



*THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS*

NATIONAL BOARD INSPECTION CODE SUBCOMMITTEE REPAIRS & ALTERATIONS

MINUTES

**Meeting of July 12, 2023
St. Louis, MO**

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

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1. Call to Order

Chair Kathy Moore called the meeting to order at 8:00 a.m. Central Time in the Cardinal A and B room at the hotel.

2. Roll call of Members and introduction of Visitors

Secretary Hellman called roll of the Members and held introductions of visitors ([Attachment 1](#))

3. Check for a Quorum

Secretary Hellman verified a quorum was reached.

4. Announcements

- The National Board will be hosting a reception on Wednesday evening from 5:30 p.m. to 7:30 p.m. at Sports & Social St. Louis Ballpark Village next to the hotel.
- The National Board will be hosting breakfast and lunch on Thursday for those attending the Main Committee meeting. Breakfast will be served from 7:00 a.m. to 8:00 a.m. in Cardinal C, and lunch will be served from 11:30 a.m. to 12:30 p.m. in Cardinal C.
- Meeting schedules, meeting room layouts, and other helpful information can be found on the National Board website under the **Inspection Code** tab → NBIC Meeting Information.
- Remember to add any attachments that you'd like to show during the meeting (proposals, reference documents, power points, etc.) to the NBIC file share site (nbfileshare.org) **prior to the meeting**.
 - Note that access to the NBIC file share site is limited to committee members only.
 - ALL power point attachments/presentations must be sent to the NBIC Secretary prior to the meeting for approval.
 - Contact Terry for any questions regarding NBIC file share access.
- When possible, please submit proposals in word format showing "~~strike through~~/underline".
- If you'd like to request a new Interpretation or Action item, this should be done on the National Board Business Center.
 - Anyone, member or not, can request a new item.
- As a reminder, anyone who would like to become a member of a group or committee:
 - Should attend at least 2 meetings prior to being put on the agenda for membership consideration. The nominee will be on the agenda for voting during their 3rd meeting.
 - The nominee must submit the formal request along with their resume to the NBIC Secretary **PRIOR TO** the meeting. nbicsecretary@nbbi.org
 - If needed, we can also create a ballot for voting on a new member between meetings.
- Thank you to everyone who registered online for this meeting. The online registration is very helpful for planning our reception, meals, room set up, etc. Please continue to use the online registration for each meeting. If you are here in person, and did not register, please visit the National Board website to register now. Registering will make sure we have an accurate count for the reception, breakfast, and lunch. It also is a good way to make sure we have the most up-to-date contact information.
- Pat Becker – provided details on a tech conference offered by Epri.
- Luis Ponce – Mech Repairs Guide status update
- Kathy Moore – Membership requirements

5. Adoption of the Agenda

- The agenda was revised to reflect officer and membership elections at TG and SG levels, and added new items A23-49 and A23-51. **The Agenda was Unanimously Accepted (UA) as revised.**

6. Approval of the Minutes of the January 11, 2023, Meeting

The minutes from the January 2023 meeting can be found on the Committee Information page under the Inspection Code tab on the National Board's website. The Minutes were motioned, seconded, and unanimously approved (UA).

7. Review of Rosters

- Mr. Steve Frazier will be sitting in for Mr. James Sekely.

a. Membership Nominations

- i. Mr. Thomas J. White would like to be considered for NR TG Membership
 - Mr. White was approved by the NR TG unanimously.
 - Mr. White was approved by the SC R&A to be a member of the NR TG unanimously.
- ii. Mr. Andrew Triplett (Interest Category of User) is interested in becoming a member of INTERP TG and Subgroup R&A
 - Mr. Triplett was UA by INTERP TG membership. – UA
 - Mr. Triplett was UA by SG R&A membership. – UA
 - Mr. Triplett was approved by the SC R&A to be a member of the INTERP TG and SG R&A unanimously.
- iii. Mr. Rick Valdez (Manufacturer) would like to be considered for SC R&A membership. – UA
 - Mr. Valdez was approved by the SC R&A to be a member of the SC R&A unanimously.

b. Membership Reappointments

- i. The following **Subgroup R&A** memberships will expire prior to the January 2024 NBIC meetings: Mr. Brian Boseo, Mr. Ben Schaefer, Mr. Scott Chestnut, Mr. Paul Davis, Mr. Trevor Seime, and Mr. Rick Valdez.
 - Mr. Boseo and Mr. Chestnut will not run for reappointment to SG.
 - All other members reappointments were UA
- ii. The following **Subcommittee R&A** memberships will expire prior to the January 2024 NBIC meeting: Mr. Trevor Seime and Mr. Bob Underwood.
 - Mr. Sieme's membership reappointment to SC R&A was UA
- iii. The following **NR Task Group** memberships are set to expire prior to the January 2024 NBIC meeting: Mr. Ray Spuhl.
 - Mr. Spuhl's membership reappointment as NR TG Chair was UA by SG R&A.
- iv. The following **Interpretations Task Group** memberships are about to expire prior to the January 2024 NBIC meeting: Mr. George Galanes.
 - Mr. Galanes' membership reappointment was UA by SG R&A

c. Officer Nominations

- i. **Subgroup R&A** will be nominating a new Chair and Vice Chair during their meeting.
 - Mr. Robert Underwood (Interest Category of AIA) – Voted as Chair by SG R&A - UA
 - Mr. Tim McBee (Interest Category of AIA) – Voted as Vice Chair by SG R&A - UA
- ii. Mr. Ray Spuhl's term as Chair of the **NR Task Group** is set to end after this meeting. Mr. Spuhl is eligible for reappointment to the position.
 - Mr. Spuhl - reappointed as Chair by NR TG.
 - Mr. Spuhl was approved by the SC R&A to be reappointed to the Chair of NR TG.

d. Resignations

8. Interpretations

New Interpretations Requests:

Item Number: I23-10	NBIC Location: Part 3, 3.3.4.6 and 3.4.3	Attachment 2
<p>General Description: Seamless Head Flush Patch - Repair vs Alteration</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: B. Boseo (PM), L. Dutra, B. Schaefer</p> <p>Explanation of Need: Is the use of a flush patch on the center portion of a seamless head of an ASME Sect. VIII Div. 1 vessel considered a repair or alteration per the 2011 NBIC?</p> <p>TG INTERP July 2023 Meeting Action: Interp TG LB Failed - Vote count was (8-2). Item was revised based on the negative comments at LB, and the revised proposal was unanimously approved (UA).</p> <p>July 2023 Meeting Action: T. Seime presented a proposal. The proposal was UA.</p>		

Item Number: I23-11	NBIC Location: Part 3, 5.1 and 5.11	No Attachment
<p>General Description: Correcting duplicate nameplate that is not affixed to directly the vessel</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: M. Quisenberry (PM), R. Derby</p> <p>Explanation of Need: Part 3 seems to contain no method for correcting errors on a name plate. Section 5 is not clear on what requirements apply to a duplicate name plate when the actual name plate is still affixed to the vessel and hidden under insulation. Since the duplicate name plate is not the actual name plate and is not affixed directly to the ASME pressure vessel, an R stamp holder should not be required to correct or replace a duplicate name plate. If a duplicate name plate were welded directly to the vessel, one could argue that Part 3 applies since interaction with the vessel could be required.</p> <p>TG INTERP July 2023 Meeting Action: A letter will be sent to the inquirer that this is outside the scope of NBIC; this is an ASME CA-1 issue. NBIC Part 2, NB-136 Form may be used for replacement nameplates IAW NBIC.</p> <p>July 2023 Meeting Action: T. Seime presented a proposal to send a letter will be sent to the inquirer that this is outside the scope of NBIC; this is an ASME CA-1 issue. NBIC Part 2, NB-136 Form may be used for replacement nameplates IAW NBIC.. The proposal was UA.</p>		

Item Number: I23-15

NBIC Location: Part 3, 3.3.2

[Attachment 3](#)

General Description: Routine Repairs Using Parts With Different Nominal Composition

Subgroup: Repairs and Alterations

Task Group: T. McBee (PM), M. Schaser

Explanation of Need: As written, Paragraph 3.3.2 implies that routine repairs require repair or replacement with "like material"...as in 3.3.3 r). This is supported by Interpretation 01-19. Allowing "material upgrades"...as in 3.3.3 s)...will reduce costs and labor associated with the growing number of repairs requiring in-process inspection and stamping due solely to material availability.

SG R&A July 2023 Meeting Action: Passed Interp. TG. – Revised and **Approved** with 1 Neg (P. Shanks)

July 2023 Meeting Action: Passed Interp. TG. – Revised and **Approved** with 1 Neg (P. Shanks)

Item Number: I23-20

NBIC Location: Part 3, 3.3.4.8

[Attachment 4](#)

General Description: Boiler tube plug installation time consideration

Subgroup: Repairs and Alterations

Task Group: T. Seime (PM), D. Kinney

Explanation of Need: No specific guidance is provided within the code in regard to the length of time a boiler tube plug can be left in place. Agreement by owner, inspector, and when required, Jurisdiction is ambiguous.

January 2023 Meeting Action: Passed SG LB (21-0-2)

July Meeting Action – T. Seime presented a proposal. The proposal was **UA**.

Item Number: I23-47	NBIC Location: Part 3, 3.4.4 d)	No Attachment
<p>General Description: Interpretation of Alteration for dimensional change.</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: None assigned.</p> <p>Explanation of Need: The inquirer is looking to change a vessel nozzle flange from 150# to 300# to allow them to increase the torque value to reduce flange leaks that have been occurring.</p> <p>TG INTERP July 2023 Meeting Action: Letter to the inquirer stating: "This is Consulting." Letter to the inquirer stating, "This is a follow up to your inquiry about Class 150 and 300 nozzle flanges. Several NB Staff Engineers and NBIC Committee Members have reviewed your question and have determined it is difficult to apply the new 3.4.4 d) to all pressure-retaining items. In your example the original design may not be impacted when small diameter 150# and 300# flanges are used due to minimal difference in size and weight. But larger diameter flanges could have a significant difference in size/weight that could impact loadings. Each situation needs to be individually evaluated to determine whether the activity will be treated as a repair or alteration. Repair organizations holding the "R" certificate of authorization should work with their customers, Authorized Inspection Agencies, and the Jurisdiction, where applicable, to determine whether a repair or alteration is applicable. "</p> <p>July 2023 Meeting Action: T. Seime presented a proposal to send a Letter to Inquirer - UA</p>		

Item Number: I23-48	NBIC Location: Part 3, 3.3.2	No Attachment
<p>General Description: Plugging of tube hole without welding.</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: None assigned.</p> <p>Explanation of Need: An Air-Cooled Heat Exchanger where the tube was expanded to the tube sheet needs to be repaired due to a tube leak. The repair will be done by plugging without removing the tube from the tube sheet. Is this considered a Routine Repair?</p> <p>TG INTERP July 2023 Meeting Action: Letter to be sent to the inquirer stating this is outside the scope of NBIC. Letter be sent to the inquirer stating, "The NBIC Committee cannot provide an interpretation for this request, because the NBIC Part 3 does not provide rules for the plugging of heat exchanger tubes by a mechanical repair method. This is an excerpt from the Scope Statement of NBIC Part 3- "The NBIC provides rules, information, and guidance for post-construction activities, but does not provide details for all conditions involving pressure-retaining items. Where complete details are not provided in this code, the code user is advised to seek guidance from the Jurisdiction and from other technical sources."</p> <p>July 2023 Meeting Action: - T. Seime presented a proposal to send a Letter to Inquirer - UA</p>		

9. Action Items

a. Task Group Graphite

Item No: 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>Explanation of Need: The last item in paragraph 3.3.2 e) reads, “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 PWHT.” A repair organization used this paragraph as justification to document a seal welded tube plug on a watertube boiler as routine.</p> <p>SC R&A January 2023 Meeting Action: No report. - PR</p> <p>July 2023 Meeting Action: A. Viet presented a PR.</p>		

Item Number: A19-73	NBIC Location: Part 3, S3	Attachment 5
<p>General Description: Requirements for who can make hole plugging repairs on graphite blocks</p> <p>Subgroup: Graphite</p> <p>Task Group: C. Cary (PM), A. Viet, A. Stupica</p> <p>Explanation of Need: The last item in paragraph 3.3.2 e) reads, “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 PWHT.” A repair organization used this paragraph as justification to document a seal welded tube plug on a watertube boiler as routine.</p> <p>SC R&A January 2023 Meeting Action: No report. - PR</p> <p>July 2023 Meeting Action: A. Viet presented a proposal that was revised and UA.</p>		

Item Number: A23-43	NBIC Location: Part 3, S3.3 a)	Attachment 6
<p>General Description: Gasket surface repair</p> <p>Subgroup: Graphite</p> <p>Task Group: A. Viet (PM)</p> <p>Explanation of Need: Occasionally, minor damage can occur along the gasket surface on parts of a graphite pressure vessel. Currently, repairing these minor damages is not a routine repair, but in certain instances it would make sense for the repair to be considered routine. This proposal adds language to allow for cement-only repair of a gasket surface where the damage is no more than 3/16" deep to be considered a routine repair.</p> <p>TG Graphite April 2023 Meeting Action: During the Task Group’s meeting, they determined that performing a cement-only repair to a damaged gasket surface on a graphite pressure vessel could be considered a routine repair, if the depth of the damage did not exceed 3/16”. This proposed change was unanimously approved by the group.</p> <p>July 2023 Meeting Action: A. Viet presented a proposal that was revised and UA.</p>		

Item Number: A23-44	NBIC Location: Part 3, S3.5.4	Attachment 7
<p>General Description: Revision to Part 3, S3.5.4 m) to clarify requirements</p> <p>Subgroup: Graphite</p> <p>Task Group: F. Brown (PM)</p> <p>Explanation of Need: Task Group discussion noted that S3.5.4 m) applies to all of S3.5.4, not only to the tube plugging proposal in S3.5.4 f). The TG agreed that the existing language in S3.5.4 f) 3) is not sufficiently specific where it says: “The “R” Certificate Holder shall note on Line 8 of the R-1 Form the installation of cemented graphite tube plugs in accordance with this section.” (“this section” is ambiguous).</p> <p>TG Graphite April 2023 Meeting Action: The Task Group worked on Mr. Brown’s proposal for changing S3.5.4 m) to specifically say that “R” stamp holders without the G designator would need to specify on Form R-1 that they are using the provisions of S3.5.4 f). This proposal was unanimously approved by the Task Group.</p> <p>July 2023 Meeting Action: A. Viet presented a proposal that was UA.</p>		

Item Number: A23-45	NBIC Location: Part 3, S3.3	No Attachment
<p>General Description: Graphite plate replacement as Routine repair</p> <p>Subgroup: Graphite</p> <p>Task Group: J. Wince (PM)</p> <p>Explanation of Need: In many cases, replacing a plate in a graphite plate heat exchanger is something that can be considered routine, but it is not currently defined as such. This proposal seeks to add this procedure to the list of routine repairs for graphite pressure vessels.</p> <p>TG Graphite April 2023 Meeting Action: The Task Group worked on Mr. Wince’s proposal, and then voted to unanimously approve the proposed changes.</p> <p>July 2023 Meeting Action: A. Viet presented a PR</p>		

Item Number: A23-46	NBIC Location: Part 3, S3.3	Attachment 8
<p>General Description: Requirements for Inlays as Routine repairs</p> <p>Subgroup: Graphite</p> <p>Task Group: J. Clements (PM)</p> <p>Explanation of Need: The one cubic inch limit for inlays in S3.3 a) 6) is impractically small and “never happens”. There is a need to increase this limit to something more practical while staying within the scope of a routine repair.</p> <p>TG Graphite April 2023 Meeting Action: The Task Group worked on Mr. Clement’s proposal, and through discussion decided on increasing the limit for inlays as a routine repair from one cubic inch to no greater than 64 cubic inches or 10% of total volume. This proposed change was unanimously approved by the Task Group.</p> <p>July 2023 Meeting Action: A. Viet presented a proposal that was UA as revised.</p>		

b. Task Group FRP

There are currently no open FRP items related to Part 3.

c. Task Group Historical

Item Number: A20-25	NBIC Location: Part 3, S2.13	No Attachment
General Description: Repair Procedure for Fire Boxes		
Subgroup: SG Historical		
Task Group: M. Wahl (PM), Robin Forbes, T. Dillon, & F. Johnson		
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.		
SG Historical July Meeting Action: PROGRESS REPORT: Mr. Dillon spoke on this item stating they were still waiting on locomotive on this item. He said locomotive were close or had passed something and then they would refer to it or add it to the Historical section of NBIC Part 3.		
SC R&A Jan. 2023 Meeting Action: T. Seime presented a PR		
July 2023 Meeting Action: PR		

d. Task Group Locomotive

There are currently no TG Locomotive items open for Part 3.

e. NR Task Group

There are currently no NR Task Group items open for Part 3. Three (3) Items were opened at the NR TG Meeting and another will be submitted.

f. Subgroup Repairs & Alterations

Item Number: A21-12	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: K. Moore, P. Shanks, R. Underwood, M. Chestnut, T. Seime</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>SC R&A Jan. 2023 Meeting Action: P. Becker presented a PR</p> <p>SG R&A July 2023 Meeting Action: P. Becker proposed a Rvw & Comment LB to SG R&A only. The proposal was UA.</p> <p>July 2023 Meeting Action: P. Becker presented a PR</p>		

Item Number: A21-31	NBIC Location: NBIC Glossary	No Attachment
<p>General Description: Revise definition of "Field"</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: R. Miletto (PM), P. Gilston, M. Toth, J. Walker, E. Cutlip</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>SC R&A Jan. 2023 Meeting Action: R. Miletto presented a PR. Revisions to NB-415 required first.</p> <p>SG R&A July 2023 Meeting Action: P. Gilston presented that the NB-415 has been revised to add definitions of “Temporary Locations” so this proposal is being worked on. This was a PR.</p> <p>July 2023 Meeting Action: P. Gilston presented a PR</p>		

Item Number: A21-43	NBIC Location: Part 3, Glossary	No attachment
<p>General Description: Defining and revising "Practicable" and "Practical" within the NBIC</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: M. Toth (PM), B. Underwood, B. Wielgoszinski, M. Wadkinson</p> <p>Explanation of Need: Defining and revising Practicable and Practical within the NBIC and revising where applicable</p> <p>SC R&A Jan. 2023 Meeting Action: M. Toth presented. This item is related to previously accepted Item A20-51 defining "Practicable". This was a PR.</p> <p>SG R&A July 2023 Meeting Action: T. Hellman presented a PR.</p> <p>July 2023 Meeting Action: M. Toth presented a PR.</p>		

Item Number: A21-44	NBIC Location: Part 3, Glossary	No attachment
<p>General Description: Defining "De-Rating" within Part 3</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: M. Toth (PM), B. Underwood, M. Wadkinson, L. Dutra, J. Walker</p> <p>Explanation of Need: Defining de-rating within Part 3</p> <p>SC R&A Jan. 2023 Meeting Action: M. Toth presented a PR.</p> <p>SG R&A July 2023 Meeting Action: T. Hellman presented a PR.</p> <p>July 2023 Meeting Action: T. Hellman presented a PR.</p>		

Item Number: A21-45	NBIC Location: Part 3, Supplements	Attachment 9
<p>General Description: Add a supplement to address oil, gas and chemical repair & alteration scope</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: R. Underwood (PM), P. Shanks, Brent Ray, Matt Schaser</p> <p>Explanation of Need: There has been interest from companies operating with the Oil, Gas and Chemical industries to address certain types of repairs that may exist in ASME PCC-2 or API. NBIC does not have many of these repair methods within the book.</p> <p>SC R&A Jan. 2023 Meeting Action: B. Underwood presented a PR. Added P. Shanks to TG.</p> <p>SG R&A July 2023 Meeting Action: B. Underwood presented the initial scope statement and plan for moving "engineered repairs" currently in the NBIC to the new supplement. The proposal to move existing 'engineered repairs' to a new supplement was revised and UA.</p> <p>July 2023 Meeting Action: UA</p>		

Item Number: A21-53	NBIC Location: Part 3, S8.5 a)	No Attachment
<p>General Description: Post Repair Inspection of weld repairs to CSEF steels</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: P. Gilston (PM), E. Cutlip, T. LEBEAU</p> <p>Explanation of Need: The requirement for Inspector involvement in post-repair inspections to CSEF weld repairs is to ensure future safe operation of the boiler. This is a function of the inservice Authorized Inspection Agency, not the Repair Inspector, whose duties end with completion of repair documentation.</p> <p>SC R&A Jan. 2023 Meeting Action: P. Gilston presented a PR. Meetings with Part 2 will be needed to determine impacts across both Parts (2 & 3).</p> <p>SG R&A July 2023 Meeting Action: P. Gilston presented SG Inspection will be voting on this today. A. Triplett and T. Lebeau were added to TG. This was a PR.</p> <p>July 2023 Meeting Action: P. Gilston presented a PR</p>		

Item Number: A21-67	NBIC Location: Part 3, 3.4.9	Attachment 10
<p>General Description: Add welding requirements to plugging firetubes</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: P. Gilston (PM), K. Moore, M. Quisenberry, T. Sieme, D, Kinney, S, Frazier,</p> <p>Explanation of Need: The current NBIC does not have enough direction or requirements for welding tube plugs in firetubes.</p> <p>SC R&A January 2023 Meeting Action: P. Gilston presented a PR</p> <p>SG R&A July 2023 Meeting Action: P. Gilston presented the revision made to the proposal based on Rvw & Comment LB comments received. This proposal has passed SG LB already and will be in SC R&A tomorrow.</p> <p>July 2023 Meeting Action: P. Gilston presented a proposal that was UA</p>		

Item Number: A21-82	NBIC Location: Part 3, 3.3.3(s)	Attachment 11
General Description: Examples of Repairs		
Subgroup: Repairs and Alterations		
Task Group: P. Davis (PM), R. Underwood, P. Gilston, J. Ferreira, J. Walker, E. Cutlip, P. Miller, L. Dutra		
Explanation of Need: Adding "repair" to 3.3.3(s) would then address use of different weld material. Currently 3.3.3(s) only addresses replacement of the part, not repair (Repair is addressed in 3.3.3(r)).		
SC R&A Jan. 2023 Meeting Action: P. Davis presented. Discussion on consistent addressing of the term for weld metal will require a new item to be opened (P. Gilston as PM). The proposal was revised and was UA approved to go to LB to SG & SC for vote.		
SG R&A July 2023 Meeting Action: SG LB – Failed (14-0)(2 Abstained, 1 Not Voting). B. Underwood presented a revised proposal based on previous LB comments. The proposal was further revised based on the discussion and was UA .		
July 2023 Meeting Action: B. Underwood presented a proposal that was revised based on discussion. The proposal was UA as revised .		

Item Number: A22-18	NBIC Location: Part 3, Glossary	No Attachment
General Description: Definition of blowdown and blowoff		
Subgroup: Repairs and Alterations		
Task Group: K. Moore (PM). G. Scribner, M. Wadkinson, M. Quisenberry		
Explanation of Need: These terms are not consistently used throughout the industry. This is to provide guidance to use the correct term when addressing the equipment or the action.		
SC R&A 2023 Meeting Action: K. Moore presented a PR.		
SG R&A July 2023 Meeting Action: K. Moore presented a PR.		
July 2023 Meeting Action: K. Moore presented a PR.		

Item Number: A22-19	NBIC Location: Part 3, 5.2.2	Attachment 12
General Description: R Certificate Holders with Design Only Scope		
Subgroup: Repairs and Alterations		
Task Group: J. Ferreira (PM). R. Valdez, G. Scribner, B. Schaefer, M. Schaser		
Explanation of Need: To add new paragraphs 5.2.2 d) and 5.2.2 e) which will provide guidance for R Certificate Holders with "Design Only" on which activities they are permitted to perform and how they and the Inspectors shall complete the R-2 Form.		
SC R&A January 2023 Meeting Action: J. Ferreira presented a PR .		
SG R&A July 2023 Meeting Action: M. Schaser presented. UA as revised.		
July 2023 Meeting Action: M. Schaser presented. UA		

Item Number: A22-41	NBIC Location: Part 3, 1.5	No Attachment
General Description: Reference NB-415 in Quality System		
Subgroup: Repairs and Alterations		
Task Group: P. Davis (PM), M. Carlson, L. Ponce, J. Walker., K. Moore.		
Explanation of Need: Requirements in the NB-415 should be included in the R Cert. Holder's QC Manual. Examples: a) Notifying the National Board when an organization changes scope, ownership, name, location, address, or Inspection Agreement and b) Return of the stamp.		
SC R&A January 2023 Meeting Action: P. Davis presented a PR.		
SG R&A July 2023 Meeting Action: K. Moore presented a PR .		
July 2023 Meeting Action: K. Moore presented a PR .		

Item Number: A23-04	NBIC Location: Part 3, 3.3.4.6	No Attachment
General Description: Addressing Flush Patch Plate Weld NDT		
Subgroup: Repairs and Alterations		
Task Group: J. Ferreira (PM), K. Moore, Added M. Schaser, T. McBee, and F. Johnson		
Explanation of Need: NBIC Item to Address Flush Patch Plate Weld NDT.		
SC R&A 2023 Meeting Action: J. Ferreira presented a PR.		
SG R&A July 2023 Meeting Action: T. McBee presented. The proposal was revised and ultimately was given as a PR for further revisions.		
July 2023 Meeting Action: : T. McBee presented a PR		

New Action Items:

Item Number: A23-12	NBIC Location: Part 3	No Attachment
General Description: Inspector involvement for repairs of wasted areas		
Subgroup: Repairs and Alterations		
Task Group: R. Valdez (PM), J. Ferreira		
Explanation of Need: Based on recommendations by CSB, should an Inspector be required to physically view equipment that is being repaired in a wasted area prior to any repair/alteration activity?		
July 2023 Meeting Action: R. Valdez presented that some of the CSB recommendations have been addressed in RCI-1 already and NBIC Part 3 does not need to address. A motion to Close w/No Action was UA		
July 2023 Meeting Action: R. Valdez presented. Changes to NBIC now require the RI to verify the duties of the RI per RCI-1 to be completed prior to signing the R Form. A motion to Close w/No Action was UA		

Item Number: A23-13	NBIC Location: Part 3, 3.3.3 s)	Attachment 13
General Description: Consistent addressing of the term for weld metal		
Subgroup: Repairs and Alterations		
Task Group: P. Gilston (PM), W. Sperko, J. Siefert, T. Melfi, F. Johnson		
Explanation of Need: Item for addressing consistent addressing of the term for weld metal is being opened based on discussions on A21-82. Weld Metal vs Filler Metal vs Filler Material, etc.		
SG R&A July 2023 Meeting Action: P. Gilston presented. The proposal was UA		
July 2023 Meeting Action: P. Gilston proposed to submit the proposal via LB to ALL SC .		

Item Number: A23-14	NBIC Location: Part 3, Table S9.2	No Attachment
General Description: Extension Instructions for Reports of Repair		
Subgroup: Repairs and Alterations		
Task Group: M. Quisenberry (PM)		
Explanation of Need: Additional text should be added to Instruction (29) of Table S9.2 of Supplement 9 (listing the "R" Cert. of Auth expiration date), to provide instructions on how to document if the "R" Cert. Holder is operating under an extension.		
SG R&A July 2023 Meeting Action: M. Quisenberry presented a PR.		
July 2023 Meeting Action: M. Quisenberry presented a PR .		

Item Number: A23-21	NBIC Location: Part 3, 3.3.4.9	No Attachment
General Description: Boiler tube plug guidelines and inclusion or watertube boilers		
Subgroup: Repairs and Alterations		
Task Group: E. Cutlip (PM), P. Gilston, K. Moore		
Explanation of Need: Currently both firetube and watertube boilers require a boiler tube be plugged when replacement of a tube is not practicable at the time the defective tube is detected.		
SG R&A July 2023 Meeting Action: K. Moore presented a PR . A. Triplett was added to the TG.		
July 2023 Meeting Action: K. Moore presented a PR .		

Item Number: A23-22	NBIC Location: Part 3, 2.5.3.4	Attachment 14
General Description: Changes to Part 3, 2.5.3.4 to clarify intent		
Subgroup: Repairs and Alterations		
Task Group: T. White (PM), B. Schaefer		
Explanation of Need: As written, this paragraph is ambiguous and confusing. The rewrite clarifies the paragraphs intent.		
SG R&A July 2023 Meeting Action: T. White presented a proposal. The proposal was UA .		
July 2023 Meeting Action: : T. White presented a proposal that was revised based on discussion. The proposal was UA as revised .		

Item Number: A23-24	NBIC Location: Part 3	No Attachment
General Description: Repairs to quick actuating closures		
Subgroup: Repairs and Alterations		
Task Group: T. McBee (PM), C. Becker, M. Schaser, A. Khssassi, R. Smith		
Explanation of Need: Put safe guidelines for repairs to quick actuating closures.		
SG R&A July 2023 Meeting Action: T. McBee presented a PR, as this item is being worked in collaboration with Part 2.		
July 2023 Meeting Action: T. McBee presented a PR		

Item Number: A23-25	NBIC Location: Part 3, 5.11	Attachment 15
General Description: Name Plate replacement		
Subgroup: Repairs and Alterations		
Task Group: R. Valdez (PM), J. Ferreira		
Explanation of Need: This does not address missing name plates. NB136 is about the form not the name plate. This needs to address missing name plates as well. There should also be a reference to point the Stamp Holder Part 2 - 5.2		
SG R&A July 2023 Meeting Action: R. Valdez presented. The proposal was revised and UA.		
July 2023 Meeting Action: R. Valdez presented. The proposal was UA.		

Item Number: A23-29	NBIC Location: Part 3, 1.5.1 s)	No Attachment
General Description: Clarification of Intent		
Subgroup: Repairs and Alterations		
Task Group: A. Triplett (PM), P. Becker		
Explanation of Need: The sentence is unclear as it currently reads. With the new wording it clarifies the intent.		
SG R&A July 2023 Meeting Action: New PM selected – Andrew Triplett, as Mr. Chestnut will not be continuing with SG membership. Added Pat Becker as TG member. This was a PR.		
July 2023 Meeting Action: A. Triplett presented a PR.		

Item Number: A23-33	NBIC Location: Part 3, Table 2.3	Attachment 16
General Description: Update Table 2.3 to remove dates		
Subgroup: Repairs and Alterations		
Task Group: J. Sekely (PM)		
Explanation of Need: Since the use of all current and previous versions of the listed SWPS's is permitted, there is no reason to date the listed SWPSs.		
SG R&A July 2023 Meeting Action: Passed SG LB.		
July 2023 Meeting Action: S. Frazier presented a proposal that was UA.		

Item Number: A23-35	NBIC Location: All Parts, 9.1	No Attachment
General Description: Definition of "non-load bearing attachment" (All Parts)		
Subgroup: Repairs and Alterations		
Task Group: Tom White (PM), A. Khssassi		
Explanation of Need: The term "nonload bearing attachment" is used as a basis for determining a routine repair but is not defined in the NBIC.		
SG R&A July 2023 Meeting Action: T. White presented a PR.		
July 2023 Meeting Action: T. White presented a PR.		

Item Number: A23-36	NBIC Location: Part 3, 4.2 a) and 4.4 b)	No Attachment
General Description: Clarifying Rules for Using Alternative NDE Methods		
Subgroup: Repairs and Alterations		
Task Group: Tom White (PM), P. Miller		
Explanation of Need: It has been determined that there may be some confusion regarding allowable NDE methods for repairs and alterations. The existing language of 4.2 a) tells the reader that alternative NDE methods acceptable to the Inspector and, where required, the Jurisdiction, may be used provided the requirements of Section 4 are met. However, it is possible that the reader is not familiarizing themselves with all of the requirements of Section 4 prior to proposing an alternative NDE method. This change should help clarify and reinforce the requirements for alternative NDE methods for repairs and alterations.		
SG R&A July 2023 Meeting Action: T. White proposed to CLOSE W/NO ACTION as this is addressed under A23-24. The proposal to Close was UA.		
July 2023 Meeting Action: T. White proposed to CLOSE W/NO ACTION as this is addressed under A23-24. The proposal to Close was UA.		

Item Number: A23-38	NBIC Location: Part 3, 1.1 a)	No Attachment
General Description: Scope Clarification for Part 3		
Subgroup: Repairs and Alterations		
Task Group: M. Quisenberry (PM), E. Cutlip, J. Walker		
Explanation of Need: The owner or user's need to return equipment to service must never compromise the operational safety of the equipment or the process by which the operational safety of the equipment is assured. There is an interpretation that supports this notion by describing subjects permitted to be considered when determining whether a repair or alteration activity is practicable.		
SG R&A July 2023 Meeting Action: M. Quisenberry presented a PR.		
July 2023 Meeting Action: M. Quisenberry presented a PR. A new TG was formed to address this item: Raymond Spuhl, Paul Davis, Trevor Seime, and Adam Henson, with the CSB.		

Item Number: A23-39	NBIC Location: Part 3, 3.3.1	No Attachment
General Description: Strengthening Prevention of Defect Recurrence		
Subgroup: Repairs and Alterations		
Task Group: M Quisenberry (PM), J. Walker, F. Johnson		
Explanation of Need: The existing text recommends, but does not require an investigation of the cause, extent, and likelihood of recurrence of defects. The existing text also has no requirement for anyone to act to prevent the recurrence of defects. Where root and/or proximate causes of defects are known, or could be determined, someone needs to act to prevent catastrophic failure of equipment.		
SG R&A July 2023 Meeting Action: M. Quisenberry presented a PR .		
July 2023 Meeting Action: M. Quisenberry presented a PR. A new PM and TG were selected: J. Ferreira (PM), Jamie Walker, Frank Johnson, Tom White, Adam Henson, with the CSB		

Item Number: A23-40	NBIC Location: Part 3, 3.3.4.1	No Attachment
General Description: Strengthening Requirements to Ensure Defect Removal		
Subgroup: Repairs and Alterations		
Task Group: L. Dutra (PM), E. Cutlip, A. Renaldo		
Explanation of Need: The existing text alludes to the potential need for nondestructive examination (NDE) to ensure complete removal of defects but does not require it. The means to ensure defects have been removed must be understood by all to ensure safety. There is an interpretation of the 2021 NBIC that compounds this issue permitting repair organizations to not follow the requirements of NBIC Part 3, 3.3.4.8 even when the characteristics of the defect cannot be fully established.		
SG R&A July 2023 Meeting Action: L. Dutra selected as PM. This was a PR .		
July 2023 Meeting Action: L. Dutra presented a PR. A new TG was selected: Adam Renaldo, Rick Valdez, Timothy McBee, and Adam Henson, with the CSB.		

Item Number: A23-41	NBIC Location: Part 3, 3.3.4.6 a) 2)	No Attachment
General Description: Strengthening Requirements for Defect Removal When Patching		
Subgroup: Repairs and Alterations		
Task Group: A. Khssassi (PM), L. Dutra, A. Renaldo		
Explanation of Need: The existing text requires the removal of defective material until sound material is reached but provides no requirements or guidance on means to employ to ensure complete removal of defective material. The means to ensure defects have been removed must be understood by all to ensure safety. There is an interpretation of the 2021 NBIC that compounds this issue permitting repair organizations to not follow the requirements of NBIC Part 3, 3.3.4.8 even when the characteristics of the defect cannot be fully established.		
SG R&A July 2023 Meeting Action: New PM selected - A. Khssassi (PM), This was a PR .		
July 2023 Meeting Action: This was a PR . A new TG was selected: Craig Hopkins, Paul Shanks, Benjamin Schaefer, and Adam Henson, with the CSB.		

Item Number: A23-49	NBIC Location: Part 3, 3.2.1 a)	No Attachment
General Description: Hardness testing of existing materials		
Subgroup: Repairs and Alterations		
Task Group: P. Becker (PM), W. Sperko.		
Explanation of Need: Field hardness testing of existing materials may be difficult and produce erroneous results. It is usually unnecessary for determining properties required for selection of welding procedures. Unless needed, it should not be required to be performed. The purpose of verifying existing materials in Paragraph 3.2.1 a) is not to confirm acceptability of existing design, but to determine nominal composition for welding.		
SG R&A July 2023 Meeting Action: P. Becker presented that the TG determined the current text does not need to be revised. The proposal to Close w/No Action was UA.		
July 2023 Meeting Action: P. Becker presented that the TG determined the current text does not need to be revised. The proposal to Close w/No Action was UA.		

Item Number: A23-51	NBIC Location: Part 3, 1.5.1	Attachment 17
General Description: Replace "legal" with "company" in 1.5.1 a) Title Page		
Subgroup: Repairs and Alterations		
Task Group: T. Hellman (PM)		
Explanation of Need: The National Board has not adopted the ASME policy regarding company and legal names. Per the ASME policy it is permissible to have two names on a Certificate of Authorization and the quality manual. The 2023 NBIC 1.5.1 a) "legal" term may cause confusion for certificate holders, their AIAs, and review teams. Proposal for 1.5.1 a): “The title page shall contain the Certificate Holder’s legal <u>company</u> name, physical address, and scope of work.”		
SG R&A July 2023 Meeting Action: T. Hellman presented. The proposal was UA.		
July 2023 Meeting Action: T. Hellman presented. The proposal was UA.		

10. Future Meetings

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

11. Adjournment @11:18 AM

Respectfully submitted,

Terrence Hellman

Terrence Hellman

SC R&A Secretary

SC R&A -July 2023 ATTENDANCE

Person or Remote	First_name	Last_name	Company_name	Job_title	Email_address	Phone_number	Member or Visitor
1	Patricia	Becker	Epri				M
1	Brian	Boseo	Burns & McDonnell Construction	QA Dept. Manager	bmboseo@burnsmcd.com	7089413016	M
1	Michael	Carlson	State of Washington	Chief Boiler/Pressure Vessel Inspector	camx235@lni.wa.gov	360-902-5270	M
1	Steve	Frazier	City of Seattle	Chief Boiler Inspector	steve.frazier@seattle.gov	206-684-8459	M
1	Philip	Gilston	The Hartford Steam Boiler and Inspection Co.	Principal Engineer, Codes & Standards	philip_gilston@hsb.com	2253240108	M
1	CRAIG	HOPKINS	Seattle Boiler Works, Inc.		chopkins@seattleboiler.com	2066790885	M
1	Don	Kinney					M
1	Tim	McBee	ARISE	Manager of Codes and Standards	timothy.mcbee@tuvsud.com	12174129300	M
	Ray	Miletti					M
1	Linn	Moedinger	Strasburg Rail Road	Retired	linnwm@supernet.com	7175754478	M
1	Kathy	Moore					M
1	Brian	Morelock					M
	Michael	Quisenberry					M
1	Ben	Schaefer	AEP	Quality Control Manager	bschaefer@aep.com	614-949-3715	M
1	Trevor	Seime	State of North Dakota	Chief Boiler Inspector	tsseime@nd.gov	701-220-4723	M
	James	Sekely					M
1	Paul	Shanks	BVi&I	Technical Consultant	paul.shanks@onecis.com	8323164249	M
1	John	Siefert					M
1	Marty	Toth					M
1	Robert	Underwood					M
	Richard	Anderson	International Code Council, Inc.	Director PMG Technical Resources	randerson@iccsafe.org	9706607320	
1	Johnathon	Bates	Boilermakers	Business Manager	bateslocal26@yahoo.com	9122820199	
	Jeff	Churchill	Cargill	Sr. Asset Integrity Engineer	jimmywinchester13@yahoo.com	12193076073	
1	Riley	Collins	Eastman Chemical Company	Mechanical Engineer	rileycollins@eastman.com	4232295576	
1	Caslav	Dinic	Technical Standards and Safety Authority - Ontario	Manager Technical Services	cdinic@tssa.org	16472820518	
1	Louis	Dutra	Bay City Boiler		ldutra@baycityboiler.com	9253482881	
1	Jon	Ferreira	HSB	Technical Manager	jonathan_ferreira@hsb.com	12077456889	
1	George	Galanes	DTS Inc.	Consultant	ggalanes@diamondtechnicalservices.com	16306825782	
1	Greg	Goossens	The National Board	Director of Jurisdictional Affairs	ggoossens@nbbi.org	16513417212	
1	Terrence	Hellman	National Board	Staff	thellman@nationalboard.org	16148888320	
1	Adam	Henson					
1	Bernard	Hrubala	TUV Rheinland	Consultant	bhrubala@us.tuv.com	203-645-0746	
1	James	Kerr					
	Aziz	Khssassi	RÃ©gie du bÃ¢timent du QuÃ©bec	AIA program Coordinator	aziz.khssassi@rbq.gouv.qc.ca	5142615741	
1	TIM	LEBEAU	Southern Company Services	Principal Engineer	tlebeau@southernco.com	12052884349	
1	Paul	Lenzer					
1	Stacy	Marks					
1	Robert	McGuire					
1	Timothy	Memmer					
1	Tusharkumar	Patel	TUV INDIA PVT LTD	Inspection engineer	tusharpatel0914@gmail.com		
1	Tusharkumar	Patel	TUV NORD GROUP	Inspection engineer	ptushar@tuv-nord.com	919998907903	
	Luis	Ponce	NBBI	Manager of Technical Services	lponce@nbbi.org	6148888320	
1	Matt	Schaser	The Equity Engineering Group, Inc.	Senior Engineer	mschaser@e2g.com	2165336143	
1	M. A.	SHAH	ABM Industrial Services Inc.		abmindustrialservices@gmail.com	3063515490	
1	Timothy	Simmons	International Brotherhood of Boilermakers	International Vice President - Southeast	tsimmons@unionwelders.org	2053160518	
	Robert	Smith	Naval Facilities Engineering Command, Headquarters	Hyperbaric Certification Authority	robert.c.smith@navy.mil	7032236877	
	Walter	Sperko	Sperko Engineering	Prez	wsperko@bellsouth.net	3366740600	
1	Ray	Spuhl					
1	Andrew	Triplett	UT-Battelle, LLC	Boiler and Pressure Vessel Program Lead	triplettal@ornl.gov	18652415969	
1	Ronny	Truxell	RiddleBerger Brothers Inc	Boiler Division Manager/ QC Manager	truxellr@rbiva.com	5405745964	
1	Rick	Valdez					
1	Aaron	Viet	CG Thermal	Engineering Manager	aaronv@cgthermal.com	330-998-5120	
1	Mark	Vogt	Luminant	Principal Engineer	mark.vogt@vistracorp.com	6182103161	
1	Jamie	Walker	Hayes Services	Quality Control Consultant	jdwalkman@yahoo.com	5634249877	
1	Tyler	Ward	Central Maintenance and Welding		tward@cmw.cc	8638388442	
1	Harold	Weisinger	Federal Railroad Administration	Mechanical Engineer / Steam Specialist	harold.weisinger@dot.gov	202-713-8702	

1	Thomas	White	NRG Energy	Specialist IV	thomas.white@nrg.com	2817824972
1	Thomas J	White				
1	Harrington	Henry				
1	Joseph	Arvizu III				

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TEAMS MEETING SUMMARY:

1. Summary

Meeting title SC R&A - Part 3
 Attended participant 20
 Start time 7/12/23, 7:55:33 AM
 End time 7/12/23, 12:38:47 PM
 Meeting duration 4h 43m 13s
 Average attendance 2h 40m 42s

2. Participants

Name	First Join	Last Leave	In-Meeting Duration	Email	Participant ID (UPN)	Role
Terrence Hellman	7/12/23, 7:55:4	7/12/23, 12:19:3h 34m 19s		THellman@nationalboard.org	thellman@nationalboard.org	Organizer
Mark Clemens	7/12/23, 7:55:5	7/12/23, 12:29:4h 33m 18s		mclemens@nationalboard.org	mclemens@nationalboard.org	Presenter
Jonathan Ellis	7/12/23, 7:57:2	7/12/23, 12:10:2m 43s		JEllis@nationalboard.org	jellis@nationalboard.org	Presenter
Craig Hopkins (M) (G)	7/12/23, 8:47:4	7/12/23, 9:28:2 40m 37s				Presenter
Linn Moedinger	7/12/23, 8:51:2	7/12/23, 8:53:0 1m 37s				Presenter
Linn Moedinger (M)	7/12/23, 8:54:2	7/12/23, 12:18:3h 24m 19s				Presenter
James Kerr	7/12/23, 8:54:3	7/12/23, 12:18:3h 23m 26s		jkerr@proparinc.com	jkerr@proparinc.com	Presenter
Timothy Memmer	7/12/23, 8:54:5	7/12/23, 12:18:3h 23m 54s		tmemmer@propanetank.com	tmemmer@propanetank.com	Presenter
Marty Toth	7/12/23, 8:55:5	7/12/23, 12:18:3h 22m 54s		mtoth@boisctraininggroup.onmicrosoft.com	mtoth@boisctraininggroup.onmicrosoft.com	Presenter
Frazier, Steve	7/12/23, 8:59:4	7/12/23, 12:19:3h 19m 37s		Steve.Frazier@seattle.gov	steve.frazier@seattle.gov	Presenter
Stacey MARKS	7/12/23, 9:01:1	7/12/23, 12:38:3h 37m 31s		stacey.marks@bureauveritas.com	stacey.marks@bureauveritas.com	Presenter
Mcguire, Robert (GE)	7/12/23, 9:03:0	7/12/23, 12:19:3h 16m 2s		robert.b.mcguire@ge.com	212484782@ge.com	Presenter
Collins, Riley M	7/12/23, 9:04:3	7/12/23, 12:18:3h 14m 17s		rileycollins@eastman.com	u775782@emn.com	Presenter
Thomas White	7/12/23, 9:05:0	7/12/23, 12:17:3h 12m 10s				Presenter
Paul SHANKS	7/12/23, 9:13:2	7/12/23, 12:18:3h 5m 19s		Paul.Shanks@bureauveritas.com	Paul.Shanks@bureauveritas.com	Presenter
Morelock, Brian R	7/12/23, 9:13:4	7/12/23, 12:18:3h 5m 7s		morelock@eastman.com	u898713@emn.com	Presenter
M. A. Shah	7/12/23, 9:18:5	7/12/23, 12:19:2h 40m 1s				Presenter
Craig Hopkins (M) (G)	7/12/23, 9:26:0	7/12/23, 12:18:2h 52m 46s				Presenter
Henry, Harrington	7/12/23, 9:34:2	7/12/23, 11:07:1h 33m 7s		Harrington.Henry@tuvsud.com	henry-ha@us001.itgr.net	Presenter
Joseph Arvizu III	7/12/23, 11:08:	7/12/23, 12:19:1h 10m 58s		jarvizuiii@hsigroupinc.com	jarvizuiii@hsigroupinc.com	Presenter

3. In-Meeting Activities

Name	Join Time	Leave Time	Duration	Email	Role
Terrence Hellman	7/12/23, 7:55:4	7/12/23, 7:57:5 2m 12s		THellman@nationalboard.org	Organizer
Terrence Hellman	7/12/23, 8:47:0	7/12/23, 12:19:3h 32m 7s		THellman@nationalboard.org	Organizer
Mark Clemens	7/12/23, 7:55:5	7/12/23, 12:29:4h 33m 18s		mclemens@nationalboard.org	Presenter
Jonathan Ellis	7/12/23, 7:57:2	7/12/23, 7:57:4 22s		JEllis@nationalboard.org	Presenter
Jonathan Ellis	7/12/23, 11:47:3	7/12/23, 11:49:1m 26s		JEllis@nationalboard.org	Presenter
Jonathan Ellis	7/12/23, 11:56:	7/12/23, 11:56: 26s		JEllis@nationalboard.org	Presenter
Jonathan Ellis	7/12/23, 12:10:	7/12/23, 12:10: 29s		JEllis@nationalboard.org	Presenter
Craig Hopkins (M) (G)	7/12/23, 8:47:4	7/12/23, 9:28:2 40m 37s			Presenter
Linn Moedinger	7/12/23, 8:51:2	7/12/23, 8:53:0 1m 37s			Presenter
Linn Moedinger (M)	7/12/23, 8:54:2	7/12/23, 12:18:3h 24m 19s			Presenter
James Kerr	7/12/23, 8:54:3	7/12/23, 12:18:3h 23m 26s		jkerr@proparinc.com	Presenter
Timothy Memmer	7/12/23, 8:54:5	7/12/23, 12:18:3h 23m 54s		tmemmer@propanetank.com	Presenter
Marty Toth	7/12/23, 8:55:5	7/12/23, 12:18:3h 22m 54s		mtoth@boisctraininggroup.onmicrosoft.com	Presenter
Frazier, Steve	7/12/23, 8:59:4	7/12/23, 12:19:3h 19m 37s		Steve.Frazier@seattle.gov	Presenter
Stacey MARKS	7/12/23, 9:01:1	7/12/23, 12:38:3h 37m 31s		stacey.marks@bureauveritas.com	Presenter
Mcguire, Robert (GE)	7/12/23, 9:03:0	7/12/23, 12:19:3h 16m 2s		robert.b.mcguire@ge.com	Presenter
Collins, Riley M	7/12/23, 9:04:3	7/12/23, 12:18:3h 14m 17s		rileycollins@eastman.com	Presenter

Thomas White 7/12/23, 9:05:07/12/23, 12:17:3h 12m 10s
Paul SHANKS 7/12/23, 9:13:27/12/23, 12:18:3h 5m 19s
Morelock, Brian R 7/12/23, 9:13:47/12/23, 12:18:3h 5m 7s
M. A. Shah 7/12/23, 9:18:57/12/23, 10:18:59m 5s
M. A. Shah 7/12/23, 10:38:7/12/23, 12:19:1h 40m 56s
Craig Hopkins (M) (G 7/12/23, 9:26:07/12/23, 12:18:2h 52m 46s
Henry, Harrington 7/12/23, 9:34:27/12/23, 11:07:1h 33m 7s
Joseph Arvizu III 7/12/23, 11:08:7/12/23, 12:19:1h 10m 58s

Paul.Shanks@bureauveritas.com
morelock@eastman.com

Harrington.Henry@tuvsud.com
jarvizuIII@hsigroupinc.com

Presenter
Presenter
Presenter
Presenter
Presenter
Presenter
Presenter



PROPOSED INTERPRETATION

Item No. 23-10
Subject/Title Seamless Head Flush Patch - Repair vs Alteration
Project Manager and Task Group
Source (Name/Email) Terrence Hellman / thellman@nationalboard.org
Statement of Need Is the use of a flush patch on the center portion of a seamless head of an ASME Sect. VIII Div. 1 vessel considered a repair or alteration per the 2011 NBIC?
Background Information A seamless bottom head of a vertical ASME Sect. VIII Div. 1 vessel is corroded and needs to be repaired per the 2011 NBIC. The "R" Certificate Holder will use a full penetration flush patch to replace the center corroded area of the head (in lieu of replacing the entire head). As a result of the flush patch, there is now a weld seam in a previously "seamless" head. Since welding will be performed on the head, the required thickness may be affected because the possible reduction in joint efficiency due to the new seam on the patch, and the strength and composition of the weld metal. Consequently, the repair organization has the responsibility to consider all design aspects. Per the 2011 NBIC, 3.4.3, Examples of Alterations: h) Replacement of a pressure-retaining part in a pressure-retaining item with a material of different allowable stress or nominal composition from that used in the original design;
Proposed Question Question 1 When replacing any part of a seamless head with a full penetration flush patch, is the repair organization responsible for any changes in design? Question 2 Is the use of a flush patch on a seamless head an Alteration?
Proposed Reply Reply 1 Yes. Reply 2 Yes.
Committee's Question 1 When installing a flush patch in an ASME Section VIII Div. 1 pressure vessel seamless head, is the repair organization responsible for evaluating any changes in design and examination requirements to determine if it is a repair or alteration?
Committee's Reply 1 Yes
Rationale
Rationale



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

PROPOSED INTERPRETATION

Item No. 23-15
Subject/Title Routine Repairs
Project Manager and Task Group
Source (Name/Email) Mark Kincs / mark.r.kincs@xcelenergy.com
Statement of Need As written, Paragraph 3.3.2 implies that routine repairs require repair or replacement with "like material"...as in 3.3.3 r). This is supported by Interpretation 01-19. Allowing "material upgrades"...as in 3.3.3 s)...will reduce costs and labor associated with the growing number of repairs requiring in-process inspection and stamping due solely to material availability.
Background Information Oftentimes, original materials of construction are no longer available or cost-prohibitive to obtain. Replacement of pressure-retaining components with those of different nominal composition is commonplace. The required in-process Inspector involvement and stamping of these common repairs is believed unnecessary.
Proposed Question May repair or replacement of tubes, pipes, butt-welded fittings, or nonload bearing attachments with a code-acceptable material having a nominal composition and strength equivalent to or greater than the original material with equal-or-greater material thickness, that is suitable for the intended service, be considered a routine repair if the requirements of NBIC Part 3, 3.3.2 and the categories of 3.3.2 e) are met?
Proposed Reply Yes, with concurrence of the Inspector and Jurisdiction, as applicable.
Committee's Question 1 1: May the replacement or repair of a pressure-retaining item using code-acceptable material suitable for the intended service, in accordance with 3.3.3 s), be considered a routine repair if it meets the requirements of NBIC Part 3, 3.3.2 and one or more of the categories listed in 3.3.2 e)?
Committee's Reply 1 1: Yes
Rationale 2021 NBIC Part 3, 3.3.3, r) and 3.3.3, s)
Committee's Question 2
Committee's Reply 2
Rationale

COMMITTEE	VOTE:				Passed	Failed	Date
	Approved	Disapproved	Abstained	Not Voting			

CODE INTERPRETATIONS

Requests for code Interpretations shall provide the following:

a) Inquiry

Provide a condensed and precise question, omitting superfluous background information and, when possible, composed in such a way that a "yes" or a "no" reply, with brief provisos if needed, is acceptable. The question should be technically and editorially correct.

b) Reply

Provide a proposed reply that clearly and concisely answer the inquiry question. Preferably the reply should be "yes" or "no" with brief provisos, if needed.

c) Background Information

Provide any background information that will assist the committee in understanding the proposed Inquiry and Reply Requests for Code Interpretations must be limited to an interpretation of the particular requirement in the code. The Committee cannot consider consulting type requests such as:

A review of calculations, design drawings, welding qualifications, or descriptions of equipment or Parts to determine compliance with code requirements;

A request for assistance in performing any code-prescribed functions relating to, but not limited to, material selection, designs, calculations, fabrication, inspection, pressure testing, or installation; or

A request seeking the rationale for code requirements.



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

PROPOSED INTERPRETATION

Item No. 23-20
Subject/Title Boiler tube plug installation time consideration
Project Manager and Task Group
Source (Name/Email) David Starr / dave.starr@starrcompanies.com
Statement of Need No specific guidance is provided within the code in regard to the length of time a boiler tube plug can be left in place. Agreement by owner, inspector, and when required, Jurisdiction is ambiguous.
Background Information Currently owners, inspectors, repair companies and Jurisdictions are applying this rule inconsistently. Often boiler tube (s) remain plugged for the life of the boiler and in some Jurisdictions this is an acceptable practice. In other cases plugged boiler tubes are required to be removed as soon as possible. Currently inconsistency in the industry is causing confusion.
Proposed Question May a boiler be returned to service permanently with plugged tubes if agreed upon by the owner, the inspector, and when required, the Jurisdiction?
Proposed Reply No, a plugged tube or tubes is not considered a permanent repair.
Committee's Question 1 Does the NBIC specify the time period a boiler may be placed back in service after firetubes are plugged per NBIC Part 3, 3.3.4.9?
Committee's Reply 1 No.
Rationale
Committee's Question 2
Committee's Reply 2
Rationale

VOTE:							
COMMITTEE	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date

CODE INTERPRETATIONS

Requests for code Interpretations shall provide the following:

a) Inquiry

Provide a condensed and precise question, omitting superfluous background information and, when possible, composed in such a way that a "yes" or a "no" reply, with brief provisos if needed, is acceptable. The question should be technically and editorially correct.

b) Reply

Provide a proposed reply that clearly and concisely answer the inquiry question. Preferably the reply should be "yes" or "no" with brief provisos, if needed.

c) Background Information

Provide any background information that will assist the committee in understanding the proposed Inquiry and Reply Requests for Code Interpretations must be limited to an interpretation of the particular requirement in the code. The Committee cannot consider consulting type requests such as:

A review of calculations, design drawings, welding qualifications, or descriptions of equipment or Parts to determine compliance with code requirements;

A request for assistance in performing any code-prescribed functions relating to, but not limited to, material selection, designs, calculations, fabrication, inspection, pressure testing, or installation; or

A request seeking the rationale for code requirements.

Item 19-73

S3.3 ROUTINE REPAIRS

a) The following repairs shall be considered routine, and shall comply with NBIC Part 3, 3.3.2.

- 1) Machining — routine repair shall not include the machining of pressure-retaining parts with the exception of minor machining for cleaning and joint preparation not to exceed 1/32 in. (0.8 mm) of material thickness.
- 2) Repair of Gasket Surfaces — re-machining of gasket surfaces, re-serrating, or flattening is permitted if the design thickness is maintained.
- 3) Replacing Individual Tubes — drilling out and replacing tubes with new tubes or repaired tubes. Only certified materials shall be used for this repair.
- 4) Nozzle Replacement — replacement of nozzles by removing the old nozzle and cementing a new nozzle in place. This is applicable for nozzles with inside diameters not exceeding 6 inches (152 mm).
- 5) Plugging Tubes or Block Holes — plugging individual ~~tubes~~ tubes or block holes using accepted procedures.
- 6) Surface Repair — surface repair by installation of plugs or inlay material shall not exceed 1 in.³ (16 cm³) of total volume.
- 7) Replacement or Addition of Non-Load Bearing Attachments to Pressure-Retaining Item — For attachment of non-load bearing attachments to pressure-retaining items, the cementing procedure specification need only be qualified for the pressure part and cement to be used.

S3.5.4 PLUGGING OF LEAKING OR DAMAGED TUBES OR BLOCK HOLES

a) The material used for plugging ~~tubes~~ shall comply with the requirements of the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, Part UIG.

b) The point(s) of leakage shall be verified, and the corresponding leak site(s) shall be marked/labeled on the ~~tubesheet, and part and~~ recorded.

c) A plug shall be used to plug each end of the ~~tube~~ tubehole(s) in question and each plug shall have a minimum length of 1 in. (25 mm). Multiple plugs may be used.

d) The ~~tube~~ tubehole(s) shall be prepared for plugging ~~by enlarging the inside of the tube(s) with a suitable drill bit or reamer tool, as long as provided the maximum hole I.D. to plug O.D. clearance of 3/32 in. (2.4 mm) is not exceeded.~~

1) To ensure a sound cement joint between the ~~tube innerhole~~ sidewall and the plug, a slightly smaller diameter plug shall be selected. The maximum clearance between the ~~tube~~ tubehole inside diameter and the outside diameter of the plug shall not exceed 3/32 in. (2.4 mm).

~~2) As an alternative to d) 1) a mandrel with an abrasive, such as sandpaper, may be used, as long as the maximum tube I.D. to plug O.D. clearance of 3/32 in. (2.4 mm) is not exceeded.~~

23) The minimum plug insertion depth of the prepared hole(s) shall meet the minimum combined plug length requirements of ~~“e”S3.5.4 c)~~. ~~When the minimum plug length of “e” is exceeded, the total insertion depth of the plugs may exceed the combined length of the plugs; however, the longer plugs shall not project outside the face of the tubehole(s) being plugged.~~

e) Plugging ~~of leaking or damaged tubes or block holestubes~~ shall be performed by certified cementing technicians, using qualified cementing procedures, in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, Part UIG.

f) As an alternative to e) above, any “R” Certificate Holder, with or without the letter “G” included on the “R” *Certificate of Authorization*, may install graphite ~~tube~~ plugs, provided the following conditions are met. The “R” Certificate Holder shall gain the concurrence of the Inspector, and shall utilize a tube plugging kit provided by an ASME Certificate Holder authorized to use the “G” designator. The kit shall include the following items:

1) Certified graphite plugs and certified cement ingredients, both accompanied by the appropriate documentation (Partial Data Report).

2) The qualified cementing procedure of the ASME Certificate Holder authorized to use the “G” designator, and a step-by-step procedural checklist that shall be followed explicitly. The procedure shall address the entire ~~tube~~ plugging process including plug configuration, ~~tube~~ hole cleaning and preparation, mixing and applying of the cement, application of the plugs, securing the plugs during the curing process, controlling the curing process, and leak testing, thereby meeting S3.3.

3) Additional materials and procedure shall be provided and used to prepare a demonstration plug joint prior to performing the repair. This demonstration plug joint shall be tested by a twist (torsional) test designed to demonstrate acceptable application and curing of the cement (Fig. S3.5.4). The test procedure shall include acceptance criteria, which may be based on a principle of breakage of part of the test piece. A successful twist test, in conjunction with the completed procedural checklist, shall serve as a valid cement technician certification for a single repair operation. The twist test shall be witnessed by the Inspector.

The “R” Certificate Holder shall review the material certifications including verification that the shelf life of the cement has not been exceeded, and assure that the certified cement technician has completed the qualification demonstration, and has access to the procedure and checklist. The Inspector shall review and verify that the procedure and the other elements of the certified kit, as provided by the ASME Certificate Holder authorized to use the “G” designator, have been administered and completed prior to his acceptance. The “R” Certificate Holder shall note on Line 8 of the R-1 Form the installation of cemented graphite ~~tube~~ plugs in accordance with this section. The letter “G” shall not be applied to the vessel when performing this alternative repair. The “R” Certificate Holder shall identify and document the location of the plugged ~~tubes~~ on the “R” Form.

g) The cement shall be prepared per the cement manufacturer’s instructions.

h) When cementing the plugs, 100% of individual plugs, as well as the inside diameter of the ~~tubehole(s) opening(s)~~, shall be coated with cement. The plugs shall then be inserted one by one, against each other, into each end of the ~~tubehole(s)~~ being plugged.

i) Once the plugging is completed, and before the cement cures, the endplugs may need to be held in place, as newly cemented plugs may exhibit a tendency to dislodge from the plugged ~~tubehole(s)~~ prior to final curing of the cement.

j) Curing time is dependent upon the cement manufacturer’s instructions, and is considered complete when the cement is hardened to the point that it cannot be indented with pressure from a flat screwdriver or other similar instrument.

| k) After the cement is completely cured, the ~~plugged, cemented area(s) on the tubesheet/block~~ surface may be dressed with sandpaper or other suitable abrasive.

| l) ~~Repaired tubes or block holes~~ The repair shall be tested in accordance with this code, using a method acceptable to the Inspector, with a written procedure as approved by the manufacturer's internal quality system, to ensure leaks have been repaired.

m) The scope of the work completed shall be described and reported on a Form R-1.

S3.3 ROUTINE REPAIRS

a) The following repairs shall be considered routine, and shall comply with NBIC Part 3, 3.3.2.

1) Machining — routine repair shall not include the machining of pressure-retaining parts with the exception of minor machining for cleaning and joint preparation not to exceed 1/32 in. (0.8 mm) of material thickness.

2) Repair of Gasket Surfaces

a. — Re-machining of gasket surfaces, re-serrating, or flattening is permitted if the design thickness is maintained.

b. Gasket surface damage repair by cement only is permitted, provided that the damaged area is no deeper than repair depth does not exceed 3/16 in. (5 mm).

Item 23-44

Part 3, S3.5.4 m)

m) The scope of the work completed shall be described and reported on ~~a~~ Form R-1. When the work is performed in accordance with S3.5.4 f), the "R" Certificate Holder shall note on Form R-1 in "Remarks": "Repaired in accordance with NBIC Part 3, S3.5.4 f)."

Item 23-46
Part 3, S3.3 a) 6)

S3.3 ROUTINE REPAIRS

a) The following repairs shall be considered routine, and shall comply with NBIC Part 3, 3.3.2.

- 1) Machining — routine repair shall not include the machining of pressure-retaining parts with the exception of minor machining for cleaning and joint preparation not to exceed 1/32 in. (0.8 mm) of material thickness.
- 2) Repair of Gasket Surfaces — re-machining of gasket surfaces, re-serrating, or flattening is permitted if the design thickness is maintained.
- 3) Replacing Individual Tubes — drilling out and replacing tubes with new tubes or repaired tubes. Only certified materials shall be used for this repair.
- 4) Nozzle Replacement — replacement of nozzles by removing the old nozzle and cementing a new nozzle in place. This is applicable for nozzles with inside diameters not exceeding 6 inches (152 mm).
- 5) Plugging Tubes — plugging individual tubes using accepted procedures.
- 6) Surface Repair — surface repair by installation of ~~plugs or~~ inlay material shall not exceed a total of ~~641~~ in.³ (~~104946~~ cm³) or ten percent of the volume of the part, whichever is less. Surface repair does not include plug stitching.
- 7) Replacement or Addition of Non-Load Bearing Attachments to Pressure-Retaining Item — For attachment of non-load bearing attachments to pressure-retaining items, the cementing procedure specification need only be qualified for the pressure part and cement to be used.

SUPPLEMENT XX – ENGINEERED REPAIRS AND ALTERATIONS

SXX.1 SCOPE

- a) This supplement provides general and specific requirements for engineered repairs and alterations to pressure retaining items. These requirements shall be considered as supplemental requirements to those set forth in the main Parts of the NBIC.
- b) Engineered repairs and alterations contained in this supplement shall require acceptance by the Inspector and, when required, by the Jurisdiction. Procedures and methodologies established and proven in the industry are leveraged through references to published documents. Supplemental requirements are provided as necessary.
- c) Engineered repairs and alterations should include items such as inspection procedures, material identification and/or testing, a complete characterization of the damage assessment, and knowledge of process conditions.
- d) The remaining life and inservice monitoring requirements of any engineered repair or alteration should be established prior to implementation.
- e) Careful consideration shall be given to repair or alteration of pressure-retaining items that have been fabricated of either creep strength enhanced ferritic steel materials or ferritic steel materials enhanced by heat treatment. The tensile and creep strength properties of these materials can be degraded by not following specific welding procedure specifications and heat treatment requirements. The user is cautioned to seek technical guidance for welding and heat treating requirements for these materials in accordance with the original code of construction.
- f) A risk assessment may be necessary for certain engineered repair and alteration activities to ensure safe operation of equipment and minimal risk to personnel.



THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

PROPOSED REVISION OR ADDITION

<p>Item No.</p> <p>21-67</p>
<p>Subject/Title</p> <p>Removal of reference to mechanical portion and add additional information for welding</p>
<p>NBIC Location</p> <p>Part 3 Repairs and Alterations, Section 3, Paragraph 3.3.4.9</p>
<p>Project Manager and Task Group</p> <p>PM – Philip Gilston TG – Kathy Moore, Trevor Seime, Don Kinney and Steve Frazier</p>
<p>Source (Name/email)</p> <p>Kathy Moore / kathymoore@joemoorecompany.com</p>
<p>Statement of Need</p> <p>Removing the mechanical portion of the text. Many Jurisdictions are having a difficult time enforcing that part of the NBIC. Additionally, cracking of ligaments in welded plug is a common issue, the current NBIC does not have enough direction or requirements for welding tube plugs in firetube boiler.</p>
<p>Background Information</p> <p>Mr. Kinney wrote on the Chief's Forum and asked the Chiefs what they thought of 3.3.4.9. They wanted the mechanical portion dropped.</p> <p>Improper welding of tube plugs in firetubes often creates ligament cracks.</p> <p>Originally the part addressing mechanical plugs was action item 21-71, the item has been combined here to make for a clean proposal</p>
<p><u>Revision 11 Notes, summary of changes, and actions addressing comments made in the ballot:</u></p> <ol style="list-style-type: none"> 1. <u>‘Practicable’, a suggestion to change this to ‘possible’ or ‘practical’ was made by Mr. Underwood and supported by several members. While the PM initially agreed, after discussion with the TG it was decided to leave as is for this proposal. It was advised by TG members that R&A had previously purged the word possible from part 3, and this was a roll back. Further there is a separate action out looking at the use of the rems ‘practicable’ and ‘impracticable’ and it was felt that this should be dealt with within the separate action rather than on a piecemeal basis.</u> 2. <u>Two comments, addressed inclusion of additional materials, P-No. 3 has been added to subsection c)1), It is not clear for firetube boilers if other P-Numbers (e.g. 4 or 5A) see much application, and that the guidance would become more involved. For higher alloys these should for now be addressed either to the original code of construction, or within the welding method rules.</u> 3. <u>There were a couple of comments regarding the requirement for hydro only, i.e. no alternate NDE permitted. Because of the nature of firetube boilers as oppose to water tube boilers, any leak will come from around a tube seated in the tube sheet. When such repairs are made, tubes that surround the repaired tube may be affected by the welding resulting in leakage. This would not be detected by NDE only by the hydro test.</u> 4. <u>The section addressing return to service of the boiler, time to be allowed and involvement of the inspector has been deleted. There were three reason behind this:</u> <ol style="list-style-type: none"> a. <u>Post repair activity is a Part 2 activity and should be addressed there.</u> b. <u>There is an interpretation in hand regarding whether Part 3 specifies how long a firetube boiler may be</u>

returned to service after such repairs.

c. A survey of Chiefs asked:

i. Regarding Pt 3, 3.3.4.9 d) Tube Plugging in FT Boilers, would you prefer the reference to the length of time the boiler may be returned to service with a tube plugged, be removed and potentially be moved into NBIC Part 2 for in-service inspection?

Yes(12 responses)

No(9 responses)

Although not a land slide, more were in favor of removal.

Existing Text

3.3.4.9 TUBE PLUGGING IN FIRETUBE BOILERS

When the replacement of a tube in a firetube boiler is not practicable at the time the defective tube is detected, with the concurrence of the owner, Inspector, and when required, the Jurisdiction, the tube may be plugged using the following course of repair:

- a) The scope of work, type of plug and method of retention; whether welded or mechanical interface, shall be evaluated by the "R" Certificate Holder performing the repair and reviewed with the Inspector, and when required, the Jurisdiction.
- b) When the method of plugging is by welding, strength calculations for the size of the weld shall be in accordance with the original code of construction. The "R" Certificate Holder performing this repair shall weld the plug to the tube, or to the tube sheet, or a combination of both.
- c) Plugging a tube in a firetube boiler is recognized as an alternative to the replacement of a firetube and may be further limited as a method of repair by the number of tubes plugged and their location; scattered or clustered. The operational effects on the waterside pressure boundary or membrane and the effects on the combustion process throughout the boiler should be considered prior to plugging.
- d) The boiler may be returned to service for a period of time agreed upon by the owner, the Inspector, and when required, the Jurisdiction.
- e) The Form R 1 shall be completed for the plugging of firetubes, identifying the means of plug retention; mechanical or by welding.

Proposed Text

3.3.4.9 TUBE PLUGGING BY WELDING IN FIRETUBE BOILERS

When the replacement of a tube in a firetube boiler is not practicable at the time the defective tube is detected, with the concurrence of the owner, Inspector, and when required, the Jurisdiction, the tube may be plugged ~~using the following course of repair:~~

- a) ~~The scope of work, type of plug and method of retention; whether welded or mechanical interface, shall be evaluated by the "R" Certificate Holder performing the repair and reviewed with the Inspector, and when required, the Jurisdiction.~~
- b) ~~Plugging a tube in a~~When installing a welded firetube plug, boiler is recognized as an alternative to the replacement of a firetube and the repair may be further limited as a method of repair by the number of tubes plugged and their location; ~~scattered or clustered~~. The operational effects on the waterside pressure boundary ~~or membrane~~ and the effects on the combustion process ~~throughout the boiler~~ should be considered prior to plugging. Competent technical advice should be obtained from the manufacturer of the pressure-retaining item or from another qualified source.
- e) Strength calculations for the size of the weld shall be in accordance with the original code of construction. The "R" Certificate Holder performing this repair shall weld the plug to the tube, or to the tube sheet, or a combination of both.
- c) Cracking of ligaments due to the use of welded plugs is a common issue. To mitigate this possible occurrence the "R" Certificate Holder performing the repair shall consider actions including but not limited to the following:
 - 1) For P-No. 1 and 3 materials, preheating to 200°F (95°C) minimum.
 - 2) Limiting the maximum weld size to 3/8" (10 mm).
 - 3) Limiting electrode size to 1/8" (3 mm) maximum diameter.

4) Using a stringer bead technique.

5) Using a minimum of two passes.

d) NDE in lieu of pressure testing is not permitted.

~~The boiler may be returned to service for a period of time agreed upon by the owner, the Inspector, and when required, the Jurisdiction.~~

e) ~~The Form R-1 shall be completed for the plugging of firetubes, identifying the means of plug retention; mechanical or by welding.~~

For Information, Clean Copy of Proposed Text, changes from Rev 10 only highlighted

3.3.4.9 TUBE PLUGGING BY WELDING IN FIRETUBE BOILERS

When the replacement of a tube in a firetube boiler is not practicable at the time the defective tube is detected, with the concurrence of the owner, Inspector, and when required, the Jurisdiction, the tube may be plugged.

- a) When installing a welded firetube plug, the repair may be limited by the number of tubes plugged and their location. The operational effects on the pressure boundary and the effects on the combustion process should be considered prior to plugging. Competent technical advice should be obtained from the manufacturer of the pressure-retaining item or from another qualified source.
- b) Strength calculations for the size of the weld shall be in accordance with the original code of construction. The "R" Certificate Holder performing this repair shall weld the plug to the tube, or to the tube sheet, or a combination of both.
- c) Cracking of ligaments due to the use of welded plugs is a common issue. To mitigate this possible occurrence the "R" Certificate Holder performing the repair shall consider actions including but not limited to the following:
 - 1) For P-No. 1 and 3 materials, preheating to 200°F (95°C) minimum.
 - 2) Limiting the maximum weld size to 3/8" (10 mm).
 - 3) Limiting electrode size to 1/8" (3 mm) maximum diameter.
 - 4) Using a stringer bead technique.
 - 5) Using a minimum of two passes.
- d) NDE in lieu of pressure testing is not permitted.
- e) ~~The boiler may be returned to service for a period of time agreed upon by the owner, the Inservice Inspector, and when required, the Jurisdiction.~~

VOTE							
Committee	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date

Revision to 2.2.1

- *add letters “a” and “b” to existing paragraphs and add new “c” paragraph which is wording from ASME Section I*

2.2.1 PROCEDURE SPECIFICATIONS

- a) A procedure specification is a written document providing direction to the person applying the material joining process. Welding, brazing and fusing shall be performed in accordance with procedure specifications for welding (WPS), brazing (BPS), and fusing (FPS) qualified in accordance with the original code of construction or the construction standard or code selected. When this is not possible or practicable, the procedure specification may be qualified in accordance with ASME Section IX.
- b) Welding procedures may be simultaneously qualified by more than one organization under the rules of ASME Section IX QG-106.4. The “R” Certificate Holder’s written quality control program shall include requirements for addressing the rules of Section IX QG-106.4.
- c) The “R” Certificate Holder is responsible for the selection of weld consumables and the welding process. Weld consumables shall be selected to provide deposited weld metal of chemical composition and mechanical properties suitable for joining the materials and for the service conditions anticipated.

5.2.2 PREPARATION OF FORM R-2 (REPORT OF ALTERATION)

- a) Using the instructions found in Table S9.3 of Supplement 9, initial preparation of Form R-2, including gathering and attaching supporting documentation, shall be the responsibility of the “R” Certificate Holder responsible for the design portion of the alteration. The design organization shall complete and sign the “Design Certification” section of the Form R-2. An Inspector shall indicate acceptance of the design by signing the “Certificate of Design Change Review” section of the Form R-2.
- a)b) “R” Certificate Holders whose scope is “Design Only” can perform code calculations for re-rating and alterations as defined in this Part but are prohibited from performing physical work (construction work) to the pressure retaining item except for the “R” Stamping, NDE, and/or final pressure testing; as applicable, provided the controls are included in the Quality Management System. “R” Cert Holders who perform physical work as described above shall have controls for field activities in their “R” Cert of Auth.
- c) The information describing an alteration to a pressure-retaining item shall be identified on Form R-2 with a complete description of the scope of work for physical or non-physical changes.
1. ~~When the scope of work represents a change that will increase the Minimum Required Relieving Capacity (MRRRC) of a pressure-retaining item, such as a change in heating surface, Maximum Designed Steaming Capacity (MDSC), or BTU/hr (W) heating capacity, the new MRRRC shall be documented on Form R-2 and indicated on the appropriate nameplate of NBIC Part 3, Figure 5.7.5-b or NBIC Part 3, Figure 5.7.5-c.~~
- d) Final preparation of Form R-2, including gathering and attaching supporting reports, shall be the responsibility of the “R” Certificate Holder that performed the construction portion of the alteration. The construction organization shall complete the Form R-2 provided by the design organization, including the “Construction Certification” section of the form. An Inspector shall indicate that the work complies with the applicable requirements of this code by completing and signing the “Certificate of Inspection” section of the form. ~~When no construction work is performed (e.g., a re-rating with no physical changes), the “R” Certificate Holder responsible for the design shall prepare the Form R-2, including gathering and attaching of supporting documentation.~~
- b)e) The Construction Certificate section of the form shall only be completed when construction work has been performed.
- e)f) The following shall be attached to and become a part of completed Form R-2:
1. For ASME boilers and pressure vessels, a copy of the original Manufacturer’s Data Report, when available.
 2. Form R-3, Report of Parts Fabricated by Welding, Manufacturer’s Partial Data Reports, or Certificates of Compliance, if applicable; and
 3. For other than ASME, the manufacturer’s reports (i.e., reports required by the original code of construction, etc.), when available.



THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

PROPOSED REVISION OR ADDITION

Item No. A 23-13 Rev 02	
Subject/Title Referencing for Weld Metal, Filler Metal etc.	
NBIC Location	
Project Manager and Task Group P Gilston (PM), J. Siefert, W. Sperko, M. Vance, T Melfi, F Johnson	
Source (Name/email) January 2023, Sub-Committee Discussion	
Statement of Need Within Part 3, welding consumables are referred to in several different ways e.g., filler metal(s) (52 times), weld metal (11 times), consumable (14 times), welding electrode (once) etc. This item is to review these references, create definitions and bring consistency for reference descriptions.	
Background Information When discussing weld metal, references can be made to the weld consumable itself, or the deposited weld metal. Often we describe the 'nominal composition' for the weld, this is normally based on the actual weld metal deposited in a weld joint. Various factors can influence the chemistry of a deposited weld metal, including, but not limited to dilution with the base metal, protective fluxes, shielding gas etc.	
Existing Text None	Proposed Text 9.1 DEFINITIONS <u>Weld - A weld consists of weld metal and heat affected zones (HAZ)</u> <u>Weld Metal - Metal in a fusion weld consisting of that portion of the base metal and filler metal melted during welding. When no filler metal is added this is known as an autogenous weld.</u> <u>Filler Metal - The metal that is added during a welding, brazing or soldering operation.</u> <u>Weld Consumable - Electrodes, wires and fluxes that are melted during a welding operation.</u>

VOTE							
Committee	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date



THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

PROPOSED REVISION OR ADDITION

Item No.	
23-22	
Subject/Title	
Welding Method 4	
NBIC Location	
Part: Repairs and Alterations; Section: 3; Paragraphs: 2.5.3.4 a)	
Project Manager and Task Group	
PM – Tom White	
Source (Name/email)	
Tom White/thomas.white@nrg.com	
Statement of Need	
Reading up on Welding Method 4 in Part 3 I found the wording ambiguous and confusing. I have proposed the following rewrite for 2.5.3.4 – a)	
Background Information	
The second sentence states repair welds shall not penetrate the full thickness. The next sentence contradicts that statement and permits under the certain conditions. I propose the following rewrite for clarity.	
Existing Text – 2.5.3.4	Proposed Text – 2.5.3.4
<p>When using this method, the following is required:</p> <p>a) This method is limited to repair welds in pressure retaining items for which the applicable rules of the original code of construction did not require notch toughness testing. The repair depth for temper bead repairs to pressure retaining items is limited to welds not penetrating though the full thickness.</p> <p>Full thickness temper bead weld repairs are permitted under the following conditions:</p> <ol style="list-style-type: none"> 1) ASME Section VIII, Division 2 pressure vessels, where application of PWHT on in-service vessels has been demonstrated to cause harm to vessel material. 2) For tube-to-header welds in steam service. <p>Full thickness weld repairs shall be completed per NBIC Part 3, 3.3.5 with the following requirements:</p> <ol style="list-style-type: none"> 1) The full thickness repair shall be verified as being full penetration. 2) Volumetric examination of the full thickness weld shall be performed. 	<p>When using this method, the following is required:</p> <p>a) This method is limited to repair welds in pressure retaining items for which the applicable rules of the original code of construction did not require notch toughness testing. The repair depth for temper bead repairs to pressure retaining items shall not penetrate the full thickness except as permitted below. is limited to welds not penetrating though the full thickness.</p> <p>Full thickness temper bead weld repairs are permitted under the following conditions:</p> <ol style="list-style-type: none"> 1) ASME Section VIII, Division 2 pressure vessels, where application of PWHT on in-service vessels has been demonstrated to be detrimental cause harm to the vessel's material, or 2) For tTube-to-header welds in steam service. <p>Full thickness weld repairs, as permitted above, shall be completed per in accordance with NBIC Part 3, 3.3.5 and with the following additional requirements:</p> <ol style="list-style-type: none"> 1) The full thickness repair shall be verified as being full penetration. 2) Volumetric examination of the full thickness weld shall be performed.

VOTE							
Committee	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date



PROPOSED REVISION OR ADDITION

Item No. A 23-25	
Subject/Title Name Plate Replacement	
NBIC Location Part: Repairs and Alterations; Section: 5; Paragraph: 11	
Project Manager and Task Group Rick Valdez	
Source (Name/Email) Kathy Moore / kathymoore@joemoorecompany.com	
Statement of Need This does not address missing name plates. NB136 is about the form, not the name plate. This needs to address missing name plates as well. There should be a reference to the Stamp holder Part 2 Par. 5.2	
Background Information Many Stamp holders complete NB136, fabricate the replacement name plate as well as hang the plate. I feel there should be clarification in Part 3.	
Existing Text	Proposed Text See attached proposed text:

COMMITTEE	VOTE:				Passed	Failed	Date
	Approved	Disapproved	Abstained	Not Voting			

Proposed change NBIC Part 3, 5.11 & S6.15

New changes:

5.11 REMOVAL, LOSS, OR DUPLICATION OF ORIGINAL STAMPING OR NAMEPLATE

If it becomes necessary to remove original stamping, the Inspector shall, subject to the approval of the Jurisdiction, witness making of a facsimile of stamping, the obliteration of old stamping, and transfer of stamping to the new item. When stamping is on a nameplate, the Inspector shall witness transfer of nameplate to the new location. Any relocation shall be described on the applicable NBIC "R" Form. The re-stamping or replacement of a code symbol stamp shall be performed only as permitted by the governing code of construction.

If a nameplate or stamping is lost, indistinct, or missing entirely, a new nameplate or re-stamping shall be obtained in accordance with the governing code of construction and the guidance and requirements found in NBIC Part 2, 5.2.1 - Indistinct Stamping or Nameplate is Lost, Illegible, or Detached, 5.2.2 - Reporting, and 5.2.3 - Replacement of Duplicate Nameplates.

S6.18 GENERAL STAMPING REQUIREMENTS

The stamping ~~of~~ or attaching of a nameplate to a pressure-retaining item, shall indicate that the work was performed in accordance with the requirements of this code and any requirements of the Competent governing Authority. Such stamping or attaching of a nameplate shall be done only with the knowledge and authorization of the Inspector. The "R" Certificate Holder responsible for the repair or the construction portion of the modification/alteration shall apply the stamping. For a re-rating where no physical changes are made to the pressure-retaining item, the "R" Certificate Holder responsible for the design shall apply the stamping. Requirements for stamping and nameplate information are shown in NBIC Part 3, Section 5. *For application of new replacement stamping or the attachment of a new or duplicate nameplate when the original is lost, illegible, or a duplicated is desired, see NBIC Part 2, 5.2 requirements.*

(Table of Contents associated change)

Current:

5.11 Removal of Original Stamping or Nameplate91

New:

5.11 Removal, **Loss, or Duplication** of Original Stamping or Nameplate.....91

Proposal 23-25 Background:

Existing relevant wording/Sections/Paragraphs:

PART 2, SECTION 5 REPAIRS AND ALTERATIONS — CERTIFICATION/DOCUMENTATION AND STAMPING

5.2.1 INDISTINCT STAMPING OR NAMEPLATE IS LOST, ILLEGIBLE, OR DETACHED.

- a) When the stamping on a pressure –retaining item becomes indistinct or the nameplate is lost, illegible or detached, but traceability to the original pressure-retaining item is still possible the Inspector shall instruct the owner or user to have the nameplate or stamped data replaced. All re-stamping shall be done in accordance with the original code of construction, except as modified herein. Request for permission to re-stamp data or replace nameplates shall be made to the Jurisdiction in which the nameplate or stamping is reapplied for approval. Application shall be made on the *Replacement of Stamped Data Form*, NB-136 (see 5.3.2) which is available on the National Board website (www.nationalboard.org). Proof of traceability to the original nameplate or stamping and other such data, as is available, shall be furnished with the request. The manufacturer of the pressure-retaining item, if available, shall be contacted prior to replacing a nameplate or stamped data in order to verify applicable code requirements.
- b) When there is no Jurisdiction, documentation used to verify traceability, and the *Replacement of Stamped Data Form*, NB-136 shall be submitted to a National Board Commissioned Inspector for approval.
- c) All re-stamping or replacement of nameplates shall be witnessed by a National Board Commissioned Inspector.
- d) When the nameplate is welded to the pressure retaining boundary, the welding must be done by a National Board “R” Stamp Holder.
- e) Permission from the Jurisdiction or National Board Commissioned Inspector is not required for the reattachment of nameplates that are partially attached.
- f) The re-stamping or replacement of a code symbol stamp shall be performed only as permitted by the governing code of construction.
- g) Replacement nameplates or stamped data shall be clearly marked “Replacement”.
- h) When traceability cannot be established, the Jurisdiction where the pressure retaining item is installed shall be contacted for approval prior to replacing a nameplate or re-applying stamping.

5.2.2 REPORTING

- a) The completed Form NB-136 with a facsimile of the replacement stamping or nameplate applied and appropriate signatures shall be filed with the Jurisdiction, if applicable and the National Board by the owner, user or “R” Stamp Holder.
- b) The owner or user shall retain all documentation provided for traceability with the completed form NB-136 for as long as the pressure-retaining item is in their ownership or use. If the pressure-retaining item is sold, Form NB-136 along with the supporting documentation shall be provided to the new owner. If it becomes necessary to remove original stamping, the Inspector shall, subject to the approval of the Jurisdiction, witness making of a facsimile of stamping, the obliteration of old stamping, and transfer of stamping to the new item. When stamping is on a nameplate, the Inspector shall witness transfer of nameplate to the new location. Any relocation shall be described on the applicable NBIC “R” Form. The re-stamping or replacement of a code symbol stamp shall be performed only as permitted by the governing code of construction.

5.7 STAMPING REQUIREMENTS FOR REPAIRS AND ALTERATIONS

5.7.1 GENERAL

The stamping of or attachment of a nameplate to a pressure-retaining item shall indicate that the work was performed in accordance with the requirements of this code. Such stamping or attaching of a nameplate shall be done only with the knowledge and authorization of the Inspector. The “R” Certificate Holder responsible for repair or the construction portion of the alteration shall apply stamping. For a re-rating where no physical changes are made to the pressure-retaining item, the “R” Certificate Holder responsible for design shall apply stamping.

5.11 REMOVAL OF ORIGINAL STAMPING OR NAMEPLATE

If it becomes necessary to remove original stamping, the Inspector shall, subject to the approval of the Jurisdiction, witness making of a facsimile of stamping, the obliteration of old stamping, and transfer of stamping to the new item. When stamping is on a nameplate, the Inspector shall witness transfer of nameplate to the new location. Any relocation shall be described on the applicable NBIC "R" Form. The re-stamping or replacement of a code symbol stamp shall be performed only as permitted by the governing code of construction.

S6.15 GENERAL STAMPING REQUIREMENTS

The stamping of or attaching of a nameplate to a pressure-retaining item shall indicate that the work was performed in accordance with the requirements of this code and any requirements of the Competent Authority. Such stamping or attaching of a nameplate shall be done only with the knowledge and authorization of the Inspector and Competent Authority. The "R" Certificate Holder responsible for the repair or the construction portion of the modification/alteration shall apply the stamping. For a re-rating where no physical changes are made to the pressure-retaining item, the "R" Certificate Holder responsible for the design shall apply the stamping. Requirements for stamping and nameplate information are shown in NBIC Part 3, Section 5.

Item A23-33 (Update Table 2.3)**2.3 STANDARD WELDING PROCEDURE SPECIFICATIONS (SWPS)**

- a) One or more SWPSs from NBIC Part 3, Table 2.3 may be used as an alternative to one or more WPS documents qualified by the organization making the repair or alteration, provided the organization accepts by certification (contained therein) full responsibility for the application of the SWPS in conformance with the [Requirements for Application](#) as stated in the SWPS. When using SWPSs, all variables listed on the Standard Welding Procedure are considered essential and, therefore, the repair organization cannot deviate, modify, amend, or revise any SWPS. US Customary Units or metric units may be used for all SWPSs in NBIC Part 3, Table 2.3, but one system shall be used for application of the entire SWPS in accordance with the metric conversions contained in the SWPS. The user may issue supplementary instructions as allowed by the SWPS. Standard Welding Procedures Specifications shall not be used in the same product joint together with the other Standard Welding Procedure Specifications or other welding procedure specifications qualified by the organization. SWPSs may be purchase at the AWS Bookstore at <https://pubs.aws.org>.
- b) The AWS reaffirms, amends or revises SWPSs in accordance with ANSI procedures.
- c) The use of previous versions of the listed SWPSs is permitted. Previous versions include Reaffirmed, Amended, or Revised SWPSs regardless of the publication date.

TABLE 2.3**SWPS DESIGNATION: YEAR**

B2.1-1-001:2020	B2.1-1-201:2019	B2.1-8-215:2012	B2.1-1/8-229:2013
B2.1-1-002:2020	B2.1-1-202:2019	B2.1-8-216:2012	B2.1-1/8-230:2013
B2.1-1-016:2018	B2.1-1-203:2019	B2.1-4-217:2021	B2.1-1/8-231:2015
B2.1-1-017:2018	B2.1-1-204:2019	B2.1-4-218:2021	B2.1-1-232:2020
B2.1-1-018:2020	B2.1-1-205:2019	B2.1-4-219:2021	B2.1-1-233:2020
B2.1-1-019:2018	B2.1-1-206:2019	B2.1-4-220:2021	B2.1-1-234:2020
B2.1-1-020:2018	B2.1-1-207:2019	B2.1-4-221:2021	B2.1-1-235:2020
B2.1-1-021:2018	B2.1-1-208:2019	B2.1-5A-222:2022	
B2.1-1-022:2018	B2.1-1-209:2019	B2.1-5A-223:2022	
B2.1-8-023:2018	B2.1-1-210:2012	B2.1-5A-224:2022	
B2.1-8-024:2012	B2.1-1-211:2012	B2.1-5A-225:2022	
B2.1-8-025:2012	B2.1-8-212:2012	B2.1-5A-226:2022	
B2.1-1-026:2018	B2.1-8-213:2012	B2.1-1/8-227:2013	
B2.1-1-027:2018	B2.1-8-214:2012	B2.1-1/8-228:2013	

TABLE 2.3**SWPS DESIGNATION:**

B2.1-1-001	B2.1-8-024	B2.1-1-207	B2.1-4-217	B2.1-1/8-227
B2.1-1-002	B2.1-8-025	B2.1-1-208	B2.1-4-218	B2.1-1/8-228
B2.1-1-016	B2.1-1-026	B2.1-1-209	B2.1-4-219	B2.1-1/8-229
B2.1-1-017	B2.1-1-027	B2.1-1-210	B2.1-4-220	B2.1-1/8-230
B2.1-1-018	B2.1-1-201	B2.1-1-211	B2.1-4-221	B2.1-1/8-231
B2.1-1-019	B2.1-1-202	B2.1-8-212	B2.1-5A-222	B2.1-1-232
B2.1-1-020	B2.1-1-203	B2.1-8-213	B2.1-5A-223	B2.1-1-233
B2.1-1-021	B2.1-1-204	B2.1-8-214	B2.1-5A-224	B2.1-1-234
B2.1-1-022	B2.1-1-205	B2.1-8-215	B2.1-5A-225	B2.1-1-235
B2.1-8-023	B2.1-1-206	B2.1-8-216	B2.1-5A-226	

2.4 AWS REFERENCE STANDARDS

The following AWS Standards have been adopted by the NBIC for use as referenced below:

- a) AWS B2.1 - Specification for Welding Procedure and Performance Qualification.
- b) AWS B2.1 BMG - Base Metal Grouping for Welding Procedure and Performance Qualification

a) Title Page

The title page shall contain the Certificate Holder's legal company name, physical address, and 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.

- 1) Repairs Only at either Shop or Field or Both
- 2) Alterations Only at either Shop or Field or Both
- 3) Repairs and Alterations at either Shop or Field or Both
- 4) Metallic Repairs
- 5) Non-Metallic Repairs
- 6) Design Only

b) Contents 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.

c) Statement of Authority and Responsibility

A dated *Statement of Authority and Responsibility* shall clearly identify that the Quality System has the full support of management and endorsed by signature of a senior management official. The *Statement* shall also include:

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

d) Quality System Control

The Quality System shall define how revisions of individual sections, exhibits or documents will be identified, and how distribution and retrieval will be achieved to ensure 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 approval of the Quality System including review of code editions, standards, and jurisdictional requirements.
- 2) Acceptance from the Authorized Inspection Agency prior to issuance and implementation of the Quality System.

e) Certification

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