



THE NATIONAL BOARD  
OF BOILER AND PRESSURE VESSEL INSPECTORS

Date Distributed: July 26, 2023

# NATIONAL BOARD INSPECTION CODE SUBCOMMITTEE INSPECTION

## MINUTES

---

Meeting of July 12, 2023  
St. Louis, MO

*These minutes are subject to approval and are for the committee use only.  
They are not to be duplicated or quoted for other than committee use.*

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 Inspection Subcommittee (SC) Chair, Mr. Jim Getter, called the meeting to order at 8:01 am (CST).

**2. Introduction of Members and Visitors**

A roll call of all SC members in person and online was taken by Secretary, Ms. Jodi Metzmaier. All visitors in person and online stated their name and their company. All members and visitors are noted on the attendance sheets. (Attachments 1-2)

**3. Check for a Quorum**

With 18 of 24 members in attendance, both in person and online, a quorum was established.

**4. Awards/Special Recognition**

None.

**5. Announcements**

Ms. Metzmaier gave the announcements to the SC. (Attachment 3)

**6. Adoption of the Agenda**

- Add Jeremy Smith (General Interest) & Mike Whitlock (Authorized Inspection Agencies) as nominees to the Inspection Subgroup (SG).
- Add PRD Item 21-59 for review and discussion.

The above items were added to the agenda and a motion was made to adopt the revised agenda. The motion was seconded and unanimously approved.

**7. Approval of the Minutes of the January 11, 2023, Meeting**

A motion was made to accept the minutes from the January 11, 2023, meeting. The motion was seconded and unanimously approved.

**8. Review of Rosters**

**a. Membership Nominations**

Mr. Joseph Beauregard (User), Jeremy Smith (General Interest), Mike Whitlock (AIA), and Mr. Randy Kennedy (Certificate Holder) are interested in becoming members of **Subgroup** Inspection.

Mr. Getter noted that the nominees were unanimously approved through SG. A motion was made to accept all members to the Inspection SG. The motion was seconded and unanimously approved.

**b. Membership Reappointments**

- The following **Subgroup** members are up for reappointment: Mr. Brent Ray, Mr. James Roberts, and Mr. Jason Safarz.

Mr. Getter noted that the members were unanimously approved through SG. A motion was made to accept all members for reappointment to the SG. The motion was seconded and unanimously approved.

- The following **Subcommittee** members are up for reappointment: Mr. Brent Ray, Mr. James Roberts, and Mr. Jason Safarz.

All members stated they would like to be reappointed to the SC. A motion was made to accept all members to the SC. The motion was seconded and unanimously approved.

**c. Officer Appointments**

None.

**9. Open Items Related to Inspection**

**a. PRD**

- i. **Item 23-31** – Testing of liquid service valves to be water or other suitable liquid (new item)  
No action was taken by the Inspection SC as this is a new item.
- ii. **Item 21-59** – Review proposal from PRD.  
The SC reviewed the changes being proposed through PRD and had no issues with the proposal.

**b. R&A**

- i. **Item 21-53** – Post repair inspection of weld repairs to CSEF steels. (P. Gilston as PM)  
(See item 22-06 below)
- ii. **Item 21-67** – Add welding requirements to plugging firetubes. (P. Gilston as PM)  
(See item 23-08 below)

**10. Interpretations.**

<b>Item Number: 22-40</b>	<b>NBIC Location: Part 2, 4.4.7.2</b>	<b>No Attachment</b>
<b>General Description:</b> Allowable stresses for t(required) calculation		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> T. Clark (PM), B. Ray, B. Wilson, J. Petersen		
<b>Submitted by:</b> Tom Chen		
<b>Explanation of Need:</b> For the purpose of setting up inspection plans, especially with older equipment, we are calculating t(required) per Part 2, para 4.4.7.2. However, we would like to know if it is permissible to use the higher allowable stresses in later editions of ASME BPV Code.		
<b>July 2023 Meeting Action:</b> PROGRESS REPORT		
Mr. Clark stated the Task Group (TG) is still working on their proposal.		

**11. Action Items**

**a. TG FRP Items**

<b>Item Number: NB16-1402</b>	<b>NBIC Location: Part 2, New Supplement</b>	<b>No Attachment</b>
<b>General Description:</b> Life extension for high pressure FRP vessels above 20 years		
<b>Subgroup:</b> FRP		
<b>Task Group:</b> M. Gorman (PM)		
<b>July 2023 Meeting Action:</b> PROGRESS REPORT		
Mr. Gorman gave a presentation to the SC regarding this item. He stated he has revised his initial proposal and it will be sent to the FRP TG for approval. Mr. Gorman then answered a few questions from the SC.		

**b. TG Historical Items**

There are currently no Historical items open for Part 2.

**c. TG Locomotive Items**

There are currently no Locomotive items open for Part 2.

**d. SG Inspection Items**

<b>Item Number: 20-57</b>	<b>NBIC Location: Part 2, 4.4.1 a)</b>	<b>No Attachment</b>
<p><b>General Description:</b> Evaluate revision to Part 2, 4.4 FFS Scope roles and responsibilities and API 579-1/ASME FFS-1</p> <p><b>Subgroup:</b> Inspection <b>Task Group:</b> M. Horbaczewski (PM) and B. Ray. <b>Submitted by:</b> George Galanes</p> <p><b>Explanation of Need:</b> Currently, there is confusion surrounding implementation of FFS for Part 2 inspection activities, where the FFS form is located and Part 3 activities regarding Part 3, 3.3.4.8 because it references Part 2 for FFS. In addition, we need to have a Part 2 Inspection member to be assigned to assist in the development of roles and responsibilities.</p>		
<p><b>July 2023 Meeting Action:</b> Mr. Horbaczewski presented this item to the SC. He stated the SG closed the item with no action. A motion was made to <b>close this item with no action</b>. The motion was seconded and <b>unanimously approved</b>.</p>		

<b>Item Number: 21-25</b>	<b>NBIC Location: Part 2</b>	<b>Attachment Pages 4-6</b>
<p><b>General Description:</b> Autoclave/Quick Opening Device PP</p> <p><b>Subgroup:</b> Inspection <b>Task Group:</b> V. Scarcella (PM), T. Bolden, M. Horbaczewski, J. Peterson, J. Clark, W. Hackworth, M.A. Shah, C. Becker. <b>Submitted by:</b> Kevin Hawes</p> <p><b>Explanation of Need:</b> Upon our AIA (Intact) QRR I produced a Power point presentation on Autoclave inspections. Your NB team leader Gary Scribner suggested I forward this inspection presentation to the NB for review of content as mention of good reference material for next NBIC edition. I have attached a copy of this PP for your considerations.</p>		
<p><b>July 2023 Meeting Action:</b> Mr. Getter stated this item passed through SG via letter ballot (LB). Mr. Scarcella presented the proposal to the SC. He asked that if there are any further comments on this proposal, he'd like to have them sent to him in writing. The group discussed the item in further detail. A motion was made to accept the proposal as presented. <b>The motion passed with one member (Venus Newton) voting opposed.</b> The Mr. Newton provided the following reasons for his disapproval:</p> <ol style="list-style-type: none"><li>1. I am not comfortable with this wording "Pressure vessels with less than five cubic feet of volume and a design pressure less than 50 psi are excluded from the requirements of this section. "Contained in the opening paragraph.</li><li>2. How do we evaluate the training requirement in b). "Review shall include maintenance, training."</li><li>3. The risk-based assessment requirement in 3 is a too much to put on the owners of these vessels.</li></ol>		

<b>Item Number: 21-47</b>	<b>NBIC Location: Part 2, 2.2.4 &amp; 2.2.5</b>	<b>No Attachment</b>
<b>General Description:</b> To provide better guidance as it relates to carbon monoxide		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> W. Hackworth (PM), V. Scarcella, D. Buechel, T. Barker, T. Bolden		
<b>Explanation of Need:</b> Need to provide more comprehensive items to be reviewed to guide the inspector on carbon monoxide and combustion air.		
<b>July 2023 Meeting Action:</b> PROGRESS REPORT Mr. Hackworth gave a progress report on this item.		

<b>Item Number: 22-06</b>	<b>NBIC Location: Part 2, 3.4.9 e)</b>	<b>No Attachment</b>
<b>General Description:</b> Part 2 task group to review Part 3 Item 21-53		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> M. Horbaczewski (PM), J. Clark, B. Wilson, J. Mangas, P. Polick <b>Submitted by:</b> D. Graf		
<b>Explanation of Need:</b> Part 2 task group to investigate further changes to Part 2/Part 3 that could be needed because of action item 21-53.		
<b>July 2023 Meeting Action:</b> PROGRESS REPORT Mr. Horbaczewski gave a progress report on this item. He stated there were more members added to the TG during the SG meeting to help create the proposal.		

<b>Item Number: 22-22</b>	<b>NBIC Location: Part 2, 4.2</b>	<b>No Attachment</b>
<b>General Description:</b> Changes and additions to align with part III with in service inspections		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> T. Bolden (PM), J. Clark, J. Petersen, M. Sansone, B. Ray, D. Graf, and J. Mangas		
<b>Submitted By:</b> V. Scarcella		
<b>Background Information:</b> Several areas where part III after repair in service inspections should be aligned with part II.		
<b>July 2023 Meeting Action:</b> PROGRESS REPORT Mr. Getter stated a proposal is being sent to SG LB.		

<b>Item Number: 22-26</b>	<b>NBIC Location: Part 2, 2.3.6.8</b>	<b>No Attachment</b>
<b>General Description:</b> Addition of cast acrylic as a pressure vessel material		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> J. Calvert (PM), V. Newton, D. Buechel, D. Rose		
<b>Submitted by:</b> J. Calvert		
<b>Explanation of Need:</b> Provide inspectors with the criteria necessary to competently inspect vessels like acrylic chromatography columns.		
<b>July 2023 Meeting Action:</b> No report was given as the PM was not present at the meeting.		

<b>Item Number: 22-39</b>	<b>NBIC Location: Part 2, 4.4.8.7 g)</b>	<b>No Attachment</b>
<b>General Description:</b> Recommended clarification of requirements for Evaluating Local Thin Areas		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> V. Newton (PM), T. Barker		
<b>Submitted by:</b> L. Ponce		
<b>Explanation of Need:</b> The existing text may lead to confusion due to a misplaced comma after 'specified' in the first sentence and no reference to what is being specified in the paragraph. The proposed text is a way to tie in the specified requirement in paragraph (f).		
<b>July 2023 Meeting Action:</b> PROGRESS REPORT		
Mr. Newton stated this item was a progress report during the SG meeting.		

<b>Item Number: 23-08</b>	<b>NBIC Location: Part 2</b>	<b>No Attachment</b>
<b>General Description:</b> Part 2 task group to review Part 3 Item 21-67		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> M. Horbaczewski (PM), J. Clark, B. Wilson, J. Mangas, P. Polick		
<b>Submitted by:</b> D. Graf		
<b>Explanation of Need:</b> Part 2 task group to investigate further changes to Part 2/Part 3 that could be needed because of action item 21-67.		
<b>July 2023 Meeting Action:</b> PROGRESS REPORT		
Mr. Horbaczewski stated this item was a progress report during the SG meeting.		

4. New Items

<b>Item Number: 23-16</b>	<b>NBIC Location: Part 2</b>	<b>No Attachment</b>
<b>General Description:</b> Part III is adding requirements for inservice inspectors for repair F/U		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> None assigned.		
<b>Submitted by:</b> V. Scarcella		
<b>Explanation of Need:</b> Part III has items pending for mechanical repairs and post repair work inspections and the SG needs to make sure we have adequate instructions for the inspector.		
<b>July 2023 Meeting Action:</b>		
Mr. Getter stated this item was closed with no action at the SG meeting because it is already being covered in several other items. A motion was made to <b>close this item with no action.</b> The motion was seconded and <b>unanimously approved.</b>		

<b>Item Number: 23-17</b>	<b>NBIC Location: Part 2, 2.3.6.4 and 4.4.8.7</b>	<b>No Attachment</b>
<b>General Description:</b> Steel-loss acceptance criteria for pressure-retaining items		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> None assigned.		
<b>Submitted by:</b> J. Hadley		
<b>Explanation of Need:</b>		
(1) Resolve inconsistencies between the 2021 NBIC's air, ammonia, LPG, and general acceptance criteria.		
(2) Provide screening criteria that, if met, would ensure that a pressure-retaining item also meets the conservative criteria in API 579-1/ASME FFS-1, Fitness-For-Service, 2021 edition, "ASME FFS-1", Part 3 Level 1 (brittle fracture) and either Part 4 Level 2 or Part 5 Level 1 (wall thinning). If not met, an owner/user could fall back on more complex, less conservative, ASME FFS-1 assessments.		
(3) Describe steel-loss screening criteria in one location within NBIC, and reference this location when needed, to facilitate future revisions.		
(4) Coordinate NBIC with ASME FFS-1. They have been referencing each other for some years, so coordinating them seems worthwhile.		
<b>July 2023 Meeting Action:</b>		
Mr. Getter stated a TG was created during the SG meeting.		

<b>Item Number: 23-19</b>	<b>NBIC Location: Part 2, S6.13.6</b>	<b>Attachment Page 7</b>
<b>General Description:</b> DOT Transport Tank Pressure Testing (Part 2, Supplement 6)		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> None assigned.		
<b>Submitted by:</b> R. Underwood		
<b>Explanation of Need:</b> The table in 49CFR180.407(g)(1)(iv) appears to have been revised at some point to add "The test pressure on the nameplate or specification plate" to the beginning of each specification pressure test requirement. Table S6.13.6 needs to be revised to reflect the current DOT requirements.		
<b>July 2023 Meeting Action:</b>		
The proposal which passed through SG unanimously was presented to the SC. A motion was made to accept the proposal as presented. The motion was seconded and <b>unanimously approved</b> .		

<b>Item Number: 23-26</b>	<b>NBIC Location: Part 2</b>	<b>No Attachment</b>
<b>General Description:</b> Adding verbiage in Part 2 to mention a time limit on tube plugs in vessels		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> None assigned.		
<b>Submitted by:</b> K. Moore		
<b>Explanation of Need:</b> Part 3 is currently revamping 3.3.4.9. We feel like there should be a statement in the NBIC that the Chief or the in-service Inspector can address the operational issues and concerns of plugged tubes.		
<b>July 2023 Meeting Action:</b>		
Mr. Getter stated a TG was created during the SG meeting.		

<b>Item Number: 23-27</b>	<b>NBIC Location: Part 2, 1.5.1</b>	<b>No Attachment</b>
<b>General Description:</b> Addition of requirement for Inspector to be present for inspections.		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> None assigned.		
<b>Submitted by:</b> D. Kinney		
<b>Explanation of Need:</b> While it has always been standard industry practice for inspections to be performed in-person, and there are requirements for remote inspection, currently there is no language in Part 2 or RCI-1 requiring the Inspector to be present at the location of installation while performing an inspection. This requirement is implied, but not stated.		
<b>July 2023 Meeting Action:</b> Mr. Getter stated a TG was created during the SG meeting.		

<b>Item Number: 23-28</b>	<b>NBIC Location: Part 2, 5.3.3</b>	<b>No Attachment</b>
<b>General Description:</b> Revision to NB-136		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> None assigned.		
<b>Submitted by:</b> D. Kinney		
<b>Explanation of Need:</b> For Line #3, "R" should be added, and should match Line #13. For Line #13, when filling out the form, there is confusion between Owner or User, and Owner-User. These are two different terms defined in the NBIC. I believe the intention is to use "Owner or User" and not "Owner-User, and this should be clarified on the form.		
<b>July 2023 Meeting Action:</b> Mr. Getter stated a TG was created during the SG meeting.		

<b>Item Number: 23-30</b>	<b>NBIC Location: Part 2, S7. 10 and Table S9.4</b>	<b>Attachment Page 8</b>
<b>General Description:</b> References to change of service for LPG vessels incorrectly use "altered"		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> None assigned.		
<b>Submitted by:</b> T. Vandini		
<b>Explanation of Need:</b> Conversion of service for LPG tanks (typically from above ground to underground service) typically involves changes to the vessel covered under Part 3, Paragraph 3.3.3 and, as such, are considered repairs. As such, the language referring to these conversions that uses the word "altered" or "alteration" may be confusing to an inspector or other user of NBIC. I suggest changing the word "altered" to "converted" and removing the specific reference to "alterations".		
<b>July 2023 Meeting Action:</b> Mr. Vandini presented the proposal to the SC and stated the proposal was unanimously approved during the SG meeting. The SC revised the proposal changing the word "converted" to "changed". A motion was made to accept the revised proposal. The motion was seconded and <b>unanimously approved.</b>		



<b>Item Number: 23-37</b>	<b>NBIC Location: Part 2, 1.4</b>	<b>No Attachment</b>
<b>General Description:</b> Add comment to further define responsibility of the owner user		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> None assigned.		
<b>Submitted by:</b> V. Scarcella		
<b>Explanation of Need:</b> Specifically, if the inspector is going to a location where for instance H2S of some harmful pathogen is being handled, those locations have and should provide safety training and equipment needed to complete the inspection. For internals this is already touched on in 1.5.3. "Requirements of occupational safety and health regulations (i.e., federal, state, local, or other), as well as the owner-user's own program and the safety program of the Inspector's employer are applicable."		
<b>July 2023 Meeting Action:</b> Mr. Getter stated a TG was created during the SG meeting.		

<b>Item Number: 23-42</b>	<b>NBIC Location: Part 2, 1.4 a)</b>	<b>No Attachment</b>
<b>General Description:</b> Change for consistency		
<b>Subgroup:</b> Inspection		
<b>Task Group:</b> None assigned.		
<b>Submitted by:</b> L. Ponce		
<b>Explanation of Need:</b> Inconsistencies add confusion and increase liabilities of all parties.		
<b>July 2023 Meeting Action:</b> Changed to NB editorial. Close with no committee action. A motion was made to <b>close this item with no committee action</b> . The motion was seconded and <b>unanimously approved</b> .		

5. **Future Meetings**

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

Mr. Getter discussed the future meetings with the SC.

Mr. Ray reported to the group that the API Inspection and Mechanical Integrity Summit in San Antonio, TX will be held on January 23-25, 2024, and there will be a training day for anyone interested on January 22, 2024.

6. **Adjournment**

A motion was made to adjourn the meeting at 10:03 am (CST)

Respectfully submitted,



Jodi Metzmaier  
Subcommittee Inspection Secretary

## Subcommittee Inspection Member Attendees - July 2023

MEMBERS:	Interest Category	Email	Registered	In Person Attendance	Remote Attendance	Not In Attendance
Jim Getter Chair	Manufacturers	jim.getter@worthingtonindustries.com	In Person	x		
Mark Horbaczewski Vice Chair	Users	mhorbaczewski@diamondtechnicalservices.com	In Person	x		
Jodi Metzmaier Secretary	NBBI	jmetzmaier@nbbi.org	In Person	x		
Tim Barker	Authorized Inspection Agencies	timothy.barker@fmglobal.com	In Person	x		
Chuck Becker	Manufacturers	hggbecker@yahoo.com		x		
Ernest Brantley	Authorized Inspection Agencies	ernest.brantley@bpcllca.com				x
David Buechel	Authorized Inspection Agencies	davidbuechel155@gmail.com	In Person	x		
Lee Burton	National Board Certificate Holders	burtondl@airproducts.com	In Person	x		
James Calvert	National Board Certificate Holders	jcalvert@lilly.com				x
James Clark	Manufacturers	james.clark@worthingtonindustries.com	Remote		x	
Darrell Graf	National Board Certificate Holders	grafdr@airproducts.com	In Person	x		
William Hackworth	Authorized Inspection Agencies	william.hackworth@tuvsud.com			x	
Jerry Jessick	Users	jjessick@fusion-etc.com				x
John Mangas	General Interest	jcmangas@gmail.com	In Person	x		
Joe Morgan	Users	jemorgan1@dow.com			x	
Venus Newton	Authorized Inspection Agencies	venus_newton@yahoo.com	In Person	x		
Jeffrey Petersen	Users	jeffrey.petersen@inl.gov	In Person	x		
Pat Polick	Jurisdictional Authorities	patrick.polick@illinois.gov		x		
Brent Ray	Users	bdray@marathonpetroleum.com	In Person	x		
James Roberts	Manufacturers	james.roberts@triarccorp.com	In Person	x		
David Rose	Users	dr3747@telus.net				x
Jason Safarz	General Interest	jsafarz@karldungsusa.com	Remote		x	
Matt Sansone	Jurisdictional Authorities	matthew.sansone@labor.ny.gov	Remote			x
Vincent Scarcella	Authorized Inspection Agencies	vincent.scarcella@cna.com	In Person	x		
Thomas Vandini	National Board Certificate Holders	tvandini@propanetank.com		x		

# Subcommittee Inspection Visitor Attendees - July 2023

VISITORS:	Company/Title/Interest	Email	Registered	In Person Attendance	Remote Attendance
Mark Mooney	NBBI	mmooney@nationalboard.org	In Person	x	
Luis Ponce	NBBI	lponce@nbbi.org	In Person		
Greg Goossens	NBBI	ggoossens@nbbi.org	In Person	x	
James Hadley	Member/Fact Fancy, LLC	james.hadley@factplusfancy.com	Remote		x
Tim Bolden	CNA	timothy.bolden@cna.com	In Person	x	
Christopher Hartford	Machinery & Equipment Supervisor/Cincinnati Insurance Companies	Christopher_Hartford@cinfin.com	Remote		x
Michael Gorman	GormanAcoustics		In Person	x	
Mike Whitlock	Hartford Steam Boiler	gerald_whitlock@hsb.com	In Person	x	
David Dexter	Energy Technology Principle/Dow Chemical	dexterde@dow.com	Remote		x
Keith Sanford	Boiler Program Supervisor/State of Texas	keith.sanford@tdlr.texas.gov	In Person	x	
Joseph Beauregard	Maintenance Manager/Los Alamos National Laboratory	joeducati@hotmail.com	In Person	x	
Clay Moultrie	Quality Director/Quality Steel Corporation	cmoultrie@propanetank.com	In Person		x
James Sowinski	Principanl Engineer I/The Equity Engineering Group, Inc.	jsowinski@c2g.com	In Person	x	
Harrington Henry	Arise	Harrington.Henry@tuvsud.com	In Person		x
Joseph Arvizu III	HSI Inspections	jarvizuiii@hsigroupinc.com			x
Randy Kennedy		crkennedy@babcock.com			
Brandon Steinhart	FM Global	brandon.steinhart@fmglobal.com		x	

# Announcements

- Teams Notes:
  - Please stay muted during the meeting. If you would like to speak, please use the “raise hand” feature, and then you can unmute as you are called on. Teams will note the order in which your hands were raised, and we will call on you in order.
  - Any messages sent through chat will be displayed for anyone in the meeting to see. If you need to send me a private message, please send it to me directly and not through the meeting chat.
- The National Board will be hosting a reception on Wednesday evening from 5:30pm to 7:30pm at the Sports & Social St. Louis Ballpark Village next to the hotel. We will also host a breakfast and lunch on Thursday. Breakfast will be served from 7:00am to 8:00am, and lunch will be served from 11:30am to 12:30pm. Both meals will be served at the hotel in Cardinal C. Members, visitors, and guests are all welcome.
- Meeting schedules, meeting room layouts, and other helpful information can be found on the National Board website under the **Inspection Code** tab → NBIC Meeting Information.
- **NBIC Share Cloud is for members only.** The password has changed, please see me for the new password.
- Remember to add any attachments that you’d like to show during the meeting (proposals, reference documents, power point, etc.) to the cloud **prior to the meeting.**
  - If needed, we can go over this process.
  - ALL power point attachments/presentations must be sent to Jonathan prior to the meeting for approval.
- All proposals should be submitted in word with “strike through/underline” tracking.
  - Please contact me ([jmetzmaier@nbbi.org](mailto:jmetzmaier@nbbi.org)) if you need any help with this.
- If you’d like to open a new Interpretation or Action Item, this should be done through the National Board Business Center.
  - Anyone, member or not, can open a new item.
- As a reminder, anyone who would like to become a member of a group or committee:
  - Should attend at least 2 meetings prior to being put on the agenda for membership consideration. The nominee will be on the agenda for vote during their 3<sup>rd</sup> meeting, and they would become a voting member during their 4<sup>th</sup> meeting.
  - The nominee must submit the formal request along with their resume to the NBIC Secretary, Jonathan Ellis, **PRIOR TO** the meeting. [nbicsecretary@nbbi.org](mailto:nbicsecretary@nbbi.org)
  - If needed, we can also create a ballot for voting of a new member between meetings. To do this, you will need to contact Mr. Ellis.
- Thank you to everyone who registered online for this meeting. The online registration is very helpful for planning our reception, meals, the room set up, etc. Please continue to use the online registration for each meeting, whether you are attending in person or remote. It also is a good way to make sure we have the most up-to-date contact information.

**If you did not register, please do this now so we have an accurate count for the reception on Wednesday and breakfast and lunch on Thursday.**

### 2.3.6.5 INSPECTION OF PRESSURE VESSELS WITH QUICK-ACTUATING CLOSURES

~~a) — This section describes guidelines for inspection of pressure vessels equipped with quick-actuating closures. Pressure vessels with less than five cubic feet of volume and a design pressure less than 50 psi are excluded from the requirements of this section. ~~Due to the many different designs of quick-actuating closures, potential failures of components that are not specifically covered should be considered. The scope of inspection should include areas affected by abuse or lack of maintenance and a check for inoperable or bypassed safety and warning devices.~~ Pressure vessels with quick actuating closures have a higher likelihood of personnel being in close proximity of the vessel during opening.~~

~~a. Accidents have occurred when gaskets became stuck and released suddenly when pried open. Wear and fatigue damage caused by the repetitive actuation of the mechanism and pressure cycles are also a source of accidents.~~

~~b) Temperatures above that for which the quick-actuating closure was designed can have an adverse effect on the safe operation of the device. If parts are found damaged and excessive temperatures are suspected as the cause, the operating temperatures may have exceeded those temperatures recommended by the manufacturer. Rapid fluctuations in temperatures due to rapid start-up and shutdown may lead to cracks or yielding caused by excessive warping and high thermal stress. An careful observation inspection should shall be made of the condition of the complete installation, ~~Review shall including include~~ maintenance, and training, operation, and non-destructive examination records. This review shall serve as a guide ~~in forming an opinion of for evaluating~~ the care the equipment receives. The construction history of the vessel should be established, including: year built, materials of construction, extent of postweld heat treatment, previous inspection results, and repairs or alterations performed. Any leak should be thoroughly investigated and the necessary corrective action ~~initiated~~ taken by an "R" Certificate Holder.~~

#### 1) Inspection of parts and appurtenances

The owner user shall adhere to the items below, and the items shall be verified by the inspector if applicable.

a. Seating surfaces of the closure device, including but not limited to the gaskets, O-rings, or any mechanical appurtenance, shall be inspected to ensure proper alignment. ~~of the closure to the seating surface, should be inspected. This inspection can be made by using powdered chalk or any substance that will indicate that the closure is properly striking the seating surface of the vessel flange. If this method is used, a check should be made to ensure that:~~

- ~~1. — Material used shall not contaminate the gasket or material with which it comes into contact; and~~
- ~~2. — The substance used shall be completely removed after the examination.~~

b. The closure mechanism of the device ~~should~~ shall be inspected for freedom of movement and proper contact with the locking elements. This inspection should indicate that the movable portions of the locking mechanism are striking the locking element in such a manner that full stroke can be obtained. Inspection should be made to ensure that the seating surface of the locking mechanism is free of metal burrs and deep scars, which would indicate misalignment or improper operation. A check should be made for proper alignment of the door hinge mechanisms to ensure that adjustment screws and locking nuts are properly secured.

c. When deficiencies are noted, the following corrective actions ~~should~~ shall be initiated:

1. If any ~~deterioration-defect~~ of the gasket, O-ring, etc., is found, the gasket, O-ring, etc., ~~should shall~~ be removed from service and replaced immediately. Replacements ~~should shall~~ be in accordance with the vessel manufacturer's specifications;
  2. If any cracking or excessive wear is discovered on the closing mechanism, the owner or user ~~should shall~~ contact the original manufacturer of the device for spare parts or repair information. If this cannot be accomplished, the owner or user should contact an organization competent in quick-actuating closure design and construction prior to implementing any repairs;
  3. Defective safety or warning devices ~~should shall~~ be repaired or replaced prior to further operation of the vessel;
  4. Deflections, wear, or warping of the sealing surfaces may cause out-of-roundness and misalignment. The manufacturer of the closure ~~should shall~~ be contacted for acceptable tolerances for out-of-roundness and deflection; and
  5. The operation of the closure device through its normal operating cycle should be observed while under control of the operator. ~~This should indicate if the operator is following posted procedures and if the operating procedures for the vessel are adequate.~~
- 2) Gages, safety devices, and controls

The owner user shall adhere to the items below, and the items shall be verified by the inspector as applicable.

~~a.~~ The required pressure gage should be installed so that it is visible from the operating area located in such a way that the operator can accurately determine the pressure in the vessel while it is in operation. The gage dial size should be of such a diameter that it can be easily read by the operator. This gage should have a pressure range of at least 1 1/2 times, but not more than four times, the operating pressure of the vessel. There should be no intervening valve between the vessel and gage.

~~b.a.~~ The pressure gage should be of a type that will give accurate readings, especially when there is a rapid change in pressure. It should be of rugged construction and capable of withstanding severe service conditions. Where necessary, the gage should be protected by a siphon or trap.

~~c.b.~~ Pressure gages intended to measure the operating pressure in the vessel are not usually sensitive or easily read at low pressures approaching atmospheric. It may be advisable to install an auxiliary gage that reads inches of water (mm of mercury) and is intended to measure pressure from atmospheric through low pressures. This ensures that there is zero pressure in the vessel before opening. It would be necessary to protect the auxiliary ~~low pressure~~low-pressure gage from the higher operating pressures.

~~d.c.~~ Provisions should be made to calibrate pressure gages or to have them checked against a master gage as frequently as necessary.

~~e.d.~~ A check should be made to ensure that the closure and its holding elements must be fully engaged in their intended operating position before pressure can be applied to the vessel. A safety interlock device ~~should shall~~ be provided that prevents the opening mechanism from operating unless the vessel is completely depressurized.

~~f.e.~~ Quick-actuating closures held in position by manually operated locking devices or mechanisms, and which are subject to leakage of the vessel contents prior to disengagement of the locking elements and release of the closure, shall be provided with an audible and/or visible warning device to warn the operator if pressure is applied to the vessel before the closure and its holding elements are fully engaged, and to warn the operator if an attempt is made to operate the locking device before the pressure within the vessel is released. Pressure tending to force the closure clear of the vessel must be released before the closure can be opened for access.

3. A Risk Based Inspection (RBI) program, managed by the owner/user, shall be developed by a professional familiar with the design and applications of quick actuating closures. See NBIC Part 2, Section 4. The RBI program shall be made available for review by the inspector.

Item 23-19  
 B. Underwood  
 Page 1 of 1

## PROPOSED TEXT

**TABLE S6.13.6**  
 PRESSURE TEST REQUIREMENTS

<u>Transport Cargo Tank Specification</u>	<u>Test Pressure</u>
MC 300, <del>MC-301, MC-302, MC-303, MC-305, and MC-306</del>	<u>The test pressure on the name plate or specification plate, 20.7 kPa (3 psig) or design pressure, whichever is greater.</u>
MC 304, <del>and MC-307</del>	<u>The test pressure on the name plate or specification plate, 275.8 kPa (40 psig) or 1.5 times design pressure, whichever is greater.</u>
MC 310, <del>MC-311, and MC-312</del>	<u>The test pressure on the name plate or specification plate, 20.7 kPa (3 psig) or 1.5 times design pressure, whichever is greater.</u>
MC 330, <del>and MC-331</del>	<u>The test pressure on the name plate or specification plate, 1.5 times either MAWP or the re-rated pressure, whichever is applicable. DOT Transport Tanks constructed in accordance with Part UHT in Section VIII, Division I of the ASME Code shall be tested at a pressure at least twice the design pressure.</u>
MC 338	<u>1.25 times either MAWP or the re-rated pressure, whichever is applicable The test pressure on the name plate or specification plate or 1.5 times the design pressure, plus static head of lading, plus 101.3 kPa (14.7 psi) if subjected to external vacuum. DOT Transport Tanks constructed in accordance with Part UHT in Section VIII, Division I of the ASME Code shall be tested at a pressure at least twice the design pressure.</u>
DOT 406	<u>The test pressure on the name plate or specification plate, 34.5 kPa (5 psig) or 1.5 times the MAWP, whichever is greater.</u>
DOT 407	<u>The test pressure on the name plate or specification plate, 275.8 kPa (40 psig) or 1.5 times the MAWP, whichever is greater.</u>
DOT 412	<u>The test pressure on the name plate or specification plate, or 1.5 times the MAWP, whichever is greater.</u>

## Current Table in 180.407(g)(1)(iv)

Specification	Test pressure
MC 300, 301, 302, 303, 305, 306	The test pressure on the name plate or specification plate, 20.7 kPa (3 psig) or design pressure, whichever is greater.
MC 304, 307	The test pressure on the name plate or specification plate, 275.8 kPa (40 psig) or 1.5 times the design pressure, whichever is greater.
MC 310, 311, 312	The test pressure on the name plate or specification plate, 20.7 kPa (3 psig) or 1.5 times the design pressure, whichever is greater.
MC 330, 331	The test pressure on the name plate or specification plate, 1.5 times either the MAWP or the re-rated pressure, whichever is applicable.
MC 338	The test pressure on the name plate or specification plate, 1.25 times either the MAWP or the re-rated pressure, whichever is applicable.
DOT 406	The test pressure on the name plate or specification plate, 34.5 kPa (5 psig) or 1.5 times the MAWP, whichever is greater.
DOT 407	The test pressure on the name plate or specification plate, 275.8 kPa (40 psig) or 1.5 times the MAWP, whichever is greater.
DOT 412	The test pressure on the name plate or specification plate, or 1.5 times the MAWP, whichever is greater.



Item 23-30

T. Vandini

Page 1 of 1

**Statement of Need:** Conversion of service for LPG tanks (typically from above ground to underground service) typically involves changes to the vessel covered under Part 3, Paragraph 3.3.3 and, as such, are considered repairs. As such, the language referring to these conversions that uses the word "altered" or "alteration" may be confusing to an inspector or other user of NBIC. I suggest changing the word "altered" to "changed" and removing the specific reference to "alterations".

## S7.10 REQUIREMENTS FOR CHANGE OF SERVICE FROM ABOVE GROUND TO UNDERGROUND SERVICE

ASME LPG pressure vessels may be ~~altered~~ changed from above ground (AG) service to underground (UG) service subject to the following conditions.

**TABLE S9.4  
EXAMPLES OF CHANGE OF SERVICE CONDITIONS**

Change	Some Factors to Consider
LP Gas to Ammonia	<ul style="list-style-type: none"> <li>• PWHT of Vessel During Construction Wet-fluorescent magnetic particle testing (WFMT) on all internal surfaces</li> <li>• Internal access of vessel is necessary, may need to install manhole</li> <li>• NFPA 58 should be consulted</li> </ul>
Ammonia to LP gas	<ul style="list-style-type: none"> <li>• NFPA 58 should be consulted for restrictions.</li> <li>• Wet-fluorescent magnetic particle testing (WFMT) on all internal surfaces</li> <li>• Internal access of vessel is necessary., may need to install manhole</li> <li>• Also see, NBIC Part 2, 2.3.6.4, S7.8.6, S7.9</li> </ul>
LP gas service: from above ground to underground	<ul style="list-style-type: none"> <li>• Requires <del>alterations</del> (additional nozzles)</li> <li>• Corrosion protection</li> <li>• See NFPA 58</li> </ul>
LP gas to air receiver	<ul style="list-style-type: none"> <li>• Assurance of vessel cleanliness, i.e. removal of mercaptan</li> <li>• Appropriateness and number of inspection and drain openings</li> <li>• Corrosion allowance</li> </ul>
Boiler Service: steam to hot water	<ul style="list-style-type: none"> <li>• Nozzles may require modification for water inlet and outlet</li> <li>• Change of Pressure Relief Device</li> </ul>