[redacted]

THE NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS

Date Distributed: June 11, 2010

SUBGROUP ON REPAIRS and ALTERATIONS SPECIFIC

AGENDA

Meeting of July 20, 2010
Columbus, Ohio

The National Board of Boiler & Pressure Vessel Inspectors
1055 Crupper Avenue
Columbus, Ohio 43229-1183
Phone: (614)888-8320
FAX: (614)847-1828

1. **Call to Order – 1:00 p.m.**

2. **Announcements**

3. **Adoption of the Agenda**

4. **Approval of Minutes of July 2009 meeting**

5. **Review of the Roster (Attachment 1)**

6. **Action Items (Attachment 2)**

   NB10-0101 ***Part 3 5.9.6 SG Repairs and Alterations Specific*** Change 5.10 to facilitate information flow, requirements for PRI stamping and nameplates. (See Attachment 2, pgs. 1-14)

   January 2010
   Mr. Boseo to work with the latest addenda and have proposal ready for the next meeting.

   July 2010
   Mr. Boseo is expected to report.

   NB10-0108 ***Part 3 S5.4 d) SG on Repairs and Alterations Specific*** Clarify documentation requirements for Yankee Dryers. Task group of J. Given has been assigned. (No Attachment)

   January 2010
   A progress report was given. Jack is to contact Brian Tholke of P&G of Cincinnati.

   July 2010
   Mr. Given is expected to report.

   NB10-1501 Part 3 2.5.2 b) SG R/A Specific Add wording and figure to this section to address PWHT. (See Attachment 2, pgs. 15-17)

   July 2010
   Mr. Ferrell is expected to report.

   NB10-0802 ***Part 3 SG Repairs and Alterations Specific*** Liquid pressure testing requirements for low toughness steels. (See Attachment 2, pgs. 18-19)

   July 2010
   Mr. Galanes is expected to report.

7. **New Business**

8. Future Meetings

January 2011, Austin, Texas
July 2011, Columbus, Ohio

9. Adjournment

Respectfully Submitted,
Jeanne Bock
Secretary
:rh

SG on R/A-Specific

Member	Title	ExpirDate	Interest Category
Bock, Jeanne	Secretary		
Boseo, Brian		1/31/2012	Manufacturer
Bramucci, Angelo		1/31/2013	Manufacturer
Galanes, PE, George W.		8/31/2012	Users
Given, Jack		8/31/2012	Jurisdictional Authorities
Huffman, Mike		8/31/2012	Manufacturer
Jones, Wayne	Vice Chair	7/31/2011	Auth Inpection Agencies
Pavlovicz, Frank		8/31/2012	Manufacturer
Pillow, James T.	Chair	8/31/2012	General Interest
Sekely, James		8/31/2012	General Interest

Total Members: 9

NBIC Repairs and Alterations (Specific)

NB-Item No.:	NB10-0101 Part 3, Section 5, Paragraph 5.10
Explanation of Assignment Needed:	Change 5.10 to facilitate information flow, requirements for PRI stamping and nameplates.
Assigned To:	B. Boseo, J. Given, & J. Sekely
Background:	N/A

Existing Text in - 09 Addenda	Proposed Revision	Rational
R&A, Part 3, Table of Contents		
5.8 REMOVAL OF ORIGINAL STAMPING OR NAMEPLATE	5.11 REMOVAL OF ORIGINAL STAMPING OR NAMEPLATE	To Facilitate Subject Flow
5.9 STAMPING REQUIREMENTS FOR PRESSURE RELIEF DEVICES	5.12 STAMPING REQUIREMENTS FOR PRESSURE RELIEF DEVICES	
5.9.1 Nameplates 5.9.2 Repair Nameplate 5.9.3 Changes to Original Pressure Relief Valve Nameplate Information 5.9.4 Test Only Nameplate 5.9.5 Replacement of Illegible or Missing Nameplates	5.12.1 Nameplates 5.12.2 Repair Nameplate 5.12.3 Changes to Original Pressure Relief Valve Nameplate Information 5.12.4 Test Only Nameplate 5.12.5 Replacement of Illegible or Missing Nameplates	
5.11 STAMPING FOR FIBER-REINFORCED VESSELS	5.8 REMOVAL OF ORIGINAL STAMPING OR NAMEPLATE	
5.11.1 REMOVAL OF ORIGINAL STAMPING OR NAMEPLATE	Deleted	Duplication
5.11.2 STAMPING FOR REPAIRS	5.8.1 STAMPING FOR REPAIRS	To Facilitate Subject Flow
5.11.3 STAMPING FOR ALTERATIONS	5.8.2 STAMPING FOR ALTERATIONS	
5.12 STAMPING REQUIREMENTS FOR YANKEE DRYERS	5.9 STAMPING REQUIREMENTS FOR YANKEE DRYERS	

ATTACHMENT 2

R&A, Part 3, Section 1		
1.7.7.5 OUTLINE OF REQUIREMENTS FOR A QUALITY SYSTEM	1.7.7.5 OUTLINE OF REQUIREMENTS FOR A QUALITY SYSTEM	
l) Valve Repair Nameplates An effective valve stamping system shall be established to ensure proper stamping of each valve as required by 5.9.2. The manual shall include a description of the nameplate or a drawing.	l) Valve Repair Nameplates An effective valve stamping system shall be established to ensure proper stamping of each valve as required by 5.12.2. The manual shall include a description of the nameplate or a drawing.	
R&A, Part 3, Section 5		
5.7 STAMPING REQUIREMENTS FOR REPAIRS AND ALTERATIONS		
5.7.1 GENERAL	5.7.1 GENERAL	
The stamping of or attaching of a nameplate to a pressure-retaining item shall indicate that the work was performed in accordance with the requirements of this Code. Such stamping or attaching of a nameplate shall be done only with the knowledge and authorization of the inspector. The "R" Certificate Holder responsible for the repair or the construction portion of the alteration shall apply the stamping. For a rerating where no physical changes are made to the pressure-retaining item, the "R" Certificate Holder responsible for design shall apply the stamping.	The stamping of or attachment of a nameplate to a pressure-retaining item shall indicate that the work was performed in accordance with the requirements of this Code. Such stamping or attaching of a nameplate shall be done only with the knowledge and authorization of the inspector. The "R" Certificate Holder responsible for the repair or the construction portion of the alteration shall apply the stamping. For a rerating where no physical changes are made to the pressure-retaining item, the "R" Certificate Holder responsible for design shall apply the stamping.	Reads better
5.8 REMOVAL OF ORIGINAL STAMPING OR NAMEPLATE	5.11 REMOVAL OF ORIGINAL STAMPING OR NAMEPLATE	To facilitate subject flow
If it becomes necessary to remove the original stamping, the Inspector shall, subject to the approval of the Jurisdiction, witness the	If it becomes necessary to remove the original stamping, the Inspector shall, subject to the approval of the Jurisdiction, witness the	

making of a facsimile of the stamping, the obliteration of the old stamping, and the transfer of the stamping to the new item. When the stamping is on a nameplate, the Inspector shall witness the transfer of the nameplate to the new location. Any relocation shall be described on the applicable NBIC "R" Form. The re-stamping or replacement of a code symbol stamp shall be performed only as permitted by the governing code of construction.	making of a facsimile of the stamping, the obliteration of the old stamping, and the transfer of the stamping to the new item. When the stamping is on a nameplate, the Inspector shall witness the transfer of the nameplate to the new location. Any relocation shall be described on the applicable NBIC "R" Form. The re-stamping or replacement of a code symbol stamp shall be performed only as permitted by the governing code of construction.	
5.9 STAMPING REQUIREMENTS FOR PRESURE RELIEF DEVICES	5.12 STAMPING REQUIREMENTS FOR PRESURE RELIEF DEVICES	
5.9.1 NAME PLATES	5.12.1 NAME PLATES	
Proper marking and identification of tested or repaired valves is critical to ensuring acceptance during subsequent inspections, and also provide for traceability and identification of any changes made to the valve. All operations that require the valve's seals to be replaced shall be identified by a nameplate as described in 5.9.2 or 5.9.4.	Proper marking and identification of tested or repaired valves is critical to ensuring acceptance during subsequent inspections, and also provide for traceability and identification of any changes made to the valve. All operations that require the valve's seals to be replaced shall be identified by a nameplate as described in 5.12.2 or 5.12.4.	
5.9.2 REPAIR NAME PLATE	5.12.2 REPAIR NAMEPLATE	
When a pressure relief valve is repaired, a metal repair nameplate stamped with the information required below shall be securely attached to the valve adjacent to the original manufacturer's stamping or nameplate. If not mounted directly on the valve, the nameplate shall be securely attached so as not to interfere with valve operation and sealed in accordance with the quality system.	When a pressure relief valve is repaired, a metal repair nameplate stamped with the information required below shall be securely attached to the valve adjacent to the original manufacturer's stamping or nameplate. If not mounted directly on the valve, the nameplate shall be securely attached so as not to interfere with valve operation and sealed in accordance with the quality system.	
a) Prior to attachment of the repair nameplate, the previous repair nameplate,	**No Change**	

if applicable, shall be removed from the repaired valve. b) As a minimum, the information on the valve repair nameplate (see Figure 5.7.5-e) shall include: 1) The name of the repair organization preceded by the words "repaired by"; 2) The "VR" repair symbol stamp and the "VR" Certificate Number; 3) Unique identifier (e.g., repair serial number, shop order number, etc.); 4) Date of repair; 5) Set pressure; 6) Capacity and capacity units (if changed from original nameplate due to set pressure or service fluid change); 7) Type/Model number (if changed from original nameplate by a conversion. See Supplement S7.2); and 8) When an adjustment is made to correct for service conditions of superimposed back pressure and/or temperature or the differential between popping pressure between steam and air (see 4.5.2), the information on the valve repair nameplate shall include the: a. Cold Differential Test Pressure (CDTP), and b. Superimposed Back Pressure (BP)		

(only when applicable).		
5.9.3 CHANGES TO ORIGINAL PRESSURE RELIEF VALVE NAMEPLATE INFORMATION	5.12.3 CHANGES TO ORIGINAL PRESSURE RELIEF VALVE NAMEPLATE INFORMATION	To facilitate subject flow
a) If the set pressure is changed, the set pressure, capacity, and blowdown, if applicable, on the original nameplate or stamping shall be marked out but left legible. The new capacity shall be based on that for which the valve was originally certified.	**No Change**	
b) If the service fluid is changed, the capacity, including units, on the original nameplate or stamping shall be marked out but left legible. The new capacity shall be based on that for which the valve was originally certified, or if a conversion has been made, as described in S7.2 on the capacity certification for the valve as converted.	b) If the service fluid is changed, the capacity, including units, on the original nameplate or stamping shall be marked out but left legible. The new capacity shall be based on that for which the valve was originally certified, or if a conversion has been made, as described in Supplement S7.2 on the capacity certification for the valve as converted.	Changed for consistency
c) If the Type/Model number is changed, the Type/Model number on the original nameplate shall be marked out but left legible.	**No Change**	
d) If the blowdown is changed, the blowdown on the original nameplate or stamping shall be marked out but left legible. The new blowdown may be based on the current ASME Code requirements.		
e) Incorrect information on the original Manufacturer's nameplate shall be marked out but left legible. Corrected information shall be indicated on the repair nameplate and noted on the document as required by		

the quality system.		
5.9.4 TEST ONLY NAMEPLATE	5.12.4 TEST ONLY NAMEPLATE	To facilitate subject flow
a) Where a valve has been tested and adjusted, as permitted by S7.10.1, but not otherwise repaired, a "Test Only" nameplate shall be applied that contains the following information:	a) Where a valve has been tested and adjusted, as permitted by Supplement S7.10.1, but not otherwise repaired, a "Test Only" nameplate shall be applied that contains the following information:	Changed for consistency
1) Name of responsible organization;	**No Change**	
2) Date of test;		
3) Set Pressure; and		
4) Identification, such as "Test Only."		
b) A "test only" nameplate is also recommended when periodic testing has been performed, even when no adjustments have been made, for the purpose of identifying the date the valve was tested.		
c) The existing repair nameplates, if applicable, shall not be removed during such testing.		
5.9.5 REPLACEMENT OF ILLEGIBLE OR MISSING NAMEPLATES	5.12.5 REPLACEMENT OF ILLEGIBLE OR MISSING NAMEPLATES	To facilitate subject flow
a) Illegible Nameplates When the information on the original manufacturer's or assembler's nameplate or stamping is illegible, but traceability can be confirmed, the nameplate or stamping will be augmented or replaced by a nameplate furnished by the "VR" stamp holder stamped "duplicate." It shall contain	a) Illegible Nameplates When the information on the original manufacturer's or assembler's nameplate or stamping is illegible, but traceability can be confirmed, the nameplate or stamping will be augmented or replaced by a nameplate furnished by the "VR" stamp holder stamped "duplicate." It shall contain	

all information that originally appeared on the nameplate or valve, as required by the applicable section of the ASME Code, except the "V," "HV," or "UV" symbol and the National Board mark. The repair organization's nameplate, with the "VR" stamp and other required data specified in 5.9.2, will make the repairer responsible to the owner and the Jurisdiction that the information on the duplicate nameplate is correct.	all information that originally appeared on the nameplate or valve, as required by the applicable section of the ASME Code, except the "V," "HV," or "UV" symbol and the National Board mark. The repair organization's nameplate, with the "VR" stamp and other required data specified in 5.12.2, will make the repairer responsible to the owner and the Jurisdiction that the information on the duplicate nameplate is correct.	
b) Missing Nameplates When the original valve nameplate is missing, the repair organization is not authorized to perform repairs to the valve under the "VR" program, unless positive identification can be made to that specific valve and verification that the valve was originally stamped with an ASME "V" or "UV" symbol or marked with an ASME "HV" symbol. Valves that can be positively identified will be equipped with a duplicate nameplate, as described in this section, in addition to the repairer's "VR"-stamped nameplate. The repairer's responsibilities for accurate data, as defined in 5.9.5(a) (Illegible Nameplates), shall apply.	b) Missing Nameplates When the original valve nameplate is missing, the repair organization is not authorized to perform repairs to the valve under the "VR" program, unless positive identification can be made to that specific valve and verification that the valve was originally stamped with an ASME "V" or "UV" symbol or marked with an ASME "HV" symbol. Valves that can be positively identified will be equipped with a duplicate nameplate, as described in this section, in addition to the repairer's "VR"-stamped nameplate. The repairer's responsibilities for accurate data, as defined in 5.12.5(a) (Illegible Nameplates), shall apply.	
c) Marking of Original Code Stamp When a duplicate nameplate is affixed to a valve, as required by this section, it shall be marked "Sec. I," "Sec. IV," or "Sec. VIII," as applicable, to indicate the original ASME Code stamping.	**No Change**	
5.10 ALTERNATIVE MARKING AND STAMPING FOR GRAPHITE PRESSURE EQUIPMENT		

a) General Requirements 1) This procedure may be used in lieu of the stamping and nameplate requirements defined in this section. 2) The required data as defined in this section shall be 5/32 in. (4 mm) high, minimum. 3) The National Board code symbol ("R") shall be used to make the impression in the cement. b) Application of the "R" Code Symbol 1) The graphite surface shall be clean and smooth. 2) Apply a thin coating of cement onto the Code part. The cement should have the consistency of toothpaste. 3) Apply sufficient heat to the cement so that it begins to form a skin. 4) Apply a coating of a thinned release agent, such as "ANTISEIZE," to the tip of the "R" stamp with a brush. 5) Press the coated stamp all the way to the bottom of the cement and remove by pulling straight out before the cement hardens. 6) Cure or heat the impression as required. 7) When cured, the part may be washed to remove any excess release agent.		

c) Application of characters directly to graphite 1) Use a very thin template of a flexible material (stainless steel; flexible and easily cleaned). 2) Place the template over a clean smooth surface. 3) Hold the template securely and trowel over with approved cement to fill all of the template area. 4) Carefully lift the template from the graphite part and examine the detail of the characters. 5) If acceptable, cure the cement. 6) If the characters are incorrect or damaged, wipe off the cement with a compatible solvent and reapply. **Note:** The preceding methods can be applied jointly to identify the graphite part and to transfer the "R" stamp.		
5.11 STAMPING FOR FIBER-REINFORCED VESSELS The attaching of a nameplate to a repaired or altered vessel or tank shall indicate that the work was performed in accordance with the requirements of this Code. The attachment of a nameplate shall be done only with the knowledge and authorization of the Inspector. The Certificate Holder responsible for the repair or alteration shall apply the stamping	5.8 STAMPING FOR FIBER-REINFORCED VESSELS The attaching of a nameplate to a repaired or altered vessel or tank shall indicate that the work was performed in accordance with the requirements of this Code. The attachment of a nameplate shall be done only with the knowledge and authorization of the Inspector. The Certificate Holder responsible for the repair or alteration shall apply the stamping	To facilitate subject flow

nameplate. Required stamping and nameplate information are shown in NBIC, Part 3, 5.7.	nameplate. Required stamping and nameplate information are shown in NBIC, Part 3, 5.7.	
5.11.1 REMOVAL OF ORIGINAL STAMPING OR NAMEPLATE If it becomes necessary to remove the original stamping, the Inspector shall, subject to the approval of the Jurisdiction, witness the making of a facsimile of the stamping, the obliteration of the old stamping, and the transfer of the stamping to the new item. When the stamping is on a nameplate, the Inspector shall witness the transfer of the nameplate to the new location. Any relocation shall be described on the applicable NBIC form. The restamping or replacement of a code symbol stamp shall be performed only as permitted by the governing code of construction.	Delete	Redundant
5.11.2 STAMPING FOR REPAIRS Pressure-retaining items repaired in accordance with the NBIC shall have a nameplate as required by Section 5.7. Subject to the acceptance of the jurisdiction and the concurrence of the Inspector, nameplates may not be required for routine repairs. (See 5.7.2 [b]). In all cases, the type and extent of repairs necessary shall be considered prior to waiving the requirement.	5.8.1 STAMPING FOR REPAIRS Pressure-retaining items repaired in accordance with the NBIC shall have a nameplate as required by Section 5.7. Subject to the acceptance of the jurisdiction and the concurrence of the Inspector, nameplates may not be required for routine repairs. (See 5.7.2 [b]). In all cases, the type and extent of repairs necessary shall be considered prior to waiving the requirement.	To facilitate subject flow
5.11.3 STAMPING FOR ALTERATIONS The nameplate shall be applied in accordance with Section 5.7. The location of the nameplate shall be documented on the Form R-2.	5.8.2 STAMPING FOR ALTERATIONS The nameplate shall be applied in accordance with Section 5.7. The location of the nameplate shall be documented on the Form R-2.	
5.12 STAMPING REQUIREMENTS FOR YANKEE DRYERS	5.9 STAMPING REQUIREMENTS FOR YANKE DRYERS	

a) Stamping is not required for repairs that do not affect the pressure-retaining capability of the Yankee shell, as indicated on the De-rate Curve, or other pressure-retaining parts, as indicated on the original Manufacturer's Data Report. b) Stamping is required for repairs that do affect the pressure-retaining capability of the Yankee shell, as indicated on the De-rate Curve, or other pressure-retaining parts as indicated on the original Manufacturer's Data Report.	**No Change**	
c) Stamping is required for alterations as listed in S5.7.2	c) Stamping is required for alterations as listed in Supplement S5.7.2	Changed for consistency
d) Stamping, when required, shall meet the requirements for stamping in 5.7.3. The location of stamping shall be described in the "remarks" section of Form R-2.	**No Change**	
Supplement 7 S7.2 GENERAL REQUIREMENTS		
b) Conversions, changes, or adjustments affecting critical parts are also considered repairs. The scope of conversions may include changes in service fluid and changes such as bellows, soft seats, and other changes that may affect Type/Model number provided such changes are recorded on the document as required for a quality system and the repair nameplate. (See 5.9.1). S7.14.2 SPRING-LOADED PRESSURE RELIEF VALVES	b) Conversions, changes, or adjustments affecting critical parts are also considered repairs. The scope of conversions may include changes in service fluid and changes such as bellows, soft seats, and other changes that may affect Type/Model number provided such changes are recorded on the document as required for a quality system and the repair nameplate. (See 5.12.1).	To facilitate subject flow

l) Nameplate The repairer will place a repair nameplate on each repaired valve. The nameplate shall, as a minimum, meet the requirements of 5.9.1.	l) Nameplate The repairer will place a repair nameplate on each repaired valve. The nameplate shall, as a minimum, meet the requirements of 5.12.1.	
S7.14.3 PILOT OPERATED SAFETY RELIEF VALVES		
g) Nameplate The repairer will place a repair nameplate on each repaired valve. The nameplate, as a minimum, shall meet the requirements of 5.9.1.	g) Nameplate The repairer will place a repair nameplate on each repaired valve. The nameplate, as a minimum, shall meet the requirements of 5.12.1	
Supplement 9		
S9.3 GENERAL RULES		
e) When an ASME "NV"-stamped pressure relief device requires a duplicate nameplate because the original nameplate is illegible or missing, it may be applied using the procedures of 5.9.5 provided concurrence is obtained from the Authorized Nuclear Inspector and Jurisdiction. In this case the nameplate shall be marked "SEC. III" to indicate the original ASME Code stamping.	e) When an ASME "NV"-stamped pressure relief device requires a duplicate nameplate because the original nameplate is illegible or missing, it may be applied using the procedures of 5.12.5 provided concurrence is obtained from the Authorized Nuclear Inspector and Jurisdiction. In this case the nameplate shall be marked "SEC. III" to indicate the original ASME Code stamping.	
R&A, Part 3, Index		
Capacity Certification — Part 1, Part 2 and Part 3 (5.9.3), (Section 9)	**Capacity Certification —** Part 1, Part 2 and Part 3 (5.12.3), (Section 9)	
Illegible Nameplates — Part 3 (5.9.5)	**Illegible Nameplates —** Part 3 (5.12.5)	
Jurisdiction — Part 1 (Foreword), (Introduction), (1.4.3); Part 2 (Foreword), (Introduction), (1.2), (2.5.8), (5.3.1), (5.3.4), (5.4.7), (5.5.1),	**Jurisdiction —** Part 1 (Foreword), (Introduction), (1.4.3); Part 2 (Foreword), (Introduction), (1.2), (2.5.8), (5.3.1), (5.3.4), (5.4.7), (5.5.1),	

(S1.2); Part 3 (Foreword), (Introduction), (3.3.2), (3.3.4.3(e)), (3.4.1), (3.4.2), (4.2), (4.3), (4.4), (4.4.1), (4.4.2), (4.5), (5.7), (5.9.5), (S2.2), (S4.16.4), (S6.3) **Nameplates —** Part 2 (5.2); Part 3 (5.9), (5.9.1), (5.9.2), (5.9.3), (5.9.4), (5.9.5), (5.9.6), (5.9.6.1), (5.9.6.2), (5.9.6.3), (5.9.6.4), (5.9.6.5), (5.10), (5.11), (5.11.1), (5.11.3), (5.12), (5.11.2), (S1.2.10), (S1.2.11), (S1.2.11.1), (S1.2.11.2), (S1.2.11.3), (S1.2.11.4), (S1.2.11.5), (S1.2.11.6), (S1.2.12), (S1.2.12.1), (S1.2.12.2), (S6.14.1) **"NR" Symbol Stamp —** Part 3 (1.8.4), (5.9) **Parts —** Part 1 (2.6.3.3), (2.9.2), (3.7.4), (3.7.7), (8.4), (S1.3); Part 2 (2.3.5), (2.1), (2.2.6), (2.2.7), (2.2.10), (2.2.12), (2.3.4), (2.3.5), (2.3.6), (2.5.7), (2.5.8), (8.4); Part 3 (1.7.7.5), (1.8.5), (3.2.2), (3.3.3), (4.5.1), (4.5.4), (5.2.2), (5.9.6.5), (5.12), (8.4), (S2.7.2), (S2.13), (S3.2), (S3.5), (S4.9), (S5.3.1), (S5.6), (S7.2) **Pressure Relief Devices —** Part 1 (2.9), (3.9), (4.5); Part 2 - (2.2.10.6), (2.5); Part 3 (4.5), (5.9) **Pressure Relief Valve Nameplates —** Part 3 (5.9.2), (5.9.3), (5.9.4), (5.9.5), (5.9.6), (Supplement 7), (Supplement 8) **Removal of Stamping —** Part 3 (5.8), (S6.14.1)	(S1.2); Part 3 (Foreword), (Introduction), (3.3.2), (3.3.4.3(e)), (3.4.1), (3.4.2), (4.2), (4.3), (4.4), (4.4.1), (4.4.2), (4.5), (5.7), (5.12.5), (S2.2), (S4.16.4), (S6.3) **Nameplates —** Part 2 (5.2); Part 3 (5.8), (5.8.1), (5.8.2), (5.9), (5.10), (5.11.), (5.12), (5.12.1), (5.12.2), (5.12.3), (5.12.4), (5.12.5), (delete 5.9.6), (delete 5.9.6.1), (delete 5.9.6.2), (delete 5.9.6.3), (delete 5.9.6.4), (delete 5.9.6.5), (S1.2.10), (S1.2.11), (S1.2.11.1), (S1.2.11.2), (S1.2.11.3), (S1.2.11.4), (S1.2.11.5), (S1.2.11.6), (S1.2.12), (S1.2.12.1), (S1.2.12.2), (S6.14.1) **"NR" Symbol Stamp —** Part 3 (1.8.4), (5.12) **Parts —** Part 1 (2.6.3.3), (2.9.2), (3.7.4), (3.7.7), (8.4), (S1.3); Part 2 (2.3.5), (2.1), (2.2.6), (2.2.7), (2.2.10), (2.2.12), (2.3.4), (2.3.5), (2.3.6), (2.5.7), (2.5.8), (8.4); Part 3 (1.7.7.5), (1.8.5), (3.2.2), (3.3.3), (4.5.1), (4.5.4), (5.2.2), (delete 5.9.6.5), (5.9), (8.4), (S2.7.2), (S2.13), (S3.2), (S3.5), (S4.9), (S5.3.1), (S5.6), (S7.2) **Pressure Relief Devices —** Part 1 (2.9), (3.9), (4.5); Part 2 - (2.2.10.6), (2.5); Part 3 (4.5), (5.12) **Pressure Relief Valve Nameplates —** Part 3 (5.12.2), (5.12.3), (5.12.4), (5.12.5), (delete 5.9.6), (Supplement 7), (Supplement 8) **Removal of Stamping —** Part 3 (5.11), (S6.14.1)	

NBIC Repairs and Alterations (Specific)

Replacement Stamping — Part 2 (5.2), (5.5.2); Part 3 (5.8), (5.9.3), (5.9.5), (5.9.6), (5.10), (5.11)	**Replacement Stamping —** Part 2 (5.2), (5.5.2); Part 3(5.8), (5.10), (5.11), (5.12.3), (5.12.5), (delete 5.9.6),	

NB10-1501

May 28, 2010

Secretary, NBIC Committee
The National Board of Boiler and Pressure vessel Inspectors
1055 Crupper Avenue
Columbus, OH 43229

Subject: Addition of Figure 2.5.2 in Part 3 of the NBIC

Dear Ms. Secretary:

Proposed Revision
2.5.2 b) When it is impractical or detrimental to postweld heat treat (PWHT) the entire item or band around the item, the following local PWHT method may be performed on spherical or cylindrical pressure retaining items using the time and temperature parameters in the original code of construction and in accordance with a written acceptance by the Inspector and, when required, by the Jurisdiction. Figure 2.5.2 b) provides guidance for nozzle installation. WRC Bulletin 452 Recommended Practices for Local Heating of Welds in Pressure Vessels provides more technical guidance for other joint configurations.

Statement of Need
Most recently, Mr. John Burpee, Chief Boiler, Elevator & Tramway Inspector of the State of Maine reported a repair that was using the wrong dimemnsions for SB and could have caused overheating of the base metal of the pressure retaining item.

At the National Board Inspection Training Center and during our Inservice Inspection Seminars we receive questions about this paragraph concerning the layout of the nomeclature. It is edvident that more information is required to ensure that the requirements of this paragraph are met.

Background
WRC Bulletin 452, Recommended Practices for Local Heating of Welds in Pressure Vessels, provides a technical explanation the local PWHT required by Paragraph 2.5.2 b). In addition the figures in this document define multi-directional limits for our defined nomeclature as well as recommended temperature measurment locations.

Encl.

Respectfully,

Robert E. Ferrell
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The National Board of Boiler and
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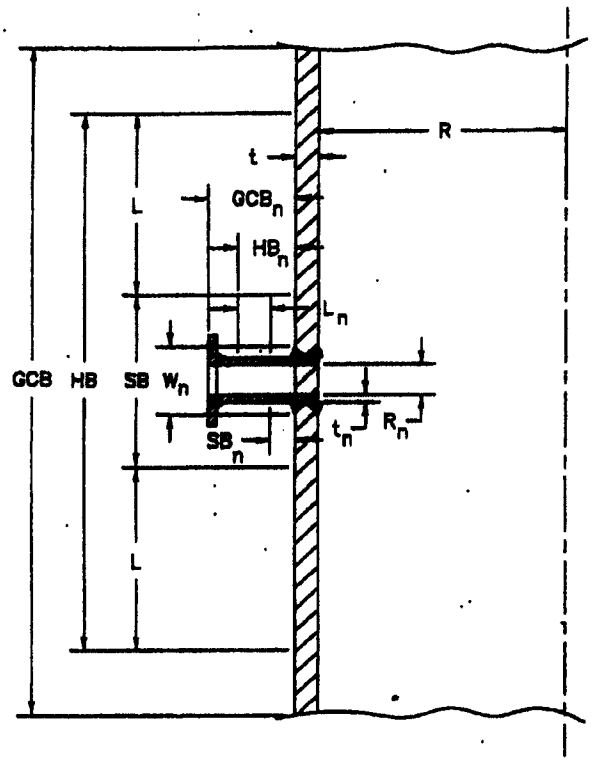
614 888 8320 x240



Nomenclature:

W_n	=	Widest width of nozzle attachment weld.
SB	=	Seek band on shell or head (width of the volume of the material where the holding temperature equals or exceeds the minimum required. The minimum width equals W_n plus a multiple of t on each side of the weld).
SB_n	=	Seek band on nozzle. The minimum width equals a multiple of t_n from the widest width of the weld.
L, L_n	=	Minimum distance over which the temperature may drop to one half of that at the edge of the seek band ($L = 2\sqrt{Rt}$ and $L_n = 2\sqrt{R_n t_n}$).
HB, HB_n	=	Heated band (width of heat source).
GCB, GCB_n	=	Gradient control band (minimum width of insulation and/or gradient heat source).
t, t_n	=	Nominal thickness of shell, head, or nozzle neck.
R, R_n	=	Inside radius of shell, head or nozzle neck.

Fig. 7—Uniform width circumferential band with nozzle.

(17)
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NBIC Subcommittee R&A Action Block

Subject Liquid Pressure Testing Requirements for Low Toughness Steels

File Number NB10-0802 **Prop. on Pg.**

Proposal Proposed new requirements for liquid pressure testing of low toughness steels

Explanation Currently, the NBIC, Part 3 R&A provides a general cautionary statement for pressure testing low toughness steels. This proposal provides technical guidance for liquid pressure testing SA 212, SA 517 grades of steel.

Project Manager
Galanes and others (Chair to decide)

Task Group **TG Meeting Date**

Negatives

(10) 1/2

NBIC Subcommittee R&A Action Block

Pressure Testing Low Toughness Steels

The chart below may be used for liquid pressure testing ASME SA 212 (Grade B) and ASME SA 517 (Grades P, F and E) low toughness steels in lieu of conducting notch toughness tests to determine the pre-warming liquid temperature to reduce the risk of brittle fracture. The chart contains minimum pre-warming liquid temperature requirements based on metal thickness of the pressure retaining part.

Table xxx

Minimum Liquid Temperature for Pressure Testing (deg F)	Thickness (inches) of Pressure Retaining Object t
60	t</= 0.5"
70	t > 0.5" </= 1"
85	t > 1" </= 2"
100	t > 2" </= 4"
110	t > 4"

As an alternative option to pre-warming liquid above 60 deg F for liquid pressure testing of SA 212 and SA 517 steels or steels with known poor toughness, the test pressure can be reduced to 50% of operating pressure commensurate with a longer hold time.