are not a substitute for the Code tables. The Code tables must be consulted as they contain detailed information required for performance of examinations, which are not included here. As an example, the acceptance criteria identified for each Code item number in the Code tables is not identified in this document. However, the acceptance criteria would be followed except where specific written relief has been granted.

**TABLE 1**  
**IWL EXAMINATIONS**

<b>EXAMINATION CATEGORY L-A, CONCRETE</b>							
<b>Item No.</b>	<b>Part</b>	<b>Examination Method</b>	<b>Extent &amp; Frequency of Examination</b>		<b>Code Case</b>	<b>Relief Request</b>	<b>Remarks</b>
L1.10	Concrete surface						
L1.11	All accessible surface areas (note: North Anna and Surry have no tendon anchorage)	general visual	IWL-2510	IWL-2410		RR-IWL1  Status: Pending	Visual examinations shall be performed directly or remotely, with adequate illumination, by personnel with visual acuity sufficient to detect evidence of degradation.
L1.12	Suspect areas	detailed visual	IWL-2510	IWL-2410		RR-IWL1 Status: Pending	Visual examinations shall be performed directly or remotely, with adequate illumination, by personnel with visual acuity sufficient to detect evidence of degradation.

EXAMINATION CATEGORY L-B, UNBONDED POST-TENSIONING SYSTEM						
Item No.	Part	Examination Method	Extent & Frequency of Examination	Code Case	Relief Request	Remarks
Neither North Anna nor Surry employ an unbonded post-tensioning system. This category is not applicable to North Anna or Surry.						

## **7.0 CODE CASES**

Any Code Case to be utilized in this Plan will require submittal and approval as a Relief Request or be generically approved through Regulatory Guide 1.147 and added to this Plan. At this time no Code Cases have been specifically adopted for the IWL program.

## **8.0 RELIEF REQUESTS**

The following pages contain the detailed Relief Requests submitted to the NRC for North Anna 1/2 and Surry 1/2 pertaining to the examination of primary containment components within the scope of Subsection IWL of ASME Section XI. There is one IWL Relief Request for each unit. The Relief Request is identical for each station and unit. Therefore the summary in Section 8.1 is given only once but applies to each unit.

### **8.1 Summary of Relief Requests**

Relief Request RR-IWL1 requests relief from Section XI of the ASME Code, 2001 Edition, through 2003 Addenda, Subarticle IWL-2310 and IWA-2300, which establishes qualification/certification requirements for examination personnel. The proposed alternative allows the Responsible Engineer described in IWL-2320 to additionally perform examinations without the qualification/certification requirements of IWA-2300. Status: Pending.

## 8.2 North Anna Power Station Unit 1 Relief Requests

Virginia Electric & Power Company  
North Anna Power Station Unit 1

### **Relief Request RR-IWL1**

#### ASME Code Component Affected:

Concrete Containment - 01-BLD-BLD-RC-BLDG - ASME Class CC

#### Applicable Code Edition and Addenda:

ASME Section XI 2001 Edition through 2003 Addenda

#### Applicable Code Requirements:

Table IWL-2500-1, Category L-A requires a general examination method of all areas per item L1.11 and a detailed examination method of suspect areas per item L1.12. The examinations are performed by personnel qualified to the requirements of IWL-2310. The NRC has determined per 10 CFR 50.55a(b)(2)(viii)(F) that the provisions in IWL-2310(d) are not to be used, and IWA-2300 must be followed.

#### Reason for Request:

Relief is requested per 10 CFR 50.55a(a)(3)(i) from the required qualification/certification requirements for the Responsible Engineer performing the methods general examination and detailed examination as specified in IWL-2310 and IWA-2300 as amended by 10CFR50.55a. The requirements of IWL-2510(d) specify the examinations shall be performed by, or under the direction of, the Responsible Engineer. The request allows the Responsible Engineer to perform examinations without the qualification and certification requirements of IWA-2300. The basis following supports the provision that the alternative provides an acceptable level of quality and safety.

#### Proposed Alternative and Basis for Use:

IWL-2320 establishes the qualification requirements for the Responsible Engineer and requires that the Responsible Engineer be responsible for approval, instruction, and training of concrete examination personnel. The Responsible Engineer is also required to evaluate examination results. These qualification requirements do not address whether the Responsible Engineer is to be additionally certified per IWA-2300, however neither do they exempt the Responsible Engineer from the requirements of IWA-2300. From the description of the Responsible Engineer in IWL-2320, this individual should be sufficiently knowledgeable to perform the necessary examinations, assuming the appropriate visual acuity requirements are met.



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As such, it is considered unnecessary to require additional qualification/certification per IWA-2300 in order for the Responsible Engineer to perform general and detailed visual examinations considering the qualification requirements placed on him by IWL-2320. The qualification requirement for the Responsible Engineer is that he be a Registered Professional Engineer experienced in evaluating the condition of structural concrete. These qualifications coupled with the vision test requirements of IWA-2321 and IWA-2322 will provide equivalent quality and safety during the examination.

Responsible Engineers performing examinations required in Category L-A of ASME Section XI do not need IWA-2300 qualification/certification. Additionally, Responsible Engineers performing examinations will have met the vision test requirements of IWA-2321 and IWA-2322 of the 2001 Edition through the 2003 Addenda of ASME Section XI prior to performing examinations.

Duration of Proposed Alternative:

The use of this relief is requested for the entire second ten-year interval.

Precedents:

This alternative is similar to relief request RR-IWL3 approved in the first ten-year interval. Reference Dominion letter #99-010 dated February 11, 1999, and approved by NRC letter #99-448 dated August 23, 1999.

### 8.3 North Anna Power Station Unit 2 Relief Requests

Virginia Electric & Power Company  
North Anna Power Station Unit 2

#### **Relief Request RR-IWL1**

ASME Code Component Affected:

Concrete Containment - 02-BLD-BLD-RC-BLDG - ASME Class CC

Applicable Code Edition and Addenda:

ASME Section XI 2001 Edition through 2003 Addenda

Applicable Code Requirements:

Table IWL-2500-1, Category L-A requires a general examination method of all areas per item L1.11 and a detailed examination method of suspect areas per item L1.12. The examinations are performed by personnel qualified to the requirements of IWL-2310. The NRC has determined per 10 CFR 50.55a(b)(2)(viii)(F) that the provisions in IWL-2310(d) are not to be used, and IWA-2300 must be followed.

Reason for Request:

Relief is requested per 10 CFR 50.55a(a)(3)(i) from the required qualification/certification requirements for the Responsible Engineer performing the methods general examination and detailed examination as specified in IWL-2310 and IWA-2300 as amended by 10CFR50.55a. The requirements of IWL-2510(d) specify the examinations shall be performed by, or under the direction of, the Responsible Engineer. The request allows the Responsible Engineer to perform examinations without the qualification and certification requirements of IWA-2300. The basis following supports the provision that the alternative provides an acceptable level of quality and safety.

Proposed Alternative and Basis for Use:

IWL-2320 establishes the qualification requirements for the Responsible Engineer and requires that the Responsible Engineer be responsible for approval, instruction, and training of concrete examination personnel. The Responsible Engineer is also required to evaluate examination results. These qualification requirements do not address whether the Responsible Engineer is to be additionally certified per IWA-2300, however neither do they exempt the Responsible Engineer from the requirements of IWA-2300. From the description of the Responsible Engineer in IWL-2320, this individual should be sufficiently knowledgeable to perform the necessary examinations, assuming the appropriate visual acuity requirements are met.

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As such, it is considered unnecessary to require additional qualification/certification per IWA-2300 in order for the Responsible Engineer to perform general and detailed visual examinations considering the qualification requirements placed on him by IWL-2320. The qualification requirement for the Responsible Engineer is that he be a Registered Professional Engineer experienced in evaluating the condition of structural concrete. These qualifications coupled with the vision test requirements of IWA-2321 and IWA-2322 will provide equivalent quality and safety during the examination.

Responsible Engineers performing examinations required in Category L-A of ASME Section XI do not need IWA-2300 qualification/certification. Additionally, Responsible Engineers performing examinations will have met the vision test requirements of IWA-2321 and IWA-2322 of the 2001 Edition through the 2003 Addenda of ASME Section XI prior to performing examinations.

Duration of Proposed Alternative:

The use of this relief is requested for the entire second ten-year interval.

Precedents:

This alternative is similar to relief request RR-IWL3 approved in the first ten-year interval. Reference Dominion letter #99-010 dated February 11, 1999, and approved by NRC letter #99-448 dated August 23, 1999.

#### 8.4 Surry Power Station Unit 1 Relief Requests

Virginia Electric & Power Company  
Surry Power Station Unit 1

##### **Relief Request RR-IWL1**

##### ASME Code Component Affected:

Concrete Containment - 01-BLD-BLD-RC-BLDG - ASME Class CC

##### Applicable Code Edition and Addenda:

ASME Section XI 2001 Edition through 2003 Addenda

##### Applicable Code Requirements:

Table IWL-2500-1, Category L-A requires a general examination method of all areas per item L1.11 and a detailed examination method of suspect areas per item L1.12. The examinations are performed by personnel qualified to the requirements of IWL-2310. The NRC has determined per 10 CFR 50.55a(b)(2)(viii)(F) that the provisions in IWL-2310(d) are not to be used, and IWA-2300 must be followed.

##### Reason for Request:

Relief is requested per 10 CFR 50.55a(a)(3)(i) from the required qualification/certification requirements for the Responsible Engineer performing the methods general examination and detailed examination as specified in IWL-2310 and IWA-2300 as amended by 10CFR50.55a. The requirements of IWL-2510(d) specify the examinations shall be performed by, or under the direction of, the Responsible Engineer. The request allows the Responsible Engineer to perform examinations without the qualification and certification requirements of IWA-2300. The basis following supports the provision that the alternative provides an acceptable level of quality and safety.

##### Proposed Alternative and Basis for Use:

IWL-2320 establishes the qualification requirements for the Responsible Engineer and requires that the Responsible Engineer be responsible for approval, instruction, and training of concrete examination personnel. The Responsible Engineer is also required to evaluate examination results. These qualification requirements do not address whether the Responsible Engineer is to be additionally certified per IWA-2300, however neither do they exempt the Responsible Engineer from the requirements of IWA-2300. From the description of the Responsible Engineer in IWL-2320, this individual should be sufficiently knowledgeable to perform the necessary examinations, assuming the appropriate visual acuity requirements are met.

September 2005

As such, it is considered unnecessary to require additional qualification/certification per IWA-2300 in order for the Responsible Engineer to perform general and detailed visual examinations considering the qualification requirements placed on him by IWL-2320. The qualification requirement for the Responsible Engineer is that he be a Registered Professional Engineer experienced in evaluating the condition of structural concrete. These qualifications coupled with the vision test requirements of IWA-2321 and IWA-2322 will provide equivalent quality and safety during the examination.

Responsible Engineers performing examinations required in Category L-A of ASME Section XI do not need IWA-2300 qualification/certification. Additionally, Responsible Engineers performing examinations will have met the vision test requirements of IWA-2321 and IWA-2322 of the 2001 Edition through the 2003 Addenda of ASME Section XI prior to performing examinations.

Duration of Proposed Alternative:

The use of this relief is requested for the entire second ten-year interval.

Precedents:

This alternative is similar to relief request RR-IWL3 approved in the first ten-year interval. Reference Dominion letter #99-010 dated February 11, 1999, and approved by NRC letter #99-448 dated August 23, 1999.

## 8.5 Surry Power Station Unit 2 Relief Requests

Virginia Electric & Power Company  
Surry Power Station Unit 2

### **Relief Request RR-IWL1**

#### ASME Code Component Affected:

Concrete Containment - 02-BLD-BLD-RC-BLDG - ASME Class CC

#### Applicable Code Edition and Addenda:

ASME Section XI 2001 Edition through 2003 Addenda

#### Applicable Code Requirements:

Table IWL-2500-1, Category L-A requires a general examination method of all areas per item L1.11 and a detailed examination method of suspect areas per item L1.12. The examinations are performed by personnel qualified to the requirements of IWL-2310. The NRC has determined per 10 CFR 50.55a(b)(2)(viii)(F) that the provisions in IWL-2310(d) are not to be used, and IWA-2300 must be followed.

#### Reason for Request:

Relief is requested per 10 CFR 50.55a(a)(3)(i) from the required qualification/certification requirements for the Responsible Engineer performing the methods general examination and detailed examination as specified in IWL-2310 and IWA-2300 as amended by 10CFR50.55a. The requirements of IWL-2510(d) specify the examinations shall be performed by, or under the direction of, the Responsible Engineer. The request allows the Responsible Engineer to perform examinations without the qualification and certification requirements of IWA-2300. The basis following supports the provision that the alternative provides an acceptable level of quality and safety.

#### Proposed Alternative and Basis for Use:

IWL-2320 establishes the qualification requirements for the Responsible Engineer and requires that the Responsible Engineer be responsible for approval, instruction, and training of concrete examination personnel. The Responsible Engineer is also required to evaluate examination results. These qualification requirements do not address whether the Responsible Engineer is to be additionally certified per IWA-2300, however neither do they exempt the Responsible Engineer from the requirements of IWA-2300. From the description of the Responsible Engineer in IWL-2320, this individual should be sufficiently knowledgeable to perform the necessary examinations, assuming the appropriate visual acuity requirements are met.

September 2005

As such, it is considered unnecessary to require additional qualification/certification per IWA-2300 in order for the Responsible Engineer to perform general and detailed visual examinations considering the qualification requirements placed on him by IWL-2320. The qualification requirement for the Responsible Engineer is that he be a Registered Professional Engineer experienced in evaluating the condition of structural concrete. These qualifications coupled with the vision test requirements of IWA-2321 and IWA-2322 will provide equivalent quality and safety during the examination.

Responsible Engineers performing examinations required in Category L-A of ASME Section XI do not need IWA-2300 qualification/certification. Additionally, Responsible Engineers performing examinations will have met the vision test requirements of IWA-2321 and IWA-2322 of the 2001 Edition through the 2003 Addenda of ASME Section XI prior to performing examinations.

Duration of Proposed Alternative:

The use of this relief is requested for the entire second ten-year interval.

Precedents:

This alternative is similar to relief request RR-IWL3 approved in the first ten-year interval. Reference Dominion letter #99-010 dated February 11, 1999, and approved by NRC letter #99-448 dated August 23, 1999.

## INSPECTION PLAN SUMMARY

### 9.1 North Anna Power Station Unit 1

#### **NORTH ANNA POWER STATION UNIT 1 IWL Plan Per Category, Item No., and Interval**

##### **Category L-A, Concrete**

Item No.	Interval	Locations to be examined <sup>1,2,3</sup>	Planned completion percentage	Actual completion percentage
L1.11	1st 5 years	10	100%	0%
L1.11	2nd 5 years	10	100%	0%

No other categories or item numbers are applicable to the unit.

- 1) The total locations to be examined are a combination of component mark numbers and unique drawings for individual components
- 2) Only drawings that indicate location of a component are listed in the ISI Implementation Schedule. "Typical," general note and location schedule drawings, which are part of the IWL drawing series, are not listed. These drawings may be used by an examiner as an inspection aid only, and can be identified from the location drawing found in the ISI Implementation Schedule or by using the drawing series itself.
- 3) Item No. L1.12, suspect areas will be addressed when discovered as part of the general examination performed for Item No. L1.11.



## INSPECTION PLAN SUMMARY

### 9.2 North Anna Power Station Unit 2

#### **NORTH ANNA POWER STATION UNIT 2 IWL Plan Per Category, Item No., and Interval**

##### **Category L-A, Concrete**

Item No.	Interval	Locations to be examined <sup>1,2,3</sup>	Planned completion percentage	Actual completion percentage
L1.11	1st 5 years	12	100%	0%
L1.11	2nd 5 years	12	100%	0%

No other categories or item numbers are applicable to the unit.

1) The total locations to be examined are a combination of component mark numbers and unique drawings for individual components.

2) Only drawings that indicate location of a component are listed in the ISI Implementation Schedule. "Typical," general note and location schedule drawings, which are part of the IWL drawing series, are not listed. These drawings may be used by an examiner as an inspection aid only, and can be identified from the location drawing found in the ISI Implementation Schedule or by using the drawing series itself.

3) Item No. L1.12, suspect areas will be addressed when discovered as part of the general examination performed for Item No. L1.11.

## INSPECTION PLAN SUMMARY

### 9.3 Surry Power Station Unit 1

#### **SURRY POWER STATION UNIT 1 IWL Plan Per Category, Item No., and Interval**

##### **Category L-A, Concrete**

Item No.	Interval	Locations to be examined <sup>1,2,3</sup>	Planned completion percentage	Actual completion percentage
L1.11	1st 5 years	10	100%	0%
L1.11	2nd 5 years	10	100%	0%

No other categories or item numbers are applicable to the unit.

1) The total locations to be examined are a combination of component mark numbers and unique drawings for individual components.

2) Only drawings that indicate location of a component are listed in the ISI Implementation Schedule. "Typical," general note and location schedule drawings, which are part of the IWL drawing series, are not listed. These drawings may be used by an examiner as an inspection aid only, and can be identified from the location drawing found in the ISI Implementation Schedule or by using the drawing series itself.

3) Item No. L1.12, suspect areas will be addressed when discovered as part of the general examination performed for Item No. L1.11.

## INSPECTION PLAN SUMMARY

### 9.4 Surry Power Station Unit 2

#### **SURRY POWER STATION UNIT 2 IWL Plan Per Category, Item No., and Interval**

##### **Category L-A, Concrete**

Item No.	Interval	Locations to be examined <sup>1,2</sup>	Planned completion percentage	Actual completion percentage
L1.11	1st 5 years	10	100%	0%
L1.11	2nd 5 years	10	100%	0%

No other categories or item numbers are applicable to the unit.

1) The total locations to be examined are a combination of component mark numbers and unique drawings for individual components.

2) Only drawings that indicate location of a component are listed in the ISI Implementation Schedule. "Typical," general note and location schedule drawings, which are part of the IWE/IWL drawing series, are not listed. These drawings may be used by an examiner as an inspection aid only, and can be identified from the location drawing found in the ISI Implementation Schedule or by using the drawing series itself.

3) Item No. L1.12, suspect areas will be addressed when discovered as part of the general examination performed for Item No. L1.11.