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

**NATIONAL BOARD
SUBCOMMITTEE
PRESSURE RELIEF DEVICES**

MINUTES

Meeting of January 11, 2017
San Diego, CA

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The National Board of Boiler & Pressure Vessel Inspectors
1055 Crupper Avenue
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1. Call to Order

The meeting was called to order at 8:00 AM on Wednesday January 11, 2017 by Chairman Sid Cammeresi.

The following members and visitors were in attendance:

Members

Marrienne Brodeur
Kevin Simmons
Brandon Nutter (Via Webex)
Sid Cammeresi (Chair)
Adam Renaldo
Denis DeMichael (Via Webex)
Dan Marek
Thakor Patel (Via Webex)
David McHugh
Raymond McCaffrey (Via Webex)
Kim Beise
Thomas P. Beirne, P.E.

Affiliation

International Valve & Instrument Corp.
Pentair Valves and Controls
DuPont
TeamFurmanite
Praxair
The Chemours Company
Mainthia Technologies
Farris Engineering
Allied Valve, Inc.
Quality Valve, Inc.
Dowco Valve
National Board (Subcommittee Secretary)

Members Not Present

J. Alton Cox
R.W. Donalson

JAC Consulting, Inc.
Pentair Valves and Controls

Visitors

Tom Tarbay
Joseph Ball
Ernesto Rodriguez
Steve Irvin*

TRT Consultants
National Board
Protego
JAC Consulting

*Alternate for J. Alton Cox

2. Announcements

Mr. Cammeresi announced the reception for Wednesday and meals provided.

3. Adoption of the Agenda

The agenda dated December 23, 2016 was presented. Items NB15-0108, NB17-0401, NB17-0402, and NB-17-0403 were added to the agenda. It was moved and seconded to approve the agenda with the additional items. The motion was unanimously approved.

4. Approval of Minutes of July 20, 2016

It was moved and seconded to approve the minutes of the July 2016 meeting of the Subcommittee on Pressure Relief Devices. The motion was unanimously approved.

5. Review of the Roster

a. Nominations

- There are no applications for membership to SC PRD.

b. Reappointments

- Mr. Kim Beise and Mr. David McHugh are eligible for reappointment to the Subcommittee on Pressure Relief Devices. Both would like to continue his membership. This membership item is included on the main committee agenda for action.

c. Resignations

- None

d. Formation of Sub-Group Pressure Relief Devices

- A motion was made and seconded to form a Sub-Group on Pressure Relief Devices. After discussion a vote was taken and the motion unanimously carried.

6. Interpretations

Item Number: IN16-0901	NBIC Location: Part 2, 4	Attachment A
General Description: In NBIC Part 2, Sec. 2.5.7g), does the phrase “organization accredited by the National Board” include a VR Certificate Holder?		
Subgroup: N/A		
Task Group: None Assigned		
Meeting Action: Mr. Beirne presented a proposed re-worded question and response. A motion was made and seconded to accept the proposal. After discussion a vote was taken and the motion unanimously carried. This item was forwarded to the main committee for action.		

7. Action Items

Item Number: NB12-0901	NBIC Location: Part 3	Attachment B
General Description: Prepare a guide for repair of tank vents		
Task Group: D. DeMichael (PM), K. Simmons, B. Donalson, K. Beise, B. Nutter		
Meeting Action: Mr. DeMichael presented a finalized outline of the scope the guide will contain and scheduled a series of task group meetings between now and the July meeting.		

Item Number: NB14-0602A	NBIC Location: Part 1	No Attachment
General Description: Improve index in Part 1 relating to pressure relief devices		
Task Group: M. Brodeur (PM), S. Cammeresi, K. Beise		
Meeting Action: Ms. Brodeur presented a proposal. After discussion it was decided to hold off on finalizing and voting on the proposal until after the 2017 edition is published due to the number of term updates in the 2017 edition.		

Item Number: NB14-0602B	NBIC Location: Part 2	No Attachment
General Description: Improve index in Part 2 relating to pressure relief devices		
Task Group: D. Marek (PM), B. Donalson, D. DeMichael, B. Hart		
Meeting Action: After discussion it was decided to hold off on finalizing and voting on the proposal until after the 2017 edition is published due to the number of term updates in the 2017 edition.		

Item Number: NB14-0602C	NBIC Location: Part 3	No Attachment
General Description: Improve index in Part 3 relating to pressure relief devices		
Task Group: B. Nutter (PM), R. McCaffrey, T. Patel, K. Simmons		
Meeting Action: With the pressure relief device paragraphs being removed from Part 3, no further work will be done on this item until the new Part 3 with text removed and new Part 4 get published.		

Item Number: NB15-0305	NBIC Location: Part 1	No Attachment
General Description: Create Guidelines for Installation of Overpressure Protection by System Design.		
Task Group: B. Nutter, A. Renaldo, D. Marek (PM), D. DeMichael		
Meeting Action: Task group work is ongoing.		

Item Number: NB15-0307	NBIC Location: Part 3	No Attachment
General Description: Create Guidelines for Repair of Pin Devices.		
Task Group: D. McHugh (PM), J. Satterthwaite		
Meeting Action: Josh Satterthwaite has left his employer and has not updated his contact information. He has been removed from the task group. A. Renaldo, T. Tarbay, K. Kraabel were added to task group to assist Mr. McHugh in working on this item.		
Item Number: NB15-0308	NBIC Location: Part 1	No Attachment
General Description: - Create Guidelines for Installation of Pressure Relief Devices for Organic Fluid Vaporizers.		
Task Group: T. Patel (PM), K. Beise, B. Nutter		
Meeting Action: Mr. Patel sent draft proposal to task group for review and comment.		
Item Number: NB15-0310	NBIC Location: Part 3, 1.7.5.4	No Attachment
General Description: Give Guidance as to Which Spring Chart Should be used in Repairs.		
Task Group: A. Cox (PM), B. Nutter, M. Brodeur, T. Patel, K. Simmons, R. McCaffrey, S. Irvin		
Meeting Action: No progress was made on this item.		
Item Number: NB15-0314	NBIC Location: Part 1, 3.9.4.2	Attachment C
General Description: Review of Y-Base or Valve less Headers for Use in T&P Valve Installations.		
Task Group: D. McHugh (PM), B. Nutter, and D. Marek		
Meeting Action: Mr Beirne presented a proposal. After discussion. A motion was made and seconded to accept the proposal. After discussion a vote was taken and the motion unanimously carried. This item was forwarded to the main committee for action.		
Item Number: NB15-0315	NBIC Location: Part 1, 4.5.6 and 5.3.6	No Attachment
General Description: Review isolation Valve Requirements.		
Task Group: D. DeMichael (PM), B. Nutter, A. Renaldo, D. Marek		
Meeting Action: Mr. DeMichael indicated this item has proven to be more complex and may require its own separate paragraph or possibly its supplement. Task group work continues.		
Item Number: NB15-0321	NBIC Location: Part 2, 2.5.7 a)	No Attachment
General Description: Review testing requirements for inservice testing of pressure relief devices		
Task Group: A. Cox, A. Renaldo (PM), D. Marek, S. Irvin, D. DeMichael, B. Nutter, J. Ball		
Meeting Action: Mr. Renaldo presented a draft proposal as a progress report. Switched PM from A. Cox to A. Renaldo.		

Item Number: NB15-0324	NBIC Location: None	No Attachment
General Description: Create Guidelines for Inspection and Testing Frequencies with respect to shelf life and storage of pressure relief valves.		
Task Group: A. Rendaldo (PM), B. Nutter, K. Simmons, D. Marek		
Meeting Action: Mr. Renaldo gave a progress report and stated that the task group should have a proposal ready for the next meeting or possibly letter ballot between meetings.		

Item Number: NB16-0401	NBIC Location: Part 4	No Attachment
General Description: Inconsistencies with Seal I.D. vs. Nameplate for test only		
Task Group: S. Irvin (PM), T. Patel, D. Marek, M. Brodeur, B. Nutter		
Meeting Action: No progress was made on this item.		

Item Number: NB16-0603	NBIC Location: Part 3, S7 and S9	No Attachment
General Description: Add requirements for when the "NR" program is applied to safety related relief valves in nuclear service, came from NR task group		
Task Group: NR Task Group		
Meeting Action: Mr. Ball presented an updated proposal based on comments received from the previous letter ballot. The updated proposal will be letter balloted between now and the July meeting.		

Item Number: NB16-0805	NBIC Location: Part 4	No Attachment
General Description: Temperature ratings for discharge piping and fittings		
Task Group: A. Renaldo (PM), T. Patel, D. Marek		
Meeting Action: A draft proposal was presented as a progress report. Will be letter balloted between meetings.		

8. New Business

Item Number: NB15-0108	NBIC Location: Part 4	No Attachment
General Description: High Temp Hot Water Boilers PRD Requirements		
Task Group: A. Renaldo (PM), M. Watkinson		
Meeting Action: M. Watkinson gave a short presentation to brief SC-PRD on what she needed help with on this item. She and Mr. Renaldo will begin initial task group work.		

Item Number: NB16-0607	NBIC Location: Part 4	No Attachment
General Description: Review scope of Part 4 VR program related to re-rating pressure relief devices		
Task Group: None assigned		
Meeting Action: A motion was made and seconded to close the item with no action. After discussion a vote was taken and the motion unanimously carried. This item was forwarded to the main committee for action.		
Item Number: NB16-1202	NBIC Location: Part 1, 2.9.6 h)	No Attachment
General Description: Define what constitutes a "safe point of discharge"		
Task Group: None assigned		
Meeting Action: A motion was made and seconded to close the item with no action. After discussion a vote was taken and the motion unanimously carried. This item was forwarded to the main committee for action.		
Item Number: NB16-3101	NBIC Location: Part 4	Attachment D
General Description: Result of PR16-0501, add additional information about T/O program to NBIC		
Task Group: None assigned		
Meeting Action: Mr. Beirne presented a proposal. A motion was made and seconded to accept the proposal. After discussion a vote was taken and the motion unanimously carried. This item was forwarded to the main committee for action.		
Item Number: NB16-3102	NBIC Location: Part 4	Attachment E
General Description: Result of PR16-0502, update Part 4 for consistency with changes to ASME marking requirements		
Task Group: None assigned		
Meeting Action: Mr. Beirne presented a proposal. A motion was made and seconded to accept the proposal. After discussion a vote was taken and the motion unanimously carried. This item was forwarded to the main committee for action.		
Item Number: NB16-3201	NBIC Location: Part 4	No Attachment
General Description: Result of PR16-0601, add allowance for supplementary loading system for direct spring loaded safety valves		
Task Group: None assigned		
Meeting Action: A motion was made and seconded to close the item with no action. After discussion a vote was taken and the motion unanimously carried. This item was forwarded to the main committee for action.		

Item Number: NB17-0401	NBIC Location: Part 4	No Attachment
General Description: Valve drain plug recommendations for shipping.		
Task Group: (PM) K. Beise, M. Brodeur, B. Hart		
Meeting Action: A task group was formed to work on this item		

Item Number: NB17-0402	NBIC Location: Part 4	No Attachment
General Description: Review Part 4 Index.		
Task Group: (PM) S. Irvin, K. Beise, K. Simmons		
Meeting Action: A task group was formed to work on this item		

Item Number: NB17-0403	NBIC Location: Part 4	No Attachment
General Description: Review Part 4 for including new T/O requirements.		
Task Group: (PM) K. Simmons, D. McHugh		
Meeting Action: A task group was formed to work on this item		

9. Presentations

- None

10. Future Meetings

July 19, 2017 – Columbus, Ohio

January 10, 2018 – New Orleans, LA

11. Adjournment

A motion was made, seconded, voted on, and unanimously passed to adjourn the meeting at approximately 2:15 PM

Respectfully Submitted,

Thomas P. Beirne, P.E.

Secretary, NBIC Subcommittee Pressure Relief Devices

pc: D. Douin

D. Cook

B. Besserman

Interpretation IN16-0901 1/11/17

Proposed Interpretation

Inquiry:	IN16-0901
Source:	Alton Cox
Subject:	Part 2 paragraph 2.5.7 g)
Edition:	2015
Question 1:	In NBIC Part 2, Sec. 2.5.7, g), does the phrase “organization accredited by the National Board” include a VR Certificate Holder?
Reply 1:	Yes
Committee’s Question:	In NBIC Part 2, Sec. 2.5.7, g), does the phrase “organization accredited by the National Board” include VR Certificate Holders, T/O Certificate Holders, and those organizations accredited by a Member Jurisdiction?
Committee’s Reply:	Yes
Rationale:	
SC Vote	
NBIC Vote	

Tank Vent Repair Content

Initial Scope

- Type – Weight loaded including integral flame arresters
- Size – No limit
- Set pressure – Self-limited by pallet thickness and available lift height
- Field inspection
- Shop inspection
- Repair

Safety Considerations

- In service inspection
 - Tank or vent isolation
 - Vapor and inerts
- Guidance for handling lead weights
- Temporary protection of tank when vent is removed

Type of Devices (Information, including set pressure limitations and typical applications, will be provided on all type of tank vents even though they are not to be addressed in the document at this time. See nomenclature for lists of vents)

Shop inspection and repair

- Use of manufacturer's procedures
- As received inspection and testing
 - External inspection
 - Set pressure or leak test (reference section on Testing)
- Dismantling
- Vent and parts inspection (including material verification)
 - Critical tolerances
- Weight identification
- Cleaning
- Parts replacement or repair
 - Machining and welding
- Pallet weighing (if applicable)
- Reassembly
- Final testing (reference section on Testing)
 - Set pressure and/or leak testing
- Repair nameplate (seal?)

Testing

- Test equipment
- Set pressure testing (weighing pallet and/or pressure test)
- Set vacuum testing (weighing pallet and/or pressure test)
- Leak testing

In place inspection (can vary from visual internal inspection to complete repair without testing)

Preparation of new vents for service

- Removal of shipping materials
- Recommended weight identification (consider suggesting all vent weights be marked and recorded regardless of set pressure definition)

Repair Parts (add similar words for OEM parts from VR program) (add materials verification)

- Diaphragms

- Other soft goods

- Weights (cautionary statement about maximum weight height)

- Replaceable seats

Conversions

- Set pressure changes

- Pressure to vacuum conversion

- Soft goods material changes

Shipping/transportation guidance (How heavy can the weights be before they are transported separately for shipping and field transport)

Flame arrester inspection and cleaning

Recommended Inspection and Test Frequency

- Based on material in tank and service conditions

Cold weather applications (should we have a special section that includes low and high temperature applications including molten materials)

- Guidance for special low temperature designs

- Guidance for standard designs when used in low temperature applications

Test equipment (needs to address all method for establishing set pressures)

- Design

 - Set pressure test

 - Set vacuum test

 - Leak test (pressure /vacuum)

- Documentation

- Benchmarking (currently no enforcement / no benchmarking in industry – currently not deemed critical – keep on list, make recommendations)

- Calibration

- Scales

Suggested traveler(s) minimum content

Glossary Terms

Nomenclature / Definitions

Unfortunately the industry has not standardized on nomenclature and many manufacturers use their own nomenclature. This document will need to agree upon and define the following terms.

- Set pressure
- Conservation vent
- Pressure / Vacuum combination vent
- Flame arrester
- Detonation arrester
- Free vent
- Vacuum Vent
- Emergency Vent
- Pressure Vent
- Weight loaded vent
- Spring loaded vent
- Pin loaded vent
- Pilot operated vent
- Manway vent
- Gauge Hatch

Anything need to be added?

ITEM NUMBER NB15-0314 1/11/17

PART 4, 2.4.4.2 (PART 1, 3.9.4.2) PERMISSIBLE INSTALLATIONS

Temperature and pressure relief valves shall be connected directly to a tapped or flanged opening in the top of the water heater, or to a fitting connected to the water heater by a short nipple, ~~to a Y-base, or to a valveless header connecting water outlets on the same heater.~~ Temperature and pressure relief valves shall be installed with their spindles upright and vertical with no horizontal connecting pipe, except that, when the temperature and pressure relief valve is installed directly on the water heater vessel with no more than 4 in. (100 mm) maximum interconnecting piping, the valve may be installed in the horizontal position with the outlet pointed down. The center line of the temperature and pressure relief valve connection shall be no lower than 4 in. (100 mm) from the top of the shell. No piping or fitting used to install the temperature and pressure relief valve shall be of nominal pipe size less than that of the valve inlet.

NB16-3101 Proposal 1/11/17

PART 4, 3.2.5.2 (PART 2 2.5.7 g))VALVE ADJUSTMENTS

a) If a set pressure test indicates the valve does not open within the requirements of the original code of construction, but otherwise is in acceptable condition, minor adjustments (defined as no more than twice the permitted set pressure tolerance) shall be made by a qualified organization accredited by the National Board to reset the valve to the correct opening pressure. All adjustments shall be resealed with a seal identifying the responsible organization and a tag shall be installed identifying the organization and the date of the adjustment. Qualified organizations are considered to be National Board "VR" Certificate Holders, "T/O" Certificate Holders, ~~or and~~ organizations authorized by the Jurisdiction to make adjustments. See Supplement 3 for more information.

NB16-3102 Proposal 1-11-17

PART 4, 4.2.1 VR REPAIR

a) When a repair is being performed under the administrative requirements for National Board Accreditation, a repair shall consist of the following operations as a minimum:

1) Complete disassembly, cleaning, and inspection of parts, repair or replacement of parts found to be defective, reassembly, testing as required by 4.6, sealing and application of a repair nameplate. When completed, the valve's condition and performance shall be equivalent to the standards for new valves.

2) The administrative requirements for National Board Accreditation apply only to valves that are ~~stamped marked with the ASME Certification Mark and the "V", "UV", "HV", or "NV" Designator or the supplanted~~ ASME "V," "UV," "HV" or "NV" Code symbol ~~or marked with an ASME "HV" symbol~~ and have been capacity certified on the applicable fluid by the National Board.

PART 4, 4.7.5 REPLACEMENT OF ILLEGIBLE OR MISSING NAMEPLATES

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 shall be augmented 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 ~~ASME Certification Mark and the "V", "UV", or "HV" Designator or the supplanted~~ "V," "UV," or "HV" symbol and the National Board mark. The repair organization's nameplate, with the "VR" stamp and other required data specified in 4.7.2, 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 marked with the ASME Certification Mark and the "V", "UV", or "HV" Designator or the supplanted an~~ ASME "V" , "UV" or "HV" ~~UV~~ symbol ~~or marked with an ASME "HV" symbol~~. Valves that can be positively identified shall 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 4.7.5(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~~ marking.

(4.8.5.4)

d) **Statement of Authority and Responsibility**

A statement of authority and responsibility shall be dated and signed by an officer of the company. It shall include:

1) A statement that the “VR” stamp shall be applied only to pressure relief valves that meet both of the following conditions:

- a. Are ~~stamped- marked~~ with the ASME Certification Mark and the “V”, “UV”, “HV”, or “NV” Designator or the supplanted an-ASME “V”, “UV”, “HV” or “NV” Code symbol ~~or marked with an ASME “HV” symbol~~ and have been capacity certified by the National Board; and