

May 9, 2002

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: NORTH ANNA POWER STATION, UNIT 2 RE: ASME SECTION XI  
SUBSECTION IWF, INSERVICE INSPECTION (ISI) PROGRAM RELIEF  
REQUEST CS-001 (TAC NO. MB2280)

Dear Mr. Christian:

This letter grants the relief you requested in Relief Request CS-001 for North Anna Power Station, Unit 2. By letter dated June 13, 2001, 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 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 third 10-year ISI interval.

TAC No. MB2280 will remain open and will be closed after disposition of all associated relief requests submitted by your June 13, 2001, letter.

Sincerely,

*/RA/*

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

Docket No. 50-339

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

THIRD 10-YEAR INSERVICE INSPECTION INTERVAL

NORTH ANNA POWER STATION, UNIT 2

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-339

1.0 INTRODUCTION

By letter dated June 13, 2001, Virginia Electric and Power Company (the licensee) submitted relief request CS-001 for the third 10-year inservice inspection (ISI) interval at the North Anna Power Station, Unit 2. The licensee requested approval to use an alternative to the ISI requirements of Article IWF-5000, Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code for preservice and inservice examinations and tests of Class 1, 2, and 3 snubbers. The licensee's proposed alternative consisted of a combination of Technical Specification (TS) 4.7.10, "Snubbers," and specific paragraphs from ASME OMa-1996, Section IST, Subsection ISTD, "Inservice Testing of Dynamic Restraints (Snubbers) in Light-Water Reactor Power Plants." This relief request would apply for the remainder of the third 10-year ISI interval for North Anna, Unit 2.

2.0 BACKGROUND

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 pre-service 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 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

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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 for the North Anna, Unit 2, third 10-year ISI interval is the 1995 Edition with addenda up to and including the 1996 Addenda.

### 3.0 EVALUATION

#### CODE REQUIREMENTS

The ASME B&PV Code, Section XI, 1995 Edition with Addenda up to and including the 1996 Addenda, paragraphs IWF-5200 (a) and (b) and IWF-5300 (a) and (b), reference the use of ASME/ANSI OM-1987, Part 4 (published in 1988), "Examination and Performance Testing of Nuclear Power Plant Dynamic Restraints (Snubbers)," for the requirements of the preservice and inservice examinations and tests of Class 1, 2, and 3 snubbers.

#### BASIS FOR ALTERNATIVE

In the June 13, 2001 submittal, the licensee proposed, as an alternative to the requirements of ASME/ANSI OM-1987, Part 4, to use the existing North Anna, Unit 2, TS 4.7.10, and specific paragraphs from ASME OMa-1996, Section IST, Subsection ISTD, as well as other applicable requirements of Section XI of the ASME Code.

The licensee stated that differences exist between the referenced Code requirements and North Anna, Unit 2, TS 4.7.10. Specifically, ASME/ANSI OM-1987, Part 4, contains requirements that were removed from the TS based upon the recommendations of Generic Letter (GL) 90-09, "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions," dated December 11, 1990. This GL reduced the burden placed upon licensees due to restrictive schedules contained in the TS. However, ASME 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 the Part 4 Standard, ASME OMa Code, 1996, Section IST, Subsection ISTD, 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 ISTD provided the licensee revises the applicable TS.

Simply including ISTD into the TS does more than alter the excessive examination requirements of ASME/ANSI OM-1987, Part 4. The ISTD is written as a self-contained surveillance program for determining the continuing acceptability of snubbers. It is not designed to be used as a supplement to ASME Section XI. The integration of ASME Section XI and 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 that the following alternative approach would avoid this unnecessary administrative impact and still provide a means to accomplish the examination and testing required by ASME Section XI.

The current examination and testing requirements of TS 4.7.10 and the additional visual examination requirements of ASME Section XI, including the VT-3 examination method of IWA-2213, have formed the basis of the North Anna, Unit 2, inservice examination and testing program for snubbers during the past ISI interval. The licensee stated that this program is essentially the same as the program for examination and testing described in ISTD for ISI and will continue to provide an acceptable level of quality and safety for inservice examination and testing of snubbers. The staff has evaluated the licensee's program and concludes the two programs are essentially the same.

To satisfy the preservice examination and testing requirements intended by Article IWF-5000 of ASME Section XI, the licensee asserts that the inclusion of the preservice examination and testing requirements contained in paragraphs ISTD 4, "Preservice Examination" (excluding paragraph ISTD 4.3), and ISTD 5, "Preservice Operability Testing," respectively, into the current snubber surveillance program will provide an adequate alternative for the preservice examination and testing requirements. Since ISTD 4 and ISTD 5 have been accepted by the NRC for the snubber preservice activities, this is acceptable to the staff.

The licensee stated that paragraph ISTD 4.3 is not proposed as it addresses requirements best suited for the initial heatup and cooldown of the plant. As an alternative to the requirements of paragraph ISTD 4.3, the licensee will follow the guidance of IWF-2220(b) for systems that operate at a temperature greater than 200 degrees F. IWF-2220(b) requires the licensee 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. Since this ASME Section XI action provides an acceptable level of quality and safety for supports, this is acceptable to the staff.

#### PROPOSED ALTERNATIVE TO CODE REQUIREMENTS

In summary, the licensee proposed as an alternative to the Section XI requirements a snubber surveillance program comprised of the following elements:

- (1) The continued implementation of the surveillance requirements of TS 4.7.10, "Snubbers."
- (2) Additional visual examination requirements of Section XI, including the VT-3 examination method in IWA-2213, for preservice and inservice examinations,
- (3) The preservice examination and testing requirements of ISTD paragraph 4 (excluding paragraph ISTD 4.3) and ISTD paragraph 5, respectively.
- (4) An additional preservice examination on the affected snubbers during or following the subsequent system heatup and cooldown cycle, in accordance with IWF-2200(b), for systems that operate at a temperature greater than 200 degrees F.

The staff has reviewed the information provided in the licensee's submittal of June 13, 2001, and concludes that the licensee's relief request meets the intent of the ASME Code, Section XI, requirements and is, therefore, acceptable to the staff.

#### 4.0 CONCLUSION

Based on the information provided by the licensee, the staff concludes that the licensee has presented a satisfactory justification for relief from the requirements of ASME Code, 1995 Edition with addenda up to and including the 1996 Addenda, Article IWF-5000 (which references OMa-4), with regard to the visual examination and functional testing of the North Anna, Unit 2, Class 1, 2, and 3 snubbers. The staff concludes that the proposed alternative that includes requirements of the current TS 4.7.10, other applicable visual examination requirements of ASME Section XI (including VT-3 examination method), the preservice examination and testing requirements of paragraphs ISTD 4 (excluding paragraph ISTD 4.3) and ISTD 5, and the requirements of IWF-2200(b), provides an acceptable level of quality and safety, and thus ensures structural integrity of the related systems. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the licensee's request for approval of an alternative relating to the third 10-year interval of the North Anna, Unit 2, ISI program is authorized.

Principal Contributor: A. J. Lee

Date: May 9, 2002