Dominion Nuclear Connecticut, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
Web Address: www.dom.com

Dominion®

May 20, 2014

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

Serial No. 14-228
NLOS/MAE R0
Docket No. 50-336
License No. DPR-65

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
EXAMINATION SUMMARY AND COVERAGE RESULTS
ASME SECTION XI INSERVICE INSPECTION PROGRAM
ALTERNATIVE REQUEST RR-04-15, LIMITED ONE-SIDED ULTRASONIC EXAMINATION TECHNIQUE (TAC MF1405)

By letter dated April 9, 2013, as supplemented by letter dated February 7, 2014, Dominion Nuclear Connecticut, Inc. (DNC) submitted a request to the Nuclear Regulatory Commission (NRC) and proposed an alternative to the requirements of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Case N-770-1 "Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds Fabricated With UNS N06082 or UNS W86182 Weld Filler Material With or Without Application of Listed Mitigation Activities." The requested alternative applies to the fourth 10-year inservice inspection interval at Millstone Power Station, Unit 2 (MPS2).

By letter dated March 31, 2014, the NRC authorized the request for relief RR-04-15 for the fourth 10-year inservice inspection interval at MPS2, which began on April 1, 2010, and is scheduled to end on March 31, 2020.

In the DNC submittal dated February 7, 2014, DNC stated the following in Attachment 1, section 4, Reason for Request: "Examination summary and coverage results will be provided to the NRC following completion of these examinations." The purpose of this letter is to provide the above mentioned information.

Attachment 1 provides examination summary and coverage results.

If you have any questions in regard to this submittal, please contact Wanda Craft at (804) 273-4687.

Sincerely,

Mark D. Sartain
Vice President – Nuclear Engineering

A047
NRR

Commitments made in this letter: None

Attachment:
Examination Summary and Coverage Results

cc: U.S. Nuclear Regulatory Commission
Region I
2100 Renaissance Blvd
Suite 100
King of Prussia, PA 19406-2713

Mohan C. Thadani
Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North, Mail Stop 08 B 1
11555 Rockville Pike
Rockville, MD 20852-2738

NRC Senior Resident Inspector
Millstone Power Station

ATTACHMENT 1

EXAMINATION SUMMARY AND COVERAGE RESULTS

MILLSTONE POWER STATION UNIT 2
DOMINION NUCLEAR CONNECTICUT, INC.

By letter dated April 9, 2013, as supplemented by letter dated February 7, 2014, Dominion Nuclear Connecticut, Inc. (DNC) submitted a request to the Nuclear Regulatory Commission (NRC) and proposed an alternative to the requirements of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Case N-770-1 "Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds Fabricated With UNS N06082 or UNS W86182 Weld Filler Material With or Without Application of Listed Mitigation Activities." The requested alternative applies to the fourth 10-year inservice inspection interval at Millstone Power Station, Unit 2 (MPS2). By letter dated March 31, 2014, the NRC authorized the request for relief RR-04-15 for the fourth 10-year inservice inspection interval at MPS2, which began on April 1, 2010, and is scheduled to end on March 31, 2020.

In the DNC submittal dated April 9, 2013, DNC stated the following in Attachment 1, Section 4, Reason for Request: "Examination summary and coverage results will be provided to the NRC following completion of these examinations." This attachment provides DNC's results.

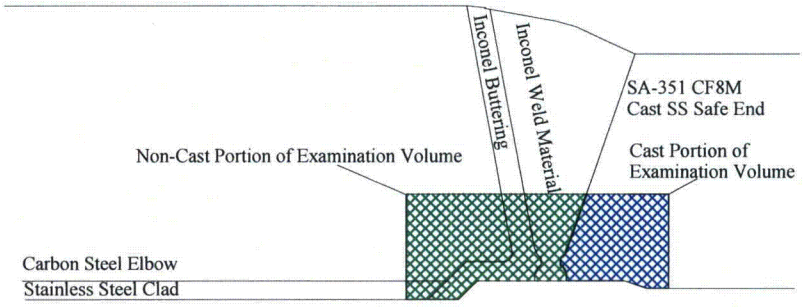
The following table provides Examination Summary and Coverage Results:

Examination Summary and Coverage Results							
Weld #	Alloy 600 and Carbon Steel Base Material Coverage		Wetted Surface		Cast Stainless Steel Material Coverage		Composite Examination Volume Coverage (%)
	Axial Beam Direction (%)	Circumferential Beam Direction (%)	Axial Flaw (%)	Circumferential Flaw (%)	Axial Beam Direction (%)	Circumferential Beam Direction (%)	
P-4-C-1	94.7	92.6	94.7	94.7	94.7	46.6	86.2
P-5-C-3	94.7	100	100	94.7	94.7	100	97.5
P-8-C-1	94.7	92.6	94.7	94.7	94.7	46.6	86.2
P-9-C-3	94.7	100	100	94.7	94.7	100	97.5
P-13-C-1	95.6	93.5	95.6	95.6	95.6	48.5	86.5
P-14-C-3	98.7	100	100	98.7	88.8	100	98.7
P-17-C-1	95.6	93.5	95.6	95.6	95.6	48.5	86.5
P-18-C-3	100	100	100	100	96.4	100	99.3

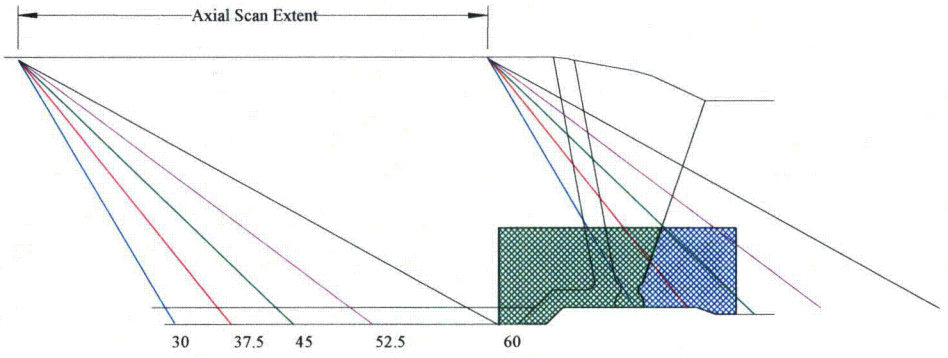
Notes:

1) Examination coverage is limited for each of the suction welds due to longitudinal weld seams on the elbow that restricts the phased array probe from maintaining adequate contact for approximately 6" of total weld length in the region of the longitudinal weld seams. See Figure 1 for typical examination coverage plots in regions without the longitudinal seam obstructions.
2) Examination coverage is limited for discharge welds P-5-C-3 and P-9-C-3 in the region of the spray nozzle located at top dead center, which prevents the phased array probe from maintaining adequate contact for approximately 6" of weld length for the axial scans. The scan plan was adjusted to reduce the scan distance and use lower beam angles to obtain the maximum amount of coverage in the region of the spray nozzle. See Figure 2 for typical examination coverage plots for the discharge welds in regions without the nozzle obstruction.
3) Non-encoded phased array ultrasonic examination techniques (PAUT) and manual conventional UT techniques were evaluated to determine if additional examination coverage could be obtained. Due to the surface condition or access it was determined that neither of these techniques would be capable of providing additional coverage. The welds were examined to the maximum extent possible.

Figure 1
Typical Coverage Plots for Welds P-4-C-1, P-8-C-1, P-13-C-1, and P-17-C-1

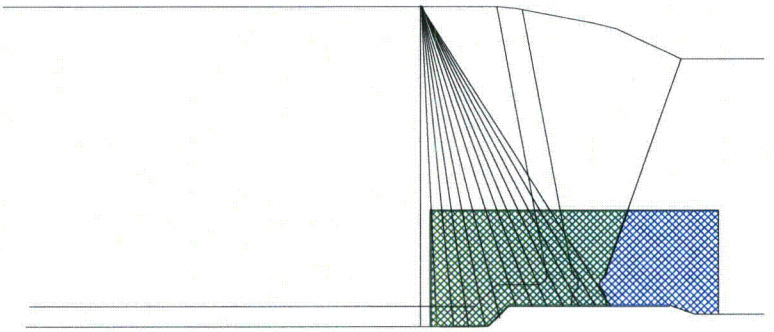


Examination Volume

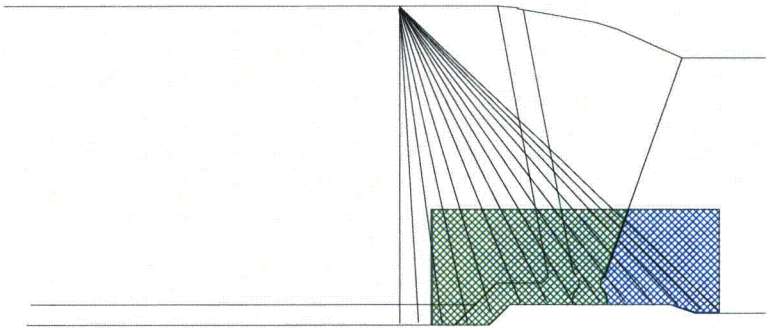


Axial Beam Direction Coverage

Figure 1 (continued)



45 degree refracted beam angle with 0 to 30 degree skew

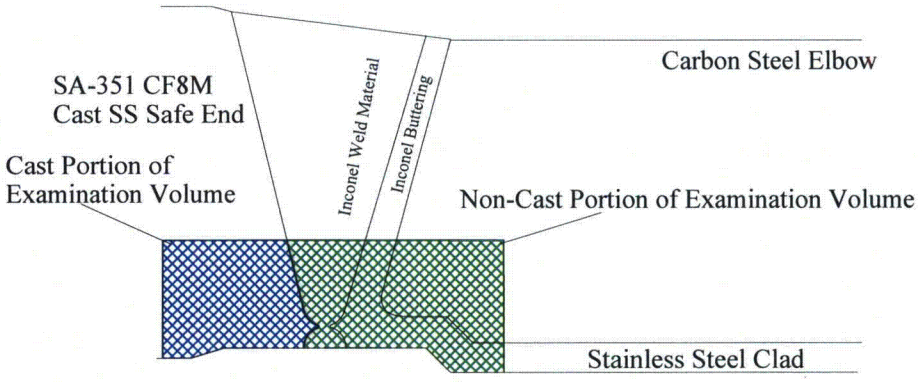


55 degree refracted beam angle with 0 to 30 degree skew

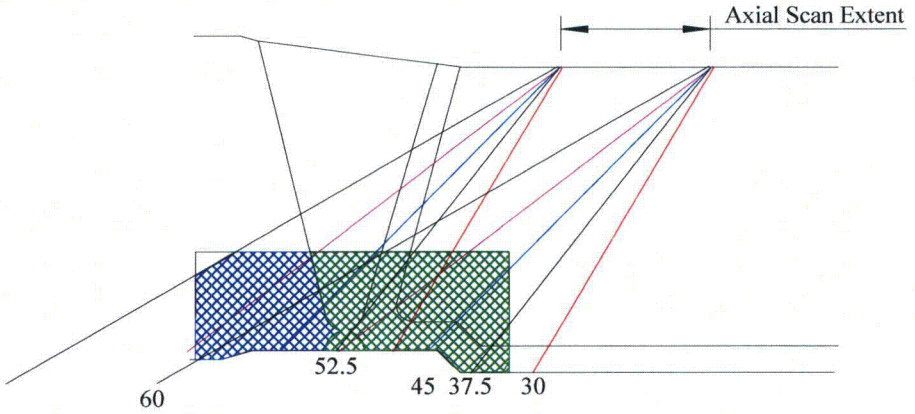
Circumferential Beam Direction Coverage

Figure 2

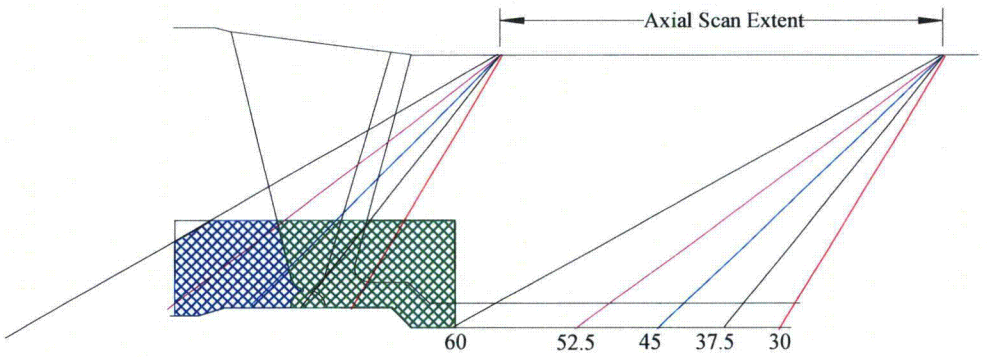
Typical Coverage Plots for Welds P-5-C-3, P-9-C-3, P-14-C-3, and P-18-C-3



Examination Volume

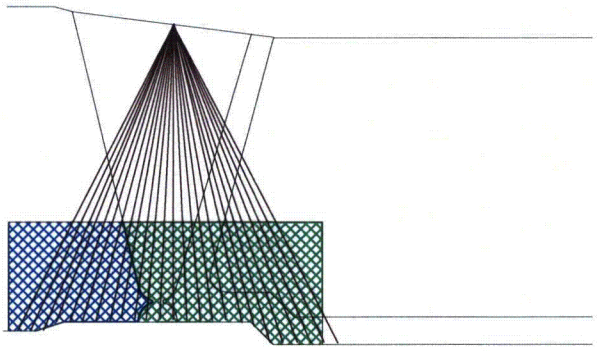


Axial Beam Direction Coverage in Region of Spray Nozzle (Welds P-5-C-3 and P-9-C-3)

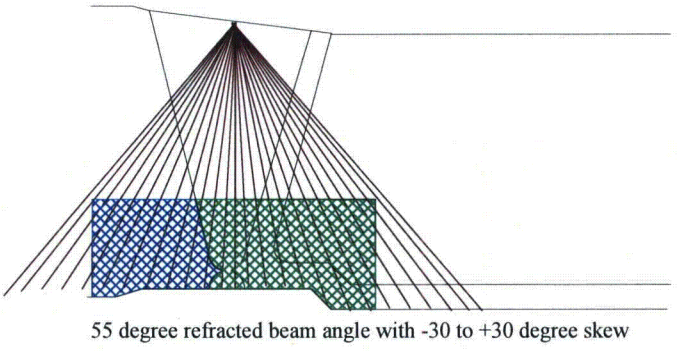


Axial Beam Direction Coverage in Regions Without Spray Nozzles

Figure 2 (continued)

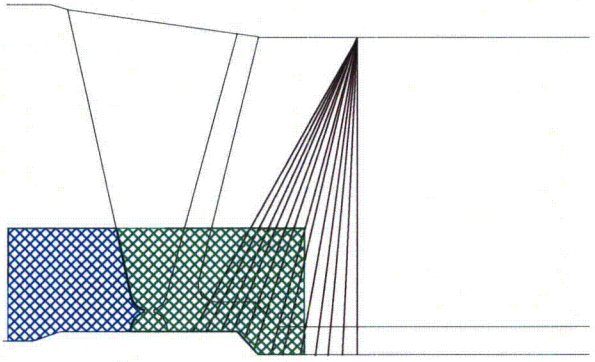


45 degree refracted beam angle with -30 to +30 degree skew

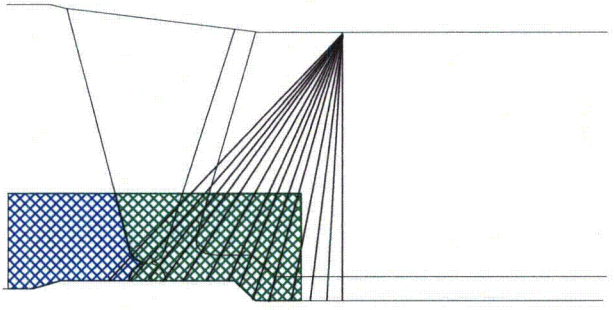


55 degree refracted beam angle with -30 to +30 degree skew

Circumferential Beam Direction Coverage from Weld Surface



45 degree refracted beam angle with -30 to +30 degree skew



55 degree refracted beam angle with -30 to +30 degree skew

Circumferential Beam Direction Coverage from Base Material Surface