

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

October 27, 2009

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

Serial No. 09-184
SS&L/TJN R6
Docket Nos. 50-280/281
License Nos. DPR-32/37

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
ASME SECTION XI INSERVICE INSPECTION PROGRAM
REQUESTS FOR RELIEF SPT-004 REVISION 2, SPT-003 REVISION 2 AND
ELIMINATION OF NRC BULLETIN 2003-02 COMMITMENT

In letters dated December 12, 2002 (Serial No. 02-642) and August 25, 2003 (Serial No. 03-428), Virginia Electric and Power Company (Dominion) submitted the inservice inspection (ISI) program for the fourth inservice interval for Class 1, 2, and 3 components and component supports for Surry Units 1 and 2, respectively. As part of these submittals, and as allowed by 10 CFR 50.55a(a)(3)(ii), Dominion requested NRC approval for Relief Requests SPT-004 and SPT-003 for Surry Units 1 and 2, respectively. The requests were submitted to obtain relief from the Code examination requirements for the penetrations in the bottom of the reactor vessel due to the difficulties involved with performing the examination.

For Surry Unit 1, the NRC subsequently requested additional information to facilitate their review of Relief Request SPT-004 and Surry's fourth interval ISI Program submittal. Dominion responded in a letter dated December 5, 2003 (Serial No. 02-642A). The NRC subsequently requested additional information regarding the relief requests, which included Relief Request SPT-004, Rev. 1, and Dominion responded in a letter dated April 20, 2004 (Serial No. 02-642C). The NRC authorized the requested relief requests, including SPT-004, Rev. 1, for Surry Unit 1 in a letter dated August 11, 2004. Likewise, for Surry Unit 2, the NRC requested additional information to facilitate their review of Relief Request SPT-003 and Surry's fourth interval ISI Program submittal. Dominion responded in a letter dated May 5, 2004 (Serial No. 03-428A), and the NRC authorized the relief requests, including SPT-003, Rev. 1, for Surry Unit 2 in a letter dated September 9, 2004.

The Alternate Provisions included in Relief Requests SPT-004, Rev. 1, and SPT-003, Rev. 1, included the performance of bare metal visual examinations of the bottom mounted instrument (BMI) penetrations in the reactor pressure vessel (RPV) lower head that Dominion had previously committed to perform in Surry's response to NRC Bulletin (NRCB) 2003-02, "Leakage from Reactor Pressure Vessel Lower Head

Penetrations and Reactor Coolant Pressure Boundary Integrity,” dated September 22, 2003 (Serial No. 03-459).

Subsequent to the authorization of Relief Requests SPT-004, Rev. 1 and SPT-003, Rev. 1, the requirements of 10 CFR 50.55a(g)(6)(ii)(E) associated with Reactor Coolant Pressure Boundary Visual Inspections were revised effective October 2008 to incorporate the inspection requirements of Code Case N-722, “Additional Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated with Alloy 600/82/182 Materials.” Code Case N-722, Table 1, includes reactor vessel BMI penetrations and only requires a VE visual examination to be performed every other refueling outage.

Accordingly, Dominion has revised the subject relief requests to perform the VE bare-metal visual examination of the BMI penetrations in the RPV lower head every other refueling outage consistent with ASME Code Case N-722. This will result in a VT-2 visual examination for evidence of boric acid leakage/corrosion being conducted each refueling outage when the containment is at atmospheric conditions and a VE bare-metal visual examination of the BMI penetrations in the RPV lower head being performed every other refueling outage.

It should be noted that in the Dominion response to NRCB 2003-02 dated September 22, 2003, we committed to perform a bare-metal visual examination of the BMI penetration nozzles during subsequent refueling outages for Surry Units 1 and 2. However, the response also indicated that the schedule may be adjusted in the future should ongoing research and inspection results justify a less frequent, performance-based, sample inspection schedule. NRC letters dated September 22, 2004 and August 1, 2005 for Surry Unit 2 and Unit 1, respectively, acknowledged the September 22, 2003 letter from Dominion and requested the NRC staff be notified in writing of any changes to this commitment prior to implementation. Bare-metal visual examinations of the BMI penetration nozzles on the RPV lower head have been performed during every refueling outage since 2003, and these examinations have not identified any evidence of leakage. In light of the incorporation of Code Case N-722 into 10 CFR 50.55a(g)(6)(ii)(E) and the lack of any evidence of leakage during the previous examinations, this letter also serves to notify the NRC that Dominion is revising the examination frequency associated with the visual examination of the BMI penetration nozzles on the RPV lower head. The examinations will be performed consistent with the frequency required by 10 CFR 50.55a(g)(6)(ii)(E).

Therefore, pursuant to 10 CFR 50.55(a)(3)(ii), Dominion hereby requests authorization of Relief Requests SPT-004, Rev. 2, and SPT-003, Rev. 2, for Surry Power Station Units 1 and 2, respectively, for their respective fourth 10-year inservice inspection interval. The revised relief requests have been approved by the Facility Safety Review Committee and are included in Attachments 1 and 2 for Surry Units 1 and 2, respectively.

If you have any questions or require additional information, please contact Mr. Gary D. Miller at (804) 273-2771.

Sincerely,



J. Alan Price
Vice President – Nuclear Engineering

Attachments

1. Relief Request SPT-004, Revision 2, Surry Unit 1
2. Relief Request SPT-003, Revision 2, Surry Unit 2

Commitments made in this letter: None

cc: U.S. Nuclear Regulatory Commission
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Attachment 1

**Relief Request SPT-004 Revision 2
Surry Unit 1**

**Virginia Electric and Power Company
(Dominion)
Surry Power Station**

RELIEF REQUEST SPT-004 REVISION 2
SURRY POWER STATION UNIT 1

**Proposed Alternative in Accordance
with 10 CFR 50.55a(a)(3)(ii)**

--Hardship or Unusual Difficulty without Compensating
Increase in Level of Quality or Safety--

I. IDENTIFICATION OF COMPONENTS

System: Reactor Coolant (RC)

Components: Partial penetration Welds at the Bottom of the Reactor Vessel

II. CODE REQUIREMENTS

Section XI of the ASME Boiler and Pressure Vessel Code, 1998 Edition with Addenda up to and including the 2000 Addenda, Category B-P, Item No. B15.10, requires a visual (VT-2) examination of the bottom of the reactor vessel during the system leakage test of IWB-5220.

III. BASIS FOR RELIEF

To meet the Section XI pressure and temperature requirements for the system leakage test of the reactor vessel, the Surry Unit 1 reactor containment is required to be at sub-atmospheric pressure. Station administrative procedures require that self-contained breathing apparatus must be worn for containment entries under these conditions. This requirement significantly complicates the visual (VT-2) examination of the bottom of the reactor vessel during testing. Access to the bottom of the reactor vessel requires the examiner to descend several levels by ladder and navigate the entrance leading to the reactor vessel. In addition to these physical constraints, the examiner must contend with extreme environmental conditions: elevated air temperatures due to reactor coolant at temperatures above 500 degrees F and limited air circulation in the vessel cubicle. Also, the limited capacity of the breathing apparatus further encumbers the performance of the examination.

These factors increase the safety hazard associated with the examination. As a minimum, the examiner is forced to perform the examination under considerable physical burden. To place the examiner under this increased risk and burden is not justifiable. This combination of conditions does not exist during the refueling outage when the proposed alternative examination would take place. The proposed alternate examination would be performed under conditions that are safer and allow for a more thorough examination.

IV. ALTERNATE PROVISIONS

Technical Specifications have surveillance requirements that monitor leakage and radiation levels. The applicable Technical Specification requirements will be satisfied through the fourth inservice inspection interval. Furthermore, the incore sump room has a level alarm in the control room requiring operator action. In the event of a leak, these measures would identify any integrity concerns associated with this area. A VT-2 examination for evidence of boric acid leakage/corrosion will be conducted each refueling outage on the bottom of the reactor vessel when the containment is at atmospheric conditions and the system is depressurized. In addition, a VE bare-metal visual examination for evidence of boric acid leakage/corrosion will be conducted in accordance with ASME Code Case N-722 on the bottom of the reactor vessel when the containment is at atmospheric conditions.

The monitoring methods of the station, the VT-2 exam performed every refueling outage at atmospheric conditions, and the VE bare-metal visual examination conducted every other refueling outage in accordance with ASME Code Case N-722 provide an acceptable level of quality and safety. Because of the burden and potential safety challenges caused by the sub-atmospheric conditions of the containment, the Code required examinations at the bottom of the reactor vessel during system leakage tests result in a hardship without a compensating increase in quality and safety over the proposed alternative. Therefore, authorization of this request for relief is requested in accordance with 10 CFR 50.55a(a)(3)(ii).

V. DURATION OF PROPOSED ALTERNATIVE

This relief request will be used for the fourth inservice inspection interval.

Attachment 2

**Relief Request SPT-003 Revision 2
Surry Unit 2**

**Virginia Electric and Power Company
(Dominion)
Surry Power Station**

RELIEF REQUEST SPT-003 REVISION 2
SURRY POWER STATION UNIT 2
Proposed Alternative in Accordance
with 10 CFR 50.55a(a)(3)(ii)
--Hardship or Unusual Difficulty without Compensating
Increase in Level of Quality or Safety--

I. IDENTIFICATION OF COMPONENTS

System: Reactor Coolant (RC)

Components: Partial penetration Welds at the Bottom of the Reactor Vessel

II. CODE REQUIREMENTS

Section XI of the ASME Boiler and Pressure Vessel Code, 1998 Edition with Addenda up to and including the 2000 Addenda, Category B-P, Item No. B15.10, requires a visual (VT-2) examination of the bottom of the reactor vessel during the system leakage test of IWB-5220.

III. BASIS FOR RELIEF

To meet the Section XI pressure and temperature requirements for the system leakage test of the reactor vessel, the Surry Unit 2 reactor containment is required to be at sub-atmospheric pressure. Station administrative procedures require that self-contained breathing apparatus must be worn for containment entries under these conditions. This requirement significantly complicates the visual (VT-2) examination of the bottom of the reactor vessel during testing. Access to the bottom of the reactor vessel requires the examiner to descend several levels by ladder and navigate the entrance leading to the reactor vessel. In addition to these physical constraints, the examiner must contend with extreme environmental conditions: elevated air temperatures due to reactor coolant at temperatures above 500 degrees F and limited air circulation in the vessel cubicle. Also, the limited capacity of the breathing apparatus further encumbers the performance of the examination.

These factors increase the safety hazard associated with the examination. As a minimum, the examiner is forced to perform the examination under considerable physical burden. To place the examiner under this increased risk and burden is not justifiable. This combination of conditions does not exist during the refueling outage when the proposed alternative examination would take place. The proposed alternate examination would be performed under conditions that are safer and allow for a more thorough examination.

IV. ALTERNATE PROVISIONS

Technical Specifications have surveillance requirements that monitor leakage and radiation levels. The applicable Technical Specification requirements will be satisfied through the fourth inservice inspection interval. Furthermore, the incore sump room has a level alarm in the control room requiring operator action. In the event of a leak, these measures would identify any integrity concerns associated with this area. A VT-2 examination for evidence of boric acid leakage/corrosion will be conducted each refueling outage on the bottom of the reactor vessel when the containment is at atmospheric conditions and the system is depressurized. In addition, a VE bare-metal visual examination for evidence of boric acid leakage/corrosion will be conducted in accordance with ASME Code Case N-722 on the bottom of the reactor vessel when the containment is at atmospheric conditions.

The monitoring methods of the station, the VT-2 exam performed every refueling outage at atmospheric conditions, and the VE bare-metal visual examination conducted every other refueling outage in accordance with ASME Code Case N-722 provide an acceptable level of quality and safety. Because of the burden and potential safety challenges caused by the sub-atmospheric conditions of the containment, the Code required examinations at the bottom of the reactor vessel during system leakage tests result in a hardship without a compensating increase in quality and safety over the proposed alternative. Therefore, authorization of this request for relief is requested in accordance with 10 CFR 50.55a(a)(3)(ii).

V. DURATION OF PROPOSED ALTERNATIVE

This relief request will be used for the fourth inservice inspection interval.