

Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Rope Ferry Road
Waterford, CT 06385



SEP 27 2001

Docket No. 50-423
B18490

RE: 10 CFR 50.55a(g)(5)(iii)
10 CFR 50.55a(g)(6)(i)

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

Millstone Power Station, Unit No. 3
Relief Requests for the Second Ten Year Interval
of Inservice Inspection Program

Pursuant to 10 CFR 50.55a(g)(5)(iii) and 10 CFR 50.55a(g)(6)(i), this letter submits proposed Relief Requests IR-2-21, IR-2-22, IR-2-23, IR-2-24, IR-2-25, and IR-2-26 for the second ten year interval of the Inservice Inspection (ISI) Program at Millstone Unit No. 3, which began on April 23, 1999. The ISI Program follows the requirements of the 1989 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, and applicable addenda as required by 10 CFR 50.55a with the exception of those portions of the program where relief has been previously granted. In Attachment 1, Dominion Nuclear Connecticut, Inc. (DNC) describes proposed alternatives to the ISI requirements for certain weld inspections.

It is requested that the Nuclear Regulatory Commission approval be provided by June 30, 2002, to support implementation prior to the next planned refueling outage scheduled in early September 2002.

There are no regulatory commitments contained within this letter.

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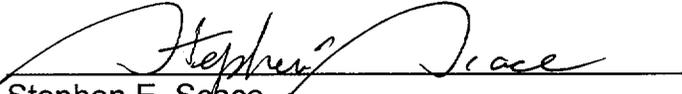
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Should you have any questions regarding this matter, please contact Mr. Ravi G. Joshi at (860) 440-2080.

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.

FOR: J. Alan Price, Vice President
Nuclear Technical Services - Millstone

BY: 
Stephen E. Soace
Master Process Owner - Manage the Asset

Attachment: Relief From Inservice Inspection Requirements

cc: H. J. Miller, Region I Administrator
V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3
NRC Senior Resident Inspector, Millstone Unit No. 3

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Attachment 1

Millstone Power Station, Unit No. 3

Relief From Inservice Inspection Requirements

Relief From Inservice Inspection Requirements

Relief Request: IR-2-21

Second Ten Year Inspection Interval - Pressure Retaining Welds in Reactor Vessel Closure Head

Component Identification

Code Class: 1

Examination Category: B-A

Item Number: B1.40 - Head to Flange Weld

Component Identification Number: Weld Number 101-101

Code Requirements

A volumetric and surface examination of essentially 100 percent (100%) of the weld length shall be conducted in accordance with the 1989 Edition of the ASME Boiler and Pressure Vessel Code, Table IWB-2500-1.

Code Relief Request

Pursuant to 10 CFR 50.55a(g)(5)(iii) relief is requested from performing the volumetric examination on the inaccessible portions of the subject vessel weld to the extent required by code.

Basis for Relief

Geometric configuration and permanent obstructions limit the volumetric examination of the subject weld. The examination is limited to approximately 73 percent (73%) coverage for the volumetric exam using the most current examination technology. Access to this weld is limited to essentially one side due to the forged flange configuration. Additionally, obstructions exist on the top side of the weld due to permanently attached head lifting lugs. Based on the configuration and permanent obstructions, relief is requested from complying with the 100 percent (100%) required examination coverage of this weld during the Second Ten Year Inspection Interval for Millstone Unit No. 3.

The limitations described above were included in a request for relief (IR-2) during the First Ten Year Inspection Interval, with relief granted by the Nuclear Regulatory Commission (NRC) letter dated February 8, 1991.⁽¹⁾

⁽¹⁾ Nuclear Regulatory Commission letter to Mr. Edward J. Mroczka, "First Ten-Year Program Plan and Inservice Inspection Relief Requests, Millstone Nuclear Power Station, Unit No. 3 (TAC NO. 60385), dated February 8, 1991.

Proposed Alternative Examination

- A. The subject weld will receive 100% surface examination in accordance with ASME Section XI (IWB-2500-1).
- B. The subject weld will receive a volumetric examination of the accessible areas in accordance with ASME Section XI (IWB-2500-1).
- C. Millstone will perform visual examination during system leakage tests as required by Section XI (IWB-2500-1) and Code Case N-498-1 (approved in the Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 12, dated May 1999).

Based on the 73% ultrasonic volumetric examination and the 100% surface examination to be performed on the subject reactor vessel head-to-flange weld, and the monitoring and tests for leakage, DNC believes the proposed alternative provides an acceptable level of quality and safety by providing reasonable assurance of structural integrity of the subject weld.

Period for Which Relief is Requested

The relief is requested to be effective immediately upon its approval, and to remain in effect during the second ten-year interval for Millstone Unit No. 3, which began on April 23, 1999.

Relief From Inservice Inspection Requirements

Relief Request: IR-2-22

Second Ten Year Inspection Interval - Full Penetration Welds of Nozzles in Vessels

Component Identification

Code Class: 1

Examination Category: B-D

Item Number: B3.130 - Steam Generator (Primary Side) Nozzle-to-Vessel Welds.

Component Identification Numbers:

03-003-SW-U	04-004-SW-U
03-003-SW-V	04-004-SW-V

Code Requirements

A volumetric examination of essentially 100 percent (100%) of the weld length shall be conducted in accordance with the 1989 Edition of the ASME Boiler and Pressure Vessel Code, Table IWB-2500-1.

Code Relief Request

Pursuant to 10 CFR 50.55a(g)(5)(iii) relief is requested from performing the volumetric examination on the inaccessible portions of the subject vessel weld to the extent required by code.

Basis for Relief

Geometric configurations limit the volumetric examination of the subject weld. The examination is limited to approximately 56 percent (56%) coverage for the volumetric exam using the most current examination technology. Access to this weld is limited to essentially one side due to the nozzle geometry with an outside surface taper which precludes meaningful examination results on the nozzle side. Based on the configuration, relief is requested from complying with the 100 percent (100%) required examination coverage of this weld during the Second Ten Year Inspection Interval for Millstone Unit No. 3.

The limitations described above were included in a request for relief (IR-8) during the First Ten Year Inspection Interval, with relief granted by the NRC letter dated February 8, 1991.⁽¹⁾

Note that this Relief Request for the First Ten Year Inspection Interval incorrectly stated the coverage obtained to be at approximately 90% with a two sided examination technique. A Review of the First Ten Year Inspection Interval Inspection data has found that this exam was performed as a one sided exam limited by the nozzle configuration with similar coverage to the current inspection coverage stated of 56%. This issue is being addressed in accordance with the Millstone Corrective Action Program.

Proposed Alternative Examination

- A. The subject weld will receive a volumetric examination of the accessible areas in accordance with ASME Section XI (IWB-2500-1).
- B. Millstone will perform visual examination during system leakage tests as required by Section XI (IWB-2500-1) and Code Case N-498-1 (approved in the Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 12, dated May 1999).

Based on the 56% ultrasonic examinations and the monitoring and tests for leakage DNC believes the proposed alternative provides an acceptable level of quality and safety by providing reasonable assurance of structural integrity of the subject welds.

Period for Which Relief is Requested

The relief is requested to be effective immediately upon its approval, and to remain in effect during the second ten-year interval for Millstone Unit No. 3, which began on April 23, 1999.

Relief From Inservice Inspection Requirements

Relief Request: IR-2-23

Second Ten Year Inspection Interval - Pressure Retaining Dissimilar Metal Welds

Component Identification

Code Class: 1

Examination Category: B-F

Item Number: B5.70 - Steam Generator Nozzle-to-Pipe welds

Component Identification Numbers:

RCS-LP3-FW-4	RCS-LP4-FW-4
RCS-LP3-FW-5	RCS-LP4-FW-5

Code Requirements

A volumetric and surface examination of essentially 100 percent (100%) of the weld length shall be conducted in accordance with the 1989 Edition of the ASME Boiler and Pressure Vessel Code, Table IWB-2500-1.

Code Relief Request

Pursuant to 10 CFR 50.55a(g)(5)(iii) relief is requested from performing the volumetric examination on the inaccessible portions of the subject vessel weld to the extent required by code.

Basis for Relief

Geometric configuration limits the volumetric examination of the subject welds. The examination is limited to approximately 56 percent (56%) coverage for the volumetric exam using the most current examination technology. Access to this weld is limited to essentially one side due to the nozzle geometry with an outside surface taper which precludes meaningful examination results on the nozzle side. Based on the configuration, relief is requested from complying with the 100 percent (100%) required examination coverage of this weld during the Second Ten Year Inspection Interval for Millstone Unit No. 3.

The limitations described above were included in a request for relief (IR-22) during the First Ten Year Inspection Interval, with relief granted by NRC letter dated June 28, 1996.⁽²⁾

Proposed Alternative Examination

- A. The subject weld will receive 100% surface examination in accordance with ASME Section XI (IWB-2500-1).
- B. The subject weld will receive a volumetric examination from the accessible elbow side in accordance with ASME Section XI (IWB-2500-1).
- C. Millstone will perform visual examination during system leakage tests as required by Section XI (IWB-2500-1) and Code Case N-498-1 (approved in the Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 12, dated May 1999).

Based on the 56% ultrasonic volumetric examinations and the 100% surface examinations to be performed on the subject dissimilar metal welds, and the monitoring and tests for leakage, DNC believes the proposed alternative provides an acceptable level of quality and safety by providing reasonable assurance of structural integrity of the subject welds.

Period for Which Relief is Requested

The relief is requested to be effective immediately upon its approval, and to remain in effect during the second ten-year interval for Millstone Unit No. 3, which began on April 23, 1999.

⁽²⁾ Nuclear Regulatory Commission letter to Mr. Ted C. Feigenbaum, "Millstone Nuclear Power Station, Unit 3 - Inservice Inspection Program Relief Request (TAC NO. M94593)," dated June 28, 1996.

Relief From Inservice Inspection Requirements

Relief Request: IR-2-24

Second Ten Year Inspection Interval - Pressure Retaining Nozzle Welds in Vessels

Component Identification

Code Class: 2

Examination Category: C-B

Item Number: C2.21 - Steam Generator Nozzle-to-Head Weld

Component Identification Number: Weld Number 03-053-SW-T

Code Requirements

A volumetric and surface examination of essentially 100 percent (100%) of the weld length shall be conducted in accordance with the 1989 Edition of the ASME Boiler and Pressure Code, Table IWB-2500-1.

Code Relief Request

Pursuant to 10 CFR 50.55a(g)(5)(iii) relief is requested from performing the volumetric examination on the inaccessible portions of the subject nozzle-to-head weld to the extent required by code.

Basis for Relief

Geometric configuration and permanent obstructions limit the volumetric examination of the subject weld. The examination is limited to approximately 62 percent (62%) coverage for the volumetric exam using the most current examination technology. Access to this weld is limited to essentially one side due to the nozzle geometry with an outside surface taper precluding meaningful examination results. Additionally, permanent obstructions consisting of permanently mounted insulation supports for the steam generator restrict the scanning area. Based on the configuration and permanent obstructions, relief is requested from complying with the 100 percent (100%) required volumetric examination coverage of this weld during the Second Ten Year Inspection Interval for Millstone Unit No. 3.

The limitations described above were included in a request for relief (IR-7) during the First Ten Year Inspection Interval, with relief granted by the NRC letter dated February 8, 1991.⁽¹⁾

Proposed Alternative Examination

- A. The subject weld will receive 100% surface examination in accordance with ASME Section XI (IWB-2500-1).
- B. The subject weld will receive a volumetric examination of the accessible areas in accordance with ASME Section XI (IWB-2500-1).
- C. Millstone will perform visual examination during system leakage tests as required by Section XI (IWB-2500-1) and Code Case N-498-1 (approved in the Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 12, dated May 1999).

Based on the 62% ultrasonic volumetric examination and the 100% surface examination performed on the subject steam generator nozzle-to-head weld, and the monitoring and tests for leakage, DNC believes the proposed alternative provides an acceptable level of quality and safety by providing reasonable assurance of structural integrity of the subject weld.

Period for Which Relief is Requested

The relief is requested to be effective immediately upon its approval, and to remain in effect during the second ten-year interval for Millstone Unit No. 3, which began on April 23, 1999.

Relief From Inservice Inspection Requirements

Relief Request: IR-2-25

Second Ten Year Inspection Interval - Pressure Retaining Welds in Austenitic Stainless Steel or High Alloy Piping

Component Identification

Code Class: 2

Examination Category: C-F-1

Item Number: C5.10 - Circumferential Pipe Welds

Austenitic piping welds with single side access subject to ultrasonic examination with Supplement 2 of Appendix VIII to the 1995 Edition with 1996 Addenda of ASME Section XI.

Component Identification Number:

The actual weld identification numbers for which relief is requested are listed within the basis for relief.

Code Requirements

10 CFR 50.55a(b)(2)(xv)(A), requires the following examination coverage when applying Supplement 2 to Appendix VIII:

1. Piping must be examined in two axial directions and when examination in the circumferential direction is required, the circumferential examination must be performed in two directions, provided access is available.
2. Where examination from both sides is not possible, full coverage credit may be claimed from a single side for ferritic welds. Where examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single sided Appendix VIII demonstration using flaws on the opposite side of the weld.

10 CFR 50.55a(b)(2)(xvi)(B), requires that examinations performed from one side of a stainless steel pipe weld must be conducted with equipment, procedures, and personnel that have demonstrated proficiency with single side examinations. To demonstrate equivalency to two sided examinations, the demonstration must be performed to the requirements of Appendix VIII as modified by this paragraph and 10 CFR 50.55a(b)(2)(xv)(A).

Code Relief Request

Pursuant to 10 CFR 50.55a(g)(5)(iii), relief is requested from the new examination coverage and qualification demonstration requirements for austenitic piping welds with single side access.

Basis for Relief

The Final Rule to 10 CFR 50.55a published September 22, 1999, requires that if access is available, the weld shall be scanned in each of the four directions (parallel and perpendicular to the weld) where required. Coverage credit may be taken for single side exams on ferritic piping. However, for austenitic piping, a procedure must be qualified with flaws on the inaccessible side of the weld. There are currently no Performance Demonstration Initiative (PDI) qualified single side examination procedures that demonstrate equivalency to two-sided examination procedures on austenitic piping welds. Current technology is not capable of reliably detecting or sizing flaws on the far side of an austenitic weld for configurations common to US Nuclear applications.

The PDI Program conforms with the Final Rule regarding single side access for piping. PDI Performance Demonstration Qualification Summary (PDQS) certificates for austenitic piping list the limitation that single side examination is performed on a best effort basis. The best effort qualification is provided in place of a complete single side qualification to demonstrate the examiner's qualification and the subsequent weld examination is based on application of the best available technology.

When the examination area is limited to one side of an austenitic weld, examination coverage does not comply with 10 CFR 50.55a(b)(2)(xv)(A) and proficiency demonstrations do not comply with 10 CFR 50.55a(b)(2)(xvi)(B) and full coverage credit may not be claimed.

Based on the configuration limited to single sided access, relief is requested on complying with the 100 percent (100%) required examination coverage for the following piping welds:

<u>Weld Number (Configuration)</u>	<u>Examination</u>	<u>Examination Coverage Attained (%)</u>
CHS-31- FW-1 (Pipe-to-Valve)	UT	37.5
CHS-31- FW-3 (Reducer-to-Valve)	UT	50
CHS-31- FW-4 (Pipe-to-Valve)	UT	50
CHS-32-1-SW-D (Pipe-to-Elbow)	UT	75
CHS-32-FW-1 (Pipe-to-Valve)	UT	50
CHS-33-1-SW-B (Pipe-to-Flange)	UT	50
CHS-33-FW-1 (Pipe-to-Valve)	UT	50
CHS-33-FW-17 (Pipe-to-Flange)	UT	75
CHS-33-FW-4 (Pipe-to-Valve)	UT	50
SIL-157-FW-3 (Pipe-to-Valve)	UT	50

Note: Weld CHS-32-1-SW-D (Pipe-to-Elbow) configuration would normally allow for a two sided exam. However, the axial scan direction was limited to one side due to interference from an adjacent weld within close proximity to the subject weld.

Proposed Alternative Examination

- A. The subject weld will receive 100% surface examination in accordance with ASME Section XI (IWB-2500-1).
- B. The subject weld will receive a volumetric examination utilizing the best available techniques, as qualified through the Performance Demonstration Initiative for Supplement 2 with demonstrated best effort for single side examination, from the accessible side of the weld.
- C. Visual examination will be performed during system leakage tests as required by Section XI (IWB-2500-1) and Code Case N-498-1 (approved in the Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 12, dated May 1999).

Based on the above proposed alternatives, DNC believes the proposed alternatives will provide an acceptable level of quality and safety by providing reasonable assurance of structural integrity of the subject welds.

Period for Which Relief is Requested

The relief is requested to be effective immediately upon its approval, and to remain in effect during the second ten-year interval for Millstone Unit No. 3, which began on April 23, 1999.

Relief From Inservice Inspection Requirements

Relief Request: IR-2-26

Second Ten Year Inspection Interval - Integral Attachments for Vessels

Component Identification

Code Class: 1

Examination Category: B-H

Item Number: B8.20 - Pressurizer Support Skirt to Shell Weld.

Component Identification Number: Weld Number 03-007-SW-X

Code Requirements

A surface examination of essentially 100 percent (100%) of the pressurizer integrally welded attachments shall be conducted in accordance with the 1989 Edition of the ASME Boiler and Pressure Vessel Code, Table IWB-2500-1 as defined by Figure IWB-2500-13.

Code Relief Request

Pursuant to 10 CFR 50.55a(g)(5)(iii) relief is requested from performing the surface examination on the inaccessible portions of the pressurizer support skirt to vessel shell weld. The inaccessible portion corresponds to the interior surface C-D as shown in Figure IWB-2500-13.

Basis for Relief

Geometric configuration of the support skirt-to-shell weld limits the surface to be examined to the one accessible side, corresponding to examination surface A-B, as shown in Figure IWB-2500-13. The attached sketch shows the interior portion of the subject weld to be inaccessible to a meaningful surface examination. Also, high radiation levels within the support skirt would result in an estimated personnel exposure of an additional 7.2 Rem to complete the scaffolding, insulation removal/replacement, weld preparation and best effort examination.

Based on the geometric configuration with limited access and the radiation hazards, relief is requested from complying with the 100 percent (100%) required surface examination coverage of this weld during the Second Ten Year Inspection Interval for Millstone Unit No. 3.

The limitations described above were included in a request for relief (IR-6) during the First Ten Year Inspection Interval which was based on Code Case N-323. Relief was granted by NRC letter dated September 21, 1988.⁽³⁾

Proposed Alternative Examination

The subject weld will receive a surface examination of the accessible exterior weld surface A-B as shown in Figure IWB-2500-13, in accordance with ASME Section XI (IWB-2500-1).

Based on the surface examination performed on 100% of the exterior weld surface A-B as shown in Figure IWB-2500-13, DNC believes the proposed alternative will provide an acceptable level of quality and safety by providing reasonable assurance of structural integrity of the subject weld.

Period for Which Relief is Requested

The relief is requested to be effective immediately upon its approval, and to remain in effect during the second ten-year interval for Millstone Unit No. 3, which began on April 23, 1999.

⁽³⁾ Nuclear Regulatory Commission letter to Mr. Edward J. Mroczka, "Inservice Inspection Relief Request (TAC NO. 65325)," dated September 21, 1988.

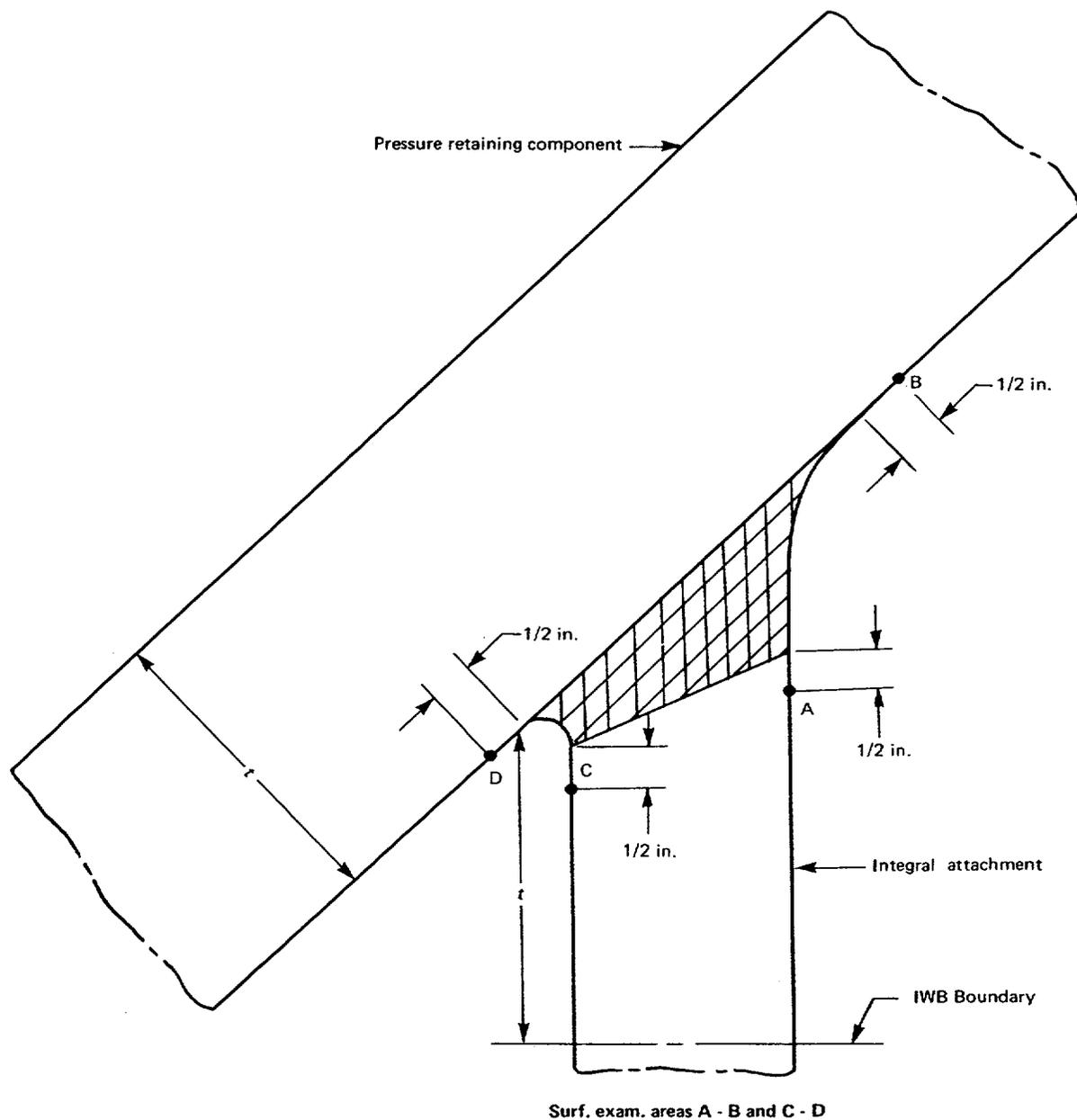


FIG. IWB-2500-13 INTEGRAL ATTACHMENT WELD