

Date Distributed: 12/20/2023



*THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS*

NATIONAL BOARD INSPECTION CODE TASK GROUP INTERPRETATIONS

AGENDA

Meeting of January 8th, 2024
San Antonio, TX

The National Board of Boiler & Pressure
Vessel Inspectors 1055 Crupper Avenue
Columbus, Ohio 43229-
1183
Phone: (614)888-8320
FAX: (614)847-1828

1. Call to Order

The Chair will call the meeting to order at 1:00 p.m. Central Time. For those attending in person, the meeting will be held in Madero A at the hotel.

2. Roll call of Members and introduction of Visitors

3. Check for a Quorum

4. Awards/Special Recognition

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.
- The National Board will be hosting a reception on Wednesday evening from 5:30 p.m. to 7:30 p.m. in Veramendi (fourth level of the hotel).
- The National Board will be hosting breakfast and lunch on Thursday in Veramendi for those attending the Main Committee meeting. Breakfast will be served from 7:00 a.m. to 8:00 a.m. and lunch will be served from 11:30 a.m. to 12:30 p.m.
- Meeting schedules, meeting room layouts, and other helpful information can be found on the National Board website under the **NBIC** tab → NBIC Meeting Information.
- Remember to add any attachments that you'd like to show during the meeting (proposals, reference documents, power points, etc.) to the NBIC file share site (nbfileshare.org) **prior to the meeting**.
 - Note that access to the NBIC file share site is limited to committee members only.
 - ALL power point attachments/presentations must be sent to the NBIC Secretary prior to the meeting for approval.
 - Contact Jonathan Ellis (nbicsecretary@nbbi.org) for any questions regarding NBIC file share access.
- When possible, please submit proposals in Word format showing "strike through/underline". Project Managers: please ensure any proposals containing text from the 2021 NBIC are updated to contain text from the 2023 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 two meetings prior to being put on the agenda for membership consideration. The nominee will be on the agenda for voting during their third meeting.
 - The nominee must submit the formal request along with their resume to the NBIC Secretary **PRIOR TO** the meeting. nbicsecretary@nbbi.org
 - If needed, we can also create a ballot for voting on a new member between meetings.
- Thank you to everyone who registered online for this meeting. The online registration is very helpful for planning our reception, meals, room set up, etc. Please continue to use the online registration for each meeting. If you are here in person, and did not register, please visit the National Board website to register now. Registering will make sure we have an accurate count for the reception, breakfast, and lunch. It is also a good way to make sure we have the most up-to-date contact information.

6. Adoption of the Agenda

7. Approval of the Minutes of the July 10, 2023, Meeting

The minutes are available for review on the National Board website, www.nationalboard.org.

8. Review of Rosters

a. Membership Nominations

Mr. Bernard Hrubala (AIA) is interested in becoming a member of the Interpretations Task Group.

b. Membership Reappointments

- i. None

c. Officer Nominations

Vice Chair (D. Kinney) is stepping down and a new Vice Chair will need to be elected.

d. Resignations

Don Kinney will be stepping down from INTERP. TG.

e. Presentations

- i. NBIC Staff – Interpretations – patents/consulting

9. Interpretations

New Interpretation Requests:

Item Number: I23-55	NBIC Location: Part 3, S6.8	Attachment Page 2
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:		

Item Number: I23-63	NBIC Location: Part 3, 3.4.4 d)	Attachment Page 7
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:		

Item Number: I23-64	NBIC Location: Part 3, 3.3.3 j)	Attachment Page 8
<p>General Description: Review of calculations for a new nozzle per 3.3.3 j)</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: T. McBee (PM), M. Schaser</p> <p>Explanation 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.</p> <p>January 2024 Meeting Action:</p>		

Item Number: I23-65	NBIC Location: Part 3, 3.3.4.8 a) and 4.4	Attachment Page 9
<p>General Description: Returning a vessel to service without repairing known defects</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: K. Moore (PM), J. Ferreira</p> <p>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.</p> <p>January 2024 Meeting Action:</p>		

Item Number: I23-66	NBIC Location: Part 3, 3.2.7	Attachment Page 10
<p>General Description: Applying PWHT to a vessel not previously PWHT for a change of service</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: C. Hopkins (PM), M. Carlson, G. Galanes</p> <p>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.</p> <p>January 2024 Meeting Action:</p>		

Item Number: I23-71	NBIC Location: Part 3, 3.3 and 3.4	Attachment Page 11
<p>General Description: New method for tube replacement: is it a repair or alteration?</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: K. Moore (PM), D. Kinney, P. Becker</p> <p>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.</p> <p>January 2024 Meeting Action:</p>		

Item Number: I23-75	NBIC Location: Part 3, 4.4.2 c)	Attachment Page 16
<p>General Description: NDE In Lieu of Pressure Testing for Alterations</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: M. Toth (PM), L. Dutra</p> <p>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.</p> <p>January 2024 Meeting Action:</p>		

Item Number: I23-79	NBIC Location: Part 3, 2.5.3 d) and 2.5.3.6	Attachment Page 17
<p>General Description: Alternative Welding Method 6 - Controlled Fill</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: P. Gilston (PM), R. Derby</p> <p>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.</p> <p>January 2024 Meeting Action:</p>		

Item Number: I23-82	NBIC Location: Part 3, 2.5.3 d) and 2.5.3.6	Attachment Page 18
<p>General Description: Replacement of non-pressure retaining parts in Electrolyzer PEM Stack</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: None assigned.</p> <p>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.</p> <p>January 2024 Meeting Action:</p>		

10. Acton Items

Item Number: A23-73	NBIC Location: Section 10 and the NBBI Website	Attachment Page 19
<p>General Description: Revise Interp 21-05 to add later ASME Editions</p> <p>Subgroup: Repairs and Alterations</p> <p>Task Group: T. Seime (PM), D. Kinney</p> <p>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.</p> <p>January 2024 Meeting Action:</p>		

11. Future Meetings

- July 15-18, 2024 – The Brown Hotel in Louisville, KY
- January 2025 – TBD

12. Adjournment

Respectfully submitted,

Terrence Hellman

Terrence Hellman, TG Interpretations Secretary

Last Name	First Name	Interest Category	Role	Exp. Date	
Seime	Trevor	Jurisdictional Authorities	Chair	07/30/2024	
Kinney	Donald	Jurisdictional Authorities	Vice Chair	01/30/2025	
Hellman	Terrence		Secretary	12/30/2099	
Boseo	Brian	General Interest	Member	07/30/2024	
Carlson	Michael	Jurisdictional Authorities	Member	01/30/2025	
Derby	Robert	Labor	Member	07/30/2025	
Ferreira	Jonathan	Authorized Inspection Agencies	Member	01/30/2026	
Galanes	George	Users	Member	08/21/2026	
Gilston	Philip	Authorized Inspection Agencies	Member	01/30/2025	
McBee	Timothy	Authorized Inspection Agencies	Member	07/30/2024	
Moore	Kathy	National Board Certificate Holders	Member	07/30/2024	
Quisenberry	Michael	National Board Certificate Holders	Member	07/30/2024	
Schaser	Matt	National Board Certificate Holders	Member	01/30/2026	
Toth	Marty	General Interest	Member	01/30/2025	
Triplett	Andrew	National Board Certificate Holders	Member	08/21/2026	

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.

S6.95 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 manufacturer. 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.~~

- ~~e) 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 witness 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. 23-63
Subject/Title Replacement of Heads with Different Types
Project Manager and Task Group Timothy McBee, Subcommittee Repairs/Alterations
Source (Name/Email) Mark Kincs / mark.r.kincs@xcelenergy.com
Statement of Need Interpretation 07-12 identifies replacement of a head as a "change in contour". Revisions to 2023 NBIC Part 3, 3.4.4 d) require further clarification of work classification based on pressure-retaining capability.
Background Information 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".
Proposed Question May replacement of a head or end plate of a pressure-retaining item with one of a different design (e.g. flat head to elliptical) be classified as a "repair", if changes in the dimensions or contour of the item do not affect its pressure retaining capability?
Proposed Reply Yes, with the concurrence of the Inspector and Jurisdiction. Applicable design calculations shall be made available for review by the Inspector prior to start of any physical work.
Committee's Question 1
Committee's Reply 1
Rationale
Committee's Question 2
Committee's Reply 2
Rationale

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
Committee's Reply 1
Rationale
Committee's Question 2
Committee's Reply 2
Rationale

PROPOSED INTERPRETATION

Item No. 23-65
Subject/Title Returning a vessel to service without repairing known defects
Project Manager and Task Group
Source (Name/Email) John Swezy / john.swezy@bureauveritas.com
Statement 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.
Background Information The outer chamber of a heat exchanger is repaired in accordance with the NBIC requirements. The repair cannot be pressure tested due to a leak discovered between the inner chamber and the outer chamber. The heat exchanger is of a fully welded construction, and the owner does not want the leakage between chambers to be repaired. The R Certificate Holder may close out their repairs with NDE in lieu of pressure testing by applying NDE under the rules of the NBIC with the approval of the Inspector and the Jurisdiction but is hesitant to prepare and certify an R-1 Form documenting their work with this unrelated defect remaining. The NBIC has rules for returning a vessel to service without repairing a known defect in Part 3, paragraph 3.3.4.8(a). The owner has been notified of these rules, which require acceptance by an Inspector and the jurisdiction. However, the Inspector referenced in these paragraphs is not the Inspector associated with their repairs. It is also believed that Part 3, 3.3.4.8(a) and (b) would probably be better located in Part 2, paragraph 4.4 since they address an unrepaired defect found during an inspection. Doing so would require the removal of references to these rules as being a "repair method" since no actual repairs are being applied. Paragraph 3.3.4.8(c) could remain in Part 3 since it addresses welded repairs which are left incomplete.
Proposed Question When a repair is completed by an R Certificate Holder in a part of a pressure vessel but an unrelated defect remains unrepaired in another part of the vessel, is it the responsibility of the vessel owner to apply the rules provided in Part 3, 3.3.4.8(a) before returning the vessel to service?
Proposed Reply Yes.
Committee's Question 1
Committee's Reply 1
Rationale
Committee's Question 2

PROPOSED INTERPRETATION

Item No. 23-66
Subject/Title Applying PWHT to a vessel not previously PWHT for a change of service
Project Manager and Task Group
Source (Name/Email) John Swezy / john.swezy@bureauveritas.com
Statement 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.
Background Information An existing vessel not certified for lethal service is proposed for a change to H2S service where the application of PWHT is common practice for improved corrosion resistance. The vessel was constructed and certified by the original Manufacturer as meeting all requirements of Section VIII, Division 1, paragraph UW-2(a) except that PWHT was not applied. Though applying PWHT is widely understood to improve the condition of the welds, the original WPS was not qualified with PWHT as required by Section IX. We also believe a lethal service designation cannot be retroactively applied to an existing vessel, even though it may be positively verified to meet all requirements of Section VIII, Division 1, paragraph UW-2(a).
Proposed Question Is it acceptable for a pressure vessel to undergo a change of service to contain H2S after receiving PWHT for improved corrosion resistance if it was originally constructed and certified without PWHT being applied?
Proposed Reply Yes.
Committee's Question 1
Committee's Reply 1
Rationale
Committee's Question 2
Committee's Reply 2
Rationale

PROPOSED INTERPRETATION

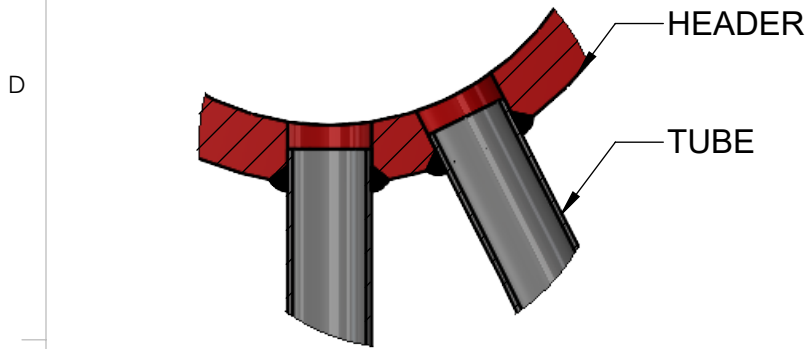
Item No. 23-71
Subject/Title New method for tube replacement: is it a repair or alteration?
Project Manager and Task Group
Source (Name/Email) Robby Troutt / rob.troutt@tdlr.texas.gov
Statement of Need The repair/alteration method shown is used for tube replacement. This method is being done in Texas, but there is confusion on whether this method of tube replacement should be classified as a repair or an alteration.
Background Information This method of tube replacement allows for the use of using fillet welds to attach the collar (see attached pictures) to the tubes and header instead of requiring a full penetration weld to replace the tube. Further questions can be sent to Mr. Troutt if additional clarification is needed.
Proposed Question Question 1: Is the replacement of a boiler tube or tube pup using the attached design considered a repair or alteration? The attachment "Pic for interp question 1" and the 2nd page of attached "RH1 – Header Section" are for this question. Question 2: Is the installation of a replacement tube using the attached fitting considered a repair or alteration? The attachment "Pic for interp question 2" and the 1st page of attached "RH1 – Header Section" are for this question.
Proposed Reply Reply 1: This is a repair. Reply 2: This is a repair.
Committee's Question 1
Committee's Reply 1
Rationale
Committee's Question 2
Committee's Reply 2
Rationale

Sleeve used to join two pipes together.

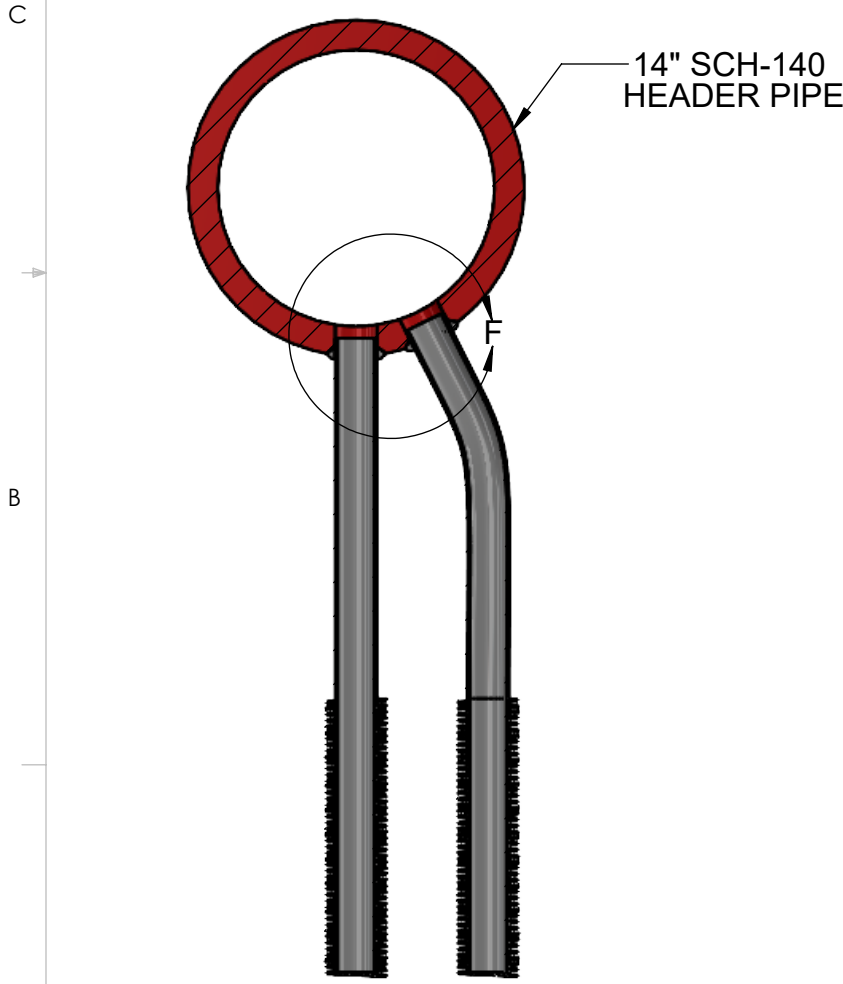


Fitting for attaching
tube to header.

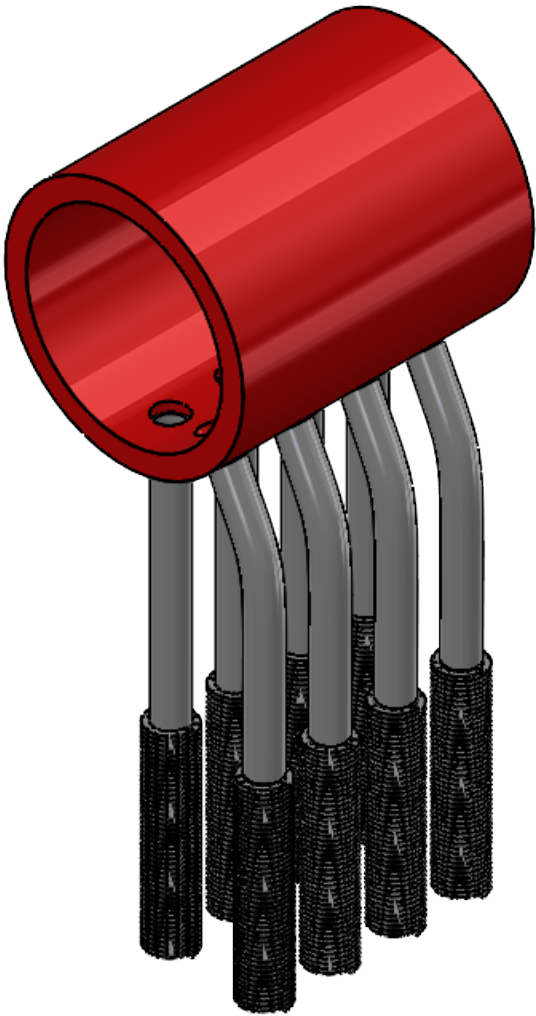
REGULAR CONNECTION



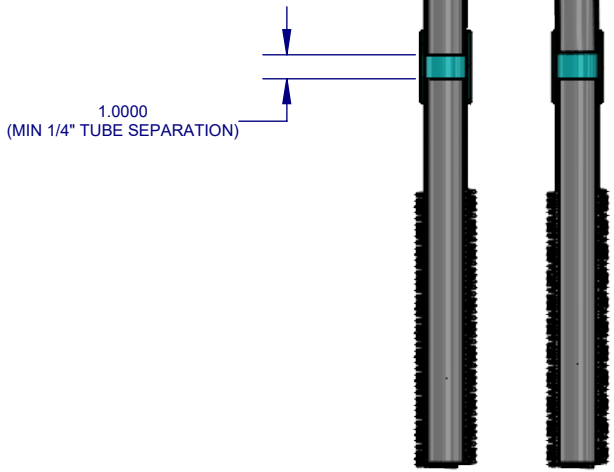
DETAIL F
SCALE 1 : 4



SECTION E-E
SCALE 1 : 8

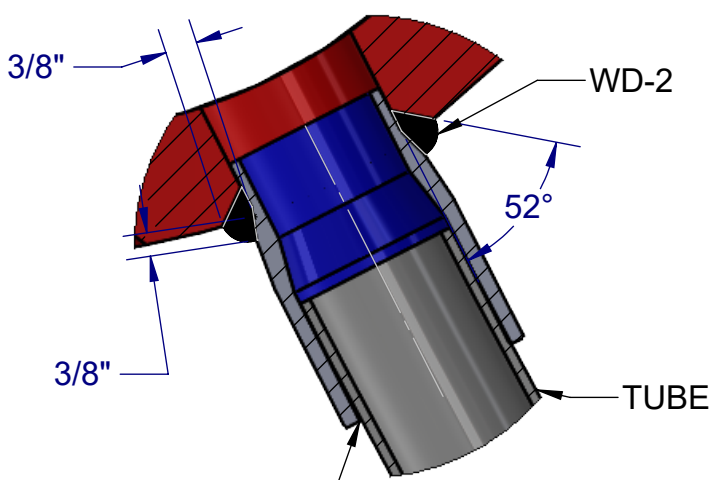


HEADER SECTION

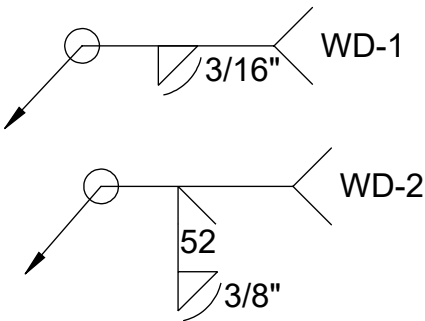


SECTION A-A
SCALE 1 : 8

TUBE TRANSITION

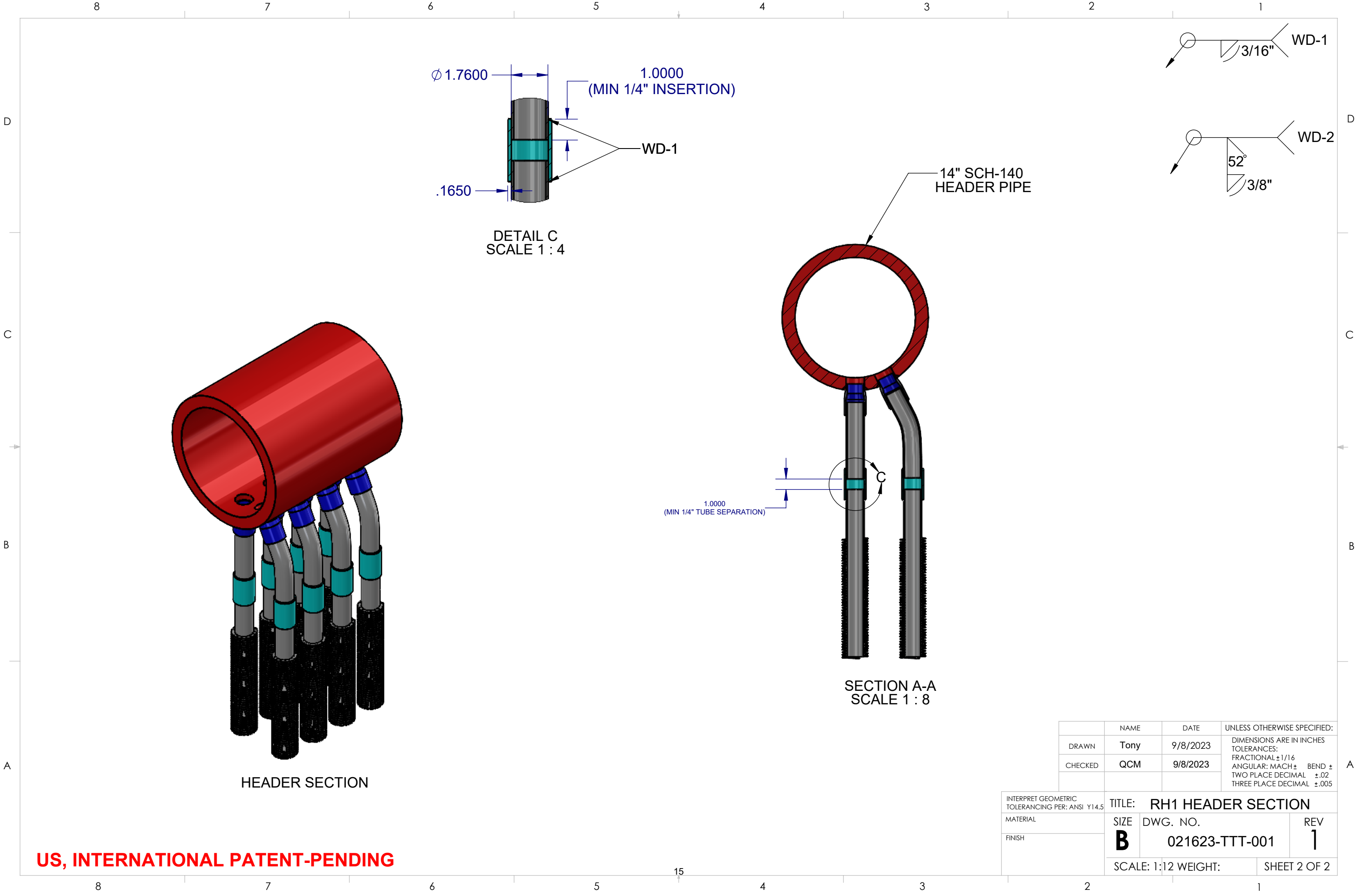


DETAIL B
SCALE 1 : 2



US, INTERNATIONAL PATENT-PENDING

INTERPRET GEOMETRIC TOLERANCING PER: ANSI Y14.5 MATERIAL FINISH	NAME	DATE	UNLESS OTHERWISE SPECIFIED:	
	DRAWN Tony	9/8/2023	DIMENSIONS ARE IN INCHES	
	CHECKED QCM	9/8/2023	TOLERANCES:	
			FRACTIONAL: ± 1/16 ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ±.02 THREE PLACE DECIMAL ±.005	
TITLE: RH1 HEADER SECTION			SIZE	REV
			B	1
			DWG. NO.	
			021623-TTT-000 & 1	
			SCALE: 1:12	WEIGHT: SHEET 1 OF 2



	NAME	DATE	UNLESS OTHERWISE SPECIFIED:
DRAWN	Tony	9/8/2023	DIMENSIONS ARE IN INCHES TOLERANCES:
CHECKED	QCM	9/8/2023	FRACTIONAL $\pm 1/16$ ANGULAR: MACH \pm BEND \pm TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .005$

INTERPRET GEOMETRIC TOLERANCING PER: ANSI Y14.5	TITLE: RH1 HEADER SECTION		
MATERIAL	SIZE	DWG. NO.	REV
FINISH	B	021623-TTT-001	1
SCALE: 1:12 WEIGHT:		SHEET 2 OF 2	

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.

PROPOSED INTERPRETATION

Item No. 23-79
Subject/Title Alternative Welding Method 6 - Controlled Fill
Project Manager and Task Group
Source (Name/Email) Mark Kincs / mark.r.kincs@xcelenergy.com
Statement 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.
Background Information In 2015 NBIC Part 3, 2.5.3.6 specifically mentions "controlled fill", but 2.5.3 d) calls for "temper bead" for 2.3.5.6. In 2017 NBIC Part 3, "temper bead" was changed to "controlled fill" in 2.5.3 d) for 2.5.3.6, but "controlled fill" was removed from 2.5.3.6 itself. Supplement 8, with specific controlled fill requirement for CSEF material was added in the 2017 NBIC Part 3.
Proposed Question Does 2.5.3 d) require controlled fill bead placement for Welding Method 6 (2.3.5.6) similar to that described in S8.3?
Proposed Reply No
Committee's Question 1
Committee's Reply 1
Rationale
Committee's Question 2
Committee's Reply 2
Rationale

PROPOSED INTERPRETATION

Item No. 23-82
Subject/Title Replacement of non-pressure retaining parts in Electrolyzer PEM Stack
Project Manager and Task Group
Source (Name/Email) Kevin Choi / kevin.choi@accelerazero.com
Statement of Need Need to determine if our company requires the NB R Certificate holder status.
Background Information 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.
Proposed Question The engineers determine root cause and replace the damaged non-pressure bearing parts which requires disassembling the pressure vessel mechanically. Welding is not involved during the assembly process. Once the stack is assembled a combination of nuts and threaded rods are torqued to specification to "sandwich" the cells together and a 1.1x MAWP pneumatic test is performed. The non-pressure bearing parts are not described in the ASME U-1A form, but are part of the ITP package. Is this considered a Routine Repair? Is a R-1 form required to be filed for such activities?
Proposed Reply This (is/ is not) considered a Routine Repair. As a result the R-1 form (is/ is not) required.
Committee's Question 1
Committee's Reply 1
Rationale
Committee's Question 2
Committee's Reply 2
Rationale

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 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.	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 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