SUBGROUP
ON BOILERS

AGENDA

Meeting of July 15, 2014
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 – 8:00 a.m.

2. Announcements

3. Adoption of the Agenda

4. Approval of Minutes of January 14, 2014

5. Review of the Roster (Attachment 1)

The Executive Committee will be discussing the consolidation of the Subgroups Boilers and Pressure Vessels and Piping. If this decision is made a new Chair and Vice Chair will need to be nominated for vote at the NBIC Committee meeting. Nominations should be discussed at this time.

6. Action Items (Attachment 2)

**NB10-1201 Part 1, SG Boilers** - Request for a format change to Part 1 Installation. A TG of M. Wadkinson (PM), B. Moore, S. Konopacki. E. Wiggins and D. Patten was assigned. (No Attachment)

**July 2010**
Mr. Scribner gave a progress report.

**January 2011**
Mr. Richards presented a progress report. The goal is to consolidate all the general requirements for Boilers, Pressure Vessels, etc.

**July 2011**
Mr. Richards reported with a handout created to compare power boilers and steam heating boilers. It was found that power boilers are lacking in the book so the task group is looking to expand wording on power boilers.

**January 2013**
Mr. Scribner presented a progress report. The TG continues to work on achieving consistency in Section 2 and 3 with all common wording and does it really need to be in both sections or in a general section. A partial draft should be completed to present at the July 2013 meeting with a final to be completed by the next edition.

**July 2012**
Mr. Scribner presented a progress report. A power point presentation is planned to go out to the group for comment from Section 2 and 3 and then look at moving to General. There was a motion to move this item to the SG Boilers agenda. The motion was unanimously approved.

**January 2014**
Mr. Gary Scribner presented an overview to the SG and agreed to gather information as to the wording commonalities and requirements for format change to give to the TG. The TG will then take this information and prepare a proposal to present by the next meeting of July 2014.

**July 2014**
Ms. Wadkinson is expected to report.
**NB13–1101 – Part 1, SG Boilers** – Addition of installation requirements for condensing hot water boilers. A TG of G. Halley (PM), M. Wadkinson, D. Patton, B. Moore, and P. Bourgeois was assigned. (Attachment 2, pp. 2-5)

*July 2013*
Mr. Halley presented a progress report. A break out group session took place (8:45am – 9:45am) to discuss this being a stand-alone supplement.

*January 2014*
Mr. Geoffrey Halley presented a progress report and an updated proposed document of an “Outline of Proposed Installation Requirements for Condensing Boilers”. A break-out session was held to discuss the proposed document in more detail. Melissa and Geoffrey will meet to expand on the list and have a proposal to present by the July 2014 meeting. It was noted that Part 2 Inspection may need to also be involved.

*July 2014*
Mr. Halley is expected to report.

**NB14–0403 – Part 1** – Index proofing. A TG of B. Moore (Project Manager), M. Richards, T. Creacy, K. Watson and M. Washington was assigned. (No Attachment)

*July 2013*
NBIC Parts 1, 2, and 3 have evolved. It was requested that a new Action Item be opened (NB14 – 0403) to address the proofing of Part 1 – Index. A TG of B. Moore (PM), has been assigned.

*January 2014*
Mr. Brian Moore presented an overview of who, what, and why expectations to take place with regard to proofing of the index of Part 1.

*July 2014*
Mr. Moore is expected to report.

**NB14-0405 Part 1, Section 1 Scope SC on Installation** The scopes throughout Part 1 need to be revised. This item pertains to Part 1, Section 1. (Attachment 2, p. 6)

*July 2014*
Mr. Richards is expected to report.

**NB14-0406 Part 1, Section 2, SC on Installation** - The scopes throughout Part 1 need to be revised. This item pertains to Part 1, Section 2. (Attachment 2, p. 7)

*July 2014*
Mr. Richards is expected to report.

**NB14-0407 - Part 1, Section 3 Scope SC on Installation** - The scopes throughout Part 1 need to be revised. This item pertains to Part 1, Section 3. (Attachment 2, p. 8)

*July 2014*
Mr. Richards is expected to report.

**NB14-0408 - Part 1, Section 4 Scope SC on Installation** - The scopes throughout Part 1 need to be revised. This item pertains to Part 1, Section 4. (Attachment 2, p. 9)

*July 2014*
Mr. Richards is expected to report.
**7. New Business**

- Web-Ex Training
- Editorial Changes

**8. Future Meetings**

- January 19-22, 2015, Orlando, Florida
- July 21-24, Columbus, Ohio

**9. Adjournment**

Respectfully Submitted,

Jeanne Bock
Secretary
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**Total Members:** 9
8.3 CODE REVISIONS OR ADDITIONS

Request for Code revisions or additions shall provide the following:

a) Proposed Revisions or Additions

For revisions, identify the rules of the Code that require revision and submit a copy of the appropriate rules as they appear in the Code, marked up with the proposed revision. For additions, provide the recommended wording referenced to the existing Code rules.

Existing Text:

b) Statement of Need

Provide a brief explanation of the need for the revision or addition.

Addition of Installation Requirements for Condensing Hot Water Boilers to Part 1. (Installation) of NBIC.

Condensing Hot Water Boilers are a rapidly growing segment of the HVAC industry. They require special treatment in several areas of installation - Condensate Drain, PH control of Condensate, Vent Material Selection, Air Filtration, etc.
c) Background Information

Provide background information to support the revision or addition, including any data or changes in technology that form the basis for the request that will allow the Committee to adequately evaluate the proposed revision or addition. Sketches, tables, figures, and graphs should be submitted as appropriate.

When applicable, identify any pertinent paragraph in the Code that would be affected by the revision or addition and identify paragraphs in the Code that reference the paragraphs that are to be revised or added.

INSTALLATION FAILURES, PARTICULARLY IN THE VENTING, SYSTEM AND COMBUSTION AIR DELIVERY SYSTEMS HAVE BEEN FOUND RESPONSIBLE FOR SEVERAL SAFETY RELATED INCIDENTS, INCLUDING FATALITIES. NBIC DOES NOT CURRENTLY ADDRESS CONDENSING BOILERS AND THEIR SPECIAL REQUIREMENTS.
Outline of Proposed Installation Requirements for Condensing Boilers

Rational
Define the aspects of installation of Condensing Boilers which are unique from other products covered by this section.

The following listing is offered as points for discussion in the development of an addition to Part 1 (Installation) of the NBIC:

- **Condensate drain system**
  - Routing
  - Termination point (preferably away from occupied areas)
  - Trap height v vent system ΔP

- **Material selection for stack (vent) and piping**
  - Pitch/Drainage of condensate
  - Corrosion resistance
  - Temperature capability
  - Termination relative to air intake systems, snowlines, etc.
  - Sizing, routing and pressure drop

- **Sealed combustion systems**
  - Outside air intake location relative to vent products, snowlines, etc.
  - Routing and sizing
  - Filtration
  - Burner Manufacturer requirements

- **Condensate pH control**
  - Local sewer Codes

- **Air inlet filtration**
  - Filter ΔP/sizing
  - Burner Manufacturer requirements

- **Glycol usage**
  - Materials compatibility – Seals, etc.
  - Boiler Manufacturer recommendations – Dilution, etc.
  - Disposal

- **Installation clearances**
  - Local/National Standards
  - Boiler Manufacturer’s recommendations

- **Water treatment**
  - Boiler Manufacturer’s recommendations
• Piping systems
  ○ Boiler manufacturer’s recommendations
  ○ System designer requirements
• Boiler flow and temperature requirements
  ○ Boiler Manufacturer’s recommendations
  ○ System designer requirements

Questions

1) Should this be a standalone supplement? Or, should it be worked into existing text?
2) Do we need two documents – one for installation plus a guideline for inspection section?
1.1 INTRODUCTION

The proper installation of boilers, pressure vessels, piping, and other pressure-retaining items is essential for safe and satisfactory operation. The owner-user is responsible for ensuring that installations meet all the requirements of the Jurisdiction at the point of installation including licensing, registration, or certification of those performing installations. NBIC Part 1, identifies minimum safety requirements for installing pressure-retaining items when NBIC Part 1, is mandated by a Jurisdiction. Otherwise, the requirements specified in NBIC Part 1, provide information and guidance for installers, contractors, owners, inspectors, and jurisdictions to ensure safe and satisfactory installation of specified pressure-retaining items. Jurisdictions may require other safety standards, including following manufacturer’s recommendations. When a Jurisdiction establishes different requirements or where a conflict exists, the rules of the Jurisdiction prevail. Users of NBIC Part 1 are cautioned that other requirements may apply for a particular installation and NBIC Part 1, is not a substitute for sound engineering evaluations.

1.2 PURPOSE

a) The purpose of these rules is to establish minimum requirements, which, if followed, will ensure that pressure-retaining items, when installed, may be safely operated, inspected, and maintained.

b) It should be recognized that many of the requirements included in these rules must be considered in the design of the pressure-retaining item by the manufacturer. However, the owner-user is responsible for ensuring that the installation complies with all the applicable requirements contained herein. Further, the installer is responsible for complying with the applicable sections when performing work on behalf of the owner-user.

1.3 APPLICATION OF THESE RULES

a) As referenced in lower case letters, the terms “owner,” “user,” or “owner-user” means any person, firm, or corporation legally responsible for the safe operation of the boiler, pressure vessel, piping, or other pressure-retaining item. Further, where the term “owner” is used, it shall mean the owner, or user, or the owner’s or user’s designee.

b) Where the owner is required to perform an activity, it is intended that the owner or the owner’s designee may perform the activity; however, the owner retains responsibility for compliance with these rules.

c) These rules refer to documentation obtained from the Jurisdiction (installation permit, operating permit). It is not intended to require the Jurisdiction to issue such permits but rather a caution to owners and installers that such permits may be required.
2.1 SCOPE

NBIC Part 1, Section 1 provides requirements for the installation of power boilers as defined in NBIC Part 1, 2.2, Definitions. For installation of items that do not fall within the scope of NBIC Part 1, Section 1, refer to the applicable Sections of NBIC Part 1:

Section 3 — Steam Heating Boilers, Hot-Water Heating Boilers, Hot-Water Supply Boilers, and Potable Water Heaters
Section 4 — Pressure Vessels
Section 5 — Piping
PART 1, SECTION 3
INSTALLATION — STEAM HEATING BOILERS, HOT-WATER HEATING BOILERS, HOT-WATER SUPPLY BOILERS, AND POTABLE WATER HEATERS

3.1 SCOPE

The scope of NBIC Part 1, Section 3 shall apply to those steam heating boilers, hot-water heating boilers, hot-water supply boilers, and potable water heaters as defined in NBIC Part 1, 3.2, Definitions. For installation of items that do not fall within the scope of this Section, refer to the applicable sections:

NBIC Part 1, Section 2 — Power Boilers
NBIC Part 1, Section 4 — Pressure Vessels
NBIC Part 1, Section 5 — Piping
PART 1, SECTION 4
INSTALLATION — PRESSURE VESSELS

4.1  SCOPE

NBIC Part 1, Section 4 provides requirements for the installation of pressure vessels as defined in NBIC Part 1, Section 9 Definitions. For installation of items that do not fall within the scope of this Section, refer to the applicable Section:

NBIC Part 1, Section 2 — Power Boilers
NBIC Part 1, Section 3 — Steam Heating Boilers, Hot-Water Heating Boilers, Hot-Water Supply Boilers, and Potable Water Heaters
NBIC Part 1, Section 5 — Piping
5.1 SCOPE

NBIC Part 1, Section 5 provides requirements for the installation of pressure piping. For installation of items that do not fall within the scope of this Section, refer to the applicable Sections:

NBIC Part 1, Section 2 — Power Boilers
NBIC Part 1, Section 3 — Steam Heating Boilers, Hot-Water Heating Boilers, Hot-Water Supply Boilers, and Potable Water Heaters
NBIC Part 1, Section 4 — Pressure Vessels