

VIRGINIA ELECTRIC AND POWER COMPANY

RICHMOND, VIRGINIA 23261

October 25, 2000

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 00-525
NL&OS/ETS R0
Docket No. 50-339
License No. NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT 2
ASME SECTION XI RELIEF REQUEST

North Anna Power Station Unit 2 is presently in the second ten year inservice inspection interval, and examinations are conducted to the requirements of the 1986 Edition of ASME Section XI. Pursuant to 10 CFR 50.55a(a)(3)(ii), relief is requested from certain requirements of the ASME Section XI Code associated with Code required examinations for two small portions of reactor coolant piping associated with the reactor head vents.

The Code requirements for the Code Edition referenced above require system hydrostatic testing and associated VT-2 visual examination of all Class 1 pressure retaining piping and valves. However, small diameter (≤ 1 inch), Class 1, reactor coolant system (RCS) pressure boundary vents are equipped with valves that provide for double isolation of the reactor coolant system (RCS) pressure boundary. These valves are generally maintained closed during normal operation and the piping outboard of the first isolation valve is, therefore, not normally pressurized. Therefore, relief is requested from performing the hydrostatic testing and associated VT-2 visual examination for these small diameter lines since imposition of this Code requirement would cause a burden that would not be compensated by an increase in quality and safety. The basis for the relief is provided in attached Relief Request SPT-18.

This relief request has been approved by the Station Nuclear Safety and Operating Committee.

In order to eliminate Code required hydrostatic test of this small bore piping during the next scheduled outage, we request your approval of this relief request by March 2001. If you have any questions concerning this request, please contact us.

Very truly yours,



L. N. Hartz
Vice President - Nuclear Engineering and Services

A047

Attachment

cc: U. S. Nuclear Regulatory Commission
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ATTACHMENT

ASME SECTION XI RELIEF REQUEST NO. SPT-18
NORTH ANNA POWER STATION UNIT 2

Virginia Electric and Power Company
North Anna Power Station, Unit 2
Second Ten Year Interval
Request for Relief Number SPT-18

I. IDENTIFICATION OF COMPONENTS

<u>Drawing #</u>	<u>Line #</u>	<u>Class</u>
12050-CBM-093A, Sheet 3	1"-RC-644-1502-Q2	1
	1"-RC-645-1502-Q2	1

These lines are located between the reactor head vent isolation valves 2-RC-SOV-201A1 and 201A2 and 2-RC-SOV-201B1 and 201B2. Each line is approximately 1.5 feet in length. Refer to Figure SPT-18-1.

II. CODE REQUIREMENTS

Section XI, 1986 Edition, Examination Category B-P, Items B15.51 and B15.71 require system hydrostatic testing and associated VT-2 visual examination of all Class 1 pressure retaining piping and valves.

III. CODE REQUIREMENTS FROM WHICH RELIEF IS REQUESTED

Relief is requested from performing the Code required system hydrostatic testing and associated VT-2 visual examination.

IV. BASIS FOR RELIEF

These piping segments are equipped with valves that provide for double isolation of the reactor coolant system (RCS) pressure boundary. The valves are generally maintained closed during normal operation and the piping outboard of the first isolation valve is, therefore, not normally pressurized. The non-isolable, upstream portions of the RCS piping (lines 1"-RC-642-1502-Q1 and 1"-RC-643-1502-Q1) will be pressurized using RCS pressure and visually examined as required.

Opening the inboard isolation valves during the inspection of the upstream piping would pressurize lines 1"-RC-644-1502-Q2 and 1"-RC-645-1502-Q2. However, opening these valves has the potential for releasing reactor coolant into the reactor vessel refueling cavity. When previously stroking the inboard valves while the Reactor Coolant System was pressurized, the downstream valve tended to lift due to the motive force of the steam. In contrast, as long as the inboard and outboard valves remain closed under RCS pressure, they are an effective isolation boundary.

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(Continued)

These valves should not be stroked for reasons of routine operation while the Reactor Coolant System is pressurized.

The lines could be pressurized from the end of the discharge piping (1"-RC-646-1502) that leads to the refueling cavity using a pressure test pump. However, the burden of performing this hydrostatic test is not justified by a corresponding increase in safety.

Only a small portion of the ASME classified vent line will be excluded from hydrostatic testing. Each pipe section between the isolation valves is approximately 1.5 feet in length. Also, a stress analysis review was performed on the two pipe sections. The review revealed that these lines are subject to stresses well below the applicable code allowable stresses. The lines have adequate flexibility to accommodate large differential displacement. A review of the support loads showed that these loads are small and within the design loads for the supports.

ASME Section XI Code, paragraph IWA-4400, provides the requirements for hydrostatic pressure testing of piping and components after repairs by welding to the pressure boundary. IWA-4400(b)(5) excludes component connections, piping, and associated valves that are 1 inch nominal pipe size and smaller from the hydrostatic test. Consequently, hydrostatic testing and the associated visual examination of these ≤ 1 inch diameter RCS pipes and valve bodies once each 10-year interval is unwarranted considering that a repair weld on the same connections is exempted by the ASME XI Code.

V. ALTERNATE PROVISIONS

As an alternative to the Code required hydrostatic test of the subject Class 1 reactor vessel vent piping the following is proposed:

1. The reactor vessel vent piping will be visually examined for leakage and any evidence of past leakage with the isolation valves in the normally closed position. This inspection will be performed each refueling outage during the ASME XI Class 1 System Leakage Test (IWB-5221).
2. The reactor vessel vent piping will also be visually examined with the isolation valves in the normally closed position during the 10-year ISI pressure test (IWB-5222 and Code Case N-498-1). This examination will be performed with the RCS at nominal operating pressure and at near operating temperature after satisfying the required 4-hour hold time.

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(Continued)

In addition, during modes 1 through 4 the RCS will be monitored for leakage at the following frequency pursuant to TS requirements:

1. Every 72 hours, during steady state operation, the reactor coolant system leak rate will be monitored to assure the limit of one gallon per minute unidentified leakage is maintained.
2. Every 12 hours the containment atmosphere particulate radioactivity will be monitored.

The proposed alternative stated above will ensure that the overall level of plant quality and safety will not be compromised.

VI. STATUS

Pending

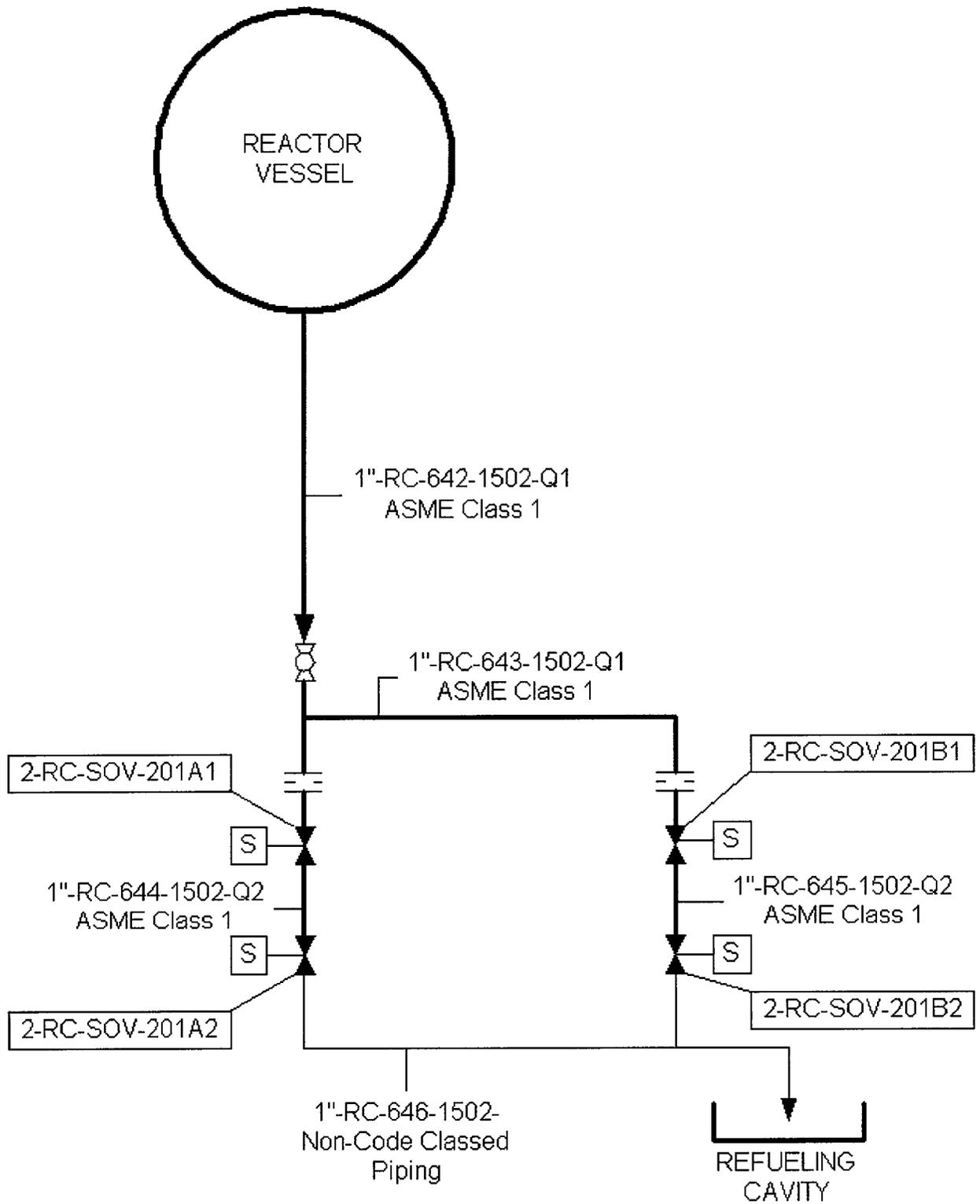


Figure SPT-18-1