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

**NATIONAL BOARD
SUBGROUP
PRESSURE RELIEF DEVICES**

MINUTES

Meeting of July 16, 2019
Kansas City, MO

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

The meeting was called to order at 8:15 AM on Tuesday July 16, 2019 by Chair Kim Beise
Members and Visitors in attendance can be found in the signed attendance sheet (Attachments Pages 1-2)

2. Announcements

Mr. Beirne announced the National Board will be hosting a reception for all committee members and visitors on Wednesday evening at 5:30pm in the Rooftop Ballroom on the top floor of the Inter Continental.

Mr. Beirne gave a presentation on the new letter ballot system on the National Board Business Center.

3. Adoption of the Agenda

The agenda dated June 28, 2018 was presented. Item 18-87 was transferred to SG PRD and added to the agenda. It was moved and seconded to adopt the revised agenda. The motion was unanimously approved.

4. Approval of Minutes

It was moved and seconded to approve the January 2019 minutes. The motion was unanimously approved.

5. Review of the Roster (Attachment Page 1)

a. Nominations

- Mr. Alfred Donaldson, Mr. Prakash Dhobi, and Mr. Tom Tarbay are being considered for membership of SG-Pressure relief devices. After discussion there were no objections and will be voted on at Sub-committee.

b. Reappointments

- There are no members eligible for reappointment to SG PRD.

c. Resignations

- There are no resignations

6. Interpretations

Item Number: 19-1	NBIC Location: Part 4, 4.8.5.4 & 4.8.6.1	No Attachment
General Description: Develop specific content and scope of annual field audits.		
Task Group: A. Donaldson (PM), D. Marek, A. Cox, P. Dhobi, M. Brodeur, T. Patel		
Meeting Action: Item was changed from interpretation request to an action item for code revision. General description was revised. A task group was formed.		

Item Number: 19-3	NBIC Location: Part 4, 4.6.1	No Attachment
General Description: Repair of ASME Sec I Liquid Service PRVs		
Background: ASME 2017 Edition, Sec I, revised PG-73.5.2 and PG-73.5.3 to add testing requirements for liquid relief valves. Also revised PG-110 to add stamping requirements for liquid relief valves.		
Task Group: None		
Meeting Action: Inquirer withdrew his interpretation request.		

7. Action Items

Item Number: NB12-0901	NBIC Location: Part 4	No Attachment
General Description: Prepare a guide for repair of tank vents		
Task Group: B. Donalson (PM), D. DeMichael, K. Simmons, K. Beise, B. Nutter, J. Little, S. Artrip, B. Pittel		
July 2019 Meeting Action: A draft was prepared. Will have a formal proposal for next meeting.		

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		
July 2019 Meeting Action: Proposal will be prepared for January meeting.		

Item Number: NB15-0108B	NBIC Location: Part 1	No Attachment
General Description: Address pressure relief devices in new supplement on high temperature hot water boilers		
Task Group: D. Marek (PM), A. Renaldo, D. McHugh, B. Nutter, A. Cox, D. Schirmer		
July 2019 Meeting Action: PM was changed to D. Marek. New task group members were added.		

Item Number: NB15-0305	NBIC Location: Part 4	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		
July 2019 Meeting Action: Work continues on this item.		

Item Number: NB15-0307	NBIC Location: Part 4	No Attachment
General Description: Create Guidelines for Repair of Pin Devices.		
Task Group: D. McHugh (PM), A. Renaldo, T. Tarbay, R. McCaffrey, Jay Simms		
January 2019 Meeting Action: Work continues on this item.		

Item Number: NB15-0308	NBIC Location: Part 4	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		
July 2019 Meeting Action: Item was letter balloted to MC and failed due to lack of participation. Additionally there were some editorial comments received from SC-Installation and a conflict with requirements in ASME Section I part PVG was discovered. Item will be brought back to SG PRD and held pending resolution with ASME action item.		

Item Number: NB15-0315	NBIC Location: Part 4, 2.5.6 and 2.6.6 and Part 1, 4.5.6 and 5.3.6	No Attachment
General Description: Review isolation Valve Requirements, and reword to allow installation of pressure relief devices in upstream piping.		
Task Group: D. DeMichael (PM), B. Nutter, A. Renaldo, D. Marek		
July 2019 Meeting Action: Work continues on this item.		

Item Number: NB15-0321	NBIC Location: Part 4, 3.2.5 a) and Part 2, 2.5.7 a)	Attachment Pages 3-6
General Description: Review testing requirements for in-service testing of pressure relief devices		
Task Group: A. Cox, A. Renaldo (PM), D. Marek, S. Irvin, D. DeMichael, B. Nutter, J. Ball		
July 2019 Meeting Action: A motion was made and seconded to accept proposal. After discussion a vote was taken and the motion passed unanimously.		

Item Number: NB15-0324	NBIC Location: Part 4	Attachment Pages 7-14
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, J. Little		
July 2019 Meeting Action: A motion was made and seconded to accept proposal. After discussion a vote was taken and the motion passed unanimously.		

Item Number: NB16-0805	NBIC Location: Part 4, 2.6.6 and Part 1, 5.3.6	Attachment Pages 15-17
General Description: Temperature ratings for discharge piping and fittings		
Task Group: A. Renaldo (PM), T. Patel, D. Marek		
July 2019 Meeting Action: A motion was made and seconded to accept proposal. After discussion a vote was taken and the motion passed unanimously.		

Item Number: 17-115	NBIC Location: Part 4, Section 2	No Attachment
General Description: Complete rewrite of Section 2 combining common requirements into a general requirements section for all pressure relief devices and look at combining with 2.4.3, 2.4.4.		
Task Group: A. Renaldo (PM), D. McHugh, D. Marek		
July 2019 Meeting Action: A draft proposal was presented as a progress report. This item will be letter balloted between meetings.		

Item Number: 17-119	NBIC Location: Part 4, 2.2.5 and Part 1, 2.9.1.4	No Attachment
General Description: States pressure setting may exceed 10% range. Clarify by how much.		
Task Group: T. Patel (PM), D. Marek		
January 2019 Meeting Action: It was determined that the same language was in ASME Section I. This item is on hold pending completion of ASME action item.		

Item Number: 17-128	NBIC Location: Part 4, 2.4.4.3 and Part 1, 3.9.4.3	No Attachment
General Description: allows Y-base to be used while 2.4.1.6 a) prohibits. This appears to be a conflict.		
Task Group: B. Nutter (PM), S. Irvin		
January 2019 Meeting Action: It was determined that the same language was in ASME Section IV. This item is on hold pending completion of ASME action item.		

Item Number: 17-131	NBIC Location: Part 4, 2.5.7 a) and Part 1, 4.7.3 a)	Attachments Pages 18-19
General Description: Review overpressure protection requirements for hot water storage tanks that exceed 160 psi.		
Task Group: J. Ball (PM), B. Hart		
July 2019 Meeting Action: Item failed Main Committee ballot. The revised combined proposal of this item and 17-159 was presented. A motion was made and seconded. A motion was made and seconded to accept the revised proposal. The motion unanimously passed.		

Item Number: 17-132	NBIC Location: Part 4, 3.2.6 and Part 2, 2.5.8	No Attachment
General Description: Paragraph 3.2.6 can be put into tabular format. Review test frequencies.		
Task Group: B. Nutter (PM), M. Brodeur, D. Marek, D. DeMichael, A. Cox, P. Dhobi, R. McCaffrey, T. Beirne		
July 2019 Meeting Action: General description of item was revised to expand scope.		

Item Number: 18-73	NBIC Location: Part 4, 2.3 and Part 1, S5.7.6	No Attachment
General Description: Update installation requirements for Thermal Fluid Heaters		
Task Group: T. Patel (PM), B. Nutter		
July 2019 Meeting Action: Item was letter balloted to Main Committee and failed due to lack of participation. Additionally, there were some editorial comments received from SC-Installation. Editorial comments will be incorporated and proposal will be re-balloted to Main Committee.		

Item Number: 18-80	NBIC Location: Part 4, S3.1, S4.1, S6.1	No Attachment
General Description: Addition of a "Scope" section to Part 4, S3.1, S4.1, and S6.1 to stay consistent with other sections		
Task Group: T. Patel (PM), A. Renaldo, K. Simmons, P. Dhobi		
July 2019 Meeting Action: A proposal will be letter balloted between meetings.		

8. New Business

Item Number: 18-87	NBIC Location: Part 4, S6.4 b)2)	Attachment Page 20
General Description: Review the use of "Authorized Nuclear Inspection Agency" within the NBIC.		
Task Group: Paul Edwards (PM)(NR Task Group)		
July 2019 Meeting Action: A motion was made and seconded to accept Mr. Edwards' proposal. A vote was taken and the motion passed unanimously.		

Item Number: 19-2	NBIC Location: Part 4, 4.9.1	No Attachment
General Description: Review and clarify requirements for documented training program for VR and T/O programs.		
Task Group: A. Donaldson (PM), A. Cox, B. Donaldson, D. Marek, J. Simms		
July 2019 Meeting Action: A task group was formed to work on this item. General description was revised.		

Item Number: 19-14	NBIC Location: Part 4, 4.6.1	No Attachment
General Description: Add ASME Sec I, Liquid Service PRVs to VR Scope		
Task Group: None		
July 2019 Meeting Action: A motion was made and seconded to close this item with no action. A vote was taken and the motion passed unanimously.		
Item Number: 19-18	NBIC Location: Part 4, 4.8.5.4 n) 5)	No Attachment
General Description: Implementation of QC Manual Revisions		
Task Group: A. Donaldson (PM)		
July 2019 Meeting Action: A task group was formed to work on this item.		
Item Number: 19-37	NBIC Location: Part 4, 4.3.1 c) 4)	No Attachment
General Description: Origin of Replacement Parts for Pressure Relief Devices		
Task Group: A. Cox (PM), T. Patel, P. Dhobi, J. Simms		
July 2019 Meeting Action: A task group was formed to work on this item.		
Item Number: 19-39	NBIC Location: Part 4, S3	See attachment Pages 21-22
General Description: Delete Supplement 3 of NBIC Part 4.		
Task Group: T. Beirne (PM)		
July 2019 Meeting Action: A motion was made and seconded to accept proposal. After discussion a vote was taken and the motion passed unanimously.		
Item Number: 19-40	NBIC Location: Part 4, Figure 4.7.2-b	No Attachment
General Description: Move Fig. 4.7.2-b to Part 4 Supplement 6.		
Task Group: T. Beirne (PM)		
July 2019 Meeting Action: A motion was made and seconded to accept proposal. After discussion the motion was withdrawn and proposal will be revised and letter balloted between meetings.		
Item Number: 19-41	NBIC Location: Part 4, 4.7.5	No attachment
General Description: Review Part 4, Paragraph 4.7.5 and simplify		
Task Group: T. Beirne (PM), A. Cox, D. Schirmer		
July 2019 Meeting Action: A task group was formed to work on this item.		

9. Presentations

There were no presentations made at this meeting.

10. Future Meetings

January 13th-16th, 2020 – San Diego, CA
July 2020 – Louisville, KY

11. Adjournment

A motion was made, seconded, voted on, and unanimously passed to adjourn the meeting at approximately 4:45 PM.

Respectfully Submitted,

Thomas P. Beirne, P.E.

Secretary, NBIC Subgroup Pressure Relief Devices

pc: D. Douin
B. Weilgozinski
J. Ellis

NBIC Subgroup PRD Attendance - 7/16/2019					
First Last	Email	Company	Phone #	Signature	Attending Reception?
Kim Beise	kbeise@dowcovalve.com	Dowco Valve Company	651 261-1859		Y
Marianne Brodeur	Marianne@ivicorp.net	International Valve & Instrument Corp.	413 736-3682		✓ Yes
J. Alton Cox	alton@jaltoncox.com	JAC Consulting	704 301-8532		NO
Denis DeMichael	Denis.B.DeMichael@chemours.com	Chemours Co.	302 773-3156		No
Robert Donalson	bob.donalson@emerson.com	Emerson	281-274-743 986-8339		Yes
Daniel Marek	daniel.t.marek@nasa.gov	Mainthia Technologies	216 433-5494		YES
Raymond McCaffrey	raymond@qualityvalve.com	Quality Valve	251 476-1045	R.A. Nich's	EN
David McHugh	mchughd@alliedvalve.com	Allied Valve	312 520-0235		Yes
Brandon Nutter	Brandon.K.Nutter-1@dupont.com	E.I. Dupont	804 383-3570	Via Webex	N
Thakor Patel	Tpatel@Curtisswright.com	Farris Engineering	440 838-5090		Yes
Adam Renaldo	adam_renaldo@praxair.com	Praxair	716 879-2928	Adam Renaldo	Yes
Kevin Simmons	kevin.l.simmons@emerson.com	Emerson	281 274-4526		
Thomas Beirne	tbeirne@nationalboard.org	The National Board	614 431-3239		Y
Michael Vogel	mike.vogel@illinois.gov	State of Illinois	217 785-1008		
Alfred Donaldson	alfred.donaldson@bhgc.com	Baker Hughes	832-360 7892		Y
DEAN MILLER	DEAN.MILLER@FIKE.COM	FIKE	816 582-4128		N
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NB15-0321
AMR suggested edits
7-16-19

Response to D DeMichael Comments:

3.2.4.5 b) I believe for some devices the pin is contained in an enclosure. Thus the enclosure must be opened to compare the pin markings with nameplate markings. These enclosures contain linkages that move during the activation of the pin device. I'm not familiar with the specific details of the design but do we want to provide inspection guidance for the pin that may expose an individual to a physical hazard while the enclosure cover is removed? Note that Section 3 title states "In-service Inspection" so I would think the inspection guidance would be for when the device is exposed to pressure. ~~The manufacturer's instructions should cover how to inspect without hurting yourself.~~

3.2.5.2 d) The pin device is not being destructively tested. It's either the pin that is being destructively tested or the device's set pressure is verified using a pressure test. ~~You are destructively testing the pin and testing that the valve components still work properly after being in service. I will delete the word "destructively."~~

3.2.5.2 e) The activation of the pin device is based on the pressure applied to the piston versus the buckling strength of the pin. Exposure of the piston to 100 psi of water provides the same force as a 100 psi of air so why the media requirement? ~~Will be deleted~~

3.2.5.3 c) As written the activation test can only be done with the device installed in the service piping and then it will be difficult to perform the leak test since you probably don't have access to the back side of the disk. If you remove a disk device with a non-pretorqued holder from the service piping the leak test and activation test will no longer be accurate. ~~Only a "should"~~

Having reviewed all of former Part 2, Section 2.5.7, the mandatory parts of the optional in-service test should remain mandatory. The mandates are related to safety and to not altering the relief device set pressure.

Per the expanded scope of this project, edits to Part 4 are suggested that separate out general guidance that applies to the testing of any device, and provide specific guidance (in separate subsections) for testing of relief valves, non-reclosing PRDs with pins or bars, and rupture disks.

3.2.4.4 RUPTURE DISKS/NON-RECLOSING PRESSURE RELIEF DEVICES

~~g) 11) For non-reclosing PRDs that use pins or bars, those components should be checked for bends/deflection, cracks, or corrosion. Pin deflection may be the results of pin fasteners being overtightened.~~

~~g) 12) For non-reclosing PRDs that use pins or bars, the markings on those components should be checked against information on the device nameplate to ensure that they are installed on the correct device. If markings are illegible or missing, the device should be taken out of service and the pin or bar should be replaced with a component specified by the manufacturer. Replacement shall not be performed while the device is pressurized.~~

~~g) 13) For non-reclosing PRDs that use pins or bars, check that there is no foreign object present that could interfere with the bar or pin, prevent proper operation of the device, hold the device shut.~~

~~g)14) It is recommended that pins or bars be replaced periodically to prevent unintended failure while in service due to deterioration of the load-bearing component.~~

3.2.5 GENERAL CONSIDERATIONS FOR TESTING AND OPERATIONAL INSPECTION OF PRESSURE RELIEF DEVICES

~~a) Pressure relief valves shall be tested periodically to ensure that they are free to operate and will operate devices shall be subject to periodic inspection and/or testing based upon the type of device, in accordance with the requirements of the original code of construction. Testing should include device~~

~~set or opening pressure, reclosing pressure, where applicable, and seat leakage evaluation. Tolerances specified for these operating requirements in the original code of construction shall be used to determine the acceptability of test results.~~

b) Testing may be accomplished by the owner on the unit where the valve is installed or at a qualified test facility. In many cases, testing on the unit may be impractical, especially if the service fluid is hazardous or toxic. Testing on the unit may involve the bypassing of operating controls and should only be performed

by qualified individuals under carefully controlled conditions. It is recommended that a written procedure be available to conduct this testing.

1) The Inspector should ensure that calibrated equipment has been used to perform this test and the results should be documented by the owner.

2) If the testing ~~was is~~ performed at a test facility, the record of this test should be reviewed to ensure the ~~valve device~~ meets the requirements of the original code of construction. ~~Valves-Devices~~ which have been in toxic,

flammable, or other hazardous services shall be carefully decontaminated before being tested.

In particular, the closed bonnet of valves in these services may contain fluids that are not easily removed or neutralized. If a test cannot be safely performed, the ~~valve device~~ shall be disassembled, cleaned, ~~and~~ decontaminated, repaired, and reset.

3) If a ~~valve device~~ has been removed for testing, the inlet and outlet connections should be checked for blockage by product buildup or corrosion.

3.2.5.1 TESTING AND OPERATIONAL INSPECTION OF PRESSURE RELIEF VALVES

In addition to 3.2.5, the following apply to testing and operational inspection of pressure relief valves.

a) Pressure relief valves shall be tested periodically to ensure that they are free to operate and will operate

in accordance with the requirements of the original code of construction. Testing should include device set or opening pressure, reclosing pressure, where applicable, and seat leakage evaluation. Tolerances specified for these operating requirements in the original code of construction shall be used to determine the acceptability of test results.

b) Valves may be tested using lift assist devices when testing at full pressure may cause damage to the valve being tested, or it is impractical to test at full pressure due to system design considerations. Lift assist devices apply an auxiliary load to the valve spindle or stem, and using the measured inlet pressure, applied load and other valve data allow the set pressure to be calculated. If a lift assist device is used to determine valve set pressure, the conditions of 4.6.3 shall be met. It should be noted that false set pressure readings may be obtained for valves which are leaking excessively or otherwise damaged.

ec) If valves are not tested on the system using the system fluid, the following test mediums shall be used:

1) High pressure boiler pressure relief valves, high temperature hot-water boiler pressure relief valves, low pressure steam heating boilers: steam;

2) Hot-water heating boiler pressure relief valves: steam, air, or water;

3) Hot water heater temperature and pressure relief valves: air or water;

4) Air and gas service process pressure relief valves: air, nitrogen, or other suitable gas;

5) Liquid service process pressure relief valves: water or other suitable fluid;

6) Process steam service pressure relief valves: steam or air with manufacturer's steam to air correction factor.

Note: Valves being tested after a repair must be tested on steam except as permitted by 4.6.2.

ed) As an alternative to a pressure test, the valve may be checked by the owner for freedom of operation by activating the test or "try" lever (manual check). For high pressure boiler and process valves, this test should be performed only at a pressure greater than 75% of the stamped set pressure of the valve or the lifting device may be damaged. This test will only indicate that the valve is free to operate and does not provide any information on the actual set pressure. All manual checks should be performed with some pressure under the valve in order to flush out debris from the seat that could cause leakage.

Note: The manual check at 75% or higher is based on lift lever design requirements for ASME Section I and VIII valves. Code design requirements for lifting levers for Section IV valves require that the valve be

capable of being lifted without pressure.

fe) Systems with multiple valves will require the lower set valves to be held closed to permit the higher set valves to be tested. A test clamp or “gag” should be used for this purpose. The spring compression screw shall not be tightened. It is recommended that the test clamps be applied in accordance with the valve manufacturer’s instructions when the valve is at or near the test temperature, and be applied hand tight only to avoid damage to the valve stem or spindle.

gf) Upon completion of set pressure testing, all pressure relief valve gags shall be removed. Any stop valves used to isolate lower set pressure relief devices shall be reopened (and locked, if applicable).

3.2.5.2 TESTING AND OPERATIONAL INSPECTION OF NON-RECLOSING PRESSURE RELIEF DEVICES WITH PINS OR BARS

In addition to 3.2.5, the following apply to testing and operational inspection of non-reclosing PRDs with pins or bars.

a) Periodic set point testing is not required since pins or bars are single use.

b) Periodic inspection shall be per 3.2.4.4.

c) Non-reclosing PRDs shall be periodically inspected by the owner for freedom of motion. Freedom of motion inspection frequency shall be per 3.2.6.

1) Remove pressure from the PRD, or remove the PRD from service, prior to performing this check.

2) Remove the pin or bar.

3) Manually exercise the sealing mechanism to ensure it is capable of its full range of motion.

4) Reinstall the pin or bar or replace with new. Replacement pin or bar shall be per manufacturer recommendation.

5) Restore pressure to the PRD.

6) The PRD should be checked for seat leakage following restoration of pressure.

d) The owner may elect to have a non-reclosing PRD tested periodically in order to determine service life of the device. Such tests should ensure that the PRD is free to operate and will operate in accordance with the requirements of the original code of construction. Testing should include device set or opening pressure and seat leakage evaluation. Tolerances specified for these operating requirements in the original code of construction should be used to determine the acceptability of test results.

3.2.5.3 TESTING AND OPERATIONAL INSPECTION OF RUPTURE DISKS

In addition to 3.2.5, the following apply to testing and operational inspection of rupture disks.

a) Periodic testing of rupture disks is not required

b) Rupture disks shall be subject to periodic inspection per 3.2.4.4.

c) The owner may elect to have a rupture disks tested periodically in order to determine service life. Such tests should ensure that the disk is free to operate inside its holder and will operate in accordance with the requirements of the original code of construction. Testing should include an evaluation of leakage through the disk (e.g. due to cracks or porosity), followed by device opening or burst pressure at rated temperature. Tolerances specified for these operating requirements in the original code of construction should be used to determine the acceptability of test results.

d) If PRDs are not tested on the system using the system fluid, the following test mediums shall be used:

1) Air and gas service PRDs: air, nitrogen, or other suitable gas;

2) Liquid service PRDs: water or other suitable fluid.

3.2.5.4 CORRECTIVE ACTION

a) If a valve-pressure relief valve or a non-reclosing PRD that is actuated by a pin or bar is found to be stuck closed, the system should immediately be taken out of service until the condition

can be corrected, unless special provisions have been made to operate on a temporary basis (such as additional relief capacity provided by another valve.) The owner shall be notified and corrective action such

as repairing or replacing the inoperable ~~valve-device~~ shall be taken.

b) If a pressure relief device leaks, the owner shall be notified and decide what corrective action (if any) will be taken.

NB15-0324 Testing, storage, and shelf life guidelines
7-16-19

Updated to respond to comments from failed ballot

BEGIN PROPOSED CHANGE

New glossary entry

Pressure Relief Valve Shelf Life – For a pressure relief valve or pilot valve, the length of time for which the device can be stored, after it has been set and tested or repaired, prior to installation, without requiring a retest or reduced service interval.

New supplement

SUPPLEMENT S8

PRESSURE RELIEF AND PILOT VALVE STORAGE & SHELF LIFE

S8.1 SCOPE

This supplement provides guidance for proper conditions and duration of pressure relief valve storage. This guidance applies to pressure relief valves, temperature & pressure relief valves, and pilot operated pressure relief valves (including the main body valve and the pilot valve).

4.2.2.1S8.2 PRESSURE RELIEF VALVE STORAGE & SHELF LIFE

Pressure relief valve set pressure and/or seat tightness can deviate during storage. The manufacturer's recommendations shall-should be followed regarding shelf life. In some cases, it may be necessary to retest the relief valve prior to installation or reduce maintenance interval if the relief valve was in storage for an extended period. When storing relief valves, a first in / first out policy should be followed.

4.2.2.1S8.3 PRESSURE RELIEF VALVE STORAGE CONDITIONS

Relief valves shall-should be stored per manufacturer recommendations. Where the manufacturer has no recommendations, the following guidelines should be followed.

- a) Storage temperature should be between 40 and 72 °F, where practical. Minimum storage temperature should not be below the minimum operating temperature. Maximum storage temperature should not exceed the lesser of the maximum operating temperature or 125 °F.
- b) Ideal relative humidity in the storage area should be 70 percent or less. For relief valves with soft seats, relative humidity should be kept between 30 and 70 percent. Some soft materials require a minimum humidity level to prevent material degradation.
- c) Storage area should have a non-corrosive atmosphere. Otherwise, stored relief valves should be protected from the atmosphere.
- d) Relief valves that utilize spindles or weights should be stored in a vertical position.
- e) Temperature and pressure relief valves should have their probes supported to prevent bending or detachment.
- f) All ports should be plugged, blanked, or capped.
- g) Relief valves that have been cleaned for oxidizing gas or other specialty service should be sealed in a plastic bag. Plastic wrapping may be acceptable for larger relief valves.

- h) Storage should be off the ground (e.g. on a shelf or pallet).
- i) Storage area should limit exposure to direct sunlight
- j) Relief valves constructed of materials subject to corrosion (such as carbon steel) should be painted or otherwise protected against the environment prior to storage.

4.2.2.1.2S8.4 PRESSURE RELIEF VALVE SHELF LIFE

Pressure Relief valve shelf life shall be determined based upon manufacturer’s recommendations and performance history. Shelf life may increase or decrease based upon storage conditions and performance history. If shelf life is exceeded, the valve shall either be tested prior to installation or tested using its lift lever (if applicable) following installation. Storage for a length of time less than the shelf life of the pressure relief valve does not reduce the time before the first regularly scheduled retest. Where the manufacturer has no In the absence of manufacturer or service provider recommendations, and performance history, the shelf life recommendations in per table 4.2.2.1.2S8.4 should be used when stored in accordance with S8.3. Shelf life may be increased or decreased, from the recommended values, based upon once performance history is established. and/or warranty periods offered by the manufacturer or service provider.

TABLE S8.4 RECOMMENDED RELIEF VALVE SHELF LIFE (IF NOT PROVIDED BY MANUFACTURER)

Pressure Relief Valve Description	Recommended Shelf Life (years)
Pressure relief valve with metal-to-metal seat	<u>5</u>
<u>Pressure relief valve with nonmetal seat</u>	<u>52</u>
Temperature and pressure (T&P) relief valve	2

S8.4.1 EXCEEDING SHELF LIFE

If shelf life is exceeded, the valve shall either be tested prior to installation or tested using its lift lever (if applicable) following installation. Storage for a length of time less than the shelf life of the pressure relief valve does not reduce the time before the first regularly scheduled retest. If performance history shows that time in storage less than shelf life causes the device to function outside of acceptable tolerance, then the shelf life shall be reduced.

END OF PROPOSED CHANGE

Research/Technical Justifications for

NB15-0324 - Create Guidelines for Inspection and Testing Frequencies with respect to shelf life and storage of pressure relief valves.

Note: PRVs with metal-to-metal seats with or without o-ring body seals typically have longer shelf life. Much of the deviation in set point that occurs over time in a PRV is due to compression and creep in the soft seat. This means having o-ring body seals won’t impact the shelf life of your metal-seated valve. This note does not apply to valves with o-ring seats. The guidance for soft seats would also apply to o-ring seats.

RegO: Per phone conversation with Fay, shelf life is 10 years without set pressure deviating from tolerance. There is no effect on service life or maintenance schedule if installed before expiration of shelf life. Time after shelf life would be included in maintenance schedule. This means, if you have a 5

year test frequency for your relief valve, and it sits on the shelf for 11 years, your first retest would take place 5 +(11-10) = 4 years after installation, instead of 5 years.

Generant: Per phone conversation with Dino V. D'Onofrio, shelf life is 5 years without set pressure deviating from tolerance. There is no effect on service life or maintenance schedule if installed before expiration of shelf life. Time after shelf life would be included in maintenance schedule. Generant will try to perform some sanity check tests on old inventory before the January meeting. (Waiting for response) See results below.



Evaluation Testing Form

	Part Number
Valve 1	CRVP3-250B-K-600
Valve 2	CRVP3-500B-K-232
Valve 3	CRV-500B-K-375

Notes:
 Valve 1: K11 = November 2011
 Valve 2: K12 = November 2012
 Valve 3: A14 = January 2014

Evaluation Date:	1/8/2016
Quantity:	3
Testing Media:	Nitrogen
Tested by:	Tim Knapp
Transducer #:	TR-09

Relief Valves		Test 1 (Initial Crack)				Test 2 (After Initial Crack)			Testing Notes
Valve #	DATE CODE	Nom.	First Bubble	Full Flow	Reseat	First Bubble	Full Flow	Reseat	
1	K11	600	603	607	566	604	607	580	4 years, 2 months
2	K12	232	233	237	212	239	239	227	3 years, 2 months
3	A14	375	389	389	352	384	384	358	2 years

Mueller: Hot water tank relief valves have 2 year shelf life



What is the **shelf life** of a Mueller Relief Valve?

2 years.

My relief valve discharged "popped" and the setting of the valve seems to be lower!

All Relief Valves must be replaced after they pop. When a Relief Valve pops, debris can get trapped in the seal and the spring can either rotate or take what is called a "set" which can potentially relax the spring and lower the set pressure. Because of this, relief valves must be replaced in order to function properly.

FlowSafe: Per phone conversation and follow-up email from Cindi Zaragoza, shelf life is 1 year without set pressure deviating from tolerance. After that, they recommend lifting the relief valve prior to installing it.

Herose: per email valves have 10 year shelf life without set pressure change.

Anderson Greenwood: (waiting for response)

Watts: Per phone conversation, hot water tank relief valves have indefinite shelf life, but must be tested annually after installation. Hot water tank relief valves are tested immediately after initial start-up of the heater. Thus, time spent on shelf would not impact test frequency anyways. Warranty expires 1 year from date of purchase. So it would be wise not to store relief valve for more than 1 year. [Table above has a 2 year recommendation?](#)

ANNUAL OPERATION OF T&P RELIEF VALVES:

WARNING: Following installation, the valve lever **MUST** be operated **AT LEAST ONCE A YEAR** by the water heater owner to ensure that waterways are clear. Certain naturally occurring mineral deposits may adhere to the valve, blocking waterways, rendering it inoperative. When the lever is operated, hot water will discharge if the waterways are clear. **PRECAUTIONS MUST BE TAKEN TO AVOID PERSONAL INJURY FROM CONTACT WITH HOT WATER AND TO AVOID PROPERTY DAMAGE.** Before operating lever, check to see that a discharge line is connected to this valve, directing the flow of hot water from the valve to a proper place of disposal. If no water flows when the lever is operated, replacement of the valve is required. **TURN THE WATER HEATER "OFF" (see your water heater instruction manual) AND CALL A PLUMBER IMMEDIATELY.**

REINSPECTION OF T&P RELIEF VALVES:

WARNING: Temperature and Pressure Relief Valves should be inspected **AT LEAST ONCE EVERY THREE YEARS**, and replaced, if necessary, by a licensed plumbing contractor or qualified service technician, to ensure that the product has not been affected by corrosive water conditions and to ensure that the valve and discharge line have not been altered or tampered with illegally. Certain naturally occurring conditions may corrode the valve or its components over time, rendering the valve inoperative. Such conditions can only be detected if the valve and its components are physically removed and inspected. Do not attempt to conduct an inspection on your own. Contact your plumbing contractor for a reinspection to assure continuing safety. **FAILURE TO REINSPECT THIS VALVE AS DIRECTED COULD RESULT IN UNSAFE TEMPERATURE OR PRESSURE BUILD-UP WHICH CAN RESULT IN SERIOUS INJURY OR DEATH AND/OR SEVERE PROPERTY DAMAGE.**

**INSTALLATION, OPERATION, &
MAINTENANCE MANUAL**



**TITLE: F7000 / 8000 Series
Pilot-Operated Safety Relief Valve**

**Rev. M
Page 6 of 43**

2.3 STORAGE AND HANDLING

A. STORAGE

Prior to installation, Flow Safe pressure relief valve assemblies and parts should be stored in a clean, dry environment if possible. Inlet and outlet connections should remain covered until the item is ready for installation.

For outside storage, protection from the elements is recommended particularly if plugs and flange covers are not weather-tight. Exposed carbon steel surfaces should remain coated with a suitable rust inhibitor until the assembly is ready for installation.

Even though elastomers and lubricants in the relief valve typically have a long shelf life and can be used in environments down to -40 °F/°C, operability of the main piston should be checked before placing the valve in service after extended storage. See Section 2.4.

INSTALLATION, OPERATION, & MAINTENANCE MANUAL



TITLE: F7000 / 8000 Series
Pilot-Operated Safety Relief Valve

Rev. M
Page 7 of 43

2.4 INSTALLATION

Prior to installation, check that the set pressure on the nameplate is as required, and meets the system requirements. Lifting and handling should follow the instructions in Section 2.3.

If the valve has been in storage for a significant length of time, verify that the main piston can still freely move by pushing on it manually through the valve inlet. If it does not return to the closed position, it may be necessary to seat the piston using a pressure source connected to the field test, pilot, or main valve cap.

Herose's statement of shelf life:

- Storage temperature between +5°C (278°K) and +20°C (293°K)
- relative humidity should be below 70%
- not expose to direct sunlight

Ideally the safety valves remains in their original HEROSE packaging.

The max. period of storage is dependend from the used sealing material (see table).

Soft seal	Shelf life
PTFE (Teflon)	10 years
PTFE /25% Kohle	10 years
PCTFE	10 years
NBR	5 years
FPM (Viton)	10 years
EPDM	5 years
Vulkolan	4 years

From: "Little, Junior R" <jlittle@eastman.com>
 To: "Adam_Renaldo@praxair.com" <Adam_Renaldo@praxair.com>
 Date: 12/19/2017 01:03 PM
 Subject: RE: [I] NB-15-0324 0 PRV shelf life

Adam here is some information for shelf life from Leser. I think I have sent this to you but wanted to make sure.

Regarding shelf life of the valves, depending on the valve seat and size, and also as to how they store them?

O-ring valves, if stored properly and not in a bad environment they should be good for 4 plus years as well metal seats depending on the humidity. We would recommend verification of set before installation

Responses to Survey sent out by Alton Cox

PRV Shelf Life and Pre-Test Prior to Installation Requirements Survey 2018

Background:

This Question was sent to me by an Owner/User VR Holder. I forwarded it to 27 Owner/Users with whom I have an established relationship. 10 Sent Responses. Below are the Responses.

Questioner's Comment:

NBIC for Section VIII PRVs (UV) and ASME OM code (IST applications) pre-testing Pressure Relief Valves is acceptable, but no timeframe is provided between the date of the test and date of installation.

Question 1: If you receive a PRV with documented test results from the Vendor (Manufacturer, Assembler or VR Shop), do typically install the PRV directly in the system and use the Vendor Test Documentation as confirmation of PRV Set pressure and Seat Tightness?

Responder #1: We do; users are allowed to install out of the box provided the PRV is tagged with the installed date within reason of when purchased.

Responder #2: No, we have always tested new PRV's, regardless of vendor test results.

Responder #3: We test all valves for set point and seat leakage prior to install. The exception to this is very large valves that are removed, shipped to vendor for refurb and testing then shipped back and installed. If we had the ability we would test those too.

Responder #4: Yes we do. We usually install RV in a couple days of it being returned to us from a VR SHOP

Responder #5: Depends on how long it sits in our storeroom or shop prior to installation. While we have no specific timing, if we don't install for a month or more after receipt, we'll do a pre-test. We got burned on a new PRV that had a very long, vertical tail pipe. The PRV leaked until material (hot oil) filled the tail pipe and over flowed.

Responder #6: Yes.

Responder #7: Yes.

Responder #8: Since we are an on-site Owner/User VR shop, we test every valve coming directly from vendors and our storeroom to confirm set pressure, seat tightness and functionality, before it is installed. We send valves that we do not have the capabilities of testing to an outside VR shop for testing, and review their repair records for code conformity, and rely on their assessment of set pressure, seat tightness and functionality. That being said, in performing these "PRE-TESTS", we have found valves with set pressure, seat tightness or functionality nonconformity issues, which required working with Manufacturers, Vendors and VR Repair Shops to address and resolve the non-conformities.

PRV Shelf Life and Pre-Test Prior to Installation Requirements Survey 2018

Responder #9: We look at the valve to see if there has been any shipping damage to the valve and container. If all looks good, AND there is a test certificate with the valve, then we do install into the system without testing. Depending on the type of valve, if there is no test certificate, then we test. (small pull ring type do not usually get tested prior to installation.)

Responder # 10: You have to watch this one because the Section I (V) PSVs because of the time line of testing , shelf and re-install could be about 14 months. Per Our Corporate standard

=====

Question 2: If so, how long is the Shelf Life of the PRV?

Responder #1: 3 years is allowed.

Responder #2: Up to ~3 months, but we do not have a documented in-house requirement for shelf life. We always retest the valve before putting it in service, but if it has been less than a few months since WE (in-house) tested the valve, we may put it in service without retesting.

Responder #3: We find a high percentage of valves fail set point and/or leakage even when set and certified from the manufacture or an independent company.

Responder #4: Now we enter a different game. Valves ordered by ENG. for a project etc. can have some shelf life. My personal opinion – 6 mo. or less install , 6 mo. or more perform Test Only and RESET the Start Date. (for our PM’s) Primarily basing this off our 3 year interval.

Responder #5: The shelf life is not the big concern to me as long the opening are covered and it is stored properly. My issue is with the improper storing and handling (banging, bumping, jostling etc.

Responder #6: Variable – we don’t formally track or record the received-on date prior to valve installation.

Responder #7: Varies...typically ranges from 12 to 36 months.

Responder #8: Since we confirm set pressure and seat tightness on all PRV’s before they are installed, we do not consider this a concern.

Responder #9: Most soft goods have a shelf life of at least 10 years (o-rings, gaskets, diaphragms, soft seats). Our maximum maintenance cycle is 4 years, so the valve could be on the shelf for 4 years, then installed for 4 years, leaving 2 years ‘safety factor’. The soft items will be inspected to determine if they can last another maintenance cycle, and if in doubt are changed out.

PRV Shelf Life and Pre-Test Prior to Installation Requirements Survey 2018

Responder #10: I’m glad you are bringing this up because my failure rate of ‘NEW” next day out of the box across the industry is about 95%. If I was using the vendor’s test documentation all the time I wouldn’t even know there was an issue. The shelf life time line doesn’t change anything because they fail out the box the next day and/or new sitting on the shelf for a year. I’ve been raising the same issue to our lead PRD person because they don’t realize how bad it is and they’re trusting the vendor doc as being accurate. When I test valves after they come from another VR shop, next day and/or that’s been sitting on a shelf for any length of time the failure rate is about 10%.

=====

Question 3: Does the “Shelf Life” Time Frame have any technical merit?

Responder #1: Users are moving slowly to have ready to install spares.

Responder #2: We take the testing/inspection due date to be from the time it was last tested/inspected, not the installation date. We replace our ammonia valves every five years, and only perform a visual inspection of the valve installed in the field during that time; for these valves, we order NEW valves within a couple of months of when they’re due to be replaced, and presumably these valves that we receive have been on the shelf for less than 6 months, but we don’t have a documented requirement for shelf life.

Responder #3: Based on this we do not track shelf life unless there is an elastomer in the component.

Responder #4: Now we enter another game. With our new RBI* program, cough cough. Intervals going to 10 years – big whoop if it sat for 3 years – have 7 years left before due. This hasn’t been practiced though (yet) – RBI Program is in its infancy at this time.

*NOTE: Risk-based inspection. Risk Based Inspection (RBI) is an Optimal maintenance business process used to examine equipment such as pressure vessels, heat exchangers and piping in industrial plants.

Responder #5: Again, depends on storage set up. I think if properly stored, shelf life is not issue. I would be interested in hearing some of the other responses though. We have several PRV’s that may sit on the shelf up to 5 years.

Responder #6: I can see the merit in tracking the shelf life and re-testing valves after a period of time. For properly stored valves, I would expect the “period of time” would be on the order of 5 to 7 years.

Responder #7: No - Spare valves stay on the shelf until the scheduled inspection date for the inservice valve.

PRV Shelf Life and Pre-Test Prior to Installation Requirements Survey 2018

Responder #8: Since we are an Owner/User VR shop, Our Storerooms are controlled, and we “Pre-Test” all PRV’s before installation, we do not feel that shelf life has any technical merit.

Responder # 9: Yes, it should be considered, especially for o-rings, diaphragms, and soft seats that are stored as spare parts.

Responder #10: NO RESPONSE GIVEN

NB-15-0805 ~~AMR-AMR~~ edits ~~7-21-22-18-16~~

Update language about pipe material able to handle temperature requirements, in line with IMC.

~~Note that this is already covered in 5.2. So we will be somewhat beating a dead horse~~

5.2 GENERAL REQUIREMENTS

~~For piping, the basic considerations are: the design temperature, the pressure retained by the pipe, the fluid in the pipe, the load resulting from the thermal expansion or contraction, and impact or shock loads imparted (such as water hammer, external loads, wind loads and vibration from equipment).~~

Proposed Edits (Note that we intentionally are not adding this to power boilers. Power boilers are getting their own supplement that will include PRV piping requirements specific to power boilers):

Part 1, 3.9.1.5 PRESSURE RELIEF VALVE DISCHARGE PIPING

~~i) The design Discharge piping shall be rated for the discharge fluid conditions of pressure and temperature including a minimum and maximum design temperature. Material selection for the discharge piping shall consider the reduction in material toughness at the low end of design temperature and the reduction in material strength at the high end of design temperature [DDB1][RA2]. Rigid pipe or tubing shall should be used for discharge lines that carry hot water or steam.~~

~~k) Reduction in mechanical strength (e.g. threads/flanges/components), bonding strength of joints, exposure to discharge media. d) Plastic discharge pipe and fittings are permitted (when compatible with the process fluid, system design temperatures, and other ambient conditions such as light and humidity) and shall conform to NSF/ANSI 14 Plastics Piping System Components and Related Materials. [DDB3][RA4]~~

~~m) Discharge piping shall be rated for any static pressure present and the back pressure that may develop when the pressure relief device is at full capacity [DDB5][RA6]. Where multiple pressure relief devices or vents discharge into common piping, the back pressure that could develop due to simultaneous flow from all sources shall be considered.~~

Repeat the same addition to the following paragraphs (note that the letters change)

Part 1, 3.9.4.7 TEMPERATURE AND PRESSURE RELIEF VALVE DISCHARGE PIPING

~~i) The design Material selection for the~~

~~k) Reduction in mechanical strength (e.g. threads/flanges/components), bonding strength of joints, exposure to discharge media, m-n design capacity command)~~

~~e)
f)~~

Part 4, 2.4.1.5 PRESSURE RELIEF VALVE DISCHARGE PIPING

~~c)
d)~~

e)

Part 4, 2.4.4.7 TEMPERATURE AND PRESSURE RELIEF VALVE DISCHARGE PIPING

c)

d)

e)

~~i) The design Material selection for the~~

~~k) Reduction in mechanical strength (e.g. threads/flanges/components), bonding strength of joints, exposure to discharge media, mn design capacity common j)~~

k)

l)



NSF 14 plastic pipe requirement

Renaldo, Adam

to:

'Denis DeMichael'

07/16/2019 04:14 PM

Cc:

"tbeirne@nationalboard.org"

Hide Details

From: "Renaldo, Adam" <Adam_Renaldo@praxair.com>

To: "'Denis DeMichael'" <Denis.B.DeMichael@chemours.com>

Cc: "tbeirne@nationalboard.org" <tbeirne@nationalboard.org>

The scope of this project was to add the requirements to bring in line with IMC
IMC references NSF 14 as shown in the excerpt from IMC 2018 below

SECTION 301 GENERAL

301.1 Scope. This chapter shall govern the approval and installation of all *equipment* and appliances that comprise parts of the building mechanical systems regulated by this code in accordance with Section 101.2.

301.2 Energy utilization. Heating, ventilating and air-conditioning systems of all structures shall be designed and installed for efficient utilization of energy in accordance with the *International Energy Conservation Code*.

301.3 Identification. Each length of pipe and tubing and each pipe fitting utilized in a mechanical system shall bear the identification of the manufacturer.

301.4 Plastic pipe, fittings and components. Plastic pipe, fittings and components shall be *third-party certified as con-*
forming to NSF 14.

Adam Renaldo, PE, PMP
Senior Customer Service Engineer
Praxair, Inc
Phone: 716-879-2928

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7/16/2019 – Main Committee ballot comments on last page

Item Numbers: 17-131 (Pressure Relief) and 17-159 (Installation) NBIC Location: Part 4, 2.5.7 a) and Part 1, 4.7.3 a)

17-131 General Description: Review overpressure protection requirements for hot water storage tanks that exceed 160 psi.

17-159: General Description: Result of 17-147; review Part 1, 4.7 for references to hot water storage tanks. With the definition of Potable Hot Water Storage Tank items referencing this in Part 1, Section 4.7 need to be updated, modified and or revised.

The following proposal combines the proposals from 17-131 and 17-159.

“Hot water storage tank” is deleted from 4.7.3 a) because is covered in c), and the temperature could exceed 210 deg. F. for those vessels. The item from installation was not changed otherwise. The Part 4, par. 2.5.7 is new but is just Part 1, par. 4.7 slightly rewritten.

Proposal:

NBIC Location: Part 1, 4.7

4.7 REQUIREMENTS FOR HOT WATER STORAGE TANKS/POTABLE HOT WATER STORAGE TANK

4.7.1 SUPPORTS

Each hot water storage tank shall be supported in accordance with NBIC Part 1, 1.6.1.

4.7.2 CLEARANCE AND ACCEPTABILITY

- a) The required nameplate (marking or stamping) should be exposed and accessible.
- b) The openings when required should be accessible to allow for entry for inspection and maintenance.

c) Each hot water storage tank shall meet the requirements of NBIC Part 1, 4.3.2.

4.7.3 TEMPERATURE AND PRESSURE RELIEF DEVICES

a) Each potable hot water storage tank/~~hot water storage tank~~ shall be equipped with an ASME/NB certified temperature and pressure relief device valve set at a pressure not to exceed the maximum allowable working pressure and 210°F (99°C).

b) Potable hot water storage tanks exceeding the pressure limit of ASME Code Section IV shall meet the original code of construction and shall be protected by a pressure relief device valve set not to exceed the vessel's maximum allowable working pressure. A temperature limiting device shall be installed so that the water inside the storage tank does not exceed 210°F (99°C).

c) Each hot water storage tank shall be equipped with an ASME/NB certified pressure relief valve set at a pressure not to exceed the maximum allowable working pressure.

d) The temperature and pressure relief device valve shall meet the requirements of NBIC Part 1, 4.5.

4.7.4 THERMOMETERS

- a) Each hot water storage/**potable hot water storage** tank shall be equipped with a thermometer.
- b) Each hot water storage/**potable hot water storage** tank shall have a thermometer so located that it shall be easily readable at or near the outlet. The thermometer shall be so located that it shall at all times indicate the temperature of the water in the storage tank.

4.7.5 SHUT OFF VALVES

- a) Each hot water storage/**potable hot water storage** tank shall be equipped with stop valves in the water inlet piping and the outlet piping in order for the hot water storage tank to be removed from service without having to drain the complete system.
- b) Each hot water storage/**potable hot water storage** tank shall be equipped with a bottom drain valve to provide for flushing and draining of the vessel.

NBIC Location: Part 4, 2.5.7

2.5.7 TEMPERATURE AND PRESSURE RELIEF DEVICES FOR HOT WATER STORAGE TANKS/POTABLE HOT WATER STORAGE TANK****

- a) Each **potable** hot water storage tank shall be equipped with an ASME/NB certified temperature and pressure relief **device valve** set at a pressure not to exceed the maximum allowable working pressure and 210°F. (99°C).
- b) **Potable hot water storage tanks exceeding the pressure limit of ASME Code Section IV shall meet the original code of construction and shall be protected by a pressure relief device valve set not to exceed the vessel’s maximum allowable working pressure. A temperature limiting device shall be installed so that the water inside the storage tank does not exceed 210°F (99°C).**
- c) **Each hot water storage tank shall be equipped with an ASME/NB certified pressure relief valve set at a pressure not to exceed the maximum allowable working pressure.**
- bd) The temperature and pressure relief **device valves** shall meet the requirements of 2.5.1 through 2.5.6 above.**

Archived Comments for Ballot: 17-131159-MC

Amato,Joel 3/5/2019 10:55:03 AM	Do we define "hot water storage tank" and "potable hot water storage tank"? Is there a difference? I think we also need to remain consistent with the terms device and valve.
Ball,Joseph 3/4/2019 8:53:59 AM <i>Reply To: Newton,Venus</i>	When a Section VIII vessel is used the new paragraph b) has two separate requirements in two separate sentences. The first is for a pressure relief device for overpressure protection (a separate comment on valve vs. device will be supplied). The second sentence requires a "temperature limiting device" that give the same temperature protection as a T&P valve. This would usually be a control valve of some type. This addresses the problem that T&P valves are not available under Section VIII, and at pressures higher than 160 psig.
Newton,Venus 3/4/2019 6:57:24 AM	The wording is confusing to me. It looks like you not only need a pressure relief device, but that a temperature and pressure relief valve is also always required, even on the Section VIII storage tanks.
Wadkinson,Melissa 2/27/2019 10:10:16 AM	Regarding the use of device vs valve, if the tank exceeds the pressure limitations of Section IV it will be built to Section VIII and over pressure protection does not necessarily have to be a valve.
Richards,Michael 2/25/2019 2:54:00 PM	Concur with Mr. Galanes observation.
Galanes PE,George 1/30/2019 10:58:52 AM	GWG comment; I have no objection to the proposed revisions. I am abstaining because I do see the words valve and device are used interchangeably. We should stick with device rather than valve to be consistent.

18-87, Edwards, 01-15-19**Reference: Part 4, Supplement 6, S6.4.b.2**

Discussion: Part 4, S6.4.b.2 was revised under 16-0603 and approved for publication in the 2019 Edition. Inserting the word “*Nuclear*” in reference to an Authorized Inspection Agency was subsequently approved in response to PR18-0403, however on further review this action is incorrect. The ASME QAI-1 Standard does not include “*Nuclear*” in reference to accredited AIAs (only in reference to Supervisors and Inspectors). In addition, the ASME QAI-1 Standard does not address “*inspection of repaired nuclear pressure relief valves*” by AIAs.

Proposal: Action is proposed to revise Part 4, S6.4.b.2 in accordance with the following:

~~Have a contract or agreement with an Authorized Nuclear Inspection Agency that is qualified in accordance with the requirements of ASME QAI-1, Qualifications for Authorized Inspection to provide inspection of repaired pressure relief devices;~~ Have a contract or agreement with an Authorized Inspection Agency that is accredited in accordance with the requirements of ASME QAI-1, “Qualifications for Authorized Inspection” to provide nuclear inspection services;

SUPPLEMENT 3**GUIDE TO JURISDICTIONS FOR AUTHORIZATION OF OWNERS OR USERS TO MAKE ADJUSTMENTS TO PRESSURE RELIEF VALVES****S3.1 — GENERAL**

The Jurisdiction may authorize properly trained and qualified employees of boiler and pressure vessel owners or users or their designees to confirm or restore set pressure shown on the unmodified original nameplate or stamping, or repair nameplate and/or performance of pressure relief valves. All external adjustments shall be resealed with a seal identifying the responsible organization and a metal tag that identifies the organization and the date the adjustment shall be installed.

S3.2 — TRAINING

- a) The user shall establish a documented in-house training program. This program shall establish training objectives and provide a method of evaluating the training effectiveness. As a minimum, training objectives for knowledge level shall include:
- 1) Applicable ASME Code and NBIC requirements;
 - 2) Responsibilities within the organization's quality system;
 - 3) Knowledge of the technical aspects and mechanical skills for making set pressure and/or blowdown adjustments to pressure relief valves; and
 - 4) Knowledge of the technical aspects and mechanical skills for marking of pressure relief valve adjustments.
- b) If the user established a designee, the designee shall establish a training program and make their documentation available to the user and the Jurisdictional authority.

S3.3 — DOCUMENTATION

Each user shall document the evaluation and acceptance of an employee's or designee's qualifications.

S3.4 — QUALITY SYSTEM

- a) A written quality system shall be established by either the user or the designee with a written description available to the Jurisdictional authority.
- b) The written description shall include at a minimum:
- 1) Calibration of Test Equipment: This shall describe a system for the calibration of measuring and test equipment. Documentation of these calibrations shall include the standard used and the results. Calibration standards shall be calibrated against the equipment having valid relationships to nationally recognized standards.
 - 2) Valve Testing, Setting, and Sealing: This system shall include provisions that each valve shall be tested, set, and all external adjustments sealed according to the requirements of the applicable ASME Code section and S3.1.
 - 3) Valve Marking: An effective marking system shall be established to ensure proper marking of the metal tag required by S3.1. The written quality system shall include a description or drawing of the metal tag.

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S3.5 — EXTERNAL ADJUSTMENTS

~~Only external adjustments to restore the set pressure shown on the unmodified original nameplate or stamping, or repair nameplate and/or performance of a pressure relief valve shall be made under the provisions of 2.2.5 and S3.1.~~

S3.6 — REPAIRS

~~If disassembly, change of set pressure, or additional repairs are necessary, the valve shall be repaired by an organization that meets the requirements of the NBIC.~~