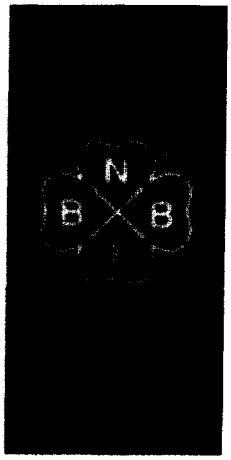

Date Distributed: December 15, 2009

THE
NATIONAL
BOARD
OF BOILER AND
PRESSURE VESSEL
INSPECTORS

SUBCOMMITTE ON INSTALLATION

AGENDA

Meeting of January 20, 2010
Austin, Texas

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 – 8:00 a.m.**

2. **Announcements**

3. **Adoption of the Agenda**

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

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

   Mr. Allan Platt has resigned from this Subcommittee.

6. **Inquiries**

   There are no inquiries assigned to this subcommittee.

7. **Public Review Comments**

   There are no public review comments assigned to this subcommittee.

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

NB06-0306 ***Part 1 3.8.3.1 SG on Boilers*** Address combustion controls for fired boilers. Reference action item NB02-2502. Brian Moore reported that CSD-1 and Section IV are working jointly on controls and safety devices. There were plans to publish in 2008. (No Attachment)

January 2007
A progress report was given.

July 2007
A progress report was given.

January 2008
A progress report was given.

July 2008
Mr. Brian Moore reported the CSD-1 task group is working on new language for fuel trains with possible transfer of language to Part 2 of the NBIC. This item was taken as a progress report.

January 2009
A progress report was given.

July 2009
A progress report was given.

January 2010
A report is expected.

NB07-0905 ***Part 2 4.3.1-4.3.3 SC Inspection*** Review these sections for completeness and consistency in pressure testing. Mr. Cook suggested forming a task group from all three parts. A task group of G. Galanes(Chair), D. Parrish, M. Horbaczewski and J. Yagen has been assigned. Included in the attachment is an email from Mr. Galanes requesting that his concern be addressed in this action item. (Attachment 2 1a)-3a))

January 2010
Mr. Yagen is expected to report.

NB07-1208 ***Part 1 Glossary (SG Boilers and PVP)*** Expand on the glossary for Part 1 Installation A task group of B. Moore (Chair), C. Hopkins, P. Bourgeois, and R. Snyder has been assigned. (No Attachment)

July 2007
This will be an ongoing action item as the glossary will expand. Due to a public review comment it was decided to delete all terms that do not have a definition following them.

January 2008
A progress report was given. This will be an ongoing action item to add definitions to the Glossary.

July 2008
A progress report was given along with a handout of suggested wording additions.

January 2009
A motion was made to keep this item open and include index updates as items are addressed in the future. The motion was unanimously approved.

July 2009
A progress report was given.

January 2010
A report is expected.

NB08-0320 ***Part 1.4.3 SC Installation*** This action item is a result of a request from the Federal Railroad Administration. Add a new paragraph in 4.3 General Requirements to address change of service for a pressure vessel. These requirements should caution installers, inspectors, owners, and jurisdictional authorities of the inherent dangers involved when changing service. A new supplement should be added to address the specific requirements for installation of pressure vessels that are being converted from one service to another. A task group has been formed from all three parts of the NBIC led by Robert Wielgoszinski. (See Attachment 2, pgs. 1-3)

July 2008
A progress report was given.

January 2009
A progress report was given.

July 2009
A progress report was given.

January 2010
Mr. Scribner is expected to report.

NB08-2101 ***Part 1 SG on Boilers*** CSD-1 does not address solid fuel firing and it would appropriate for the NBIC to look into it. A task group of G. Halley (Lead), M. Richards, D. Pranghoffer and B. Moore has been assigned. (No Attachment)

July 2008

A progress report was given. Mr. Geoff Halley presented a handout.

January 2009
A progress report was given.

July 2009
A progress report was given.

January 2010
Mr. Halley is expected to report.

NB09-0204 ***Part 1 SG on Boilers*** Address water heaters other than fired storage units (New Technology). (No Attachment)

July 2009
A progress report was given.

January 2010
Mr. Scribner is expected to report.

NB09-0501 ***Part 1 SG on PVP*** Add the appropriate rules to Part 1 to ensure that Installation rules address the same requirements for pressure vessels and controls as will later be required for Inservice Inspection. A task group of Gary Scribner (Chair), Jim Yagen and Ray Snyder has been assigned. (No Attachment)

January 2009
A progress report was given.

July 2009
A progress report was given.

January 2010
Mr. Scribner is expected to report.

NB09-0601 ***Part 1 2.2SG on PVP*** This action item is a result of PR07-2102 which led to NB07-1212. Change the definition of power boilers to exclude thermal fluid heaters. A task group of G. Scribner, P. Bourgeois, and R. Sulzer has been assigned. (See Attachment 2, pgs. 4-6)

January 2009
A progress report was given.

July 2009
A progress report was given.

January 2010
A report is expected.

NB10-0201 ***Part 1 S3*** **SG on PVP** Expand the section on installation of thermal fluid heaters. This action item is a result of splitting NB09-0601 into two parts. A task group of J. Yagen, G. Halley, P. Bourgeois and R. Sulzer has been assigned. (No Attachment)

January 2010
Mr. Richards is expected to report.

NB10-0202 ***Part 1 SG on Boilers*** Address solar fired boilers. A task group of G. Scribner (Chair),

M. Richards, R. Snyder, S. Konopacki and J. Yagen has been assigned. (No attachment)

January 2010
Mr. Richards is expected to report.

9. New Business

10. Future Meetings

July 2010, Columbus, Ohio
January 2011, Austin, Texas

11. Adjournment

Respectfully Submitted,

Jim McGimpsey
Secretary
H:\ROBIN-Active Documents\NBIC Secretarial Documents\Committees\SC on Installation\Agendas\Agenda Installation 0110.doc

Attachment 1

SC on Installation

Member	Title	Expiration Date	Interest Category
McGimpsey, Jim	Secretary		
Halley, Geoffrey		10/06/2009	Manufacturer
Konopacki, Stanley		01/17/2011	Users
Scribner, Gary		07/24/2011	Jurisdictional Authoritie
Tyndall, Harold		01/22/2012	Auth Inpection Agencie
Bourgeois, Paul		08/27/2012	Auth Inpection Agencie
Moore P.E., Brian W		08/27/2012	Auth Inpection Agencie
Snyder, Raymond		08/27/2012	Auth Inpection Agencie
Yagen, James M.		08/27/2012	Users
Titer, H. Neal		08/27/2012	Users
Richards, H. Michael	Chair	08/27/2012	Users
Sulzer, R. C.		08/27/2012	Manufacturer
Hopkins, Craig	Vice Chair	08/27/2012	NB Certificate Holders
Total Members:	12		

[redacted] 2

NBIC Main Committee Task Group Action Block

Subject Pressure Testing Terminology in the NBIC

File Number 07-0905 **Prop. on Pg.**

Proposal Review current use of pressure testing terminology and revise as necessary to provide consistency of terminology across Parts 1-3 of the NBIC. Also, evaluate need for cautionary statement regarding low toughness materials subjected to pressure testing.

Explanation

Project Manager M. Horbaczewski

Task Group Galanes (CHAIR), Parrish, Yagen, andHorbaczewski.

Task Group Negatives **TG Meeting Date**

Background

This task group (TG) has been re-assigned to report back to the NBIC main committee Chair. The purpose of this TG is to review pressure testing terminology as currently stated in the NBIC, and to recommend necessary revisions to provide consistency of pressure testing terminology for Parts 1-3 of the NBIC.

NBIC Main Committee Task Group Action Block

NB07-0905

NBIC Glossary Revisions

Current Definition for Pressure Testing

> **Pressure Test** — Prior to initial operation, the completed boiler, including pressure piping, water columns, superheaters, economizers, stop valves, etc., shall be pressure tested in a test performed in accordance with the original code of construction prior to initial operation of an installed unit that is witnessed by an Inspector.

Delete above.

Insert New Definitions below into the Glossary

Hydrostatic Test – a liquid pressure test that is performed in accordance with the requirements of the original code of construction.

Liquid Pressure Test - a test method using water or other liquid medium (which is incompressible) to verify the leak tightness integrity of a repair or to verify the leak tightness of a pressure retaining item. The liquid test pressure shall be the minimum required to verify the integrity of the repair or leak tightness of the pressure retaining item, as agreed upon between the Inspector and the owner-user.

Pneumatic Pressure test – a test method using an inert gas which shall not exceed the maximum pneumatic test pressure in the original code of construction (if applicable) or as agreed upon between the owner/user and Certificate holder.

Rationale;
The proposed change to the existing definition of pressure testing to liquid pressure testing captures the essence of using a liquid only. We now have identified the use of pneumatic pressure testing, where an inert gas is used versus a liquid.

(2a)

NBIC Main Committee Task Group Action Block

So, by having three forms of pressure testing identified in the Glossary, we can now go back and substitute in Part 1-3, terms where we can use Hydrotesting with reference to original code of construction followed by Liquid pressure testing to check for leaks or to verify leak integrity and finally we have pneumatic pressure testing as an alternative to Liquid Pressure testing.

I believe using the above definitions provides improved consistency and uniformity across all 3 parts of the NBIC. I deliberately chose not to address the definition of "Leak Test" because this can fall under a Liquid Pressure test OR pneumatic pressure test.

NB08-0320

NATIONAL BOARD INSPECTION CODE

SUB-COMMITTEE INSTALLATION
Change of Service for a Pressure Vessel

Task Group Assignment: Add requirements to change the service of pressure vessels in
Part I Installation
Part 2 Inspection and
Part 3 Repair/Alterations

NB08-0320, NB08-0321, NB08-0322

The following additions to the NBIC are proposed:

PART I – SECTION 1 – ADD:

1.3 (d) Change of service and/or relocation:

Specific requirements for inspection of pressure vessels that have been converted from one service to another and/or re-located movement may include re-location within an existing facility or to a new facility by the current owner. It may also include purchase of used vessels for installation in another facility by a new owner. (See 2.3.6.6)

1.3 (e) When the re-location crosses Jurisdictional boundaries or where the ownership changes, the Jurisdiction may regulate re-installation.

PART I – SECTION 4 – 4.2 DEFINITION:

Change of service pressure vessels that have been converted from one service to another and/or re-located.

PART I – SECTION 9 INSTALLATION – GLOSSARY OF TERMS

Change of Service: Pressure vessels that have been converted from one service to another and/or re-located.

PART I – SECTION II – INDEX

Change of Service Part 1 (1.3) (4.2) Part 2 (2.3.6.6)

NB08-0320

NATIONAL BOARD INSPECTION CODE

SUB-COMMITTEE INSTALLATION
Sub-Group for Installation (Part I) (Boilers)
(Pressure Vessels and Piping)

Members: Sub-Group: Boilers and Pressure vessel and Piping
Sub-Group for Inspections, Sub-Group for Repairs and Alterations

Task Group Assignment: Change of Service
NB08-0320, NB08-0321, NB08-0322

PART 2 2.3.6 Description and Concerns of Specific Types of Pressure Vessels

2.3.6.6 Change of Service of Pressure Vessels

This section describes guide lines to address the specific requirements for inspection of pressure vessels that have been converted from one service to another. Changes such as contents, pressure and temperature can be successfully adopted, providing there is an understanding of the effect on the vessel.

1) Can the vessel accept increase in flow rates or will this change create impingement problems on internal surfaces?

2) Will the change create loading problems at nozzle and wall junctions?

3) Is the wall thickness still acceptable when the new contents are of a higher specific gravity?

4) When the new contents are of a higher specific gravity, is there an increase in the design pressure due to the additional static head pressure, without an increase in the stamped MAWP?

5) Are the supports able to safely carry the additional weight of the contents?

6) Are materials compatible with new contents which may increase corrosion rates; perhaps accelerated as a function of changes in service temperatures?

7) Will the new service conditions present cyclic pressure or thermal variations which could shorten vessel life?

8) Will the pressure relief devices and their discharge piping arrangements function properly and reliably?

9) Is there a complete understanding of the causes and effects associated with changing service condition or re-locating vessels?

10) Does the owner or potential buyer have the knowledge to analyze these changes; or must outside expertise be used?

11) The Jurisdictional authority shall be contacted before proceeding where the vessel is or will be installed.

NBIC – NB09-0601

POWER BOILER

Part 1 – Section 2

Current Definition

2.2 DEFINITIONS

A power boiler is a closed vessel in which water or other liquid is heated, steam or vapor generated, steam or vapor is superheated, or any combination thereof, under pressure for use external to itself, by the direct application of energy from the combustion of fuels or from electricity or solar energy. (The term boiler includes fired units for heating or vaporizing liquids other than water; but does not include fired process heaters and systems.) The term boiler also shall include the apparatus used to generate heat and all controls and safety devices associated with such apparatus or the closed vessel.

a) Power Boiler
A boiler in which steam or other vapor is generated at a pressure in excess of 15 psig (100 kPa) for use external to itself.

A07 b) High-Temperature Water Boiler
A boiler in which water is heated and operates at a pressure in excess of 160 psig (1.1 MPa) and/or temperature in excess of 250 ° F. (121◦ C). °

Proposed Text

2.2 DEFINITIONS

A power boiler is a closed vessel in which water or other liquid is heated, steam or vapor generated, steam or vapor is superheated, or any combination thereof, under pressure for use external to itself, by the direct application of energy from the combustion of fuels or from electricity or solar energy. The term boiler also shall include the apparatus used to generate heat and all controls and safety devices associated with such apparatus or the closed vessel.

a) Power Boiler
A boiler in which steam or other vapor is generated at a pressure in excess of 15 psig (100 kPa) for use external to itself.

A07 b) High-Temperature Water Boiler
A boiler in which water is heated and operates at a pressure in excess of 160 psig (1.1 MPa) and/or temperature in excess of 250 ° F. (121◦ C). °

BOILER

A pressurized vessel in which water is heated, steam is generated, steam is superheated or any combination of these, under pressure or vacuum by the direct application of heat. The term boiler includes fired units for heating or vaporing liquids other than water where these units are separate from processing systems and complete within themselves. The term boiler also shall include the apparatus used to generate heat and all controls and safety devices associated with such apparatus or the closed vessel.

a) Power Boiler
A boiler in which steam or other vapor is generated at a pressure in excess of 15 psig (100 kPa) for use external to itself.

A07 b) High-Temperature Water Boiler
A boiler in which water is heated and operates at a pressure in excess of 160 psig (1.1 MPa) and/or temperature in excess of 250 ° F. (121◦ C). °

Note 1 The term boiler does not include fired process heaters and systems

Note 2 Some Jurisdictions may require ASME Section I or Section VIII construction. Code requirements for the particular Jurisdiction shall be reviewed for thermal fluid heaters.

2.2 DEFINITIONS

a) Power Boiler (Vapor)- A closed vessel in which vapor is generated, vapor superheated, or any combination thereof, for use external to itself, at a pressure in excess of 15psi (100 kPa).

b) Power Boiler (Liquid) – A closed vessel in which a liquid is heated for use external to itself at a pressure in excess of 160 psig (1.1 MPa) and/or temperature in excess of 250° F (121°C).

Rationale

1) To eliminate the confusion caused by dual definitions for power boilers under the general "DEFINITIONS".

2) To eliminate useless misleading verbiage not pertaining to a true definition.

3) To clarify by code that a water boiler may be a power boiler by code.

NOTE, The purpose of a definition is to **define,** not educate or legislate. The jurisdictions will determine necessary inspection requirements. Also I believe it is time we begin to dissociate ourselves from traditional **"steam"** and **"water"** terminology, as well as specifying fuels. As far as the "apparatus" to generate heat, it is again up to each jurisdiction to determine inspection requirements by Statute/Regulation or adopted code.

Note, The NBIC is an inspection code based on ASME construction codes and incorporating device requirements for safety. We may not be overly concerned, (at the inspection phase), and within common sense limits, with the process medium. Our scope of inspection jurisdictionally is driven by construction code boundarys, and mostly defined by pressure/temperature parameters.

A. Platt 07/14/2009