

April 5, 2004

Mr. David A. Christian  
Senior Vice President - Chief Nuclear Officer  
Virginia Electric and Power Company  
Innsbrook Technical Center  
5000 Dominion Blvd.  
Glen Allen, Virginia 23060-6711

SUBJECT: SURRY POWER STATION, UNIT 1 RE: ASME SECTION XI SUBSECTION IWF,  
INSERVICE INSPECTION (ISI) PROGRAM RELIEF REQUEST CS-001 (TAC NO.  
MB7764)

Dear Mr. Christian:

This letter grants the relief you requested in Relief Request CS-001 for Surry Power Station, Unit 1. By letter dated December 12, 2002, Virginia Electric and Power Company requested relief from the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, with regard to the functional testing of snubbers.

Our evaluation and conclusion are contained in the enclosed Safety Evaluation. The NRC staff has concluded that your proposed alternative provides an acceptable level of quality and safety. The alternative you requested is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the fourth 10-year ISI interval.

Sincerely,

*/RA/*

John A. Nakoski, Chief, Section 1  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-280

Enclosure: As stated

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR RELIEF CS-001

FOURTH 10-YEAR INSERVICE INSPECTION INTERVAL

SURRY POWER STATION, UNIT 1

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

1.0 INTRODUCTION

By letter dated December 12, 2002, Virginia Electric and Power Company (the licensee) submitted relief request CS-001 for the fourth 10-year inservice inspection (ISI) interval at Surry Power Station, Unit 1 (Surry, Unit 1). The licensee requested approval to use an alternative to the ISI requirements of Article IWF-5000 of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code for preservice and inservice examinations and testing of Class 1, 2, and 3 snubbers. The licensee's proposed alternative consisted of a combination of the existing Surry, Unit 1 Technical Specification (TS) 4.17, "Shock Suppressors (Snubbers)," specific paragraphs from ASME OMa Code-1996, Subsection ISTD, "Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers) in Light-Water Reactor Nuclear Power Plants," and other applicable requirements of Section XI of the ASME Code. This relief would apply for the fourth 10-year interval at Surry, Unit 1.

2.0 REGULATORY EVALUATION

The ISIs of the ASME Code Class 1, 2, and 3 components are to be performed in accordance with Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," of the ASME Code and applicable addenda as required by Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). Paragraph 50.55a(a)(3) of 10 CFR Part 50 states, in part, that alternatives to the requirements of paragraph (g) may be used, when authorized by the Nuclear Regulatory Commission (NRC), if the licensee demonstrates that: (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, to the extent practical within the limitations of design, geometry, and materials of construction of the

Enclosure

components. The regulation requires that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein.

Pursuant to 10 CFR 50.55a(g)(5), if the licensee determines that conformance with an examination requirement of Section XI of the ASME Code is not practical for its facility, information will be submitted to the Commission in support of that determination and a request must be made for relief from the ASME Code requirement. After evaluation of the determination, pursuant to 10 CFR 50.55a(g)(6)(i), the Commission may grant relief and/or may impose alternative requirements that are determined to be authorized by law, will not endanger life, property, or the common defense and security, and are otherwise in the public interest, giving due consideration to the burden upon the licensee that could result if the requirements were imposed.

The applicable edition of Section XI of the ASME Code, as proposed by the licensee for the Surry, Unit 1 fourth 10-year ISI interval, is 1998 Edition with addenda up to and including the 2000 Addenda.

### 3.0 TECHNICAL EVALUATION

#### CODE REQUIREMENTS

The ASME B&PV Code, Section XI, 1998 Edition with addenda up to and including the 2000 Addenda, paragraphs IWF-5200 (a) and (b) and IWF-5300 (a) and (b), reference the use of ASME/ANSI OM-1987, Part 4, "Examination and Performance Testing of Nuclear Power Plant Dynamic Restraints (Snubbers)," for the requirements of the preservice and inservice examining and functional testing of Class 1, 2, and 3 snubbers.

#### PROPOSED ALTERNATIVE TO CODE REQUIREMENTS

By letter dated December 12, 2002, the licensee proposed as an alternative to the ASME Code, Section XI requirements a snubber surveillance program comprised of the following elements:

- A. The continued implementation of the surveillance requirements of TS 4.17, "Shock Suppressors (Snubbers),"
- B. The implementation of the other applicable requirements of the ASME Code, Section XI, 1998 Edition with addenda up to and including the 2000 Addenda, unless specific approval has been obtained to do otherwise from the NRC staff pursuant to the requirements of 10 CFR 50.55a and the TS for Surry, Unit 1. This will include using the VT-3 visual examination method in IWA-2213 for preservice and inservice examinations,
- C. The preservice examination and testing requirements of paragraph ISTD 4, "Preservice Examination," excluding paragraph 4.3, and paragraph ISTD 5, "Preservice Operability Testing," and

- D. As an alternative to paragraph ISTD 4.3, for systems that operate at a temperature greater than 200 degrees F, an additional preservice examination on the affected snubbers during or following the subsequent system heatup and cooldown cycle unless determined unnecessary by evaluation. This examination may be performed during operation of the plant or at the next refueling outage. This is consistent with the requirements of IWF-2200(b). No other requirements of Subsection ISTD will be implemented as part of this alternative.

#### BASIS FOR PROPOSED ALTERNATIVE

The Surry, Unit 1 fourth ISI interval began on October 14, 2003. The incorporation of the ASME Code, 1998 Edition with addenda up to and including the 2000 Addenda, into 10 CFR 50.55a occurred on October 28, 2002. The NRC staff finds the licensee's proposed implementation of the ISI program as set forth in the above addenda to be acceptable on the basis of 10 CFR 50.55a(g)(4)(iv).

In its December 12, 2002, submittal, the licensee proposed, as an alternative to the requirements of ASME/ANSI OM-1987, Part 4, to use the existing Surry, Unit 1 TS 4.17, "Shock Suppressors (Snubbers)," specific paragraphs from ASME OMa Code-1996, Subsection ISTD, "Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers) in Light-Water Reactor Nuclear Power Plants," and other applicable requirements of Section XI of the ASME Code.

The licensee stated that differences exist between the ASME Code (and hence, ASME/ANSI OM-1987, Part 4) requirements and Surry, Unit 1, TS 4.17. Specifically, ASME/ANSI OM-1987, Part 4 contains requirements that were removed from the TS upon the recommendation of Generic Letter (GL) 90-09, "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions," dated December 11, 1990. However, ASME Code, Section XI continued to require the restrictive inspection schedule of ASME/ANSI OM-1987, Part 4 for inservice examination of snubbers. A later revision of OM-Part 4, Subsection ISTD of ASME OMa-1996 changed the inspection scheduling requirements to essentially agree with the recommendations of GL 90-09. The rulemaking of September 22, 1999, recognized this fact and included in the rule a provision to allow the use of Subsection ISTD provided the licensee revises the applicable TS.

It is noted that the integration of ASME Code, Section XI and Subsection ISTD into an effective coherent examination and testing program along with the required change to the TS would result in a significant amount of administrative activity without a compensating increase in safety. On this basis, the licensee proposed an alternative approach that would avoid this unnecessary administrative impact and still provide a means to accomplish the examination and testing required by ASME Code, Section XI.

The licensee stated that the current examination and testing requirements of TS 4.17 and the additional visual examination requirements of ASME Code, Section XI have formed the basis of the Surry, Unit 1 snubber inservice examination and testing program during the past ISI interval. The use of this program was previously approved by the NRC staff and is essentially the same as the program for snubber examination and testing described in Subsection ISTD. Therefore, the licensee believes that the combination of TS 4.17 and ASME Code, Section XI, excluding paragraphs IWF-5200(a) and (b) and IWF-5300(a) and (b), is an alternative that continues to

provide an acceptable level of quality and safety for inservice examination and testing of snubbers.

However, to satisfy the preservice examination and testing requirements intended by ASME Code, Section XI, additional examination and testing activity is required beyond the above proposal for inservice activities. As such, the licensee proposes to include the requirements contained in paragraphs ISTD 4, "Preservice Examination," (excluding paragraph ISTD 4.3) and ISTD 5, "Preservice Operability Testing," into the current snubber surveillance program in order to provide an alternative that has an acceptable level of safety and quality for the preservice examination and testing requirements. The licensee stated that the inclusion of these requirements into the snubber surveillance program achieves the preservice inspection requirements of ASME Code, Section XI. Since ASME OMa-1996, Subsection ISTD, has been accepted by the NRC staff for the snubber preservice activities, the inclusion of paragraphs ISTD 4 and ISTD 5 into the current program is acceptable to the NRC staff.

The licensee stated that paragraph ISTD 4.3 is not proposed for incorporation into the alternative preservice examination program because it addresses requirements best suited for the initial heatup and cooldown of the plant. It would be a hardship for the NRC staff to impose these requirements on an operating plant such as Surry, Unit 1, which is constructed with a sub-atmospheric containment. As an alternative to the requirements of paragraph ISTD 4.3, the licensee will follow the guidance of paragraph IWF-2220(b) for systems that operate at a temperature greater than 200 degrees F. Paragraph IWF-2220(b) requires the owner to perform an additional preservice examination on the affected component supports during or following the subsequent system heatup and cooldown cycle unless determined unnecessary by evaluation. On the basis that the above ASME Code, Section XI requirements have been accepted by regulation as providing an acceptable level of quality and safety, the NRC staff finds these requirements acceptable as an alternative preservice examination for the supports.

The NRC staff has reviewed the information provided in the licensee's submittal of December 12, 2002, and finds that the above alternative program provides an acceptable level of quality and safety without the burden of administrative changes that add little or no value to quality or safety, and without the hardship of performing snubber assessments under sub-atmospheric conditions.

#### 4.0 CONCLUSION

Based on the information provided by the licensee, the NRC staff concludes that the licensee has presented an adequate justification for relief from the requirements of ASME Code, Section XI, 1998 Edition with addenda up to and including the 2000 Addenda, paragraphs IWF-5200 (a) and (b) and IWF-5300 (a) and (b), with regard to visual examination and functional testing of the Surry, Unit 1 Class 1, 2, and 3 snubbers. The NRC staff concludes that the proposed alternative provides an acceptable level of quality and safety for supports and thus ensures structural integrity of the related systems. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the licensee's request for relief relating to the fourth 10-year interval of the Surry, Unit 1 ISI program is authorized.

Principal Contributor: A. J. Lee

Date: April 5, 2004

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Virginia Electric and Power Company

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