



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
OF THE SECOND TEN YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN

REQUEST FOR RELIEF NO. RR-02

SOUTH CAROLINA ELECTRIC & GAS COMPANY

VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1

DOCKET NUMBER: 50-395

1.0 INTRODUCTION

The Technical Specifications for Virgil C. Summer Nuclear Station, Unit 1 state that the inservice inspection of the American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). 10 CFR 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 difficulties 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, "Rules for Inservice Inspection of Nuclear Power Plant Components," 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 ten-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) twelve 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 the Virgil C. Summer, Unit 1 second 10-year inservice inspection interval is the 1989 Edition. The components (including supports) may meet the requirements set forth in subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein and subject to Commission approval.

ENCLOSURE 1

The licensee's proposed alternative, to implement Code Case N-509 for the examination of integral attachments, should provide an acceptable level of quality and safety when a minimum 10% sample of all non-exempt (as allowed by Section XI) Code Class 1, 2, and 3 piping, pump, and valve integral attachments is examined. Therefore, it is recommended, with the stipulation noted above, that the licensee's proposed alternative be authorized, pursuant to 10 CFR 50.55a(a)(3)(i).

### 3.0 CONCLUSION

The INEL staff has reviewed the licensee's submittal and concludes that, for Request for Relief RR-02, the proposed alternative should provide an acceptable level of quality and safety. Therefore, it is recommended that relief be authorized, pursuant to 10 CFR 50.55a(a)(3)(i), provided that the conditions stated in the evaluation are met.

Furthermore, the INEL staff believes that Code Case N-491 does not include guidelines for the examination of snubbers. Therefore, the licensee should re-evaluate its snubber selection criteria to comply with ASME Section XI.

Dated: September 1995



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TECHNICAL LETTER REPORT ON THE  
SECOND TEN-YEAR INSERVICE INSPECTION INTERVAL  
REQUEST FOR RELIEF RR-02  
FOR SOUTH CAROLINA ELECTRIC & GAS COMPANY,  
VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1  
DOCKET NUMBER: 50-395

1.0 INTRODUCTION

By letters dated February 17, 1994, and April 27, 1995, the licensee, South Carolina Electric & Gas Company, submitted Request for Relief RR-02 to the *Virgil C. Summer Nuclear Station, ASME Section XI Inservice Examination Manual for 2ND Inspection Interval*. The Idaho National Engineering Laboratory (INEL) staff has evaluated the subject request for relief in the following section.

2.0 EVALUATION

The information provided by the licensee in support of the request for relief and the applicable portions of the *Virgil C. Summer Nuclear Station, ASME Section XI Inservice Examination Manual for 2ND Inspection Interval* have been evaluated below. The second 10-year inservice inspection (ISI) interval will end January 2004. The Code of record for the second 10-year ISI interval is the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1989 Edition.

Request for Relief RR-02, Request for Authorization to Use ASME Code Case N-509

Code Requirement: Code cases are periodically published by ASME to either clarify the intent of the Code rules or to provide alternative rules to existing Code requirements. Use of these nonmandatory Code cases for ISI is subject to general acceptance by the NRC staff and incorporation into Regulatory Guide 1.147. Pursuant to 10 CFR 50.55a, other Code cases may be used provided specific authorization is granted.

Licensee's Code Relief Request: Authorization to use ASME Code Case N-509, *Alternative Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments, Section XI, Division 1* in the Virgil C. Summer Nuclear Station, Unit 1, ISI Program has been requested.

Licensee's Basis for Requesting Relief (as stated):

"Code Case N-509 has been developed and approved (11-25-92) by the ASME as an acceptable alternative to the above requirements. This alternative is based on the optimization of support inspection which combines the focus of integrally welded attachments with overall support inspection and emphasizes those attachments associated with a deformed support member. The approval of the Code Case by ASME demonstrates the position that the current requirements are more extensive than is required to assure system integrity. Thus, SCE&G believes that applying the current Code Requirements presents an undue hardship without a corresponding increase in safety. Therefore SCE&G request approval to allow the option of applying Code Case N-509 to the 2nd ten-year interval."

Licensee's Proposed Alternative Examination (as stated):

"To be allowed the option of utilizing the provisions of Code Case N-509, 'Alternative Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments Section XI, Division 1.'"

Evaluation: The licensee proposes to apply the requirements of Code Case N-509 for the selection and examination of integral attachments on Code Class 1, 2, and 3 piping and components. This allows examination of 10% of welded attachments in lieu of the existing Code requirement to examine 100% of the non-exempt Class 1, 2, and 3 integrally welded attachments.

Applicable portions of the *Virgil C. Summer Nuclear Station, ASME Section XI Inservice Examination Manual for 2ND Inspection Interval* were reviewed to determine how the Code case was implemented. The following inconsistencies were noted:

1. It appears that Code Case N-491 was implemented to include snubbers, which is not its intent.
2. Additional exemptions not allowed by Section XI or Code Case N-509 were taken.
3. Code Case N-509 was used incorrectly in conjunction with Code Case N-491 to require examination of only one Class 1 piping integrally welded attachment and one vessel integrally welded attachment.

Based on this review, it has been determined that the notes of the Code case examination tables could be misinterpreted, allowing selection of component supports for examination, per IWF of the 1989 Edition with the 1990 Addenda, that do not contain any welded attachments. Thus, no welded attachments would be required to be inspected. The INEL staff believes Code Case N-509 should be enhanced to ensure this does not occur. Therefore, to use Code Case N-509, the licensee should schedule a minimum of 10% of all integral attachments in non-exempt Cod. Class 1, 2, and 3 systems.

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 shall be submitted to the Commission in support of that determination and a request 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 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. In letters dated February 17, 1994, and April 27, 1995, the South Carolina Electric & Gas Company submitted its second ten-year interval inservice inspection program plan, Request for Relief No. RR-02 for the Virgil C. Summer Nuclear Station, Unit 1.

## 2.0 EVALUATION AND CONCLUSIONS

The staff, with technical assistance from its contractor, the Idaho National Engineering Laboratory (INEL), has evaluated the information provided by the licensee in support of its second ten-year interval inservice inspection program plan, Request for Relief No. RR-02 for the V. C. Summer Nuclear Station, Unit 1.

Based on the information submitted, the staff adopts the contractor's conclusions and recommendations presented in the Technical Letter Report (Enclosure 2). The INEL staff concluded, based on its evaluation of the alternative contained in Request for Relief RR-02, that the licensee's proposed alternative should provide an acceptable level of quality and safety provided certain conditions stated in the evaluation are met. Therefore, the licensee's proposed alternative to the Code requirements contained in Request for Relief RR-02 is authorized pursuant to 10 CFR 50.55a(a)(3)(i), provided that the licensee schedules a minimum of 10% of all integral attachments in non-exempt Code Class 1, 2, and 3 systems.

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Dated: September 14, 1995

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