

May 10, 2005

Mr. Jeffery Archie
Vice President, Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88
Jenkinsville, South Carolina 29065

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1 - REQUEST FOR
RELIEF NO. RR-III-01 REGARDING SNUBBER VISUAL EXAMINATION
AND FUNCTIONAL TESTING (TAC NO. MC4323)

Dear Mr. Archie:

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated September 8, 2004, the South Carolina Electric and Gas Company, the licensee for the Virgil C. Summer Nuclear Station (Summer), requested an alternative to the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (Code), Section XI, 1998 Edition through the 2000 Addenda, Subarticle IWF-5300, with regard to visual examination and functional testing of snubbers. Specifically, the licensee requested to use the provisions of the Summer Technical Specification 3/4.7.7 as an alternative to the ASME Code Section XI requirements for snubber visual examination and testing. The licensee's letter dated September 8, 2004, also included request for relief RR-III-02, that will be addressed by separate correspondence.

The NRC staff has completed its review of the subject request for relief. As documented in the enclosed Safety Evaluation, the NRC staff concludes that the proposed alternative provides an acceptable level of quality and safety. Therefore, the licensee's proposed alternative to the ASME Code requirements is authorized pursuant to Title 10, *Code of Federal Regulations* Section 50.55a(a)(3)(i), for the third 10-year inservice inspection interval at Summer, with limitations as described in the Safety Evaluation. All other ASME Code, Section XI requirements for which relief has not been specifically requested remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Sincerely,

/RA/

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

Docket No. 50-395

Enclosure: Safety Evaluation

cc w/enclosure: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SNUBBER VISUAL EXAMINATION AND FUNCTIONAL TESTING (RR-III-01)

SOUTH CAROLINA ELECTRIC & GAS COMPANY

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-395

1.0 INTRODUCTION

By letter dated September 8, 2004, South Carolina Electric & Gas Company, the licensee for the Virgil C. Summer Nuclear Station (Summer), proposed an alternative (RR-III-01) to the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1998 Edition through 2000 Addenda, Article IWF-5000, Subarticle 5300, IWF-5300(a), (b), and (c) with regard to snubber inservice inspection (ISI) activities. IWF-5300(a) and IWF-5300(b) reference the 1988 Addenda to the ASME/American National Standards Institute Operation and Maintenance (OM) Standard, Part 4 (OM-4), for snubber visual examination and functional testing requirements. In addition, IWF-5300(c) requires that integral and nonintegral attachments for snubbers, including lugs, bolting, pins, and clamps be examined in accordance with the requirements of the ASME Code, Section XI, Subsection IWF.

Pursuant to the provisions of 10 CFR 50.55a(a)(3)(i), the Nuclear Regulatory Commission (NRC) staff finds that the licensee's proposal to use Summer Technical Specification (TS) 3/4.7.7, "Snubbers," as an alternative to the ASME Code, Section XI requirements for snubber visual examination and testing may be authorized. The NRC staff's conclusion is based on its finding that the proposed alternative provides an acceptable level of quality and safety.

2.0 REGULATORY EVALUATION

The ISI of ASME Code Class 1, 2, and 3 components shall be performed in accordance with Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," of the ASME *Boiler and Pressure Vessel Code* (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). Section 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if: (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.

Enclosure

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 components. The regulations require 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. The applicable edition of Section XI of the ASME Code for Summer's Nuclear Station third 10-year ISI interval is the 1998 Edition up to and including the 2000 Addenda.

3.0 TECHNICAL EVALUATION -RELIEF REQUEST RR-III-01

3.1 Systems/Components for Which Relief is Requested

Summer safety-related ASME Code, Section XI Code Class 1, 2, and 3 snubbers, integral and nonintegral attachments for snubbers, including lugs, bolting, pins, and clamps.

3.2 Code Requirements

The licensee requested relief from the ASME Code, Section XI, Article IWF-5000, Subarticle IWF-5300, IWF-5300(a), IWF-5300(b), and IWF-5300(c) requirements. ASME Section XI, IWF-5300(a) requires that snubber visual examinations be performed in accordance with OM-4, using the VT-3 visual examination method described in IWA-2213. ASME Section XI, IWF-5300(b) requires that snubber inservice tests are performed in accordance with OM-4. ASME Section XI, IWF-5300(c) requires that integral and nonintegral attachments for snubbers, including lugs, bolting, pins, and clamps, be examined in accordance with Subsection IWF. Relief was requested for all nonexempt snubbers required to be inspected and tested by the provisions of IWF-5300.

3.3 Licensee's Proposed Alternative

Inservice examination and testing of snubbers will be performed in accordance with the visual and functional testing requirements that are prescribed by the Summer TSs.

3.4 Licensee's Basis for Requesting Relief

ASME Section XI, 1998 Edition through 2000 Addenda, IWF-5300(a) and (b) specifies that snubber examinations and tests be performed in accordance with the first addenda to OM-4. IWF-5300(c) requires examinations of integral and nonintegral attachments.

Summer is required to incorporate the 1998 Edition through 2000 Addenda of the ASME Code as the governing requirement for the third 10-year inservice inspection interval. These requirements contain snubber examination and testing methodologies that are nearly identical to the methodologies described in the TSs for examination and testing of snubbers. Having two nearly redundant sets of snubber requirements presents unnecessary confusion in sample

selection, data collection, acceptance criteria, and corrective actions. These requirements will, in some cases, cause a duplication of test documentation. However, in other cases, additional confusion is created by the difference in snubber categories. Approximately half of the snubbers are required to be tested by one of the requirements. Therefore, sampling becomes very confusing since some of the snubbers may be applicable to both requirements and others to only one.

In order to remove the confusion of trying to administer such similar requirements to snubber categories that partially overlap and to remove the possibility of requiring contradictory actions to apply to the same snubber(s), Summer believes that meeting the requirements, which are contained in the TSs and apply to either category, will provide sufficient testing. Therefore, the proposed alternative test will provide an acceptable level of quality, whereas compliance with the Code would result in a hardship without a compensating increase in quality or safety.

3.5 NRC Staff Evaluation

The licensee requested relief from the requirements of the ASME Code, Section XI, Article IWF-5000, Subarticle-5300, IWF-5300(a), (b), and (c). The licensee proposed that, in lieu of using Article IWF-5000 of the ASME Code, Section XI, the ongoing visual examination and functional testing of snubbers be performed in accordance with Summer TS 3/4.7.7, "Snubbers."

TS 3/4.7.7 incorporates Generic Letter (GL) 90-09, "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions," dated December 11, 1990, which has been approved for use by the NRC. GL 90-09 acknowledges that the 18-month visual inspection schedule (as contained in OM-4) is excessively restrictive and that licensees with large snubber populations have spent a significant amount of resources and have subjected plant personnel to unnecessary radiological exposure to comply with the visual examination requirements. GL 90-09 specifically states that its alternate schedule for visual inspection provides the same confidence level as provided by OM-4.

ASME Section XI, paragraph IWF-5300(a) requires that visual inspections be performed using the VT-3 visual examination method described in paragraph IWA-2213. The inspections required by the TS are consistent with the VT-3 method described in paragraph IWA-2213 and GL 90-09 requirements. The NRC staff finds the licensee's program provides satisfactory assurance that quality visual inspections are performed by competent individuals and is, therefore, acceptable.

ASME Section XI, IWF-5300(b) requires that inservice tests be performed in accordance with OM-4. The licensee's testing program defined by TS 3/4.7.7 is more conservative than OM-4. The TS requires a 10-percent additional sample for each snubber failure, whereas OM-4 only requires that an additional 5-percent sample be tested for each snubber that fails the test. The NRC staff finds the existing testing program defined by the TS provides satisfactory assurance of snubber operability and is, therefore, acceptable.

ASME Section XI, IWF-5300(c) requires that integral and nonintegral attachments be examined. The visual inspections required by the Summer TS verify (1) that there are no

visible indications of damage or impaired operability, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubbers to the component and to the snubber anchorage are functional. The TS requirements are consistent with the guidance contained in GL 90-09. The NRC staff considers that the TS visual inspections provide an equivalent examination for the integral and nonintegral attachments as required by IWF-5300(c), and are, therefore, acceptable.

Based on the above, the NRC staff determined that snubber visual examinations and functional testing, conducted in accordance with TS 3/4.7.7, provide reasonable assurance of snubber operability and component integrity and meet the intent of the ASME Code, Section XI, requirements. Therefore, the NRC staff finds that the alternative proposed in the relief request provides an acceptable level of quality and safety with respect to snubber inspection and testing.

4.0 CONCLUSION

Based on the information provided, the NRC staff determined that the proposed alternative use of TS 3/4.7.7, "Snubbers," for snubber inspection and testing activities provides an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the licensee's request for relief is authorized for the Summer's Nuclear Station third 10-year ISI interval.

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Date: May 10, 2005

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