



December 15, 2000  
RC-00-0370

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION (VCSNS)  
DOCKET NO. 50/395  
OPERATING LICENSE NO. NPF-12  
REQUEST FOR REVISION TO ASME BOILER AND PRESSURE  
VESSEL CODE, SECTION XI RELIEF REQUEST (NRR 00-0259)

**Stephen A. Byrne**  
Vice President  
Nuclear Operations  
803.345.4622

- Reference:
1. S.A. Byrne letter (RC-00-0363) to Document Control Desk dated November 20, 2000
  2. NRC (F. J. Hebdon) letter to SCE&G (G. J. Taylor) dated April 11, 1996 (TAC NO. M94364)
  3. G. J. Taylor letter (RC-96-0089) to Document Control Desk dated March 27, 1996
  4. G. J. Taylor letter (RC-95-0315) to Document Control Desk dated December 20, 1995

South Carolina Electric & Gas Co.  
Virgil C. Summer Nuclear Station  
P. O. Box 88  
Jenkinsville, South Carolina  
29065

803.345.5209  
803.635.1461

Based on discussion with Mr. L. Olshan and NRR reviewers on December 12, 2000 regarding Reference 1, South Carolina Electric & Gas Company (SCE&G) hereby resubmits a request to revise the relief request granted by TAC NO. M94364 (Reference 2) for using alternatives to the requirements of ASME Code, Section XI regarding Class 1 and 2 insulated pressure retaining bolted connections which receive VT-2 Visual Examination during the performance of system Pressure Testing. The revision consists of relocating the listing of individual components identified as subject to the boric acid inspections to the VCSNS Boric Acid Leak Detection Program for ASME Code Class 1 and 2 Bolted Connections.

Changes due to the aforementioned discussion are provided in bold print on the following page of this letter. Additional discussion is provided in the Basis for Relief portion of the attached request for relief.

The relief request submitted by Reference 3 and addended by Reference 4 sought to allow alternatives to the requirements of Section XI, IWA-5242(a). This relief request does not vary from Reference 3 and is reiterated in the attached.

A047

The attached relief request contains the Code requirements, proposed alternative testing, and basis for relief. As noted by References 3 and 4, this request is modeled after Code Case N-533, expanded to include specified Class 2 connections inside containment. This relief is to exempt the applicable Class 1 and 2 pressure retaining bolted connections that are insulated, in systems borated for the purpose of reactivity control. Specifically, SCE&G requests to exempt the applicable connections from the requirements of ASME code, Section XI, IWA-5242(a), which specifies that insulation must be removed from pressure retaining bolted connections for VT-2 visual examination during the performance of System Pressure Testing.

The listing of components subject to this relief request shall be relocated to the VCSNS Boric Acid Leak Detection Program for ASME Code Class 1 and 2 Bolted Connections. This program will be maintained within VCSNS program document GTP-304, Inservice Inspection System Pressure Testing. Changes to this program would only occur through the 10CFR50.59 review process.

As an alternative, SCE&G shall remove the insulation and conduct the VT-2 visual examination of pressure retaining bolted connections on applicable Class 1 connections once per refueling outage at static or atmospheric pressure. Applicable Class 2 connections will be similarly inspected once each inspection period during a refueling outage. Insulation will then be reinstalled and upon repressurization of a bolted connection, a four-hour hold time will be utilized to assess potential leakage.

**SCE&G incorporates all applicable Code Cases and relief requests into the Code pressure testing program via the Technical Specification 6.5.3 technical review and control process, and 10CFR50.59 as a means of assuring Code and Regulatory compliance. Therefore SCE&G contends that controlling the list of applicable components in the program document, as stated in the proposed alternative, provides the equivalent acceptable level of quality and safety as that provided by the Code. SCE&G is submitting the attached relief requests in accordance with 10CFR50.55a(a)(3)(i).**

The relief request is included as attachment to this letter.

Should you have any questions, please call Mr. Jim Turkett at (803) 345-4047 or Mr. David Haile at (803) 345-4322.

Very truly yours,



Stephen A. Byrne

JT/DCH/SAB/dr

Attachment:  
c: See Page 3

Document Control Desk

NRR 00-0259

RC-00-0370

Page 3 of 3

c: N. O. Lorick  
N. S. Carns  
T. G. Eppink (w/o Attachment)  
R. J. White  
L. A. Reyes  
K. R. Cotton  
NRC Resident Inspector  
J. B. Knotts, Jr.  
R. L. Osborne  
NSRC  
RTS (NRR 00-0259)  
File (810.19-2)  
DMS (RC-00-0370)

**South Carolina Electric & Gas Co. (SCE&G)  
Virgil C. Summer Nuclear Station (VCSNS)  
Relief Request**

**Subject:**

Removal of insulation from pressure retaining bolted connections, in systems borated for the purpose of reactivity control, during system pressure testing.

**Components Identification:**

System:               Reactor Coolant  
                          Chemical and Volume Control  
                          Residual Heat Removal  
                          Safety Injection

Components:       Insulated pressure retaining bolted connections inside containment which receive a VT-2 visual examination and are normally tested in a high temperature and elevated radiation environment. Code Class 1 and Class 2 components are identified and maintained in the VCSNS Boric Acid Leak Detection Program for ASME Code Class 1 and 2 Bolted Connections.

ISI Class:           1 and 2

**Current Code Requirement:**

ASME Code, Section XI, IWA-5242(a) requires that, for systems borated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connections for visual examination VT-2.

**Alternative Requirement:**

It is proposed that insulated bolted connections inside containment on Class 1 systems that are borated for the purpose of controlling reactivity be examined each refueling outage at atmospheric or static pressure. The examination will be performed with insulation removed. Similarly, insulated bolted connections on Class 2 systems inside containment that are borated for the purpose of controlling reactivity will be examined once each examination period. In addition to the preceding, all of the piping and components associated with these Class 1 and 2 systems inside containment will be examined at their required frequencies and under the conditions specified in IWA-5000, IWB-5000 and IWC-5000, with the exception of the removal of insulation from the bolted connections. These examinations will be performed utilizing a four hour hold time.

**Basis for Relief:**

Inside containment, the referenced systems are tested in an environment that is hazardous to personnel. Ambient temperature is between 100 and 120 degrees Fahrenheit. Personnel must manipulate undesirable work platforms such as ladders against components that could be in excess of 500 degrees Fahrenheit. Removing and reinstalling insulation under these conditions is difficult to perform and is not considered to be consistent with the ALARA (as low as reasonably achievable) concept when compared to the proposed alternative requirements.

The following supports this position:

1. The ASME issued Code Case N-533 to provide an alternative to the removal of insulation at bolted connections for Class 1 systems.
2. Surry Power Station was granted relief from the referenced Code Section in NRC letter #95-404 dated 07/19/95.
3. Pre-existing boric acid leaks will be detected at atmospheric or static pressures due to residue deposits.
4. A four hour hold time will ensure that boric acid leaks that may develop during the outage will be identified during the VT-2 examination performed prior to startup.
5. The alternate examination will not be applied to post repair/replacement activities on bolted connections.
6. Relief granted to V.C. Summer Nuclear Station through TAC M94364, April 11, 1996.

Relocation of the component identification list to plant program documents will allow VCSNS to expeditiously change the program through the 10CFR50.59 review process without having to submit a new request for relief each time a change to the program is needed.

## **VCSNS CONTROLS TO ASSURE REQUIRED SURVEILLANCE ACTIVITIES ARE NOT COMPROMISED**

The requirements for examination of Class 1 and 2 Bolted Connections are implemented through VCSNS plant surveillance test procedures (STPs). These procedures are controlled through Station Administrative Procedure (SAP) 139, "Procedure Development, Review, Approval, and control." Any proposed change is further screened through SAP-107, "10 CFR 50.59 Unreviewed Safety Question Review Process." Also, SAP-139 requires a review to determine if any commitments are impacted by a proposed revision or change to the implementing procedures. This review is directed to SAP-630, "Procedure/Commitment Accountability Program (P/CAP)" to identify any commitments (TS, FSAR, RG, etc.) that impact the procedure.

The P/CAP was established to assure regulatory compliance is maintained in VCSNS plant procedures. Any proposed revision or change which could compromise a regulatory commitment is screened through the P/CAP.

These three documents provide the necessary program and reviews to assure that the alternate test requirements of this relief request will be retained and that the scope of components subject to these requirements will be maintained upon relocation to VCSNS plant procedures.

Therefore SCE&G believes that the implementation of this relief request, as proposed, provides equivalent quality and safety to that currently approved.