

Date Distributed: October 11th, 2016



**THE  
NATIONAL  
BOARD**  
OF BOILER AND  
PRESSURE VESSEL  
INSPECTORS

# **NATIONAL BOARD SUBCOMMITTEE REPAIRS AND ALTERATIONS**

## **MINUTES**

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Meeting of October 20<sup>th</sup>, 2016  
WebEx Online Meeting

These minutes are subject to approval and are for committee use only. They are not to be duplicated or quoted for other than committee use.

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 (2 p.m. Eastern Time)**

Chairman George Galanes called the meeting to order at 2pm

**2. Introduction of Members and Visitors**

Members and guests were roll called by Chairman Galanes. (Attachment Page 1)

**3. Adoption of the Agenda**

A motion was made and unanimously approved to accept the agenda.

**4. Public Review Comments**

<b>Item Number: PR16-0101</b>	<b>NBIC Location: Part 3</b>	<b>Attachment Page 2-4</b>
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**General Description:** Editorial

**Meeting Action:**

There is an editorial revision to a public review comment paragraph from Part 3, S2.13.13.4 which is revised to Part 3 S2.13.13.3. A motion was made and unanimously approved to accept the comment and changes will be incorporated for S2.13.13.3 and Table 7.4-f.

<b>Item Number: PR16-0201</b>	<b>NBIC Location: Part 3,</b>	<b>Attachment Page 5-7</b>
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**General Description:** Add additional information on mechanical repairs

**Meeting Action:**

A motion was made and approved, with one negative vote from Angelo Bramucci, to accept in principle the comments and a new business item will be opened for committee consideration of alternate language.

<b>Item Number: PR16-0701</b>	<b>NBIC Location: Part 3, 5.6</b>	<b>Attachment Page 8-9</b>
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**General Description:** Include additional requirement in form registration logs - "date certified by registering organization"

**Meeting Action:**

A motion was made and unanimously approved to reject the public review comments as the current wording in paragraph 5.6 provides similar language that was in the public review document PR16-0701.

<b>Item Number: PR16-0702</b>	<b>NBIC Location: Part 3, 3.1</b>	<b>Attachment Page 10</b>
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**General Description:** Correct reference in paragraph 3.1 to reference Part 3 Section 6 instead of Part 3 Section 7

**Meeting Action:**

A motion was made and unanimously approved to accept the public review comment and changes will be incorporated into the 3.1 Scope paragraph.

<b>Item Number: PR16-0703</b>	<b>NBIC Location: Part 3, S11</b>	<b>Attachment Page 11</b>
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**General Description:** Change title of Supplement 11 for consistency with other supplements

**Meeting Action:**

A motion was made and unanimously approved to accept the public review comment and changes will be incorporated with a revised title of Supplement 11 to Weld and Post Repair Inspection of Creep Strength Enhanced Ferritic Steel Pressure Equipment.

**General Description:** Revise paragraph to clarify that pressure tests of a level and/or duration required by original code of construction are sometimes permissible after installation

**Meeting Action:**

A motion was made and unanimously approved to accept in principle the public review comments and a new business item will be opened for committee consideration of alternate language for paragraph 3.2.2 e).

**5. Future Meetings**

January 9-12, 2017 – San Diego, California

July 17-20, 2017 – Columbus, Ohio

**6. Adjournment**

The meeting was adjourned by Chairman Galanes at 2:44 pm.

Respectfully submitted,

William Vallance

NBIC Part 3, Secretary

## WEB X OCTOBER 20, 2016 MEMBERS

Last Name	First Name	Interest Category	Roll Call	Role
Galanes	George	Users	Present	Chair
Pillow	James	General Interest	Present	Vice Chair
Vallance	William		Present	Secretary
Amato	Joel	Jurisdictional Authorities		Member
Boseo	Brian	National Board Certificate Holders	Present	Member
Bramucci	Angelo	Manufacturers	Present	Member
Edwards	Paul	National Board Certificate Holders	Present	Member
Hopkins	Craig	National Board Certificate Holders		Member
Jones	Wayne	Authorized Inspection Agencies	Present	Member
McManamon	Larry	Labor		Member
Miletti	Ray	Manufacturers	Present	Member
Moedinger	Linn	Users		Member
Moore	Kathy	National Board Certificate Holders	Present	Member
Morelock	Brian	Users	Present	Member
Schaefer	Benjamin	National Board Certificate Holders	Present	Member
Schulte	Bryan	Users	Present	Member
Sekely	James	General Interest	Present	Member
Toth	Marty	National Board Certificate Holders	Present	Member
Troutt	Robby	Jurisdictional Authorities	Present	Member
Webb	Michael	Users	Present	Member
Cook	Donald	Guest	Present	
Wielgoszinski	Robert	Guest	Present	

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National Board Inspection Code  
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*Instructions: If unable to submit electronically, please print this form and fax or mail. Print or type clearly.*

Date: 8-29-16

Commenter Name: George Labishak Jr.

Commenter Address: 150 Technology dr Canonsburg, Pa. 15317

Commenter Phone: 724-873-1200

Commenter Fax: \_\_\_\_\_

Commenter Email: glabishak@stevenssec.com

Section/Subsection Referenced: Part 3 2015 edition

Comment/Recommendation: *Proposed Solution:*  New Text  Revise Text  Delete Text

**Typos:**

Part 3 S2.13.13.4 page 161. "and th plates reassembled" --- as is; there is no "e" in "the".  
Part 3 Section 7 page 242 Table 7.4-f (example). 5ft2 = 0.46m2 --- as is; 0.46mm2.

Source:  Own Experience/Idea  Other Source/Article/Code/Standard

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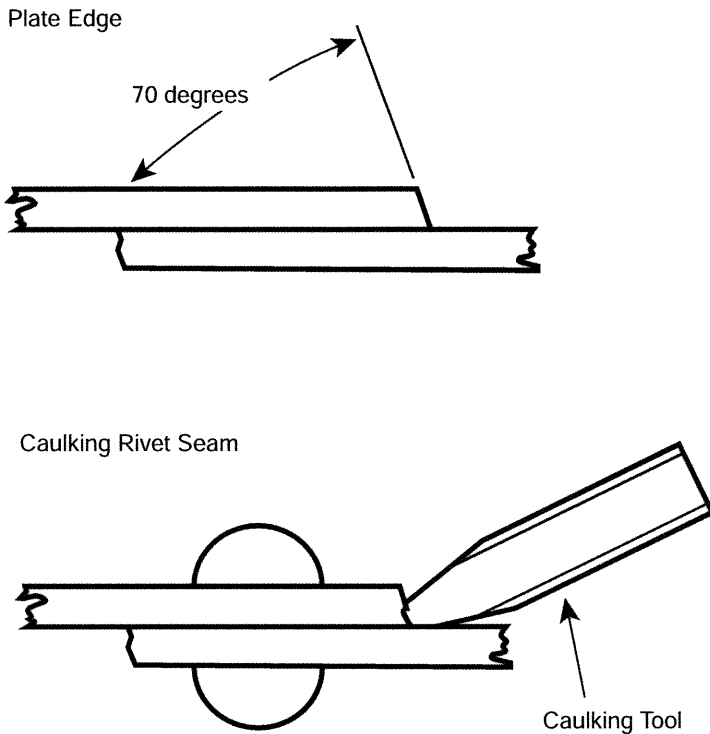
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Comment No. Issued: PR16-0101 8-30-16

- d) Riveted seams and rivet heads may be re-caulked after repairs to tighten joint.

**FIGURE S2.13.13.1**  
CAULKING RIVET SEAMS



### S2.13.13.2 RIVET HOLES

- All holes for rivets in plates, buttstraps, heads, stays, and lugs shall be drilled; or they may be punched at least 1/8 in. (3.2 mm) less than full diameter for material not over 5/16 in. (7.9 mm) in thickness and at least 1/4 in. (6.3 mm) less than full diameter for material over 5/16 in. (7.9 mm)
- Such holes shall not be punched in material more than 5/8 in. (16 mm) in thickness.
- For final drilling or reaming the hole to full diameter, the parts shall be firmly bolted in position by tack bolts.
- The finished holes must be true, clean, and concentric.

### S2.13.13.3 ASSEMBLY OF RIVETED JOINTS

After drilling or reaming rivet holes, the plates shall be separated, the burrs and chips removed, and the plates reassembled. Barrel pins fitting the holes and tack bolts to hold the plates firmly together shall be used.

### S2.13.13.4 RIVETING

- Rivets shall be so driven as to fill the holes preferably by a machine that maintains the pressure until no part of the head shows red in the daylight. Barrel pins fitting the holes and tack bolts to hold the plates

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Areas in square inches (in<sup>2</sup>) were converted to square mm (mm<sup>2</sup>) and areas in square feet (ft<sup>2</sup>) were converted to square meters (m<sup>2</sup>). See examples in NBIC Parts 1, 2 or 3, Tables 7.4-e and 7.4-f.

TABLE 7.4-e

Area (US Customary)	Area (Metric)
3 in <sup>2</sup>	650 mm <sup>2</sup>
6 in <sup>2</sup>	3,900 mm <sup>2</sup>
10 in <sup>2</sup>	6,500 mm <sup>2</sup>

TABLE 7.4-f

Area (US Customary)	Area (Metric)
5 ft <sup>2</sup>	0.46 m <sup>2</sup>

Volumes in cubic inches (in.<sup>3</sup>) were converted to cubic mm (mm<sup>3</sup>) and volumes in cubic feet (ft<sup>3</sup>) were converted to cubic meters (m<sup>3</sup>). See examples in NBIC Parts 1, 2 or 3, Tables 7.4-g and 7.4-h.

TABLE 7.4-g

Volume (US Customary)	Volume (Metric)
1 in <sup>3</sup>	16,000 mm <sup>3</sup>
6 in <sup>3</sup>	96,000 mm <sup>3</sup>
10 in <sup>3</sup>	160,000 mm <sup>3</sup>

TABLE 7.4-h

Volume (US Customary)	Volume (Metric)
5 ft <sup>3</sup>	0.14 m <sup>3</sup>

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SECTION 7

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*Instructions: If unable to submit electronically, please print this form and fax or mail. Print or type clearly.*

Date: 9/9/16

Commenter Name: Robert Price

Commenter Address: 243 Lincoln Ave.

Mt. Holly, NJ 08060

Commenter Phone: (609) 841-5093

Commenter Fax: N/A

Commenter Email: rprice@us.tuv.com

Section/Subsection Referenced: Noted below

Comment/Recommendation: Proposed Solution:  New Text  Revise Text  Delete Text

1. Add mechanical Repair and example to NBIC Part 3 Scope, 1.1, Scope of Work 1.6.1 c), 3.3.2, Routine Repair, 3.3.3, Examples of Repairs, 3.3.4.4-a) add example of Mechanical Tube replacement in water tube, fire tube boilers or heat exchangers.
2. Add check-box to the NB forms R-1 and R-2. Mechanical repairs, i. e. rolling tubes without welding or replacement of threaded piping as defined in ASME Section 1 PG-112.3.5 classified as P-4b piping.

Source:  Own Experience/Idea  Other Source/Article/Code/Standard ASME Sections I, IV, VIII div. 1

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Project Committee Referred To:

Comment No. Issued: \_\_\_\_\_





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**From:** BRAMUCCI Angelo C.  
**Sent:** Thursday, October 20, 2016 2:53 PM  
**To:** 'BBesserman@nationalboard.org'  
**Subject:** Negative Vote on PR16-0201

Brad,

I voted "Disapproved" on PR16-0201 as being classified as a Category 2. Reason for the negative vote is that I felt this PR should have been Category 4, based on the changes being made in the NBIC 2017 Edition to the R-Forms and existing text as sufficient.

Best Regards,  
Angelo

**Angelo Bramucci**  
Lead Project Management Quality Specialist  
GE Renewable Energy  
Hydro – Renewable Steam Plants

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Date: 10/10/16

Commenter Name: Mark R. Kinca

Commenter Address: Xcel Energy Services Inc.  
1518 Chestnut Ave., Minneapolis, MN 55403

Commenter Phone: (612) 630-4152

Commenter Fax: (612) 630-4367

Commenter Email: mark.r.kinca@xcelenergy.com

Section/Subsection Referenced: Part 3, 5.6

Comment/Recommendation: Proposed Solution:  New Text  Revise Text  Delete Text

Suggest revision to proposed added sentence in 5.6 as follows:

"The logs shall include, as a minimum, the form number, type (R-1, R-2, NR-1, etc.), description of work performed, date certified by registering organization, and date report submitted to the National Board."

The suggested language will record the certification date, which is the date required to be stamped on nameplates supplied, providing traceability between reports and nameplates.

**5.6 FORM "R" LOG FORM REGISTRATION LOG**

~~The "R" or "NR" Certificate Holders shall maintain a single log or multiple logs documenting unique and sequentially numbered Form "R" Reports (e.g., R-1, R-2, and R-3) that are registered with the National Board. The logs shall include, as a minimum, form type (R-1, R-2, NR-1, etc.), description of work performed, date completed, and date report sent to the National Board.~~

Source:  Own Experience/Idea  Other Source/Article/Code/Standard

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Comment No. Issued: PR16-0701 10-10-16

## 5.5.2 REGISTRATION FOR ALTERATIONS

- a) If the pressure-retaining item is originally registered with the National Board, an original Form R-2, together with attachments, shall be registered with the National Board.
- b) If the item was not registered with the National Board, one original Form R-2, together with attachments, may be registered with the National Board or retained as required by the Quality System Manual.

## 5.5.3 REGISTRATION FOR FIBER-REINFORCED VESSELS

Organizations performing repairs or alterations under an "R" stamp program shall register such repairs or alterations with the National Board.

## 5.5.4 REGISTRATION FOR NUCLEAR REPAIR/REPLACEMENT ACTIVITIES

Organizations performing repair/replacement activities under the "NR" stamp program shall register forms with the National Board.

## 5.5.5 REGISTRATION FOR GRAPHITE VESSELS

Organizations performing repair/replacement activities under the "R" stamp program shall register such repairs or alterations with the National Board.

## 5.6 FORM "R" LOG

The "R" Certificate Holder shall maintain a single log documenting unique and sequentially numbered Form "R" Reports (e.g., R-1, R-2, and R-3) that are registered with the National Board.

## 5.7 STAMPING REQUIREMENTS FOR REPAIRS AND ALTERATIONS

### 5.7.1 GENERAL

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 repair or the construction portion of the alteration shall apply stamping. For a re-rating where no physical changes are made to the pressure-retaining item, the "R" Certificate Holder responsible for design shall apply stamping.

### 5.7.2 STAMPING REQUIREMENTS FOR REPAIRS

- a) Pressure-retaining items repaired in accordance with the NBIC shall be stamped as required by this section.
- b) Subject to the acceptance of the Jurisdiction and the concurrence of the Inspector, nameplates and stamping may not be required for routine repairs (see NBIC Part 3, 3.3.2). In all cases, the type and extent of repairs necessary shall be considered prior to waiving the requirement.
- c) Stamping or nameplate shall be applied adjacent to the original manufacturer's stamping or nameplate. A single repair nameplate or stamping may be used for more than one repair to a pressure-retaining item, provided each is carried out by the same certificate holder. The date of each repair, corresponding with the date on associated Form R-1, shall be stamped on the nameplate.

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Commenter Phone: (612) 630-4152

Commenter Fax: (612) 630-4367

Commenter Email: mark.r.kincs@xcelenergy.com

Section/Subsection Referenced: Part 3, 3.1

Comment/Recommendation: *Proposed Solution:*  New Text  Revise Text  Delete Text

Revise proposed paragraph as follows to reference Supplements in Section 6, not 7, as proposed.

**3.1 SCOPE**  
This section provides ~~general and specific requirements~~ and guidelines for materials, replacement parts, and methods used when performing repairs and alterations to pressure-retaining items. Specific repair or alteration methods for other types of pressure equipment are in NBIC Part 3, Section 6.7.

Source:  Own Experience/Idea  Other Source/Article/Code/Standard

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Commenter Fax: (612) 630-4367

Commenter Email: mark.r.kincs@xcelenergy.com

Section/Subsection Referenced: Part 3, Supplement 11

Comment/Recommendation: *Proposed Solution:*  New Text  Revise Text  Delete Text

Propose the title of Supplement 11 be changed from the proposed "Weld and Post Repair Inspection of Creep Strength Enhanced Ferritic Steels" to "Repair of Creep Strength Enhanced Ferritic Steel Pressure Equipment".

This change would provide a title similar to those of Supplements 3 and 4 and emphasize that "Supplements", the definition of which is provided in the Introduction of Part 3, pertain to specific types of pressure-retaining items.

Source:  Own Experience/Idea  Other Source/Article/Code/Standard

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Commenter Phone: (612) 630-4152

Commenter Fax: (612) 630-4367

Commenter Email: mark.r.kincs@xcelenergy.com

Section/Subsection Referenced: Part 3, 3.2.2 e)

Comment/Recommendation: *Proposed Solution:*  New Text  Revise Text  Delete Text

The following alternative language to 3.2.2 e) is offered to clarify that pressure tests of a level and/or duration required by the original code of construction are sometimes permissible after installation.

"Replacement parts addressed by 3.2.2 c) or d) above shall receive a pressure test as required by the original code of construction. If replacement parts will not be pressure tested prior to installation, the owner, Inspector, and the Jurisdiction, when required, shall accept the use of one or a combination of the examination and test methods shown in paragraphs NBIC Part 3, 4.4.1 (for repairs) or 4.4.2 (for alterations). The construction organization completing the "R" Form shall note in the "Remarks" section the examination(s) and/or test(s) performed, and the reason why alternative test or examination methods were employed."

Source:  Own Experience/Idea  Other Source/Article/Code/Standard

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Comment No. Issued: PR16-0704 10-1016 \_\_\_\_\_