Date Distributed:

THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

NATIONAL BOARD INSPECTION CODE SUBGROUP INSTALLATION

AGENDA

Meeting of January 10th, 2023
Charleston, SC

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**

   The Chair will call the meeting to order at 8:00 a.m. EST. For those attending in person, the meeting will be held in Carolina A on the Mezzanine Level of the hotel.

2. **Introduction of Members and Visitors**

3. **Check for a Quorum**

4. **Awards/Special Recognition**

5. **Announcements**

   - The National Board will be hosting a reception on Wednesday evening from 6:30 p.m. to 8:30 p.m. in the Colonial Ballroom at the hotel.
   - The National Board will be hosting breakfast and lunch on Thursday. Breakfast will be served from 7:00 a.m. to 8:00 a.m. in the Colonial Ballroom, and lunch will be served from 11:30 a.m. to 12:30 p.m. in the Colonial Ballroom.

6. **Adoption of the Agenda**

7. **Approval of the Minutes of July 12, 2022, Meeting**

   The minutes can be found on the NBIC Committee Information page under the Inspection Code tab on NBBI.org.

8. **Review of Rosters**

   a. **Membership Nominations**

   b. **Membership Reappointments**

      The following subgroup memberships are set to expire prior to the July 2023 NBIC meeting:
      - Mr. Todd Creacy
      - Mr. Matt Downs
      - Mr. Patrick Jennings
      - Mr. Stanley Konopacki
      - Mr. Rex Smith

   c. **Officer Appointments**

9. **Open PRD Items Related to Installation**

   - NB15-0305 – Create Guidelines for Installation of Overpressure Protection by System Design – D. Marek (PM).

   - NB15-0315 – Review isolation valve requirements in Part 1, 4.5.6 and 5.3.6 – D. DeMichael (PM)

   - 19-83 – Address Alternate Pressure Relief Valve Mounting Permitted by ASME CC2887-1 – D. Marek (PM)

   - 22-08 – Review and improve guidance for T&P valve installation relating to probe.

- 22-15 – What is the meaning of "service limitations" as used in Part 4, 2.4.5?
    - Mr. Clark spoke about the NBIC's use of the phrase, "service limitations" and its references within Part 4 and Part 1. The issue is that Part 1 does not specify any service limitations.

- 22-16 – Allow the use of pressure relief valves on potable water heaters.
    - Mr. Clark gave a brief overview of PRD's progress with this item, and some discussion followed.

10. Interpretations

There are no Part 1 interpretation requests to address.

11. Action Items

Item Number: 20-27	**NBIC Location: Part 1, 1.6.9 & S6.3**	**No Attachment**
General Description: Carbon Monoxide Detector/Alarm NBIC 2019		
Subgroup: SG Installation **Task Group:** E. Wiggins (PM), G. Tompkins R. Spiker, R. Smith, S. Konopacki, R. Austin, T. Creacy, and Jeff Kleiss **Explanation of Need:** These codes are being enforced by some jurisdictions on existing installations. Inspectors need to know what codes we need to enforce. Do the detectors have specific levels of CO when an alarm is to go off? Is there a requirement for an audible alarm or decibel level of the alarm? Where in the boiler room should the alarm/monitor be mounted?		
July 2022 Meeting Action: Progress Report Ms. Wadkinson will move this item to the Executive Committee's agenda for January 2023 to discuss whether to incorporate this topic as a standalone document or to revise the NBIC Introduction to include terms other than pressure-retaining devices (e.g., CO alarms and controlled equipment).		

Item Number: 20-33	**NBIC Location: Part 1**	**No Attachment**
General Description: Flow or Temp Sensing Devices forced Circulation Boilers **Subgroup:** SG Installation **Task Group:** M. Downs (PM), D. Patten, and M. Wadkinson **Explanation of Need:** Incorporation of applicable CSD-1 requirements.		
July 2022 Meeting Action: Progress Report Ms. Wadkinson will email Mr. Downs for a report on this item.		

Item Number: 20-44	NBIC Location: Part 1	No Attachment

General Description: CW Vacuum Boilers

Subgroup: SG Installation

Task Group: R. Spiker (PM), M. Washington, and J. Byrum

Explanation of Need: Incorporation of applicable CSD-1 requirements.

July 2022 Meeting Action: Progress Report

Mr. Byrum and Mr. Spiker reported that the manufacturer is no longer communicating with the task group, so they are looking for another source.

Item Number: 20-62	NBIC Location: Part 1, 1.4.5.1	No Attachment

General Description: Update the National Board Boiler Installation Report

Subgroup: SG Installation

Task Group: T. Clark (PM), E. Wiggins, R. Spiker, T. Creacy, P. Jennings, G. Tompkins, and D. Patten.

Explanation of Need: The form has not been updated in years. The form will be part of the National Board's Jurisdictional Reporting System (JRS) which is currently under development.

July 2022 Meeting Action: Progress Report

Mr. Clark gave an overview of his proposed changes and the challenges facing it—primarily the varying jurisdictional requirements. JRS intends to use this form as a generic base for reports that they will eventually modify specific to each jurisdiction's requirements. Mr. Clark will prepare this item for review and comment by the Chiefs.

Item Number: 20-86	NBIC Location: Part 1, 2.10.1 a)	No Attachment

General Description: Testing and Acceptance: Boil-out Procedure

Subgroup: SG Installation

Task Group: E. Wiggins (PM), D. Patten, M. Washington, and S. Konopacki

Explanation of Need: This was brought to my (Mr. Eddie Wiggins) attention by Ernest Brantley. Mr. Brantley indicated during an acceptance inspection, he found boiler with excessive oil on the tubes and tube sheet after boiler was delivered and installed. He could not find any reference to boil-out to remove this extraneous material.

July 2022 Meeting Action: Progress Report

Mr. Wiggins spoke about a few of the revisions he made to the initial proposal; Ms. Wadkinson recommended moving this proposal to a new location: Part 1, Section 1.6.10. After Mr. Wiggins revises the proposal and it is reviewed again, this item is to be retitled to be included in Part 1, Section 1, to apply to both power and heating boilers.

Item Number: 22-13	NBIC Location: Part 1, 3.8.2.2	No Attachment

General Description: Align hot water boiler thermometer requirements with ASME Section IV

Subgroup: SG Installation

Task Group: T. Clark (PM), P. Jennings, G. Tompkins, Rodger Adams, and David Zalusky

Explanation of Need: NBIC Part 1 does not expressly permit the use of temperature sensors or digital displays as thermometers for hot water heating or supply boilers, even though they are permitted under ASME Section IV, HG-612. NBIC Part 1 also does not address the required temperature range of thermometers, inconsistent with ASME Section IV.

July 2022 Meeting Action: Progress Report

Mr. Clark explained two approaches that could be made regarding this item. The first approach is to utilize vague verbiage that would allow for the use of digital thermometers. The second approach is to incorporate verbiage that aligns with ASME Section IV. A task group was assigned.

12. New Items:

Item Number: 22-28	NBIC Location: Part 1, 9.1	Attachment Page 1

General Description: Pool Heater definition

Subgroup: SG Installation

Task Group: None assigned.

Explanation of Need: The NBIC Installation and Inspection Codes do not have a definition for pool heaters. There is potential for confusion regarding which NBIC requirements, if any, should apply to pool heaters.

January 2023 Meeting Action:

Item Number: 22-30	NBIC Location: Part 1, 3.6.3	Attachment Page 2

General Description: Drains in equipment rooms with heating boilers containing glycol

Subgroup: SG Installation

Task Group: None assigned.

Explanation of Need: Glycol should be disposed of in accordance with regulations. The intent of this addition to the text is to identify that drains may not be the proper way to dispose of glycol.

January 2023 Meeting Action:

Item Number: 22-31	NBIC Location: Part 1, 3.8.2.3	Attachment Page 3

General Description: Location of temperature controls

Subgroup: SG Installation

Task Group: None assigned.

Explanation of Need: There is currently no requirement that the temperature controls measure the boiler temperature at or near the boiler outlet.

January 2023 Meeting Action:

Item Number: 22-32	NBIC Location: Part 1, 3.8.1.4 b)	Attachment Page 4

General Description: High pressure limit control requirements for fired jacketed steam kettles

Subgroup: SG Installation

Task Group: None assigned.

Explanation of Need: As a safeguard to over pressurizing the fired jacketed steam kettle, the pressure range of the actuated high pressure limit control should not exceed the MAWP of the vessel.

January 2023 Meeting Action:

13. Future Meetings

- July 2023 – TBD
- January 2024 – Charlotte, NC

14. Adjournment

Respectfully submitted,

Michelle Vance
Subgroup Installation Secretary

THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

PROPOSED REVISION OR ADDITION

Item No.

A 22-28

Subject/Title

Pool Heater definition

NBIC Location

Part: Installation & Inspection; Section: 9 & 9; Paragraph: 9.1 & 9.1

Project Manager and Task Group

Source (Name/Email)

Jeff Kleiss / jkleiss@lochinvar.com

Statement of Need

The NBIC Installation and Inspection Codes do not have a definition for pool heaters. There is potential for confusion regarding what if any of the NBIC requirements should apply to pool heaters.

Background Information

Pool heaters may heat pools directly or indirectly. Direct pool heaters are not isolated from the pool and are directly connected to an open vessel (the pool). Indirect pool heaters heat the pool water through an indirectly through a heat exchanger and are part of a closed loop. Indirect pool heaters effectively meet the definition of a hot-water supply boiler.

Existing Text

Proposed Text

Pool heater — An appliance designed for heating non-potable water stored at atmospheric pressure, such as water in swimming pools, spas, hot tubs, or similar applications. Direct type — A pool heater in which the heat exchange between the combustion process and the pool water is completed in a single stage. Indirect type — A pool heater that utilizes water in a primary heat exchanger to transmit heat from the gas combustion process by means of a secondary heat exchanger to the pool water. An indirect pool heat is a Hot-Water Heating Boiler.

	VOTE:						
COMMITTEE	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date

PROPOSED REVISION OR ADDITION

Item No.

A 22-30

Subject/Title

Drains in equipment rooms with heating boilers containing glycol.

NBIC Location

Part: Installation; Section: 3; Paragraph: 3.6.3

Project Manager and Task Group

Source (Name/Email)

Patrick Jennings / patrick_jennings@hsb.com

Statement of Need

Glycol should be disposed of in accordance with regulations. The intent of this addition to the text is to identify that drains may not be the proper way to dispose of glycol.

Background Information

There are different types of glycol that can be used for heating boilers, some toxic, some non-toxic.

Existing Text

Unobstructed floor drains, properly located in the equipment room, will facilitate proper cleaning of the equipment room. Floor drains that are used infrequently should have water poured into them periodically to prevent the entrance of sewer gasses and odors. If there is a possibility of freezing, an environmentally safe antifreeze mixture should be used in the drain traps. Drains receiving blowdown water should be connected to the sanitary sewer by way of an acceptable blowdown tank or separator or an air gap that will allow the blowdown water to cool to at least 140°F (60°C) and reduce the pressure to 5 psig (34 kPa) or less.

Proposed Text

ADDITION: For equipment rooms with heating boilers that use glycol, provide for the disposal of glycol in accordance with applicable regulations.

	VOTE:						
COMMITTEE	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date

PROPOSED REVISION OR ADDITION

Item No.

A 22-31

Subject/Title

Location of temperature controls

NBIC Location

Part: Installation; Section: 3; Paragraph: 3.8.2.3

Project Manager and Task Group

Source (Name/Email)

Patrick Jennings / patrick_jennings@hsb.com

Statement of Need

There is currently no requirement that the temperature controls measure the boiler temperature at or near the boiler outlet.

Background Information

To be consistent, the proposed text is taken from 3.8.2.2 Thermometers with the exception that "sense" replaces the word "indicate".

Existing Text

3.8.2.3 TEMPERATURE CONTROL Each automatically fired hot-water heating or hot-water supply boiler shall be protected from over-temperature by at least two temperature-operated controls. a) Each individual hot-water heating or hot-water supply boiler or each system of commonly connected boilers shall have at least one control that will cut off the fuel supply when the water temperature reaches an operating limit, which shall be less than the maximum allowable temperature. b) In addition to a) above, each individual automatically fired hot-water heating or hot-water supply boiler shall have at least one safety limit control with manual reset that will cut off the fuel supply at or below the maximum allowable temperature at the boiler outlet. c) Each operating and safety limit control shall have its own sensing element and operating switch. d) Alternatively, integrated controls with multiple sensors may be used to meet the requirements of a) and b).

Proposed Text

.8.2.3 TEMPERATURE CONTROL Each automatically fired hot-water heating or hot-water supply boiler shall be protected from over-temperature by at least two temperature-operated controls. The temperature controls shall be so located that it shall at all times sense the temperature of the water in the boiler at or near the outlet.

	VOTE:						
COMMITTEE	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date

PROPOSED REVISION OR ADDITION

Item No.

A 22-32

Subject/Title

High pressure limit control requirements for fired jacketed steam kettles

NBIC Location

Part: Installation; Section: 3.8.1.4 PRESSURE CONTROL; Paragraph: b

Project Manager and Task Group

Source (Name/Email)

Ken Barkdoll / oswc157@yahoo.com

Statement of Need

As a safeguard to over pressurizing the fired jacketed steam kettle, the pressure range of the actuated high pressure limit control should not exceed the MAWP of the vessel.

Background Information

It is common to find fired jacketed kettles that have pressure limiting setpoints that exceed the MAWP of the vessel. When testing the operation of the pressure limiting controls it is common practice to adjust the set point down to verify control operation and setpoint accuracy. Having a setpoint limit that exceeds the MAWP of the vessel present a risk exposure of adjusting the set point too high by accident. Requiring the control to be constructed or limited to as to prevent a prevent the set point from exceeding the MAWP of the vessel would reduce the risk exposure of over firing the vessel. The pressure relief valves on jacketed kettles are often exposed to harsh conditions, oils, contaminant and neglect. Ensuring that the actuated high pressure limit control is not able to be set above the MAWP of the pressure vessel will help to safeguard against over pressurizing the fired jacketed steam kettle.

Existing Text

Proposed Text

Each individual automatically fired, fired jacketed steam kettle shall have a safety limit control, that will cut off the fuel supply to prevent steam pressure from exceeding the MAWP of the Kettle. Each control shall be constructed or limited to prevent a pressure setting above the MAWP of the kettle.

	VOTE:						
COMMITTEE	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date