Date Distributed:

THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

NATIONAL BOARD INSPECTION CODE COMMITTEE

MAIN SESSION MINUTES

Meeting of January 11th, 2024
San Antonio, TX

The National Board of Boiler & Pressure Vessel Inspectors
1055 Crupper Avenue
Columbus, Ohio 43229-1183
Phone: (614)888-8320
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1. **Call to Order**
   The Chair, Mr. George Galanes, called the meeting to order at 9:00 a.m. Central Time.

2. **Introduction of Members and Visitors**
   Mr. Galanes asked the members and visitors present for the meeting to introduce themselves. A full list of meeting attendees can be found on Attachment Page 1.

3. **Check for a Quorum**
   Twenty-one out of twenty-four committee members were present for the meeting. This was enough to establish a quorum.

4. **Awards/Special Recognition**
   Mr. Galanes thanked National Board staff for their work to organize and facilitate the week's meetings and receptions.

5. **Announcements**
   - This meeting marks the end of Cycle C for the 2025 NBIC edition. The committees will have until the end of the July 2024 NBIC meeting to approve items for inclusion in the 2025 NBIC.
   - 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*
   - 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.

6. **Adoption of the Agenda**
   Before voting to adopt the agenda, Mr. Galanes asked if the agenda needed to be amended to include new business items. The following items were requested to be included in the agenda:

   - Subcommittee Installation
     - Add Item 24-05 (Add a Heat Pump Water Heater & Heat Pump Hydronic Heater Supplement).
   - Subcommittee Inspection
     - Add Item 24-03 (Revise "Inspector" terminology and requirements in Supplement 6) and Item 24-04 (Thickness for determining corrosion rates for circumferential stress).
   - Subcommittee R&A – Add Item 24-01 (Change to Examples of Repairs) and Item 24-02 (Correction of duplicated words from A20-67 and A23-25).

   No further changes were put forth. A motion was made, seconded, and unanimously approved to adopt the agenda with these additions.

7. **Approval of the Minutes of the July 2023 Meeting**
   The minutes are available for review online at https://www.nationalboard.org/Index.aspx?pageID=13&ID=18.

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

8. **Presentation on Safety Concerns Associated with Tee Branch Fittings**
Mr. John Siefert gave a presentation on the Electric Power Research Institute's (EPRI) research and findings regarding issues related to safe operation of current tee branch fittings. A copy of the presentation can be found in the Attachments section of these minutes, beginning on Attachment Page 2.

9. **Items Approved for the 2025 NBIC**
See Attachment Page 33 for a summary of items currently approved for the 2025 NBIC edition.

10. **Main Committee Task Group on Developing Rules for Additive Manufacturing Pressure Parts**
Before beginning the report for this item, Mr. Galanes asked the Vice Chair, Ms. Melissa Wadkinson, to act as Chair. He also requested that she remain as acting Chair for the Subcommittee R&A and PRD reports.

Item Number: 23-09	**NBIC Location: TBD**	**No Attachment**
General Description: Developing Rules for Additive Manufacturing Pressure Parts **Subgroup:** Repairs and Alterations **Task Group:** G. Galanes (PM), J. Siefert, B. Schaefer, W. Sperko, J. Ferreira, J. Getter, T. Seime, and M. Wadkinson. **Explanation of Need:** Determining appropriate rules and scope for the use of additive manufacturing pressure parts on pressure-retaining items. **January 2024 Meeting Action/Update:** Mr. Galanes announced that the task group will be disbanding to hand the item over to the R&A committees. A letter ballot for Review and Comment will be sent out to Subgroup R&A prior to the July 2024 meeting.		

11. **Report of Subcommittees**

a. **Subcommittee Repairs & Alterations**

i. **New Interpretation Requests:**

Item Number: I23-55	**NBIC Location: Part 3, S6.8**	**Attachment Page 35**
General Description: DOT Supplement 6 Intent Interpretation **Subgroup:** Repairs and Alterations **Task Group:** R. Underwood (PM) **Explanation of Need:** The current wording in S6.8 of the 2021 and 2023 Edition of Part 3 incorrectly requires the National Board Commissioned Inspector to ALSO be a DOT Registered Inspector. The 2025 Edition is removing reference to Registered Inspector (Item 20-67). This Intent Interpretation addresses the incorrect reference to Registered Inspector and the "answer" reflects the approved wording from the 2025 Edition of Supplement 6. **January 2024 Meeting Action:** Mr. Seime presented the proposal for this item. A motion was made, seconded, and unanimously approved to accept the proposal for this item.		

Item Number: I23-63	NBIC Location: Part 3, 3.4.4 d)	No Attachment

General Description: Replacement of Heads with Different Types

Subgroup: Repairs and Alterations

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

Explanation of Need: 2023 NBIC revises 3.4.4 d) to effectively remove, as an "Example of Alteration", a change in dimension or contour of a pressure-retaining item that does not decrease an item's pressure retaining capability. Prior to revision, 3.4.4 d) would classify any such changes as "alterations".

January 2024 Meeting Action: Mr. Seime informed the Committee that the Interpretations Task Group and Subcommittee R&A voted unanimously to close this item and send the inquirer a letter stating that an action item (23-68) is open to address this inquiry. A motion was made, seconded, and unanimously approved to officially close this item and send the letter to the inquirer.

Item Number: I23-64	NBIC Location: Part 3, 3.3.3 j)	Attachment Page 40

General Description: Review of calculations for a new nozzle per 3.3.3 j)

Subgroup: Repairs and Alterations

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

Explanation of Need: Example of repair 3.3.3 j) may allow for limits of reinforcement to overlap in some cases and as such is not conservative.

January 2024 Meeting Action: Mr. Seime presented a proposal for this item. A motion was made and seconded to approve the proposal as presented. A question was asked regarding if there would be a scenario where the outside diameter is used. Mr. Seime said that there could be a scenario, but that it would be described in the original code of construction; that is why the additional clarification was provided in the committee reply. A vote was then taken, and the motion to approve the proposal passed unanimously.

Item Number: I23-65	NBIC Location: Part 3, 3.3.4.8 a) and 4.4	No Attachment

General Description: Returning a vessel to service without repairing known defects

Subgroup: Repairs and Alterations

Task Group: K. Moore (PM), J. Ferreira

Explanation of Need: The vessel is located in the state of Texas whose laws do not address pressure vessels, and there are no jurisdictional inspection requirements. Repairs applied by the R Certificate holder to one part of the vessel are complete and acceptable. The R Certificate holder is not satisfied with leaving another part of the vessel with a known defect at the direction of the owner, who intends to return the vessel to operation in its current state. It has been explained to the repair organization that the owner is ultimately responsible for the condition and safety of the vessel and is accountable to the jurisdiction.

January 2024 Meeting Action: Mr. Seime stated that the Interpretations Task Group and Subcommittee R&A voted unanimously to close this item and send the inquirer a letter stating that the inquirer's question is outside of the scope of the NBIC. A motion was made, seconded, and unanimously approved to officially close this item and send the letter to the inquirer.

Item Number: I23-66	NBIC Location: Part 3, 3.2.7	No Attachment

General Description: Applying PWHT to a vessel not previously PWHT for a change of service

Subgroup: Repairs and Alterations

Task Group: C. Hopkins (PM), M. Carlson, G. Galanes

Explanation of Need: The pressure vessel is to be installed and operated in the state of Texas. The Chief Inspector reports that Texas state laws do not address pressure vessels, and has directed the user to contact the National Board for assistance. The NBIC has issued an interpretation that applying PWHT to a vessel not previously subject to PWHT is an alteration, and we agree. The NBIC does not address whether applying PWHT to such a vessel makes it unsuitable for service since the original WPSs were not qualified with PWHT. The owner intends to apply PWHT and operate the vessel in its new service application by September 1, 2023.

January 2024 Meeting Action: Mr. Seime announced that the Interpretations Task Group and Subcommittee R&A voted unanimously to close this item and send the inquirer a letter stating that the committee considers this inquiry a consulting question. A motion was made, seconded, and unanimously approved to officially close this item and send the letter to the inquirer.

Item Number: I23-71	NBIC Location: Part 3, 3.3 and 3.4	No Attachment

General Description: Applying PWHT to a vessel not previously PWHT for a change of service

Subgroup: Repairs and Alterations

Task Group: K. Moore (PM), D. Kinney, P. Becker

Explanation of Need: The repair/alteration method shown is used for tube replacement. This method is being done in Texas, but there is confusion on whether this method of tube replacement should be classified as a repair or an alteration.

January 2024 Meeting Action: Mr. Seime stated that the Interpretations Task Group and Subcommittee R&A voted unanimously to close this item and send the inquirer a letter stating that Interpretation 13-10, Question 2 and Reply 2 addresses their question. A motion was made, seconded, and unanimously approved to officially close this item and send the letter to the inquirer.

Item Number: I23-75	NBIC Location: Part 3, 4.4.2 c)	Attachment Page 43

General Description: NDE In Lieu of Pressure Testing for Alterations

Subgroup: Repairs and Alterations

Task Group: M. Toth (PM), L. Dutra

Explanation of Need: The existing language in NBIC Part 3, Section 4, Paragraph 4.4.2.c – in concert with the new definition of "practicable" added in the 2023 Edition of the Code – may confuse Repair Organizations and owners about their options when it comes to verifying a successful alteration to a pressure-retaining item.

January 2024 Meeting Action: Mr. Seime presented the proposal for this item. A motion was made, seconded, and unanimously approved to accept the proposal as presented.

Item Number: I23-79	NBIC Location: Part 3, 2.5.3 d) and 2.5.3.6	No Attachment

General Description: Alternative Welding Method 6 - Controlled Fill

Subgroup: Repairs and Alterations

Task Group: P. Gilston (PM), R. Derby

Explanation of Need: There is a lack of clarity as to the current requirement, need, and definition of controlled fill technique for application to Welding Method 6.

January 2024 Meeting Action: Mr. Seime stated that this item will be balloted to the Interpretations Task Group prior to the July 2024 meeting.

Item Number: I23-82	NBIC Location: Part 3, 2.5.3 d) and 2.5.3.6	No Attachment

General Description: Replacement of non-pressure retaining parts in Electrolyzer PEM Stack

Subgroup: Repairs and Alterations

Task Group: M. Toth (PM), M. Quisenberry, E. Creaser, R. Collins, P. Shanks

Explanation of Need: Hydrogenics is a manufacturer of hydrogen electrolyzers which operate on PEM (Proton Exchange Membrane) technology. The PEM stack operates at 30 bar (435 PSIG) pressure and is rated for a MAWP of 40 bar (580 PSIG) and we perform pneumatic pressure tests to ensure structural integrity according to ASME Sec VIII-1. At times we see cell shortage faults occurring which is not a failure of the pressure-retaining components but of components within the pressure vessel failing due to normal wear and tear. Need to determine if our company requires the NB R Certificate holder status.

January 2024 Meeting Action: Mr. Seime shared that the task group is still working on the proposal for this item.

ii. Action Items

TG Interpretations Items:

Item Number: A23-73	NBIC Location: Section 10 and the NBBI Website	Attachment Page 44

General Description: Revise Interp 21-05 to add later ASME Editions

Subgroup: Repairs and Alterations

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

Explanation of Need: Interp 21-05 intended to require all alterations to vessels built to ASME Sect. VIII Div. 1, 2021 Edition AND ALL FOLLOWING EDITIONS , be done by design personnel meeting the requirements of Appdx 47.

January 2024 Meeting Action: Mr. Seime presented the proposal for this item. A motion was made, seconded, and unanimously approved to accept the proposal as presented.

TG Graphite Items:

Item Number: NB15-2208	NBIC Location: Part 3	No Attachment

General Description: Develop supplement for repairs and alterations based on international construction standards

Subgroup: Graphite

Task Group: Greg Becherer (PM)

January 2024 Meeting Action: Mr. Viet, Chair of Task Group Graphite, gave a progress report on this item. The task group is still working on the proposal for this item.

Item Number: A23-45	NBIC Location: Part 3, S3.3	No Attachment

General Description: Graphite plate replacement as Routine repair

Subgroup: Graphite

Task Group: J. Wince (PM)

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.

January 2024 Meeting Action: Mr. Viet stated that the task group is still developing a proposal for this item.

TG FRP Items:
There are currently no FRP items open for Part 3.

TG Historical Items:

Item Number: 20-25	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, L. Moedinger, & 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.

January 2024 Meeting Action: Mr. Seime shared that the task group is still preparing a proposal for this item.

Item Number: 23-62	NBIC Location: Part 3, S2	No Attachment

General Description: Reusing pressure retaining items under alteration

Subgroup: SG Historical
Task Group: C. Jowett (PM), F. Johnson, J. Smith, M. Wahl, R. Bryce, L. Moedinger, and D. Rupert

Explanation of Need: Addition to book explaining how a pressure retaining item can be reused on a historical boiler under the guidelines of an alteration.

January 2024 Action: Mr. Seime reported that work is still being done on the proposal for this item.

TG Locomotive Items:

There are currently no Locomotive items open for Part 3.

NR Task Group Items:

Item Number: A23-57	**NBIC Location: Part 3, 1.6**	**No Attachment**

General Description: Rename Authorized Nuclear Inspector - NR TG Item

Subgroup: NR TG

Task Group: C. Dinic (PM)

Explanation of Need: Endorsements required may need to be revised based on Category of work. Name of the Inspector may need to be revised.

January 2024 Meeting Action: Mr. Ray Spuhl reported that work is still being done on the proposal for this item.

Item Number: A23-58	**NBIC Location: Part 3, 1.6.7.1 s) 2)**	**Attachment Page 45**

General Description: Add the applicable requirements for Auditors

Subgroup: NR TG

Task Group: T. White (PM)

Explanation of Need: Add the applicable requirements from ASME "Requirement 2" to the current requirements of audit personnel per 1.6.7.1 s) 2) for Cat. 2 or change it to be specific to Sect. XI

January 2024 Meeting Action: Mr. Spuhl presented a proposal for this item. A motion was made and seconded to accept the proposal as presented. Some discussion was held regarding wording in the proposal. After discussion concluded, vote was held, and the motion to accept the proposal was unanimously approved.

Item Number: A23-60	**NBIC Location: Part 3, 1.6**	**No Attachment**

General Description: Endorsements required for Nuclear Inspectors based on Category of work

Subgroup: NR TG

Task Group: C. Dinic (PM)

Explanation of Need: Endorsements required for Nuclear Inspectors based on Category of work (1, 2, or 3)

January 2024 Meeting Action: Mr. Spuhl stated that the task group is still working on the proposal for this item.

SG Repairs & Alterations Items:

Item Number: 21-12	**NBIC Location: Part 3, 3.3.3, 3.4.4, Section 9**	**No Attachment**

General Description: Clarify the definitions and examples of "Repair" and "Alteration"

Subgroup: Repairs and Alterations

Task Group: P. Becker (PM), K. Moore, P. Shanks, R. Underwood, M. Chestnut, T. Sieme

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.

History: This Item was created as a result of conversation regarding Interp. Item 20-78 and Action Item 20-54

January 2024 Meeting Action: Ms. Moore stated this item will be sent out as a ballot to the other three Parts for their input and approval.

Item Number: 21-31	**NBIC Location: NBIC Part 3, 1.4.1**	**Attachment Page 46**

General Description: Requirements for a Temporary Location

Subgroup: Repairs and Alterations

Task Group: R. Miletti (PM), P. Gilston, M. Toth, J. Walker

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.

January 2024 Meeting Action: Ms. Moore presented the proposal for this item. A motion was made, seconded, and unanimously approved to accept the proposal as presented.

Item Number: 21-43	**NBIC Location: Part 3, Glossary**	**No Attachment**

General Description: Defining and revising "Practicable" and "Practical" within the NBIC

Subgroup: Repairs and Alterations

Task Group: M. Toth (PM), B. Underwood

Explanation of Need: Defining and revising Practicable and Practical within the NBIC and revising where applicable

January 2024 Meeting Action: Ms. Moore stated that work is still being done on this item.

Item Number: 21-44	NBIC Location: Part 3, Glossary	No Attachment

General Description: Defining "De-Rating" within Part 3

Subgroup: Repairs and Alterations

Task Group: M. Toth (PM), B. Underwood, J. Walker, M. Wadkinson, L. Dutra

Explanation of Need: Defining de-rating within Part 3

January 2024 Meeting Action: Ms. Moore stated that the task group is still working on this item.

Item Number: 21-45	NBIC Location: Part 3, Supplements	No Attachment

General Description: Add a supplement for engineered repairs and alterations

Subgroup: Repairs and Alterations

Task Group: R. Underwood (PM)

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.

January 2024 Meeting Action: Ms. Moore informed the Committee that the task group is still working on this item.

Item Number: 21-53	NBIC Location: Part 3, S8.5 a)	No Attachment

General Description: Post Repair Inspection of weld repairs to CSEF steels

Subgroup: Repairs and Alterations

Task Group: P. Gilston (PM), E. Cutlip, A. Triplett

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.

January 2024 Meeting Action: Ms. Moore stated that the task group is still working on a proposal for this item.

Item Number: 21-67	NBIC Location: Part 3, 3.4.9	Attachment Page 48

General Description: Add welding requirements to plugging firetubes

Subgroup: Repairs and Alterations

Task Group: P. Gilston (PM), K. Moore, Trevor Seime, M. Quisenberry

Explanation of Need: The current NBIC does not have enough direction or requirements for welding tube plugs in firetubes.

January 2024 Meeting Action: Mr. Gilston presented a proposed revision to this item, which was from a comment during a Main Committee ballot. The change was balloted back to the subgroup and subcommittee, and both ballots were approved. A motion was made, seconded, and unanimously approved to accept this revised proposal.

Item Number: 22-18	NBIC Location: Part 3, 9.1 (and all other Parts)	No Attachment

General Description: Definition of blowdown and blowoff

Subgroup: Repairs and Alterations

Task Group: K. Moore (PM), 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.

January 2024 Meeting Action: Ms. Moore stated that the task group is still working on a proposal for this item.

Item Number: 22-19	NBIC Location: Part 3, 5.5.2	Attachment Page 51

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.

January 2024 Meeting Action: Ms. Moore presented a proposal for this item, and Mr. Seime provided additional background information. After reviewing the proposal, a motion was made, seconded, and unanimously approved to accept the proposal as presented.

Item Number: 22-41	NBIC Location: Part 3, 1.5	Attachment Page 52

General Description: Reference NB-415 in Quality System

Subgroup: Repairs and Alterations

Task Group: P. Davis (PM), M. Carlson, L. Ponce, J. Walker.

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.

January 2024 Meeting Action: Mr. Davis presented the proposal for this item. A motion was made, seconded, and unanimously approved to accept the proposal as presented.

Item Number: A23-04	NBIC Location: Part 3, 3.3.4.6	Attachment Page 55

General Description: Addressing Flush Patch Plate Weld NDT

Subgroup: Repairs and Alterations

Task Group: J. Ferreira (PM), K. Moore, M. Schaser, T. McBee, and F. Johnson

Explanation of Need: NBIC Item to Address Flush Patch Plate Weld NDT.

January 2024 Meeting Action: Mr. McBee presented the proposal for this item. A motion was made and seconded to approve the proposal as presented. Some discussion was held, and a minor change was made to add "progressive" to beginning of 3.3.4.6 a) 1). The motion was amended to included the change, and the amended motion was unanimously approved.

Item Number: A23-13	NBIC Location: Part 3, 3.3.3 s)	No Attachment

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.

January 2024 Meeting Action: Ms. Moore stated that the proposal for this item will be sent to the other subcommittees as a letter ballot.

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.

January 2024 Meeting Action: Ms. Moore stated that the subgroup and subcommittee voted unanimously to close this item with no action because National Board staff handle this activity. A motion was made, seconded, and unanimously approved to close this item with no action.

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, A. Triplett

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.

January 2024 Meeting Action: Ms. Moore stated that the task group is still working on a proposal for this item.

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.

January 2024 Meeting Action: Ms. Moore stated that the task group is still working on a proposal for this item.

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.

January 2024 Meeting Action: Ms. Moore informed the Committee that bot the subgroup and subcommittee voted unanimously to close the item with no action, as it was determined that the sentence is clear and does not require revision. A motion was made, seconded, and unanimously approved to close this item with no action.

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: T. 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.

January 2024 Meeting Action: Ms. Moore reported that a proposal is still being developed for this item.

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: T. 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.

January 2024 Meeting Action: Ms. Moore stated that work is being done on a proposal for this item.

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.

January 2024 Meeting Action: Ms. Moore stated that the subgroup and subcommittee voted unanimously to close this item, as any change to the scope would require action by the Board of Trustees. A motion was made, seconded, and unanimously approved to close this item with no action.

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.

January 2024 Meeting Action: Ms. Moore stated that the proposal for this item is still being developed.

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.

January 2024 Meeting Action: Ms. Moore shared that the task group is working on a proposal for this item.

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.

January 2024 Meeting Action: Ms. Moore stated that work is still being done on this item.

iii. New Items:

Item Number: A23-56	NBIC Location: Part 3, 1.3.2	No Attachment

General Description: Alternate Repair Inspectors

Subgroup: Repairs and Alterations

Task Group: A. Triplett (PM), P. Lentzer

Explanation of Need: The 2023 Edition revision to 1.3.2.a makes the use of alternate Inspectors applicable only to AIAs. The language should be revised to include OUIOs and FIAs that perform repairs/alterations on their own equipment, as allowed by 1.3.b.

January 2024 Meeting Action: Ms. Moore stated that the subgroup and subcommittee voted to close this item with no action because the subject of this inquiry is addressed in other National Board documents. A motion was made, seconded, and unanimously approved to close this item with no action.

Item Number: A23-59 **NBIC Location: Part 3, 4.2 a) and b)** **No Attachment**

General Description: NDE Personnel Certifications for Repairs and Alterations

Subgroup: Repairs and Alterations

Task Group: A. Triplett (PM), P. Lentzer

Explanation of Need: The 2023 Edition revision to 4.2.a, which revises language about codes to be used for NDE on repairs/alterations (i.e., to codes other than the original construction code), is not reflected in 4.2.b. This creates conflicting requirements between 4.2.a and 4.2.b; in a case where use of the construction code is practicable, but NDE personnel certification to another Code/standard is desirable, 4.2.a would allow this but 4.2.b would not.

January 2024 Meeting Action: Ms. Moore stated that the task group is still working on this item.

Item Number: A23-61 **NBIC Location: Part 3, S9.3** **No Attachment**

General Description: Revise NBIC R-2 Report and guide

Subgroup: Repairs and Alterations

Task Group: B. Schaefer (PM), T. LeBeau

Explanation of Need: Updates to the R-2 Report and the guide for completing R Report.

January 2024 Meeting Action: Ms. Moore stated that the task group is still working on this item.

Item Number: A23-68 **NBIC Location: Part 3, 3.4.4 c) and d)** **No Attachment**

General Description: Changes to Examples of Alterations

Subgroup: Repairs and Alterations

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

Explanation of Need: The current wording of 3.4.4.d (2023) is open ended and may result in allowing significant design changes to a pressure vessel under the guise of a repair when an alteration is a more appropriate classification. Rewording is required to limit the scope of potential design changes.

January 2024 Meeting Action: Ms. Moore informed the Committee that the task group is still working on this item.

Item Number: A23-69 **NBIC Location: Part 3, 9.1** **No Attachment**

General Description: Update definitions of Field, Shop, and add definition for Temporary Locations

Subgroup: Repairs and Alterations

Task Group: R. Miletti (PM), E. Cutlip, M. Toth, J. Walker

Explanation of Need: This is a definition change to align with the latest NB-415 revision adding definitions for "Shop", "Field Site", and "Temporary Location".

January 2024 Meeting Action: Ms. Moore announced that the proposal for this item would be sent to the other subcommittees as a ballot for approval.

Item Number: A23-76 **NBIC Location: Part 3, 3.3.4.6 a)** **No Attachment**

General Description: Revise paragraph 3.3.4.6 Patches for Clarity.

Subgroup: Repairs and Alterations

Task Group: None assigned.

Explanation of Need: Requirements do not include specific note to ensure sound metal meets minimum design thickness. Further the order of the rules is not logical, starts with finished weld, grinding and NDE, then addresses defect removal, preparation etc.

January 2024 Meeting Action: Ms. Moore stated that this item was closed by the subgroup and subcommittee because its scope is being combined with Item 23-41. A motion was made, seconded, and unanimously approved to close this item with no action.

Item Number: A23-77 **NBIC Location: Part 3, 4.2 a)** **No Attachment**

General Description: Performance of Original NDE During Repairs and Alterations

Subgroup: Repairs and Alterations

Task Group: A. Triplett (PM), S. Frazier, J. Walker, R. Collins, P. Becker

Explanation of Need: The existing language in Part 3, Section 4, Paragraph 4.2.a does not provide enough guidance or flexibility for Repair Organizations and owners to prescribe appropriate NDE for repairs/alterations to existing welds. Based on the limited, often non-specific documentation typically available to these entities during NBIC repairs and alterations, additional allowances and direction should be provided.

January 2024 Meeting Action: Ms. Moore stated that work is being done to develop a proposal for this item.

Item Number: A23-78	NBIC Location: Part 3, S8	No Attachment

General Description: Rev. NB-23 Part 3, Supplement 8 & Fig. S8.3-b

Subgroup: Repairs and Alterations

Task Group: P. Becker (PM)

Explanation of Need: Add 'Step 5' to FIGURE S8.3-b. (currently missing). Remove references to 'B9' and 'B87' weld filler metal including Notes A, B, and C in Table S8.2.1

January 2024 Meeting Action: Ms. Moore announced that the task group is working on a proposal for this item.

Item Number: A23-83	NBIC Location: Part 3, New Engineered Repairs and Alteration Supplement	No Attachment

General Description: Relocating Existing Repairs to new Eng. Repair & Alteration Supplement

Subgroup: Repairs and Alterations

Task Group: R. Underwood (PM)

Explanation of Need: In an effort to simplify the main body of Part 3, we are proposing to relocate some of the more complex repair methods to the new Engineered Repair & Alterations supplement. This item proposes to relocate three existing repair methods.

January 2024 Meeting Action: Ms. Moore stated that the task group is working on a proposal for this item.

Item Number: A23-86	NBIC Location: Part 3, S6.5 and S6.6	No Attachment

General Description: Revision to Part 3 DOT Supplement re-write (related to Interpretation I23-55)

Subgroup: Repairs and Alterations

Task Group: R. Underwood (PM)

Explanation of Need: There is a need to revise two sections of Item 20-67 (approved by Main Committee on 3/24/2023) to reflect DOT requirements and bring the sections in line with intent interpretation I23-55.

January 2024 Meeting Action: Ms. Moore announced that the task group is working on a proposal for this item.

Item Number: A24-01	NBIC Location: Part 3, 3.3.3 j)	No Attachment

General Description: Changes to Examples of Repairs

Subgroup: Repairs and Alterations

Task Group: M. Schaser (PM), R. Collins, C. Hopkins, K. Derrick, S. Lombardo

Explanation of Need: Revision to 3.3.3(j) is needed to establish a code-based nozzle-to-nozzle spacing requirement to cover nozzle installation for both ASME VIII-1 and ASME VIII-2 design requirements.

January 2024 Meeting Action: Ms. Moore announced that the task group is working on a proposal for this item.

Item Number: A24-02	NBIC Location: Part 3, S6.18 and S6.18.3	Attachment Page 56

General Description: Correction of duplicated words from A2067 and A23-25

Subgroup: Repairs and Alterations

Task Group: P. Gilston (PM)

Explanation of Need: This proposal is to DELETE the last sentence from DOT Supplement paragraph S6.18 (as approved to be in the 2025 Edition via A23-25) as the new paragraph "S6.18.3" created by the approved item A20-67 already will address this requirement in the 2025 Edition.

January 2024 Meeting Action: Mr. Gilston presented a proposal for this item. A motion was made, seconded, and unanimously approved to accept the proposal as presented.

b. Subcommittee Pressure Relief Devices

i. Interpretations

There are currently no open interpretations for Part 4.

ii. Action Items – Old Business

Item Number: NB15-0305	NBIC Location: Part 4	No Attachment

General Description: Create Guidelines to address Overpressure Protection by System Design.

Task Group: B. Nutter, A. Renaldo, D. Marek (PM), D. DeMichael, J. Wolf, D. Schirmer

January 2024 Meeting Action: Mr. Renaldo reported that work is still being done on this item.

Item Number: NB15-0307	NBIC Location: Part 4	No Attachment

General Description: Create Guidelines for Repair of Pin Devices.

Task Group: D. McHugh (PM), A. Renaldo, T. Tarbay, J. Simms, C. Beair, C. Chernisky

January 2024 Meeting Action: Mr. Renaldo stated that a proposal will be balloted to the subgroup and subcommittee prior to the July 2024 meeting.

Item Number: NB15-0315	NBIC Location: Part 4, 2.5.6 and 2.6.6 and Part 1, 4.5.6 and 5.3.6	No Attachment

General Description: Review isolation Valve Requirements, and reword to allow installation of pressure relief devices in upstream piping.

Task Group: D. DeMichael (PM), B. Nutter, A. Renaldo, D. Marek

January 2024 Meeting Action: Mr. Renaldo stated that a proposal is still in development for this item.

Item Number: 19-83	NBIC Location: Part 4, 4.7.5	No Attachment

General Description: Address Alternate Pressure Relief Valve Mounting Permitted by ASME CC2887-1

Task Group: D. Marek (PM), T. Patel, J. Ball

Explanation of Need: ASME Code Case 2887-1 permits the installation of pressure relief valves below a low mass water tube boiler or water heater under certain conditions. This set of conditions and alternate location should be addressed in the NBIC as the use of low mass water tube boilers and water heaters becomes more widespread.

January 2024 Meeting Action: Mr. Renaldo stated that a proposal will be balloted to the subgroup and subcommittee prior to the July 2024 meeting.

Item Number: 21-08	NBIC Location: Part 4, S4.4	No Attachment

General Description: Additional guidance for tank vent repairs

Subgroup: PRD

Task Group: D. DeMichael (PM), B. Donalson, B. Nutter, K. Beise, J. Grace

Explanation of Need: The recently approved S4.4, "Weight Loaded Vents," provided new guidance for tank vent repairs. Several additional topics need to be addressed to enhance the guidance. These topics include: 1) Suggested test equipment and configuration for the prescribed tank vent testing. 2) Minimum requirements for replacement parts, 3) Guidance for painting tank vent components.

January 2024 Meeting Action: Mr. Renaldo stated that the task group is still working on the proposal for this item.

Item Number: 21-62	NBIC Location: Part 4, 4.8.5.4 i) 3)	No Attachment

General Description: Verification of existing spring during repair activities

Task Group: A. Donaldson (PM), B. Nutter, E. Creaser, P. Dhobi, T. Patel, J. Simms, J. Grace, D. Gonzales, T. Cardy

Explanation of Need: This requirement has created an administrative requirement that potentially prevents a VR Stamp holder from applying the "VR" stamp to valves they have repaired. The requirement is negatively impacting owners, and jurisdictions that enforce the NBIC Part 4. This clause introduces a unique requirement in the BPV industry to confirm that code material in a Code stamped item be verified and traceable at all time after the item is ASME code stamped but the verification can only be provided by the manufacturer. Historically, any valve received or worked on that was sealed by a VR Stamp holder or in the case of an initial repair the ASME assembler was deemed to be Code compliant, and no further verification was needed recognizing the validity and continuity of the ASME and VR quality programs. It is clearly understood that if a spring, or any other critical part is deemed necessary to be replaced during a repair the manufactures verification is required and justifiable.

January 2024 Meeting Action: Mr. Renaldo reported that a proposal will be balloted to the subgroup and subcommittee prior to the July 2024 meeting.

Item Number: 22-08	NBIC Location: Part 4, 2.4.1.6 & 2.4.4.2; Part 1, 3.9.1.6 & 3.9.4.2	No Attachment

General Description: Review and improve guidance for T&P valve installation relating to probe.

Subgroup: PRD

Task Group: D. Marek (PM), J. Ball, J. Wolfe, T. Clark

Explanation of Need: Existing text refers to location of valve connection and does not give guidance that the temperature probe needs to be located in the hottest water in the tank for the valve to actuate at the specified temperature.

January 2024 Meeting Action: Mr. Renaldo informed the Main Committee that the task group is still working on the proposal for this item.

Item Number: 22-09	NBIC Location: Part 4, 4.6.1	No Attachment

General Description: Add language to NBIC Part for valves manufactured to Code Case 2787

Subgroup: PRD

Task Group: A. Donaldson (PM), R. Donalson, B. Nutter, T. Tarbay, J. Simms

Explanation of Need: There are no requirements to address valve repairs that were manufactured or assembled to Code Case 2787 (use of more than one certified capacity on the pressure relief valve or the nameplate).

January 2024 Meeting Action: Mr. Renaldo said that the task group is still working on the proposal for this item.

Item Number: 22-16	NBIC Location: Part 4, 2.4.4 and Part 1, 3.9.4	No Attachment

General Description: Allow the use of pressure relief valves on potable water heaters.

Subgroup: PRD

Task Group: D. Sullivan (PM), J. Ball, T. Clark

Explanation of Need: ASME Section IV, Part HLW-800.1 allows the use of pressure relief valves in place of temperature and pressure relief valves on potable water heaters. NBIC Parts 1 and 4 specifically require temperature and pressure relief valves, which is not consistent with the code of construction. Some manufacturers are shipping HLW stamped potable water heaters with pressure relief valves. Often the physical construction of these units is such that a temperature and pressure relief valve cannot be accommodated.

January 2024 Meeting Action: Mr. Renaldo reported that the proposal for this item is ready to be balloted to the Main Committee.

Item Number: 22-20	NBIC Location: Part 4, 4.7.4	No Attachment

General Description: Inspection and testing of PRV's located above isolation valves.

Subgroup: PRD

Task Group: D. Marek (PM), K. Beise, J. Ball, E. Creaser, H. Cornett, A. Renaldo

Explanation of Need: Add requirement to make sure the internals of a PRV inlet and outlet are inspected when it is tested, and require tests to be done with a pressure vessel with volume.

January 2024 Meeting Action: Mr. Renaldo stated that the task group is still developing a proposal for this item.

Item Number: 23-18	NBIC Location: Part 4, 4.2.2	Attachment Page 58

General Description: Revision and clarification of Part 4, 4.2.2 for use of ASME Code Cases

Subgroup: PRD

Task Group: A. Donaldson (PM)

Explanation of Need: 4.2.2 requires revision to clarify how ASME Code Cases are applied in the repair and conversion of pressure relief devices. Revision is also necessary to remove the requirement that the NBIC Main Committee adopt individual ASME Code Cases before they may be used in Jurisdictions that have adopted them. The current wording does not allow conversion of a device to no-longer comply with an ASME Code Case.

January 2024 Meeting Action: Mr. Renaldo presented the proposal for this item. A motion was made, seconded, and unanimously approved to accept the proposal as presented.

Item Number: 23-31	NBIC Location: Part 4, 3.2.5 d) 5) and Part 2, 2.5.7 d) 5)	Attachment Page 59

General Description: Testing of liquid service valves to be water or other suitable liquid

Subgroup: PRD

Task Group: P. Dhobi (PM), K. Beise, T. Tarbay, T. Patel, H. Cornett, D. Marek

Explanation of Need: The intent is that liquid service valves be tested on liquid. The term fluid can mean either liquid or vapor.

January 2024 Meeting Action: Mr. Renaldo presented a proposal for this item. A motion was made, seconded, and unanimously approved to accept the proposal as presented.

Item Number: 23-32	NBIC Location: Part 4, 3.3 and Supp. 6	No Attachment

General Description: Rules for T/O activities related to Nuclear Class Valves

Subgroup: PRD

Task Group: E. Creaser (PM), P. Dhobi, D. McHugh, J. Simms

Explanation of Need: Nuclear facilities that perform repair and T/O activities would by allowing them to use T/O for nuclear class valves that were serviced but not in need of repair but need to be set and sealed again.

July 2023 Meeting Action: Mr. Renaldo announced that the task group is still working on a proposal for this item.

iii. New Items:
None.

c. Subcommittee Installation

i. Interpretations
There are currently no open interpretation items for Part 1.

ii. Action Items – Old Business

Item Number: 20-62	NBIC Location: Part 1, 1.4.5.1	No Attachment

General Description: Update the National Board Boiler Installation Report

Subgroup: SG Installation

Task Group: T. Clark (PM), E. Wiggins, R. Spiker, T. Creacy, P. Jennings, G. Tompkins, and D. Patten.

January 2024 Meeting Action: Mr. Patten stated that the proposal for this item is ready to be balloted to the Main Committee.

Item Number: 20-86	NBIC Location: Part 1, 2.10.1 a)	No Attachment

General Description: Testing and Acceptance: Boiling-out Procedure

Subgroup: SG Installation

Task Group: E. Wiggins (PM), D. Patten, S. Konopacki, and R. Spiker.

January 2024 Meeting Action: Mr. Patten stated that the task group is still working on a proposal for this item.

Item Number: 22-28	NBIC Location: Part 1, 9.1	No Attachment

General Description: Pool Heater definition and requirements

Subgroup: SG Installation

Task Group: J. Kleiss (PM), R. Spiker, T. Creacy, and M. Byrum

Explanation of Need: The NBIC Installation and Inspection Codes do not have a definition for pool heaters. There is potential for confusion regarding which NBIC requirements, if any, should apply to pool heaters.

January 2024 Meeting Action: Mr. Patten stated that the task group is still working on a proposal for this item.

Item Number: 22-32	NBIC Location: Part 1, 3.8.1.4 b)	No Attachment

General Description: High pressure limit control requirements for fired jacketed steam kettles

Subgroup: SG Installation

Task Group: R. Adams (PM), D. Patten, T. Clark, and T. Creacy

Explanation of Need: As a safeguard to over pressurizing the fired jacketed steam kettle, the pressure range of the actuated high pressure limit control should not exceed the MAWP of the vessel.

January 2024 Meeting Action: Mr. Patten announce that a proposal for this item is in development.

Item Number: 23-52	NBIC Location: Part 1, 2.5.3.2 and 3.5.3	No Attachment

General Description: Harmonize electrical requirements for all types of boilers/water heaters

Subgroup: SG Installation

Task Group: T. Clark (PM), S. Konopacki, J. Kleiss, R. Spiker, and John Choitz

Explanation of Need: Electrical requirements for power boilers, heating boilers, and water heaters are inconsistent, particularly regarding remote emergency shutdown switches. In some cases the requirements are the same, but worded or ordered differently. In order to promote better understanding of code requirements and consistency in their application, I propose making sections 2.5.3 and 3.5.5 as uniform as possible.

January 2024 Meeting Action: Mr. Patten stated that the task group is working on a proposal for this item.

iii. Action Items – New Business

Item Number: 23-67	NBIC Location: Part 1, 4.2.2	No Attachment

General Description: Pressure Gage Scale Requirements

Subgroup: SG Installation

Task Group: M. Byrum (PM), R. Spiker, Jon Choitz

Explanation of Need: Update pressure gage requirements to reflect industry practice and common ranges. Also, to allow for the use of gage overpressure protectors, which the current wording does not. For systems with an MAWP that greatly exceeds normal operating pressure, it is sometimes necessary to use a gage with a lower scale so that the gauge reads in the middle third of its scale during normal operation. In such a situation, a gage overpressure protector is installed upstream of the gage.

January 2024 Meeting Action: Mr. Patten announced that the subgroup and subcommittee both voted to close this item with no action because they felt the existing verbiage in the section was sufficient. A motion was made and seconded to close this item with no action. After spending time discussing the item, the Main Committee recommended that the subgroup discuss this item further. The motion to close the item with no action was withdrawn.

Item Number: 24-05	NBIC Location: Part 1, New Supplement	No Attachment

General Description: Add heat pump water heater & heat pump hydronic heater requirements

Subgroup: SG Installation

Task Group: J. Kleiss (PM), B. Ahee

Explanation of Need: Heat pump water heating and hydronic heating are growing in prevalence. Guidance for installation and inspection of these products is needed.

January 2024 Meeting Action: Mr. Patten announced that a task group has been assigned to begin working on this item.

d. Subcommittee Inspection

i. Interpretations

Item Number: 22-40	**NBIC Location: Part 2, 4.4.7.2**	**Attachment Page 64**
General Description: Allowable stresses for t(required) calculation **Subgroup:** Inspection **Task Group**: T. Clark (PM), B. Ray, B. Wilson, J. Petersen, J. Roberts, J. Sowinski **Submitted by**: Tom Chen **Explanation of Need:** For the purpose of setting up inspection plans, especially with older equipment, we are calculating t(required) per Part 2, para 4.4.7.2. However, we would like to know if it is permissible to use the higher allowable stresses in later editions of ASME BPV Code.		
January 2024 Meeting Action: Mr. Getter presented the proposal for this item. A motion was made, seconded, and unanimously approved to accept the proposal as presented.		

Item Number: 23-70	**NBIC Location: Part 2, 2.3.6.11**	**No Attachment**
General Description: Inspection of vessels at and above 10,000 PSI (c) & (d) "requalification" **Subgroup:** Inspection **Task Group:** None assigned. **Submitted by:** C. Bierl **Explanation of Need:** Isostatic Pressure Vessel manufacturers are currently "requalifying" pressure vessels through an engineering evaluation without the involvement of the NB Alteration process and therefore an Inspector. This leaves control of this process of a code vessel in the hands of the manufacturer and impairs the code integrity of the vessel.		
January 2024 Meeting Action: Mr. Getter presented the proposal for this item. After discussing the proposal, it was determined that additional work needed to be done on the wording of the committee question and reply.		

Item Number: 23-80	**NBIC Location: Part 2, S2.6.1 a)**	**Attachment Page 66**
General Description: The Held Pressure for Hydro-static Testing of Heritage Boilers. **Subgroup:** SG Historical **Task Group:** None assigned. **Explanation of Need:** There has been issues in our Jurisdiction of inspectors interpreting that the boiler shall hold hydro static pressure for 10 minutes without the aid of a pump to maintain pressure. Therefore, any weep in valve packing, hand holes, gauge glass gaskets, etc. would be cause for failure of the hydro test.		
January 2024 Action: Mr. Getter presented the proposal for this item. Discussion was held on the wording of the question and response. After adjusting the proposal, a motion was made and seconded to approve the amended proposal. This motion passed unanimously.		

Item Number: 24-04	NBIC Location: Part 2, 4.4.7.2 h) and i)	No Attachment

General Description: Thickness for determining corrosion rates for circumferential stress

Subgroup: Inspection
Task Group: B. Ray, J. Getter

Explanation of Need: It is unclear if the statement made in the NBIC Part 2, 4.4.7.2 i) also applies to 4.4.7.2 h). The statement reads, "The thicknesses used for determining corrosion rates at the respective locations shall be the most critical value of average thickness." Mr. Dominguez believes the statement applies to both paragraphs.

January 2024 Action:
Mr. Getter presented the proposal for this item. After spending some time discussing the item, the Committee requested that the item be put on hold until an action item to revise Part 2, 4.4.7.2 h) has been submitted.

ii. Action Items – Old Business

TG FRP Items:

Item Number: NB16-1402	NBIC Location: Part 2, New Supplement	No Attachment

General Description: Life extension for high pressure FRP vessels above 20 years

Subgroup: FRP
Task Group: M. Gorman (PM)

Background:
In 2016, when this item was first opened, it was assigned as an item for Part 3. Recent discussions with SC R&A and the FRP Task Group have revealed that this item is better suited for Part 2. This item has been approved by the FRP Task Group.

Scope: The goal of this proposal is to provide a method to evaluate whether the service life of high-pressure fiber reinforced plastic pressure vessels can be extended for an additional lifetime.

January 2024 Meeting Action: Mr. Getter announced that the FRP Task Group is close to having a proposal ready for this item.

TG Historical Items:

Item Number: 23-74	NBIC Location: Part 2, S2	No Attachment

General Description: Certificate of compliance for new fusible plugs

Subgroup: SG Historical
Task Group: None assigned.

Explanation of Need: To discuss the possibility of requiring a certificate of compliance on all new fusible plugs on historical boilers.

January 2024 Action: Mr. Getter stated that this item will be on hold while the Board of Trustees reviews the subject to see if the committee should address this further.

Item Number: 23-85	NBIC Location: Part 2, S2.14.7	No Attachment
General Description: Review paragraphs to replace with proper verbiage **Subgroup:** SG Historical **Task Group:** M. Wahl (PM), K. Anderson **Explanation of Need:** There is some slang and second person (POV) verbiage throughout these paragraphs. Recommend rewording with proper terminology (such that it could be understood internationally) and changing point of view (e.g., changing "you're pulling water" to "water is being pulled"). Since I don't have the technical knowledge to know what is slang and what isn't, what I have proposed will still need to be reworded.		
January 2024 Action: Mr. Getter announced that a task group was assigned to begin working on this item.		

TG Locomotive Items:
There are currently no Locomotive items open for Part 2.

SG Inspection Items:

Item Number: 21-25	NBIC Location: Part 2	No Attachment
General Description: Autoclave/Quick opening device PP (submitted by Kevin Hawes) **Subgroup:** Inspection **Task Group:** V. Scarcella (PM), T. Bolden, M. Horbaczewski, J. Peterson, J. Clark, W. Hackworth, M.A. Shah, C. Becker, J. Morgan **Explanation of Need:** Upon our AIA (Intact) QRR I produced a Power point presentation on Autoclave inspections. Your NB team leader Gary Scribner suggested I forward this inspection presentation to the NB for review of content as mention of good reference material for next NBIC edition. I have attached a copy of this PP for your considerations.		
January 2024 Meeting Action: Mr. Getter stated that the proposal for this item will be sent to the Main Committee as a letter ballot.		

Item Number: 21-47	NBIC Location: Part 2, 2.2.4 & 2.2.5	No Attachment
General Description: To provide better guidance as it relates to carbon monoxide **Subgroup:** Inspection **Task Group:** W. Hackworth (PM), J. Smith, D. Buechel, T. Barker, T. Bolden, M. Sansone, H. Henry, J. Castle, J. Morgan, J. Clark **Explanation of Need:** Need to provide more comprehensive items to be reviewed to guide the inspector on carbon monoxide and combustion air. **January 2024 Meeting Action**: Mr. Getter announced that this item is ready to be balloted to the Main Committee.		

Item Number: 22-06	NBIC Location: Part 2, 3.4.9 e)	No Attachment

General Description: Part 2 task group to review Part 3 Item 21-53

Subgroup: Inspection
Task Group: M. Horbaczewski (PM), J. Clark, B. Wilson, J. Mangas, P. Polick, H. Henry, P. Gilston, B. Ray, and T. Bolden
Submitted by: D. Graf

Explanation of Need: Part 2 task group to investigate further changes to Part 2/Part 3 that could be needed because of action item 21-53.

January 2024 Meeting Action: Mr. Getter stated that the task group is still working on the proposal for this item.

Item Number: 22-22	NBIC Location: Part 2, 4.2	No Attachment

General Description: Changes and additions to align with part III with in service inspections

Subgroup: Inspection
Task Group: T. Bolden (PM), J. Clark, J. Petersen, M. Sansone, B. Ray, D. Graf, and J. Mangas
Submitted By: V. Scarcella

Background Information: Several areas where part III after repair in service inspections should be aligned with part II.

January 2024 Meeting Action: Mr. Getter shared that the proposal for this item is ready to be balloted to Main Committee.

Item Number: 22-26	NBIC Location: Part 2, 2.3.6.8	No Attachment

General Description: Addition of cast acrylic as a pressure vessel material

Subgroup: Inspection
Task Group: J. Calvert (PM), V. Newton, D. Buechel, D. Rose
Submitted by: J. Calvert

Explanation of Need: Provide inspectors with the criteria necessary to competently inspect vessels like acrylic chromatography columns.

January 2024 Meeting Action: Mr. Getter stated that the task group is still working on a proposal for this item.

Item Number: 22-39	NBIC Location: Part 2, 4.4.8.7 g)	No Attachment

General Description: Recommended clarification of requirements for Evaluating Local Thin Areas

Subgroup: Inspection
Task Group: V. Newton (PM), T. Barker, J. Morgan, B. Wilson
Submitted by: L. Ponce

Explanation of Need: The existing text may lead to confusion due to a misplaced comma after 'specified' in the first sentence and no reference to what is being specified in the paragraph. The proposed text is a way to tie in the specified requirement in paragraph (f).

January 2024 Meeting Action: Mr. Getter stated that the task group is still working on a proposal for this item.

Item Number: 23-08	NBIC Location: Part 2	No Attachment

General Description: Part 2 task group to review Part 3 Item 21-67

Subgroup: Inspection
Task Group: M. Horbaczewski (PM), J. Clark, B. Wilson, J. Mangas, P. Polick, H. Henry, P. Gilston, B. Ray, T. Bolden, T. LeBeau, and A. Triplett
Submitted by: D. Graf

Explanation of Need: Part 2 task group to investigate further changes to Part 2/Part 3 that could be needed because of action item 21-67.

January 2024 Meeting Action: Mr. Getter announced that work is ongoing for this item.

Item Number: 23-17	NBIC Location: Part 2, 2.3.6.4 and 4.4.8.7	No Attachment

General Description: Steel-loss acceptance criteria for pressure-retaining items

Subgroup: Inspection
Task Group: D. Graf (PM), B. Ray, J. Roberts, T. Vandini, C. Becker, J. Sowinski, and J. Hadley
Submitted by: J. Hadley

Explanation of Need: (1) Resolve inconsistencies between the 2021 NBIC's air, ammonia, LPG, and general acceptance criteria.

(2) Provide screening criteria that, if met, would ensure that a pressure-retaining item also meets the conservative criteria in API 579-1/ASME FFS-1, Fitness-For-Service, 2021 edition, "ASME FFS-1", Part 3 Level 1 (brittle fracture) and either Part 4 Level 2 or Part 5 Level 1 (wall thinning). If not met, an owner/user could fall back on more complex, less conservative, ASME FFS-1 assessments.

(3) Describe steel-loss screening criteria in one location within NBIC, and reference this location when needed, to facilitate future revisions.

(4) Coordinate NBIC with ASME FFS-1. They have been referencing each other for some years, so coordinating them seems worthwhile.

January 2024 Meeting Action: Mr. Getter stated that the task group is still working on a proposal for this item.

Item Number: 23-26	NBIC Location: Part 2	No Attachment

General Description: Adding verbiage in Part 2 to mention a time limit on tube plugs in vessels

Subgroup: Inspection
Task Group: M. Horbaczewski (PM), J. Clark, B. Wilson, J. Mangas, P. Polick, H. Henry, P. Gilston, B. Ray, T. Bolden, T. LeBeau, and A. Triplett
Submitted by: K. Moore

Explanation of Need: Part 3 is currently revamping 3.3.4.9. We feel like there should be a statement in the NBIC that the Chief or the in-service Inspector can address the operational issues and concerns of plugged tubes.

July 2023 Meeting Action: Mr. Getter stated that the task group is still working on a proposal for this item.

January 2024 Meeting Action: Mr. Getter made a motion to close this item with no action because the R&A committees voted to close their version of this item. Mr. Getter's motion was seconded and unanimously approved.

Item Number: 23-27	NBIC Location: Part 2, 1.5.1	No Attachment

General Description: Addition of requirement for Inspector to be present for inspections.

Subgroup: Inspection
Task Group: V. Newton (PM), V. Scarcella, T. Bolden, J. Morgan, J. Smith, T. Barker, C. Becker, C. Hartford
Submitted by: D. Kinney

Explanation of Need: While it has always been standard industry practice for inspections to be performed in-person, and there are requirements for remote inspection, currently there is no language in Part 2 or RCI-1 requiring the Inspector to be present at the location of installation while performing an inspection. This requirement is implied, but not stated.

January 2024 Meeting Action: Mr. Getter stated that the task group is still working on a proposal for this item.

Item Number: 23-28	NBIC Location: Part 2, 5.3.3	Attachment Page 67

General Description: Revision to NB-136

Subgroup: Inspection
Task Group: J. Clark (PM), D. Graf, J. Petersen, J. Smith
Submitted by: D. Kinney

Explanation of Need: For Line #3, "R" should be added, and should match Line #13.
For Line #13, when filling out the form, there is confusion between Owner or User, and Owner-User. These are two different terms defined in the NBIC. I believe the intention is to use "Owner or User" and not "Owner-User, and this should be clarified on the form.

January 2024 Meeting Action: Mr. Getter presented a proposal for this item. A motion was made, seconded, and unanimously approved to accept the proposal as presented.

Item Number: 23-37	NBIC Location: Part 2, 1.4	Attachment Page 71
General Description: Add comment to further define responsibility of the owner user **Subgroup:** Inspection **Task Group:** V. Scarcella (PM), J. Smith, J. Mangas, T. Barker **Submitted by:** V. Scarcella **Explanation of Need:** Specifically, if the inspector is going to a location where for instance H2S of some harmful pathogen is being handled, those locations have and should provide safety training and equipment needed to complete the inspection. For internals this is already touched on in 1.5.3. "Requirements of occupational safety and health regulations (i.e., federal, state, local, or other), as well as the owner-user's own program and the safety program of the Inspector's employer are applicable."		
January 2024 Meeting Action: Mr. Getter presented a proposal for this item. During discussion, some minor wording revisions were made. A motion was made, seconded, and unanimously approved to accept the amended proposal.		

iii. New Items:

Item Number: 23-81	NBIC Location: Part 2, 4.4.3 b)	No Attachment
General Description: Evaluate Inspector responsibilities relating to 4.4.3 FFS **Subgroup:** Inspection **Task Group:** M. Horbaczewski (PM), J. Clark, & B. Ray **Submitted by:** R. Underwood **Explanation of Need:** Currently, 4.4.3-b states the Inspector shall review the condition assessment methodology and ensure the inspection data and documentation are in accordance with Section 4. This proposal would redefine the role and responsibility of the Inspector.		
January 2024 Meeting Action: Mr. Getter announced that a task group has been formed to work on this item.		

Item Number: 23-84	NBIC Location: Part 2, 2.3.6.4 c) 3), 2.3.6.7 b) 5), and S10.10.6	Attachment Page 72
General Description: Wording Updates for Clarity **Subgroup:** Inspection **Task Group:** B. Ray (PM), L. Burton, C. Becker, J. Castle, W. Griffith, and D. Rose. **Submitted by:** J. Metzmaier **Explanation of Need:** "good repair" is typically an understood term, but with the NBIC being read internationally, we were wondering if that phrase could be understood in the same way on a global scale. Or if a better phrase could be chosen.		
January 2024 Meeting Action: Mr. Getter presented the proposal for this item. A motion was made and seconded to approve the proposal as presented. Some discussion was held regarding wording in the proposal, such as the use of "roadworthiness"; it was determined that the Department of Transportation uses the term, and would therefore be appropriate to use in this proposal. After discussion concluded, a vote was held, and the motion was unanimously approved.		

Item Number: 24-03	NBIC Location: Part 2, S6	No Attachment
General Description: Wording Updates for Clarity **Subgroup:** Inspection **Task Group:** B. Wilson (PM), R. Kennedy, and J. Smith **Submitted by:** L. Ponce **Explanation of Need:** Part 2 Supplement 6 should be revised to align with Part 3, Suppl 6 and the DOT. A few references are S6.4.2 a), S6.4.2 c), S6.4.4, S6.4.5, S6.4.6, and S6.4.6.1. However, this may not be an all-inclusive list.		
January 2024 Meeting Action: Mr. Getter stated that a task group was formed to begin working on the item.		

12. Liaison Activities

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

a. Mr. Gary Scribner provided a brief update regarding recent ASME activities. A report of ASME activities from the November Code Week can be found on Attachment Page 74.

ii. American Welding Society (AWS)

a. Mr. Jim Sekely shared updated from AWS, which can be found on Attachment Page 105.

13. Future Meetings

i. July 15-18, 2024 – The Brown Hotel in Louisville, KY

ii. January 2025 – TBD

14. Adjournment

Mr. Galanes adjourned the meeting at 1:25pm Central Time.

Respectfully submitted,

Jonathan Ellis

Jonathan Ellis
NBIC Secretary

THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

NATIONAL BOARD INSPECTION CODE COMMITTEE

ATTACHMENTS

January 2024 Main Committee Meeting Attendance - Members

First Name	Last Name	Email	Company Name	In-Person	Remote	Did Not Attend
Tim	Barker	timothy.barker@fmglobal.com	Factory Mutual Insurance Company			x
Kim	Beise	kbeise@dowcovalve.com	Dowco Valve Company Inc	x		
Jonathan	Ellis	jellis@nbbi.org	NBBI	x		
George	Galanes	ggalanes@diamondtechnicalservices.com	DTS Inc.	x		
Jim	Getter	jim.getter@wthg.com	Worthington Enterprises	x		
Craig	Hopkins	chopkins@seattleboiler.com	Seattle Boiler Works, Inc.	x		
Don	Kinney	don.kinney@labor.nc.gov	North Carolina Boiler Safety Bureau	x		
Kathy	Moore	kathymoore@joemoorecompany.com	Joe Moore & Company	x		
Brian	Morelock	morelock@eastman.com	Eastman Chemical Company - Retiree			x
Venus	Newton	venus.newton@bpcllcga.com	AXA XL/BPC			x
Thakor	Patel	thakorpatel1@gmail.com	Consultant		x	
Donald	Patten	dpatten@baycityboiler.com	Bay City Boiler Co., Inc.	x		
Pat	Polick	patrick.polick@illinois.gov	State of Illinois	x		
Brent	Ray	bdray@marathonpetroleum.com	Marathon Petroleum Corporation	x		
Adam	Renaldo	ADAM.RENALDO@LINDE.COM	Linde	x		
H. Michael	Richards	hmichaelrichards.pe@gmail.com	Southern		x	
Matthew	Sansone	matthew.sansone@labor.ny.gov	State of New York	x		
Ben	Schaefer	bschaefer@aep.com	AEP	x		
Trevor	Seime	tsseime@nd.gov	State of North Dakota	x		
Jim	Sekely				x	
Tim	Simmons	tsimmons@boilermakers.org	International Brotherhood of Boilermakers	x		
Marty	Toth	mtoth@boiscotrainninggroup.com	ECS Consulting, LLC	x		
Robert	Underwood	robert_underwood@hsb.com	Hartford Steam Boiler		x	
Melissa	Wadkinson	melissa.wadkinson@fulton.com	Fulton	x		
Eddie	Wiggins	eddie.wiggins@labor.alabama.gov	Alabama Department of Labor / Boiler Elevator Division		x	

January 2024 Main Committee Meeting Attendance - Visitors

First Name	Last Name	Email	Company Name	In-Person	Remote
Aaron	Viet	aaronv@cgthermal.com	CG Thermal LLC		x
Adam	Henson	adam.henson@csb.gov	U.S. Chemical Safety Board	x	
Adrian	Gibbs	adgibbs@milwaukee.gov	City of Milwaukee		
Alex	Cheng	kinwai.cheng@dot.gov	US Dept of Transportation - PHMSA	x	
Andrew	Triplett	triplettal@ornl.gov	UT-Battelle, LLC		x
Aziz	Khssassi	aziz.khssassi@rbq.gouv.qc.ca	Régie du Bâtiment du Québec	x	
Benjamin	Calderon	benjamin.calderon@libertymutual.com	Liberty Mutual Insurance	x	
Bob	Viers	rviers@nationalboard.org	National Board - Testing Laboratory	x	
Bob	Derby	rderby@uanet.org	United Association Education and Training Department	x	
Brian	Boseo	bmboseo@burnsmcd.com	Burns & McDonnell Construction	x	
Bryan	Ahee	bahee@bradfordwhite.com	Bradford White Corporation		x
Christopher	Derks	christopher.derks@wisconsin.gov	State of Wisconsin		x
Chuck	Becker	hggbecker@yahoo.com	EWO Engineering Consulting	x	
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Daniel	Marek	daniel.t.marek@nasa.gov	Mainthia Technologies Inc		x
Darris	Mosley	darris_mosley@oxy.com	Occidental Petroleum		x
Dave	Sullivan	david.sullivan@arkansas.gov	State of Arkansas	x	
David	Brockerville	davidbrockerville@gov.nl.ca	Province of Newfoundland and Labrador		x
David	McHugh	dpmbstrg@outlook.com	General Interest	x	
Del	Schirmer	del.schirmer@BoilerProperty.com	BPC / XL Insurance	x	
Don	Ehler	Donald.Ehler@novascotia.ca	Province of Nova Scotia		x
Eben	Creaser	eben.creaser@gmail.com	NB Justice and Public Safety	x	
Gary	Scribner	gscribner@nationalboard.org	NBBI	x	
Greg	Goossens	ggoossens@nbbi.org	NBBI	x	
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Jodi	Metzmaier	jmetzmaier@nbbi.org	National Board	x	
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John	Siefert	jsiefert@epri.com	Electric Power Research Institute	x	
Johnathon	Bates	bateslocal26@yahoo.com	Boilermakers	x	
Joseph	Beauregard	jbeauregard@lanl.gov	Los Alamos National Laboratory	x	
Joseph	Morgan	jemorgan1@dow.com	Dow		x
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Kiwi	Derrick	kiwi.derrick@chevron.com	Chevron	x	
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Luis	Ponce	lponce@nationalboard.org	National Board of Boiler and Pressure Vessel Inspectors	x	
M. A.	SHAH	boilersandpressurevessels9@gmail.com	AIS		x
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Matt	Schaser	mschaser@e2g.com	The Equity Engineering Group, Inc.	x	
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Paul	Shanks	paul.shanks@onecis.com	BVI&I		x
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Riley	Collins	rileycollins@eastman.com	Eastman Chemical Company	x	
Rob	Troutt	Rob.troutt@tdlr.Texas.gov	TDLR	x	
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Terence	Paige	terence.paige1@ge.com	General Electric		
Terrence	Hellman	thellman@nationalboard.org	National Board	x	
Tim	LeBeau	tclebeau@southernco.com	Southern Company Services		x
Timothy	McBee	Timothy.McBee@tuvsud.com	ARISE	x	
Tom	Cardy	thomas.cardy@setpointis.com	Setpoint Integrated Solutions	x	
Tom	Clark	thomas.g.clark@dcbs.oregon.gov	State of Oregon, Building Codes Division	x	
Tom	Vandini	tvandini@propanetank.com	Quality Steel Corporation	x	
Wendy	White	wwhite@nbbi.org	NBBI	x	

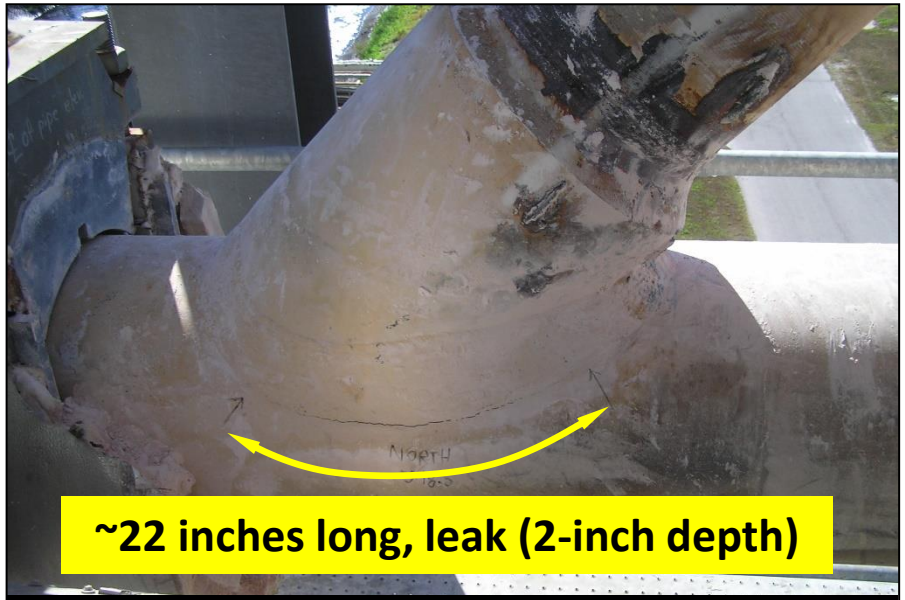
Continuing and emerging risks in high temperature formed tee intersections

John A. Siefert, Ph.D., Area Lead, Materials
Tom Sambor, PE, Team Lead, Power Plant Piping Program

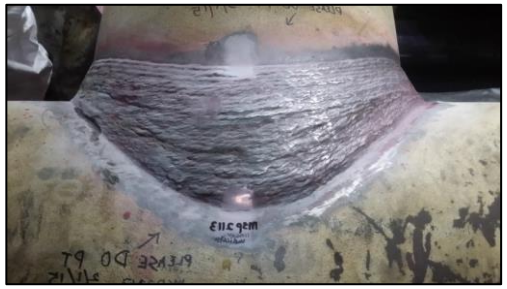
NBIC January 2024 Main Committee Meeting
January 11, 2024

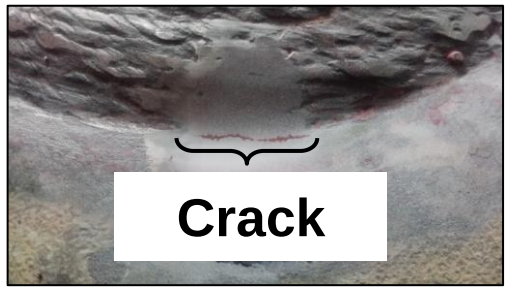
Industry Alerts

No shortage of issues in welded branch connections



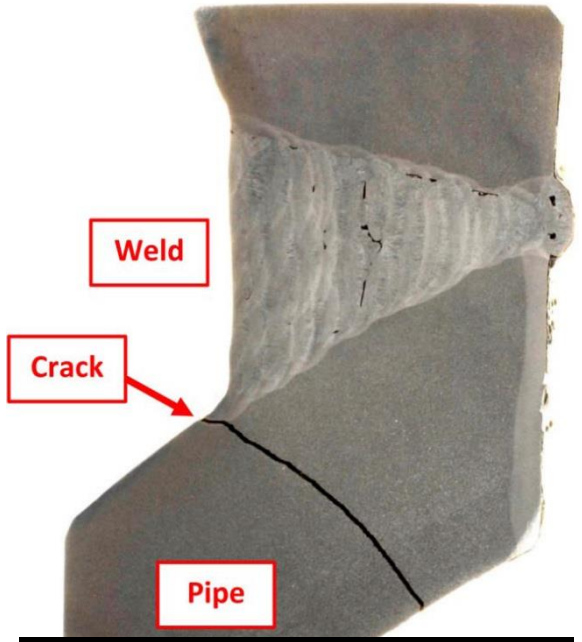
Main steam 45° lateral, five affected components, 35,000h





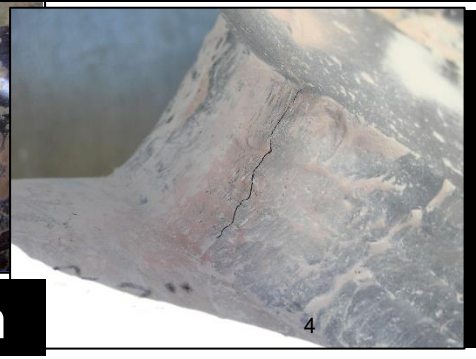
MS equalizing line, six affected components, 85,000h

HRH 45° lateral cracking in 50,000h

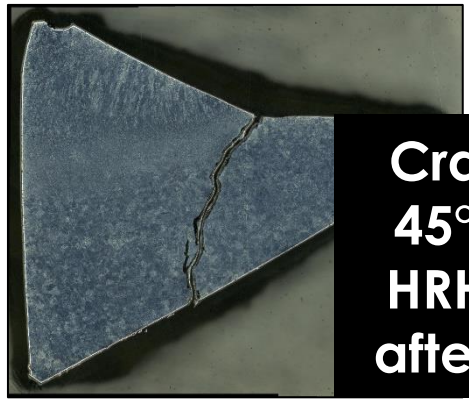


Main steam outlet leak after 45,000h

HRH 90° fitting, cracking in 18,000h



Main steam crotch cracking in 35,000h



Cracking in 45° MS and HRH laterals after 79,000h

EPRI industry alert (Feb. 2023)

- Any ‘modern’ plant constructed with a grade 22, grade 91 or grade 92 piping system. This typically includes:
  - All CCGT built after ~1998
  - All SC coal-fired plants constructed after ~1998
- More specifically:
  - Grade 22, Grade 91 and grade 92 steels **(and X20)**
  - Main steam and hot reheat systems
  - Operating >1,000°F (540°C)
  - Failures in 35,000 to 90,000 hours with many in the range of 50,000 to 70,000 hours **(now up to ~150,000 hours)**

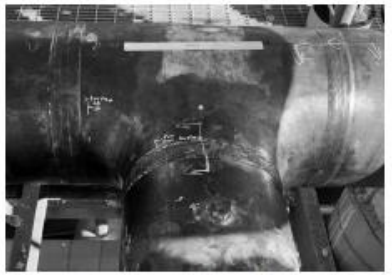
A single unit generally may have 4 – 8 at-risk tees

EPRI GENERATION
Industry Alert

SEAMLESS TEE INTERSECTIONS

The Issue

Dozens of leaks in seamless tee intersections installed in high-temperature, high-energy piping (HEP) systems (typically, main steam or hot reheat) have recently been reported to EPRI. The affected components were fabricated from grades 22, 91 or 92 steel, in operation for as little as ~35,000 hours, and subjected to operation in the time-dependent (creep) regime. Initial investigations performed by EPRI confirmed that the primary concern is the evolution of creep-dominated damage in the branch weld heat affected zone (HAZ) on the tee or branch side, in the main run HAZ on the tee or pipe side, the tee crotch, and, potentially, in the tee flank (or saddle) position. The widespread nature of the damage suggests these components are not fit for purpose.



Main steam tee intersection that leaked in the crotch position after 37,000 hours of operation

The Impact

Unexpected leaks can present significant consequences if they occur in high-traffic areas or cause collateral damage to surrounding components or systems. A single, optimized replacement tee fitting could cost ≥$100,000, depending on the situational urgency, not including lost generation, inspection, welding heat treatment, scaffolding, rigging, and other activities related to the replacement of the fitting in the affected system. For perspective, a large end-user/owner has identified ~160 at-risk tees across its fleet of approximately 20 combined-cycle units. Initial estimates for the replacement tees alone are on the order of $20 million for the entire fleet – should every tee be affected and likewise require expedient replacement.

Immediate Action Recommended

All grade 22, 91 and 92 steel high-energy piping systems operating >540°C (1,000°F), which encompass a major portion of the combined-cycle fleet and some of the supercritical power plant fleet, are at risk. The geometric variation in the installed fittings is significant, and several actions are necessary to reduce the uncertainty in continued operation. At-risk locations need to be assessed with optimized phased array ultrasonic procedures to assess the potential for cracking in the welds joining the tee into the system, as well as in the crotch position. Cracking has been observed to become connected to the inside or outside surface before growing through-wall. The time frame over which detectable cracks have become leaks in the weld HAZ regions is believed to be ≤15% of the fitting lifetime. There is less certainty regarding the progression of the crotch damage, and this remains under investigation. End-users/owners should be cautioned that recurring inspections may be needed until the at-risk tee(s) have been dispositioned and determined to be fit for purpose. To facilitate the necessary analysis and calculations to assess fit for purpose, detailed geometry is essential, and each tee will require a case-by-case evaluation. To ensure sufficient dimensional information is obtained, EPRI is making dimensional reporting templates and instructions available to all stakeholders in the energy industry upon request.

EPRI Approach Forward

A supplemental project was launched in September 2022 to develop a comprehensive, integrated life management methodology addressing how to identify at-risk tees across a fleet to prioritize future inspection(s), clarify relevant inspection or analysis technique(s), create a database of case studies, issue improved guidelines for replacement components, and bring together

https://publicdownload.epri.com/PublicAttachmentDownload.svc/AttachmentId=83193

EPRI industry alert (Feb. 2023)

- Any ‘modern’ plant constructed with a grade 22, grade 91 or grade 92 piping system. This typically includes:
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  - All SC coal-fired plants constructed after ~1998
- More specifically:
  - Grade 22, Grade 91 and grad
  - Main steam and hot reheat s
  - Operating >1,000°F (540°C)
  - Failures in 35,000 to 90,000 h
    range of 50,000 to 70,000 hours

EPRI to make industry aware of emerging issues…

What is the role of the NBIC? Others? Insurers?

A single unit generally may have 4 – 8 at-risk tees

EPRI GENERATION
Industry Alert

SEAMLESS TEE INTERSECTIONS

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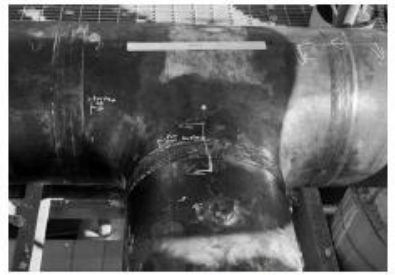

Main steam tee intersection that leaked in the crotch position after 37,000 hours of operation

occur in high-traffic areas or cause collateral damage to ement tee fitting could cost ≥$100,000, depending on the lding heat treatment, scaffolding, rigging, and other activities or perspective, a large end-user/owner has identified ~160 at- ts. Initial estimates for the replacement tees alone are on the cted and likewise require expedient replacement.

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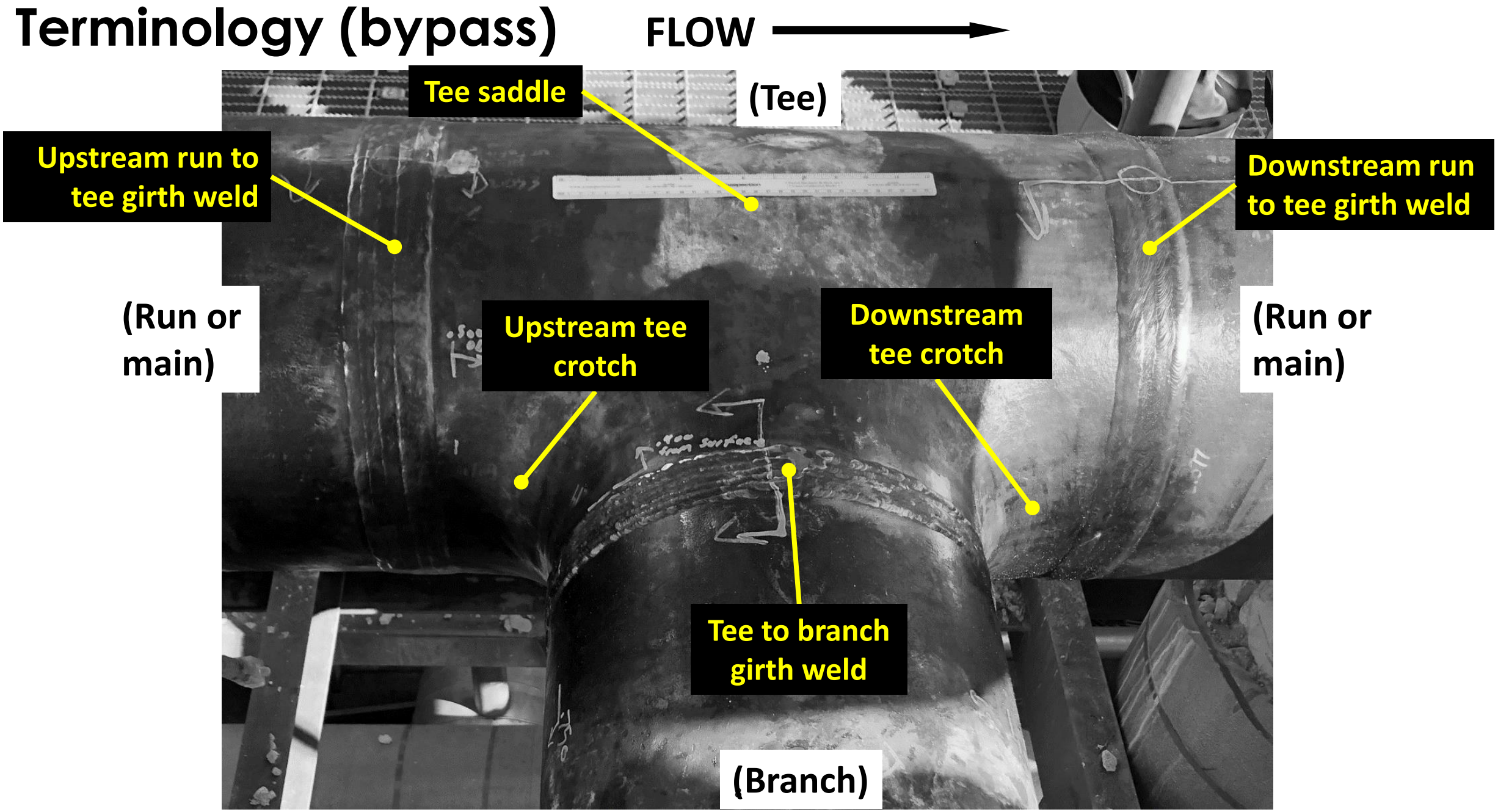
https://publicdownload.epri.com/PublicAttachmentDownload.svc/AttachmentId=83193

Tee Nomenclature

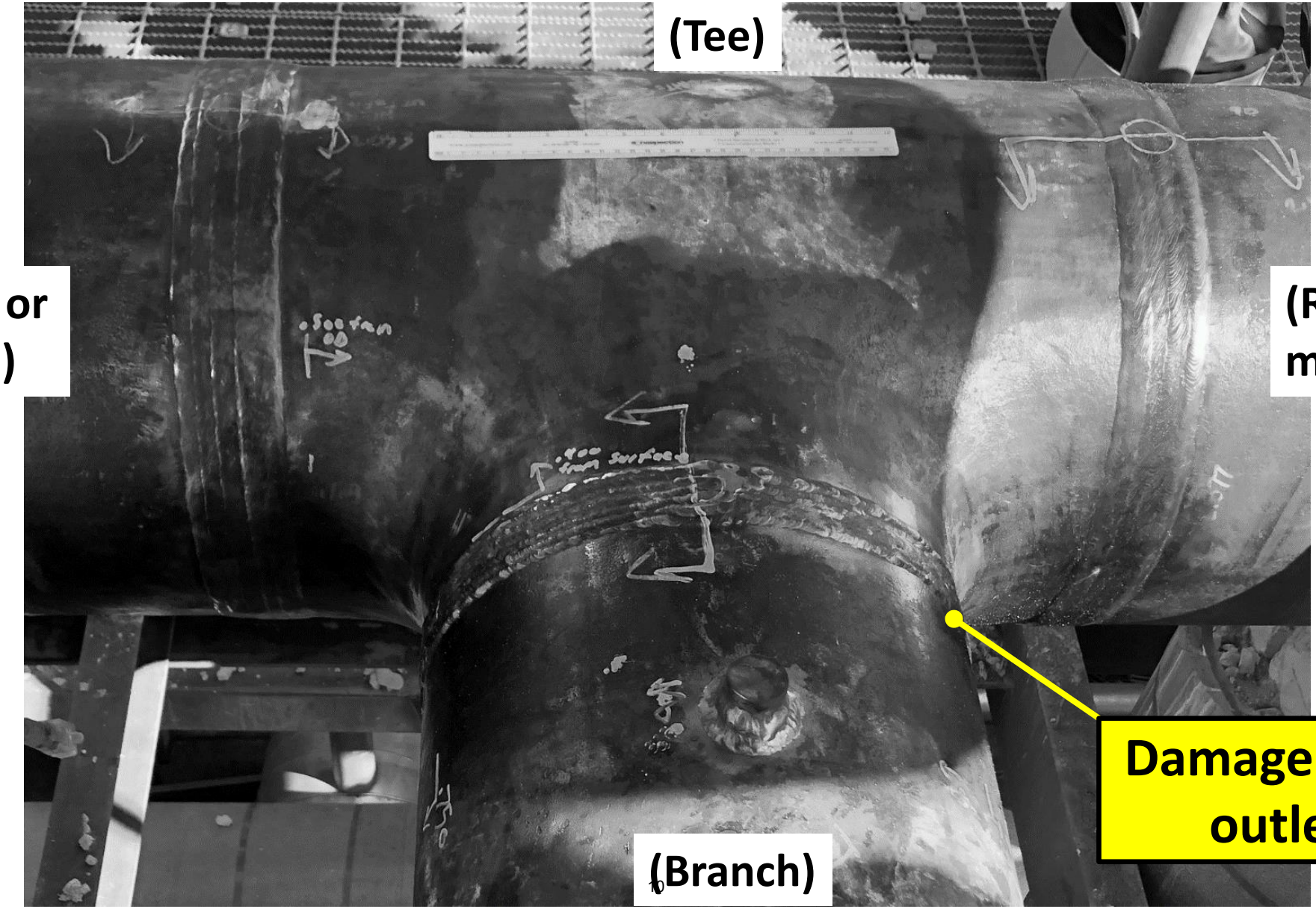
Terminology (bypass)



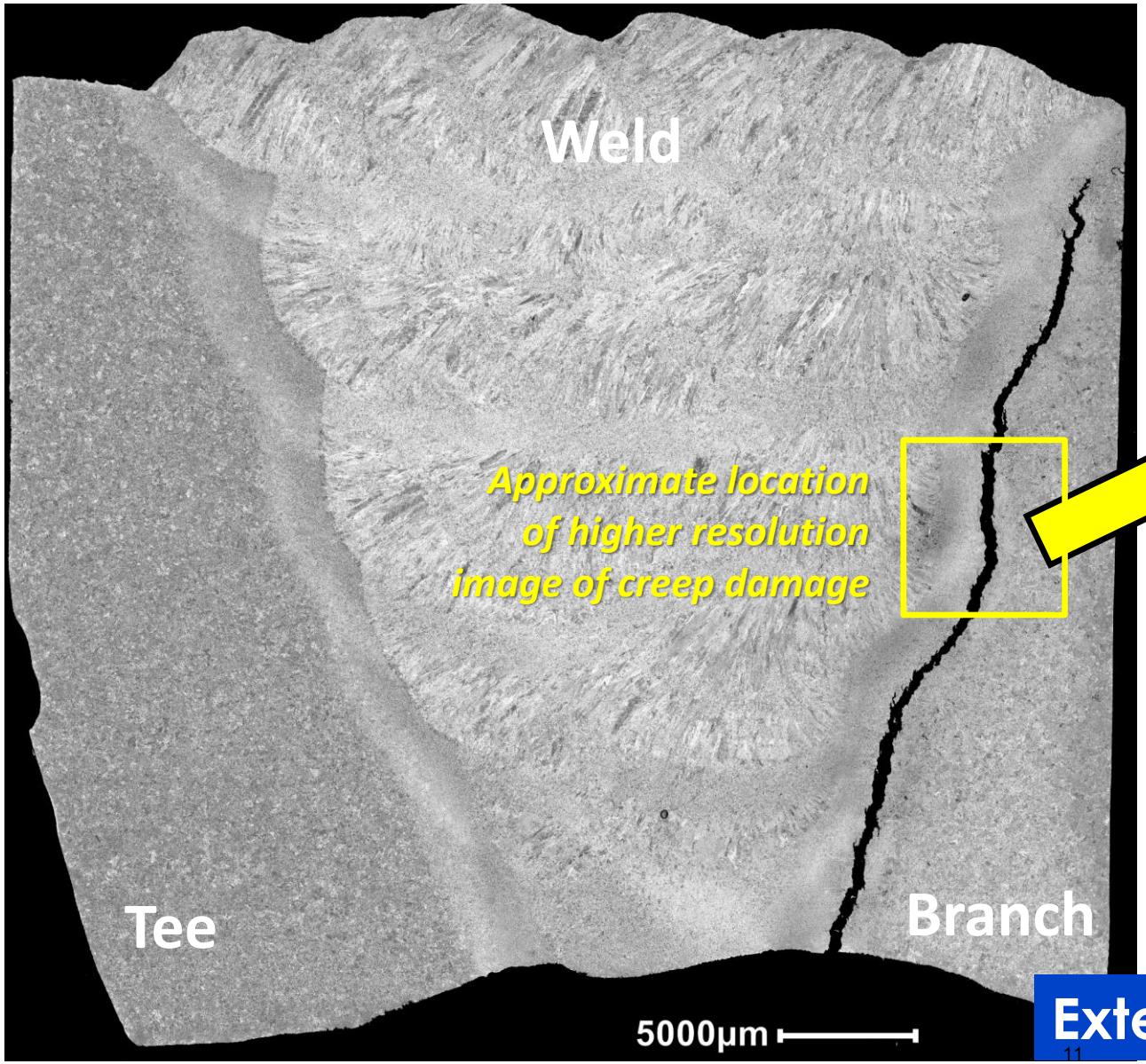
Damage Mechanism

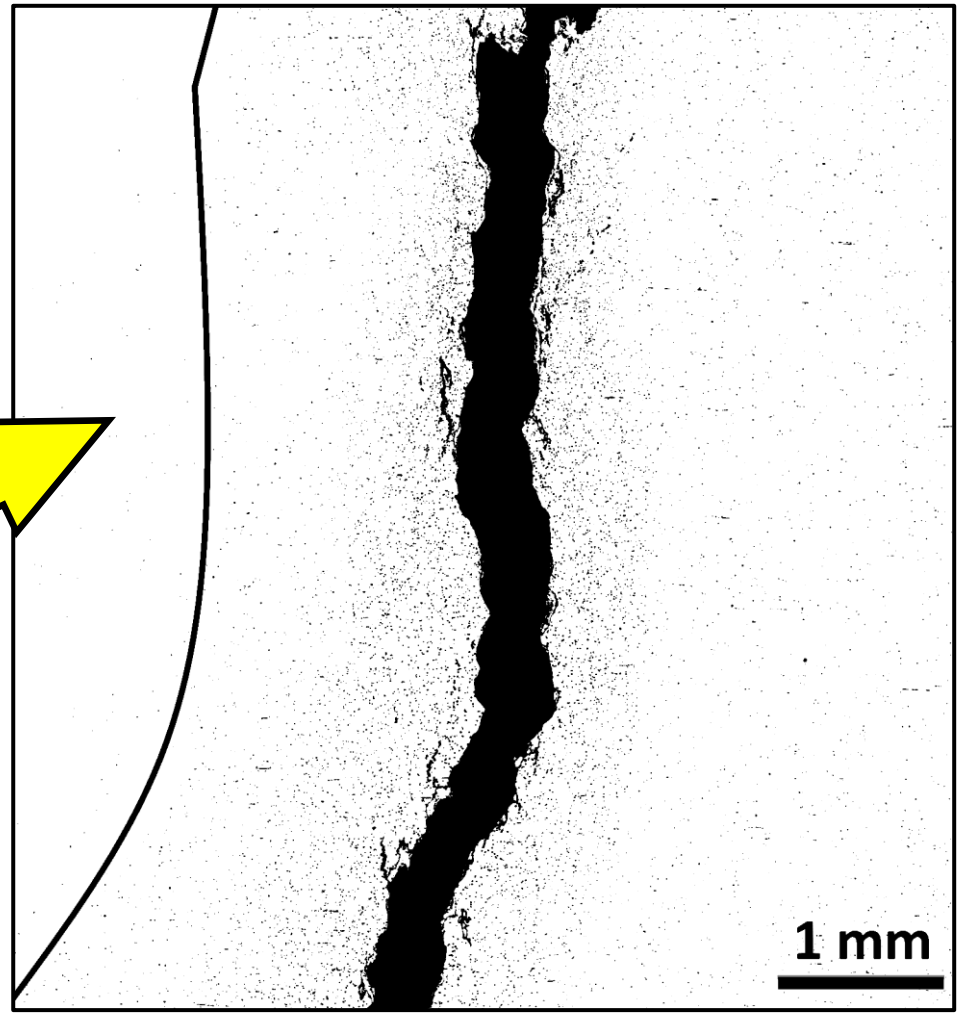
Macro damage location

FLOW →



Damage in girth weld



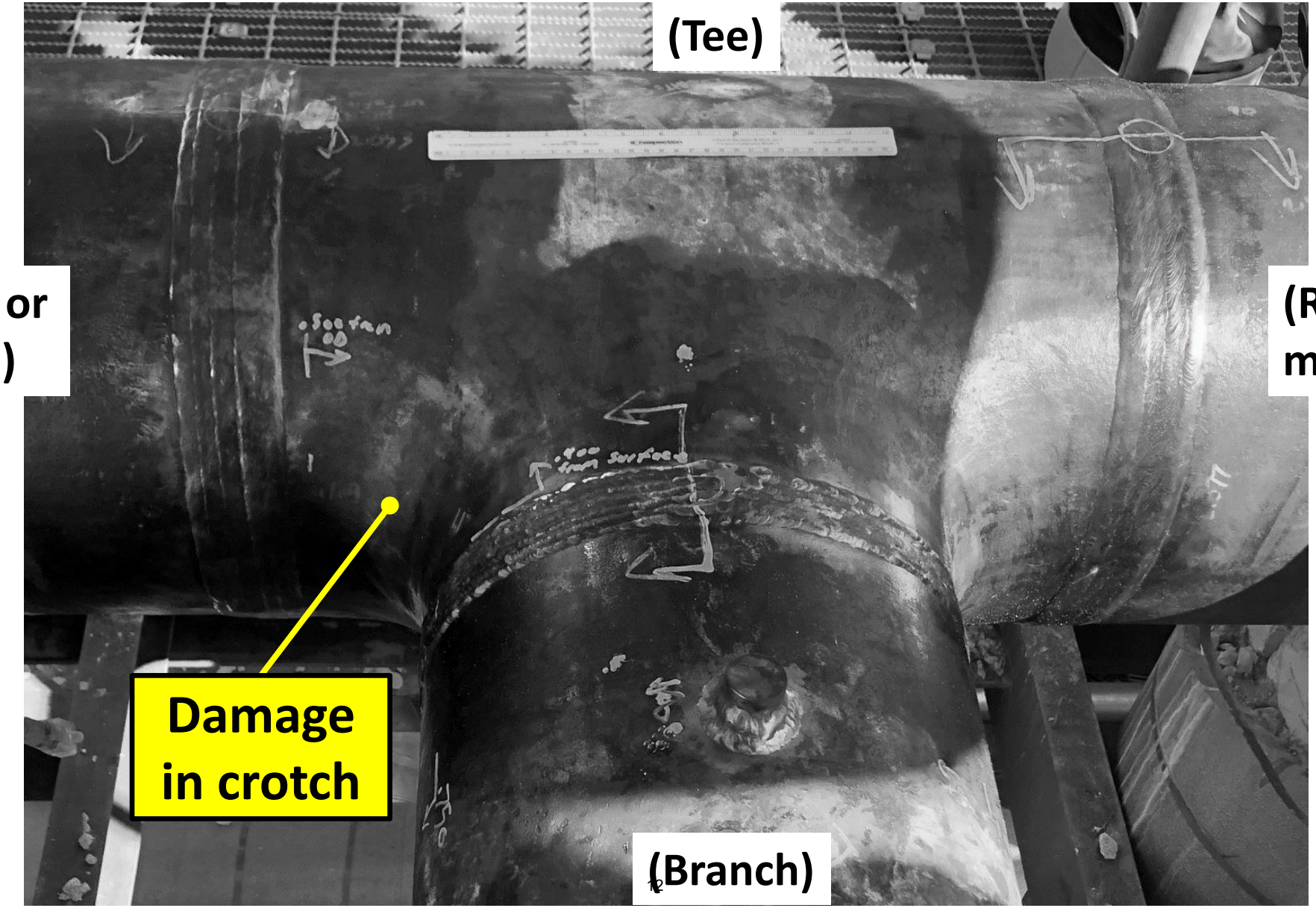


Extensive creep damage along crack

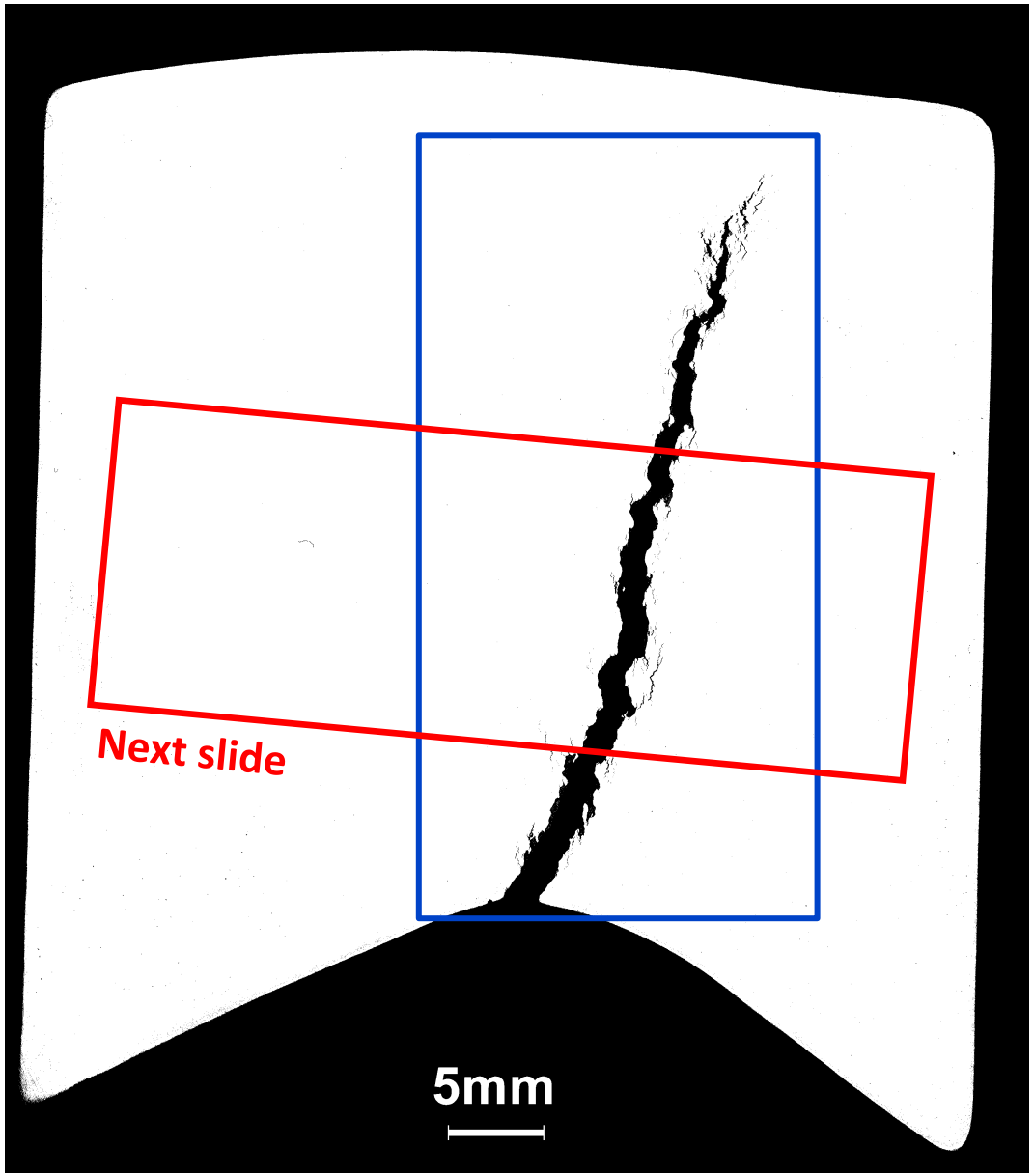
11

Macro damage location

FLOW →



Crotch position (all base metal, no repair)



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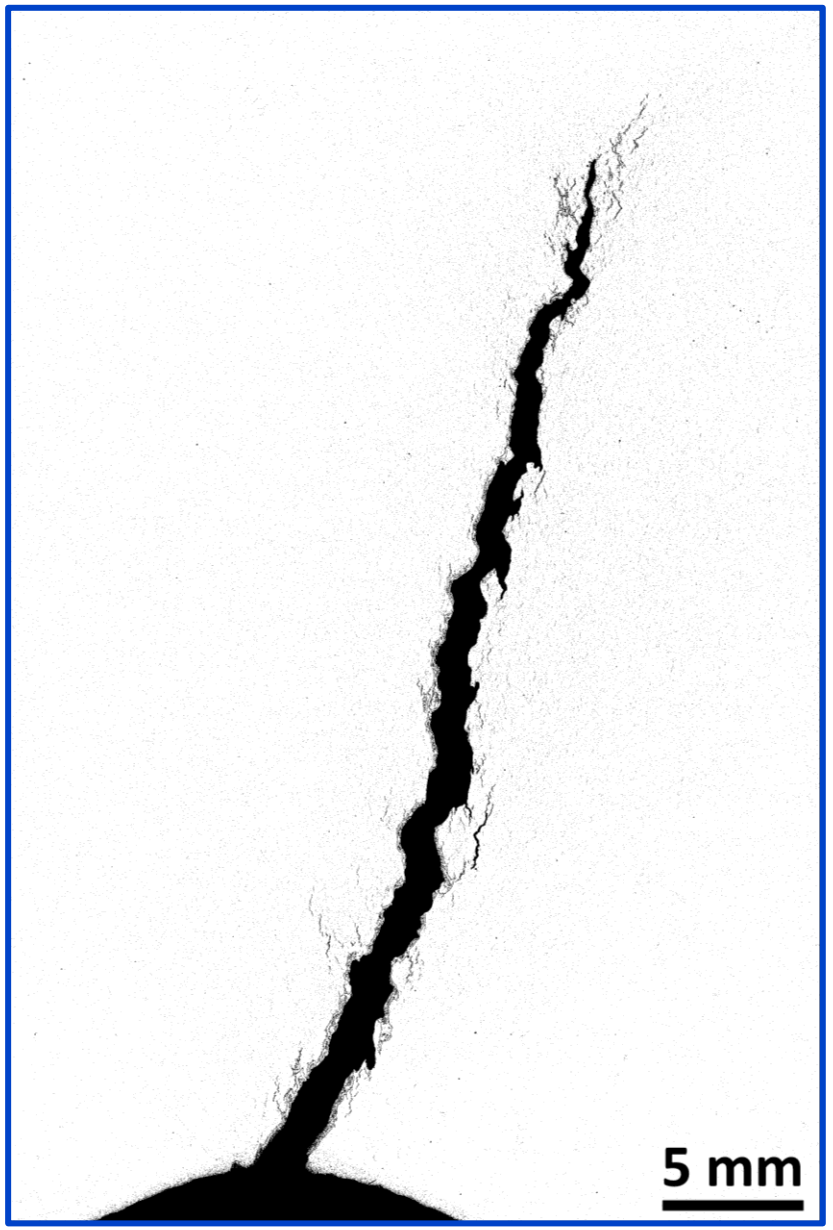
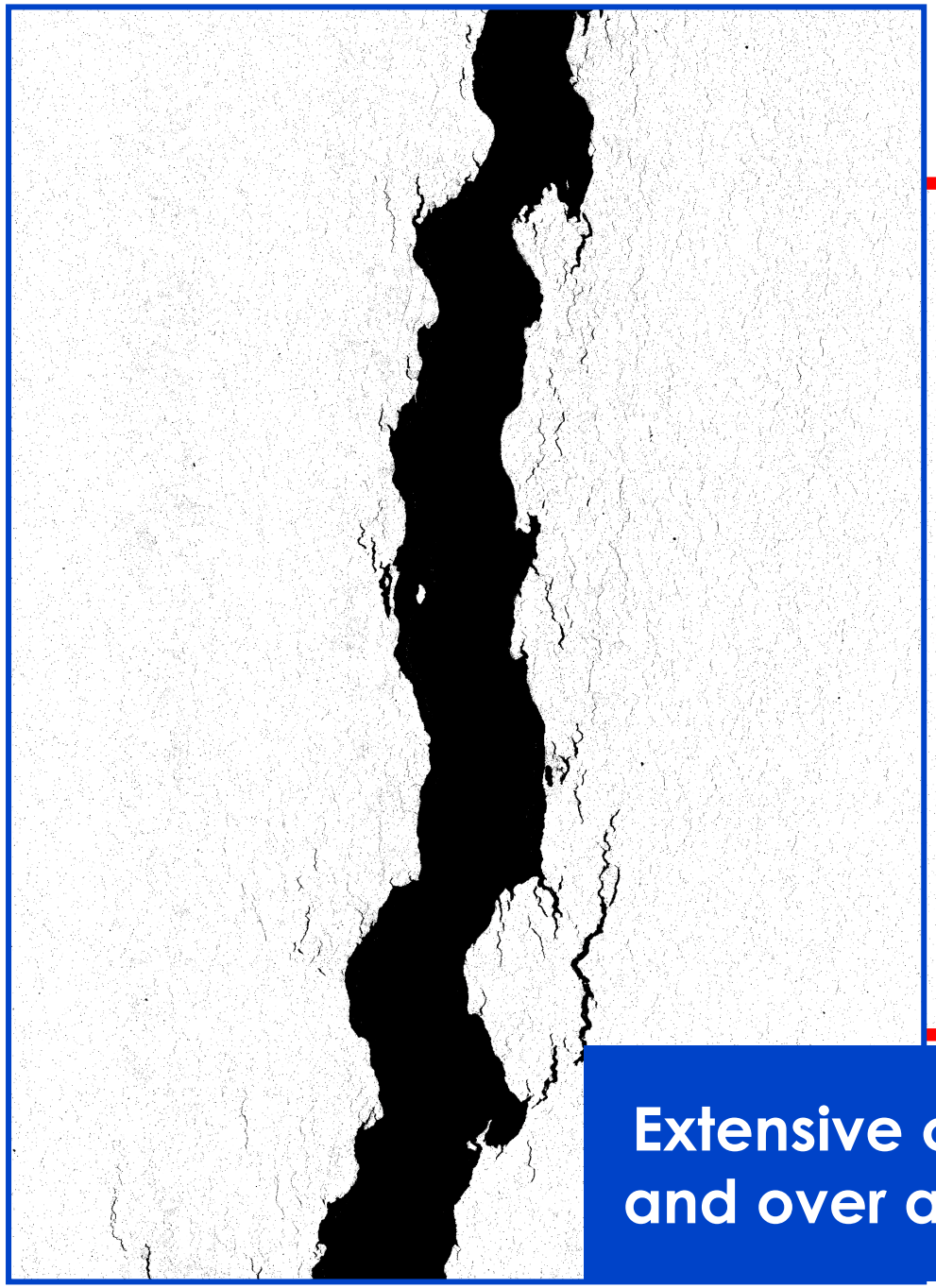
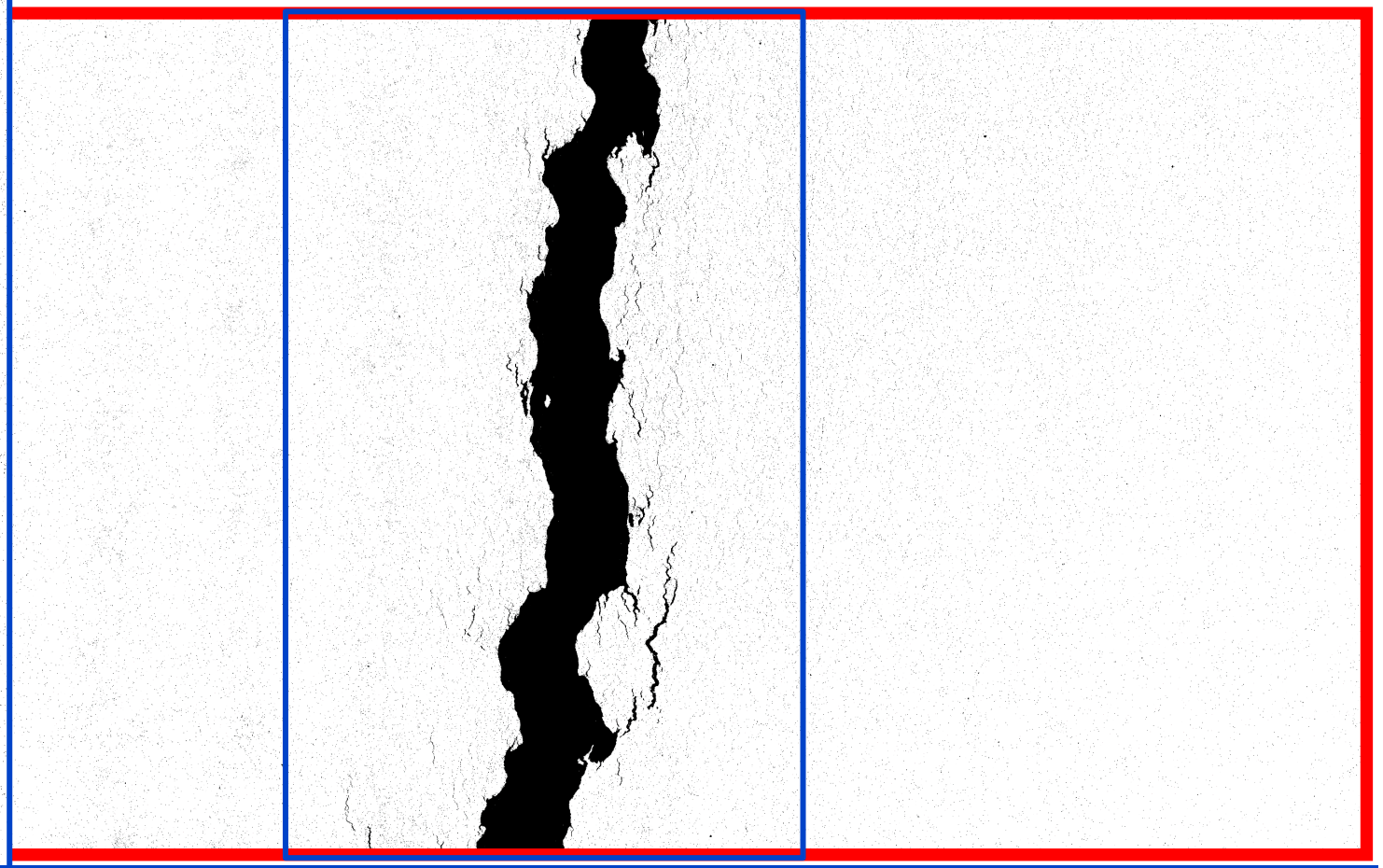


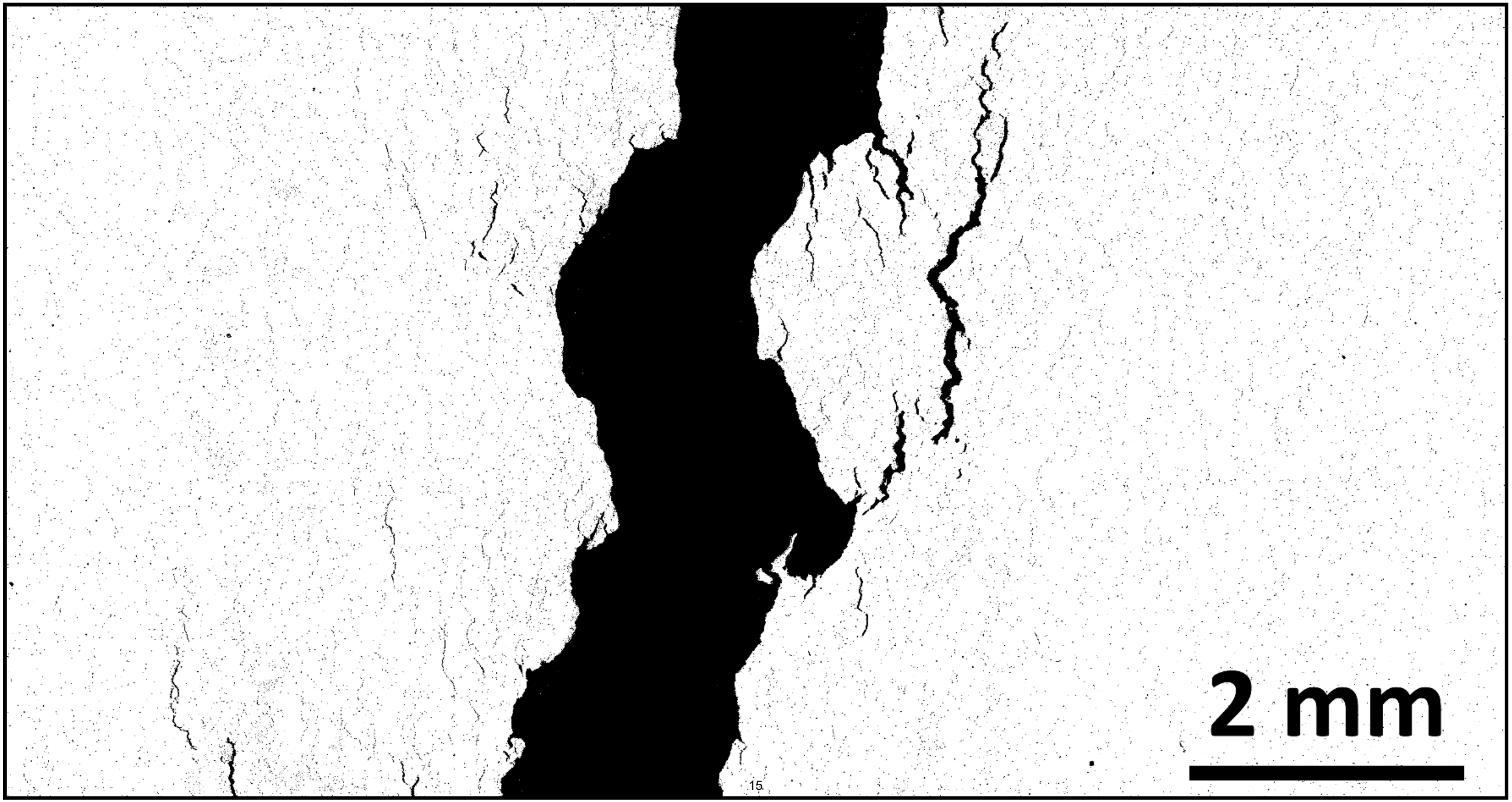
Crotch position (all base metal, no repair)



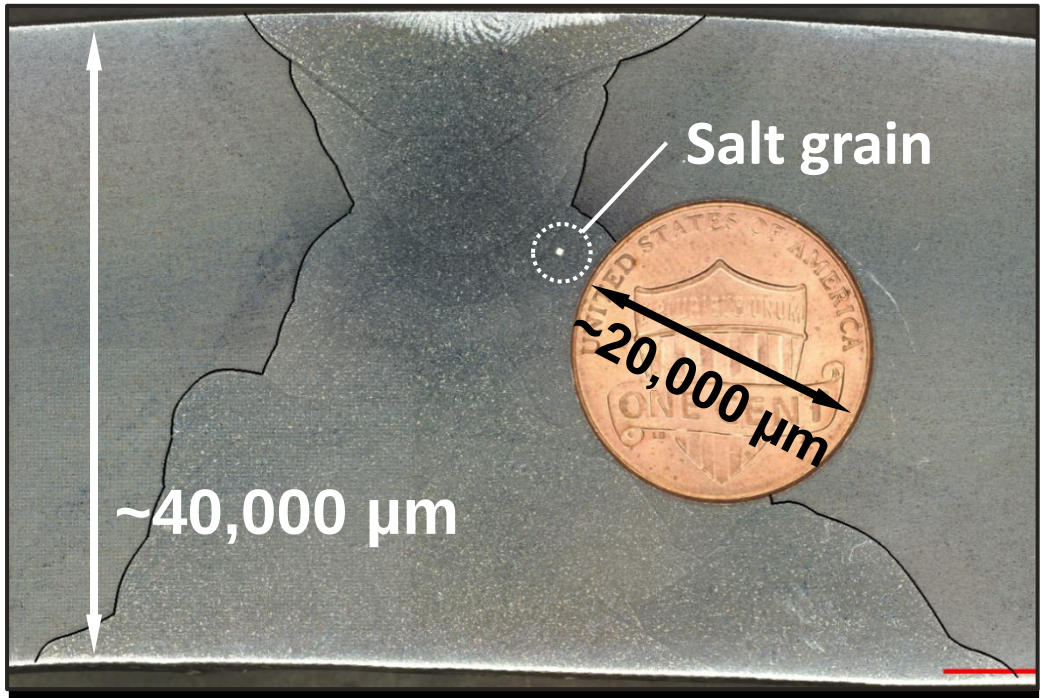


Extensive creep damage along the main body of crack and over a distance of ~5 mm removed from crack front

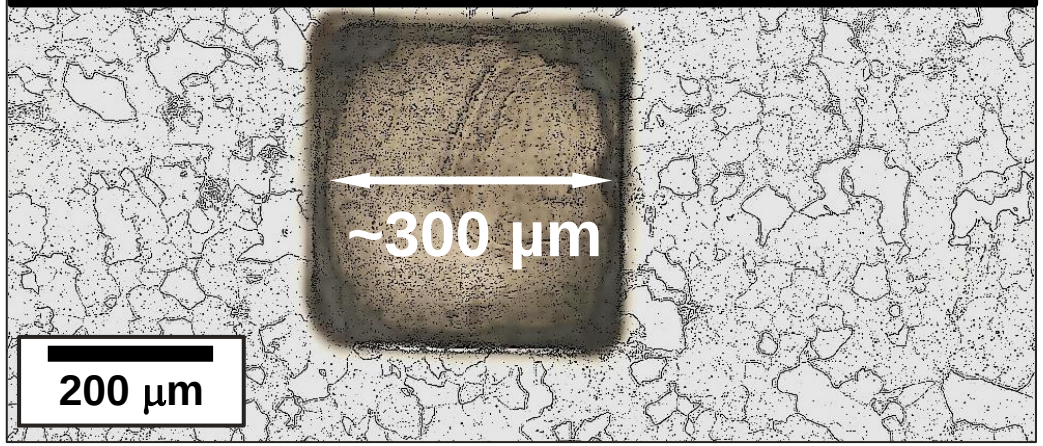
14



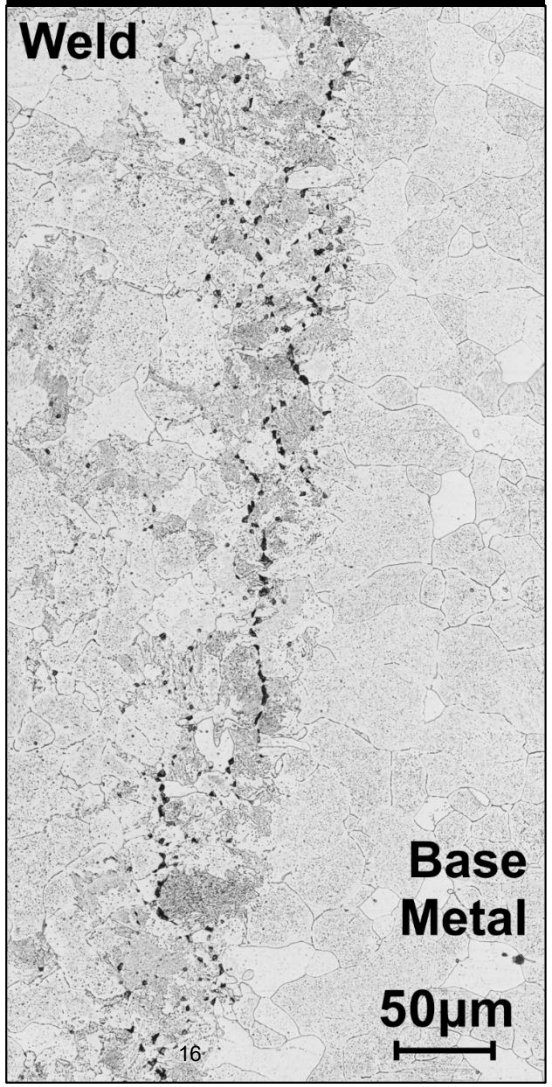
Perspective on length scale



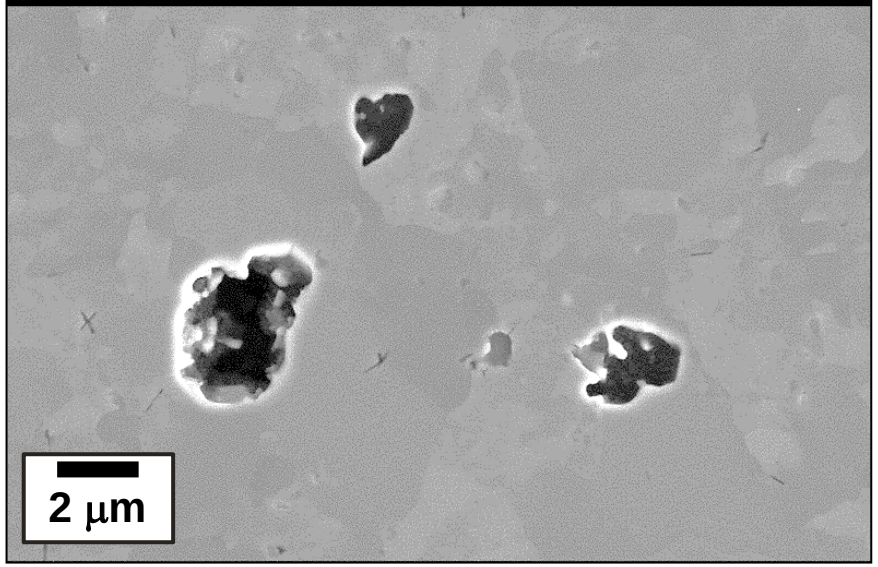
Salt grain overlay on microstructure



Optical microscopy of fusion line creep damage



Individual creep cavities



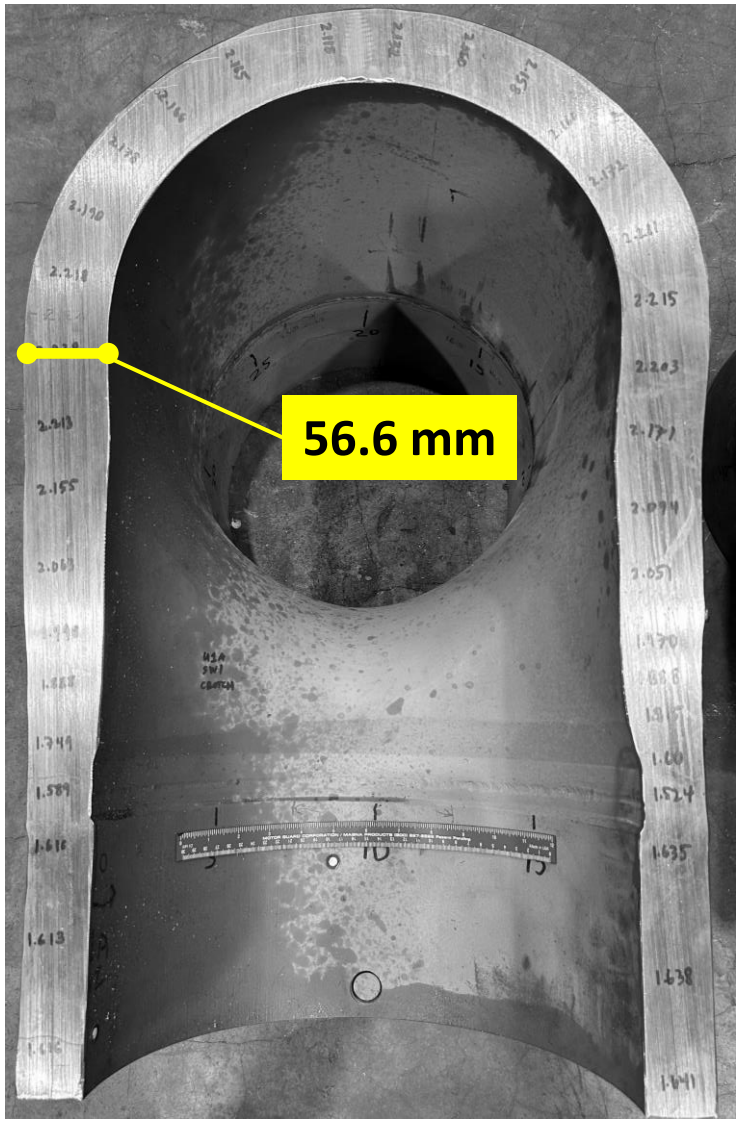
Every crack measured in mms or meters originates from microstructural features, like individual creep cavities, that are µm or nms in diameter

Case study – 2:1 CCGT ~2000 vintage

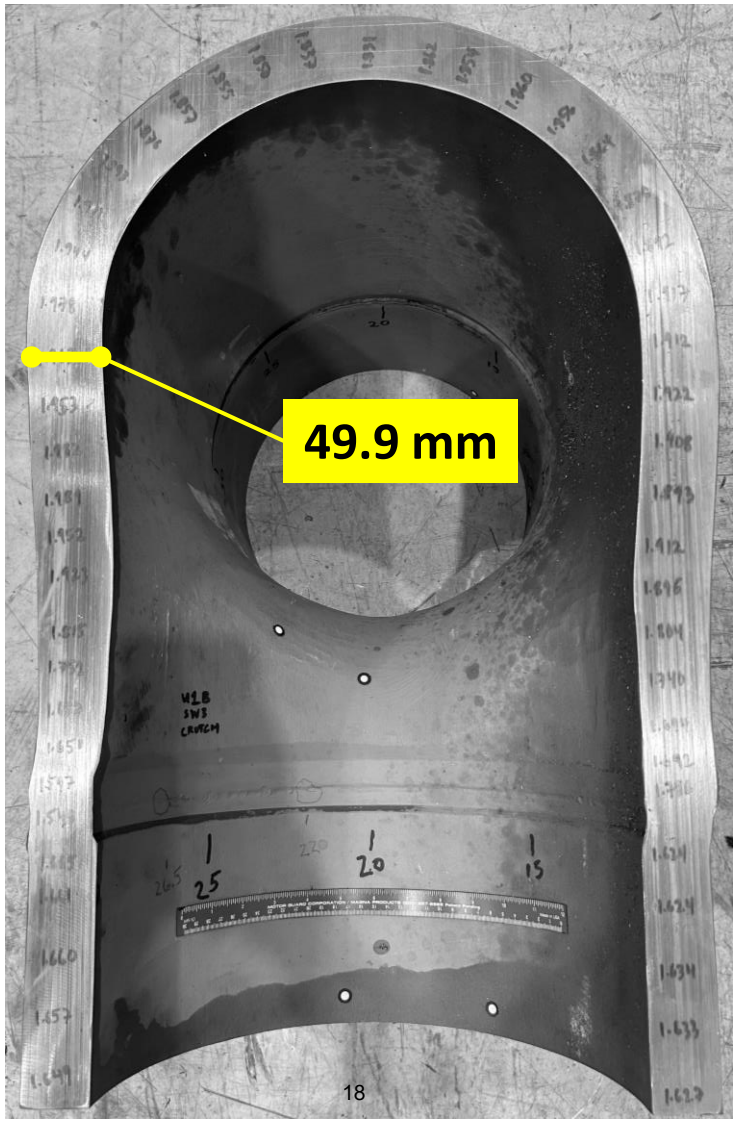
"New Construction is Adequate"

Cross-section through branch outlet (flank/saddle position)

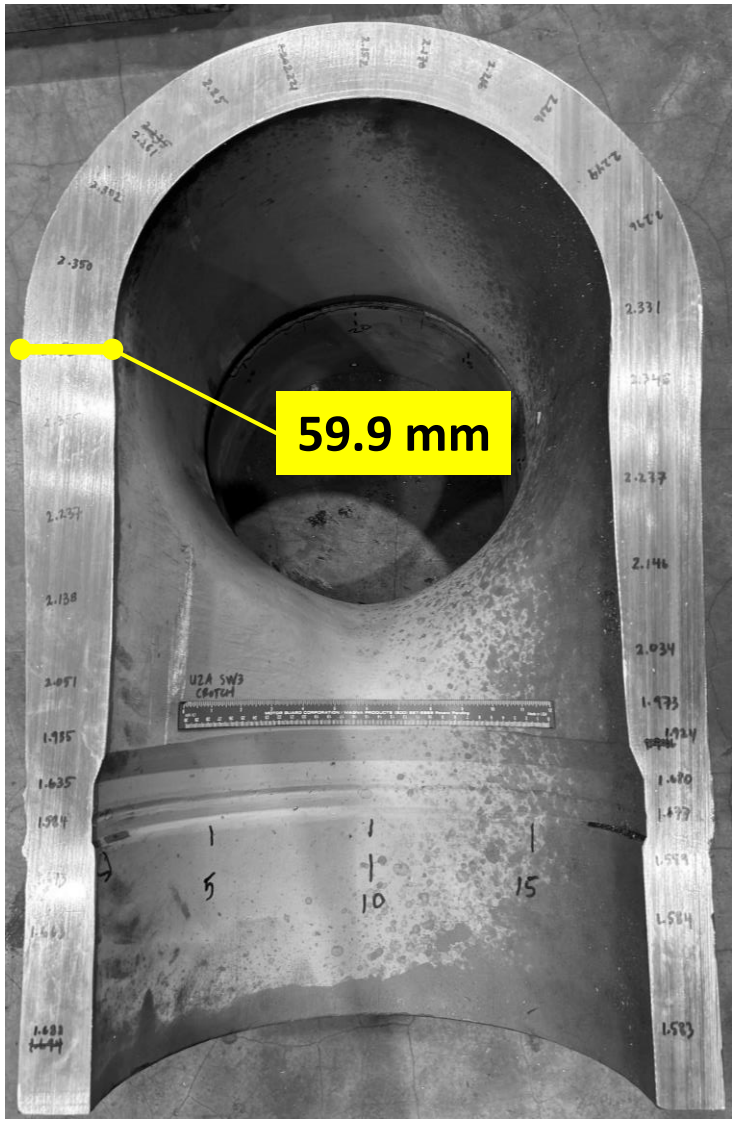
Unit 1A



Unit 1B

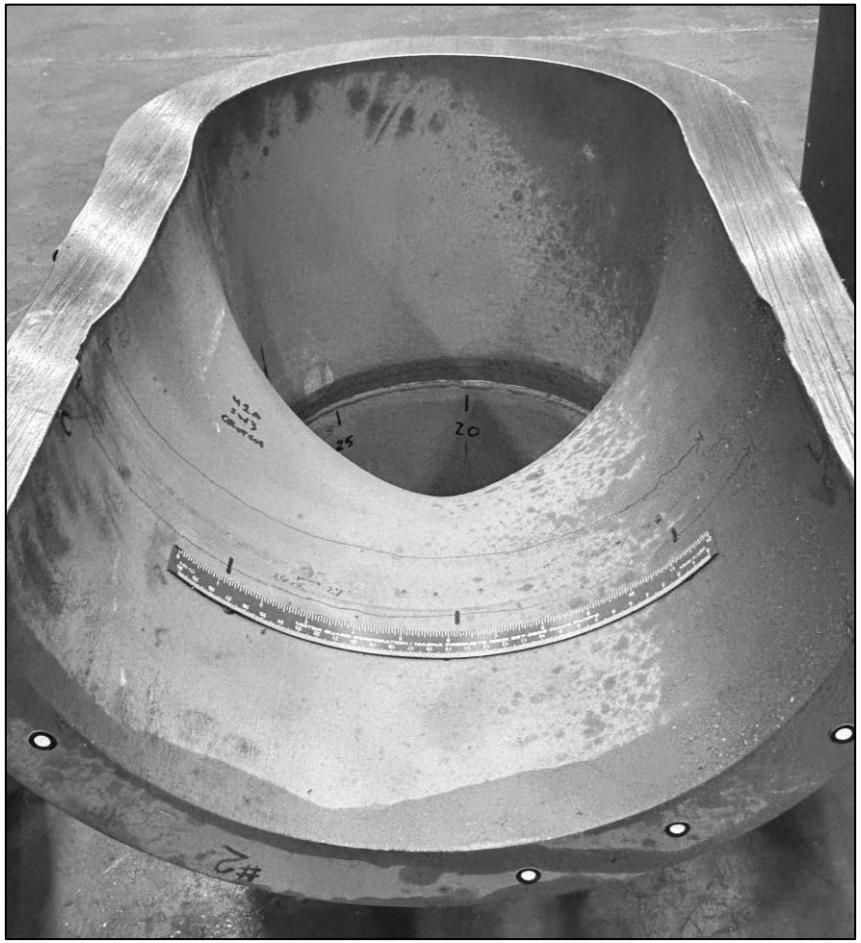


Unit 2A



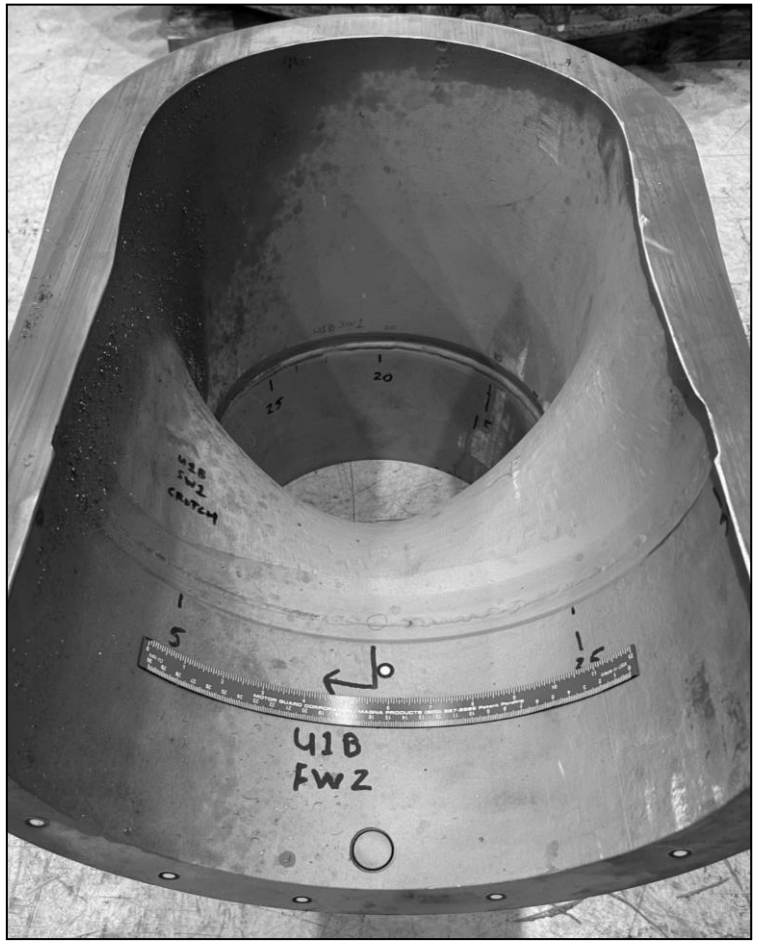
Visual inspection of crotch positions

Unit 1A, SW3 crotch



Vee apparent in crotch

Unit 1B, SW1 crotch



Vee not apparent in crotch

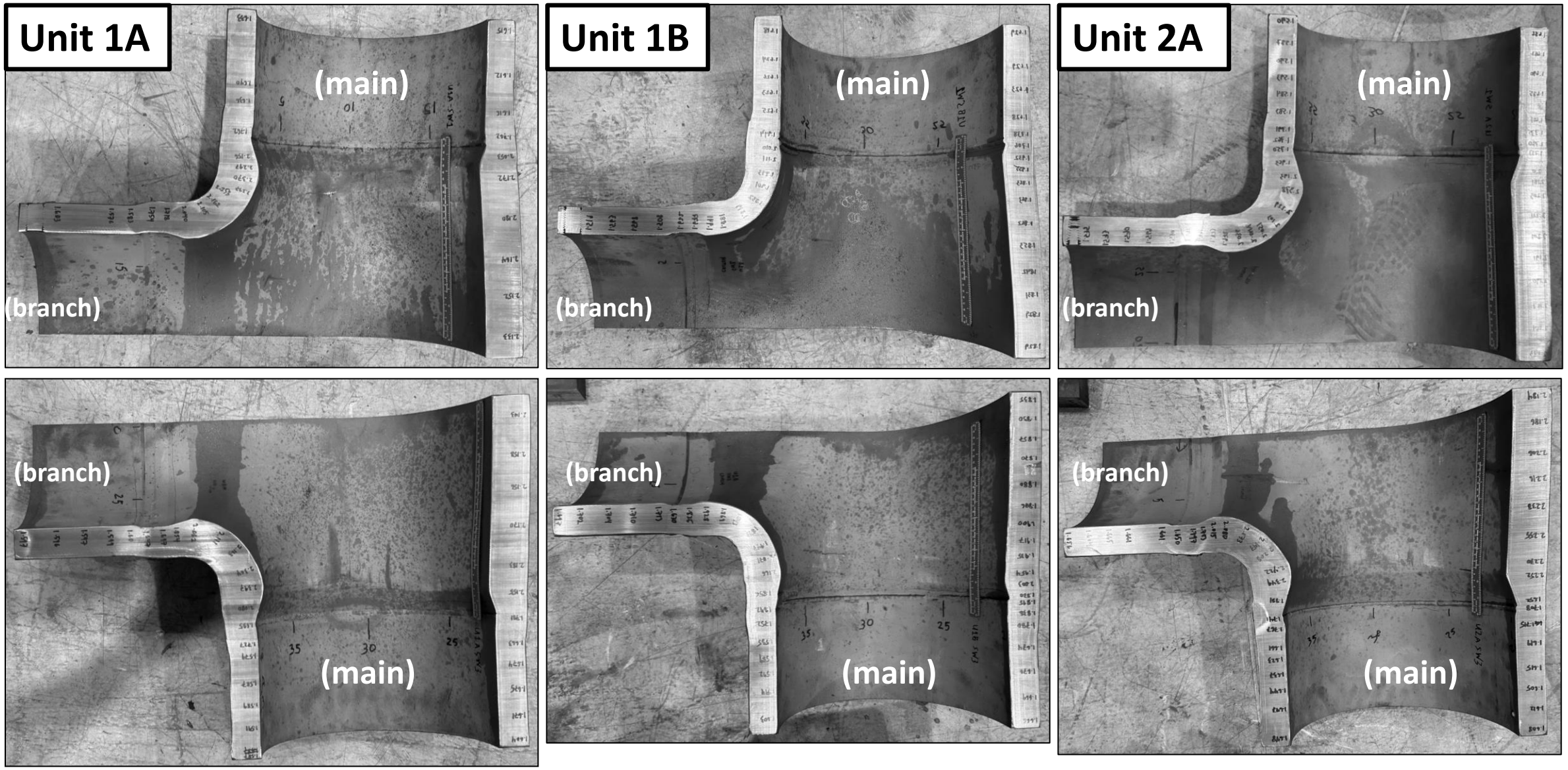
Unit 2A, SW1 crotch

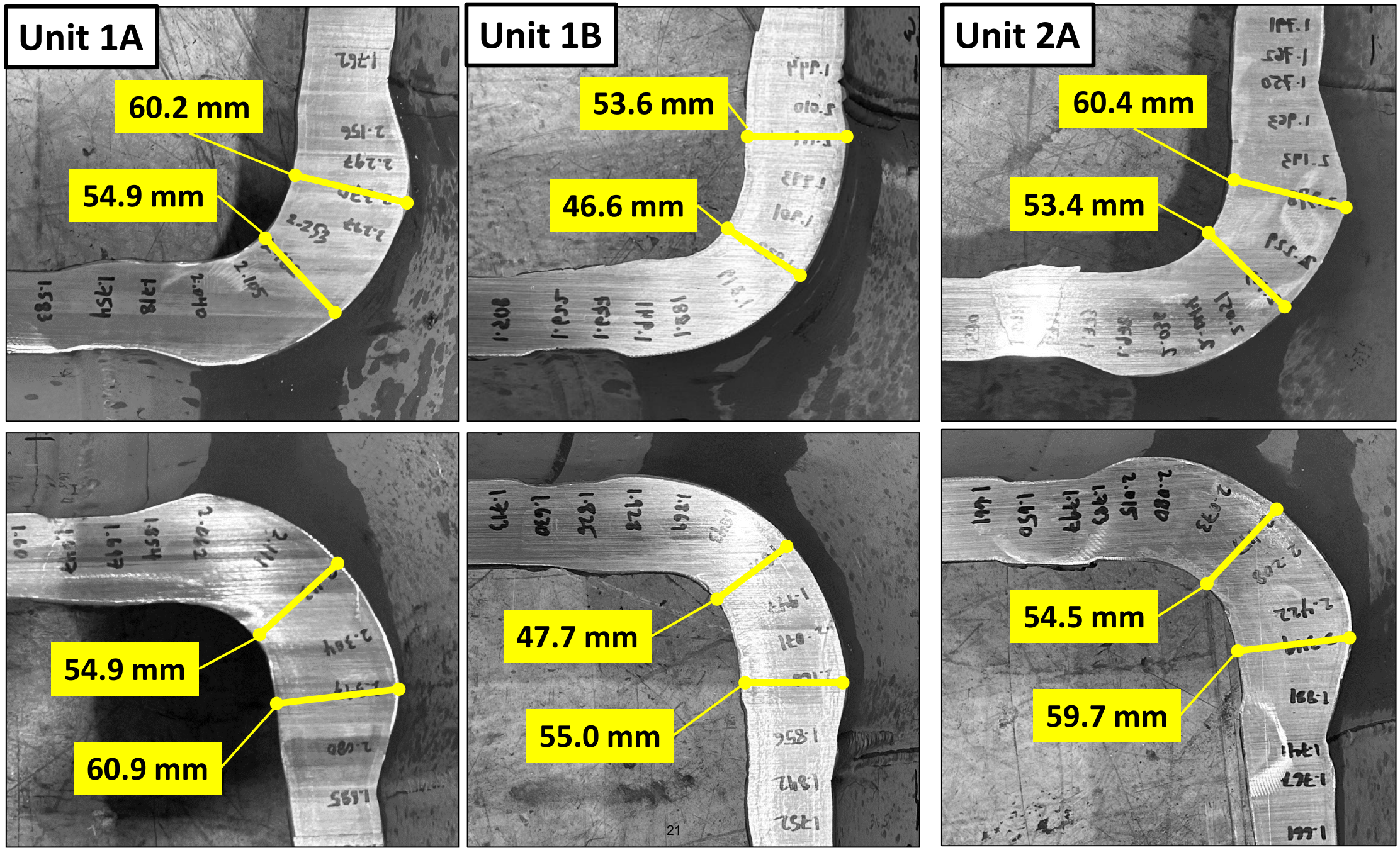
Vee apparent in crotch

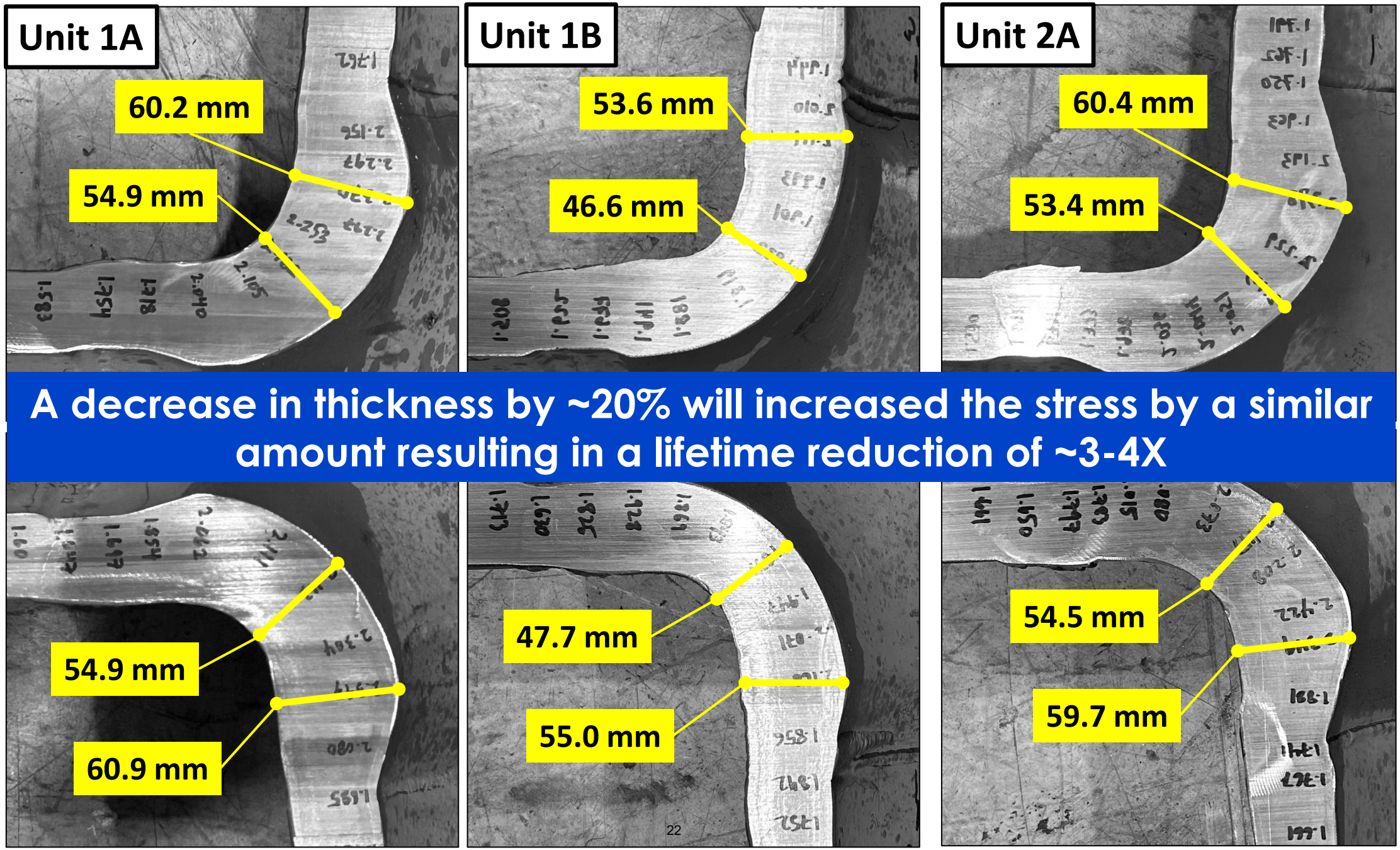
Cross-section through each crotch

SW1

SW3







Case study – Supercritical Unit ~2011 Vintage

“Inspection and repair challenges”

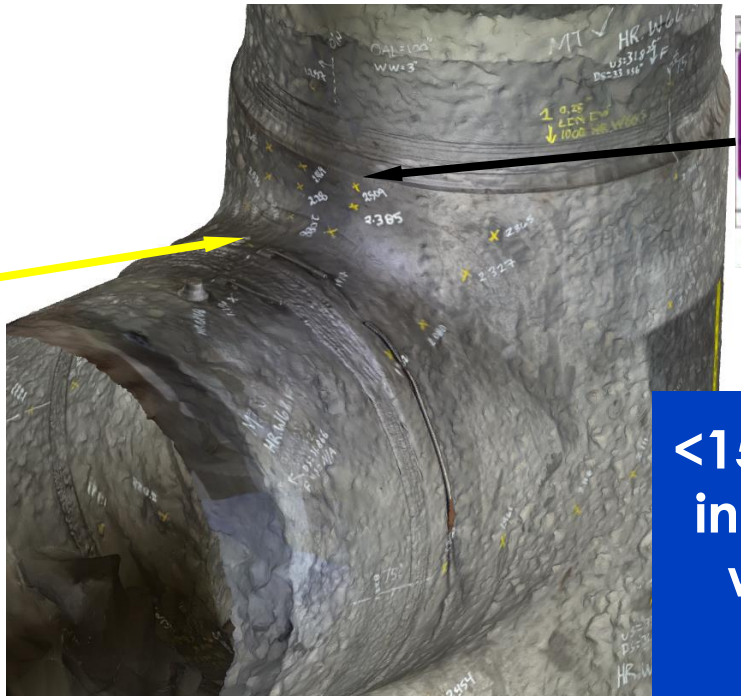
Timeline of leak and subsequent crack

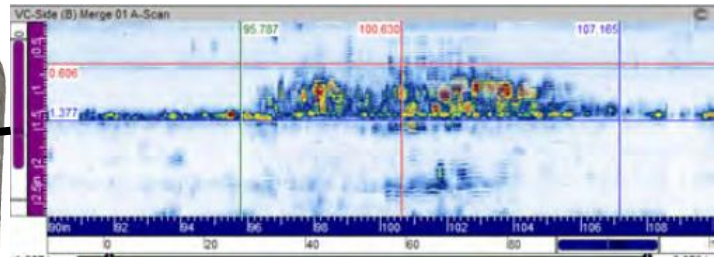
Late Jan 2021

Operating time: 65,000 hours
Explanation of damage: Steam leak in HAZ of the branch-to-tee girth weld (tee-side). Indication ~508 mm long, approximately centered on crotch. Excavated and repaired.

Late March 2023

Operating time: 81,000 hours
Explanation of damage: ID connected indications in the upstream run weld. ~18 mm height (54% through-wall) and ~280 mm long, centered on crotch





<15,000h from no recordable indications to 54% through-wall crack (<20% of total operating time).

Scope of repair for main steam bypass tees

Extent of repair:

- Through-thickness to ID to completely remove defect
- Excavation extends from branch to main girth weld

Main steam (MS) reducing tee

- 22-in. (560 mm) OD
- ~5.7-in. (145 mm) thickness in crotch position

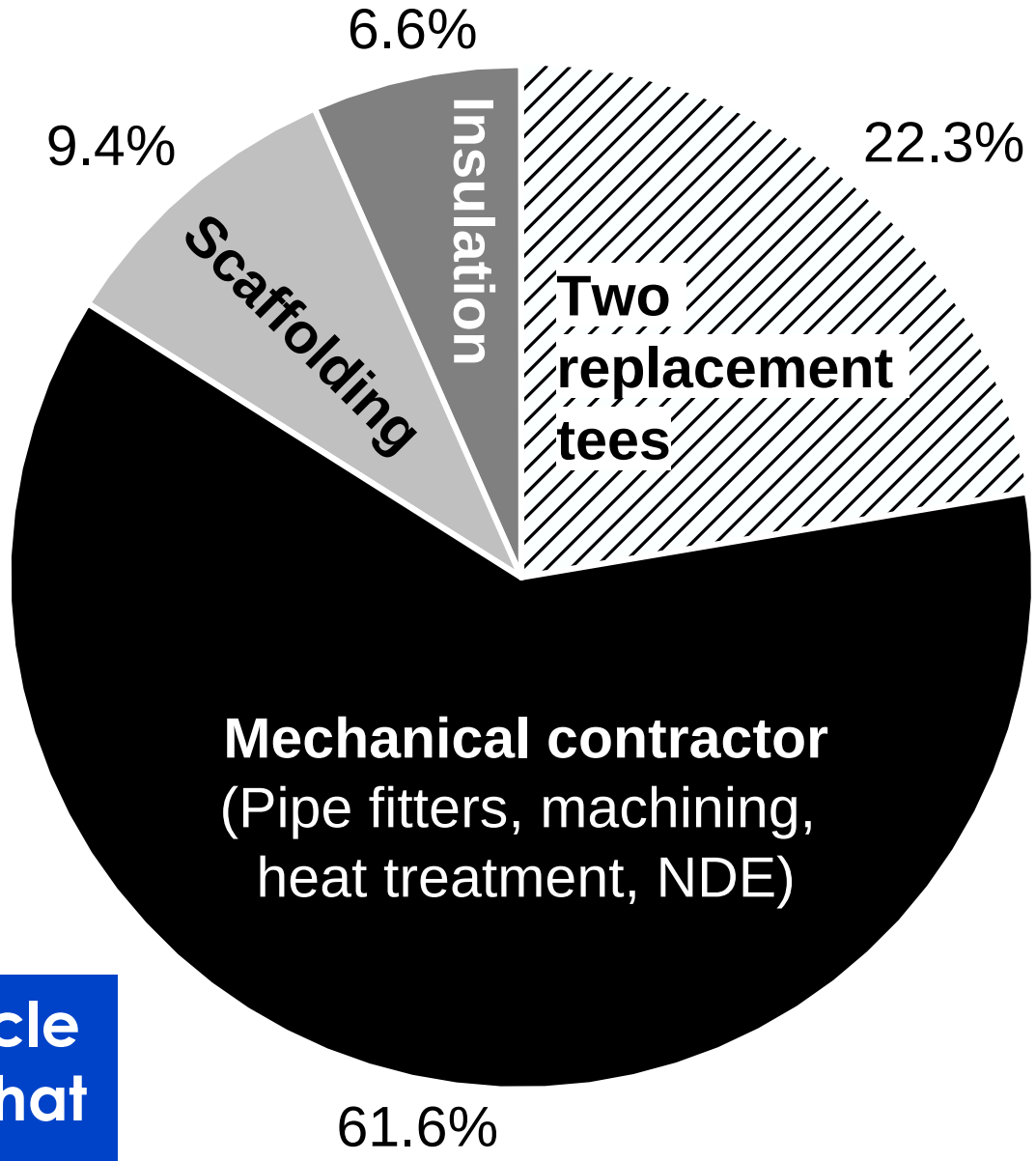
12 total tees in MS and HRH… 8 recordable indications confirmed to be cracks after ~81,000 hours of operation

Case study – Supercritical Unit ~2012 Vintage

"Economic impact"

Replacement costs

- Total cost to replace two hot reheat tees in a supercritical coal-fired power plant was $1.2M
  - Does not include NDE + repair costs before replacement parts could be designed, sourced and installed
  - Does not include consulting services to properly design and assess root cause
  - Does not include lost power costs when plant went into a 6.5 day forced outage



Second case study from a combined cycle main steam system consistently reflects that replacement, optimized tee geometries are ~$125,000/ea.

27

Summary

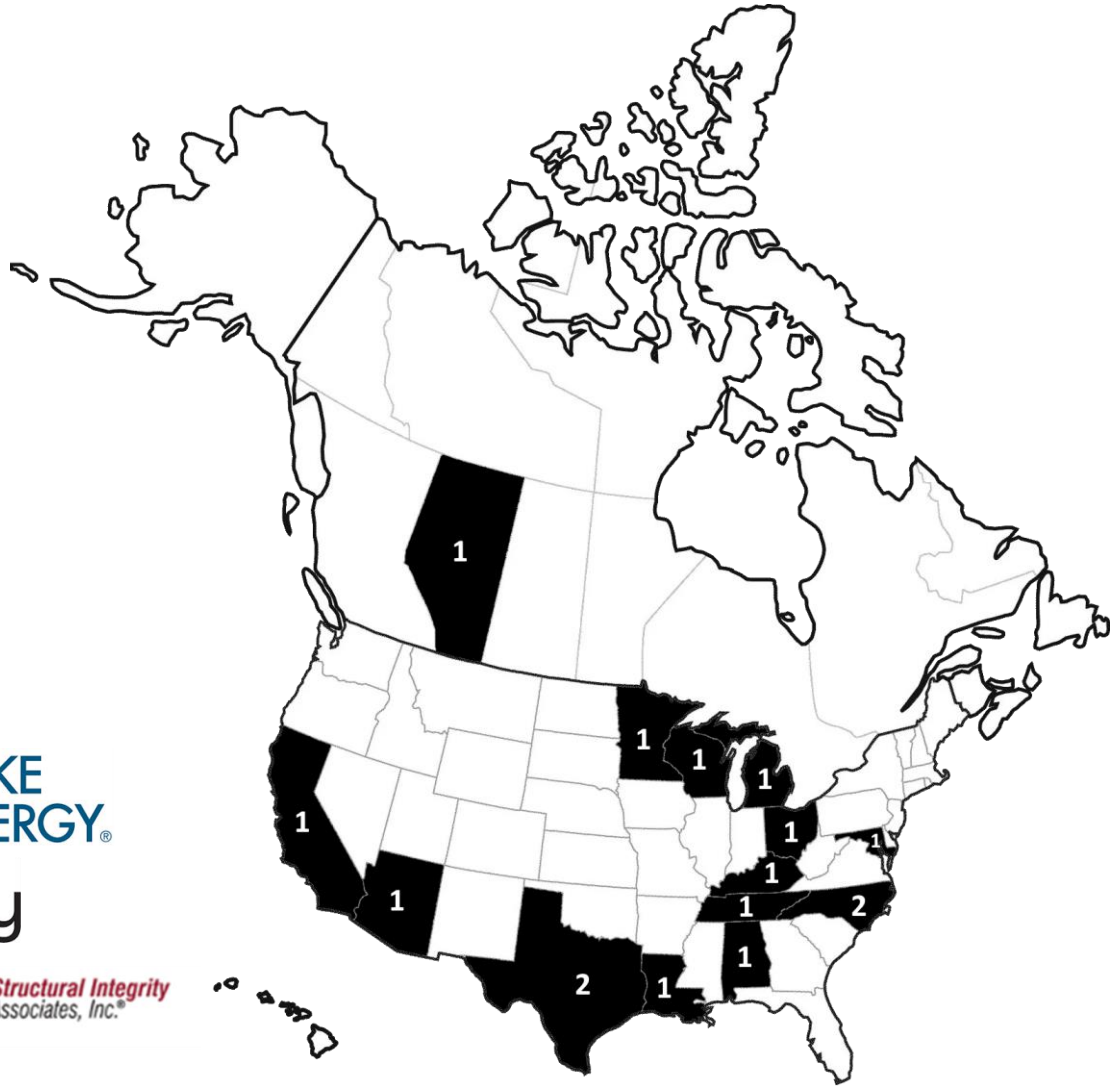
Lessons learned are evolving rapidly

Uncertainty	Scope of problem through end of 2022	New learnings in 2023
Affected materials	Grade 91, Grade 92	Grade 22, X20
Timeframe	37,000 to 90,000 hours	Leaks in 110,000 and 150,000 hours
Fabrication concerns	A-/SA-234 insufficient to avoid potential for repairs, stress-concentrations or seam-welds	Stress concentration at ID crotch surface confirmed (defect removal after forming operation) Reported weld repairs in crotch
Design concerns	ASME B16.9 requirements insufficient for creep	Same plant, same vintage, same supplier, three very different geometries
Geometries affected	Primarily 'large' tees in main steam or hot reheat systems	Leaks in 10-inch tees installed in auxiliary steam system
Suppliers' perspective	None	Multiple suppliers' opinion that ASME B16.9 tees should not be used in high temperature systems

There are 14 total plants and ~85 individual entries where cracks or leaks have been independently confirmed by multiple methods

Integrated Life Management (ILM) of tee intersections

Project participation and funding



AMERICAN ELECTRIC POWER · Southern Company · Constellation · SRP · TVA · DUKE ENERGY · Xcel Energy · DTE Energy · CS energy · ENMAX · entergy · VISTRA · We Energies · LG&E KU PPL companies · nrg · IMI Critical Engineering · Structural Integrity Associates, Inc.

$1.5M in net funding as of December 2023; 17 total (1 pending); Goal >20

Technology transfer

- New construction rules do not protect industry from issues…
- “Condition assessment” relying on NDE and/or analysis of ‘assumed’ geometries likely to be insufficiently informed for life management practices
- Repair is complex, and introduces unique considerations (extent, PWHT, etc.)
- Replacement components must be well-engineered
- If you have experiences and would like to share information and/or have EPRI analyze case study, please contact:
  - John Siefert, jsiefert@epri.com or
  - Tom Sambor, tsambor@epri.com
- [Open meeting] Tuesday, March 19, 2024, Dallas, TX, The Adolphus Hotel

Significant uncertainty and risk exists worldwide, EPRI is working to generate the comprehensive and well-informed research to support life management decisions and improvements to codes and standards

31

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Items Approved for 2025 NBIC - Cycles A, B, and C

Title	Item Number	CaseStatus	Cycle	Assigned Committee
Define "Fuel Loading" as it pertains to NR activities	21-02	MC Approved	A	Subcommittee Repairs/Alterations
Inspection of through stays and diagonal stays	21-03	MC Approved	A	Subcommittee Inspection
Incorporate new repair methods for through and diagonal stays	21-09	MC Approved	A	Subcommittee Repairs/Alterations
Pressure Tests for Pressure Relief Valve Repair Parts	21-18	MC Approved	A	Subcommittee Pressure Relief Devices
Parts used in NR Activities	21-37	MC Approved	A	Subcommittee Repairs/Alterations
Create example inspection list	22-03	MC Approved	A	Subcommittee Inspection
Lost or Destroyed UDS	22-12	MC Approved	A	Subcommittee Repairs/Alterations
Align hot water boiler thermometer requirements with ASME Section IV	22-13	MC Approved	A	Subcommittee Installation
Removal of the requirement of AIA audits from the NR program	22-29	MC Approved	A	Subcommittee Repairs/Alterations
Location of temperature controls	22-31	MC Approved	A	Subcommittee Installation
Update duplicate nameplate marking requirements in Supplement 6	22-34	MC Approved	A	Subcommittee Pressure Relief Devices
Update reference of Section VIII steam valves to UV designated steam valves	22-35	MC Approved	A	Subcommittee Pressure Relief Devices
Clarify that stamping is required prior to signing R Form	23-05	MC Approved	A	Subcommittee Repairs/Alterations
Editorial change for Section 3, Para. 3.3.4.8 c) 5 and 6	23-06	MC Approved	A	Subcommittee Repairs/Alterations
2.2.4 updated to include not allowing combustibles	23-07	MC Approved	A	Subcommittee Inspection
Revisions to Part 3, Supplement 6	20-67	MC Approved	B	Subcommittee Repairs/Alterations
Add language to Part 4, 3.2.6 to define test intervals for thermal fluid heater PRDs	20-85	MC Approved	B	Subcommittee Pressure Relief Devices
Working Pressure Calculations for Curved Stayed Surfaces	21-34	MC Approved	B	Subcommittee Inspection
Add Test Details to NBIC Part 4, 3.3.3.4 i) Valve Adjustment and Sealing	21-36	MC Approved	B	Subcommittee Pressure Relief Devices
Deferral of inspection due dates (pressure relieving devices NBIC PART IV)	21-59	MC Approved	B	Subcommittee Pressure Relief Devices
Examples of Repairs	21-82	MC Approved	B	Subcommittee Repairs/Alterations
What is the meaning of "service limitations" as used in Part 4, 2.4.5?	22-15	MC Approved	B	Subcommittee Pressure Relief Devices
Drains in equipment rooms with heating boilers containing glycol.	22-30	MC Approved	B	Subcommittee Installation
DOT Transport Tank Pressure Testing (Part 2, Supplement 6)	23-19	MC Approved	B	Subcommittee Inspection
Changes to Part 3, 2.5.3.4 to clarify intent	23-22	MC Approved	B	Subcommittee Repairs/Alterations
Name Plate replacement	23-25	MC Approved	B	Subcommittee Repairs/Alterations
References to change of service for LPG vessels incorrectly use "altered"	23-30	MC Approved	B	Subcommittee Inspection
Update Table 2.3 to remove dates	23-33	MC Approved	B	Subcommittee Repairs/Alterations
Gasket Surface Repair for Graphite Pressure Vessels	23-43	MC Approved	B	Subcommittee Repairs/Alterations
Revision to Part 3, S3.5.4 m)	23-44	MC Approved	B	Subcommittee Repairs/Alterations
Requirements for Inlays as Routine Repairs	23-46	MC Approved	B	Subcommittee Repairs/Alterations
Require separate waterside piping connections for multiple LWCO devices	23-50	MC Approved	B	Subcommittee Installation
Replace "legal" with "company" in 1.5.1 a) Title Page	23-51	MC Approved	B	Subcommittee Repairs/Alterations
Requirements for who can make hole plugging repairs on graphite blocks	19-73	MC Approved	C	Subcommittee Repairs/Alterations
Adding requirements for Temporary Locations to Part 3, 1.4.1	21-31	MC Approved	C	Subcommittee Repairs/Alterations
Audit Requirements for the T/O holder	21-61	MC Approved	C	Subcommittee Pressure Relief Devices
Add welding requirements to plugging firetubes	21-67	MC Approved	C	Subcommittee Repairs/Alterations
R Certificate Holders with Design Only Scope	22-19	MC Approved	C	Subcommittee Repairs/Alterations
Reference NB-415 in Quality System	22-41	MC Approved	C	Subcommittee Repairs/Alterations
Address Flush Patch Plate Weld NDT	23-04	MC Approved	C	Subcommittee Repairs/Alterations

Revision and clarification of Part 4, 4.2.2 for use of ASME Code Cases	23-18	MC Approved	C	Subcommittee Pressure Relief Devices
Revision to NB-136	23-28	MC Approved	C	Subcommittee Inspection
Testing of liquid service valves to be water or other suitable liquid	23-31	MC Approved	C	Subcommittee Pressure Relief Devices
Add comment to further define responsability of the owner user	23-37	MC Approved	C	Subcommittee Inspection
Add the applicable requirements for Auditors	23-58	MC Approved	C	Subcommittee Repairs/Alterations
Wording Updates	23-84	MC Approved	C	Subcommittee Inspection
Correction of duplicated words from approved A20-67 and A23-25	24-02	MC Approved	C	Subcommittee Repairs/Alterations

PROPOSED INTERPRETATION

Item No.

23-55

Subject/Title

DOT Supplement 6 Intent Interpretation

Project Manager and Task Group

Robert Underwood, Subcommittee Repairs/Alterations

Source (Name/Email)

Robert Underwood / robert_underwood@hsb.com

Statement of Need

This intent interpretation will address the incorrect information in Part 3, Supplement 6, paragraph S6.8.

Background Information

The current wording in S6.8 of the 2021 and 2023 Edition of Part 3 incorrectly requires the National Board Commissioned Inspector to ALSO be a DOT Registered Inspector. The 2025 Edition is removing reference to Registered Inspector (Item 20-67). This Intent Interpretation addresses the incorrect reference to Registered Inspector and the "answer" reflects the approved wording from the 2025 Edition of Supplement 6, paragraph S6.6.

Proposed Question

When performing repair and alteration activities to DOT Transport Tanks in accordance with NBIC Part 3, Supplement 6, is it the intent that the inspection and certification be made by a Registered Inspector meeting the requirements of the Competent Authority?

Proposed Reply

No. Inspection and certification shall be made by an Inspector holding an appropriate National Board Commission as required by NBIC Part 3, 1.3.

Committee's Question 1
When performing repair and alteration activities to DOT Transport Tanks in accordance with NBIC Part 3, Supplement 6, is it the intent that the inspection and certification be made by a Registered Inspector meeting the requirements of the Competent Authority?

Committee's Reply 1
No. Inspection and certification shall be made by an Inspector holding an appropriate National Board Commission as required by NBIC Part 3, 1.3.

Rationale

Committee's Question 2

Committee's Reply 2

Rationale

Relevant Revised Text for Reference:
Item 20-67 – Revisions to Part 3, Supplement 6
Approved by Main Committee in March of 2023

SUPPLEMENT 6

REPAIR, ALTERATION, AND MODIFICATION OF DOT TRANSPORT (CARGO)} TANKS

S6.1 SCOPE

This supplement provides requirements and guidelines for repairs, alterations, or modifications to DOT

Transport Tanks used for the transportation of dangerous goods via highway, rail, air, or water.

S6.2 DEFINITIONS

The definitions specified in NBIC Part 3, Section 9, *Glossary*, shall be used in conjunction with those specified in NBIC Part 2, S6.17. Where conflicts between definitions exist, those identified in NBIC Part 2, S6.17 shall take precedence.

S6.3 CONSTRUCTION STANDARDS

When the standard governing the original construction is the ASME Code or other regulations of the Competent Authority, repairs, alterations, or modifications shall conform, insofar as possible, to the edition of the construction standard or specification most applicable to the work. Where this is not possible or ~~practical~~ practicable, it is permissible to use other codes, standards or specifications, including the ASME Code provided the "R" Certificate Holder has the concurrence of the Inspector and~~,~~ if required, the Competent Authority.

S6.4 ACCREDITATION AND REGISTRATION

Organizations performing repairs, alterations, or modifications shall be accredited in accordance with the National Board “R” Accreditation Program. In addition repair organizations performing repairs, alterations, or modifications to transport tanks shall be registered with DOT as required by 49 CFR Part 180.

S6.5 AUTHORIZATION

The Inspector’s authorization to perform a repair, alteration, or modification shall be obtained prior to initiation of the work to be performed on a transport tank. Additional requirements are specified in NBIC Part 3, 1.3.1 and 1.3.2.

S6.6 INSPECTION

Inspection and certification shall be made by an Inspector holding an appropriate National Board Commission as required by NBIC Part 3, 1.3.

S6.7 MODIFICATIONS

All modifications, as defined in NBIC Part 2, Supplement 6, to the pressure-retaining item shall meet the requirements of NBIC Part 3 for alterations and 49CFR180.413(b).

S6.8 DRAWINGS AND CALCULATIONS

a) Design requirements for repairs, alterations and modifications shall comply with the requirements of NBIC Part 3, 3.2.4.

b) As appropriate, drawings or instructions shall be prepared to describe the repair, alteration, or modification. Drawings shall include sufficient information to satisfactorily perform the activity.

c) The design of alterations and modifications shall be completed by an organization experienced in the design portion of the standard used for the construction of the item and certified by a Design Certifying Engineer as defined in NBIC Part 2, S6.17. Design documents shall be completed prior to the start of any physical work and be available for review by the Inspector accepting the design.

S6.~~9~~5 MATERIALS

The materials used in making repairs, alterations, or modifications shall conform to the original code of construction including the material specification requirements. Carbon or alloy steel having a carbon ~~con- tent~~content of more than 0.35% (0.30% for ton tanks) shall not be welded unless permitted by the original code of construction. The “R” Certificate Holder is responsible for verifying the identification of existing materials from original data, drawings, or unit records and identification of the material to be installed. Materials that have previously been in service, as described in Part 3, 3.2.1 c), are not permitted for alterations or modifications of DOT Transport Tanks per 49 CFR Part 180. Additional material requirements are provided in NBIC Part 3, Section 3.

S6.~~6~~10 REPLACEMENT PARTS

Replacement parts to be used in repairs, alterations, and modifications of DOT Transport Tanks shall comply with the requirements provided in NBIC Part 3, 3.2.2.

~~a) Replacement parts that will be subject to internal or external pressure that consist of new material which may be formed to the required shape by spinning, forging, die forming, and on which no fabrication welding is performed shall be supplied as material. Such parts shall be marked with the material and part identification and the name or trademark of the parts manufactured. In lieu of full identification marking on the material or part, the part manufacturer may use a coded marking system traceable to the original marking. Such markings shall be considered as the part manufacturer's certification that the part complies~~

with the original code of construction. Examples include seamless or welded tube or pipe, forged nozzles, heads or subassemblies attached mechanically.

b) Replacement parts that will be subject to internal or external pressure, that are preassembled by attachment welds, shall have the welding performed in accordance with the original code of construction. This certificate shall be supplied in the form of a bill of material or drawings with statement of certification.

c) Replacement parts subject to internal or external pressure fabricated by welding that require shop inspection by an Authorized Inspector shall be fabricated by an organization having an appropriate ASME *Certificate of Authorization*. The item shall be inspected and stamped as required by the applicable section of the ASME Code and DOT specification requirements. A completed ASME *Manufacturer's Partial Data Report* shall be supplied by the manufacturer.

d) When the original code of construction is other than ASME, replacement parts subject to internal or external pressure fabricated by welding shall be manufactured by an organization certified as required by the original code of construction. The item shall be inspected and stamped as required by the original code of construction. Certification as required by the original code of construction shall be supplied with the item. When this is not possible or practicable the organization fabricating the part may have a National Board *Certificate of Authorization*. Replacement parts fabricated by an "R" stamp holder shall be documented on Form R-3 and the "R" Stamp applied as described in NBIC Part 3, S6.15.

S6.7 AUTHORIZATION

The Inspector's written authorization to perform a repair, alteration, or modification shall be obtained prior to initiation of the work to be performed on a transport tank. Additional requirements are specified in NBIC Part 3, 1.3.1 and 1.3.2.

S6.8 INSPECTION

Inspection and certification shall be made by an Inspector holding an appropriate National Board Commission as required by NBIC Part 3, 1.3 and shall be a Registered Inspector meeting the requirements of the Competent Authority.

S6.8.1 INSPECTOR DUTIES FOR REPAIRS, ALTERATIONS, AND MODIFICATIONS

a) Inspectors performing repair, alteration, or modification inspections under the requirements of this supplement shall satisfy the requirements of S6.8.1 to be authorized to sign the Form R-1, *Repairs* and Form R-2, *Alterations*.

b) For repairs, alterations, and modifications of transport tanks, the duties of the Registered Inspector performing inspections are detailed in Part 2, S6.10 through S6.15, as required by the Competent Authority.

c) The Registered Inspector shall meet the rules of NB-263, RCI-1, Rules for Commissioned Inspectors. Additional duties are summarized below:

1. Verify the organization performing the repair, alteration or modification activity is properly accredited and in possession of a current valid *Certificate of Authorization* to apply the "R" Stamp issued by the National Board and is working to an accepted Quality Control System;

2. Verify that the design, if required, for the modification of the vessel is approved by a Design Certifying Engineer, or Designated Approval Agency or other applicable individual;

3. Verify the materials to be used to make the repair, alteration, or modification are approved for use and comply with applicable code requirements;

4. Verify the welding procedures and welders or welding operators are properly qualified;

5. Verify that all heat treatments, if required, including PWHT have been performed in accordance with the applicable standards and that the results are acceptable;

6. Verify that all NDE, impact tests, and other tests have been performed when required, and that they are acceptable;

7. Make a visual inspection of the work performed to confirm there are no visible defects or deviations from code requirements;

8. Perform external and internal visual inspections, if the vessel is equipped with a manway, and wit- ness the hydrostatic or pneumatic pressure test and/or leak tightness test when they are required;

9. Verify the correct nameplate is properly attached to the vessel and that the current test and inspection markings are properly attached and displayed on the proper vessel;

10. Sign the Form R-1 and, as appropriate, form R-2 when work is completed.

PROPOSED INTERPRETATION

Item No.

23-64

Subject/Title

Review of calculations for a new nozzle per 3.3.3 j)

Project Manager and Task Group

Source (Name/Email)

Paul Shanks / paul.shanks@bureauveritas.com

Statement of Need

Example of repair 3.3.3 j) may allow for limits of reinforcement to over lap in some cases and as such is not conservative.

Background Information

Code case 2695, formerly and Mandatory Appendix 46, currently allow section VIII Div.1 certificate holders to use the opening reinforcement methods as listed in Section VIII Div.2 on Div.1 vessels. Section VIII div.2 stipulates that for a set through nozzle the limit of reinforcement is measure radially from the OD of a nozzle, Given that the limit of reinforcement is nominally equal to the inside diameter of the opening, two set through nozzle openings that have their centers 3 inside diameters apart may have unacceptable overlapping limits of reinforcement.

Proposed Question

In 3.3.3 j) is diameter taken to mean outside diameter?

Proposed Reply

Yes

Committee's Question 1

In 3.3.3 j) does the diameter refer to the outside diameter of the nozzle?

Committee's Reply 1

No, the diameter used shall be the diameter referenced in the original code of construction.

Rationale

Committee's Question 2

Committee's Reply 2

Rationale

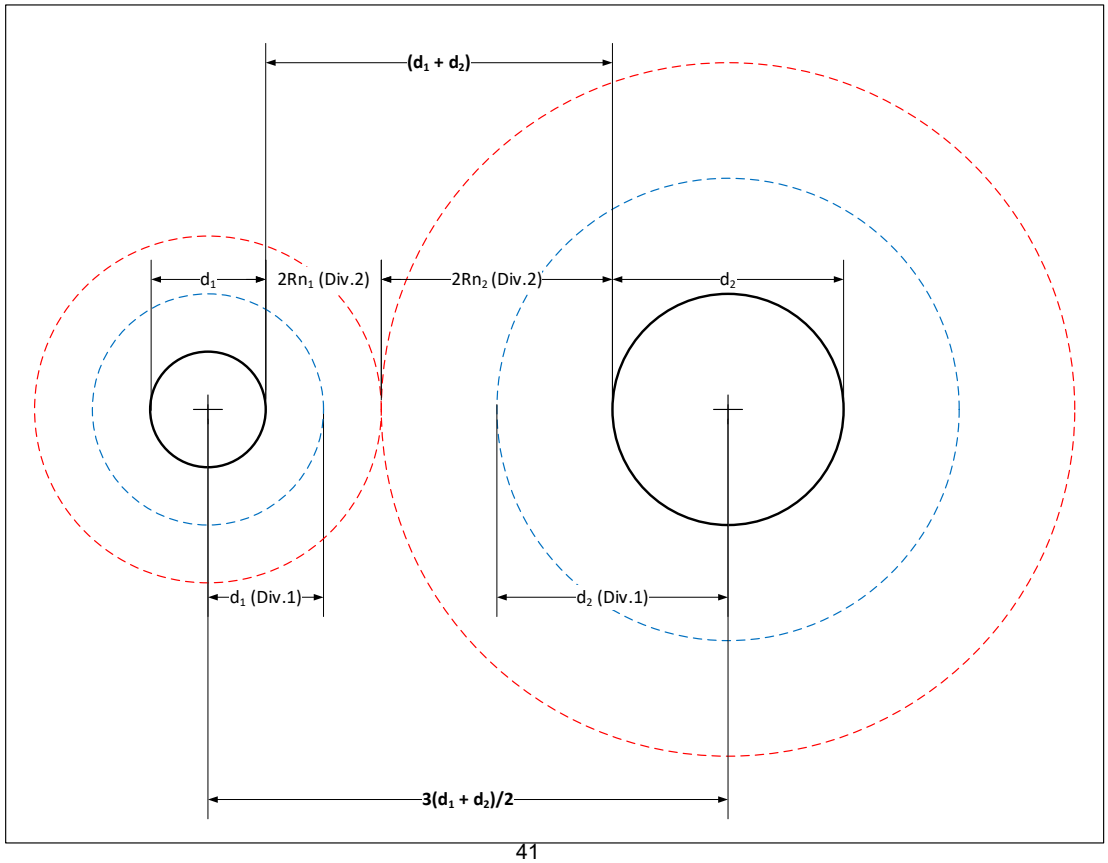
	VOTE:						
COMMITTEE	Approved	Disapproved	Abstained	Not Voting	Passed	Failed	Date

Current wording (2023)

The addition of a nozzle where reinforcement is a consideration may be considered to be a repair, provided the nozzle is identical to one in the original design, located in a similar part of the vessel, and not closer than three times its diameter from another nozzle. The addition of such a nozzle shall be restricted by any service requirements.

Proposed Revision:

3.3.3(j) The addition of a nozzle where reinforcement is a consideration may be considered to be a repair, provided the nozzle is identical to one in the original design (including orientation), located in a similar part of the vessel, and not spaced closer than three times the average diameter of the nozzle and any adjacent nozzle, measured from the nozzles' centerlines. The addition of such a nozzle shall be restricted by any service requirements.



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.

Action Item: 23-75
Date of Request: 10/17/2023
Requester: Andrew Triplett

Subject of Request: NDE In Lieu of Pressure Testing for Alterations

Location 1: NBIC Part 3, Section 4, Paragraph 4.4.2.c

Location 2: NBIC Part 3, Section 9, Paragraph 9.1, definition of "Practicable"

Existing Text from Location 1: "NDE may be conducted when contamination of the pressure-retaining item by liquids is possible or when pressure testing is not practicable."

Existing Text from Location 2: "Practicable - Capable of being accomplished based on technical consideration of the nature and scope of activities, design, or arrangement."

Statement of Need: The existing language in NBIC Part 3, Section 4, Paragraph 4.4.2.c – in concert with the new definition of "practicable" added in the 2023 Edition of the Code – may confuse Repair Organizations and owners about their options when it comes to verifying a successful alteration to a pressure-retaining item.

Background: The definition of "practicable" added to the 2023 Edition of NBIC potentially makes the use of NDE in lieu of a pressure test unjustifiable during alterations should a pressure test be physically possible on the altered component, even if NDE would actually do a better job of verifying the alteration's integrity.

Question 1: Does the term "practicable" as used in NBIC Part 3, Paragraph 4.4.2.c prohibit the use of NDE in lieu of pressure testing if NDE will provide sufficient information to confirm alteration integrity, given concurrence of the owner, Inspector, and Jurisdiction (as applicable)?

Proposed Reply 1: No.

Committee Question: During alteration activities, may NDE be performed in lieu of a pressure test with the concurrence of the owner, Inspector, and Jurisdiction (as applicable) even though a pressure test is practicable?

Committee Reply: No

PROPOSED REVISION OR ADDITION

Item No.

A 23-73

Subject/Title

Revise Interp 21-05 to add later ASME Editions

NBIC Location

Part: Repairs and Alterations & Repairs and Alterations; Section: INTERP 21-05 & Section 10; Paragraph: INTERP 21-05

Project Manager and Task Group

Source (Name/Email)

Terrence Hellman / thellman@nationalboard.org

Statement of Need

Interp 21-05 intended to require all alterations to vessels built to ASME Sect. VIII Div. 1, 2021 Edition AND ALL FOLLOWING EDITIONS , be done by design personnel meeting the requirements of Appdx 47.

Background Information

The words, "or later" were intended to be in the text. This item is intended only to add these words to the existing interp 21-05.

Existing Text	**Proposed Text**
INTERPRETATION 21-05 Subject: ASME Section VIII, Div. 1 Design Personnel Requirements and NBIC Repairs/Alterations Edition: 2021 Question: Are the 2021 ASME Section VIII, Division 1 Mandatory Appendix 47 design personnel requirements applicable to NBIC alterations to ASME Section VIII, Division 1 pressure-retaining items? Reply: Yes, for alterations to vessels built to the 2021 edition of the ASME Code Section VIII Division 1, or if the 2021 edition is used as the Code of Construction for the alteration, the design calculations shall be prepared and certified by design personnel meeting the criteria of ASME Section VIII Division 1 Mandatory Appendix 47.	INTERPRETATION 21-05 Subject: ASME Section VIII, Div. 1 Design Personnel Requirements and NBIC Repairs/Alterations Edition: 2021 Question: Are the 2021 ASME Section VIII, Division 1 Mandatory Appendix 47 design personnel requirements applicable to NBIC alterations to ASME Section VIII, Division 1 pressure-retaining items? Reply: Yes, for alterations to vessels built to the 2021 edition or later of the ASME Code Section VIII Division 1, or if the 2021 edition or later is used as the Code of Construction for the alteration, the design calculations shall be prepared and certified by design personnel meeting the criteria of ASME Section VIII Division 1 Mandatory Appendix 47.

	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.

A 23-58

Subject/Title

Add the applicable requirements for Auditors

NBIC Location

Part: Repairs and Alterations; Section: 1.6; Paragraph: 1.6.7.1 s) 2)

Project Manager and Task Group

Source (Name/Email)

Terrence Hellman / thellman@nationalboard.org

Statement of Need

Add the applicable requirements from ASME “Requirement 2” to the current requirements of audit personnel per 1.6.7.1 s) 2) for Cat. 2 or change it to be specific to Sect. XI

Background Information

Add the applicable requirements from ASME “Requirement 2” to the current requirements of audit personnel per 1.6.7.1 s) 2) for Cat. 2 or change it to be specific to Sect. XI

Existing Text	**Proposed Text**
s) Audits The provisions identified in ASME NQA-1, Part 1, Requirement 18 shall apply and shall include the following: A comprehensive system of planned and periodic audits of the “NR” Certificate Holder’s Quality Assurance Program shall be performed. Internal and Supplier Audit frequencies shall be specified in the organization’s Quality Assurance Manual. Internal Audits shall be conducted at least annually (within 12 months) for any ongoing code activity to verify compliance with Quality Assurance Program requirements and/or performance criteria, and to determine the effectiveness of the Quality Assurance Program. When no code work has been performed, the internal audit need only include those areas of responsibility required to be continually maintained, such as training, audits, organizational structure, and Quality Assurance Program revisions, etc. External audits (e.g., Supplier audits) of organizations with certification/accreditation permitted by ASME may not be required if acceptable to the Regulatory Authority. The Quality Assurance Manual shall as a minimum describe the following: 1) Audits shall be performed in accordance with written procedures or checklists by qualified audit personnel not having direct responsibility in areas being audited; 2) Audit personnel shall be qualified in accordance with the current requirements of ASME NQA-1;	s) Audits The provisions identified in ASME NQA-1, Part 1, Requirement 18 shall apply and shall include the following: A comprehensive system of planned and periodic audits of the “NR” Certificate Holder’s Quality Assurance Program shall be performed. Internal and Supplier Audit frequencies shall be specified in the organization’s Quality Assurance Manual. Internal Audits shall be conducted at least annually (within 12 months) for any ongoing code activity to verify compliance with Quality Assurance Program requirements and/or performance criteria, and to determine the effectiveness of the Quality Assurance Program. When no code work has been performed, the internal audit need only include those areas of responsibility required to be continually maintained, such as training, audits, organizational structure, and Quality Assurance Program revisions, etc. External audits (e.g., Supplier audits) of organizations with certification/accreditation permitted by ASME may not be required if acceptable to the Regulatory Authority. The Quality Assurance Manual shall as a minimum describe the following: 1) Audits shall be performed in accordance with written procedures or checklists by qualified audit personnel not having direct responsibility in areas being audited; 2) Audit personnel shall be qualified in accordance with imposed regulatory standards or NQA-1;~~Audit personnel shall be qualified in accordance with the current requirements of ASME NQA-1;~~

THE NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS

PROPOSED REVISION OR ADDITION

Item No.

A 21-31 Rev 02

Subject/Title

Temporary Location

NBIC Location

Project Manager and Task Group

Ray Miletti (PM), Eric Cutlip, Marty Toth, Jamie Walker

Source (Name/email)

Statement of Need

"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.

Background Information

NB-415 has been revised and issued. Section 9.0 has added definitions for Shop Location, Temporary Location and Field Site. Shop Location and Field Site duplicate definitions already in Part 3, Temporary Location is a new definition.

Further Footnote 1 of section 2.2 in NB-415 states: '*A separate application is required for temporary locations (See Section 9.0 of this procedure) as permitted by National Board internal policies*.', and Section 6.4 requires requests for the use of temporary locations to be submitted to NB for approval, further the use of temporary locations not approved is prohibited.

This action proposes to add a new subparagraph h) in section 1.4.1 to provide guidance on making requests to NB for the use of a temporary location.

Existing Text	**Proposed Text**
1.4.1 ACCREDITATION PROCESS	**1.4.1 ACCREDITATION PROCESS**
a) The National Board administers accreditation programs for authorization of organizations performing repairs and alterations to pressure-retaining items in accordance with NB-415, *Accreditation of "R" Repair Organizations*.	a) The National Board administers accreditation programs for authorization of organizations performing repairs and alterations to pressure-retaining items in accordance with NB-415, *Accreditation of "R" Repair Organizations*.
b) Any organization may apply to the National Board to obtain a Certificate of Authorization for the requested scope of activities. A review shall be conducted to evaluate the organization's quality system. The individual assigned to conduct the evaluation shall meet the qualification requirements prescribed by the National Board. Upon completion of the evaluation, any deficiencies within the organization's quality system will be documented and a recommendation will be made to the National Board regarding issuance of a *Certificate of Authorization*.	b) Any organization may apply to the National Board to obtain a Certificate of Authorization for the requested scope of activities. A review shall be conducted to evaluate the organization's quality system. The individual assigned to conduct the evaluation shall meet the qualification requirements prescribed by the National Board. Upon completion of the evaluation, any deficiencies within the organization's quality system will be documented and a recommendation will be made to the National Board regarding issuance of a *Certificate of Authorization*.

c) As part of the accreditation process, an applicant's quality system is subject to a review. National Board procedures provide for the confidential review resulting in recommendations to issue or not issue a *Certificate of Authorization*. d) The accreditation programs provide requirements for organizations performing repairs and alterations to pressure-retaining items. e) The organization may perform repairs or alterations in its plants, shops, or in the field, provided such operations are described in the organization's Quality System. f) The Jurisdiction, as defined in Part 3, Section 9, may audit the Quality System and activities of an organization upon a valid request from an owner, user, inspection agency, or the National Board. g) The NBIC Committee may at any time change the rules for the issuance of Certificates of Authorization and use of the "R" Symbol Stamp. These rules shall become binding on all certificate holders. .	c) As part of the accreditation process, an applicant's quality system is subject to a review. National Board procedures provide for the confidential review resulting in recommendations to issue or not issue a *Certificate of Authorization*. d) The accreditation programs provide requirements for organizations performing repairs and alterations to pressure-retaining items. e) The organization may perform repairs or alterations in its plants, shops, or in the field, provided such operations are described in the organization's Quality System. f) The Jurisdiction, as defined in Part 3, Section 9, may audit the Quality System and activities of an organization upon a valid request from an owner, user, inspection agency, or the National Board. g) The NBIC Committee may at any time change the rules for the issuance of Certificates of Authorization and use of the "R" Symbol Stamp. These rules shall become binding on all certificate holders. h) **Temporary Locations** Per the requirements of NB-415, Accreditation of Repair ("R") Organizations, temporary locations shall not be used unless approved by the National Board. Request for authorization to use a temporary location shall be made to the National Board using Form NB-481, National Board "R" Certificate of Authorization Temporary Location Request. The organization shall describe the use and control of a temporary location within the organization's Quality System. The activities of the Inspector shall be the same as for the Repair Organization's plants, shops or field sites.

	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.

21-67

Subject/Title

Removal of reference to mechanical portion and add additional information for welding

NBIC Location

Part 3 Repairs and Alterations, Section 3, Paragraph 3.3.4.9

Project Manager and Task Group

PM – Philip Gilston

TG – Kathy Moore, Trevor Seime, Don Kinney and Steve Frazier

Source (Name/email)

Kathy Moore / kathymoore@joemoorecompany.com

Statement of Need

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.

Background Information

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.

Improper welding of tube plugs in firetubes often creates ligament cracks.

Originally the part addressing mechanical plugs was action item 21-71, the item has been combined here to make for a clean proposal

Revision 12 Notes, summary of changes, and actions addressing comments made in the ballot:

1. Second sentence of 'a' revised per Mr. Galanes comment. Highlighted below

Existing Text	**Proposed 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	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~~

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.	~~interface, shall be evaluated by the "R" Certificate Holder performing the repair and reviewed with the Inspector, and when required, the Jurisdiction.~~ ~~b~~a) ~~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 reduced heat transfer (e.g. potential for over-heating of remaining tubes) ~~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~~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. ~~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 11 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 waterside pressure boundary and reduced heat transfer (e.g. potential for overheating of remaining tubes)~~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.

	VOTE						
Committee	**Approved**	**Disapproved**	**Abstained**	**Not Voting**	**Passed**	**Failed**	**Date**

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 System. "R" Certificate Holders who perform ~~physical~~ the above work in the field shall have the scope for field activities on their "R" *Certificate of Authorization*.

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 (MRRC) 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 MRRC 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.

~~c)~~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.

Item 22-41 – Addressing NB-415 Changes to Organization

Existing Text	Proposed Text
1.5.1 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.	1.5.1 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. **3) The process of handling changes to scope, primary contact information (company's primary contact name, phone, or email), ownership, or their Inspection Agreement with an AIA~~, and~~.** **a. ~~shall~~This process shall include notification in writing to the National Board Technical Department – Accreditation.**

Item 22-41 – **Addressing NB-415 Handling Multiple Stamps and Return of Stamps**

Existing Text	Proposed Text
1.5.1 q) Control of the "R" Symbol Stamp The Quality System shall provide adequate control of the "R" Symbol Stamp. In addition, the Quality System shall make provisions for Inspector acceptance for the application of the "R" Symbol Stamp to the pressure retaining item or nameplate. The accepted abbreviation of the "R" Certificate Holder's name shall be included in the manual.	1.5.1 q) Control of the "R" Symbol Stamp The Quality System shall provide adequate control of the "R" Symbol Stamp. In addition: 1) The Quality System shall make provisions for Inspector acceptance for the application of the "R" Symbol Stamp to the pressure retaining item or nameplate; 2) The accepted abbreviation of the "R" Certificate Holder's name shall be included in the **Quality System**~~manual~~; **3) If more than one "R" symbol stamp is obtained and maintained by the organization, the use and control of multiple stamps shall be included in the Quality System~~manual~~;** **4) The ~~manual~~ Quality System shall contain provisions and timeframe for the "R" symbol stamp(s) to be returned to the National Board if the organization discontinues its use of the "R" Certificate of Authorization, if it no longer holds an Inspection Agreement with an AIA (if applicable), or if the Certificate of Authorization has expired and a new certificate has not been requested by the organization.**

Item A-23-04

New proposed 2025 changes

4.2 NONDESTRUCTIVE EXAMINATION

a) The nondestructive examination (NDE) requirements, including technique, extent of coverage, procedures, personnel qualification, and acceptance criteria, shall be in accordance with the Original Code of Construction for the pressure-retaining item. Where this is not possible or practicable, alternative NDE methods acceptable to the Inspector and the Jurisdiction where the pressure-retaining item is installed, where required, may be used. Where the welds were subject to volumetric NDE during construction, repairs may be made to the base material and weld joints without volumetric examination under the following conditions:

1. The repair depth does not exceed the lesser of 1/8 inch (3 mm) or 25% of the nominal base material thickness.
2. The aggregate repair length is no longer than 6 inches (150 mm);
3. The repair cavity and each layer of deposited weld, including the final weld surface, have been examined by MT or PT.

b) When volumetric NDE is required by the original code of construction but is not possible or practicable, progressive liquid penetrant or magnetic particle examination as described in paragraph 4.2 (b)(1) may be used. This alternative NDE method is subject to the acceptance of the Inspector, owner and when required, the Jurisdiction where the pressure-retaining item is installed, provided that all other requirements of this section are met.

1) Progressive liquid penetrant or magnetic particle examination shall be performed on each layer of the weld to be examined, including the final weld. Prior to performing PT or MT the surface of each layer of weld shall be properly prepared for examination. The final weld may be examined with or without grinding. The NDE report shall include the number of layers examined. This alternative NDE method shall be documented in the remarks section of the applicable R-form.

c) NDE personnel shall be qualified and certified in accordance with the requirements of the original code of construction. When this is not possible or practicable, NDE personnel may be qualified and certified in accordance with their employer's written practice. ASNT SNT-TC-1A, *Recommended Practice Nondestructive Testing Personnel Qualification and Certification* (2006 edition), or ANSI/ASNT CP-189, *Standard for Qualification and Certification of Nondestructive Testing Personnel* (2006 edition), shall be used as a guideline for employers to establish their written practice. Provisions for training, experience, qualification, and certification of NDE personnel shall be described in the "R" Certificate Holder's written quality system.

THE NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS

PROPOSED REVISION OR ADDITION

Item No.

A 24-02 Rev 00

Subject/Title

Revision to S6.18 approved for 2025 under item A 23-25

NBIC Location

Project Manager and Task Group

Philip Gilston

Source (Name/email)

Philip Gilston (philip_gilston@hsb.com)

Statement of Need

Elimination of duplicate wording between S6.18.3 approved for 2025 in item A 20-67 and S6.18 approved for 2025 under item A 20-25.

Background Information

Verbiage approved for the 2025 Edition via A20-67 created a new S6.18.3 paragraph: "S6.18.3 REPLACEMENT OF STEMPING OR NAMEPLATE Replacement of indistinct stamping or lost, illegible, or detached nameplates shall comply with the requirements provided in NBIC Part 2, 5.2."
Verbiage approved for the 2025 Edition via A23-25 included a new last sentence in S6.18: "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."
This proposal is to delete the last sentence in S6.18 to remove redundancy.

Also deleted word “governing” from “Competent governing Authority” in the opening sentence. The use of “governing” is not made anywhere else in Part in relation to the Competent Authority.

Existing Text (approved item A 23-25 for 2025)	**Proposed Text**
S6.18 GENERAL STAMPING REQUIREMENTS	**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,	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~~

illegible, or a duplicated is desired, see NBIC Part 2, 5.2 requirements.	~~duplicate nameplate when the original is lost, illegible, or a duplicated is desired, see NBIC Part 2, 5.2 requirements.~~

	VOTE						
Committee	**Approved**	**Disapproved**	**Abstained**	**Not Voting**	**Passed**	**Failed**	**Date**

23-18 A. Donaldson

4.2.2 CONSTRUCTION STANDARDS FOR THE REPAIR OF PRESSURE RELIEF DEVICES

For the repair of pressure relief devices, the following construction standards shall apply:

a) T~~t~~he applicable new construction standard ~~to be~~ used for reference during repairs shall be the original code of construction.~~is the ASME Code.~~

b) Applicable ASME Code Cases shall be used for reference during repairs when:

1) The device complies with an ASME Code Case or, ~~they were used in the original construction of the valve.~~

2) The device undergoes a conversion to comply with an ASME Code Case. ~~ASME Code Cases may be used when they have been accepted for use by the NBIC Committee and the Jurisdiction where the pressure-retaining item is installed.~~

~~A device that complies with an ASME Code Case may be converted to comply with the original code of construction.~~

For pressure relief devices ~~repaired per 4.2.2 b)1 or~~ converted per 4.2.2 b)2, the ASME Code Case number shall be noted on the repair document and~~, when required by the code case,~~ stamped on the repair nameplate.

A device that complies with an ASME Code Case may be converted to comply with the original code of construction.

For pressure relief devices converted to the original code of construction, the ASME Code Case number shall be noted on the repair document but shall not be stamped on the repair nameplate. References to that ASME Code C~~c~~ase shall be marked out but left legible on the original nameplate.

~~b)~~ The Jurisdiction where the pressure retaining item is installed shall be consulted for any unique requirements it may have established including construction standards and ASME Code Cases.

Item Number: 23-31	NBIC Location: Part 4, 3.2.5 d) 5) and Part 2, 2.5.7 d) 5)	No Attachment

General Description: Testing of liquid service valves to be water or other suitable liquid

Subgroup: PRD

Task Group: P. Dhobi (PM), K. Beise, T. Tarbay, T. Patel, H. Cornett, D. Marek

Explanation of Need: *The intent is that liquid service valves be tested on liquid. The term fluid can mean either liquid or vapor.*

July 2023 Meeting Action: A task group was assigned

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

a) Pressure relief devices shall be subject to periodic inspection and/or testing based upon the type of device.

b) The owner may perform testing on the unit wherever the valve is installed, or testing may be performed at a qualified test facility. In many cases, testing on the unit may be impractical, especially if the service fluid is hazardous or toxic. Testing on the unit may involve the bypassing of operating controls and should only be performed by qualified individuals under carefully controlled conditions. It is recommended to have available a written procedure to conduct this testing.

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

2) If the testing is performed at a test facility, the record of this test should be reviewed to ensure the device meets the requirements of the original code of construction. Devices which have been in toxic, flammable, or other hazardous services shall be carefully decontaminated before being tested. In particular, the closed bonnet of valves in these services may contain fluids that are not easily removed or neutralized. If a test cannot be safely performed, the device shall be disassembled, cleaned, decontaminated, repaired, and reset.

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

3.2.5.1 TESTING AND OPERATIONAL INSPECTION OF PRESSURE RELIEF VALVES

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

a) Pressure relief valves shall be tested periodically to ensure that they are free to operate and will operate in accordance with the requirements of the original code of construction. Testing should include device set or opening pressure, reclosing pressure (where applicable), and seat leakage evaluation. Tolerances for these operating requirements specified in the original code of construction shall be used to determine the acceptability of test results.

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

damaged.
c) If valves are not tested on the system using the system fluid, the following test mediaums shall be used:
1) High pressure boiler pressure relief valves, high temperature hot-water boiler pressure relief valves, low pressure steam heating boilers: steam;
2) Hot-water heating boiler pressure relief valves: steam, air, or water;
3) Hot water heater temperature and pressure relief valves: air or water;
4) Air and gas service process pressure relief valves: air, nitrogen, or other suitable gas;
5) Liquid service process pressure relief valves: water or other suitable fluid*liquid*; and
6) Process steam service pressure relief valves: steam or air with manufacturer's steam to air correction factor.
Note: Valves being tested after a repair must be tested on steam except as permitted by 4.6.2.
d) As an alternative to a pressure test, the owner may check the valve for freedom of operation by activating the test or "try" lever (i.e., manual check). For high pressure boiler and process valves, this test should be performed only at a pressure greater than 75% of the stamped set pressure of the valve or the lifting device may be damaged. This test will only indicate that the valve is free to operate and does not provide any information on the actual set pressure. All manual checks should be performed with some pressure under the valve in order to flush out from the seat debris that could cause leakage.
Note: The manual check at 75% or higher is based on lift lever design requirements for ASME Section I and VIII valves. Code design requirements for lifting levers for Section IV valves require that the valve is capable of being lifted without pressure.
e) Systems with multiple valves will require the lower set valves to be held closed to permit the higher set valves to be tested. A test clamp or "gag" should be used for this purpose. The spring compression screw shall not be tightened. It is recommended that when the valve is at or near the test temperature, the test clamps are applied in accordance with the valve manufacturer's instructions; application should be hand-tight only to avoid damage to the valve stem or spindle.
f) Upon completion of set pressure testing, all pressure relief valve gags shall be removed. Any stop valves used to isolate lower set pressure relief devices shall be reopened (and locked, if applicable).

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

In addition to the requirements of 3.2.5, the following apply to testing and operational inspection of non-re-
closing PRDs with pins or bars.
a) Periodic set point testing is not required since pins or bars are single use.
b) Periodic inspection shall be per 3.2.4.4.
c) The owner shall periodically inspect the non-reclosing PRDs for freedom of motion. Freedom of motion
inspection frequency shall be per 3.2.6.
1) Remove pressure from the PRD, or remove the PRD from service, prior to performing this check.
2) Remove the pin or bar.
3) Manually exercise the sealing mechanism to ensure it is capable of its full range of motion.
4) Reinstall the pin or bar or replace with new. Replacement pin or bar shall be per manufacturer recommendations.
5) Restore pressure to the PRD.
6) The PRD should be checked for seat leakage following restoration of pressure.
d) The owner may elect to have a non-reclosing PRD tested periodically in order to determine service life of the device. Such tests should ensure that the PRD is free to operate and will operate in accordance

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

3.2.5.3 TESTING AND OPERATIONAL INSPECTION OF RUPTURE DISKS

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

a) Periodic testing of rupture disks is not required

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

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

d) If PRDs are not tested on the system using the system fluid, the following test medi*a*~~ums~~ shall be used:

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

2) Liquid service PRDs: water or other suitable *liquid.*

3.2.5.4 CORRECTIVE ACTION

a) If a pressure relief valve or pin device is found to be stuck closed, the system should immediately be taken out of service until the condition can be corrected, unless special provisions have been made to operate on a temporary basis (such as additional relief capacity provided by another valve.) The owner shall be notified and corrective action such as repairing or replacing the inoperable device shall be taken.

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

3.2.5.5 VALVE ADJUSTMENTS

a) If a set pressure test indicates the valve does not open within the requirements of the original code of construction, but otherwise is in acceptable condition, minor adjustments (defined as no more than twice the permitted set pressure tolerance) shall be made by a “VR” or “T/O” Certificate Holder to reset the valve to the correct opening pressure. All adjustments shall be resealed with a seal identifying the responsible organization and a tag shall be installed identifying the organization and the date of the adjustment.

b) If a major adjustment is needed, this may indicate the valve is in need of repair or has damaged or mis-
applied parts. Its condition should be investigated accordingly.

Item 23-31

Section 2: 2.5.7.1 TESTING AND OPERATIONAL INSPECTION OF PRESSURE RELIEF VALVES

In addition to the requirements of 2.5.7, the following apply to testing and operational inspection of pressure
relief valves.

a) Pressure relief valves shall be tested periodically to ensure that they are free to operate and will operate in accordance with the requirements of the original code of construction. Testing should include device set or opening pressure, reclosing pressure (where applicable), and seat leakage evaluation. Tolerances for these operating requirements specified in the original code of construction shall be used to determine the acceptability of test results.

b) Valves may be tested using lift assist devices when testing at full pressure may cause damage to the valve being tested or when it is impractical to test at full pressure due to system design considerations. Lift assist devices apply an auxiliary load to the valve spindle or stem, and using the measured inlet pressure, applied load and other valve data allow the set pressure to be calculated. If a lift assist device is used to determine valve set pressure, the conditions of NBIC Part 4, 4.6.3 shall be met. It should be noted that false set pressure readings may be obtained for valves which are leaking excessively or otherwise damaged.

c) If valves are not tested on the system using the system fluid, the following test medi~~a~~a ~~ums~~ shall be used:

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

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

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

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

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

~~5~~6) Process steam service pressure relief valves: steam or air with manufacturer's steam to air correction factor.

Note: Valves being tested after a repair must be tested on steam except as permitted by NBIC Part 4, 4.6.2.

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

Note: The manual check at 75% or higher is based on lift lever design requirements for ASME Sections I and VIII valves. Code design requirements for lifting levers for ASME Section IV valves require that the valve is capable of being lifted without pressure.

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

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

Item 23-31

2.5.7.2 TESTING AND OPERATIONAL INSPECTION OF NON-RECLOSING PRESSURE RELIEF DEVICES (PRD) WITH PINS OR BARS

In addition to the requirements of 2.5.7, the following apply to testing and operational inspection of non-reclosing PRDs with pins or bars.

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

b) Periodic inspection shall be per 2.5.5.4.

c) The owner shall periodically inspect non-reclosing PRDs for freedom of motion. Freedom of motion inspection frequency shall be per 2.5.5.4.

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

2) Remove the pin or bar.

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

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

5) Restore pressure to the PRD.

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

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

2.5.7.3 TESTING AND OPERATIONAL INSPECTION OF RUPTURE DISKS

In addition to the requirements of 2.5.7, the following apply to testing and operational inspection of rupture
disks.

a) Periodic testing of rupture disks is not required,

b) Rupture disks shall be subject to periodic inspection per 2.5.5.4.

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

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

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

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

~~fluid.~~

PROPOSED INTERPRETATION

Item No.
22-40

Subject/Title
Allowable stresses for t(required) calculation

Project Manager and Task Group

Source (Name/Email)
Tom Chen / tom.chen@chemours.com

Statement of Need
For the purpose of setting up inspection plans, especially with older equipment, we are calculating t(required) per Part 2, para 4.4.7.2. However, we would like to know if it is permissible to use the higher allowable stresses in later editions of ASME BPV Code.

Background Information
Part 3, para 3.4.2, titled "Alterations Based on Allowable Stress Values" states "...re-calculating a new minimum wall thickness for a pressure-retaining item using a later edition/addenda of the original code of construction or selected construction standard or code that permits use of higher allowable material stress values than were used in the original construction, the following requirements shall apply...". The paragraph goes on to give some requirements. It seems to imply that recalculating a new min wall thickness per new Code allowable stresses is considered an alteration. While Part 2, Para 4.4.7.2 does not reference allowable stress values, interpretation 07-13 and 95-19 states that it is permissible to use later editions of the original code of construction.

Proposed Question
Question 1: When calculating the t(required), as defined in NBIC Part 2, Para 4.4.7.2, is it permissible to use a later edition/addenda of the original code of construction?
Question 2: If the reply to Question No. 1 is yes, is it permissible to use higher allowable material stress values than were used in the original construction when calculating the t(required)?
Question 3: If the reply to Question No. 2 is yes, is it considered an alteration to use higher allowable material stress values than were used in the original construction to calculate the t(required) per NB23 Part 3, para 3.4.2?

Proposed Reply
Proposed Reply 1: Yes. See Interpretations 07-13 and 95-19.
Proposed Reply 2: Yes, if the requirements of NB23 Part 3, paragraph 3.4.2, subparagraphs (b), (c), (d), (e), and (f) are met.
Proposed Reply 3: No, unless required by the jurisdiction.

Committee's Question 1
When calculating the t(required), as defined in NBIC Part 2, Para 4.4.7.2, is it permissible to use a later edition/addenda of the original code of construction that permits higher allowable material stress values than the original code of construction?

Committee's Reply 1
No.

Rationale
Part 2 does not specifically allow for the use of a later edition/addenda of the original code of construction that permits higher allowable material stress values than the original code of construction. However, Part 2 Para. 4.4.7.2 (a) allows for the inspection interval to be determined by other industry methods (see Part 2, Para. 1.3) as accepted by the Jurisdiction. Interpretation 07-13 directs to Interpretation 95-19 which only directly addresses repairs and alterations.

Committee's Question 2

Committee's Reply 2

Rationale

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.

Interpretation Item 23-80
Submitted by Robin Forbes (robin.a.forbes@outlook.com)
12-2-23

Subject: The Held Pressure for Hydro-static Testing of Heritage Boilers.

Statement of Need: There has been issues in our Jurisdiction of inspectors interpreting that the boiler shall hold hydro static pressure for 10 minutes without the aid of a pump to maintain pressure. Therefore, any weep in valve packing, hand holes, gauge glass gaskets, etc. would be cause for failure of the hydro test.

Background: There was a situation where it took the owner of a traction engine 8 days to complete a hydro. Any drop in the pressure over the 10 minutes and the inspector would fail the boiler. He would reference the above clause from the NBIC as evidence the boiler must hold hydro static pressure (unaided) for 10 minutes.

Proposed Question: S2.6.1.a states a hydro static pressure between MAWP and 1.25 MAWP shall be "held for a minimum of 10 minutes or as required to perform a complete visual inspection" Is the intent that the boiler shall hold a set hydro static pressure for a minimum of 10 minutes, without the aid of a pump to maintain the pressure? Or is it permissible to use a pump to maintain the hydro static pressure for a minimum of 10 minutes?

Proposed Reply: Given that the wording is "held" and not "hold" the use of a pump to maintain the hydro static pressure is permissible. The intent that the pressure be held a minimum of 10 minutes is to allow time for leaks to present themselves along seams, tubes, stay bolts, etc.

Committee's Question:
S2.6.1 a) states a hydro static pressure between MAWP and 1.25 MAWP shall be "held for a minimum of 10 minutes or as required to perform a complete visual inspection". Is it permitted to use a pump to maintain hydro static pressure for a minimum of 10 minutes?

Committee's Reply:
Yes.

Rationale:
Given that the wording is "held" and not "hold" the use of a pump to maintain the hydro static pressure is permissible. The intent that the pressure be held a minimum of 10 minutes is to allow time for leaks to present themselves along seams, tubes, stay bolts, etc.

Item 23-28

Clark – December 5, 2023

5.3.3 INSTRUCTION FOR COMPLETING THE FORM NB-136, REPLACEMENT OF STAMPED DATA FORM

Items 1-13 shall be completed by the owner, user, original manufacturer, or "R" Certificate Holder making the request.

1) Enter the purchase order number, job number, or other identifying number used by your company if applicable.
2) The name, address, and phone number of the Jurisdiction, Authorized Inspection Agency (when there is no Jurisdiction) to which the form is being submitted for approval.
3) Enter the name and address of the requestor's company or organization. If an "R" Certificate Holder is making the request, provide the "R" Certificate Number.
4) Enter the name, email, and phone number of the person within the requestor's company or organization who can be contacted if there are any questions concerning this request.
5) Etner the name and address of the location where the pressure-retaining item is installed. If this is the same as number 3, check the box "Same as #3". If the pressure-retaining item is being refurbished and the final installation location is unknown, check the box "Stock Item-Unknown".
6) Enter the date the pressure-retaining item was installed. If unknown check the box "Unknown."
7) Enter the name of the manufacturer of the pressure-retaining item for whom the request is being submitted.
8) Is the Manufacturer's Data Report attached to the form? Check the appropriate box.
9) Is the pressure-retaining item registered with the National Board? Check the appropriate box. If yes, provide the National Board Registration Number.
10) Provide as much information as known to help identify the pressure-retaining item.
11) Provide a true facsimile of the legible part of the nameplate or stamping.
12) Attach any other documentation that helps provide traceability of the vessels to the original stamping, such as purchase orders, blueprints, inspection reports, etc.
13) Provide the name of the owner, user, original manufacturer, or "R" Certificate Holder making the request. If an "R" Certificate Holder is making the request, provide the "R" Certificate Number. Provide the signature of the requester and date requested.
14) To be completed by the Jurisdiction or Authorized Inspection Agency's authorized representative. If the original manufacturer is currently in business, concurrence shall be obtained by the owner or user.

    The requester shall submit the form along with any attachments to the jurisdiction where the pressure-retaining item is installed for approval. If there is no jurisdiction or the pressure-retaining item is a stock item, the requester shall submit the form to a national Board Commissioned Inspector for approval.

    After authorization, the form will be returned to the owner, user, original manufacturer, or "R" Certificate Holder who made the request. The requester is required to contact the jurisdiction or an Authorized Inspection Agency to provide a National Board Commissioned Inspector to witness the re-stamping or installation of the new nameplate. If the nameplate is being welded to the pressure-retaining boundary of the vessel, the welding shall be done by an "R" Certificate Holder. The

requester will provide the new nameplate or have on hand the tools to do the re-stamping in accordance with the original code of construction.

15) Once the re-stamping is completed, or the new nameplate is attached, the requester shall provide a true facsimile of the replacement stamping.
16) The owner, user, original manufacturer, or “R” Certificate Holder shall fill in their name (and “R” Certificate Number if an “R” Certificate Holder), signature, and date.
17) To be completed by the National Board Commissioned Inspector who witnessed the re-stamping or installation of the new nameplate.

    Note: Once the form is completed, the requester shall file a copy with the jurisdiction where the pressure-retaining item is installed, the National Board, and the owner or user of the vessel (if the request was made by the original manufacturer or the “R” Certificate Holder), and up on request to the Authorized Inspection Agency who witnessed the re-stamping or attachment of the new nameplate.

REPLACEMENT OF STAMPED DATA FORM, NB-136
in accordance with provisions of the *National Board Inspection Code*

1. _____
(P.O. no., job no., etc.)

2. SUBMITTED TO: _____
(Name of Jurisdiction)

_____
(Address)

_____
(Telephone no.)

3. SUBMITTED BY: _____ NUMBER
(Name of Owner, User, Original Manufacturer, or "R" Certificate Holder) ("R" Certificate Holder Only)

_____
(Address)

4. _____ _____ _____
(Name of contact) (Email) Telephone no.)

5. LOCATION OF INSTALLATION: ☐ SAME AS #3 ☐ STOCK ITEM-UNKNOWN

_____
(Name)

_____
(Address)

6. DATE INSTALLED: _____ ☐ UNKNOWN

7. MANUFACTURER: _____
(Name)

8. MANUFACTURER'S DATA REPORT ATTACHED: ☐ NO ☐ YES

9. ITEM REGISTERED WITH NATIONAL BOARD: ☐ NO ☐ YES, NB NUMBER _____

10. ITEM IDENTIFICATION: _____ _____ _____ _____
(Type) (Mfg. serial no.) (Jurisdiction no.) (Year built)

_____ _____ SAFETY RELIEF VALVE SET AT: _____
(Dimensions) (MAWP psi) (psi)

11. PROVIDE A TRUE FACSIMILE OF THE LEGIBLE PORTION OF THE NAMEPLATE: ☐ ATTACHED

THE FOLLOWING IS A TRUE FACSIMILE OF THE LEGIBLE PORTION OF THE ITEM'S ORIGINAL NAMEPLATE (IF AVAILABLE). PLEASE PRINT. WHERE POSSIBLE, ALSO ATTACH A RUBBING OR PICTURE OF THE NAMEPLATE.

12. TRACEABILITY DOCUMENTATION – PROVIDE ANY DOCUMENTATION THAT WILL HELP THE JURISDICTION OR INSPECTOR VERIFY THE REQUESTED RE-STAMPING OR REPLACEMENT NAMEPLATE IS IN ACCORDANCE WITH THE ORIGINAL CODE OF CONSTRUCTION FOR THIS PRESSURE-RETAINING ITEM. ☐ ATTACHED

13. I REQUEST AUTHORIZATION TO REPLACE THE STAMPED DATA OR NAMEPLATE ON THE ABOVE DESCRIBED PRESSURE-RETAINING ITEM IN ACCORDANCE WITH THE RULES OF THE *NATIONAL BOARD INSPECTION CODE* (NBIC).

NAME: _____ NUMBER: _____
(Owner, User, Original Manufacturer, "R" Certificate Holder) ("R" Certificate Holder only)

SIGNATURE: _____ ^ or _____ DATE: _____
(Authorized Representative)

14. BASED ON THE TRACEABILITY PROVIDED, AUTHORIZATION IS GRANTED TO REPLACE THE STAMPED DATA OR TO REPLACE THE NAMEPLATE OF THE ABOVE DESCRIBED PRESSURE-RETAINING ITEM.

SIGNATURE: _____ DATE: _____
(Authorized Jurisdictional Representative or Inspector)

NATIONAL BOARD COMMISSION NO.: _____ JURISDICTIONAL NUMBER: _____
(If available)

15. THE FOLLOWING IS A TRUE FACSIMILE OF THE ITEM'S REPLACEMENT STAMPING OR NAMEPLATE.
(Must clearly state "replacement")

16. I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE STATEMENTS IN THIS REPORT ARE CORRECT, AND THAT THE REPLACEMENT INFORMATION, DATA, AND IDENTIFICATION NUMBERS ARE CORRECT AND IN ACCORDANCE WITH PROVISIONS OF THE *NATIONAL BOARD INSPECTION CODE* (NBIC).

NAME: _____ NUMBER: _____
(Owner, User, Original Manufacturer, "R" Certificate Holder) ("R" Certificate Holder only)

SIGNATURE: _____ ^ or _____ DATE: _____
(Authorized Representative)

17. WITNESSED BY: _____ EMPLOYER: _____
(Name of Inspector)

SIGNATURE: _____ DATE: _____ NB COMMISSION NO.: _____
(Name of Inspector)

1.4 PERSONNEL SAFETY

a) Personnel safety is the joint responsibility of the owner or user and the Inspector. All applicable safety regulations shall be followed. This includes regulations of the country, ~~federal,~~ state, regional, and/or local rules and regulations. Owner or user programs, safety programs of the Inspector's employer, or similar standards also apply. ~~In the absence of such rules, prudent and generally accepted engineering safety procedures satisfactory to the Inspector shall be employed by the owner or user.~~

b) The owners or users are responsible for addressing all exposures with the Inspector prior to the inspection. This may include but is not limited to the following:

1. remove the exposure.
2. provide the necessary training to the Inspector to satisfy the Inspector's concern.
3. provide proper PPE.

In no case shall the Inspector perform an inspection until satisfied that the inspection can be performed safely.

c~~b~~) Inspectors are cautioned that the operation of safety devices involves the discharge of fluids, gases, or vapors. Extreme caution should be used when working around these devices due to hazards to personnel. Suitable hearing protection should be used during testing because extremely high noise levels can damage hearing.

d~~c~~) Inspectors shall take all safety precautions when examining equipment. Proper personal protective equipment shall be worn, equipment shall be locked out, blanked off, decontaminated, and confined space entry permits obtained before internal inspections are conducted. In addition, Inspectors shall comply with plant safety rules associated with the equipment and area in which they are inspecting. Inspectors are also cautioned that a thorough decontamination of the interior of vessels is sometimes very hard to obtain and proper safety precautions must be followed to prevent contact or inhalation injury with any extraneous substance that may remain in the tank or vessel.

Item 23-84
M. Vance
12/20/23

Luis and I were both wondering about the use of "pencil lead"?

NOTE TO COMMITTEE: Per AE testing, it is common practice to actually break a pencil lead to review waveforms. The use of the term 'pencil lead' below is correct. However, there is some additional clarifications in the changes submitted that would be beneficial.

S10.10.6 TEST PROCEDURE

Couple sensors to vessel and connect to the testing equipment per ASME Section V Article 11. Connect pressure transducer to the recorder. Conduct sensor performance checks prior to the test to verify proper operation and ~~good coupling~~that the sensor is coupled to the vessel. The E and F waveforms shall be observed by breaking a pencil lead (e.g., using a 0.3 mm type 2H mechanical pencil lead per ASME, Section V, Article 13, paragraph T-1347.1) at approximately 8 in. (200 mm) and 16 in. (410 mm) from a sensor along the fiber direction. All calibration data shall be recorded.

I know "good repair" is typically an understood term, but with the NBIC being read internationally, we were wondering if that phrase could be understood in the same way on a global scale. Or if a better phrase could be chosen.

NOTE TO COMMITTEE: We agree that 'good repair' can be a subjective term. See the changes below.

2.3.6.4 LIQUID AMMONIA VESSELS

c) Inspection of parts and appurtenances

1) If valves or fittings are in place, check to ensure that these are complete and functional. Parts made of copper, zinc, silver, or alloys of these metals are unsuitable for ammonia service and shall be replaced with parts fabricated of steel or other suitable materials.

2) Check that globe valves are installed with the direction of flow away from the vessel.

3) Observe that excess flow valves are properly installed and ~~in good repair~~are fit for continued service.

Item 23-84
M. Vance
12/20/23

2.3.6.7 ANHYDROUS AMMONIA NURSE TANKS

b) Inspection shall consist of the following:

5) Trailer and running gear – Ensure that the hitch and undercarriage ~~are~~ adhere to roadworthiness regulations per Jurisdiction~~good repair~~. Observe that welds are not cracked, or the rails bent. The trailer tires shall be in serviceable condition with no cuts to the cords. Two safety chains and hooks shall be in place with one hitch pin and lock pin available. The tank to trailer anchorage shall be satisfactory and any bolting tightened. Spring leaves shall not be cracked or broken on inspection and the ends secured.

THE NATIONAL BOARD OF BOILER
AND PRESSURE VESSEL INSPECTORS

ASME CODE WEEK SUMMARY REPORT

November 12 – 17, 2023
Houston, TX

ASME Committee/Subcommittee or WG: **Section I, Subgroup on Fabrication and Examination**

Submitted by: **David Sullivan**

Record Number: **23-2145**

Summary: Recent changes in B31-1 will increase the personnel requirements for performing NDE on boiler external piping. This Code case would allow Section I Certificate Holders to utilize the qualification requirements of the 2020 edition of B31-1.

ASME Committee/Subcommittee or WG: **Section IV, Subgroup on Water Heaters**

Submitted by: **Michael Carlson**

Record Number: **Interpretations Record #23-2482**

Summary: ORIGINAL INQUIRIES:

Proposed Question 1: When the assembled modular water heater is certified as a single water heater in accordance with HLW-901(b), shall the supply header be considered as part of the water heater vessel?

Proposed Reply 1: Yes.

Proposed Question 2: When the Temperature and pressure relief device is located on the supply header as permitted in HLW-903(g)(1), may it be installed in the horizontal position with the outlet pointed down as allowed in HLW-801.2?

Proposed Reply 2: Yes.

There is at least one manufacturer that is incorporating this in their design.

ASME Committee/Subcommittee or WG: **Section IV, Subgroup on Welded Boilers**

Submitted by: **Milton Washington**

- **Record Number:** **22-1724**

Summary: Section IV is being updated to incorporate gender neutral language.

- **Record Number:** **23-854**

Summary: ASME Editor recommended revision of Paragraph HG-533.2 – Project involved restructuring of the existing paragraph to make the content easier to read and understand. This was completed and is now first Consideration Ballot No. 23-3478.

ASME CODE WEEK SUMMARY REPORT

November 12 – 17, 2023
Houston, TX

ASME Committee/Subcommittee or WG: Section V

Submitted by: **Mike Burns**

Record Number: **23-645**

Summary: BPV Section V - 2017 (INTENT INQUIRY): Mandatory Appendix II, CONTROL OF CONTAMINANTS FOR LIQUID PENETRANT EXAMINATION, para. II-643; Water Contaminant Testing

PROPOSED QUESTIONS AND REPLIES:

Question 1: In accordance with II-643(a), is it required for potable water to be tested for chlorine and sulfur?

Reply 1: No

Question 2: Does II-643 require that potable water as described in II-643(a) be tested for fluorine when used on austenitic or duplex stainless steel and titanium?

Reply 2: No

EXPLANATION:

BPV Section V is silent on Fluorine for potable water. Potable water from municipalities is measured in PPM. The Code requires no more than 0.1% by weight. Based on mathematical calculations provided in background material, fluorine, sulfur, or chlorine, content will not be more than 0.1% by weight in potable water.

Fluorine must be analyzed when examining austenitic or duplex stainless steel and titanium as described in II-642. There is a cost to do that, so the project manager and volunteers are looking to see if this is a non-issue for potable water and can be exempted. A concern is the US potable water standards may differ from other countries' potable water standards.

ASME Committee/Subcommittee or WG: Section VIII

Submitted by: **Mike Pischke**

- **Record Number: 21-1389**

Summary: UW-50 was revised to indicate that an area from which temporary attachments have been removed that had a throat thickness greater than 0.25" (6mm), including welds attaching non-pressure parts, require surface examination prior to a pneumatic test. End note 47 was incorporated. Accessibility criteria to support Interpretation VIII-1-92-73 was added.

- **Record Number: 21-2409**

Summary: UW-34 was revised to remove surface NDE requirement and tie the volumetric NDE to UW-11.

- **Record Number: 23-331**

Summary: A new paragraph was added to UW-26 (of Div 1); 6.2.2.1 (a) and (c) (of Div 2); and KG-420 and KF-211 (of Div 3) to require the Certificate Holder to provide complete supervision and administrative control over production welding performed by all welders and welding operators, whether those personnel are direct employees or contractors retained for their services.

ASME CODE WEEK SUMMARY REPORT

November 12 – 17, 2023
Houston, TX

ASME Committee/Subcommittee or WG: **Section VIII- Subgroup on General Requirements (SGGR)**

Submitted by: **Thomas P. Beirne**

- **Record Number:** **07-245**

Summary: This item entails the elimination of scope exemptions. This was previously balloted but received pushback from the refrigeration industry. Members from the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) were added to this item's task group. A draft proposal was balloted for review and comment and received several comments. After responding to comments, they may revisit the original proposal.

- **Record Number:** **23-749**

Summary: This is a new revision item looking at the hazards of pressure testing. At the August meeting, a presentation was given showing the "near misses" where pressure testing was involved. This item's task group will look at reducing the pressure at which the inspection occurs vs. test pressure, hold times, and the integrity and design of test fittings/fixtures. They will also consider a number of other factors that will hopefully increase safety during the pressure testing portion of the inspection. This item is currently being balloted at the Section VIII Standards Committee level.

ASME Committee/Subcommittee or WG: **Section IX**

Submitted by: **Mike Pischke**

Record Number: **23-1998**

Summary: **Simultaneous Qualifications**

Question 1: Under the rules of QG-106.4 for simultaneous procedure qualification by more than one organization, must the participating organizations be under the same corporate ownership?

Reply 1: No.

Question 2: Do the rules of QG-106.4 extend to permitting the use of a procedure qualification qualified by a technically competent group or agency?

Reply 2: No.

ASME Committee/Subcommittee or WG: **Section XIII / XIII Subgroup on Testing (SG-T) / PTC 25**

Submitted by: **Thomas P. Beirne**

Record Number: **23-979**

Summary: This is a new item exploring capacity certification of pressure relief valves for pressures less than 15 psi. The scope of this item could increase to include certifying other products, such as low-pressure tank vents. This is a long-term project item where work is currently at the task group level.

ASME CODE WEEK SUMMARY REPORT

November 12 – 17, 2023
Houston, TX

ASME Committee/Subcommittee or WG: **Post Construction Committee (PCC)**

Submitted by: **Mike Burns**

Record Number: **09-1283**

Summary: PCC-2; New Article on Weld Buildup of Flaws not Including Wall Loss

This article addresses the repair of austenitic stainless steel or austenitic nickel alloy piping or piping components and welds with embedded or internal surface flaws other than wall loss, including cracks, lack of fusion, and inadequate penetration, by depositing an external weld buildup. The deposited weld metal increases the local wall thickness of the pipe or piping components which, in turn, reduces the relative flaw size to an acceptable size.

This PCC-2 2009 item, previously reported, is still being championed with Ballot #21-2451 RC101 opened on 11/6/2023.

ASME Committee/Subcommittee or WG: **Qualifications for Authorized Inspection (QAI-1)**

Submitted by: **Gary L. Scribner**

Record Number: **N/A**

Summary: The 2023 edition of QAI-1 was published on September 18, 2023. This edition will become effective on March 18, 2024. The QAI-1 Committee unanimously agreed that AIAs may implement the 2023 QAI-1 prior to the effective date. ASME plans to stagger the AIA manual revision deadline based on their next scheduled triennial or interim audit. All manual revisions will be made no later than December 31, 2024.

ASME Committee/Subcommittee or WG: **TOMC**

Submitted by: **Gary L. Scribner**

Record Number: **N/A**

Summary: The ASME BPVC Sections II and XI Standards Committees provided TOMC with annual presentations on their committee activities. **Attachments 1** and **2** contain their reports.

ASME CODE WEEK SUMMARY REPORT

November 12 – 17, 2023
Houston, TX

ASME Committee/Subcommittee or WG: **Controls and Safety Devices for Automatically Fired Boilers** (CSDAFB; met in October 2023)

Submitted by: **Rajesh Kamboj**

- **Record Number: 22-1026**

Summary: This is the proposed change to the CG-700 definition of "gas" to "one of the following fuel gases: natural gas~~,~~ or liquefied petroleum (LP) gas~~,~~ or LP gas -air mixture, ~~manufactured gas, or mixed gas~~ or other gases approved for use in equipment that is labeled and listed for these gas uses."

- **Record Number: 22-1353**

Summary: The definition of pool heater has been revised (Revise Paragraphs CG-110, CG-130, CG-140 & CG-700) to include two types of pool heaters— direct and indirect. Definitions were also added for direct and indirect pool heaters.

- **Record Number: 22-2213**

Summary: Revise Paragraph CF-810 Electrically Heated Boiler Wiring Requirements. Deleted details of the wiring requirements as it is covered by NFPA-70 reference.

- **Record Number: 23-972**

Summary: Minor edits to CF-162 Gas-Pressure Supervision ("Start" is now "begin." "Before" is now "prior").

- **Record Number: 23-2388**

Summary: CF-110 Burner Assemblies to include emissions reduction systems incorporating flue gas recirculation (FGR) which shall comply to UL 2096. Definition of FGR added.

BPV II Status Report to TOMC
11/2023

George Galanes, P.E., Dr. Matteo Ortolani & Colleen Rodrigues

BPV II Chair, Vice Chair Secretary

BPV II Standards Committee

BPV II is a services standard committee that supports the other BPV construction codes (Sections I, III, IV, VIII, XII and XIII).

BPV II Standards Committee

Scope

- To approve for publication in Section II of the Boiler and Pressure Vessel Code material specifications for metallic materials based on requirements for the individual construction codes
- Establish and approve material design values and limits and cautions for use of materials in Section II and other sections of the boiler and pressure vessel code including B16 and B31
- Responsible for adequacy of material specifications in Section II Parts A and B, and in Code Cases and for supplementary rules in vessel sections concerning material specifications
- BPV II is responsible for all mechanical and physical property tables and external pressure charts, (excluding fatigue properties) in Section II Part D, Code Cases, and in vessel sections.

ASME
SETTING THE STANDARD

BPV II Standards Committee

Organization Hierarchy

BPV II SC

- SG Strength of Weldments (shared with Section IX)
- SG Strength of Ferrous Alloys
- SG Non-Ferrous Alloys
- SG Ferrous Specifications
- SG International material Specifications
- SG External Pressure
- SG Physical Properties
- WG Materials Database
- WG CSEF Steels
- Executive Committee
- China IWG
- WG Data Analysis
- TG on Modernization of Materials Data
- Resource Development Group (RDG)

BPV II Committee Membership Update

- BPV II Membership currently at 21 with several new standards committee members
  - In balance per our new Operating Guideline
    - AW (Material Users) some moved from AK (Manufacturer) interest category
    - AF (General Interest),
    - AM (Material Manufacturer)
    - AX (Utility), AH (Ins/Insp), AR (Refinery)
  - Global distribution, PE's and Phd's
  - Active Contributing members -10
  - Considering Honorary Memberships

BPV II Standard Operations Update

- ~100 unique Members overall, many roles
- Some subtier Officer population issues (Secretary)
- Backlog less than 200 items
  - Interpretations
    - Discussing Special Committee concept like III & VIII to streamline Interpretation
  - LB queue = 4/wk working well in Quorum and vote quality
    - bumped to 8/wk when E25 crunch time occurs
- Consultants → RFP to fill the void from when Wolfgang retired in June 2023
- Awards:
  - Gold Standard = Dr. Matteo Ortolani presented in May 2023
  - Jay Cameron Service Award in November 2023

ASME
SETTING THE STANDARD

BPV II Standard Operations Update

2023 Gold Standard Award

Presented to Matteo Ortolani in May 2023

The ASME Boiler and Pressure Vessel Committee on Materials

Awards the

2023 ASME BPV II Gold Standard Award

to

Matteo Ortolani

for

Exemplary service to the BPV II Committee on Materials through project management, technical guidance, and diligence in the review of ballots. Mr. Ortolani's contributions over the years have been essential to the successful operation of the Committee.

Jay Cameron
Chair, BPV II Standards Committee

George Galanes
Vice Chair, BPV II Standards Committee

Colleen Rodrigues
Secretary, BPV II Standards Committee

Leadership Award

Presented to Jay Cameron in August 2023

ASME
SETTING THE STANDARD

THE
BPV COMMITTEE ON MATERIALS (II)
Presents this Leadership Award to

Jay Cameron

In testimony of the high regard of your colleagues and the deep appreciation of the Society for your valued services in advancing the engineering profession as

CHAIR
BPV COMMITTEE ON MATERIALS (II)

George Galanes
Chair,
BPV Committee on Materials (II)

Matteo Ortolani
Vice Chair,
BPV Committee on Materials (II)

ASME
SETTING THE STANDARD

BPV II Standard Operations Update

- R&D Project work:
  - Technical Reviews will be performed by the TPM under the item number assigned for each research project report to evaluate implementation.
- Meeting schedule:
  - BPV II meets in-person in May and Nov in line with ASME BPV Code week
  - Many SGs have opted to meet virtually
  - Some SGs are utilizing both in-person and virtual meetings
  - For virtual meetings, some SGs split up meeting into multiple sessions

BPV II Standard Operations Update

- Section II, Parts A & B (cont.):
  - Continued adoption of new and updated ASTM specs;
    - Many very old ASTM specs:
      - ≥ 20 years = 16
      - ≥ 10 years = 57 additional
    - Working hard to get new editions and international specifications adopted
      - LB queue for E25

Strategic Issues for BPV II

- Section II, Part D:
  - App 5 (revise materials requirements)
    - Synch with II-A/B App IV, and II-D-C & II-D-M
    - Complete for 2025 Edition
  - Some SB spec alloys in Table 1B migrating → SA specs which involves duplicating stress lines until migration is completed.
  - Error in stress calculation software
    - Reverting to previous version for now
    - Work underway by an outside consultant to fix
  - TG assigned to evaluate a recommended extrapolation method for prediction of long term creep rupture properties
  - TG formed to evaluate effects of grain size on TD properties for thin austenitic materials

Strategic Issues and Topics for BPV II

- Current strategic effort is to provide the technical support for the proposed AM-DED Code Case being developed by BPTCS-AM
- Finalize selection of a consultant to fill the role left by Wolfgang Hoffelner (retired)
- Current consultant for data analysis is Dan Peters
- Consultant for Swinderman Software fix is Mike Swinderman
- Executive Committee for BPV II recently voted to allow access to the Swinderman software for non-members on a case-by-case basis under the SG Chairs

BPV XI Report
TOMC

(By BPV XI Chair Dan Lamond)

ASME Boiler and Pressure Vessel Code Week
November 2023

BPV XI 2023 Update

- ORGANIZATION
- MEMBERSHIP
- IWGs
- HONORS AND AWARDS
- STATUS OF BOOK SECTION
- REGULATORY ACTIONS
- MAJOR TECHNICAL TOPICS
- CROSS-COMMITTEE ITEMS
- R&D PROJECTS

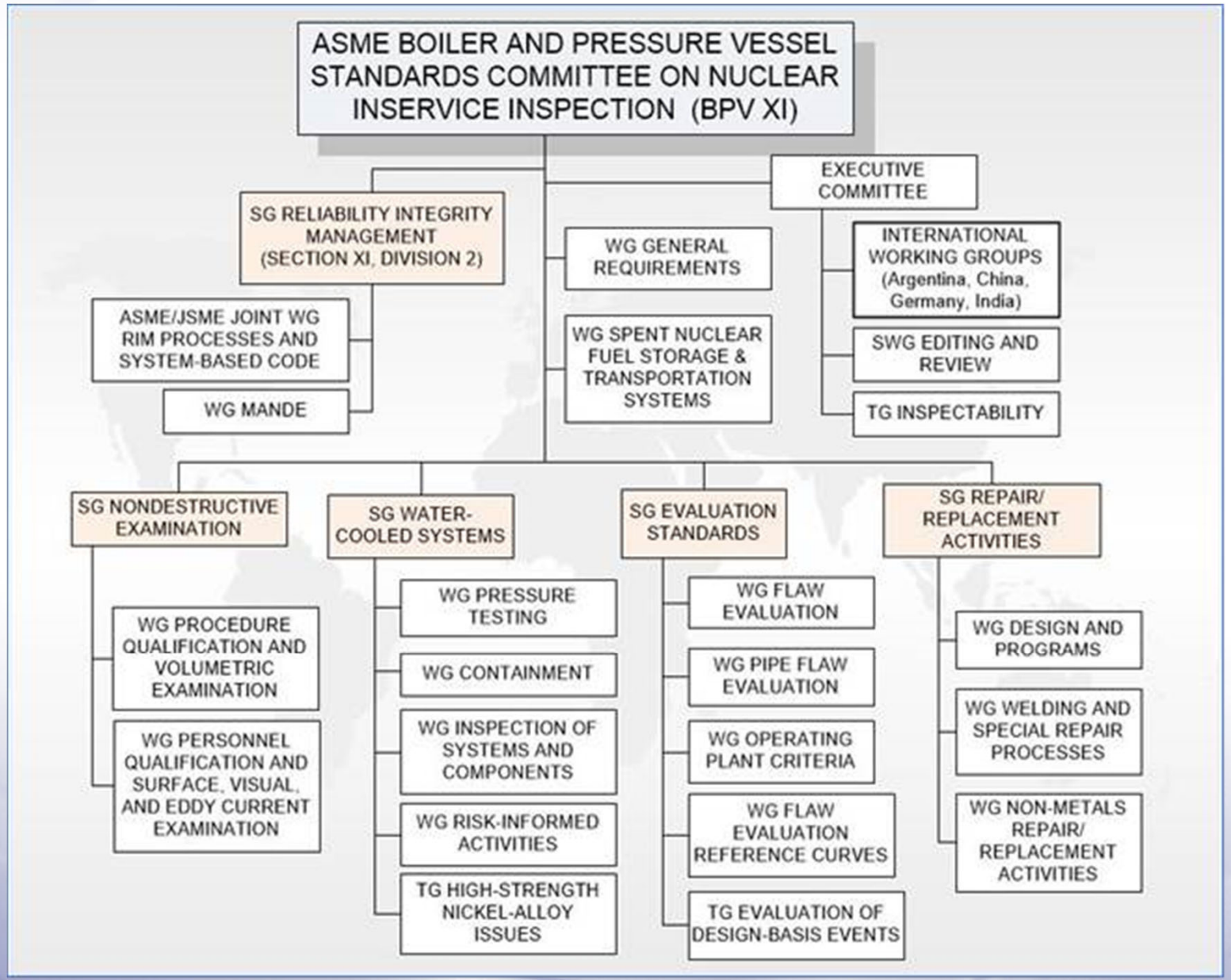
ASME
SETTING THE STANDARD

BPV XI Organization

Charter: Develop, review, and maintain Inservice Inspection requirements for protecting the pressure integrity and structural integrity of structures, systems, and components that affect nuclear safety or reliability.

CHAIR	VICE CHAIR	VICE CHAIR	SECRETARY
Dan Lamond	*Scott Kulat*	*Tom Roberts*	*Daniel Miro-Quesada*

BPV XI Organization



BPV XI Membership

Interest Category Distribution

AB Designer	AF General Interest	AH Insurance/ Inspection	AI Laboratory/ Testing	AK Manufacturer	AO Owner	AT Regulatory	AX Utility	SP Standards Development
Cipolla	Bamford	Hennessey	C. Brown	S. Brown	Boughman	Benson	Ferlisi	Hakii
Norman	Chan	Hinkle	Cordes	Henry	Do		Kulat-VC	
Nygaard	Farrell	Melder	Malikowski	Hojo	Hall		Lamond-C	
Roberts-VC	Griesbach	Nuoffer	McCracken	Schaaf	Keyser		O'Sullivan	
Scarth			Palm	Udyawar	Mayo		Park	
Swayne			Takaya		Weis			
			Vetter					
			Weicks					

BPV XI Membership

Direct Report Subordinate Group Distribution

SGNDE	SGWCS	SGRRA	SGES	SGRIM	WGGR	WGSNFST
Henry-C	Ferlisi-C	McCracken-C	Palm-C	Roberts-C	Nuoffer-C	
Chan	Nygaard-S	Farrell-S	Bamford	Vetter-S	Mayo-S	
Cordes	Boughman	S. Brown	Benson	Hennessey	Chan	
C. Brown	Do	Hinkle	Cipolla	Schaaf	Hennessey	
Schaaf	Hakii	Hall	Griesbach	Swayne	Hinkle	
	Hennessey	Melder	Hojo	Takaya	Roberts	
	Keyser	O'Sullivan	Scarth		Vetter	
	Kulat	Park	Udyawar			
	Lamond	Swayne				
	Norman	Weicks				
	Nuoffer					
	Weis					

BPV XI Membership

Auxiliary Members

DELEGATES (2)

Yeon-Ki Chung, Chen Ye

ALTERNATES (3)

Carl Latiolais (for Malikowski), Bruce Lin (for Benson), Bob McGill (for Palm)

CONTRIBUTING MEMBERS (3)

Ed Gerlach, John Lindberg, Truong Vo

HONORARY MEMBERS (8)

Dave Cowfer, Richard Gimple, Ed Gerlach (P), Frank Gregor, Dixon Kerr, Pete Riccardella, Ray West, Chuck Wirtz, Ron Yonekawa

BPV XI IWGs

International Working Groups

- Argentina*
- China
- Germany
- India**

* Considering change to broader Latin America group consistent with Section III.

** Recently re-engaged.

BPV XI Honors and Awards

- Outstanding Service Medal
  - Dr. Kiminobu Hojo
- Leadership Award
  - John Lindberg
- Certificate of Achievement
  - Jim Boughman
- BPV XI Scholarship Effort
  - Endowment funding shifting to series of one-time awards
  - 1st Honorary – Owen Hedden (2024)
  - 2nd Honorary – Jim Boughman (2025)

BPV XI Status of Book Section

- Latest Endorsed in 10CFR50.55a
  - 2019 Edition, Division 1 (ISI)

- Latest Endorsed in Reg Guide 1.246
  - 2019 Edition, Division 2 (RIM)

BPV XI Regulatory Actions

- NRC Proposed Rulemaking – Code Cases
  - Reg Guide 1.147, Rev. 21 (Supp 2-7 2019E, Supp 0-3 2021E)
  - Code of Record Update Frequency
  - Inspection Interval Extension from Ten to Twelve Years (N-921)
  - Projected Final in October 2024

- NRC Proposed Rulemaking – Code Edition
  - Section XI, 2021 Edition
  - Projected Final in January 2025

- Semi-Annual NRC/ASME Management Meeting
  - Last Meeting – 08/23/23 (PSI, N-752, N-860)
  - Next Meeting – 02/21/24

ASME
SETTING THE STANDARD

BPV XI Major Technical Topics

- BPV XI "Top Ten List"

Record #	Topic
20-2023	Develop Case for Examination Requirements for Integrated Pressurized Light Water Reactors, Section XI, Division 1 (SMRs).
23-345	Develop a new Appendix VII Supplement 2 for Liquid Metal Reactors.
TBD	Develop a new supplement for Appendix VII for Molten Salt Reactors.
23-1418	Compile supplement to the Section XI Division 2 covering non-metallic materials used in reactor designs.
20-2696	Flaw Crack Growth Reference Curves for Alloys 600 and 690.
TBD	Low Value High Outage Impact Inspection Requirements.
18-1186	Appendix IV ET Surface Examination Demonstration.

BPV XI Major Technical Topics

- BPV XI "Top Ten List"

Record #	Topic
21-1039	Enhance the code requirements for clarity regarding VT-2 Relevant Conditions and the associated Acceptance Criteria.
19-3019	Proposed Code Case for Extension of Category B-G-1 and C-D Examination Frequency.
21-1387	Proposed Code Case to extend the frequency of PWR Steam Generator Welds and Inside Radius Section examinations to once every 30 years.
23-343	New Case for Welding on Irradiated Materials.
23-113	Address PSI/baseline examination requirements. (III / XI Alignment)
17-2543	Case N-871 revision for External Repair of Class 2 & 3 Piping by Carbon Fiber Composite Materials.

BPV XI Cross-Committee Items

- TG on Section III and XI Alignment
  - Component Acceptability vs Preservice Baseline Exams
  - UT vs RT; UT in lieu of RT
- TG Section III Alternative Treatment
  - Section XI Risk-Informed Insights
  - Case N-752 Lessons Learned
  - 50.69 Safety Significance and RISC Categorization
- Section V SubGroup on Inservice Examination Methods and Techniques
- Section XI Liaison to Section IX
  - Darren Barborak appointed Sept 2023

BPV XI R&D Projects

- None Currently
- Initial Discussion at BPV XI Exec
  - NEI on potentially funding an EPRI or other industry project to help bridge the gap between Construction Code (III) examinations and Preservice (XI) examinations.

The B2 committee recently completed updating all existing SWPSs adopted by the NBIC.

Item A33-23 was successfully balloted in 2023 and the revised Part 3, Clause 2.3 will be published in the 2025 edition. This item deletes the dates associated with each SWPS as shown in Part 3, Table 2.3.
Rationale: The use of previous versions of the listed SWPSs is permitted. Previous versions include Amended, Reaffirmed, Revised or Superseded SWPSs regardless of the publication date.

The long-range plan for the updated SWPSs is to group them into the ANSI approved "Stabilized Maintenance" program" changing from the traditional ANSI 5year revision / reaffirmation cycle to a 10-year revision/re-reaffirmation cycle.

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

The B2 committee is in process of developing a complement of Aluminum SWPSs with the GTAW and GMAW process on M/P 22, M/P 23 and M/P 25 materials and the committee is also actively soliciting the donation of PQRs from industry to support the development of P91, P92 SWPSs

Regards,

Jim Sekely
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Email: jsekely@comcast.net