VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

April 11, 2005

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 05-225
NL&OS/GDM R1
Docket No. 50-281
License No. DPR-37

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
SURRY POWER STATION UNIT 2
ASME SECTION XI RELIEF REQUEST
ALTERNATIVE ACCEPTANCE CRITERIA FOR SURFACE EXAMINATIONS

The ASME Section XI Code permits required inservice inspection (ISI) interval examinations to be completed within a grace period of one-year beyond the end of the interval to accommodate outage scheduling. Surry Power Station Unit 2 is presently in the one year extension period of the third ten-year ISI interval and uses the 1989 Edition of ASME Section XI as the basis for the ISI Program.

The ASME Code includes surface examination requirements for pump casing welds. The Outside Recirculation Spray (ORS) pumps and the Low Head Safety Injection (LHSI) pumps are subject to these requirements. However, the ORS and LHSI pumps' casing design is atypical. These pumps are vertical, two-stage, centrifugal pumps with extended shafts and casings. These pump casings extend subgrade for more than 40 feet, and the pump column casings consist of bolted flange sections made from austenitic stainless steel pipe. Due to the unique pump design, the specified code examination acceptance criteria are not appropriate. Therefore, a relief request for the Surry Unit 2 ORS and LHSI pumps is attached that requests the use of alternative examination acceptance criteria that are more suitable for the pump casing welds.

In accordance with 10 CFR 50.55a(a)(3)(i), Dominion submits herein for NRC review and approval Surry Unit 2 Relief Request SR-38 for the ORS and LHSI pumps.

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

Very truly yours,

E. S. Grecheck
Vice President – Nuclear Support Services
Attachment

Commitments made by this letter: None

cc: U.S. Nuclear Regulatory Commission
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Attachment

Serial No. 05-225

Third Ten Year Interval
Relief Request SR-38

Alternative Requirements for the Acceptance Criteria for Surface Examinations on Class 2 Austenitic Stainless Steel Pump Casing Welds

Virginia Electric & Power Company (Dominion)
Surry Power Station Unit No. 2

Relief Request SR-38 (Unit 2)
Surry Power Station Third Ten Year Interval

Alternative Requirements for the Acceptance Criteria of Surface Examinations on Class 2 Austenitic Stainless Steel Pump Casing Welds

I. Identification of Components

Systems: Recirculation Spray (RS) and Safety Injection (SI)

Components: ASME Class 2 Austenitic Stainless Steel Pump Casing Welds

Surry Component	Drawing	Weld Number
2-RS-P-2A	11548-WMKS-RS-P-2A	Pump shaft casing welds*
2-RS-P-2B	11548-WMKS-RS-P-2B	Pump shaft casing welds*
2-SI-P-1A	11548-WMKS-SI-P-1A	Pump shaft casing welds*
2-SI-P-1B	11548-WMKS-SI-P-1B	Pump shaft casing welds*

*Welds will be visually identified and assigned weld numbers upon inspection. Drawings will be changed accordingly.

II. Applicable Code Edition and Addenda

Unit 2: Third 10-Year Interval/1989 Edition

III. Code Requirement

Table IWC-2500-1, Category C-G, Item C6.10 for Class 2 pump casing welds requires a surface examination on 100% of the pump casing welds in the 1989 Edition of ASME Section XI.

For Category C-G welds, this table requires the use of acceptance standard IWC-3515. In the referenced Code Edition, IWC-3515, Standards for Examination Category C-G, Pressure Retaining Welds in Pumps and Valves, states that the standards are in the course of preparation and the standards of IWB-3518 may be applied. IWB-3518, Standards for Examination Category B-L-1 and B-M-1, Pressure Retaining Welds in Pump Casings and Valve Bodies, states that the size of allowable planar flaws shall not exceed the limits in Tables IWB-3518-1 and IWB-3518-2 as applicable. Table IWB-3518-2, Allowable

Planar Flaws, is applicable for austenitic stainless steel material with a thickness range of 2 inches or greater.

IV. Basis for Relief

The pumps specified in this relief request are vertical, two-stage, centrifugal pumps with an extended shaft and casing that allows suction from the containment sump. This pump casing extends subgrade for more than 40 feet. The pump column consists of bolted flange sections made from austenitic stainless steel pipe. Circumferential welds exist at the pipe to flange locations. Verification of longitudinal welds cannot be made, but will be determined when the pump is disassembled and inspected. See Figure 1 for typical view.

The inspection standard specified in the Code for Class 1 and 2 pump casing welds, Table IWB-3518-2, is only for 2 inches or greater thickness. Dominion believes the pump columns were manufactured from schedule 40 pipe, which gives a nominal wall thickness of 0.365 inches. Therefore, the figures in Table IWB-3518-2 do not apply. However, the standards for austenitic piping provided in Table IWB-3514-2 are appropriate.

V. Proposed Alternative

In accordance with the provisions of 10CFR50.55a(a)(3)(i), approval is requested to use Table IWB-3514-2, Allowable Planar Flaws (which is applicable to austenitic stainless steel piping) from the 1989 Edition of ASME Section XI as an alternative to the evaluation requirements of Table IWC-2500-1 for examination of category C-G pump column casing welds. The pump column is fabricated from bolted flange sections of austenitic stainless steel pipe with circumferential welds at the pipe to flange locations and possible long seam welds. Therefore, using acceptance criteria for austenitic stainless steel pipe would be more appropriate than the acceptance criteria intended for much thicker pump casings and would provide an acceptable level of quality and safety.

VI. Duration of Proposed Alternative

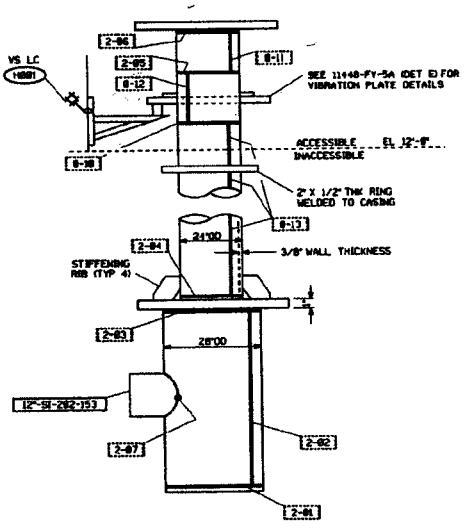
This relief is necessary to complete the Third ISI Interval for Surry Unit 2.

VII. References

1. Letter from Virginia Electric and Power Company to the USNRC dated June 29, 2004, (Serial No. 04-337), "Virginia Electric and Power Company (Dominion), Revision to Surry Power Station Unit 2 Third Interval Relief Request No. SR-004 Rev. 2, Withdrawal of Surry Unit 1 Fourth Interval Relief Request No. CMP-002."

2. Letter from Virginia Electric and Power Company to the USNRC dated October 12, 2004, (Serial No. 04-337A), "Virginia Electric and Power Company (Dominion), Surry Power Station Unit 2, Inservice Inspection Third Interval Relief Request No. SR-004 Rev. 2, Response to Request for Additional Information."

3. Letter from the USNRC to Virginia Electric and Power Company dated January 13, 2005, "Surry Power Station, Unit 2 - American Society of Mechanical Engineers Inservice Inspection Program Third 10-Year Interval Request for Relief SR-004, Revision 2 (TAC No. MC3693)."



Suction Can

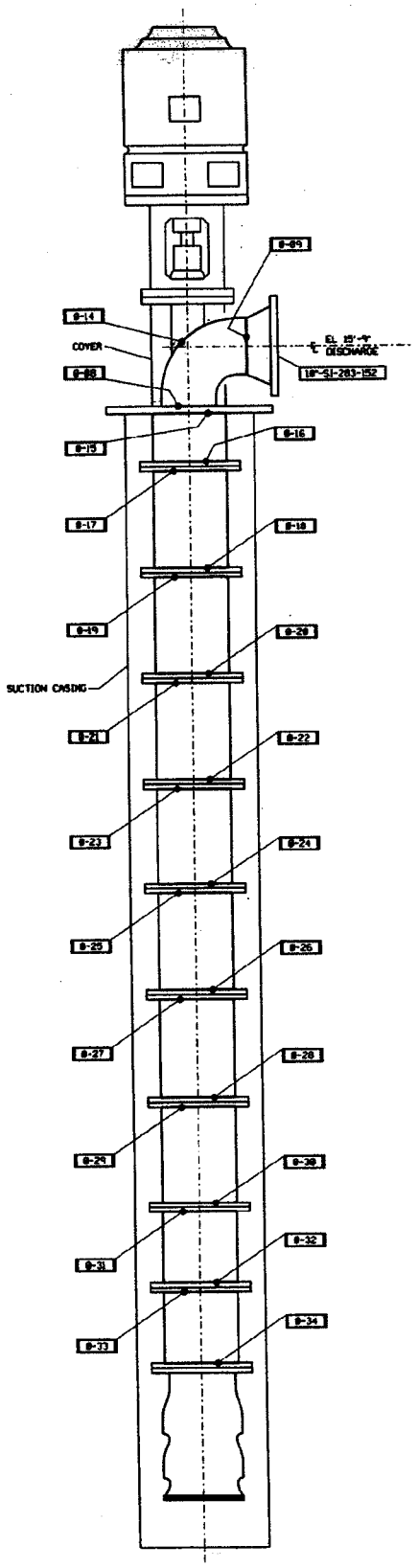


Figure 1 Typical Low Head Safety Injection and Recirculation Spray Pump