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*THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS*

NATIONAL BOARD INSPECTION CODE COMMITTEE

MINUTES

Meeting of July 15th, 2021
Cincinnati, OH

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1. Call to Order

The Chair, Mr. Bob Wielgoszinski, called the meeting to order at 8:00 AM Eastern Time.

2. Introduction of Members and Visitors

Mr. Wielgoszinski asked for the Committee members in the meeting room to introduce themselves, followed by the visitors in the room. He then asked the Secretary, Mr. Jonathan Ellis, to do a roll call from the participants list on Zoom. A full list of meeting attendees can be found on [Attachment Page 1](#).

3. Check for a Quorum

After introductions were concluded, it was determined that all but two Committee members were in attendance for the meeting. Mr. Rick Sturm and Mr. Milton Washington were not present for the meeting, and Ms. Wadkinson was represented by Mr. Matt Downs. With nineteen of twenty-one members present, a quorum was met.

4. Awards/Special Recognition

Mr. Gary Scribner recognized Mr. Mike Richards for 20 years of membership on Main Committee. He also recognized Mr. Craig Hopkins and Mr. Wielgoszinski for 25 years of membership on Main Committee. Mr. Scribner presented Mr. Wielgoszinski with an award pin and announced that Mr. Richards' and Mr. Hopkins' pins will be available for them at the January 2022 meeting since they were not at this meeting in person.

5. Announcements

- The National Board will host a breakfast for all committee members and visitors on Thursday morning at 7:00 am and a lunch at 11:30 am in the Rosewood room on the 4th floor of the Hotel.
- A coffee station with snacks will be provided in the morning and afternoon outside of the meeting room.
- The 2021 NBIC is available as of July 1st, 2021.

Mr. Wielgoszinski discussed meeting procedures and when breaks would occur. He also announced that he would not be running for reappointment as Chair of Main Committee. Mr. Rob Troutt announced that he will be stepping down from all NBIC committee positions after this meeting because of his recent appointment as Chairman of the Board of Trustees.

6. Adoption of the Agenda

A motion was made and seconded to adopt the agenda as presented. Mr. Wielgoszinski then asked if any business items needed to be added to the agenda for consideration. Ms. Melissa Wadkinson asked that Mr. Pat Jennings be added for Subcommittee Installation membership consideration. She also mentioned that the Subcommittee did not vote on Mr. Byrum, Mr. Tompkins, and Mr. Clark to become members of the Subcommittee. Mr. Jim Getter asked that Mr. Joseph Morgan and Mr. Jerry Jessick be added for Subcommittee Inspection membership consideration. He also asked that Mr. Darrell Graf be added to the list of Subcommittee Inspection reappointments. Mr. Rob Troutt asked that Mr. Phil Gilston and Mr. Steve Frazier be added to the agenda for Subcommittee Repairs & Alterations (R&A) membership consideration.

No further additions to the agenda were requested. The original motion was amended to include these changes, and the new motion was seconded. A vote was taken, and the motion to adopt the amended agenda was unanimously approved.

7. Approval of the Minutes of the January 14th, 2021 Meeting

The minutes are available for review online at <https://www.nationalboard.org/Index.aspx?pageID=13&ID=18>. A motion was made, seconded, and unanimously approved to accept the minutes of the January 2021 meeting.

8. Review of Rosters

The list of membership actions listed below were voted on during an executive session held after all other business concluded.

a. Membership Nominations

Subcommittee Members:

- Subcommittee Installation:
 - A motion was made, seconded, and unanimously approved to appoint Mr. Ron Spiker and Mr. Pat Jennings to Subcommittee Installation. Their official appointment is subject to the approval of the Chair of the Board of Trustees.
- Subcommittee Inspection:
 - A motion was made, seconded, and unanimously approved to appoint Mr. Hackworth, Mr. Morgan, and Mr. Jessick to Subcommittee Inspection. Their official appointment is subject to the approval of the Chair of the Board of Trustees.
- Subcommittee R&A:
 - A motion was made, seconded, and unanimously approved to appoint Mr. Gilston and Mr. Frazier to Subcommittee R&A. Their official appointment is subject to the approval of the Chair of the Board of Trustees.
- Subcommittee PRD:
 - A motion was made, seconded, and unanimously approved to appoint Mr. Simms to Subcommittee PRD. Their official appointment is subject to the approval of the Chair of the Board of Trustees.

Main Committee Members:

A motion was made, seconded, and unanimously approved to appoint Mr. Wiggins to Main Committee. His official appointment is subject to the approval of the Chair of the Board of Trustees.

b. Membership Reappointments

- Subcommittee Installation:
 - Ms. Melissa Wadkinson and Mr. Mike Richards were both unanimously approved by Main Committee to be reappointed to Subcommittee Installation. Their official reappointment is subject to the approval of the Chair of the Board of Trustees.
- Subcommittee Inspection:
 - Mr. Jim Getter, Mr. James Calvert, Mr. Mark Horbaczewski, Mr. Darrell Graf, and Mr. John Mangas were all unanimously approved by Main Committee to be reappointed to

Subcommittee Inspection. Their official reappointment is subject to the approval of the Chair of the Board of Trustees.

- Subcommittee R&A:
 - Mr. Jim Sekely was unanimously approved by Main Committee to be reappointed to Subcommittee R&A. His official reappointment is subject to the approval of the Chair of the Board of Trustees.
- Subcommittee PRD:
 - Mr. Denis DeMichael and Mr. Bob Donalson were both unanimously approved by Main Committee to be reappointed to Subcommittee PRD. Their official reappointment is subject to the approval of the Chair of the Board of Trustees.
- Main Committee:
 - Mr. Wielgoszinski asked Mr. Galanes to take over as Chair while the vote on his reappointment was discussed. A motion was made, seconded, and unanimously approved to reappoint Mr. Wielgoszinski to Main Committee. His official reappointment is subject to the approval of the Chair of the Board of Trustees. After the vote was taken, Mr. Galanes turned the Chair back over to Mr. Wielgoszinski.

c. Officer Positions

- Subcommittee Installation, Inspection, and R&A will be holding a vote to appoint/reappoint a Chair.
 - Mr. Jim Getter and Mr. Mark Horbaczewski were unanimously approved by Main Committee to be reappointed as Chair and Vice Chair of Subcommittee Inspection. This reappointment becomes official after receiving approval from the Chair of the Board of Trustees.
 - Ms. Melissa Wadkinson was unanimously approved by Main Committee to be reappointed as Subcommittee Installation Chair. This reappointment becomes official after receiving approval from the Chair of the Board of Trustees
 - Ms. Kathy Moore and Mr. Marty Toth were unanimously approved by Main Committee to be reappointed as Chair and Vice Chair of Subcommittee R&A. This reappointment becomes official after receiving approval from the Chair of the Board of Trustees.
- Main Committee will be holding a vote to appoint/reappoint a Chair.
 - Mr. Toth nominated Mr. Galanes for the position of Main Committee Chair. A motion was made and seconded to appoint Mr. Galanes as Chair. Mr. Wielgoszinski asked Mr. Galanes to leave the room in case any deliberation among the members was needed. A vote was taken, and the motion passed unanimously. Mr. Galanes was invited back into the room and congratulated by the Committee.
 - Mr. Toth nominated Ms. Wadkinson for the positions of Main Committee Vice Chair. A motion was made, seconded, and unanimously approved to appoint her as Vice Chair.
 - Mr. Galanes' and Ms. Wadkinson's appointments are subject to final approval from the Chair of the Board of Trustees.

9. Items Approved for 2023 NBIC

See [Attachment Page 6](#) for a list of items approved for the 2023 NBIC.

10. Report of Subcommittees

a. Subcommittee Inspection

i. Interpretations

ii. Action Items – Old Business

Item Number: NB16-1402	NBIC Location: Part 2, New Supplement	No Attachment
<p>General Description: Life extension for high pressure FRP vessels above 20 years</p> <p>Subgroup: FRP</p> <p>Task Group: M. Gorman (PM)</p> <p>Background: In 2016, when this item was first opened, it was assigned as an item for Part 3. Recent discussions with SC R&A and the FRP Task Group have revealed that this item is better suited for Part 2. This item has been approved by the FRP Task Group.</p> <p>Scope: The goal of this proposal is to provide a method to evaluate whether the service life of high-pressure fiber reinforced plastic pressure vessels can be extended for an additional lifetime.</p> <p>July 2021 Meeting Action: Mr. Getter presented a progress report for this item.</p>		

Item Number: 18-6	NBIC Location: Part 2, S1.4.2.9	Attachment Page 7
<p>General Description: Riveted stay bolt dimensions</p> <p>Subgroup: Locomotive</p> <p>Task Group: M. Janssen (PM)</p> <p>July 2021 Meeting Action: Mr. Getter introduced the proposal. A motion and second was made to approve the proposal as presented. Mr. Troutt asked some clarifying questions about the proposal. Mr. Linn Moedinger provided some additional background for the proposal. After discussion ended, a vote was held on the motion, and the motion passed unanimously.</p>		

Item Number: 18-43	NBIC Location: Part 2, Section 5	Attachment Page 8
<p>General Description: Permanent nameplate removal from pressure vessel being removed from service</p> <p>Subgroup: Inspection</p> <p>Task Group: J. Roberts (PM), J. Burgess, J. Calvert, J. Clark, M. Sansone</p> <p>July 2021 Meeting Action: Mr. Getter introduced the proposal, stating that this new proposal addresses comments from a previous ballot for this item. Mr. Newton stated that the only changes made were changing shalls to shoulds. Discussion was held on ballot comments and the project manager's responses. Mr. Troutt commented that he felt the new proposal addresses his previous concerns. Mr. Welch also agreed his negative vote was addressed. A motion was made and seconded to approve the new proposal, and this motion passed unanimously.</p>		

Item Number: 18-63	NBIC Location: Part 2	Attachment Page 11
General Description: Review inspection requirements for pressure vessels designed for high pressures		
Subgroup: Inspection		
Task Group: V. Scarcella (PM), J. Mangas, J. Peterson, and J. Castle		
July 2021 Meeting Action: Mr. Getter introduced the proposal and stated that it would be sent to Main Committee as a letter ballot.		

Item Number: 19-46	NBIC Location: Part 2, S5	No Attachment
General Description: Revisions to Yankee dryer supplement in Part 2		
Subgroup: Inspection		
Task Group: V. Newton (PM), T. Barker, D. Lesage, J. Jessick		
Explanation of Need: Various parts of supplement 5 do not match their counterparts in Part 1, Supplement 1.		
July 2021 Meeting Action: Mr. Getter presented a progress report for this item.		

Item Number: 19-63	NBIC Location: Part 2, S5.2	No Attachment
General Description: Changes to the Yankee Dryer Supplement (ASSESSMENT OF INSTALLATION)		
Subgroup: Inspection		
Task Group: V. Newton (PM), T. Barker, D. Lesage, J. Jessick		
Explanation of Need: Ensure that wording in Part 2, S5.2, is identical to that found in Part 1, S1.2. Note that wording will be the same, but paragraph numberings will be different.		
July 2021 Meeting Action: Mr. Getter announced that Subcommittee Inspection voted to close with no action, and they will be adding this item's scope into 19-46. A motion was made, seconded, and unanimously approved to officially close out this item.		

Item Number: 19-64	NBIC Location: Part 2, S5.2.1	No Attachment
<p>General Description: Changes to the Yankee Dryer Supplement (DETERMINATION OF ALLOWABLE OPERATING PARAMETERS)</p> <p>Subgroup: Inspection</p> <p>Task Group: V. Newton (PM), T. Barker, D. Lesage</p> <p>Explanation of Need: Ensure that wording in Part 2, S5.2.1, is identical to that found in Part 1, S1.3. Note that wording will be the same, but paragraph numberings will be different.</p> <p>July 2021 Meeting Action: Mr. Getter announced that Subcommittee Inspection voted to close with no action, and they will be adding this item's scope into 19-46. A motion was made, seconded, and unanimously approved to officially close out this item.</p>		

Item Number: 19-84	NBIC Location: Part 2, S2.10.7	Attachment Page 12
<p>General Description: Inspecting riveted joints for failure</p> <p>Subgroup: TG Historical</p> <p>Task Group: F. Johnson (PM), M. Wahl, R. Underwood, C. Jowett</p> <p>Explanation of Need: The text covers cracks parallel to a longitudinal joint, but there is no text covering inspection of plate material around a rivet.</p> <p>July 2021 Meeting Action: Mr. Getter introduced the proposal and provided some background information. Discussion was held on the changes in the proposal, as there was disagreement on indications of failure versus indications of damage and if failure at the caulking edge should be included as something to be inspected. Mr. Underwood explained that users would not be able to visually see failure at the caulking edge, that is why it was not included. Mr. Wielgoszinski recommended that this item be sent out as a letter ballot to allow for further review.</p>		

Item Number: 20-5	NBIC Location: Part 2, 4.1 – 4.4	No Attachment
<p>General Description: Add language in NBIC Pt2/Pt3 to minimize CSEs by allowing remote NDE.</p> <p>Subgroup: Inspection</p> <p>Task Group: V. Newton (PM), J. Morgan, M. Horbaczewski, D. Graf, D. LeSage, D. Rose</p> <p>Explanation of Need: In order to minimize higher-risk work, specifically Confined Space Entries, remote NDE methodologies should be specifically allowed by the NBIC, at the discretion of the people performing the inspections.</p> <p>July 2021 Meeting Action: Mr. Getter asked Mr. Newton to talk about this item. A motion was made and seconded to close the item with no action, as the NBIC already allows for remote NDE. This motion passed unanimously.</p>		

Item Number: 20-26	NBIC Location: Part 2, S2	No Attachment
General Description: Concern for Historical Boiler Inspections Nationwide		
Subgroup: Historical		
Task Group: T. Dillon (PM), R. Underwood, L. Moedinger, M. Wahl, D. Rupert, K. Anderson, & J. Wolf		
Explanation of Need: Currently Jurisdictions are not uniform in adoption of how and when inspections are performed.		
July 2021 Meeting Action: Mr. Getter presented a progress report for this item.		

Item Number: 20-46	NBIC Location: Part 2, 5.3.2	No Attachment
General Description: Updates to Forms NB-5, NB-6, & NB-7		
Subgroup: Inspection		
Task Group: D. Buechel (PM), M. Sansone, V. Scarcella		
Explanation of Need: On the current forms NB-5, NB-6, & NB-7 there are fields that are already on the ASME Manufactures Data Report making them repetitive. Other fields that ask for in- depth technical information would be hard if not impossible for an inspector to determine and are irrelevant to the inspection process.		
July 2021 Meeting Action: Mr. Getter presented a progress report for this item.		

Item Number: 20-57	NBIC Location: Part 2, 4.4.1 a)	No Attachment
General Description: Evaluate revision to Part 2, 4.4 FFS scope roles and responsibilities (submitted by Mr. George Galanes).		
Subgroup: Inspection		
Task Group: M. Horbaczewski (PM) and B. Ray.		
Explanation of Need: 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.		
July 2021 Meeting Action: Mr. Getter presented a progress report for this item.		

Item Number: 20-59	NBIC Location: Part 2, 5.2.1 a)	Attachment Page 18
<p>General Description: Temporary nameplate removal for external inspection (submitted by Mr. Doug Biggar).</p> <p>Subgroup: Inspection</p> <p>Task Group: T. Vandini (PM), B. Ray, J. Roberts, V. Newton, M. Sansone</p> <p>Explanation of Need: What is being added to NBIC part 2 (item 19-30) for NBIC 2021 edition: [(e) removal and re-attachment of the original manufacturer's nameplate shall only be done in accordance with NBIC Part 3, 5.11]. To have an inspector present onsite each time we need to have a nameplate temporarily removed has a cost that a commercial refurbisher such as ourselves would need to pass onto the customer as well as dramatically affect the efficiency of our assembly line.</p> <p>July 2021 Meeting Action: Mr. Getter introduced the proposal for this item and provided background information. The proposal will be sent to Main Committee as a letter ballot.</p>		

Item Number: 20-70	NBIC Location: Part 2, S1.4.2.29	No Attachment
<p>General Description: Inspection of Furnace Slides (submitted by Mr. Mark Ray)</p> <p>Subgroup: Locomotive</p> <p>Task Group: M. Ray (PM)</p> <p>Explanation of Need: Furnace slide supports which are locked in-place by corrosion will adversely impact the thermal expansion of the boiler and lead to staybolt breakage.</p> <p>July 2021 Meeting Action: Mr. Getter presented a progress report for this item.</p>		

Item Number: 20-71	NBIC Location: Part 2, S1.6	Attachment Page 19
<p>General Description: Safety Valve Sizing (Correct Use of Capacity Charts) (submitted by Mr. Mark Ray)</p> <p>Subgroup: Locomotive</p> <p>Task Group: M. Ray (PM)</p> <p>Explanation of Need: This is to ensure safety valves provide the adequate relieving capacity for steam locomotive boilers.</p> <p>July 2021 Meeting Action: Mr. Getter introduced the proposal, and Mr. Moedinger provided additional background information. This proposal will be sent to Main Committee as a letter ballot.</p>		

Item Number: 20-79	NBIC Location: Part 2, S10.10.4 c)	No Attachment
General Description: Add nomenclature to formula in S10.10.4 c) (originated from Public Review Comment PR20-0201)		
Subgroup: FRP		
Task Group: M. Gorman		
Explanation of Need: The current formula has no nomenclature to define the variables. The change request came about from Public Review Comment PR20-0201. The Main Committee voted in October of 2020 to open a new action item to add nomenclature for this formula.		
Variable definitions from Mr. Gorman: “U is the measured signal energy in joules. The signal is the captured waveform from, say, a fiber break source. V is the signal amplitude in volts point by point in the signal. Voltage must be corrected for gain (G). Z is in ohms. The (differential) time is dt in seconds.”		
July 2021 Meeting Action: Mr. Getter presented a progress report for this item.		

iii. New Items:

Item Number: 21-03	NBIC Location: Part 2, S2	No Attachment
General Description: Inspection of through stays and diagonal stays (submitted by David Rose)		
Subgroup: Historical		
Task Group: D. Rose (PM), R. Bryce, R. Forbes, & C. Jowett		
Explanation of Need: The code is silent on the inspection of through stays and diagonal stays. Additionally, new repair methods are available from ASME that can be incorporated.		
July 2021 Action: Mr. Getter presented a progress report for this item.		

Item Number: 21-25	NBIC Location: Part 2	No Attachment
General Description: Autoclave/Quick opening device PP (submitted by Kevin Hawes)		
Subgroup: Inspection		
Task Group: V. Scarcella (PM), T. Bolden, M. Horbaczewski, J. Peterson, J. Clark, W. Hackworth, M.A. Shah		
Explanation of Need: 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.		
July 2021 Action: Mr. Getter presented a progress report for this item.		

b. Subcommittee Repairs & Alterations

i. Interpretations

Item Number: 20-78	NBIC Location: Part 3, 3.3.3 s) & 3.4.4 d)	No Attachment
General Description: Repairs and Alterations of Tube Bundles		
Subgroup: Repairs and Alterations		
Task Group: P. Shanks (PM).		
Explanation of Need: Submission is for R Certificate Holders we provide Repair Inspection services for. NBIC Part 3, 3.3.3 s) seems to allow to be a repair, but under 3.4.4 d) where the dimensions change it might be classified as an alteration.)		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 20-91	NBIC Location: Part 3, 1.5.1 h)	No Attachment
General Description: Mechanical Repair Procedures		
Subgroup: Repairs and Alterations		
Task Group: R. Underwood (PM), R. Valdez		
Explanation of Need: Part 3, paragraph 1.5.1(h) requires that control of mechanical assembly/repair procedures be addressed in the R Certificate Holder's Quality Manual. Over the last year or so, there have been National Board Team Leaders requesting these procedures (during joint reviews) for work such as rolling tubes in a boiler and replacing a bolted fitting on a pressure retaining item. This has resulted in questions from certificate holders and Inspectors about why an "R" certificate holder is required to have procedures for mechanical work that doesn't even require an "R" Stamp.		
July 2021 Meeting Action: A motion was made, seconded, and unanimously approved to close this item with no action, as the original request was withdrawn by the inquirer.		

ii. **New Interpretation Requests:**

Item Number: 21-17	NBIC Location: Part 3, 3.3.3 & 3.3.4	No Attachment
<p>General Description: Using any ASME PCC-2 methods in an R-stamped activity</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: George Galanes (PM), Rick Valdez</p> <p>Explanation of Need: Some certificate holders are confused by the reference to PCC-2 in NBIC part 3 and believe they have carte blanche to use any and all PCC-2 methods in an R-stamped activity.</p> <p>July 2021 Meeting Action: A motion was made, seconded, and unanimously approved to close this item with no action, as the original request was withdrawn by the inquirer.</p>		

Item Number: 21-21	NBIC Location: Part 3, 3.4	No Attachment
<p>General Description: Minimum required thickness determination; Use of Mandatory Appendix 46</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: Tim McBee (PM), Brian Morelock</p> <p>Explanation of Need: Pressure vessels are often designed with a single specified corrosion allowance for the entire vessel. Calculating minimum required thicknesses per the original construction code (and not relying only on the specified corrosion allowance listed on the manufacturer's data report) often results in identifying surplus material for use as corrosion allowance that was not utilized at the time of construction nor reflected on manufacturer's data report. Unfortunately, most vessel designs were not optimized on a per-component basis to maximize corrosion allowance and as a result, significant amounts of time and effort have been spent with unnecessary shutdowns, repairs, and / or fitness for service (FFS) evaluations all of which might have been avoided or deferred for years had the vessel originally been optimized for corrosion allowance.</p> <p>July 2021 Meeting Action: A motion was made, seconded, and unanimously approved to close this item and send a letter to the inquirer stating that this request is considered consulting.</p>		

Item Number: 21-22	NBIC Location: Part 3.3.3 & 3.4.4	Attachment Page 21
<p>General Description: Examples of Repairs and Alterations</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: Trevor Seime (PM)</p> <p>Explanation of Need: Disclaimer statement would help clarify that the listed examples are not a set list, and only represent some case examples.</p> <p>July 2021 Meeting Action: Mr. Seime presented the proposed interpretation response for this item. A motion was made, seconded, and unanimously approved to accept this interpretation response.</p>		

Item Number: 21-28	NBIC Location: Part 3, 1.5.1 & 3.3.3 c)	No Attachment
<p>General Description: Subcontracted Weld-Overlay Repair</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: Walter Sperko (PM)</p> <p>Explanation of Need: (1) To clarify whether it is permitted for an "R" Certificate of Authorization Holder to subcontract weld-overlay repair to another company who does not possess an "R" Certificate. (2) To clarify whether a subcontractor's shop used on a regular basis may be considered as a field location to allow welding by and under the control of the "R" Certificate Holder at that shop.</p> <p>July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.</p>		

Item Number: 21-32	NBIC Location: Part 3, 4.2	No Attachment
<p>General Description: NDE requirements when repairing defects in original weld metal</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: R. Troutt (PM), M. Toth</p> <p>Explanation of Need: This provision will help clarify to "R" Stamp Certificate holders and owners of pressure vessels that are in need of minor repairs to existing welds. Due to the ambiguous wording of this clause any welding on a head to shell joint may be interpreted to require volumetric inspection when the name plate is stamped RT4.</p> <p>July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.</p>		

iii. Action Items – Old Business

Item Number: NB15-2208	NBIC Location: Part 3	No Attachment
<p>General Description: Develop supplement for repairs and alterations based on international construction standards</p> <p>Subgroup: Graphite</p> <p>Task Group: Greg Becherer (PM)</p> <p>July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.</p>		

Item Number: 17-134	NBIC Location: Part 3, Section 5	No Attachment
<p>General Description: Proposed Revision for registration of Form R-1 with the National Board containing ASME pressure part data reports attached.</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: P. Shanks (PM), Rob Troutt, Joel Amato, Kathy Moore, Paul Edwards</p> <p>July 2021 Meeting Action: A motion was made and seconded to close this item with no action. Mr. Troutt explained that this was being closed because there was not enough support at the subcommittee level to continue with this item. The motion passed unanimously.</p>		

Item Number: 17-167	NBIC Location: Part 3, S3.2 d)	No Attachment
<p>General Description: Clarify repair inspection requirements for machined only graphite parts.</p> <p>Subgroup: Graphite</p> <p>Task Group: Aaron Viet (PM)</p> <p>July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.</p>		

Item Number: 18-94	NBIC Location: Part 3, S3.2 f), h); S3.4 a), b), c) etc.	No Attachment
<p>General Description: G-mark Requirements for Various Repairs/Alteration to Graphite</p> <p>Subgroup: Graphite</p> <p>Task Group: C. Cary (PM)</p> <p>July 2021 Meeting Action: Progress report.</p>		

Item Number: 18-100	NBIC Location: Part 3, 3.3.2	Attachment Page 23
<p>General Description: Revision adding heat exchanger tubes with an outside diameter of 3/4" or smaller to NBIC Part 3.3.2 Routine Repairs</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: (Marty Toth – PM), B. Schaefer, N. Carter</p> <p>July 2021 Meeting Action: Mr. Troutt introduced the proposal and asked Mr. Toth to present the proposed changes. A motion was made and seconded to approve the proposal as presented. This motion passed unanimously.</p>		

Item Number: 19-60	NBIC Location: Part 3, 1.5.1	Attachment Page 27
<p>General Description: Quality System For Qualification For The National Board "R" Certificate</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: R. Miletti (PM), K. Moore, B. Boseo, M. Toth</p> <p>Explanation of Need: Part 3, 1.5.1 provides a good outline for a Quality Systems Manual. However, the remaining elements of a Quality System, outside of the one's currently being addressed in Item 19-47 and 19-4 need to be embellished to provide a more auditable description of each element.</p> <p>July 2021 Meeting Action: Mr. Troutt introduced the item, and the proposal was presented by Ms. Kathy Moore. A motion was made and seconded to approve the proposal as presented. After discussion, this motion was rescinded, and instead the proposal will be sent out as a letter ballot to Main Committee.</p>		

Item Number: 19-61	NBIC Location: Part 3, 3.3.4	No Attachment
<p>General Description: Quality System For Qualification For The National Board "R" Certificate</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: P. Shanks (PM), J. Walker, T. McBee</p> <p>Explanation of Need: Threaded insert are being used to fix a bolt that has broken off on certain types of boilers (autoclaves) which hold the heating elements in the water side of the boiler. When this happens, the technician correcting the problem will simply drill out the broken bolt with an over sized bit and inset a metallic insert. NBIC does address this this type of alteration.</p> <p>July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.</p>		

Item Number: 19-68	NBIC Location: Part 3, 1.6	Attachment Page 34
General Description: Quality System For Qualification For The National Board "R" Certificate		
Subgroup: Repairs and Alterations		
Task Group: B. Wielgoszinski		
Explanation of Need: Review of 1.6 for possible requirement for ANI's and ANII's to hold the (R) Endorsement for "NR" activities.		
July 2021 Meeting Action: Mr. Troutt introduced the item and asked Mr. Wielgoszinski to present the proposal. Mr. Wielgoszinski asked Mr. Galanes to take over as Chair while he presented the proposal. The proposal will be sent out as a letter ballot to Main Committee. Mr. Scribner asked that RCI-1 be spelled out. Mr. Galanes turned the Chair back to Mr. Wielgoszinski after discussion was concluded.		

Item Number: 19-73	NBIC Location: Part 3, S3	No Attachment
General Description: Requirements for who can make hole plugging repairs on graphite blocks		
Subgroup: Graphite		
Task Group: C. Cary (PM), A. Viet, A. Stupica		
Explanation of Need: Performing hole plugging repairs in graphite blocks is a common repair for graphite pressure vessels, but the NBIC currently has no formal requirements for this type of repair.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 19-74	NBIC Location: Part 3, S3.3	No Attachment
General Description: Routine repair requirements for partial nozzle replacement		
Subgroup: Graphite		
Task Group: A. Stupica (PM), M. Bost		
Explanation of Need: Currently only nozzle replacement is addressed as a routine repair. The group is planning on defining the types of partial nozzle replacements and repairs that could be defined as routine.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 19-79	NBIC Location: Part 3, S3.5.4 h)	No Attachment
General Description: Re-word Part 3, S3.5.4 h) to clarify cementing procedure for plugs		
Subgroup: Graphite		
Task Group: A. Stupica (PM)		
Explanation of Need: Existing language includes unnecessary steps and is clunky to read. Text will be reworded to clarify the full procedure.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 20-15	NBIC Location: Part 3, 3.3.2 & 5.7.2	No Attachment
<p>General Description: Stamping requirements for routine repairs</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: R. Troutt (PM), K. Moore</p> <p>Explanation of Need: This would offer traceability to the R-Stamp holder responsible for the work.</p> <p>July 2021 Meeting Action: A motion was made and seconded to close this item with no action. Mr. Troutt explained that this item was closed due to lack of support at the subcommittee level. Discussion was held on the requirements for users to track routine repairs. A vote was held on the motion, and the motion passed with one negative vote.</p>		

Item Number: 20-20	NBIC Location: Part 3, 3.2.2 e)	No Attachment
<p>General Description: Revision to Part 3, 3.2.2 e)</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: P. Davis (PM)</p> <p>Explanation of Need: The certificate holder should not have to explain or justify why a part was not pressure tested in the manufacturing stage. PG-106.8 of Section I allows the part to be fabricated and shipped as such therefore no explanation should be required.</p> <p>July 2021 Meeting Action: A motion was made and seconded to close the item with no action. Mr. Troutt explained that the 2021 NBIC addresses this request. The motion passed unanimously.</p>		

Item Number: 20-25	NBIC Location: Part 3, S2.13	No Attachment
<p>General Description: Repair Procedure for Fire Boxes</p> <p>Subgroup: SG Historical</p> <p>Task Group: M. Wahl (PM), Robin Forbes, T. Dillon, L. Moedinger, & F. Johnson</p> <p>Explanation of Need: In NBIC Part 3, S2.13.10.3, S2.13.11 do not define what to do at a riveted joint. On the tubesheet, or firedoor sheet, where it is flanged to rivet to the firebox, the repairs are silent on what to do at the riveted joint.</p> <p>July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.</p>		

Item Number: 20-47	NBIC Location: All Parts, 9.1	Attachment Page 41
General Description: Revision of the definition of ANIA in Section 9 of all Parts		
Subgroup: Repairs and Alterations		
Task Group: R. Spuhl (PM).		
Explanation of Need: ANIA can be revised to clarify requirements and activities of AIA's performing NR inspection activities. After discussion of ANI endorsement requirements per Item 19-68, a revision of "ANIA" is being considered as a way to provide clarity on the ANI and ANIA requirements.		
July 2021 Meeting Action: Mr. Troutt introduced the item, and Mr. Edwards presented the proposal. A motion and second was made to approve the proposal as presented. This motion was passed unanimously.		

Item Number: 20-48	NBIC Location: Part 3, 1.6	No Attachment
General Description: Compare 2015 NQA-1 revision to NR program (1.6) for consistency.		
Subgroup: Repairs and Alterations		
Task Group: B. Wielgoszinski (PM).		
Explanation of Need: Latest NQA-1 revision to be compared to NR program (1.6) for consistency.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 20-52	NBIC Location: Part 3, 1.6.2 a) 2)	No Attachment
General Description: Rvw NR requirements for ASME Section XI Div. 2 potential applications		
Subgroup: Repairs and Alterations		
Task Group: T. Roberts (PM)		
Explanation of Need: This was created based on discussion from Item 20-47 dealing with ANIA requirements.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 20-53	NBIC Location: Part 3, 3.3.5.2 a) & 3.4.5.1 b)	No Attachment
General Description: Certification of Repair or Alteration Plans		
Subgroup: Repairs and Alterations		
Task Group: S. Chestnut (PM), B. Schaefer		
Explanation of Need: The Clarification of the Certifying Engineer requirements.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 20-60	NBIC Location: Part 3, 3.3.4.8	No Attachment
General Description: Part 3 Supplement for FFS Guidelines		
Subgroup: Repairs and Alterations		
Task Group: J. Siefert (PM)		
Explanation of Need: The NBIC provides little guidance related to FFS activities and repairs in part 3.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 20-61	NBIC Location: Part 3, S8	Attachment Page 45
General Description: Revise Supplement 8		
Subgroup: Repairs and Alterations		
Task Group: J. Siefert (PM)		
Explanation of Need: Supplement 8 has one sentence regarding filler metal size that needs to be deleted and dissimilar metal welding needs to be addressed under this Supplement.		
July 2021 Meeting Action: Mr. Troutt introduced the item, and Mr. Galanes presented the proposal. This proposal will be sent to Main Committee as a letter ballot.		

Item Number: 20-67	NBIC Location: Part 3, S6	No Attachment
General Description: Revisions to Part 3, Supplement 6		
Subgroup: Repairs and Alterations		
Task Group: R. Underwood (PM)		
Explanation of Need: Supplement 6 was implemented into the 2007 Edition of the NBIC Part 3 to provide requirements and guidelines for repairs, alterations and modifications to DOT Transport Tanks using the National Board's "TR" Program (which was never implemented). S6 has been revised over the years to remove reference to the "TR" Program, but still contains many requirements that are not correct. This purpose of this proposal is to review the entire Supplement and make appropriate revisions that comply with NBIC Part 3 and DOT requirements.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 20-73	NBIC Location: Part 3, 4.4.2 a) 2)	No Attachment
General Description: Pressure Testing of Connecting Welds (Part 3, 4.4.2(a)(2))		
Subgroup: Repairs and Alterations		
Task Group: R. Underwood (PM)		
Explanation of Need: To clarify what the term "replacement part" as used in 4.4.2(a)(2) of Part 3 means.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 20-74	NBIC Location: Part 3, 2.2.1	No Attachment
<p>General Description: PQR conditions of validity</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: P. Shanks (PM)</p> <p>Explanation of Need: ASME Section IX are planning to issue a new code case under record number 19-2833 which would allow for the normal room temperature tensile test to be replaced with an elevated one due to some material not being capable of passing at room temp. As part of this the WPS may only be used within +/- 50°F of the actual test temperature. If this code case is used and a boiler design temperature is changed the validity of the PQR/PWS qualification is in question. This is a similar situation to a PWHT time at temperature- reheat treating an existing PRI may take the PQR/WPS outside of its qualification.</p> <p>July 2021 Meeting Action: A motion was made and seconded to close this item with no action, as the inquirer decided to withdraw their request. This motion was approved unanimously.</p>		

Item Number: 20-76	NBIC Location: Part 3, 9.1	No Attachment
<p>General Description: Define "Remote" in the NBIC Glossary</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: R. Valdez (PM)</p> <p>Explanation of Need: With the use of indirect inspection equipment from borescopes to tethered drones/vehicles for confined space inspections, there is a need to clarify what is considered a "remote" inspection vs an "indirect" inspection.</p> <p>July 2021 Meeting Action: A motion was made and seconded to close this item with no action. Mr. Hellman commented that a new item for Part 2 will be opened to address this subject. The motion passed unanimously.</p>		

Item Number: 20-83	NBIC Location: Part 3, 1.5.1 s) & 9.1	Attachment Page 56
<p>General Description: Revision to Part 3, 3.2.2 e)</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: T. Hellman (PM)</p> <p>Explanation of Need: Action Item 19-60 is proposing revisions/additions to all of 1.5.1. This proposal is to move the definition of "Nonconformance" out of the current 1.5.1 s) paragraph and into the glossary.</p> <p>July 2021 Meeting Action: Mr. Troutt presented the proposal and said that this proposal will be sent to all subcommittees for input.</p>		

Item Number: 20-87	NBIC Location: Part 3, S6.8	No Attachment
<p>General Description: Registered Inspector requirements per DOT</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: K. Moore (PM)</p> <p>Explanation of Need: This reference to 49 CFR statutes would clarify the difference between an "Inspector" as used throughout the NBIC and a "Registered Inspector" specific to DOT tank repair/alteration activities.</p> <p>July 2021 Meeting Action: A motion was made and seconded to close this item with no action, as item 20-67 already addresses this subject. This motion passed unanimously.</p>		

Item Number: 21-10	NBIC Location: Part 3, 5.2 & 5.4	No Attachment
<p>General Description: Add a time frame for R forms (for completion of and submittal of forms)</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: D. Kinney (PM), B. Schaefer, B. McGuire</p> <p>Explanation of Need: Currently, the NBIC is silent on how much time may go by after work is completed before the applicable R Form is accepted by the inspector after work is completed. The NBIC is also silent on how much time may go by before the applicable R Form is submitted to the NB and Jurisdictions (as applicable).</p> <p>July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.</p>		

Item Number: 21-12	NBIC Location: Part 3, 3.3.3, 3.4.4, Section 9	No Attachment
<p>General Description: Clarify the definitions and examples of "Repair" and "Alteration"</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: P. Becker (PM), K. Moore, P. Shanks, R. Underwood, M. Chestnut, T. Sieme</p> <p>Explanation of Need: Clarify the definitions of "Repair" and "Alteration" in the Glossary and revise the list of examples of each to better define the allowable scope of activities.</p> <p>History: This Item was created as a result of conversation regarding Interp. Item 20-78 and Action Item 20-54</p> <p>July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.</p>		

iv. New Items:

Item Number: 21-02	NBIC Location: Part 3, 1.6	No Attachment
General Description: Define "Fuel Loading" as it pertains to NR activities		
Subgroup: Repairs and Alterations		
Task Group: P. Edwards (PM)		
Explanation of Need: The NR TG would like to clarify "Fuel Loading" as used to determine Category 1, 2 or 3 NR activities.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 21-06	NBIC Location: Part 3, 4.4.2	No Attachment
General Description: Concessions with pressure testing associated with replacement parts		
Subgroup: Repairs and Alterations		
Task Group: D. Kinney (PM)		
Explanation of Need: When replacement parts are manufactured and not tested as required by the original code of construction, there needs to be concessions or considerations associated with the pressure testing requirements as to not detrimentally effect the existing pressure retaining item.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 21-07	NBIC Location: Part 3, 1.3.2 a)	No Attachment
General Description: NBIC Report Form certification clarification.		
Subgroup: Repairs and Alterations		
Task Group: D. Kinney (PM)		
Explanation of Need: The intent is to clarify which Inspector must certify R forms, specifically when there are different AIA's signing the certifications on the R-2 Form.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 21-09	NBIC Location: Part 3, S2	No Attachment
General Description: Incorporate new repair methods for through and diagonal stays		
Subgroup: Historical		
Task Group: D. Rose (PM), R. Bryce, R. Forbes, & C. Jowett		
Explanation of Need: The code is silent on the inspection of through stays and diagonal stays. Additionally new repair methods are available from ASME that can be incorporated.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 21-14	NBIC Location: Part 3, 3.4.3	No Attachment
General Description: ASME PCC-2 article references are incorrectly formatted		
Subgroup: Repairs and Alterations		
Task Group: P. Shanks (PM)		
Explanation of Need: The 2018 edition of ASME PCC-2 has a different article numbering system than that used in the 2019 NBIC.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 21-15	NBIC Location: Part 3, Section 5	No Attachment
General Description: Corrections and revisions to "R" Forms.		
Subgroup: Repairs and Alterations		
Task Group: D. Kinney (PM)		
Explanation of Need: NBIC Part 3 is silent on controls for corrections or revisions to "R" Forms. The NBIC requires quality systems to provide revision controls, and I believe the NBIC should be clear on this as well.		
July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.		

Item Number: 21-19	NBIC Location: Part 3, 2.5.3.5 c), d), e)	Attachment Page 57
General Description: Remove temper bead WPS requirement for 2.5.3.5 in certain applications.		
Subgroup: Repairs and Alterations		
Task Group: G. Galanes (PM)		
Explanation of Need: Undue burden on fabricators and constructors to qualify a temperbead WPS in an application where temperbead is otherwise not required or necessary.		
July 2021 Meeting Action: A motion was made and seconded to close the item with no action, as the committee felt the revision is not needed. A letter will be sent to the inquirer explaining why the committee closed the item. This motion was passed unanimously.		

General Description: Encapsulation sect. to remove para. conflicts to other referenced codes

Subgroup: Repairs and Alterations

Task Group: B. Boseo (PM)

Explanation of Need: To remove inconsistencies associated with revisions to other referenced codes.

July 2021 Meeting Action: Mr. Troutt introduced the item, and Mr. Boseo presented the proposed changes. A motion was made and seconded to approve the proposal as presented. Mr. Wielgoszinski asked why nozzles and fittings were removed from the text. Mr. Boseo explained that the subcommittee felt that they were covered by piping. Mr. Wielgoszinski also asked if the paragraph references being deleted should remain. Mr. Shanks explained that this proposal still references to the correct part of PCC-2 without the specific paragraph reference. Mr. Wielgoszinski explained that the NBIC traditionally references specific parts of PCC-2 to avoid unintentional uses applied to the NBIC. Mr. Wielgoszinski turned over the Chair to Mr. Galanes and stated that he intends to abstain on this item if a voice vote moves forward. Mr. Troutt decided to rescind his original motion and instead send the proposal out for letter ballot. Mr. Galanes then turned the Chair back over to Mr. Wielgoszinski.

General Description: Provision of Exemption for original COC NDE requirements

Subgroup: Repairs and Alterations

Task Group: W. Sperko (PM)

Explanation of Need: Repair organizations that perform shop refurbishment and repair of LPG storage tanks (ASME Section VIII Div 1) encounter repetitive, typical defects that require repair. Many of the typical defects requiring repair meet the definition and could be considered Routine Repair. This being the case one of the frequently observed issues requiring weld repair is defects in original manufacturing butt welds at the head to shell joint with defects that include cold lap, and pinholes. The typical repair involves the excavation of the defect and confirmation of removal via PT. Then the excavation is welded with a typical repair length being less than 6" long. While the CoC in many cases in LPG storage tanks requires a spot RT of the head to shell joint, performing RT on the minimal amount of welding typically performed on isolated defects serves no practical purpose in enhancing safety especially when the length of deposited weld metal would be less than the length of the length of the radiographic film used capture the image.

July 2021 Meeting Action: Mr. Troutt introduced the proposal and Mr. Shanks presented the proposed changes. Discussion was held on the changes being proposed. Mr. Sekely asked if this change is necessary due to the wording of the last sentence in 4.2 a). Mr. Wielgoszinski mentioned that while something may be practicable, it may not be practical. Mr. Moedinger mentioned that an additional requirement regarding 100% volumetric examination during original construction would not impact the inquirer and would not apply often. Mr. Valdez mentioned that this new language will be applied in the field outside of the case that led to the inquirer submitting this request. Mr. Toth commented that he feels the inclusion of the 100% requirement is not needed. Mr. Paul Davis voiced his support for the current language shown in the proposal. Mr. Wielgoszinski asked the Jurisdictional Authorities present at the meeting to provide their thoughts. Some were in favor while others were not in favor. Ultimately it was decided to send the proposal to letter ballot.

General Description: Contacting jurisdiction regarding de-rates.

Subgroup: Repairs and Alterations

Task Group: D. Kinney (PM)

Explanation of Need: 1- It is the only time in the Code where it is optional to contact the jurisdiction. 2- Fairness to certificate holders bidding on these jobs.

July 2021 Meeting Action: Mr. Troutt introduced the item, and Mr. Don Kinney presented the proposed changes. A motion was made and seconded to accept the proposal as presented. This motion passed unanimously.

Item Number: 21-31	NBIC Location: NBIC Glossary	No Attachment
<p>General Description: Revise definition of "Field"</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: R. Miletti (PM), P. Gilston, M. Toth, J. Walker</p> <p>Explanation of Need: A "Field" site under the current definition could be multiple rented or leased spaces used for repairs/alterations, where there is no single or specific customer or job, but rather the locations(s) are used for conducting repair/alteration activities by personnel employed by the Certificate Holder on a continual basis.</p> <p>July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.</p>		

Item Number: 21-33	NBIC Location: Part 3, 1.2 f)	No Attachment
<p>General Description: Use of code cases pertaining to repairs and alterations</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: R. Underwood (PM)</p> <p>Explanation of Need: The NBIC Part 3 already references code cases in various paragraphs such as NR quality requirements, welding method 7, and R Form instructions, but there is no direct reference to acceptance of their use. I think it's always been an unwritten rule that they are permitted to be used with acceptance of the Inspector and Jurisdiction. This proposal will address this in a new paragraph 1.2(f).</p> <p>July 2021 Meeting Action: Mr. Troutt presented a progress report for this item.</p>		

c. Subcommittee Pressure Relief Devices

- i. Interpretations**
- ii. Action Items – Old Business**

Item Number: NB15-0305	NBIC Location: Part 4	No Attachment
<p>General Description: Create Guidelines for Installation of Overpressure Protection by System Design.</p> <p>Task Group: B. Nutter, A. Renaldo, D. Marek (PM), D. DeMichael, J. Wolf</p> <p>July 2021 Meeting Action: Ms. Brodeur presented a progress report for this item.</p>		

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, J. Simms, C. Bear		
July 2021 Meeting Action: Ms. Brodeur presented a progress report for this 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 2021 Meeting Action: Ms. Brodeur presented a progress report for this item.		
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 2021 Meeting Action: A motion was made and seconded to close this with no action. Ms. Brodeur stated that it will be split into several new, smaller items. The motion passed unanimously.		
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		
July 2021 Meeting Action: Ms. Brodeur presented a progress report for this item.		
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		
July 2021 Meeting Action: A motion was made and seconded to close this item, as it will be combined with 21-05. This motion passed unanimously.		

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		
Explanation of Need: VR Holders are required to obtain a Certificate of Compliance when they purchase Replacement Critical Parts from longtime PRV Manufacturer's Representatives. This is prevalent in the Midstream Oil & Gas Sector. Several small VR Holders in this Sector of the Energy Industry have expressed their desire to make this issue less cumbersome because the Manufacturers of the majority of PRVs they repair do not have Assemblers.		
July 2021 Meeting Action: Ms. Brodeur presented a progress report for this item.		

Item Number: 19-71	NBIC Location: Part 4, 4.9.2 & 4.9.3	Attachment Page 67
General Description: Use of Personnel from another VR Certificate Holder to perform VR Repairs		
Task Group: A. Donaldson (PM), A. Cox, B. Donaldson, D. Marek, J. Simms		
Explanation of Need: NBIC SCPRD needs to address the practice of sub-contracted personnel between VR Holders. In order to maintain Quality Standards, the responsible VR Holder must verify the qualifications all personnel and maintain records per NBIC Part 4, Table 4.8.5.4 s)		
July 2021 Meeting Action: Ms. Brodeur introduced the proposal for this item. It will be sent to the Main Committee as a letter ballot.		

Item Number: 19-83	NBIC Location: Part 4, 4.7.5	No Attachment
General Description: Address Alternate Pressure Relief Valve Mounting Permitted by ASME CC2887-1		
Task Group: D. Marek (PM), T. Patel, J. Ball		
Explanation of Need: ASME Code Case 2887-1 permits the installation of pressure relief valves below a low mass water tube boiler or water heater under certain conditions. This set of conditions and alternate location should be addressed in the NBIC as the use of low mass water tube boilers and water heaters becomes more widespread.		
July 2021 Meeting Action: Ms. Brodeur presented a progress report for this item.		

Item Number: 19-85	NBIC Location: Part 4, 2.3.6 j)	No Attachment
General Description: Thermal Fluid Heaters		
Task Group: T. Patel (PM), B. Nutter		
Explanation of Need: Thermal Fluid heaters with no change of phase are not specifically addressed in 2.3.6 j).		
July 2021 Meeting Action: A motion was made and seconded to close this item with no action, as the 2021 NBIC resolved the need for this item. This motion passed unanimously.		

Item Number: 20-56	NBIC Location: Part 4, 2.3.6 j)	No Attachment
General Description: Review and clarify requirements training program for T/O holders		
Subgroup: PRD		
Task Group: A. Donaldson (PM), A. Cox, B. Donaldson, D. Marek, J. Simms, P. Dhobi, D. McHugh		
July 2021 Meeting Action: Ms. Brodeur presented a progress report for this item.		

iii. New Items:

Item Number: 20-85	NBIC Location: Part 4, 3.2.6	No Attachment
General Description: Add language to Part 4, 3.2.6 to define test intervals for thermal fluid heater PRDs		
Subgroup: PRD		
Task Group: B. Nutter (PM), T. Patel, D. Schirmer, J. Wolf		
Explanation of Need: The proposed language comes from work done on action item 19-88.		
July 2021 Meeting Action: Ms. Brodeur presented a progress report for this item.		

Item Number: 21-04	NBIC Location: Part 4, 3.3	No Attachment
General Description: Test Only (T/O) Annual Training Review		
Subgroup: PRD		
Task Group: None assigned.		
Explanation of Need: An Annual Review of Qualification has been a requirement of the VR Program for over 20 years. It has provided assurance that the Certificate Holder's Personnel are able to properly perform the activities required to maintain the reliability of In-Service Pressure Relief Devices to the Standards established by NBIC. It will serve to verify the Certificate Holder's Personnel are able to properly perform required activities accurately and safely. This is necessary to maintain the NBIC Standards for the protection of the public.		
July 2021 Meeting Action: A motion was made and seconded to close the item with no action, as its scope is covered by item 20-56. This motion passed unanimously.		

Item Number: 21-05	NBIC Location: Part 4, 3.3 & 4.8	No Attachment
General Description: Mandatory Shop Audits for VR & T/O Certificate Holders		
Subgroup: PRD		
Task Group: A. Donaldson (PM), A. Cox, J. Simms, P. Dhobi, T. Tarbay, D. Marek		
Explanation of Need: There has long been a requirement for an Annual Audit of Field Activities for VR and, more recently, T/O Activities. This same opportunity for improvement should be extended to Shop Activities that involve for T/O or VR Repair, as applicable, are properly performed and documented.		
July 2021 Meeting Action: Ms. Brodeur presented a progress report for this item.		

Item Number: 21-08	NBIC Location: Part 4, S4.4	No Attachment
General Description: Additional guidance for tank vent repairs		
Subgroup: PRD		
Task Group: D. DeMichael (PM), B. Donalson, B. Nutter, K. Beise, J. Grace		
Explanation of Need: The recently approved S4.4, "Weight Loaded Vents," provided new guidance for tank vent repairs. Several additional topics need to be addressed to enhance the guidance. These topics include: 1) Suggested test equipment and configuration for the prescribed tank vent testing. 2) Minimum requirements for replacement parts, 3) Guidance for painting tank vent components.		
July 2021 Meeting Action: Ms. Brodeur presented a progress report for this item.		

Item Number: 21-16	NBIC Location: Part 4, 4.8.5.4 i) 3)	Attachment Page 72
General Description: Verification of Pressure Relief Valve Spring During VR Repair Activities		
Subgroup: PRD		
Task Group: None assigned.		
Explanation of Need: The existing requirement requires the replacement of original springs when the spring chart is revised if the Manufacturer is unable or unwilling to provide verification for the original spring.		
July 2021 Meeting Action: A motion was made and seconded to close the item with no action, and a written response will be sent to the inquirer informing them of the item's closure. This motion was passed unanimously.		

Item Number: 21-18	NBIC Location: Part 4, 3.2.6	No Attachment
General Description: Pressure Tests for Pressure Relief Valve Repair Parts		
Subgroup: PRD		
Task Group: J. Simms (PM), T. Tarbay, A. Donaldson, D. DeMichael, T. Patel, B. Nutter		
Explanation of Need: Pressure relief valve manufacturers must produce valve parts that comply with ASME Code requirements to be able to apply the ASME Symbol Stamp and Designator to a new valve. These parts are the same that are sold as repair parts. The logistic issues to fabricate and maintain an inventory of spare parts not complying with ASME Code requirements is significant versus producing all parts in compliance with code. Consequently, why have a pressure test requirement for parts purchased from the valve manufacturer for those certificate holders who chose to buy parts produced by the manufacturer?		
July 2021 Meeting Action: Ms. Brodeur presented a progress report for this item.		

d. Subcommittee Installation

Mr. Eddie Wiggins, Vice Chair of Subcommittee Installation, presented the reports for the subcommittee since Ms. Wadkinson was not in attendance.

i. Interpretations

Item Number: 20-84	NBIC Location: Part 1, 3.7.5.1 d) 4)	No Attachment
General Description: Adjustable Packing on Low Pressure Boiler Stop Valves		
Subgroup: SG Installation		
Task Group: M. Wadkinson (PM), R. Spiker, and M. Downs		
Explanation of Need: Jurisdictions need to know if this requirement applies to all low pressure boiler stop valves (steam, hot water heat, and hot water supply) so they can effectively communicate this requirement to their constituents and can enforce the code when new items are installed.		
Background Information: Most new hot water heating boilers and hot water supply boilers are being installed with appropriately-pressure/temperature-rated butterfly valves as their outlet isolation valves. Most butterfly valves that are installed do not have adjustable pressure-type packing glands. Instead, these valves are supplied with EPDM or Viton seals inside the stem housing to prevent water escape. EPDM is rated to 275 F, and Viton is rated to 300 F. It is unclear whether or not the text of the referenced code is a requirement that is specifically intended to apply to water boilers, or if it is a requirement that has simply been in the code and has carried forward through the years. It is also unclear as to the safety basis for requiring adjustable packing for low pressure hot water boiler stop valves.		
July 2021 Meeting Action: A motion was made and seconded to close the item with no action, as the inquirer withdrew their request. This motion passed unanimously.		

New Interpretations:

Item Number: 21-23	NBIC Location: Part 1, S3.1	Attachment Page 73
General Description: Interpretation of scope on Install. of Liquid Carbon Dioxide Storage Vessel		
Subgroup: SG Installation		
Task Group: R. Smith (PM), E. Wiggins, and P. Jennings		
Explanation of Need: It is not clear in the NBIC if a closed loop CO2 refrigeration system would fall under this category. If so, this would prohibit the installation of the most common low GWP refrigerants being used for HVAC & refrigeration on stores.		
Background Information: During his site inspection, an inspector in Tennessee stated that this code applies to the refrigeration system's flash tank installed in a machine house on top of a Publix grocery store roof. Since he has rejected it, building cannot continue, and this has jeopardized the build schedule. As stated above, this refrigerant is used all over the US in HVAC & refrigeration systems and is what the government is pushing us to to reduce the GWP associated with refrigerants.		
July 2021 Meeting Action: Mr. Wiggins presented the proposed interpretation to the committee. A motion was made and seconded to approve the interpretation. This motion was approved unanimously.		

Item Number: 21-24	NBIC Location: Part 1, 3.7.5.1 b)	No Attachment
General Description: Stop valves on boiler package that is isolated from system water		
Subgroup: SG Installation		
Task Group: R. Spiker (PM), R. Austin, and J. Kleiss.		
Explanation of Need: A pool heating packaged manufactured by my employer has been rejected by an inspector because there are no stop valves on the supply and return of the boiler. The inspector references NBIC Part 1, 3.7.5.1 b)1). While clause 3.7.5.1 b)2) could provide an exception for use of stop valves, that is only valid when the boiler is located above the associated system piping.		
Background Information: 3.7.5.1 b) 1) Stop valves shall be located at an accessible point in the supply and return pipe connections as near as is convenient at practicable, of a single hot water boiler installation to permit draining the boiler without emptying the system. 2) When the boiler is located above the system and can be drained without draining the system stop valves required in NBIC Part 1, 3.7.5.1 b) 1) may be eliminated.		
July 2021 Meeting Action: A motion was made and seconded to close the item with no action, as the inquirer withdrew their request. This motion passed unanimously.		

ii. Action Items – Old Business

Item Number: NB11-1901	NBIC Location: Part 1	No Attachment
General Description: Add guidance for the safe installation of high pressure composite pressure vessels operating in close proximity to the public		
Subgroup: FRP		
Task Group: R. Smith (PM), M. Richards, S. Konopacki, D. Patten and E. Wiggins		
July 2021 Meeting Action: Mr. Wiggins presented a progress report for this item.		

Item Number: 20-27	NBIC Location: Part 1, 1.6.9 & S6.3	No Attachment
General Description: Carbon Monoxide Detector/Alarm NBIC 2019		
Subgroup: SG Installation		
Task Group: E. Wiggins (PM), R. Spiker, R. Smith, G. Tompkins, S. Konopacki and R. Austin		
Explanation of Need: These codes are being enforced by some jurisdictions on existing installations. Inspectors need to know what codes we need to enforce. Do the detectors have specific levels of CO when an alarm is to go off? Is there a requirement for an audible alarm or decibel level of the alarm? Where in the boiler room should the alarm/monitor be mounted?		
July 2021 Meeting Action: Mr. Wiggins presented a progress report for this item.		

Item Number: 20-33	NBIC Location: Part 1	No Attachment
General Description: Flow or Temp Sensing Devices forced Circulation Boilers		
Subgroup: SG Installation		
Task Group: M. Downs (PM), D. Patten, M. Wadkinson		
Explanation of Need: Incorporation of applicable CSD-1 requirements.		
July 2021 Meeting Action: Mr. Wiggins presented a progress report for this item.		

Item Number: 20-34	NBIC Location: Part 1	No Attachment
General Description: Venting of gas train components		
Subgroup: SG Installation		
Task Group: P. Jennings (PM), M. Washington, R. Adams		
Explanation of Need: Incorporation of applicable CSD-1 requirements.		
July 2021 Meeting Action: Mr. Wiggins presented a progress report for this item.		

Item Number: 20-35	NBIC Location: Part 1	No Attachment
General Description: Installation requirements for Fuel Oil Trains		
Subgroup: SG Installation		
Task Group: G. Tompkins (PM), D. Patten, M. Washington		
Explanation of Need: Incorporation of applicable CSD-1 requirements.		
July 2021 Meeting Action: A motion was made and seconded to close this item with no action, as its scope is being combined with item 20-34. This motion passed unanimously.		

Item Number: 20-39	NBIC Location: Part 1	No Attachment
General Description: Modular Boilers		
Subgroup: SG Installation		
Task Group: T. Clark (PM), M. Downs, M. Wadkinson, D. Patten, R. Austin		
Explanation of Need: Incorporation of applicable CSD-1 requirements.		
July 2021 Meeting Action: Mr. Wiggins presented a progress report for this item.		

Item Number: 20-41	NBIC Location: Part 1	No Attachment
General Description: Safety and Safety Relief Valves for Steam and Hot Water Heating Boilers.		
Subgroup: SG Installation		
Task Group: E. Wiggins (PM), J. Brockman, G. Tompkins		
Explanation of Need: Incorporation of applicable CSD-1 requirements.		
July 2021 Meeting Action: Mr. Wiggins presented a progress report for this item.		

Item Number: 20-43	NBIC Location: Part 1	No Attachment
General Description: Safety Relief valve for Hot Water Supply Boilers		
Subgroup: SG Installation		
Task Group: W. Anderson (PM), E. Wiggins, J. Brockman		
Explanation of Need: Incorporation of applicable CSD-1 requirements.		
July 2021 Meeting Action: Mr. Wiggins presented a progress report for this item.		

Item Number: 20-44	NBIC Location: Part 1	No Attachment
General Description: CW Vacuum Boilers		
Subgroup: SG Installation		
Task Group: R. Spiker (PM), M. Washington, M. Byrum		
Explanation of Need: Incorporation of applicable CSD-1 requirements.		
July 2021 Meeting Action: Mr. Wiggins presented a progress report for this item.		

Item Number: 20-62	NBIC Location: Part 1, 1.4.5.1	No Attachment
General Description: Update the National Board Boiler Installation Report		
Subgroup: SG Installation		
Task Group: T. Clark (PM), E. Wiggins, R. Spiker, T. Creacy, P. Jennings, G. Tompkins, and D. Patten.		
July 2021 Meeting Action: Mr. Wiggins presented a progress report for this item.		

Item Number: 20-86	NBIC Location: Part 1, 2.10.1 a)	No Attachment
General Description: Testing and Acceptance: Boiling-out Procedure		
Subgroup: SG Installation		
Task Group: E. Wiggins (PM), D. Patten, M. Washington and S. Konopacki.		
July 2021 Meeting Action: Mr. Wiggins presented a progress report for this item.		

iii. Action Items – New Business

Item Number: 21-01	NBIC Location: Part 1, 3.7.5.1 d)	Attachment Page 74
General Description: Add verbiage for use of Valves that do not have adjustable packing		
Subgroup: SG Installation		
Task Group: M. Wadkinson (PM)		
Explanation of Need: Add verbiage for use of Valves that do not have adjustable packing. Not for steam use.		
July 2021 Meeting Action: Mr. Wiggins introduced the item and presented the proposed changes. A motion was made and seconded to approve the proposal as presented. Mr. Newton asked if “alternate” was necessary, and Mr. Wiggins replied that the same wording is used in ASME Section IV. Some wording was changed, and the original motion was amended to include the changes made to the proposal. The amended motion was approved unanimously.		

11. Liaison Activities

i. American Society of Mechanical Engineers BPV Code (ASME BPV)

- Mr. Paul Edwards presented his report on recent ASME BPV activities. The full report can be seen on [Attachment Page 75](#).

ii. American Welding Society (AWS)

- Mr. Jim Sekely presented his report on recent AWS activities. The full report can be seen on [Attachment Page 80](#).

12. Future Meetings

- January 17-20, 2022 – The Westgate Hotel, San Diego, CA
- July 2022 – To be determined.

Mr. Wielgoszinski thanked all the visitors for their attendance and participation in the meeting. He then asked for everyone except Main Committee members to leave the meeting so that they could start an executive session to handle membership voting. The results of this session are in section 8 of these minutes.

After the executive session concluded, Mr. Wielgoszinski gave a few parting words as Chair. He thanked the committee members and National Board staff for their dedication and hard work.

13. Adjournment

Mr. Wielgoszinski adjourned the meeting at 2:28 PM Eastern Time.

Respectfully submitted,

Jonathan Ellis

Jonathan Ellis
NBIC Secretary



*THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS*

**NATIONAL BOARD
INSPECTION CODE
COMMITTEE**

ATTACHMENTS

NBIC Main Committee					
Last Name	First Name	Interest Category	Role	In Person	Virtual
Wielgoszinski	Robert	Authorized Inspection Agencies	Chair	X	
Galanes	George	Users	Vice Chair	X	
Ellis	Jonathan		Secretary	X	
Austin	Randall	Users	Member	X	
Brodeur	Marianne	National Board Certificate Holders	Member	X	
Edwards	Paul	National Board Certificate Holders	Member		X
Getter	Jim	Manufacturers	Member	X	
Hopkins	Craig	National Board Certificate Holders	Member		X
LeSage	Donnie	Jurisdictional Authorities	Member	X	
Morelock	Brian	Users	Member		X
Newton	Venus	Authorized Inspection Agencies	Member	X	
Patel	Thakor	Manufacturers	Member		X
Richards	H. Michael	General Interest	Member		X
Sansone	Matthew	Jurisdictional Authorities	Member	X	
Seime	Trevor	Jurisdictional Authorities	Member	X	
Sekely	James	General Interest	Member		X
Sturm	Rick	Jurisdictional Authorities	Member		
Toth	Marty	General Interest	Member	X	
Troutt	Robby	Jurisdictional Authorities	Member	X	
Wadkinson	Melissa	Manufacturers	Member		Matt Downs
Washington	Milton	Jurisdictional Authorities	Member		
Welch	Paul	Authorized Inspection Agencies	Member	X	









































NBIC Main Committee Meeting, 7/15/2021

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GARY SCRIVER	NBBI		
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NBIC Main Committee Meeting, 7/15/2021

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Terry Hellman	NBBI	hellman@nbbi.org	
Kellay Rodriguez	NBBI	krdriguez@nbbi.org	
Wenny Whit	NBBI	wwhit@nbbi.org	

Find a participant

- JE** Jonathan Ellis (Co-host, me)  
- NM** NBIC Main Committee Meeting Room (Host)   
- V-** V - Linn W Moedinger   
- AM** A- Matt Downs 
- BS** Ben Schaefer - V  
- BM** Bob McGuire (V)  
- CH** Craig Hopkins - M [Ask to Unmute](#) [More >](#)
- DG** Darrell Graf  
- D** Dave 'Sully' Sullivan-AR  
-  Donnie LeSage  
- IP** Ian Powell PE (TN)  
- JS** Jim Sekely  
- JF** Jon Ferreira  
- LD** Louis Dutra Guest  
- PE** Paul Edwards - M  
- R-** Richards - M  
- RM** Rick Musser  
- SF** Steve Frazier - V  
- TP** Thakor Patel - M  
- V-** V - Tom Clark - State of Oregon  

VP	V- Patrick Jennings HSB	 
VB	V-Joe Brockman FM Global	 
V	V-M.A.Shah	 
VC	V-Michael Carlson	 
VM	V-Tim Memmer - Quality Steel	 

Items Approved for the 2023 NBIC

Title	Item Number	Cycle	Assigned Subgroup
Prepare a guide for repair of tank vents	NB12-0901	A	Subgroup Pressure Relief Devices
Create Guidelines for Installation of Pressure Relief Devices for Organic Fluid Vaporizers	NB15-0308	A	Subgroup Pressure Relief Devices
Review testing requirements for inservice testing of pressure relief devices	NB15-0321	A	Subgroup Pressure Relief Devices
Add practicable to the glossary and it's definition	20-51	A	Subgroup Repairs/Alterations
Liquid Pressure Testing of Alterations	20-80	A	Subgroup Repairs/Alterations
Make it mandatory to install a temperature sensor in the stack of a thermal fluid heater	20-94	A	Subgroup Installation
Charpy Impact Test Temperature for Welding Method 2	20-75	A	Subgroup Repairs/Alterations
UT Thickness Check for a New Boiler	21-20	A	Task Group Historical Boilers
Review and clarify requirements for documented training program for VR and T/O programs.	19-2	A	Subgroup Pressure Relief Devices
Reword to provide clarity; contradictory requirement Part 3; 3.2.2 e)	19-16	A	Subgroup Repairs/Alterations
Reporting of Form NB-136	20-82	A	Subgroup Inspection
Update of SWPS Table 2.3	21-11	A	Subgroup Repairs/Alterations
Examples of repairs	20-55	A	Subgroup Repairs/Alterations
Correct Paragraph numbers in Section 3 Related to T/O Requirements	20-58	A	Subgroup Pressure Relief Devices
Contacting jurisdiction regarding de-rates.	21-30	B	Subgroup Repairs/Alterations
Revision adding heat exchanger tubes with an outside diameter of ¾" or smaller to NBIC Part 3.3.2 Routine Repairs	18-100	B	Subgroup Repairs/Alterations
Riveted Stay bolt dimensions	18-6	B	Task Group Locomotive Boilers
Permanent nameplate removal from pressure vessel being removed from service	18-43	B	Subgroup Inspection
Add verbiage for use of Valves that do not have adjustable packing	21-01	B	Subgroup Installation
Revision of the definition of ANIA in Section 9 of all Parts	20-47	B	Subgroup Repairs/Alterations
Remove S6.15.1 - It is redundant and is not needed	20-88	B	Subgroup Repairs/Alterations
Welds Across Riveted Lap Seams	20-69	B	Task Group Locomotive Boilers
Additional requirements for thermal fluid heaters	19-88	B	Subgroup Inspection

Item 18-6

S1.4.2.9 STAYBOLTS

c) Staybolt head flush with or below the surface of the sheet ([see Figure S1.4.9.2-a](#));

e) Waterside corrosion ([see Figure S1.4.9.2-b](#));

Figure S1.4.9.2-a

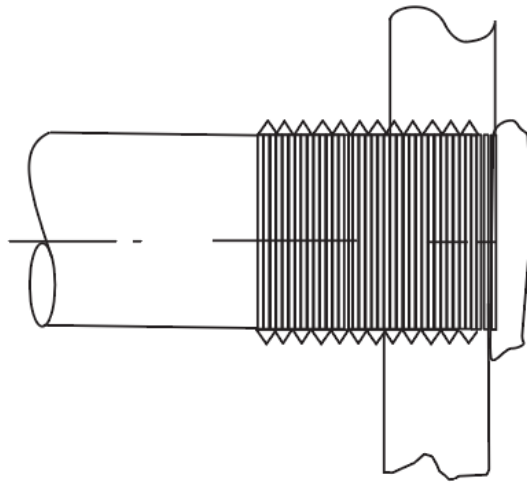
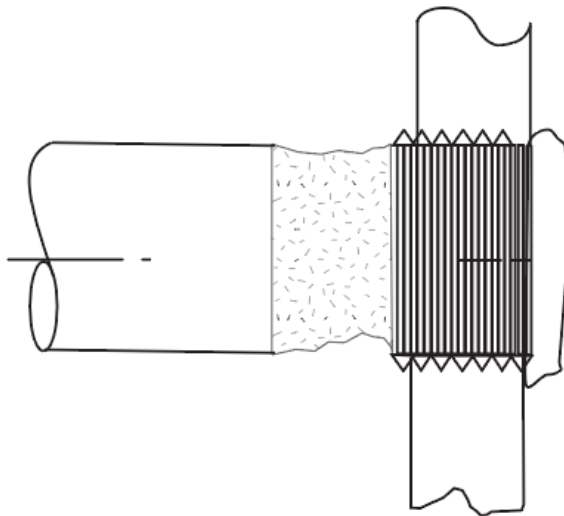


Figure S1.4.9.2-b



1.6 CHANGE OF SERVICE

Supplement 9 of this part provides requirements and guidelines to be followed when a change of service or service type is made to a pressure-retaining item.

Whenever there is a change of service, the Jurisdiction where the pressure-retaining item is to be operated, shall be notified for acceptance, when applicable. Any specific jurisdictional requirements shall be met.

1.7 SCRAPPING PRESSURE RETAINING ITEMS

The owner or user shall should deface, beyond recognition and remove the code nameplate(s) or stamping of any pressure retaining item that is scrapped. The removal or defacement of the Code nameplate(s) should be verified by the Inspector, and the National Board form NB-XXX shall should be completed and submitted to the National Board and Jurisdiction, if required.

ADD DEFINITION:

SCRAPPED – Permanent removal from service by owner's or user's procedures.

Scrapping of Pressure Retaining Items
In accordance with provisions of the National Board Inspection Code

1.Submitted to:

Name of Jurisdiction

Address

Phone Number

2. Submitted by:

(Name of Owner/User)

Address

Phone Number

3. Manufactured by:
(name and address)

4. Location of Installation:
(address)

5. Manufacturer's Data Report:

YES NO

6. Item Registered with National Board:

YES NO

NB Number: _____

7. Item Identification:

Year Built: _____

Mfr. Serial No.: _____

Type: _____

Jurisdiction no.: _____

Dimensions: _____

MAWP: _____

8. Date of removal or defacement of the Code nameplate(s) _____

9. I certify that to the best of my knowledge and belief the statements in this report are correct, and with provisions of the National Board Inspection Code.

Name of Owner or User: _____

Signature: _____ Date: _____

Instructions for Completing the Form NB-XXX, Scrapping of Pressure Retaining Items Form

Items 1-9 shall be completed by the owner, user, or "R" StampCertificate Holder making the request.

- 1) The name, address, and phone number of the Jurisdiction, Authorized Inspection Agency (when there is no Jurisdiction) the form is being submitted to for approval.
- 2) Enter the name and address of your company or organization.
- 3) Enter the name and address of the manufacturer shown on the name plate.
- 4) Enter the name and address of the location where the pressure-retaining item is installed. If this is the same as number 2, check the box "same as # 4."
- 5) Manufacturer's Data Report Attached-check the appropriate box.
- 6) Is the pressure-retaining item registered with the National Board? Check the appropriate box. If yes, provide the National Board Registration Number.
- 7) Provide as much information as known to help identify the pressure-retaining item.
- 8) Enter date the removal or defacement of the Code nameplate.
- 9) Enter the name and signature of the owner, user, or "R" StampCertificate Holder (and "R" StampCertificate number if applicable).

Note: Once completed the requester shall file a copy with the Jurisdiction where the pressure retaining item is installed, the National Board (if registered with the National Board), and the owner or user of the vessel if the request was made by an "R" StampCertificate Holder, and upon request to the Authorized Inspection Agency who witnessed the removal or defacement of the nameplate.

2.3.6.11 INSPECTION OF VESSELS FOR PRESSURES AT AND ABOVE 10,000 PSI

- a) This section provides guidelines for the inspection of pressure vessels designed for pressures at or above 10,000 PSI.
- b) Inspector shall verify the vessel is constructed to a standard acceptable to the jurisdiction.
- c) The inspector shall verify the following requirements as part of the inspection:
 - 1) Records are being kept of cycles;
 - 2) Complete documentation of installation of safety interlocks required by the manufacturer and the jurisdiction for the vessel with listed set points, readily available to the operator and inspector. All devices must be listed;
 - 3) Documentation of safety device alarms and interlock checks are being completed on each protective device and controls are calibrated in accordance with manufacturers specifications;
 - 4) Operators and maintenance personnel are trained for the inspection, maintenance and operation of the vessel and systems; and
 - 5) Documentation of pressure relief device inspection and testing.
- d) Vessels constructed for a set number of cycles, as defined by the code of construction, which have reached the end of those cycles, must be removed from service or requalified for continued use. Any requalification for continued service must be completed in accordance with the requirements of the jurisdiction, where applicable. The inspector shall verify that documentation of any requalification is retained.
- e) Requalification of any vessel shall either be completed by the original manufacturer or a manufacturer familiar with the construction of pressure vessels at and above 10,000 PSI. Guidance for completing requalification can be found in ASME PCC-3, *Inspection Planning and Using Risk-Based Methods*.

Action Item Request Form

CODE REVISIONS OR ADDITIONS

Request for Code revisions or additions shall provide the following:

a) Proposed Revisions or Additions

Current text is incomplete with respect to inspecting riveted joints for failure. This proposal suggests adding more text, found in historic inspection documents, to further assist and direct the field inspector for assessing the condition of a riveted joint.

Existing Text:

S2.10.7 LIMITATIONS

- a) The maximum allowable working pressure shall be the lesser of that calculated in accordance with NBIC Part 2, S2.10, or the MAWP established by the original manufacturer.
- b) The shell or drum of a boiler in which a "lap seam crack" extending parallel to the longitudinal joint and located either between or adjacent to rivet holes, when discovered along a longitudinal riveted joint for either butt or lap joint, shall be permanently discontinued for use under steam pressure, unless it is repaired with jurisdictional approval.

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

The text covers cracks parallel to a longitudinal joint, but there is no text covering inspection of plate material around a rivet.

eb) Background Information

Review of the NBIC shows that failure indicators of riveted seams have not been identified or itemized. This proposal addresses this oversight.

Referenced standards, related discussion follow proposed wording.

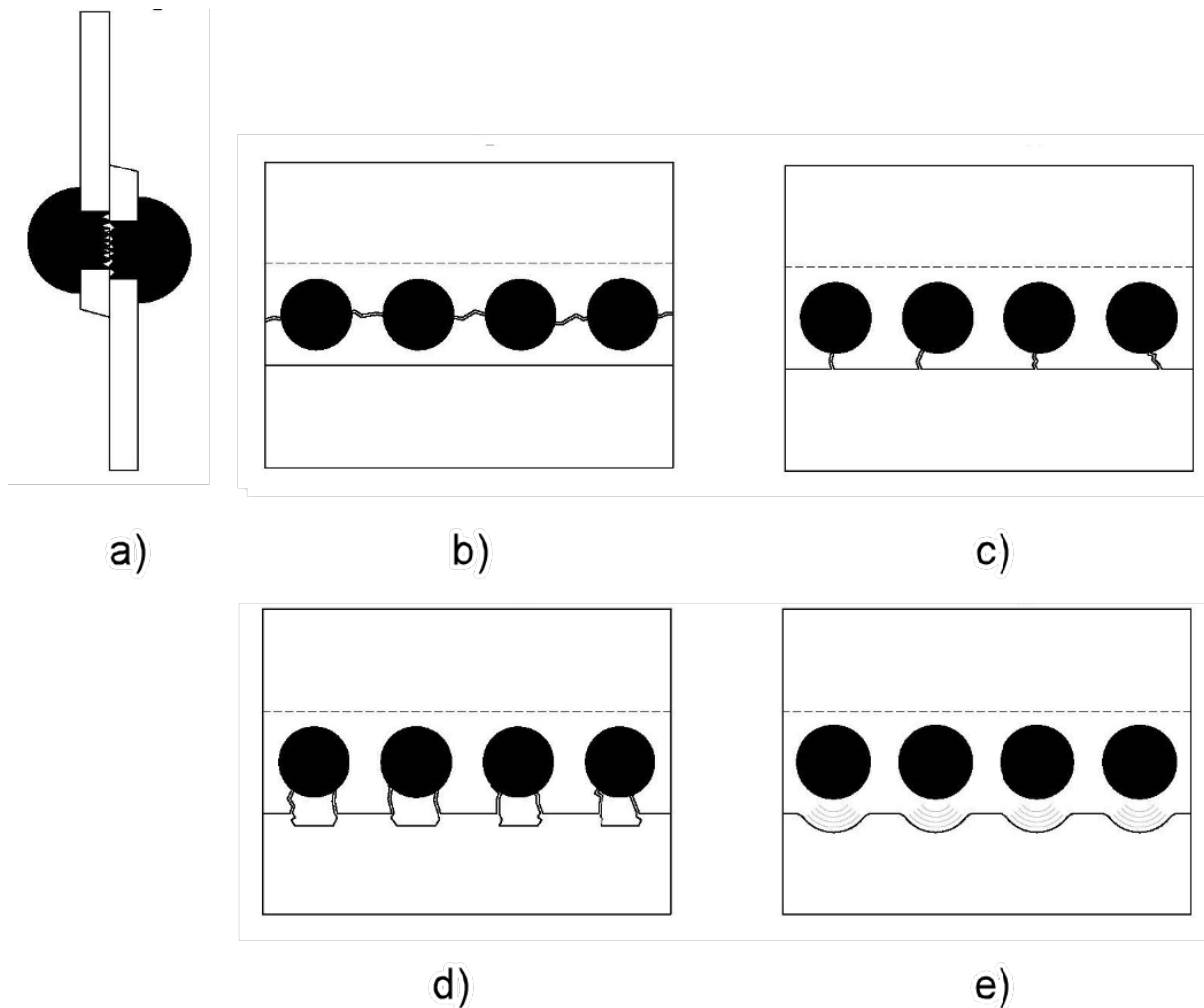
S2.10.2.3 INSPECTION OF RIVETED SEAMS

A riveted joint in a vessel subjected to pressure may fail in a number of different ways, depending on the type and relative proportions of the joint. Some methods of failure may be classified as follows:

- a.) Rivets may shear off;
- b.) The plate may tear along the centerline of the row of rivets;
- c.) The plate may shear in front of the rivets;
- d.) The plate may tear from the outer edge of the rivet hole to the caulking edge; or
- e.) The plate may crush in front of the rivets.; ~~or~~
~~— The plate may fail at the caulking edge.~~

Figure S2.10.2.3 illustrates visual indicators of (a), (b), (c), (d), and (e). The Inspector shall visually inspect for cracked or stressed plate material along a riveted joint. Indications of failure shall be monitored or repaired, at the discretion of the Inspector and jurisdiction, when applicable.

FIGURE S2.10.2.3



Referenced text:

Steam Boiler Design, Part 2, Great Britain, 1922:

20. Methods of Failure of Riveted Joint.—A riveted joint in a vessel subjected to pressure may fail in a number of different ways, depending on the type and relative proportions of the joint; but the simplest methods of failure may be illustrated by taking a single-riveted lap joint as an example. With such a joint, the methods of failure may be classified as follows:

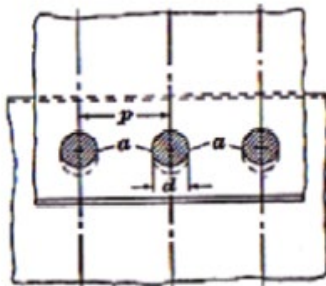


FIG. 19

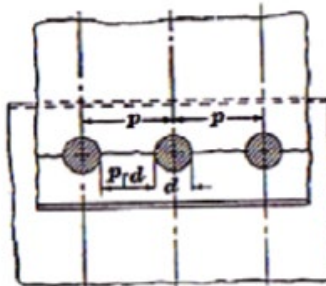


FIG. 20

1. The rivets may shear off, as shown in Fig. 19.

2. The plate may tear along the center line of the row of rivets, as shown in Fig. 20.

3. The plate may crush in front of the rivets, as shown in Fig. 21.

4. The plate may shear in front of the rivets, as shown in Fig. 22 (a).

5. The plate may tear from the outer edge of the rivet hole to the calking edge, as shown in Fig. 22 (b).

from the outer edge of the rivet hole to the calking edge, as shown in Fig. 22 (b).

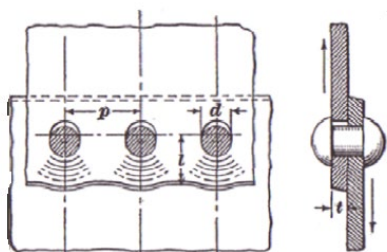


FIG. 21

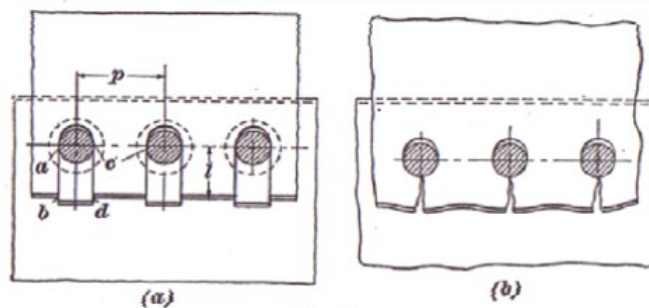


FIG. 22

The provided Note is also important, because a design that does not adhere to this rule may need a different joint efficiency value than what is provided in TABLE S2.10.6. This rule has existed but is not necessarily followed in pre-code boilers.

ASME, 1914:

183 On longitudinal joints, the distance from the centers of rivet holes to the edges of the plates, except rivet holes in the ends of butt straps, shall be not less than one and one-half times the diameter of the rivet holes.

Canadian Interprovincial Standard, 1931:

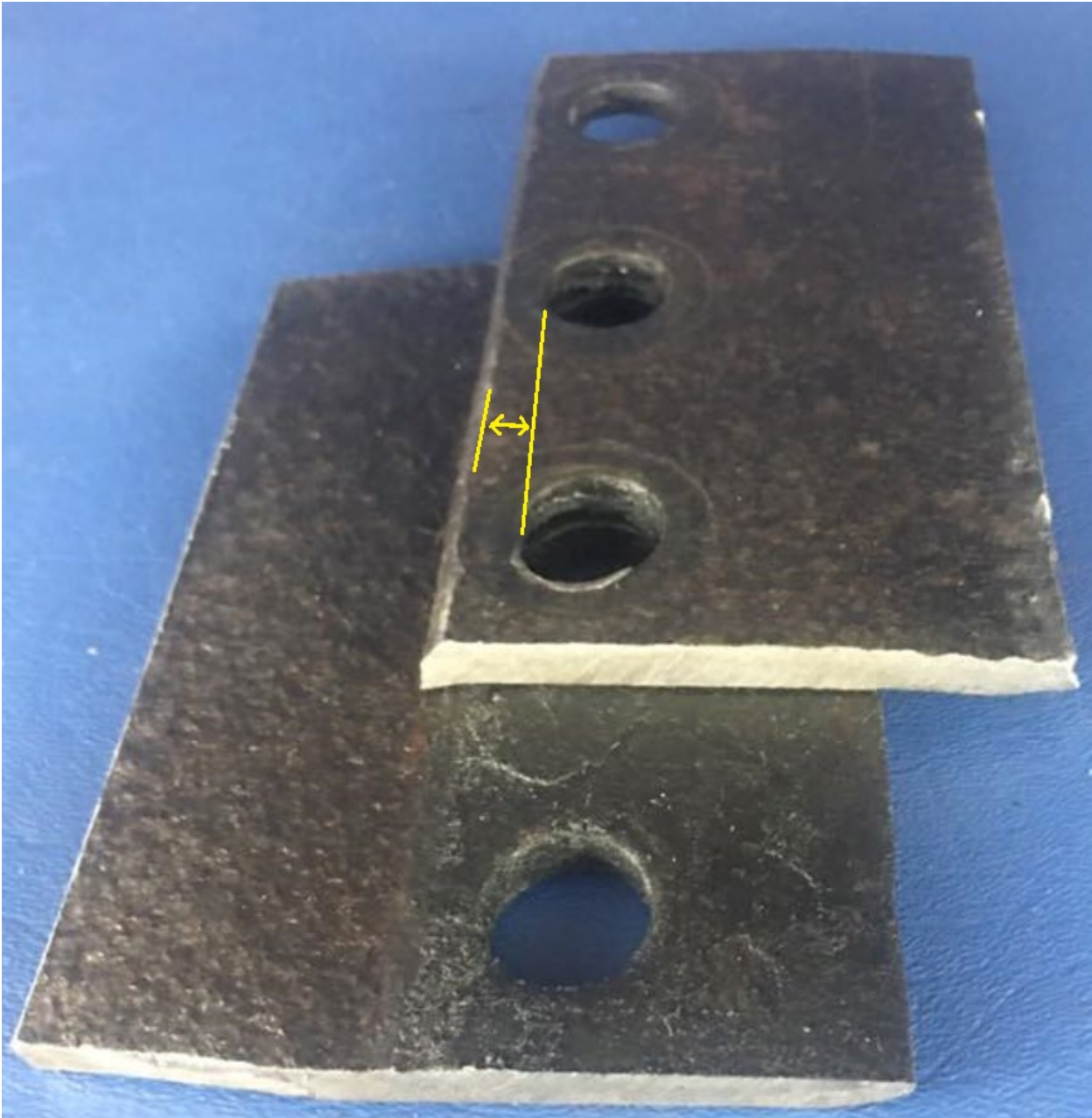
Lap Outside Rivet Holes

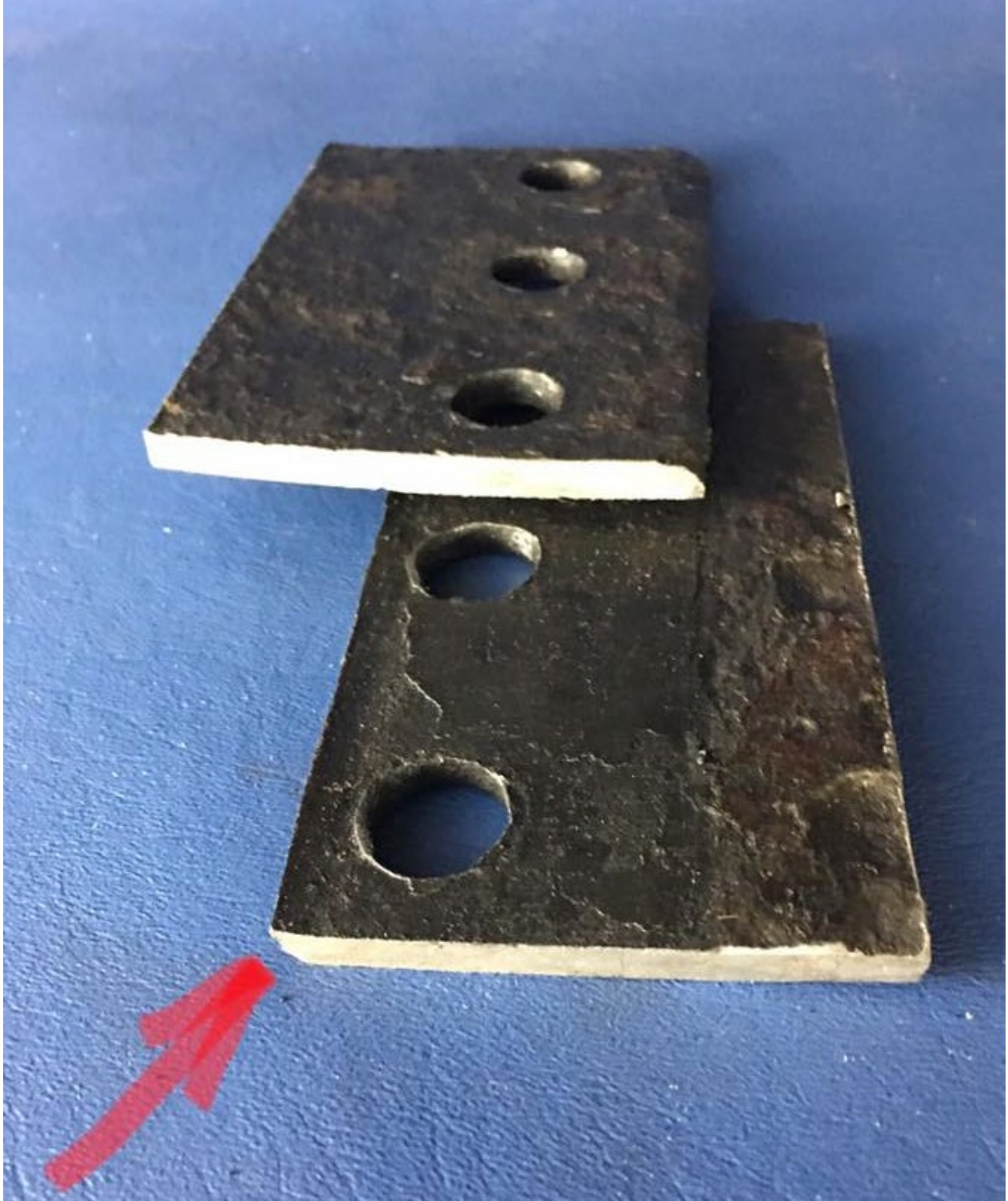
199. The lap of plate outside rivet holes measured from the outer edge of the rivet holes to edge of plate must be at least equal to diameter of rivet hole, and must not be more than 1/8 inch in excess of the diameter of the rivet hole.

Thurston, 1888:

tion. The joint is so proportioned that the fracture will occur by shearing the rivets rather than by breaking out the edge of the sheet or tearing away the lap bodily. The lap usually extends beyond the rivet-hole about 1.5 times the diameter of the rivet.

Single-row lap seam from an 1881 6hp Russell traction engine:





5.2.4 TEMPORARY REMOVAL OF NAMEPLATE FOR EXTERNAL INSPECTION, CLEANING, OR PAINTING OF VESSEL WITH NAMEPLATE STAND-OFF BRACKETS

- a) Some older vessels may have their nameplate attached on stand-off brackets which prevents, without complete removal of the nameplate, easy: inspection of the area under the nameplate (for possible corrosion); preparation and/or cleaning of the area under nameplate for re-painting or coating; and/or re-painting or coating of the area under nameplate. To accomplish these tasks on these older vessels, it may be desirable to remove the nameplate from the stand-off brackets and re-attach after the required tasks have been completed on the vessel.
- b) Temporary removal and re-attachment of nameplates is permitted when either requirement below is met:
- 1) A National Board Commissioned Inspector witnesses the removal and re-attachment of the nameplate in accordance with NBIC Part 3, 5.11 Removal of Original Stamping or Nameplate.
 - 2) Temporary removal and re-attachment is by a National Board "R" Stamp Holder who has the following controls in place to insure re-attachment of the nameplate to the correct vessel. Documented written procedure, approved by "R" Stamp Holder's Authorized Inspection Agency, and the Jurisdiction (if applicable), that clearly identifies: how the vessel will be marked, prior to removal of the nameplate, to identify traceability to the correct nameplate; and how it will be ensured that the correct nameplate is re-attached to the corresponding vessel. (One example that meets this marking requirement could be engraving of the vessel serial number on lug or support.)
- c) An alternative to complete removal of the nameplate is to partially detach the nameplate from the stand-off brackets, maintaining attachment of the nameplate to the vessel at all times, until required tasks are completed. In accordance with NBIC Part 2, 5.2.1.e) permission from the Jurisdiction or National Board Commissioned Inspector is not required for the reattachment of nameplates that are partially attached.

Task Group Locomotive Boilers**Summary**

Locomotive safety valves may have nameplate data that is missing or illegible. Owners have to rely on capacity charts produced by the manufacturers. These charts were dependent upon the lift of the valve. The valve lift prior to around 1920 was fixed at 0.1 inch. However, after 1920 or so, manufacturers began to increase the lift of their valves. This led to increased relieving capability. Thus, it is imperative to understand the lift of the valve on the locomotive in order to assign the correct relieving capability.

This is to ensure safety valves provide the adequate relieving capacity for steam locomotive boilers.

Proposal**S.1.6 SAFETY VALVES**

- a) The minimum safety valve capacity in pounds per hour (kilograms per hour) shall be calculated by multiplying the boiler heating surface area by the factor from the appropriate chart in NBIC Part 2, Table S1.6 (1 pound steam/hr/sq. ft = 4.88 kg steam/hr/sq meter).
- b) Pressure relief valves shall be selected with a total rated capacity equal to or greater than the required capacity.
- c) Where non-capacity valves are used on an existing boiler part, an accumulation test may be used to verify that the installed capacity is adequate.
 - (1) Accumulation testing may be hazardous because the boiler is being run at maximum fire, and pressure relief valve capacity has not been verified. It should be done only under carefully controlled conditions by trained and knowledgeable personnel.
 - (2) Boiler pressure shall be continuously monitored by both an operating gage and a calibrated test gage.
 - (3) The pressure relief valves shall first have been set in accordance with the operational verification test requirements in accordance with NBIC Part 2, S1.6.d.
 - (4) The accumulation test shall be performed by shutting off all other steam-discharge outlets from the boiler and forcing the fire to the maximum.
 - (5) The locomotive shall be secured from movement, cylinder and valve vents blocked open, and throttle unsecured so that it may be opened if necessary to relieve excess pressure.
 - (6) Should the pressure approach the limits specified in NBIC Part 2, S2.10, the throttle shall be opened enough to relieve the pressure and the fire reduced to prevent further accumulation of pressure. Corrective action to supply additional capacity shall then be taken.
 - (7) The safety relief valves shall be sufficient to prevent an excess pressure beyond that specified in NBIC Part 2, S2.10.
 - (8) Where the pressure relief valve capacity has been verified by an accumulation test, the valves shall be used only on the boiler on which they were tested. The valve identification numbers and set pressures shall be recorded on the data report for that specific boiler by the boiler manufacturer.
- d) Operational verification of steam locomotive pressure relief valves may be accomplished by either 1) or 2):

(1) Testing the valves on a steam test stand.

(2) Setting the valves on the locomotive boiler per the following:

a. A calibrated test gage shall be used in addition to the boiler operating gage.

b. The boiler pressure shall be brought up at a controlled rate and the valves alternately set until the lowest set valve is set to open at MAWP (For MAWP less than or equal to 70 psi, applicable tolerance is +/- 2 psi of the set pressure, FOR MAWP greater than 70 psi and less than 333 psi, applicable tolerance is +/- 3% of the set pressure) with a blowdown not less than 2% of MAWP.

c. The low set valve may then be gagged, and the higher set valve(s) shall then be set to open within the set tolerances (For MAWP less than or equal to 70 psi, set tolerance is +/- 2 psi of the set pressure, For MAWP greater than 70 psi and less than 333 psi, set tolerance is +/- 3% of the set pressure). The blowdowns for the higher set valves shall be set such that the blowdown is greater than 2% of MAWP, and the valves will close below the lowest set valve set pressure. No valve shall be set to a lift pressure greater than 6 psi above MAWP.

a)



PROPOSED INTERPRETATION

Item No. 21-22
Subject/Title Examples of Repairs and Alterations
Project Manager and Task Group Trevor Seime, Subcommittee Repairs/Alterations
Source (Name/Email) Terrence Hellman / thellman@nationalboard.org
Statement of Need Disclaimer statement would help clarify that the listed examples are not a set list, and only represent some case examples.
Background Information This verbiage may be included in a current Action Item (21-12), however, this interpretation may provide clarity until the proposed verbiage is added to the NBIC.
Proposed Question Q1 - Are the listed examples of Repairs in 3.3.3 and Alterations in 3.4.4 intended to represent only some case examples and are not meant to limit or dictate whether a particular situation, is or is not, a repair or alteration?
Proposed Reply A1 - Yes
Committee's Question 1 Q1 - Are the examples of Repairs and Alterations listed in 3.3.3 and 3.4.4, respectively, intended to represent only some case examples?
Committee's Reply 1 A1 – Yes.
Rationale
Committee's Question 2
Committee's Reply 2
Rationale

VOTE:							
COM MITTEE	Appr oved	Disapproved	Abs taine d	Not Voting	Passed	Faile d	Date

Background for Interpretation 18-100

Task Group PM – David Martinez;

Task Group members: Marty Russel and Nathan Carter

Item Number: 18-100 NBIC Location: Part 3, 3.3.2 Attachment Page 44

General Description: Revision adding (plugging) heat exchanger tubes with an outside diameter of $\frac{3}{4}$ " or smaller to NBIC Part 3.3.2 Routine Repairs

Subgroup: Repairs and Alterations

Task Group: David Martinez (PM)

January 2019 Meeting Action: Progress Report: Mr. Martinez reported on this item and presented interpretations (98-04 and 98-29) that may satisfy the revision request, however after a presentation from TEiC regarding the use of explosive welding of tubes to be considered as a routine repair, Mr. Martinez recommend this be considered progress report to continue working to address explosive welding as a Routine Repair.

3.3.2 ROUTINE REPAIRS

- a) Routine repairs are repairs for which the requirements for in-process involvement by the Inspector and stamping by the "R" Certificate Holder may be waived as determined appropriate by the Jurisdiction and the Inspector. All other applicable requirements of this code shall be met. Prior to performing routine repairs, the "R" Certificate Holder should determine that routine repairs are acceptable to the Jurisdiction where the pressure-retaining item is installed;
- b) The Inspector, with the knowledge and understanding of jurisdictional requirements, shall be responsible for meeting jurisdictional requirements and the requirements of this code;
- c) The "R" Certificate Holder's Quality System Program shall describe the process for identifying, controlling, and implementing routine repairs. Routine repairs shall be documented on Form R-1 with this statement in the Remarks section: "Routine Repair";
- d) Alternative welding methods without postweld heat treatment as described in NBIC Part 3, 2.5.3 shall not be used for routine repairs.

(Example of proposed additional category to examples of Routine Repairs – paragraph e)

- e) The following repairs may be considered as routine repairs and shall be limited to these categories:
 - 1) Welded repairs or replacements of valves, fittings, tubes, or pipes NPS 5 (DN 125) in diameter and smaller, or sections thereof, where neither postweld heat treatment nor

NDE other than visual is required by the original code of construction. This includes their attachments such as clips, lugs, skirts, etc., but does not include nozzles to pressure-retaining items;

2) The addition or repair of nonload bearing attachments to pressure-retaining items where postweld heat treatment is not required;

3) Weld buildup of wasted areas in heads, shells, flanges and fittings not exceeding an area of 100 in.2 (64,520 mm2) or a thickness of 25% of nominal wall thickness or 1/2 in. (13 mm), whichever is less;

4) Corrosion resistance weld overlay not exceeding 100 in.2 (64,520 mm2); ~~and~~

5) Seal welding a mechanical connection for leak tightness where by-design, the pressure retaining capability is not dependent on the weld for strength and requires no postweld heat treatment;

6) Plugging of heat exchanger tubes ¾ in. (19 mm) outside diameter and smaller when explosion welding is used as the method of plugging tubes.

Background Interpretation

INTERPRETATION 15-04

Subject: Part 3, Section 3

Edition: 2015

Question: Is explosion welding of plugs into leaking heat exchanger tubes considered a repair per the NBIC Part 3?

Reply: Yes.

Support for Consideration of the Proposed Action

ASME Section IX – 2019 (Addresses Procedure and Performance Qualification for Explosion Welding heat exchanger tubes to tubesheets, but not the plug to the tube)

QW-193 TUBE-TO-TUBESHEET TESTS

When the applicable Code Section requires the use of this paragraph for tube-to-tubesheet demonstration mockup qualification, QW-193.1 through QW-193.1.3 shall apply.

QW-193.1 Procedure Qualification Specimens. Ten mockup welds are required for qualifying each tube-to tubesheet welding procedure. The mockup assembly shall essentially duplicate the tube-to-tubesheet weld joint design to be used in production, within the limits of the essential variables of QW-288. The mockup test assembly shall be prepared with the tubesheet element having a thickness not less than the lesser of the thickness of the production tubesheet or 2 in. (50 mm). For tube-to-tubesheet welds to clad tubesheets, the cladding or overlay may be represented by a base material with a chemical composition that is essentially equivalent to the cladding composition. All welds in the mockup assembly shall be subjected to the following tests and shall meet the applicable acceptance criteria.

QW-193.1.1 Visual Examination. The accessible surfaces of the welds shall be examined visually with no magnification required. The welds shall show complete fusion, be free from visual cracks or porosity indications, and have no evidence of burning through the tube wall.

QW-193.1.2 Liquid Penetrant. The liquid penetrant examination shall meet the requirements of Section V, Article 6. The weld surfaces shall meet the requirements of QW-195.2.

QW-193.1.3 Macro-Examination. The mockup welds shall be sectioned through the center of the tube for macro-examination. The four exposed surfaces shall be smoothed and etched with a suitable etchant (see QW-470) to give a clear definition of the weld and heat-affected zone. Using a magnification of 10X to 20X, the exposed cross sections of the weld shall confirm

- (a) minimum leak path dimension required by the design
- (b) no cracking
- (c) complete fusion of the weld deposit into the tubesheet and tube wall face

**Table QW-288.2
Essential Variables for Procedure
Qualification of Tube-to-Tubesheet Welding
(Explosion Welding)**

Paragraph	Brief of Variables
QW-403 Base Metals	.35 ϕ Tube thickness
QW-410 Technique	.82 ϕ Pressure application
	.83 ϕ Explosive
	.84 ϕ Distance charge to tubesheet
	.85 ϕ Specified clearance

Legend:
 ϕ Change

QW-410.83 A change in the type of explosive or a change in the energy content greater than $\pm 10\%$.

QW-410.84 A change in the distance between the explosive charge and the tubesheet face greater than $\pm 10\%$.

QW-410.85 A change in the specified clearance between the tube and the tubesheet greater than $\pm 10\%$.

QW-193.2 Performance Qualification Specimens.

A minimum of five mockup tube-to-tubesheet welds are required to qualify each welder or welding operator. The same rules as those applicable for procedure qualification (QW- 193.1) shall be followed, with the following additional requirements and exceptions:

(a) The essential variables in QW-387 shall apply.

(b) Essential performance qualification variables applicable for each welding process listed in QW-350 or QW-360 shall also be observed in addition to the variables of Table QW-388.

(c) Postweld heat treatment may be omitted.

Only one mockup weld is required to renew a welder's or welding operator's qualification when that qualification has expired or has been revoked per the requirements of QW-322.1.

Logic to consider motion for approval:

- Explosion welding to plug leaking tubes is supported by qualified written welding procedures and welder qualification procedures compared to other mechanical tube-plugging methods that are performed with no NBIC guidance.
- Explosion welding does not rely on fusion to join the two materials. It is a pressure weld in which the explosive force joins the two materials. Unlike fusion welding that is allowed in other examples of Routine Repairs, there is no heat affected zone, and PWHT is not needed nor required.
- The majority, if not all explosion tube plugging is performed on tubes $\frac{3}{4}$ " and smaller, and typically under emergency conditions. No Inspector involvement would be required if this specific category was added to the categories of Routine Repairs
- The explosion tube-plugging method for tubes $\frac{3}{4}$ " and smaller would be more cost and schedule effective and is proven to be a reliable method for plugging leaking heat exchanger tubes for owners and users.

Note: The only realistic test upon completion of explosion tube-plugging is a pressure test.

1.5 QUALITY SYSTEM

A holder of a National Board *Certificate of Authorization* shall have and maintain a written Quality System. The Quality System shall identify the processes necessary to satisfactorily meet the requirements of the NBIC and shall be available for review. The Quality System may be in the form of a manual and may consist of several documents~~brief or voluminous~~, depending on the projected scope of work. The Quality System~~it~~ shall be treated confidentially by the National Board.

1.5.1 OUTLINE OF REQUIREMENTS FOR A QUALITY SYSTEM FOR QUALIFICATION FOR THE NATIONAL BOARD "R" CERTIFICATE OF AUTHORIZATION

The following is a guide for identifying features~~is a guide for required features which should be covered in the written Quality System as outlined in this section and of a Quality System which shall be included in the organization's Quality System Manual. As a minimum, each organization shall be address documented the required features~~ relative to the scope of work ~~to be performed by within the Certificate Holder's within the Organization's Quality System. shall explain their~~ intent, capability and applicability for each required feature shall be stated~~outlined in this section~~. Work may be subcontracted provided the necessary controls are clearly defined for maintaining full responsibility for code compliance by the National Board ~~repair organization~~Certificate Holder certifying the work.

a) Title Page

The title page shall contain the organization's Certificate Holder's legal name, accepted abbreviation, physical address, and scope of activities~~Scope of Work.~~

The scope of work shall clearly indicate the type of repairs and/or alterations the Certificate Holder is capable of and intends to carry out. The scope of work indicated shall include the following, as applicable.

- Repairs Only at either Shop or Field or Both
- Alterations Only at either Shop or Field or Both
- Repairs and Alterations at either Shop or Field or Both
- Metallic Repairs
- Non-Metallic Repairs
- Design Only

b) Content Page

The Quality System shall contain a page listing the contents of the manual by section, number (if applicable), revision level, and date of each section, as required for manual control. The content page shall list the activities described for in the Quality System so that each subject or document, number (if applicable), and revision level is clearly identified.

c) ~~Scope of Work~~

The scope of work shall clearly indicate the type of repairs and/or alterations the Certificate Holder organization is capable of and intends to carry out. The scope of work indicated shall include the following, as applicable.

Repairs Only at either Shop or Field or Both
Alterations Only at either Shop or Field or Both
Repairs and Alterations at either Shop or Field or Both
Metallic Repairs
Non-Metallic Repairs
Design Only

dc) Statement of Authority and Responsibility

A ~~dated~~ Statement of Authority and Responsibility, signed by a senior management official of the organization, shall clearly identify that the ~~be included in the~~ Quality System has the full support of management and endorsed by signature of a senior management official. ~~Further, the~~ The Statement shall also include:

- 1) A statement that all repairs or alterations carried out by the Certificate Holder organization shall meet the requirements of the NBIC and the Jurisdiction, as applicable;
- 2) The title of the individual who has the authority and responsibility charged with the development and ensuring the Quality System is implemented of the Quality System and as described, and confirming the freedom to identify quality problems, and to initiate, recommend and provide solutions and when required, stop or prohibit work from continuing.
- 3) A statement that ~~if there are conflicts or~~ a disagreements with-in the implementation of the Quality System, ~~will~~ shall be brought to the attention of the Certificate Holder's organization's senior management official ~~the matter is to be referred for a resolution to a higher authority and shall be resolved in a manner~~ that will not conflict with code, jurisdiction/regulatory authority or Quality System requirements; ~~and.~~

ed) Manual Quality System Control

The Quality System manual shall define how ~~include the necessary provisions for revisions~~ of individual subject sections, exhibits or documents will be identified, and how distribution and retrieval ~~issuing documents will be achieved to ensure~~ keep the manual current only the latest accepted revisions are available for use. In addition, the following shall be documented:

- 1) The title of the individual responsible for the preparation and authorized to approve of the Quality System including review of code editions, standards, and jurisdictional requirements.
- 2) revisions shall be included in the manual. Acceptance from the ~~Revisions must be accepted by the~~ Authorized Inspection Agency prior to issuance and implementation of the Quality System manual and its implementation.

fe) Certification

When electronic certification of documents is used, the Quality System shall include provisions describing the controls and safe guards that are employed to ensure the integrity of the certification.

gf) Organization

The Quality System shall include A ~~an~~ organizational chart which shall be described included for in the manual. It shall reflect actual levels of authority- and lines of communication associated with the functional job titles identified.- In addition, roles and responsibilities associated with the functional job titles identified within the organizational chart Quality System, include the title of the heads of all departments or divisions that perform functions that can affect the quality of the repair or alteration, shall be clearly defined and documented.- and it shall show the relationship between each department or division. The manual shall identify the title of those individuals responsible for preparation, implementation, or verification of the Quality System. The responsibilities shall be clearly defined and the

individuals shall have the organizational freedom and authority to fulfill those responsibilities. The following activities shall be documented :

- ~~— Responsibilities associated with the Authorized Inspection Agency (AIA) of record.~~
- ~~— Protocol describing when the AIA of record cannot provide coverage.~~
- ~~— Personnel performing supervisory activities for procedure and performance qualifications shall:~~

~~(a) be designated by the organization with responsibility for certifying qualification documents.~~

~~(b) have a satisfactory level of competence in accordance with the organization's quality program.~~

~~(c) have a record, maintained by the organization, containing objective evidence of the qualifications, training, or experience.~~

ghg) Drawings, Design and Specifications

The ~~manual~~Quality System shall contain controls to ensure that all applicable design information, ~~applicable~~ drawings, ~~design~~ calculations, specifications, and instructions are prepared or obtained, controlled, and interpreted in accordance with the scope of work and the original code of construction, including:-

- ~~• Initiation of job~~unique identifying -numbers and control of associated work.
- ~~• Define~~Description of the -scope of work.
- ~~• Performance and approval of design including title of approver.~~
- ~~• Drawings and other pertinent information (i.e., Code Edition, pressure, temperature, minimum design metal temperature, nondestructive examination (NDENDE), heat treatment, weld details, etc.)~~
- ~~• Review of design calculations, drawings, material specifications and process control sheets with Inspector to obtain acceptance.~~
- ~~• Revision and distribution control of design documents~~

ihh) Repair and Alteration Methods

~~The manual~~Quality System shall include controls for repairs and alterations, including mechanical assembly procedures, materials, nondestructive examination methods, pre-heat, and postweld heat treatment, as applicable. ~~Special requirements such as nonmetallic repairs and alterations to graphite and fiber reinforced thermosetting plastic pressure retaining items including bonding or mechanical assembly procedures shall be addressed, if applicable.~~The Quality System shall describe the methods for performing and documenting repairs and alterations in sufficient detail to permit the Inspector to determine at what stages specific inspections are to be performed. The method of repair or alteration must have prior acceptance of the Inspector, and when required, the jurisdiction. -

iji) Materials

The ~~manual~~Quality System shall describe the method used to ensure that only acceptable materials (including welding material) are used for repairs and alterations. The Quality System~~manual~~ shall include a description of how existing material is identified and new material is ordered, verified, and identified. The Quality System~~manual~~ shall identify the title of the individual(s) responsible for each function and a brief description of how the function is to be performed.

kj) Method of Performing Work

The Quality System manual shall describe the methods for performing and documenting repairs and alterations in sufficient detail to permit the Inspector to determine at what stages specific inspections are to be performed. The method of repair or alteration must have prior acceptance of the Inspector. It is also essential that the Quality System include provisions to ensure safe working conditions during welding, testing, and all activities related to repairs and alterations.

jk) Welding, NDE and Heat Treatment

The manual Quality System shall describe controls for welding, nondestructive examination NDE, and heat treatment.

Welding

The Quality System manual is to shall indicate identify the title(s) of the individual(s) responsible for development of the welding procedure specification (WPS), and its qualification, and the qualification of welders and welding operators. It is essential that only Only qualified welding procedure specification WPS's and welders or welding operators qualified will shall, as required by the NBIC, be used in the repair or alteration of pressure-retaining items. It is also essential that welders and welding operators maintain their eContinuity for welders and welding operators will be maintained proficiency as required by the NBIC, while engaged in the repair or alteration of pressure retaining items. The manual Quality System shall also describe controls for ensuring that the required WPS or Standard Welding Procedure Specification (SWPS) is available to the welder or welding operator prior to welding and establish the basis for welder to weld traceability.

NOTE: For qualification of welders and welding procedures to the 2019 ASME Code or later, the Quality System shall identify the title and qualifications of personnel performing supervisory activities as defined in ASME Section IX as applicable. Similar responsibility for nondestructive examination and heat treatment shall be described in the manual.

k) Nondestructive examination NDE

The title(s) of the individual(s) responsible to determine the type and extent of NDE required for the repair and/or alteration shall be identified. It is also essential that this manual The Quality System shall indicate identify the title(s) of the individual(s) responsible for the review and acceptance of subcontracted NDE procedures and personnel. When NDE is performed in-house, the title(s) of the individual(s) responsible for the written practice and the standard used for the basis of training, qualification, and records shall be documented.

l) Heat treatment

The manual Quality System shall indicate identify the title(s) of the individual(s) responsible to ensure that a proper heat treatment has been applied to the repair and/or alteration. The Quality System shall indicate identify the title(s) of the individual(s) responsible for the review and acceptance of subcontracted heat treatment procedures and personnel. It is also essential that the The use of alternative welding methods per the NBIC, Part 3, 2.5.3 shall be described in the Quality System.

lkm) Examinations and Tests

The Quality System Reference shall describe the process used to ensure that all required examinations and tests have been successfully performed and made available to the Inspector for acceptance be made in the manual for examinations and tests upon completion

~~of the repair or alteration, prior to signing the Form "R" Report and accepted by the Inspector.~~

~~7~~

~~mnln)~~ Calibration

The ~~Quality System manual~~ shall describe a system for the calibration of examination, measuring, and test equipment used in the performance of repairs and alterations. At a minimum, it shall include:

- 1) Examination, measuring, and test equipment, subject to calibration, shall have a unique identification number and a calibration date as well as a specified next calibration due date.
- 2) The methodology of how the various equipment will be calibrated.
- 3) The title of the person(s) responsible for the ~~the~~ calibration system ~~of the equipment~~.
- 4) ~~A statement that all calibrations will be traceable to the National Institute of Standards and Technology (NIST) or another nationally recognized Standards Organization, as much as practical described~~

~~omon)~~ Approval, Inspection, Authorization and Acceptance and Inspection of Repair and/or Alteration

The ~~Quality System manual~~ shall specifically ~~indicate state~~ that before the work is started, ~~acceptance authorization~~ of the repair/alteration plan and acceptance of the method(s) used shall be obtained from ~~an the~~ Inspector ~~who will make the required inspections.~~

~~and confirm NBIC compliance by signing and dating the applicable NBIC Form "R" Report Form upon completion of the work. In addition,~~

~~The Quality System manual shall specifically address allowance for acceptance of the inspector for application of the "R" symbol stamp to a pressure retaining item and.~~

~~The manual shall provide for adequate control of the "R" Symbol Stamp.~~

~~pnpe)~~ Inspections and Inspections Document Review

The ~~manual~~ Quality System shall make provisions for the Inspector to have access to the physical work and all all drawings, design calculations, specifications, procedures, process sheets, repair or alteration procedures, test results, and other documents as necessary to ensure compliance with the NBIC. A copy of the current ~~manual~~ Quality System shall be available to the ~~inspector~~ Inspector.

~~peeq)~~ Control of the "R" Symbol Stamp

The Quality System shall provide adequate control of the "R" Symbol Stamp. In addition, the Quality System shall make provisions for Inspector acceptance for the application of the "R" Symbol Stamp to the pressure retaining item or nameplate.

The accepted abbreviation of the "R" Certificate Holder's name shall be included in the manual.

~~prpqr)~~ Report of Repair or Alteration Form

The ~~Quality System manual~~ shall indicate the title of the individuals responsible for preparing, ~~signing~~certifying, and presenting the NBIC Report Forms to the Inspector. The Inspector shall confirm NBIC compliance by certifying and dating the applicable NBIC Form "R" Report upon completion of the work. The distribution of the NBIC Form "R" Report shall be described in the Quality System.

~~The distribution of the NBIC Form "R" Report Forms shall be described in the manual.~~
~~qs)qs)~~ Exhibits

~~Any forms~~Forms referenced in the ~~Quality System manual~~ shall be included ~~and~~. ~~The form~~ may be a part of the referencing document or included as an exhibit or appendix. For clarity, the forms may be completed and identified as examples. When forms are identified as examples, a statement shall clearly define the acceptable modifications to the examples without requiring Inspector acceptance. Different forms may be utilized without the need for acceptance by the Inspector as long as they contain the same information as the exhibited forms. The name and accepted abbreviations of the "R" Certificate Holder shall be included in the manual.

~~rtre)~~ — Construction Code

~~The Quality System manual shall include provisions for addressing the requirements that pertain to the specific construction code code of construction for the equipment being repaired or altered to include any applicable code cases or interpretations, with acceptance of the jurisdiction.~~

~~sustt)~~ Nonconformances
~~ing Items~~

~~A~~There shall be a system shall be established to identify and control a product or service process a nonconformance occurs any characteristics do not conform in adherence which does not conform to the applicable rules of the NBIC, code of construction code, or jurisdictional requirements, or the Quality System to prevent their use, acceptable to the Inspector for the correction of nonconformities. A nonconformance is any condition that does not comply with the applicable rules of the NBIC, construction code, jurisdictional requirements, or the quality system. In addition, the The title(s) of the individual(s) who has responsibility and authority for the disposition and resolution disposition of a nonconformance nonconforming items shall be defined including provisions for Inspector involvement Nonconformance must be corrected or eliminated before the repaired or altered component can be considered in compliance with the NBIC. It is also essential that systemic or programmatic nonconformances be identified and corrected and when necessary, corrected within the Quality System.

~~tvttuy)~~ Records Retention

~~The quality manual shall describe a~~ A system for filing, maintaining, and easily retrieving records supporting or substantiating ~~the administration of~~ the Quality System within the scope of the "R" *Certificate of Authorization*.

- 1) Records may represent any information ~~used to further substantiate the statements used to provide documented evidence to describe the scope of the quality of items and quality control activities of the~~ work completed to a pressure-retaining item (PRI), and documented on a Form "R" report as applicable.
- 2) Records may include, but are not limited to those depicting or calculating an acceptable design, material compliance or certifications, NDE-reports, PWHT-charts, a WPS used, a welder, bonder, or cementing technician's process continuity records, drawings, sketches, ~~or~~ photographs, etc.
- 3) The record retention schedule described in the Quality System ~~Manual is to~~ shall follow the instructions identified in NBIC Part 3, Table 1.5.1.

NB19-68
NR Program Requirements
Endorsement requirements for the Inspector
RVW 01/09/21

Scope: Review Part 3, paragraph 1.6 for the need to define or elaborate on the Endorsement requirements for the ANI inspecting within the NR Program.

Statement of need:

Currently the NBIC only defines the need for the ANI to hold a valid commission with the appropriate endorsement (Ref Part 3, para 1.3). But the concern expressed was that the NBIC does not specify what commission or endorsement is actually required to make inspections. The provisions for qualification of Inspectors, including Endorsements is specified in RCI-1 (NB-263), Rules for Commissioned Inspectors. This document specifies the duties of Inspectors and Supervisors as well as the qualification.

There seems to be a gap in the NBIC with regard to making it clear which Commission and which Endorsement(s) are required to be maintained for the Inspector. So this change to the NBIC is to close that gap without having to repeat the detailed information from RCI-1 into the NBIC. And only pertinent references to RCI-1 are included.

Narrative:

A little history first...In 2010(?) the National Board split the National Board Commission into two separate and distinct Commissions. The IS Commission for the qualification of Inspectors performing inservice inspection of boilers and pressure vessels. (Note here that this does NOT include inservice inspection of nuclear equipment. The second endorsement was the AI Commission, which was for the qualification of Inspectors performing new construction (i.e. ASME) inspection. The purpose of this split was to make it easier for candidates to obtain a Commission to perform new construction inspections. Previous to then, all Inspectors held the single commission which was based on inservice inspection of B/PV's. There were several other advantages to creating the split, but they are not germane to this discussion.

Supporting the new construction theory was the need to focus additional qualification and training for different segments of the B/PV industry, and the role established by ASME for Inspector Supervisors. To achieve this special Endorsements were available for these needs. The table below summarizes these endorsement and their applicability.

Endorsement	Activity
A *	Inspection of ASME non nuclear B/PV's. ASME Sections I, IV, VIII, X, and XII
N	Inspection of ASME nuclear components. ASME Section III Division 1
I	ASME Inservice Inspection of nuclear power plants, ASME Section XI.
C	Inspection of ASME nuclear concrete components. ASME Section III Division 2
B	Supervision of A endorsed Inspectors
S	Supervision of N endorsed Inspectors
IS	Supervision of I endorsed Inspectors
CS	Supervision of C endorsed Inspectors

*Ultimately dropped and made part of the AI Commissioning process.

It should be noted that these endorsements may only be obtained by a new construction Inspector, or an AI Commissioned Inspector. They were not made available to the IS Commissioned Inspector.

Repair work was considered an inservice (not nuclear) activity and not new construction. Therefore an Inspector performing any repair or alteration work needed to hold the IS commission for this purpose. This would include any work in accordance with Part 3 of the NBIC. You can recall that the NR program

contained an additional requirement that the Inspector must be an Authorized Nuclear Inspector, which would require him to hold the N endorsement.

It was several years later that the National Board determined that repair and alteration work was rather unique since the NBIC contains some special rules that modify or augment the rules on the Code of Construction, i.e. ASME BPV Code. So the National Board created the R endorsement dealing solely with the rules and activities on the NBIC. And they also deemed that the endorsement could be held by either an IS Inspector or an AI Inspector.

As we progressed through time there was never an issue within the NBIC as to which Inspector could perform inspections of repairs/alteration. As long as the individual held a NB Commission they were good to go. But with the advent of the Commission splitting process and development of the R endorsement it makes a difference today who may perform such inspections. And just a bit more complicated with the NR Program.

So now may be the time to make it clear in the NBIC which individuals may make repair and alteration inspections, including the additional requirements for the NR program. RCI-1 contains all the rules for qualification, examination, and maintenance of Commissions and Endorsements. Also, it contains the duties of the Inspectors and Supervisors. There is no need to repeat the information, but with some additional changes to the NBIC Part 3, we can point the reader to RCI-1 to obtain any detailed information they may need.

With regard to the NR Program, it is noted that the Authorized Nuclear Inspector (ANI) provisions for Category 3 lack some of the fundamentals that would apply to all Categories of Activities under the NR Program. A change should be made to incorporate some of those fundamentals into Cat 3 activity.

Proposal:

- 1) Revise paragraph 1.3 to make reference to RCI-1 for qualifications of Inspectors/Supervisors.
- 2) Revise paragraphs 1.6.6.2 t) and 1.6.7.2 t) to reference 1.6.9, Interface with the Owner.
- 3) Revise paragraph 1.6.8.2 t) to be more in line with 1.6.6.2 and 1.6.7.2.

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1.6.6.2 t) (NOTE: applicability to Category 1)

t) Authorized Nuclear Inspector

Measures shall be taken to reference the commissioned rules for National Board Authorized Nuclear Inspector, in accordance with NB-263, RCI-1 *Rules for Commissioned Inspectors*. The "NR" Certificate Holder shall ensure that the latest documents including the Quality Assurance Manual, procedures and instructions are made available to the Authorized Nuclear Inspector. The Authorized Nuclear Inspector shall be consulted prior to the issuance of a repair/replacement plan by the "NR" Certificate Holder in order that the Authorized Nuclear Inspector may select any in-process inspection or hold points when performing repair/replacement activities. The "NR" Certificate Holder shall keep the Authorized Nuclear Inspector informed of progress of the repair/replacement activity so that inspections may be performed. The Authorized Nuclear Inspector shall not sign Form NR-1 or Form NVR-1, as applicable, unless satisfied that all work carried out is in accordance with this Section. The Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor shall have access to areas where work is being performed including subcontractors facilities in order to perform their required duties. The ANI shall be involved in dispositions and verification for non-conformances and corrective actions involving quality or code requirements.

1.6.7.2 t) (NOTE: Applicability to Category 2)

t) Authorized Nuclear Inspector

Measures shall be taken to reference the commissioned rules for National Board Authorized Nuclear Inspector, in accordance with NB-263, RCI-1 *Rules for Commissioned Inspectors*. The "NR" Certificate Holder shall ensure that the latest documents including the Quality Assurance Manual, procedures and instructions are made available to the Authorized Nuclear Inspector. The Authorized Nuclear Inspector shall be consulted prior to the issuance of a repair/replacement plan by the "NR" Certificate Holder in order that the Authorized Nuclear Inspector may select any in process inspection or hold points when performing repair/replacement activities. The "NR" Certificate Holder shall keep the Authorized Nuclear Inspector informed of progress of the repair/replacement activity so that inspections may be performed. The Authorized Nuclear Inspector shall not sign Form NR-1 or Form NVR-1, as applicable, unless satisfied that all work carried out is in accordance with this section. The Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor shall have access to areas where work is being performed including subcontractors facilities in order to perform their required duties. The ANI shall be involved in dispositions and verification for nonconformances and corrective actions involving quality or code requirements.

1.6.8.2 t) (NOTE: Applicability to Category 3. Also, the references to 1.6.6.2 s) and 1.6.7.2 s) are related to Audits. The text therein is almost identical to 1.6.8.2 s) except there is no reference to mandatory compliance to ASME NQA-1 for Category 3.)

t) Authorized Nuclear Inspector

Qualifications and duties shall be as specified in ASME QAI-1 and NB-263, RCI-1 for the Authorized Inspection Agencies, Authorized Nuclear Inspector and the Authorized Nuclear Inspector Supervisor. Additional requirements are specified in NBIC Part 3, 1.6.6.2 s), 1.6.7.2 s), and 1.6.9.

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**1.6.9 INTERFACE WITH THE OWNER'S REPAIR/REPLACEMENT PROGRAM
(FOR CATEGORIES 1, 2, AND 3 AS APPLICABLE)**

Interface with the owner's repair/replacement program shall meet the following:

- a) The "NR" Certificate Holder's repair/replacement plan (see Table 1.6.9) shall be subject to the acceptance of the owner and the owner's Authorized Nuclear Inservice Inspector (ANII) and shall be subject to review by the Jurisdiction and Regulatory Authorities having jurisdiction at the plant site.
- b) Repair/Replacement activities of nuclear components shall meet the requirements of ASME Section III, ASME Section XI, and/or other applicable standard, and the owner's requirements, and shall be subject to verification by the Jurisdiction and Regulatory Authorities having jurisdiction at the plant site.
- c) Documentation of the repair/replacement activities of nuclear components shall be recorded on the Report of Repair/Replacement Activities of Nuclear Components and Systems for Nuclear Facilities, Form NR-1, or Report of Repair/Replacement Activities for Nuclear Pressure Relief Devices, Form NVR-1, in accordance with the NBIC Part 3, Section 5. The completed forms shall be signed by a representative of the "NR" Certificate Holder and the Authorized Nuclear Inspector when the repair/replacement activity meets the requirements of this section. For repair/replacement activities that involve design changes, Form NR-1, or Form NVR-1, as applicable, shall indicate the organization responsible for the design or design reconciliation in accordance with the owner's requirements.
- d) The "NR" Certificate Holder shall provide a copy of the signed Form NR-1 or Form NVR-1, as applicable, to the owner, the Enforcement, and the Regulatory Authority if required, and the Authorized Nuclear Inspection Agency. The original Form NR-1 or Form NVR-1, as applicable, shall be registered with the National Board by the "NR" Certificate Holder. A NB registration log shall be maintained by the "NR" Certificate Holder. See NBIC Part 3, Section 5.5 and 5.6.
- e) The "NR" Certificate Holder shall provide a nameplate/stamping for repair/replacement activities for each nuclear component unless otherwise specified by the owner's Quality Assurance Program. The required information and format shall be as shown in NBIC Part 3, Section 5.

Existing	Proposed
<p>1.3 INSPECTOR a) Inspection and certification shall be made by an Inspector holding a valid commission with the appropriate endorsement issued by the National Board and employed by an Authorized Inspection Agency (see NBIC Part 3, Section 9, Glossary of Terms for definition of Authorized Inspection Agency).</p>	<p>1.3 INSPECTOR a) Inspection and certification shall be made by an Inspector holding a valid National Board Commission with the “R” appropriate endorsement issued by the National Board and employed by an Authorized Inspection Agency in accordance with RCI-1. (see NBIC Part 3, Section 9, Glossary of Terms for definition of Authorized Inspection Agency).</p>
<p>1.6.6.2 t) <u>t) Authorized Nuclear Inspector</u> Measures shall be taken to reference the commissioned rules for National Board Authorized Nuclear Inspector, in accordance with NB-263, <i>RCI-1 Rules for Commissioned Inspectors</i>. The “NR” Certificate Holder shall ensure that the latest documents including the Quality Assurance Manual, procedures and instructions are made available to the Authorized Nuclear Inspector. The Authorized Nuclear Inspector shall be consulted prior to the issuance of a repair/replacement plan by the “NR” Certificate Holder in order that the Authorized Nuclear Inspector may select any in-process inspection or hold points when performing repair/replacement activities. The “NR” Certificate Holder shall keep the Authorized Nuclear Inspector informed of progress of the repair/replacement activity so that inspections may be performed. The Authorized Nuclear Inspector shall not sign Form NR-1 or Form NVR-1, as applicable, unless satisfied that all work carried out is in accordance with this Section. The Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor shall have access to areas where work is being performed including subcontractors facilities in order to perform their required duties. The ANI shall be involved in dispositions and verification for non-conformances and corrective actions involving quality or code requirements.</p>	<p>Add the following:</p> <p>The Authorized Nuclear Inspector shall hold the “N”, “I”, and “R” endorsements on his/her Commission.</p> <p>Additional requirements regarding Owner Interface are specified in 1.6.9</p>
<p>1.6.7.2 t) <u>t) Authorized Nuclear Inspector</u> Measures shall be taken to reference the commissioned rules for National Board Authorized Nuclear Inspector, in accordance with NB-263, <i>RCI-1 Rules for Commissioned Inspectors</i>. The “NR” Certificate Holder shall ensure that the latest documents including the Quality Assurance Manual, procedures and instructions are made available to the Authorized Nuclear Inspector. The Authorized Nuclear Inspector shall be consulted</p>	<p>Add the following:</p> <p>The Authorized Nuclear Inspector shall hold the “N”, “I”, and “R” endorsements on his/her Commission.</p>

Existing	Proposed
<p>prior to the issuance of a repair/replacement plan by the “NR” Certificate Holder in order that the Authorized Nuclear Inspector may select any in-process inspection or hold points when performing repair/replacement activities. The “NR” Certificate Holder shall keep the Authorized Nuclear Inspector informed of progress of the repair/replacement activity so that inspections may be performed.</p> <p>The Authorized Nuclear Inspector shall not sign Form NR-1 or Form NVR-1, as applicable, unless satisfied that all work carried out is in accordance with this Section. The Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor shall have access to areas where work is being performed including subcontractors facilities in order to perform their required duties. The ANI shall be involved in dispositions and verification for non-conformances and corrective actions involving quality or code requirements.</p>	<p>Additional requirements regarding Owner Interface are specified in 1.6.9</p>
<p>1.6.8.2 t) <u>Authorized Nuclear Inspector</u> Qualifications and duties shall be as specified in ASME QAI-1 and NB-263, RCI-1 for the Authorized Inspection Agencies, Authorized Nuclear Inspector and the Authorized Nuclear Inspector Supervisor. Additional requirements are specified in NBIC Part 3, 1.6.6.2 t), 1.6.7.2 t), and 1.6.9.</p>	<p>1.6.8.2 t) <u>Authorized Nuclear Inspector</u> Measures shall be taken to reference the commissioned rules for National Board Authorized Nuclear Inspector, in accordance with NB-263, RCI-1 <i>Rules for Commissioned Inspectors</i>. The Authorized Nuclear Inspector shall hold the “N”, “I”, and “R” endorsements on his/her Commission. The “NR” Certificate Holder shall ensure that the latest documents including the Quality Assurance Manual, procedures and instructions are made available to the Authorized Nuclear Inspector. The Authorized Nuclear Inspector shall be consulted prior to the issuance of a repair/replacement plan by the “NR” Certificate Holder in order that the Authorized Nuclear Inspector may select any in-process inspection or hold points when performing repair/replacement activities. The “NR” Certificate Holder shall keep the Authorized Nuclear Inspector informed of progress of the repair/replacement activity so that inspections may be performed. The Authorized Nuclear Inspector shall not sign Form NR-1 or Form NVR-1, as applicable, unless satisfied that all work carried out is in accordance with this Section. The Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor shall have access to areas where work is being performed including subcontractors facilities in order to perform</p>

Existing	Proposed
	<p>their required duties. The ANI shall be involved in dispositions and verification for non-conformances and corrective actions involving quality or code requirements. Additional requirements regarding Owner Interface are specified in 1.6.9.</p>

PROPOSED REVISION OR ADDITION

Item No.	20-47
Subject/Title	Definition of Authorized Nuclear Inspection Agency needs to be updated to clarify what is
NBIC Location	NBIC Location: Part 3, 9.1
Project Manager and TaskGroup	R. Spuhl (PM), B. Wielgoszinski and T. Roberts
Source (Name/Email)	
Statement of Need	ANIA definition should be revised to clarify requirements and activities of AIA's performing NR inspection activities by adding reference to the NB-360 and the applicable ASME QAI-1 Section III and XI scopes required to be included on the ASME Certificate of Accreditation.
Background Information	The National Board should consider more specific details be listed on the Certificate of Acceptance when acceptance is based on the ASME Certificate of Accreditation. Such as "Accreditation to provide third party inspection services for repairs and alterations, and nuclear repair/replacement in accordance with the National Board Inspection Code".
Existing Text	Authorized Nuclear Inspection Agency -- An Authorized Inspection Agency intending to perform nuclear inspection activities and employing nuclear Inspectors / Supervisors.
Proposed Text	Authorized Nuclear Inspection Agency -- An Authorized Inspection Agency <u>meeting the qualification and duties of NB-360, National Board Acceptance of Authorized Inspection Agencies (AIA) Accredited by the American Society of Mechanical Engineers (ASME) and</u> intending to perform nuclear inspection activities and employing Authorized Nuclear nuclear Inspectors / Supervisors. <u>The Certificate of Accreditation from ASME must include the performance of inspection activities covering Section III and Section XI of the ASME Boiler and Pressure Vessel Code in accordance with the applicable parts of ASME QAI-1.</u>

VOTE:							
COMMITTEE	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date
SG R&A							
SC R&A							

CODE REVISIONS OR ADDITIONS

Request for code revisions or additions shall provide the following:

a) Proposed Revisions or Additions

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

b) Statement of Need

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

c) Background Information

Provide background information to support the revision or addition, including any data or changes in technology that form the basis for the request that will allow the Committee to adequately evaluate the proposed revision or addition. Sketches, tables, figures, and graphs should be submitted as appropriate. When applicable, identify any pertinent paragraph in the code that would be affected by the revision or addition and identify paragraphs in the code that reference the paragraphs that are to be revised or

Record 20-47

PM Raymond Spuhl

Last Updated 4/1/21

Scope of Proposal: Definition of Authorized Nuclear Inspection Agency needs to be updated to clarify what is required in the ASME Certificate of Accreditation scope of work.

Current definition

Authorized Inspection Agency (AIA)

Inservice: An Authorized Inspection Agency is either:

- a) a Jurisdictional authority as defined in the National Board Constitution; or
- b) an entity that is accredited by the National Board meeting NB-369, *Accreditation of Authorized Inspection Agencies Performing Inservice Inspection Activities*; NB-371, *Accreditation of Owner-User Inspection Organizations (OUIO)*; or NB-390, *Accreditation of Federal Inspection Agencies (FIA)*.

New Construction: An Authorized Inspection Agency is one that is accredited by the National Board meeting the qualification and duties of NB-360, *National Board Acceptance of Authorized Inspection Agencies (AIA) Accredited by the American Society of Mechanical Engineers (ASME)*.

Authorized Nuclear Inspection Agency — An Authorized Inspection Agency intending to perform nuclear inspection activities and employing nuclear Inspectors / Supervisors.

Proposed definition

Authorized Nuclear Inspection Agency — An Authorized Inspection Agency meeting the qualification and duties of NB-360, National Board Acceptance of Authorized Inspection Agencies (AIA) Accredited by the American Society of Mechanical Engineers (ASME) and intending to perform nuclear inspection activities and employing Authorized Nuclear ~~nuclear~~ Inspectors / Supervisors. The Certificate of Accreditation from ASME must include the performance of inspection activities covering Section III and Section XI of the ASME Boiler and Pressure Vessel Code in accordance with the applicable parts of QAI-1.

The National Board should consider more specific details be listed on the Certificate of Acceptance when acceptance is based on the ASME Certificate of Accreditation.

Such as “Accreditation to provide third party inspection services for repairs and alterations, and nuclear repair/replacement in accordance with the National Board Inspection Code”.

Other definitions to be considered

Nuclear Inspector – An individual who holds a valid and current National Board AI Commission with the R, N, and I endorsements.

Repair / Replacement Activity (from Section XI)

The term *repair/replacement activity* includes those activities previously known as *repair, replacement, modification, or, alteration*. Those previous terms no longer have a unique meaning or significance and are combined in the term *repair/replacement activity*. Reasons for repair/replacement activities may include the following:

- (a) discrepancies detected during inservice inspection, maintenance, or service
- (b) regulatory requirements change
- (c) design changes to improve equipment service
- (d) changes to improve reliability
- (e) damage
- (f) failure during service
- (g) personnel exposure
- (h) economics
- (i) end of service life
- (j) addition of new items or systems

Risk-Informed Safety Class (RISC)–1 structures, systems, and components (SSCs) means safety-related SSCs that perform safety significant functions.

Risk-Informed Safety Class (RISC)–2 structures, systems and components (SSCs) means nonsafety-related SSCs that perform safety significant functions.

Risk-Informed Safety Class (RISC)–3 structures, systems and components (SSCs) means safety-related SSCs that perform low safety significant functions.

Risk-Informed Safety Class (RISC)–4 structures, systems and components (SSCs) means nonsafety-related SSCs that perform low safety significant functions.

Safety significant function means a function whose degradation or loss could result in a significant adverse effect on defense-in-depth, safety margin, or risk.

Item Number: 20-61	NBIC Location: Part 3, S8
General Description: Revise Supplement 8	
Subgroup: Repairs and Alterations	
Task Group: J. Siefert (PM)	
Explanation of Need: Supplement 8 has one sentence regarding filler metal size that needs to be deleted and dissimilar metal welding needs to be addressed under this Supplement.	

Summary of changes (January 12, 2021):

- Minor editorial items have been fixed or clarified.
- Section S8.1 a) has been modified to reflect the incorporation of dissimilar metal welds.
- Section S8.2.2 is added to provide guidance for dissimilar metal weld repairs
- The language in S8.3 was confusing, and this has been resolved.
- Section S8.4 a) has been revised to reflect qualification for dissimilar metal weld repairs and language in S8.4 c) has been simplified.

Summary of changes (January 13, 2021):

Added minor edits in Welding Method 6 [Part 3, 2.5.3.6 c) 5)] and Welding Method 7 [Part 3, 2.5.3.7 i)] approved language for 2021 edition to remove reference to Code Cases 2733 and 2734 and to reference the UNS number for these respective filler materials that are covered by the Code Cases.

Summary of changes (July 12, 2021):

Item was balloted at the repairs and alterations subcommittee (closed March 9, 2021). Comments and suggested revisions were received from Ray Miletti, Kathy Moore, Jim Sekely, and Paul Shanks. The present rev 3 document reflects the feedback from these individuals.

Voting Window	Committee	Vote Result	Votes Approved	Votes Disapproved	Votes Abstention	Votes Not Voting
> 02/09/2021 to 03/10/2021	Subcommittee Repairs/Alterations	Pass	16	1	0	0
Ballot Description:						
This item makes several editorial changes to Supplement 8 as well as modifications and revisions to the language in S8.1, S8.2.2, S8.3, and S8.4 to provide clarification and guidance on the use of dissimilar metal welds.						
The deadline for this ballot is March 9, 2021.						

Committee Member: Ray Miletti **Vote Date:** 2021-03-07 **Vote:** Disapproved **Uploads:** [5294.BALREPLY.A38A.docx](#)
Member Comment: See file attached
PM Reply: Ray, thank you for your comment. Your suggestion will be included in the revision.

Committee Member: Linn Moedinger **Vote Date:** 2021-02-09 **Vote:** Approved **Uploads:** _____

Committee Member: Kathy Moore **Vote Date:** 2021-02-10 **Vote:** Approved **Uploads:** _____
Member Comment: a) The welding procedure qualification test coupon shall be ASME P-No. 15 E, Group 1, joined to itself, or P-No. 4 or P-No. 5A or P-No. 8, P-No. 42, P-No. 43, or P-No. 45. I think this has too many "ors" a) The welding procedure qualification test coupon shall be ASME P-No. 15 E, Group 1, joined to itself, P-No. 4, P-No. 5A, P-No. 8, P-No. 42, P-No. 43, or P-No. 45.
PM Reply: Thank you for your edit - I agree with your suggestion and make this edit.

Committee Member: James Sekely **Vote Date:** 2021-02-12 **Vote:** Approved **Uploads:** _____
Member Comment: I agree with Kathy - "too many ors" and I withdraw my comment relating to UNS numbers based on your reply. Thanks
PM Reply: Thank you for your comment. We did agree to list the UNS No. because the referenced filler materials for 'EPRI P87' are still Code Cases without an AWS specification. It was highlighted that the NBIC prefers not to reference Code Cases. Thus the discussion during the January meeting led to general agreement that the best course of action was to list the UNS number.

Committee Member: Paul Shanks **Vote Date:** 2021-02-10 **Vote:** Approved **Uploads:** _____
Member Comment: Para 8.1 b) is marten- site a typo? 8.2 a) didn't we agree to drop the ERNCR-3 stuff and just say F-43 UNS N08087? In 8.3 d) we say 50% overlap or grater then 25-50% then a rule of thumb gets us to 40% overlap- whats going on? Also it says machined excavation, does that mean I cannot grind the site? 8.3 e) is it acceptable to have a rod larger than 1/8" touch the base material outside the excavation? Possible say weld beads onto the base material...I agree with Kathy on the comma vs or suggestion
PM Reply: Paul, a few responses and thank you for your comments. Marten-site is a typo (it was pulled from the current language), will edit this to read 'martensite.' For the filler materials which list an AWS classification, it is our preference to list the AWS classification. The caveat here is that the EPRI P87 filler metal is still a Code Case without an AWS classification and thus the decision was made to list the UNS number for this filler metal only. Regarding 'machined excavation', I believe you are right to highlight that this is too specific - I will edit so that it reads 'excavation' because grinding should be permitted. The intent of the language regarding rod size is to ensure that smaller diameter rods are used in direct contact with the excavation. Once this layer is completed, larger rods could be used.

S8.1 SCOPE

- a) The technical information provided in this supplement pertains to weld repair and post repair inspection of creep strength enhanced ferritic steel (CSEF) pressure retaining items. The present guidance covers P-No. 15E, Group 1, Grade 91 and dissimilar welds made to this material (e.g. P-No. 4, P-No. 5A or P-No. 8, P-No. 42, P-No. 43 or P-No. 45). This Supplement provides guidance for full penetration and partial penetration weld repairs not covered under Welding Method 6 (NBIC Part 3, 2.5.3.6) or Welding Method 7 (NBIC Part 3, 2.5.3.7).
- b) Creep Strength Enhanced Ferritic alloys (CSEFs) are a collection of ferritic steels whose creep strength is enhanced by the creation of a precise condition of micro-structure, specifically martensite_[S1.1] or bainite, which is stabilized during tempering by controlled precipitation of temper-resistant carbides, carbo-nitrides, or other stable and/or meta-stable phases. Careful consideration shall be given to pressure-retaining items that are fabricated from CSEF steelsCSEF's. The behavior of these materials in low temperature (i.e. fracture toughness and/or fatigue) and in high temperature (i.e. creep and/or creep-fatigue) components can be degraded by not adhering to the welding procedures and/or improper application of post-weld heat treatment (PWHT). Experienced inspection personnel should oversee weld repairs of this nature for strict compliance with all welding procedure and repair requirements.
- c) Post construction access and in-service operation may not allow the practicable application of PWHT following original construction fabrication requirements and repair weld joint design. This supplement provides guidelines for weld repair options and post repair inspection using a well-engineered approach for CSEF steels. The user is cautioned to seek technical guidance for welding and selection of heat treating requirements.
- d) Prior to using this guideline an engineering evaluation shall be performed to determine the scope of the repair and impact to safety prior to returning the pressure-retaining item to service for a specified period of time, based on acceptance by the Inspector, and when required the Jurisdiction. The organization performing the engineering evaluation shall have demonstrated experience with Grade 91 CSEF steels.

S8.2 WELD REPAIR OF GRADE 91 STEEL

S8.2.1 WELD REPAIR OPTIONS

- a) 9Cr-1Mo-VNbN Filler Metal (i.e. matching to Grade 91) + Controlled Fill + Low PWHT (Minimum temperature is 1250°F, 675°C). Acceptable filler materials are referenced in Table S8.2.1. The minimum time and maximum heat treatment temperature shall be in accordance with the original code of construction. For reference, where the Ni+Mn content of the filler metal is not known, the maximum PWHT temperature shall be 1425°F (775°C). This maximum shall be

enforced to avoid over-tempering or exceeding the absolute maximum PWHT temperature. PWHT hold times at temperature shall be as follows:

- 1) Minimum holding time at PWHT temperature is specified as 1 hour per 1.0 inch (25 mm) of thickness, 30 minute minimum provided the component < 0.5 inches (12.5 mm) in thickness;
 - 2) Minimum holding time at PWHT temperature is specified as 5 hours plus 15 minutes for each additional 1.0 inch (25 mm) over 5.0 inches (125 mm);
- b) 9Cr-1Mo Filler Metal + Controlled Fill and No PWHT. Acceptable filler materials are detailed in Table S8.2.1 S11.2.4.
- c) Ni-base Filler Metal + Controlled Fill and No PWHT. Acceptable nickel base consumables include selected ASME F No. 43 filler metals as detailed in Table S8.2.1 [SJ2].

TABLE S8.2.1

ALTERNATIVE WELD REPAIR METHODS, FILLER METALS AND WELDING PROCESSES FOR GRADE 91 STEEL.

Acceptable Weld Repair Method		Welding Process and Filler Metal AWS Classification
Filler Metal	Welding Procedure	
Matching (9Cr-1Mo-VNbN)	Controlled Fill + Low PWHT	<ul style="list-style-type: none"> • SMAW – E9015-B9, E9016-B9, E9018-B9 or E9015-B91A, E9016-B91A or E9018-B91A • FCAW – E91T1-B9 or E91T1-B91A • GTAW – ER90S-B9 or ER90S-B91A
9Cr-1Mo	Controlled Fill	<ul style="list-style-type: none"> • SMAW – E8015-B8, E8016-B8 or E8018-B8 • FCAW – E81T1-B8 • GTAW – ER80S-B8
Ni-base	Controlled Fill	<ul style="list-style-type: none"> • SMAW – EPRI P87^B, ENiCrFe-2, ENiCrFe-3 • FCAW – None available • GTAW – EPRI P87^C, ERNiCr-3

^A–B91 AWS classification is pending for the various Grade 91 filler metal product forms (currently –B9)

^BIncorporated by ASME B&PV Code as Code Case 2734 for classification as an F No. 43 filler material

^CIncorporated by ASME B&PV Code as Code Case 2733 for classification as an F No. 43 filler material

S8.2.2 WELD REPAIR OPTIONS FOR DISSIMILAR METAL WELDS

- a) For repairs in P-No. 15E, Group 1, Grade 91, CSEF steel joined to either P-No. 8, P-No. 42, P-No. 43, or P-No. 45, as permitted for welded construction by the applicable rules of the original code of construction, the filler metal shall be limited to an austenitic, nickel-base filler metal having a designation F-No. 43 and limited

to the following consumables: ERNiCr-3, ENiCrFe-3, ENiCrFe-2, UNS N08087. This weld repair option does not require PWHT.

- b) For repairs in P-No. 15E, Group 1, Grade 91, CSEF steel joined to P-No. 4, Group 1, or P-No. 5A, Group 1, the filler metal shall be limited to:
- 1) A martensitic, iron-base filler metal having a designation F-No. 4 or F-No. 6 and limited to the following consumables: E8015-B8, E8018-B8 or ER80S-B8. This weld repair option does not require PWHT. Or
 - 2) A martensitic, iron-base filler metal having a designation F-No. 4 or F-No. 6 and limited to the following consumables: E9015-B9, E9016-B9, E9018-B9, E9015-B91, E9016-B91, E9018-B91, E91T1-B9, E91T1-B91, ER90S-B9 or ER90S-B91. This weld repair option requires PWHT at a minimum temperature of 1250°F (675°C).

S8.3 APPLICATION OF CONTROLLED FILL WELDING PROCEDURE

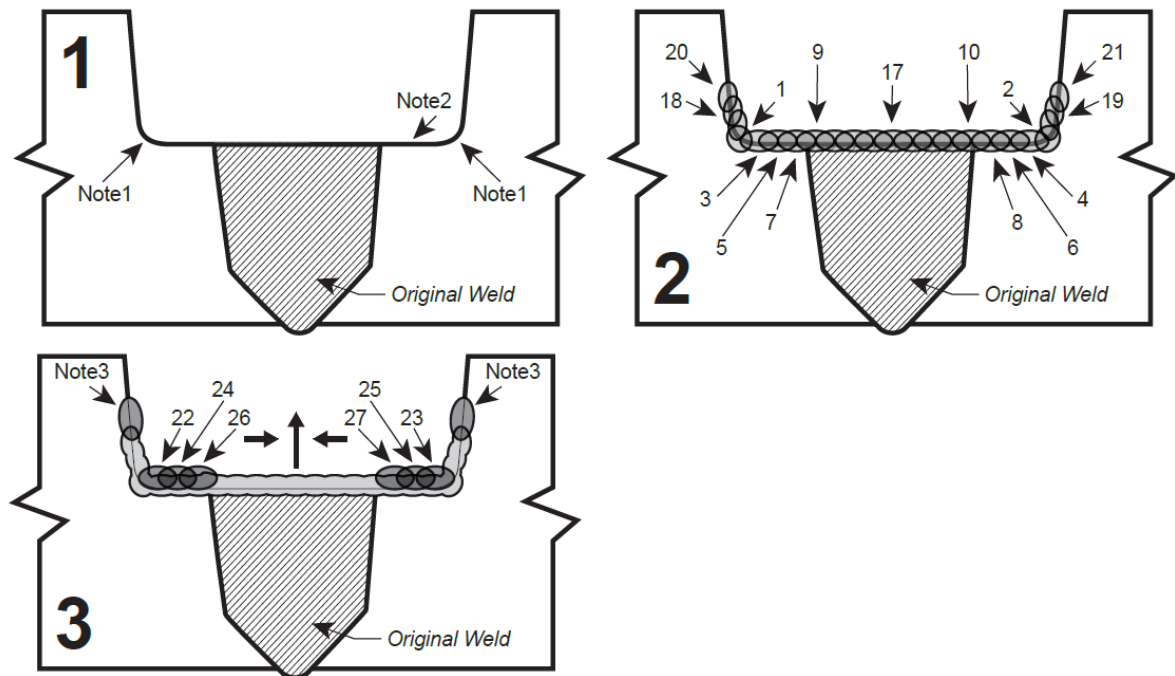
- a) The minimum preheat for the repair procedure shall be 300°F (150°C). The preheat temperature shall be checked to ensure the minimum preheat temperature is maintained during all welding and until welding is completed. The maximum interpass temperature shall be 550°F (290°C). At the completion of welding, a post weld hydrogen bake-out is not required nor prohibited.
- b) To control heat input the weld repair shall be performed using a “controlled fill” technique. In this technique, the first layer in contact with the repair groove can be identical or smaller in diameter than the fill passes.
- c) Figures S8.3-a through S8.3-d illustrate the types of acceptable weld joint details using the controlled fill technique for full or partial penetration weld repairs.
- d) ~~The bead-to-bead overlap should be ~50% or greater.~~ ^[S13] The fill passes should be deposited working from the bevel of the ~~machined~~ excavation towards the center of the excavation with a minimum overlap of 25% and ideally 50%. As a rule of thumb, if the welder aims for the toe of the previously deposited weld bead, an overlap of at least 40% will be achieved.
- e) When the SMAW process is specified, the weld beads deposited onto the base material ^[S14] shall not exceed an electrode diameter of 1/8 in. (3.2 mm). The remaining fill passes shall not exceed an electrode diameter of 5/32 in. (4.0 mm). When the GTAW process is specified, any limits for filler metal size shall be reflected in the qualified PQR and WPS.

~~When the SMAW process is specified using ferrous filler metals for an initial fill pass layer as a controlled fill welding technique, the electrode diameter is restricted to a maximum size of 1/8 in. (3.2 mm). The remaining fill passes to complete this excavation using this technique and SMAW process are limited to an electrode diameter of 5/32 in. (4.0 mm). When the SMAW process is~~

specified with ferrous filler metals, the fill passes are restricted to a maximum electrode diameter of 1/8 in. (3.2 mm). When the SMAW process is specified with nickel-base filler metals, the fill passes in immediate contact with the excavation shall not exceed an electrode diameter of 1/8 in. (3.2 mm), and for the remaining fill passes to restore the excavated material an increase in the electrode diameter to 5/32 in. (4.0 mm) is permitted. When the GTAW process is specified, any limits for filler metal size shall be reflected in the qualified PQR and WPS.

FIGURE S8.3-a.

SCHEMATIC OF THE CONTROLLED FILL WELDING PROCEDURE FOR GRADE 91 STEEL FOR A PARTIAL PENETRATION WELD REPAIR.



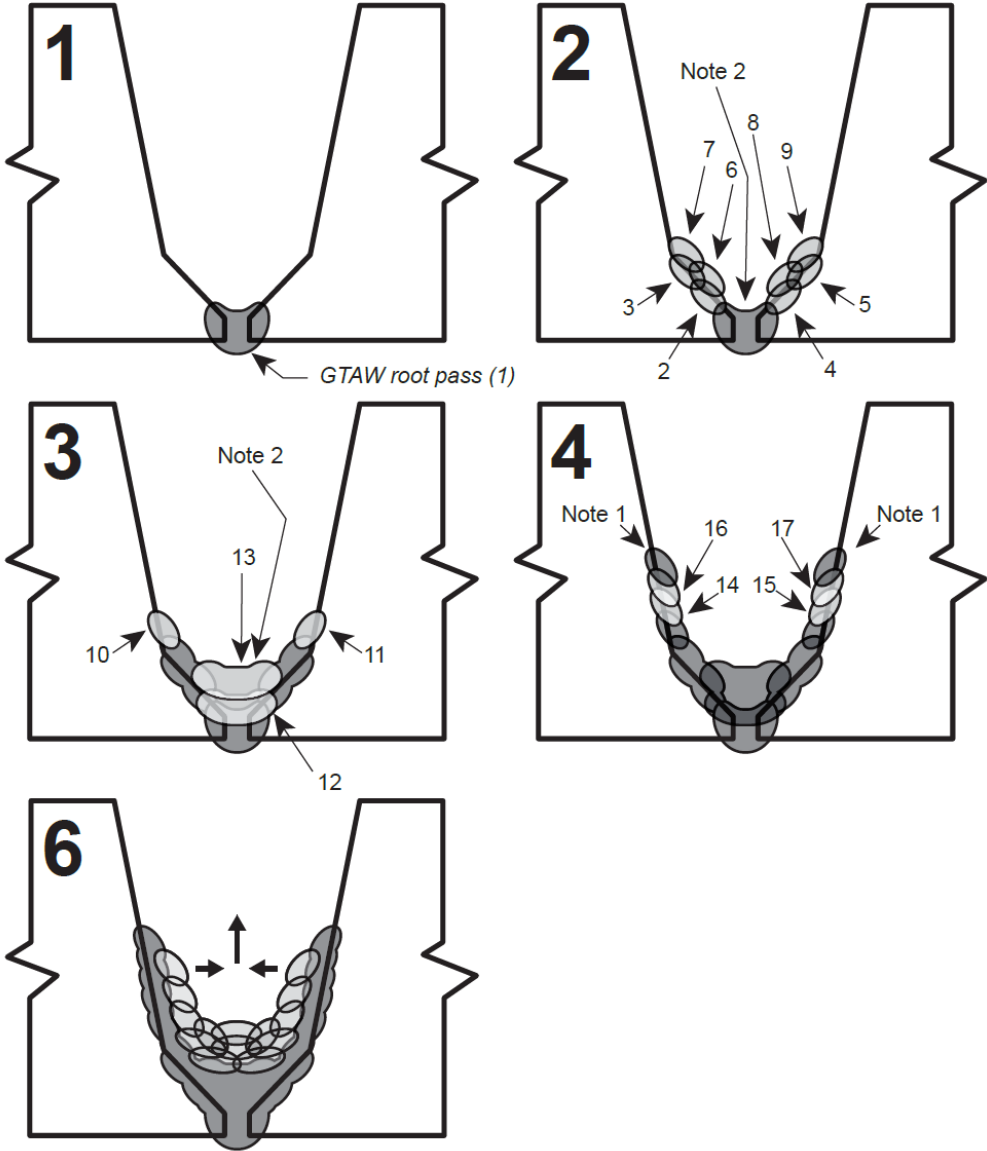
Note 1 – The excavation shall have rounded corners to prevent lack of fusion defects. In these locations it is recommended to use a smaller diameter electrode (such as 3/32 in. (2.4 mm)) to ensure acceptable fusion.

Note 2 – The repair cavity width shall extend at least 0.40 in. (10 mm) beyond the fusion line of the original weld

Note 3 – Where the excavation may pose challenges with electrode access, it is recommended that the fill passes in immediate contact with the machined excavation be restricted in height as the weld repair is performed.

FIGURE S8.3-b.

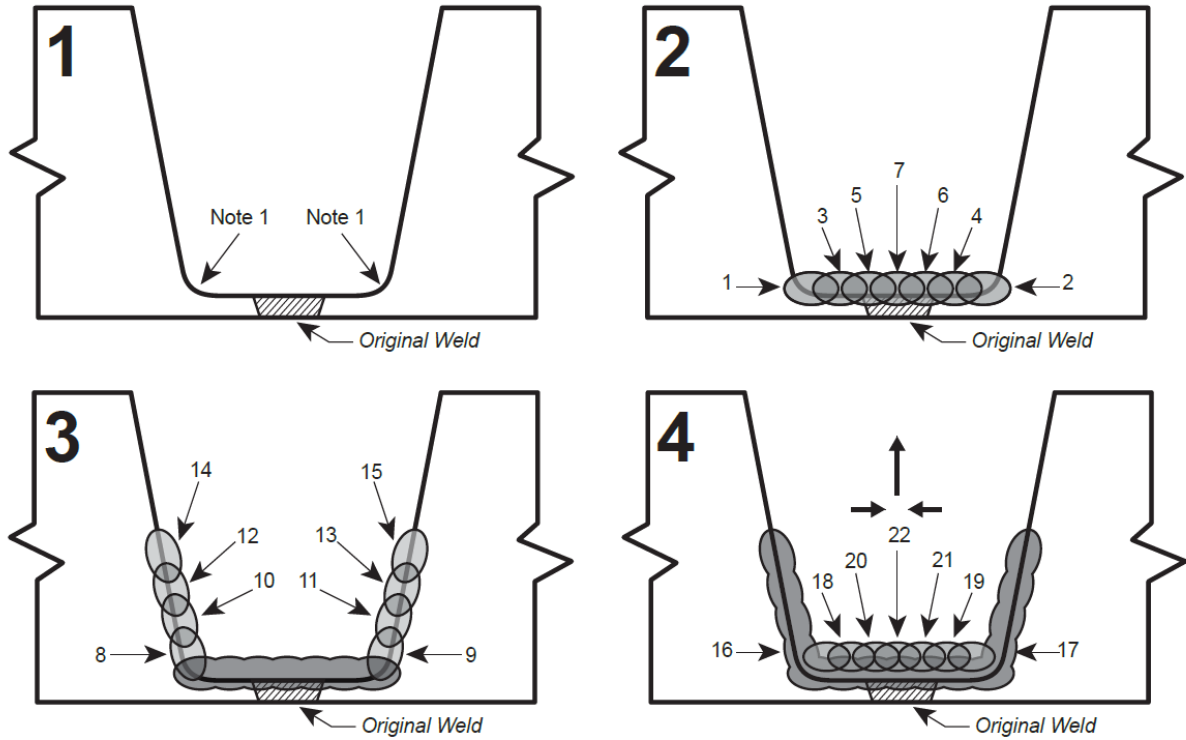
SCHEMATIC OF THE CONTROLLED FILL WELDING PROCEDURE FOR GRADE 91 STEEL FOR A FULL PENETRATION WELD REPAIR USING A COMPOUND BEVEL.



Note 1 – Where the excavation may pose challenges with electrode access, it is recommended that the fill passes in immediate contact with the machined excavation be restricted in height as the weld repair is performed.

FIGURE S8.3-c.

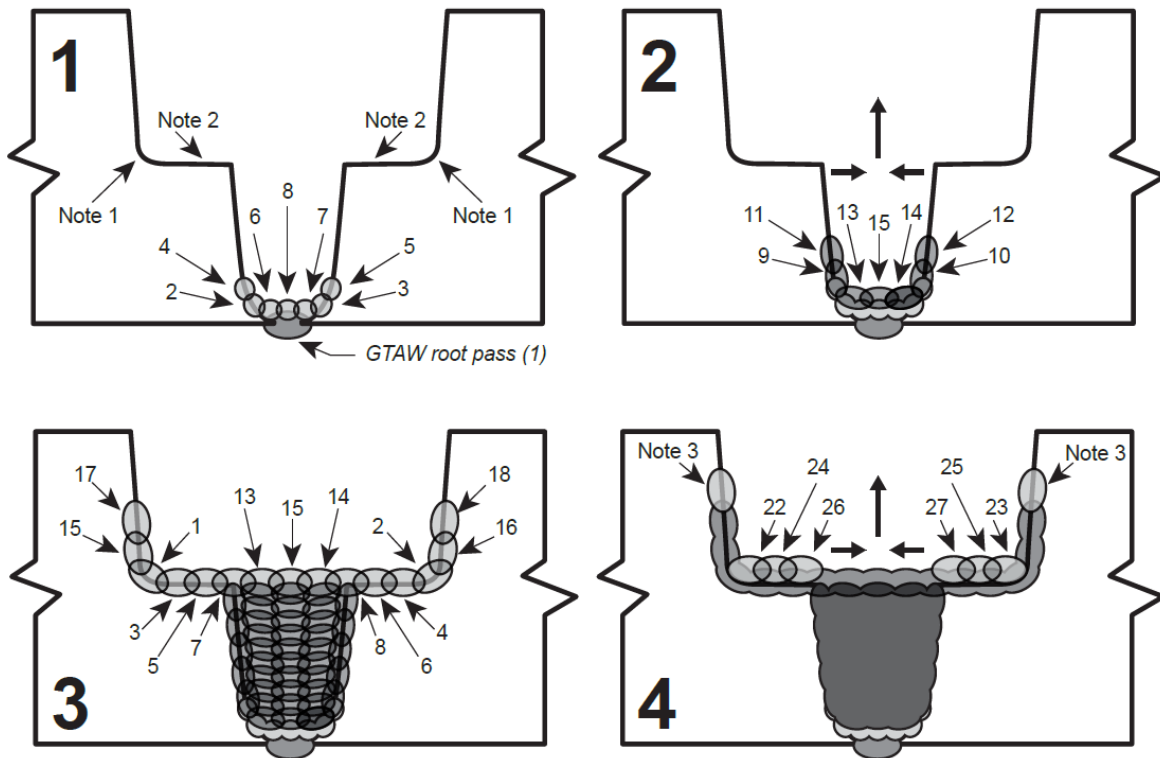
SCHEMATIC OF THE CONTROLLED FILL WELDING PROCEDURE FOR GRADE 91 STEEL FOR FULL PENETRATION WELD REPAIR USING A LAND.



Note 1 – The excavation shall have rounded corners to prevent lack of fusion defects. In these locations it is recommended to use a smaller diameter electrode (such as 3/32 in.(2.4 mm)) to ensure acceptable fusion.

FIGURE S8.3-d.

SCHEMATIC OF THE CONTROLLED FILL WELDING PROCEDURE FOR GRADE 91 STEEL FOR A FULL PENETRATION WELD REPAIR USING A STEP WELD PREPARATION.



Note 1 – The excavation shall have rounded corners to prevent lack of fusion defects. In these locations it is recommended to use a smaller diameter electrode (such as 3/32 in. (2.4 mm)) to ensure acceptable fusion.

Note 2 – The repair cavity width shall extend at least 0.40 in. (10 mm) beyond the fusion line of the original weld

Note 3 – Where the excavation may pose challenges with electrode access, it is recommended that the fill passes in immediate contact with the machined excavation be restricted in height as the weld repair is performed.

S8.4 QUALIFICATION OF CONTROLLED FILL WELDING PROCEDURE

- a) The welding procedure qualification test coupon shall be ASME P-No. 15 E, Group 1 joined to itself, P-No. 4, P-No. 5A, P-No. 8, P-No. 42, P-No. 43, or P-No. 45.

[SJ5] The test material for the welding procedure qualification shall be P-No 15E, Group 1, Grade 91.

- b) Qualification thickness for the test plates and repair groove depths shall be in accordance with ASME Section IX.
- c) The Welding Procedure Specification (WPS) shall be qualified in accordance with requirements of ASME Section IX. If qualifying the WPS with PWHT, the PWHT is to be low temperature PWHT, i.e., a minimum temperature of 1250°F (675°C) and a maximum temperature of 1445°F (785°C).

- d) For qualification of weld repair procedures using 9Cr-1Mo filler metal and in the as-welded condition, the requirements for the bend test shall be performed using a bend radius which achieves a minimum of 14% elongation in the outer fibers.

S8.5 POST REPAIR INSPECTION

- a) After the completion of weld repairs to CSEF steels, post inspection requirements shall be developed and implemented based on acceptance from the Inspector, and if applicable, the Jurisdiction.
- b) Post-repair inspection intervals and methods of examination shall be implemented to ensure safe operation and margin to locate and monitor defect growth in the weld repair area. The selected non-destructive examination method shall provide meaningful results and shall follow NBIC Part 3, Section 4.
- c) Post repair inspection shall be on-going until the component reaches end of life or is replaced. The Owner/User may revise the re-inspection interval based on inspection results from previous inspections.

Part 3, 2.5.3.6 c) 5)

d. The filler metal shall be limited to an austenitic, nickel-base filler metal having a designation F-No. 43 to those assigned to F-number 43 in Section IX, QW-432 and limited to the following consumables: ERNiCr-3, ENiCrFe-3, ENiCrFe-2, UNS N08087; or ~~ASME B&PV Code Cases 2733 and 2734 (e.g. EPRI P87); or~~

Part 3, 2.5.3.7 i)

5) For the joining of ASME P-No. 15E, Group 1 to P-No. 8, P-No. 42, P-No. 43 or P-No. 45, the filler metal shall be limited to an austenitic, nickel-base filler metal to those assigned to F-No. 43 in ASME Section IX, QW-432 and limited to the following consumables: ERNiCr-3, ENiCrFe-3, ENiCrFe-2, UNS N08087. ~~ASME B&PV Code Cases 2733 and 2734.~~



PROPOSED REVISION OR ADDITION

Item No.
20-83
Subject/Title
Definition of Nonconformance
NBIC Location
Part: Repairs and Alterations & Repairs and Alterations; Section: 9 & 1.5; Paragraph: Glossary & 1.5.1 s)
Project Manager and Task Group
Source (Name/Email)
Terrence Hellman / thellman@nationalboard.org
Statement of Need
Action Item 19-60 is proposing revisions/additions to all of 1.5.1. This proposal is to move the definition of "Nonconformance" out of the current 1.5.1 s) paragraph and into the glossary.
Background Information
Current text in 1.5.1 s) that is being revised via Action Item 19-60: s) Nonconforming Items There shall be a system acceptable to the Inspector for the correction of nonconformities. A nonconformance is any condition that does not comply with the applicable rules of the NBIC, construction code, jurisdictional requirements, or the quality system. Nonconformance must be corrected or eliminated before the repaired or altered component can be considered in compliance with the NBIC.
Existing Text
Proposed Text
<u>Nonconformance – A condition of product or service in which any characteristics do not conform with the applicable rules of the NBIC, construction code, jurisdictional requirements, or the quality system.</u>

VOTE:							
COMMITTEE	Appr oved	Disapproved	Abs taine d	Not Voting	Passed	Faile d	Date

PROPOSED REVISION OR ADDITION

Item No. 21-19
Subject/Title Remove temper bead WPS requirement for 2.5.3.5 in certain applications.
NBIC Location Part: Repairs and Alterations; Section: 2.5.3.5; Paragraph: c), d), and e)
Project Manager and Task Group
Source (Name/Email) Chuck Violand / cvioland@nooter.com
Statement of Need Undue burden on fabricators and constructors to qualify a temperbead WPS in an application where temperbead is otherwise not required or necessary.
Background Information A diaphragm plate to heat exchanger channel shell weld was being performed as a repair/alteration. The channel shell is a P#3 Gr.#2 material and the diaphragm plate is a P#8 material. The weld joining the two is a 3/16" fillet weld, essentially used as a seal weld to prevent product from leaking. The diaphragm also does not have any strength function as the channel head is bolted to the channel body and provides the pressure retaining function. Per the original code of construction, this weld required PWHT but did not require notch toughness testing. The existing diaphragm plate was cut off and a new plate was going to be welded on. If the diaphragm plate was constructed of a P#1 or P#3 material, this could have been completed using Welding Method 1 without any temperbead requirements. Due to the dissimilar metal weld, Welding Method 5 must be used. Paragraph (d) in 2.5.3.5 requires a WPS qualified in accordance with temperbead rules however paragraph (e) states that the WPS may be qualified in accordance with Welding Method 1. Paragraph (e) is not subordinate to paragraph (d) so a temperbead WPS must be qualified, despite not being required by Welding Method 1. The P#8 and P#4X materials permitted in 2.5.3.5 receive no benefit nor harm from a temperbead application. Additionally, manual GTAW is permitted in Welding Method 1 but prohibited in Welding Method 5. If a WPS is permitted to be qualified in accordance with Welding Method 1, why limit the user to the restrictions associated with a temperbead application? The changes proposed above will remove the barriers for R-stamp holders to perform these repairs without the restrictions of qualifying a temper bead WPS.
Existing Text c) The welding shall be limited to the SMAW, FCAW, GMAW and machine or automatic GTAW processes. The filler metal used for joining the dissimilar materials shall be either A-No 8 or Nickel-Chrome alloy classification (F-No 43). When selecting a filler metal for dissimilar metal joints, determine if the weld joint will be exposed to elevated temperature service. A-No 8 filler metals exposed to service temperatures greater than 800°F (427°C) will exhibit reduced creep life along the fusion zone of the ferritic material due to carbon diffusion. Instead, a low hydrogen, Nickel-Chromium alloy classification filler metal shall be used for dissimilar weld joints exposed to service temperatures at or above 800°F (427°C); d) The WPS shall be qualified in accordance with the temper bead rules of QW-290 in ASME Section IX. For pressure retaining items fabricated to ASME Section I and repaired using this temper bead method, hardness testing and carbon equivalency requirements may be waived for ASME Section IX temper bead procedure qualification provided the pressure retaining item operates in steam service above 900°F (482°C); e) If the original code of construction did not require notch toughness testing, qualification of welding procedures (WPS) for joining ASME P-No. 1, P-No. 3 ferritic materials to either P-No. 8, P-No. 42, P-No. 43, or P-No. 45 materials shall be in accordance with requirements in either NBIC Part 3, 2.5.3.1, Welding Method 1 or in NBIC Part 3, 2.5.3.3, Welding Method 3;

Proposed Text

c) The welding shall be limited to the SMAW, FCAW, GMAW and machine or automatic GTAW processes. Manual GTAW is permitted when the qualification of welding procedures (WPS) is in accordance with 2.5.3.1 as specified in (e). The filler metal used for joining the dissimilar materials shall be either A-No 8 or Nickel-Chrome alloy classification (F-No 43). When selecting a filler metal for dissimilar metal weld joints, determine if the weld joint will be exposed to elevated temperature service. A-No 8 filler metals exposed to service temperatures greater than 800°F (427°C) will exhibit reduced creep life along the fusion zone of the ferritic material due to carbon diffusion. Instead, a low hydrogen, Nickel-Chromium alloy classification filler metal shall be used for dissimilar weld joints exposed to service temperatures at or above 800°F (427°C); d) The WPS shall be qualified in accordance with the temper bead rules of QW-290 in ASME Section IX only when the qualification of welding procedures (WPS) is in accordance with 2.5.3.2, 2.5.3.3, or 2.5.3.4 as specified in (e), (f), and (g). For pressure retaining items fabricated to ASME Section I and repaired using this temper bead method, hardness testing and carbon equivalency requirements may be waived for ASME Section IX temper bead procedure qualification provided the pressure retaining item operates in steam service above 900°F (482°C);

VOTE:							
COMMITTEE	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date

CODE REVISIONS OR ADDITIONS

Request for code revisions or additions shall provide the following:

a) Proposed Revisions or Additions

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

b) Statement of Need

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

c) Background Information

Provide background information to support the revision or addition, including any data or changes in nology that form the basis for the request that will allow the Committee to adequately evaluate the posed revision or addition. Sketches, tables, figures, and graphs should be submitted as appropriate. In applicable, identify any pertinent paragraph in the code that would be affected by the revision or tion and identify paragraphs in the code that reference the paragraphs that are to be revised or added.



Re: Temper Bead Explanation 
Terrence Hellman to: George Galanes
 Cc: Jonathan Ellis

07/14/2021 11:41 AM

Thank you George.

Jonathan,

Please see the verbiage below for incorporation into the response letter to the inquirer for Item 21-19 if the MC agrees with the proposed action of closing with a response letter.

Thanks.

Terrence Hellman

Senior Staff Engineer

Email: thellman@nbbi.org

Phone: 614-431-3234

Fax: 614-847-1828



The National Board of Boiler & Pressure Vessel Inspectors

1055 Crupper Avenue

Columbus, OH 43229

United States

Office: 614.888.8320 / Fax: 614.847.1828

www.nbbi.org

"George Galanes"

The NBIC has considered your request for revisi...

07/14/2021 11:31:08 AM

From: "George Galanes" <ggalanes@diamondtechnicalservices.com>
 To: "THellman@nationalboard.org" <THellman@nationalboard.org>
 Date: 07/14/2021 11:31 AM
 Subject: Temper Bead Explanation

The NBIC has considered your request for revision to temper bead welding method 2.5.3.5 and voted to not revise the current temper bead method(s) for a specific repair application. The committee considered your inquiry as consulting advice, and as such, the committee believes that the current alternative temper bead weld methods to be used in lieu of PWHT are acceptable.

George W Galanes, P.E. (IL, PA, WV, NY, OH, TX, CA)
Consulting Metallurgical Engineer
Diamond Technical Services, Inc.
4 Territorial Ct
Bolingbrook, IL 60440

Office; 815-634-2727

Cell: 312-925-1341

<http://www.diamondtechnicalservices.com/>



PROPOSED REVISION OR ADDITION

Item No.	21-26
Subject/Title	In-Service Welding Onto Carbon Steel Pressure Components or Pipelines
NBIC Location	Part 3, Para. 3.4.3
Project Manager and TaskGroup	Brian Boseo
Source (Name/Email)	bmboseo@burnsmcd.com
Statement of Need	Remove any future inconsistencies/conflicts other referenced codes and standards.
Background Information	ASME PCC-2 subject heading appeared to have changed.
Existing Text	3.4.3 Encapsulation is a method used to maintain the pressure retaining capability of pipe, nozzles, fittings and valves an item (with the exception of fire tube boilers) by fabricating a new pressure containing boundary over the item in the form of a “welded leak box” as described by ASME PCC-2, Article 2.4. c)1) When the pressure retaining item will remain in service while implementing this method, the requirements and limitations described within ASME PCC-2, Part-1 shall be used in conjunction with ASME PCC-2, Part-2, Article 2.10.
Proposed Text	3.4.3 Encapsulation is a method used to maintain the pressure retaining capability of <u>pipng pipe, nozzles, fittings</u> and valves <u>an item</u> (with the exception of fire tube boilers) by fabricating a new pressure containing boundary over the item in the form of a “welded leak box” as described by ASME PCC-2, Article 2.4. c)1) . When the pressure retaining item will remain in service while implementing this method, the requirements and limitations described within ASME PCC-2, Part-1 shall be used in conjunction with <u>the Welded Leak Box Repair article in</u> ASME PCC-2, Part-2, Article 2.10 .

COMMITTEE	VOTE:				Passed	Failed	Date
	Approved	Disapproved	Abstained	Not Voting			
SG R&A							
SC R&A							

CODE REVISIONS OR ADDITIONS

Request for code revisions or additions shall provide the following:

a) Proposed Revisions or Additions

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

b) Statement of Need

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

c) Background Information

Provide background information to support the revision or addition, including any data or changes in technology that form the basis for the request that will allow the Committee to adequately evaluate the proposed revision or addition. Sketches, tables, figures, and graphs should be submitted as appropriate. When applicable, identify any pertinent paragraph in the code that would be affected by the revision or addition and identify paragraphs in the code that reference the paragraphs that are to be revised or

Existing words

4.2 NONDESTRUCTIVE EXAMINATION

a) The nondestructive examination (NDE) requirements, including technique, extent of coverage, procedures, personnel qualification, and acceptance criteria, shall be in accordance with the original code of construction for the pressure-retaining item. Weld repairs and alterations shall be subjected to the same nondestructive examination requirements as the original welds. Where this is not possible or practicable, alternative NDE methods acceptable to the Inspector and the Jurisdiction where the pressure-retaining item is installed, where required, may be used.

- 1) For welds that were subject to volumetric NDE during construction, repairs may be examined by MT or PT in lieu of volumetric examination under all of the following conditions:
 - a) The repair depth does not exceed the lesser of 1/8 inch (3 mm) or 25% of the nominal base material thickness;
 - b) The aggregate repair length is no longer than the lesser of 6 inches (150 mm) or 10% of the total joint length; and
 - c) The base material and each layer of deposited weld shall be examined with MT or PT.

b) Authorized Inspection Agency Acceptance

Following review and certification, the repair plan shall be submitted for acceptance to the Authorized Inspection Agency/Owner-User Inspection Organization whose Inspector will make the acceptance inspection and sign the Form R-1.

3.4 ALTERATIONS

3.4.1 RE-RATING

(19)

Except as provided for Yankee dryers in Supplement 5, this code does not provide rules for de-rating boilers or pressure vessels; however, when the MAWP and/or allowable temperature of a boiler or pressure vessel is reduced, the Jurisdiction, if applicable, where the object is installed ~~shall should~~ be contacted to determine if specific procedures should be followed. Re-rating of a pressure-retaining item by increasing the maximum allowable working pressure (internal or external) or temperature or decreasing the minimum design metal temperature below which notch toughness testing is required by the original code of construction, shall be done only after the following requirements have been met to the satisfaction of the Jurisdiction at the location of the installation:

- a) Revised calculations verifying the new service conditions shall be prepared in accordance with the "R" Certificate Holder's Quality Control System. Establishing a higher joint efficiency to re-rate a pressure-retaining item is not permitted;
- b) All re-ratings shall be established in accordance with the requirements of the construction standard to which the pressure-retaining item was built;
- c) Current inspection records verify that the pressure-retaining item is satisfactory for the proposed service conditions;
- d) The pressure-retaining item has been pressure tested, as required, for the new service conditions. Any insulation, coatings, or coverings that may inhibit or compromise a meaningful pressure test shall be removed, to the extent identified by the Inspector. The pressure test may be waived if the original pressure test as recorded on the Manufacturer's Data Report is at least equal to the calculated test pressure required to verify the integrity of the pressure-retaining item for the new conditions. If the pressure test is waived it shall be documented on Form R-2 with this statement in the Remarks section: "Pressure test waived in accordance with NBIC Part 3, 3.4.1 d)";
- e) In lieu of pressure testing, alternative methods can be used to ensure the structural integrity of the re-rated pressure-retaining item. The alternative methods shall be documented and subject to review and approval by the Jurisdiction.

3.4.2 ALTERATIONS BASED ON ALLOWABLE STRESS VALUES

For re-rating or re-calculating a new minimum wall thickness for a pressure-retaining item using a later edition/addenda of the original code of construction or selected construction standard or code that permits use of higher allowable material stress values than were used in the original construction, the following requirements shall apply:

- a) The "R" Certificate Holder shall verify, by calculations and other means, that the re-rated item can be satisfactorily operated at the new service condition (e.g., stiffness, buckling, external mechanical loadings);
- b) The pressure-retaining item shall not be used in lethal service;

S4.17.3 ALTERATION PLAN

The user shall prepare, or cause to have prepared, a detailed plan covering the scope of the alteration.

a) Engineer Review and Certification

The alteration plan shall be reviewed and certified by an engineer meeting the ASME Section X or RTP-1 criteria for an engineer certifying ASME Section X or RTP-1 compliance of the appropriate calculations contained in the Fabricator's Design Report. The review and certification shall be such as to ensure that the work involved in the alteration is compatible with the user's design specification and the *Fabricator's Data Report*.

Note: The engineer qualification criteria of the jurisdiction where the pressure vessel is installed should be verified before selecting the certifying engineer.

b) Authorized Acceptance

Following review and certification, the alteration plan shall be submitted to the Inspector for his review and acceptance. Alterations to pressure-retaining items shall not be initiated without the authorization of the Inspector.

S4.17.4 CALCULATIONS

A set of calculations shall be completed prior to the start of any physical work. All design work shall be completed by an organization experienced in the design portion of the standard used for the construction of the item. All calculations for ASME Code Section X and RTP-1 alterations shall be certified by an engineer meeting the ASME Section X criteria for an engineer certifying ASME Section X compliance of the calculations contained in the Fabricator's Design Report. All calculations shall be made available for review by the Inspector.

Note: The engineer qualification criteria of the jurisdiction where the pressure vessel is installed should be verified before selecting the certifying engineer.

S4.17.5 RE-RATING

a) Re-rating of a pressure-retaining item by increasing the maximum allowable working pressure (internal or external) or temperature , or decreasing the minimum temperature shall be done only after the following requirements have been met to the satisfaction of the Jurisdiction at the location of the installation:

- 1) Revised calculations verifying the new service conditions shall be prepared in accordance with the Certificate Holder's Quality Control System. Re-rating calculations for ASME Code Section X and RTP-1 vessels shall be performed by a Professional Engineer experienced in the design of reinforced plastic pressure vessels;
- 2) All re-rating shall be established in accordance with the requirements of the construction standard to which the pressure-retaining item was built;
- 3) Current inspection records shall verify that the pressure-retaining item is satisfactory for the proposed service conditions;
- 4) The pressure-retaining item shall be pressure tested, as required, for the new service conditions.

b) This code does not provide rules for de-rating pressure-retaining items; however, when the MAWP and/or allowable temperature of a pressure-retaining item is reduced, the Jurisdiction, if applicable, where the object is installed should-shall be contacted to determine if specific procedures should be followed.

ITEM 19-71 1-12-21

4.8.6 FIELD REPAIR

Repair organizations may obtain a “VR” Certificate of Authorization for field repair, either as an extension to their in-shop/plant scope, or as a field-only scope, provided that:

- a) ~~Technicians qualified by Qualified technicians in the employ of~~ the Certificate Holder in accordance with 4.9.2 perform such repairs;^[DA1]
- b) An acceptable quality system covering field repairs, including field audits, is maintained; and
- c) Functions affecting the quality of the repaired valves are supervised from the address of record where the “VR” certification is issued.

~~4.8.6.2 USE OF OWNER OR USER PERSONNEL~~

~~For the repair of pressure relief valves at an owner or user’s facility for the owner or user’s own use, the “VR” Certificate Holder may utilize owner or user personnel to assist Certificate Holder technician(s) in the performance of repairs provided:~~

- ~~a) The use of such personnel is addressed in the “VR” Certificate Holder’s quality system;~~
- ~~b) The owner or user personnel are trained and qualified in accordance with Supplement 3;~~
- ~~c) Owner or user personnel work under direct supervision and control of the “VR” Certificate Holder’s technician(s) during any stage of the repair when they are utilized;~~
- ~~d) The “VR” Certificate Holder shall have the authority to assign and remove owner or user personnel at its own discretion; and~~
- ~~e) The names of the owner or user personnel utilized are recorded on the document as required for a quality system.~~

4.9 COMPETENCY, TRAINING AND QUALIFICATION OF PERSONNEL

4.9.1 COMPETENCY OF PERSONNEL

The repair organization shall establish the skills, knowledge, competencies, and method to evaluate competencies required for each position within the organization having direct effect on the quality of pressure relief repair performed in accordance with the Certificate of Authorization.

4.9.2 CONTENTS OF TRAINING PROGRAM

The repair organization shall establish a documented training program to ensure the defined skills, knowledge and competencies are achieved. As a minimum, training objectives for each position shall include:

- a) Applicable ASME Code requirements;
- b) Applicable NBIC requirements;
- c) Individual responsibilities of each function described within the organization's quality system;
- d) Technical aspects for the applicable position held;
- e) Mechanical skills for the applicable position held;
- f) Special processes as applicable listed on the Certificate of Authorization.

4.9.3 INITIAL EVALUATION AND ACCEPTANCE OF PERSONNEL

The repair organization shall complete an initial evaluation and acceptance of each individual's skills and competency prior to the individual being assigned to work without direct supervision. This evaluation and acceptance shall be documented.

4.9.4 ANNUAL EVALUATION AND ACCEPTANCE OF PERSONNEL

The repair organization shall complete an annual evaluation and acceptance of each individual's skills and competency to verify proficiency as well as compliance with the certificate Holder's quality system. This evaluation shall include training records, documented evidence of work performed and on-the-job observations to demonstrate competency. The evaluation shall be documented.^[TB2]

4.10 Use of Personnel not in the Certificate Holder's employ

The repair organization may use the services of personnel not in their employ to assist the Certificate Holder in the performance of repairs provided:

- a) The use of such personnel is addressed in the “VR” Certificate Holder’s quality system
- b) The personnel are qualified in accordance with 4.9.2. Records of this qualification are to be retained in accordance with 4.8.5.4 (s)
- c) The personnel work under direct supervision and control of the ‘VR” Certificate Holder
- d) The “VR” Certificate Holder shall have the authority to assign and remove personnel at its own discretion
- e) The names of the personnel utilized are recorded on the documents as required by the quality system

Table 4.8.5.4 s)

Reports, Records, or Documents for “VR” Certificate Holders	Instructions	Minimum Retention Period
Form “R” reports associated with a pressure relief valve that required welding as part of the repair	Record retention shall be in accordance with Part 3, Table 1.6.1	Refer to Part 3, Table 1.6.1
Record of repair or inspection	The repair and inspection program	5 years

	section shall include reference to a document (such as a report, traveler, or checklist) that outlines the specific repair and inspection procedures used in the repair of pressure relief valves.	
Records related to equipment qualification and instrument calibration	Prior to use, all performance testing equipment shall be qualified by the certificate holder to ensure that the equipment and testing procedures will provide accurate results when used within the ranges established for that equipment. This qualification may be accomplished by benchmark testing, comparisons to equipment used for verification testing as specified in the quality system, or comparisons to field performance.	5 years after the subject piece of equipment or instrument is retired.
Record of lift assist device qualification	Prior to use, all lift assist devices shall be qualified by the certificate holder to ensure that the equipment and testing procedures will provide accurate results when used within the ranges established for that equipment used for verification testing as specified in the quality system or comparisons to field performance. This qualification shall be documented.	5 years after termination of employment.
Records of employee training and qualification	Each repair organization shall establish minimum qualification requirements for those positions within the organization as they directly relate to pressure relief valve repair. Each repair organization shall document the evaluation and acceptance of an individual's qualification for the applicable position.	5 years after termination of employment.
Records of personnel not in the certificates holder's employ training and qualification.	The repair organization may use the services of personnel not in their employ to assist the Certificate Holder in the performance of repairs provided they meet the requirements of Section 4.10. Each repair organization shall document the evaluation and acceptance of an individual's qualification for the applicable position.	5 years after completion of work performed by individual not in the certificate holder's employee.

Item 21-16.

Rationale for closing with no action.

Sometimes manufacturers modify design characteristics which may require spring ranges for different size and pressure combinations to be revised. This requirement was established to ensure the proper spring is used in the repair. Only the manufacturer can determine the reason for the change and if the spring currently installed in the valve is acceptable.

PROPOSED INTERPRETATION

Inquiry No.	21-23
Source	Joseph Richardson, Dover Food Retail jrichardson@doverfoodretail.com
Subject	<p>Interpretation of scope on Install. of Liquid Carbon Dioxide Storage Vessel</p> <p>Background: It is not clear in the NBIC if a closed loop CO2 refrigeration system would fall under this category. If so, this would prohibit the installation of the most common low GWP refrigerants being used for HVAC & refrigeration on stores. During a site inspection, an inspector in Tennessee stated that this code applies to the refrigeration system's flash tank installed in a machine house on top of a Publix grocery store roof. Since he has rejected it, building cannot continue and this has jeopardized the build schedule. As stated above, this refrigerant is used all over the US in HVAC & refrigeration systems and is what the government is pushing us to reduce the GWP associated with refrigerants.</p>
Edition	Part 1, S3.1
Question	Does the flash tank on an enclosed refrigeration system fall under the scope of this listing since it is a closed loop system that is not refilled?
Reply	No.
Committee's Question	Do the requirements of Supplement 3 of NBIC Part 1 apply to a closed loop refrigeration system that utilizes carbon dioxide as a working fluid?
Committee's Reply	No
Rationale	The flash tank of this closed loop system is not a fill in place system.

Proposal: Revise paragraph 3.7.5.1. d) 4) to clarify that valves without packing glands may be used as stop valves.

Explanation: There are valve designs using means other than adjustable packing to prevent leakage through the stem which are suitable for use as isolation (stop) valves.

Note: ASME BPV IV has approved a change to the 2023 Edition with the same wording under their item 21-391

3.7.5 STOP VALVES

3.7.5.1 STEAM HEATING, HOT-WATER HEATING, AND HOT-WATER SUPPLY BOILERS

a) For Single Steam Heating Boilers

When a stop valve is used in the supply pipe connection of a single steam boiler, there shall be one installed in the return pipe connection.

b) For Single Hot-Water Heating & Hot-Water Supply Boilers

- 1) Stop valves shall be located at an accessible point in the supply and return pipe connections as near the boiler as is convenient and practicable, of a single hot water boiler installation to permit draining the boiler without emptying the system.
- 2) When the boiler is located above the system and can be drained without draining the system stop valves required in NBIC Part 1, 3.7.5.1 b) 1) may be eliminated.

c) For Multiple Boiler Installations

A stop valve shall be used in each supply- and-return pipe connection of two or more boilers connected to a common system. See NBIC Part 1, Figures 3.7.5.1-a, 3.7.5.1-b, and 3.7.5.1-c.

d) Types of Stop Valve(s)

- 1) All valves or cocks shall conform with the applicable portions of an acceptable code of construction and may be ferrous or nonferrous.
- 2) The minimum pressure rating of all valves or cocks shall be at least equal to the pressure stamped upon the boiler, and the temperature rating of such valves or cocks, including all internal components, shall be not less than 250°F (121°C).
- 3) Valves or cocks shall be flanged, threaded or have ends suitable for welding or brazing.
- 4) All valves or cocks with stems or spindles shall have adjustable pressure-type packing glands or alternate design to prevent leakage around the stem, and, in addition, all plug-type cocks shall be equipped with a guard or gland. The plug or other operating mechanism shall be distinctly marked in line with the passage to indicate whether it is opened or closed.
- 5) All valves or cocks shall have tight closure when under boiler hydrostatic test pressure.

ASME BPV Liaison Report

NBIC Standards Committee
July 15, 2021

ASME BPV Liaison Report

CA-1 Conformity Assessment Requirements

- *Ongoing work to:*
 - *Identify Certificate numbers on Data Plates*
 - *Incorporate Nuclear CA requirements*
- *CA-1 – 2020 Edition published*
 - *Recognize alternative methods for applying the ASME Mark*
 - *Incorporate CAP-21 criteria for reapplication of the ASME Mark*
 - *Incorporate CAP-22 criteria for use of additional AIAs*
 - *Incorporate AIA accreditation requirements (from QAI-1)*
 - *Clarify permitted activities prior to issue of a Certificate*
 - *Incorporate definitions of “field site” and “temporary location”*
 - *Update PRD and PRT program references*
 - *Available for free download from ASME website*

ASME BPV Liaison Report

QAI-1 Qualifications for Authorized Inspection

- *QAI Conference Committee established with representation from accredited AIAs*
- *Approved Actions:*
 - *Extend Case 6 for performance of remote inspections by the AI*
 - *AIA notification to ASME of unresolved Code or Program nonconformances*
 - *Change “periodic” to “annual”*
 - *Incorporate Case 4*
- *Ongoing work:*
 - *A major reorganization of the QAI-1 Standard*
 - *Establish eye examination requirements for Inspectors*
 - *Clarify CI responsibilities consistent with CSP-53*
 - *Address situations where the AIA provides both inspection and consulting services*

ASME BPV Liaison Report

BCA Items

- CAP-21 revised to permit reapplication of the ASME Mark to be witnessed by any National Board Commissioned Inspector
- CAP-23 issued to permit Designated Oversight via electronic means during times of natural disaster, public health crisis, regional instability, or government-imposed restrictions.
- Ongoing discussions regarding nameplates that imply compliance with an ASME Standard by using “ASME” without the ASME Mark
- New ASME Quality Program Standard QPS – 2021 published, with a separate, non-product specific certification
- Certificates required to be issued in legal company name

ASME BPV Liaison Report

Related Developments

- *2021 publication of new ASME Section XIII*
- *Follow-up actions planned with Book Sections to align coverage of field sites and temporary locations with current CA requirements*
- *Parts Fabrication Certificate Program continues to gain participation; 101 certificates issued*
- *July 2021, Oct/Nov 2021, and February 2022 ASME BPV Code meetings will be conducted virtually; May 2022 ASME BPV Code meetings will be held live, in conjunction with the National Board General Meeting*
- *Walt Sperko awarded the ASME Melvin R. Green Codes & Standards Medal*

Questions / Discussion

NBIC - AWS Liaison Report

July, 2021

The following listed actions are currently in process within the American Welding Society.

- The B2 committee has agreed to systematically update all published SWPS's to bring them in line with the advancements realized by the Welding Community over the last 20 years or so.
- The changes will not affect previous versions of the same SWPS. Those versions are still very valid and readily useable and unless you have a specific need to replace them; I would not.
- The AWS B2 committee is in process of developing a compliment of Aluminum SWPS using both the GTAW and GMAW processes for the common grades of Aluminum.
- The B2 committee is also developing the plan to begin development of additional SWPS's for Carbon, Stainless, and Low Alloy Steels using the GMAW, FCAW, and SAW processes.
- At some point in the distant future, additional SWPS's will be developed addressing Notch Toughness applications (incorporating both traditional and Wave Form variables) for the common Carbon and Low Alloy Steels.

The listed SWPS's have been approved by the committees, are presently at the printers, and will be presented to the NBIC for adoption later this year:

- AWS B2.1-1-018:2021
- AWS B2.1-4-217:2021
- AWS B2.1-4-218:2021
- AWS B2.1-4-219:2021
- AWS B2.1-4-220:2021
- AWS B2.1-4-221:2021
- AWS B2.1-1-234:2021
- AWS B2.1-1-235:2021

Close behind, the 5 listed SWPSs are presently being balloted by the B2 committee; since the changes are essentially the same as made to the SWPSs listed above early approval is anticipated.

- AWS B2.1-5-222:2021
- AWS B2.1-5-223:2021
- AWS B2.1-5-224:2021
- AWS B2.1-5-225:2021
- AWS B2.1-5-226:2021

The long-range plan for the updated SWPSs is to group them into an ANSI approved "Stabilized Maintenance Program" exempting them from the traditional ANSI 5/10-year re-affirmation balloting requirement.

As in the past, as newly developed SWPS's are approved by the various committees, they will be offered to the NBIC for adoption.

Regards,

Jim Sekely