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April 23, 1996

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
ASME SECTION XI RELIEF REQUEST (NRR 960001) REVISION 1

Reference: Letter from G. J. Taylor to Document Control Desk, dated March 28, 1996

A relief request was submitted by our letter dated March 28, 1996, which required NRC approval prior to use. This relief request proposes alternative testing per 10 CFR Part 50.55a(a)(3) within the V. C. Summer Nuclear Station (VCSNS) Inservice Inspection Pressure Test Program.

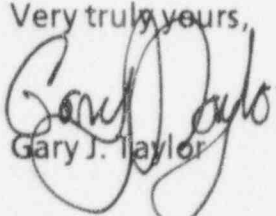
VCSNS desires to revise Attachment I to remove penetrations not required to be tested using Code Case N-522. This revision contains no new additions or changes to our previous request.

We request that the ASME Nuclear Code Case N-522, "Pressure Testing of Containment Penetration Piping," be approved for use prior to its inclusion in Regulatory Guide 1.147. Code Case N-522 (Attachment 2) accepts the test requirements of 10 CFR Part 50, Appendix J as an alternative to the test requirements of ASME Section XI, Table IWC-2500-1, Category C-H. This would significantly reduce the redundant testing required by the imposition of both ASME Section XI and 10 CFR Part 50, Appendix J.

In accordance with 10 CFR Part 50.55a(a)(3), approval of this relief request is requested as an alternative to the requirements of ASME Section XI-1989.

SUMMARY OF COMMITMENTS

This letter contains no new commitments and no revisions to existing commitments. Should you have questions, please call Mr. M. J. Zaccone at (803) 345-4328.

Very truly yours,

Gary J. Taylor

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PDR

MJZ/GJT/nkk
Attachments (2)

c: J. L. Skolds
W. F. Conway
R. R. Mahan (w/o Attachments)
R. J. White
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NRC Resident Inspector
J. B. Knotts Jr.
NSRC
DMS (RC-96-0118)
RTS (NRR 960001)
File (810.19-2)

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ATTACHMENT 1

**SOUTH CAROLINA ELECTRIC & GAS
V. C. SUMMER NUCLEAR STATION
DOCKET 50/395**

**INSERVICE INSPECTION PRESSURE TEST PROGRAM - REQUEST FOR RELIEF
RELIEF REQUEST NRR 960001**

RELIEF REQUEST NUMBER NRR 960001

COMPONENT IDENTIFICATION

Code Class: 2
References: IWA-5211
IWA-5240
Table IWC-2500-1
IWC-5210(a)
Examination Category: C-H
Description: Alternative Pressure Testing of Containment Penetration Piping
Containment Isolation System (CIS)

Penetrations to be Tested Using Code Case N-522

Penetration Number	Dwg No.	Penetration Description	Procedure Number
XRP0204	302-612	RC PUMPS CC SUPPLY HEADER PENETRATION	STP-215.004
XRP0208	302-852	CRDM COOLING WATER INLET PEN	STP-215.004
XRP0209	302-852	CRDM COOLING WATER RETURN PEN	STP-215.004
XRP0231	302-715	DEMINERALIZED WATER PENETRATION	STP-215.004
XRP0310	302-241	REACTOR BLDG STATION SERVICE AIR PENETR	STP-215.002A
XRP0311	302-273	REACTOR BLDG INSTRUMENT AIR PENETR	STP-215.002A
XRP0312	302-612	RC PUMP BRG CLG SUP HDR PENETRATION	STP-215.004
XRP0313	302-311	NITROGEN SUPPLY TO FEEDWATER LINES	STP-215.002A
XRP0317	302-692	ACCUMULATOR FILL LINE PENETRATION	STP-215.003A
XRP0320	302-692	ACCUMULATOR NITROGEN SUPPLY PENETR	STP-215.003A
XRP0321	302-692	ACCUMULATOR TEST LINE PENETRATION	STP-215.003A
XRP0324	302-274	BREATHING AIR PEN	STP-215.002A
XRP0330	302-612	COMPONENT COOLING FROM RCP BEARINGS	STP-215.004
XRP0404	302-231	FIRE SERVICE HOSE REEL SUPPLY PENETR	STP-215.004
XRP0417D	302-772	SAMPLE RETURN TO PRT PEN	STP-215.005
XRP0418	302-735	RC DRAIN TANK TO VENT HEADER & H2	STP-215.003A
XRP0420	302-602	PRESSURE RELIEF TANK PENETRATION	STP-215.003A
XRP0422	302-602	PRESSURE RELIEF TANK MAKE-UP PENETRATION	STP-215.003A
XRP0423	302-735	RC DRAIN TANK PENETRATION	STP-215.003A
XRP0424	302-821	REACTOR BUILDING SUMP DRAIN PENETR	STP-215.003A
XRP0427	302-231	FIRE SERVICE DELUGE PENETRATION	STP-215.004

CODE REQUIREMENT

IWA-5211 states, "The pressure retaining components within each system boundary shall be subject to system pressure tests under which conditions visual examination VT-2 is performed in accordance with IWA-5240 to detect leakages."

IWC-5210(a) states, "The pressure retaining components within each system boundary shall be subjected to a system pressure test conducted during a system functional test, a system pressure test conducted during a system inservice test, or a hydrostatic test, and visually examined by the method specified in Table IWC-2500-1, Examination Category C-H."

Table IWC-2500-1, Examination Category C-H, specifies a frequency of examination of once per inspection period for inservice or functional testing and once per inspection interval for hydrostatic testing.

BASIS FOR RELIEF

Pursuant to 10CFR50.55a(a)(i), the proposed alternative provides an acceptable level of quality and safety.

The proposed alternative will reduce the level of redundant testing. Imposition of the IWC-2500-1 test requirements would result in additional testing as follows:

1. Water systems would be flooded and pressurized through the associated penetration test tap and a VT-2 visual examination performed during the pressurization period.
2. Air and gas systems would be tested in an identical fashion to 10CFR50, Appendix J test method and a VT-2 visual examination would be performed during the pressurization period.

For the penetrations listed, 10CFR50, Appendix J testing is performed by draining the test volume, if required, venting downstream of the test volume and pressurizing the test volume to 53.5 to 57 psig. The rate of makeup flow is determined and compared to acceptance criteria based on allowable containment leak rate.

Leakage from water systems would be indicated during the 10CFR50, Appendix J test more readily than the IWC-2500-1 test due to the lower density of the air test medium. Based on this fact, the use of the Appendix J test program is conservative when compared to the ASME Section XI program.

Leakage from air and other gas systems would be indicated by 10CFR50, Appendix J testing in a similar manner to an IWC-2500-1 test. Based on this fact, the two programs are essentially equivalent.

The specified frequency of testing for the 10CFR50, Appendix J test program is once per refueling cycle, which is approximately 18 months. The IWC-2500-1 specified test frequency is once per inspection period which is approximately 3-1/3 years. A comparison of the specified test frequencies indicates the 10CFR50, Appendix J test program is conservative when compared to the ASME Section XI test program.

VCSNS 10CFR50, Appendix J testing is performed by Test Specialists who are certified as VT-2 Level II examiners in accordance with Section XI. Therefore, Appendix J testing is performed by personnel trained to recognize unacceptable leakage from a pressure boundary.

PROPOSED ALTERNATIVE

In lieu of the requirements specified in IWA-5211 and IWC-5210, VCSNS will follow the guidance of Code Case N-522 for pressure testing of safety class 2 containment penetrations associated with non-safety class systems.

Testing required by 10CFR50, Appendix J may be used as an alternative to the rules in Table IWC-2500-1, Category C-H, for pressure testing piping that penetrates a containment vessel, when:

- ▶ the piping and isolation valves that are part of the containment system are Class 2, but the balance of the piping system is outside the scope of Section XI.

Pipe wall leakage will be evaluated during the Appendix J test.

APPLICABLE TIME PERIOD

The proposed alternative is requested for the second ten-year interval of the Inservice Inspection Program for VCSNS, which concludes in January 2004.

ATTACHMENT 2

**SOUTH CAROLINA ELECTRIC & GAS
V. C. SUMMER NUCLEAR STATION
DOCKET 50/395**

**INSERVICE INSPECTION PRESSURE TEST PROGRAM - REQUESTS FOR RELIEF
ASME CODE CASE N-522**

**CASE
N-522**

CASES OF ASME BOILER AND PRESSURE VESSEL CODE

Approval Date: December 9, 1993

*See Numerical Index for expiration
and any reaffirmation dates*

**Case N-522
Pressure Testing of Containment Penetration Piping
Section XI, Division 1**

Inquiry: What alternative to the rules of Table IWC-2500-1, Category C-H may be used for pressure testing piping that penetrates a containment vessel, when the piping and isolation valves that are part of the containment system are Class 2 but the balance of the piping system is outside the scope of Section XI?

Reply: It is the opinion of the Committee that 10 CFR 50, Appendix J, may be used as an alternative to the rules in Table IWC-2500-1, Category C-H, for pressure testing piping that penetrates a containment vessel, when the piping and isolation valves that are part of the containment system are Class 2 but the balance of the piping system is outside the scope of Section XI.