Date Distributed: January 6, 2022

THE NATIONAL BOARD
OF BOILER AND PRESSURE VESSEL INSPECTORS

NATIONAL BOARD INSPECTION CODE TASK GROUP INTERPRETATIONS

AGENDA

Meeting of January 17th, 2022
San Diego, CA

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**
   1:00 PM Pacific Time. For those attending in person, the meeting will be held in Riviera on the third floor of the hotel.

2. **Introduction of Members and Visitors**

3. **Check for a Quorum**

4. **Awards/Special Recognition**

5. **Announcements**
   - The National Board will be hosting a reception on Wednesday evening from 5:30pm to 7:30pm at The Smoking Gun.

   - The National Board will be hosting a breakfast and lunch for the Main Committee meeting on Thursday. Breakfast will be served from 7:00am to 8:00am, and lunch will be served from 11:30am to 12:30pm. Both meals will be served at the hotel in Le Fontainebleau.

   - A coffee station will be provided outside of the meeting rooms on each floor.

6. **Adoption of the Agenda**

7. **Approval of the Minutes of the July 12th, 2021 Meeting**
   The minutes are available for review on the National Board website, www.nationalboard.org.

8. **Review of Rosters (Attachment Page 1)**
   a. **Membership Nominations**

   b. **Membership Reappointments**

   c. **Officer Nominations**

9. Interpretations

Item Number: 20-78	NBIC Location: Part 3, 3.3.3 s) & 3.4.4 d)	No Attachment

General Description: Repairs and Alterations of Tube Bundles

Subgroup: Repairs and Alterations

Task Group: Paul Shanks

Explanation of Need:
Submission is for R Certificate Holders we provide Repair Inspection services for. NBIC Part 3, 3.3.3 s) seems to allow to be a repair, but under 3.4.4 d) where the dimensions change it might be classified as an alteration.)

INT TG Action: Progress Report – Discussion of this Item (20-78) and Item 20-54 dealing with 3.4 .4 d) resulted in P. Becker opening a new Item (21-12) to better clarify the definition and examples of "Repairs" and "Alterations"

SC ACTION: Mr. Shanks presented a **Progress Report**.

July INT TG Action: P. Shanks presented that this is still being held back. Progress Report till 21-12 is resolved.

Meeting Action: P. Shanks presented that this is still being held back. **Progress Report** till 21-12 is resolved.

Item Number: 21-28	NBIC Location: Part 3, 1.5.1 & 3.3.3 c)	No Attachment

General Description: Subcontracted Weld-Overlay Repair

Subgroup: Repairs and Alterations

Task Group: Walter Sperko

Explanation of Need:
(1) To clarify whether it is permitted for an "R" Certificate of Authorization Holder to subcontract weld-overlay repair to another company who does not possess an "R" Certificate.
(2) To clarify whether a subcontractor's shop used on a regular basis may be considered as a field location to allow welding by and under the control of the "R" Certificate Holder at that shop.

Meeting Action: Trevor Seime presented a **PR**

Item Number: 21-32	NBIC Location: Part 3, 4.2	No Attachment

General Description: NDE requirements when repairing defects in original weld metal

Subgroup: Repairs and Alterations

Task Group: R. Troutt (PM), M. Toth

Explanation of Need:
This provision will help clarify to "R" Stamp Certificate holders and owners of pressure vessels that are in need of minor repairs to existing welds. Due to the ambiguous wording of this clause any welding on a head to shell joint may be interpreted to require volumetric inspection when the name plate is stamped RT4.

July INT TG Action: R. Troutt presented – R. Underwood's submitted comment and P. Shanks discussion was considered. Proposal revised and unanimously approved.

Meeting Action: R. Troutt presented, but after much discussion Marty Toth was added to the TG, but the proposal was to be taken back for more work. This was a **PR**.

New Interpretation Requests:

Item Number: 21-39	NBIC Location: Part 3, 3.3.2 e)	Attachment 2

General Description: Routine repair scope

Subgroup: Repairs and Alterations

Task Group: None assigned

Explanation of Need:
Some R-certificate holders and AIAs are making huge (100 square feet) weld metal buildup type routine repairs on the basis that the components being built up are only 5" tubes and 3.3.2 e) 1) says welded repairs to 5" tubes are routine. As 3.3.2 e) includes "shall be limited to" shouldn't exceeding any one of the listed limitations preclude the routine repair approach.

January 2022 Meeting Action:

Item Number: 21-57 **NBIC Location: Part 3, 3.3.2 a)** **Attachment 3**

General Description: Routine Repairs of Section VIII Div 1 built to Appdx 46

Subgroup: Repairs and Alterations

Task Group: T. Seime (PM)

Explanation of Need:
Routine Repairs are not allowed for ASME Sect. VIII Div. 2 or 3 vessels. Routine Repairs should not be allowed for Div. 1 vessels built using the design considerations of Division 2 to establish the thickness and other design details of a component for a Section VIII, Division 1 pressure vessel.

January 2022 Meeting Action:

Item Number: 21-60 **NBIC Location: Part 3, 3.4.5.1 b)** **Attachment 4**

General Description: UDS requirements for repairs and alterations for Divisions 2 & 3

Subgroup: Repairs and Alterations

Task Group: G. Galanes (PM)

Explanation of Need:
Is it the intent of interpretation 19-14 to prohibit the R-Certificate holder from recreating a UDS while still allowing the user to create the UDS? If yes, could the R-Certificate holder serve as the user's designated agent to recreate the UDS? Although this interpretation applies specifically to alterations, would this interpretation also be applicable to performing repairs (see 3.3.5.2(a))?

January 2022 Meeting Action:

Item Number: 21-64 **NBIC Location: Part 3, 1.3.1** **Attachment 5**

General Description: Repair or Alteration activity allowed prior to Certification

Subgroup: Repairs and Alterations

Task Group: M. Toth (PM)

Explanation of Need:
Applicants for the "R" Certificate are unclear if the NBIC allows for any activities to be performed prior to certification, especially since ASME does allow it.

January 2022 Meeting Action:

Item Number: 21-74 **NBIC Location: Part 3, 1.3.1** **Attachment 6**

General Description: ASME Sect VIII, Div 1 Design Personnel Requirements and NBIC Repairs/Alts

Subgroup: Repairs and Alterations

Task Group: T. McBee (PM)

Explanation of Need:
Many have asked what, if any, impact the new ASME VIII-1 Appendix 47 design personnel requirements will have on NBIC repairs and alterations.

January 2022 Meeting Action:

Item Number: 21-75 **NBIC Location: Part 3, 3.3.2 e) 1)** **Attachment 7**

General Description: Routine Repairs

Subgroup: Repairs and Alterations

Task Group: None assigned

Explanation of Need:
The wording "but does not include nozzles to pressure-retaining items" could lead into interpreting the nozzle as a whole including the joint attaching the nozzle to the PRI.

January 2022 Meeting Action:

Item Number: 21-79 **NBIC Location: Part 3, 3.3.3 h)** **Attachment 8**

General Description: Mechanical Replacement of Shell or Head

Subgroup: Repairs and Alterations

Task Group: None assigned

Explanation of Need:
This interpretation and corresponding Code revision would provide clarity to NBIC users and address whether mechanical replacement of these components is considered a repair.

January 2022 Meeting Action:

Item Number: 21-81	NBIC Location: Part 3, 3.3.6	Attachment 9

General Description: Repairs/Alterations of Impact Tested Vessels (Intent Interp)

Subgroup: Repairs and Alterations

Task Group: None assigned

Explanation of Need:
There is an urgent need to address these concerns as the repair firms cannot comply with the existing wording in 3.3.6. The purpose of this Intent Interpretation is to take the approved revisions to the 2023 NBIC Part 3 and provide immediate guidance to users involved in the repair and alteration activities of impact tested vessels.

January 2022 Meeting Action:

10. Future Meetings

- July 2022 – TBD
- January 2023 – TBD

11. Adjournment

Respectfully submitted,

Terrence Hellman

Terrence Hellman

TG Interpretations Secretary

Seime	Trevor	Jurisdictional Authorities	Chair	07/30/2024	Details
Hellman	Terrence		Secretary	12/30/2099	Details
Becker	Patricia	National Board Certificate Holders	Member	07/30/2022	Details
Boseo	Brian	General Interest	Member	07/30/2024	Details
Galanes	George	Users	Member	07/30/2022	Details
Kinney	Donald	Jurisdictional Authorities	Member	01/30/2024	Details
McBee	Timothy	Authorized Inspection Agencies	Member	07/30/2024	Details
Moore	Kathy	National Board Certificate Holders	Member	07/30/2024	Details
Quisenberry	Michael	National Board Certificate Holders	Member	07/30/2024	Details
Shanks	Paul	Authorized Inspection Agencies	Member	07/30/2022	Details
Underwood	Robert	Authorized Inspection Agencies	Member	07/30/2024	Details
Valdez	Rick	Manufacturers	Member	07/30/2022	Details
Wielgoszinski	Robert	Authorized Inspection Agencies	Member	07/30/2024	Details

PROPOSED INTERPRETATION

Item No.

21-39

Subject/Title

Routine repair scope

Project Manager and Task Group

Source (Name/Email)

Paul Shanks / paul.shanks@onecis.com

Statement of Need

Some R-certificate holders and AIAs are making huge (100 square feet) weld metal buildup type routine repairs on the basis that the components being built up are only 5" tubes and 3.3.2 e) 1) says welded repairs to 5" tubes are routine. As 3.3.2 e) includes "shall be limited to" shouldn't exceeding any one of the listed limitations preclude the routine repair approach.

Background Information

Repairs that exceed the limit listed in 33.2 e) 3) are being conducted which potentially places the public in harms way.

Proposed Question

Q1, In a boiler water wall which has been subject to wastage and requires weld metal build up, does the fact that the tubes are 5" or smaller mean that said build up is always routine regardless of the area involved? Q2 or if the area of weld build up exceeds 100in2 does the size and nature of the component being repaired become irrelevant?

Proposed Reply

A1, No A2, Yes

Committee's Question 1

Committee's Reply 1

Rationale

Committee's Question 2

Committee's Reply 2

Rationale

PROPOSED INTERPRETATION

Item No.

21-57

Subject/Title

Routine Repairs of Section VIII Div 1 built to Appdx 46

Project Manager and Task Group

Trevor Seime

Source (Name/Email)

Terrence Hellman / thellman@nationalboard.org

Statement of Need

Routine Repairs are not allowed for ASME Sect. VIII Div. 2 or 3 vessels. Routine Repairs should not be allowed for Div. 1 vessels built using the design considerations of Division 2 to establish the thickness and other design details of a component for a Section VIII, Division 1 pressure vessel.

Background Information

None.

Proposed Question

Are routine repairs permitted for ASME Section VIII Div. 1 vessels built in accordance with ASME Sect. VIII Div. 1 Appendix 46?

Proposed Reply

No.

Committee's Question 1

Are routine repairs permitted for ~~ASME Section VIII Div. 1 vessel~~ components ~~built~~ designed in accordance with ASME Sect. VIII, Div. 1, Appendix 46?

Committee's Reply 1

No.

Rationale

Routine Repairs are not allowed for ASME Sect. VIII Div. 2 or 3 vessels; therefore Routine Repairs should not be allowed for Div. 1 vessel components built using the design considerations of Division 2 to establish the thickness and other design details of a component for a Section VIII, Division 1 pressure vessel.

Committee's Question 2

Committee's Reply 2

Rationale

PROPOSED INTERPRETATION

Item No.

21-60

Subject/Title

UDS requirements for repairs and alterations for Divisions 2 & 3

Project Manager and Task Group

Source (Name/Email)

Mark Lower / lowermd@ornl.gov

Statement of Need

Is it the intent of interpretation 19-14 to prohibit the R-Certificate holder from recreating a UDS while still allowing the user to create the UDS? If yes, could the R-Certificate holder serve as the user's designated agent to recreate the UDS? Although this interpretation applies specifically to alterations, would this interpretation also be applicable to performing repairs (see 3.3.5.2(a))?

Background Information

Interpretation 19-14 states a UDS cannot be recreated when lost/destroyed. It is not clear how repair organizations will comply with the requirements of 3.4.5.1(a). However, it appears the user would be allowed to alter an existing UDS based on current parameters as noted in 3.4.5.1(b).

Proposed Question

Q: May a User's Design Specification be generated for the purpose of ASME Section VIII Div 2 or Div 3 vessel repairs or alterations by the user or their designated agent in the event the original UDS was lost/destroyed?

Proposed Reply

A: Yes

Committee's Question 1

Committee's Reply 1

Rationale

Committee's Question 2

Committee's Reply 2

Rationale

PROPOSED INTERPRETATION

Item No.

21-64

Subject/Title

Repair or Alteration activity allowed prior to Certification

Project Manager and Task Group

Source (Name/Email)

Terrence Hellman / thellman@nationalboard.org

Statement of Need

Applicants for the "R" Certificate are unclear if the NBIC allows for any activities to be performed prior to certification, especially since ASME does allow it.

Background Information

Below are references from the NB-415 and 2019 NBIC supporting A1 and A2. Per NB-415: 3.8 When all requirements have been met, a Certificate of Authorization will be issued evidencing permission to use the “R” Symbol Stamp. The Certificate of Authorization shall expire on the triennial anniversary date. Per NBIC: 1.4 ACCREDITATION a) Organizations performing repairs or alterations to pressure-retaining items shall be accredited as described in this section, as appropriate for the scope of work to be performed. 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. 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. 1.5.1 OUTLINE OF REQUIREMENTS FOR A QUALITY SYSTEM FOR QUALIFICATION FOR THE NATIONAL BOARD “R” CERTIFICATE OF AUTHORIZATION d) Statement of Authority and Responsibility A dated Statement of Authority and Responsibility, signed by a senior management official of the organization, shall be included in the manual. Further, the Statement shall include: 1) A statement that all repairs or alterations carried out by the organization shall meet the requirements of the NBIC and the Jurisdiction, as applicable; n) Acceptance and Inspection of Repair or Alteration 1) The manual shall specifically indicate that before the work is started, acceptance of the repair/alteration shall be obtained from an Inspector who will make the required inspections and confirm NBIC compliance by signing and dating the applicable NBIC Report Form upon completion of the work.

Proposed Question

Q1 - Can a new applicant's demonstration item be a welded repair to a PRI in accordance with the original code of construction prior to the applicant holding the "R" Certificate of Authorization? Q2 - Can the demonstration item in Q1 be stamped with the "R" Stamp pending a successful review if the Repair/Alteration activity is authorized by and has the required in-process involvement of the company's Repair Inspector?

Proposed Reply

A1 - No. No Repair/Alteration activities can be performed prior to holding an "R" Certificate of Authorization. A2 - No.

Committee's Question 1

Committee's Reply 1

PROPOSED INTERPRETATION

Item No.

21-74

Subject/Title

ASME Sect VIII, Div 1 Design Personnel Requirements and NBIC Repairs/Alts

Project Manager and Task Group

Source (Name/Email)

Luis Ponce / lponce@nationalboard.org

Statement of Need

Many have asked what, if any, impact the new ASME VIII-1 Appendix 47 design personnel requirements will have on NBIC repairs and alterations.

Background Information

Paragraphs 3.3.5 (Repairs to VIII-2 PRIs) and 3.4.5 (Alterations to VIII-2 PRIs) contain the statement that reads in part, "The repair/alteration plan shall be reviewed and certified by an engineer meeting the criteria of ASME Section VIII, Division 2 or 3, as appiicable...". The argument can be made that this would also apply to ASME Section VIII Division 1 alterations too in light of new Appendix 47, but not to repairs because there are no design functions associated with repairs in the NBIC.

Proposed Question

1. Are the 2021 ASME Section VIII, Division 1 Mandatory Appendix 47 design personnel requirements applicable to NBIC alterations to ASME Section VIII, Division 1 PRIs ? 2. Are the 2021 ASME Section VIII, Division 1 Mandatory Appendix 47 design personnel requirements applicable to NBIC repairs to ASME Section VIII, Division 1 PRIs ?

Proposed Reply

1 Yes, same as the NBIC requirements for ASME Secton VIII, Division 2 or 3 alterations. 2 No, there are no design functions associated with repairs.

Committee's Question 1

Committee's Reply 1

Rationale

Committee's Question 2

Committee's Reply 2

Rationale

PROPOSED INTERPRETATION

Item No.

21-75

Subject/Title

Routine Repairs

Project Manager and Task Group

Source (Name/Email)

Logan Somers / lsomers@harder.com

Statement of Need

The wording "but does not include nozzles to pressure-retaining items" could lead onto interpreting the nozzle as a whole including the joint attaching the nozzle to the PRI.

Background Information

When discussing scheduling of repairs this information is used by the owner to determine when the unit may be brought down for repair based on the availability of the Inspector.

Proposed Question

May the identical replacement of a waisted flange at the end of a nozzle off a PRI be considered a routine repair in accordance with the requirements of 3.3.2 when only the flange is replaced and not the joint attaching the nozzle to the PRI?

Proposed Reply

No

Committee's Question 1

May the ~~identical~~ replacement in kind of a ~~waisted~~ flange at the end of a nozzle, NPS 5 (DN 125) in diameter or smaller, ~~off~~ attached to a PRI be considered a routine repair in accordance with ~~the requirements of~~ Part 3 Section 3.3.2 (e) (1) when neither postweld heat treatment nor NDE other than visual is required and only the flange is replaced and not the joint attaching the nozzle to the PRI?

Committee's Reply 1

Yes

Rationale

The replaced flange would be considered a fitting in the category of Part 3 Section 3.3.2 (e) (1).

Committee's Question 2

Committee's Reply 2

Rationale

PROPOSED INTERPRETATION

Item No.

21-79

Subject/Title

Mechanical Replacement of Shell or Head

Project Manager and Task Group

Source (Name/Email)

Robert Underwood / robert_underwood@hsb.com

Statement of Need

This interpretation and corresponding Code revision would provide clarity to NBIC users and address whether mechanical replacement of these components is considered a repair.

Background Information

There are two conflicting NBIC interpretations relating to mechanical replacement of parts. Interpretation 01-29 states that NBIC neither requires nor prohibits documenting mechanical repair installation on a Form R-1. Recently passed interpretation 19-11 states that mechanical replacement of pressure retaining components in ASME Section VIII, Div. 3 vessels are considered a repair activity. 19-11 cites paragraph 3.3.3 which provides examples of repairs. Paragraph 3.3.3(h)(2) specifically states that replacement of head or shell in accordance with the original design. It does not specify whether head was replaced by welding or mechanical attachment.

Proposed Question

Is mechanical replacement of a shell or head of a pressure retaining item considered a repair activity?

Proposed Reply

Yes, see Part 3, 3.3.3(h).

Committee's Question 1

Committee's Reply 1

Rationale

Committee's Question 2

Committee's Reply 2

Rationale

PROPOSED INTERPRETATION

Item No.

21-81

Subject/Title

Repairs/Alterations of Impact Tested Vessels (Intent Interp)

Project Manager and Task Group

Source (Name/Email)

Robert Underwood / robert_underwood@hsb.com

Statement of Need

There is an urgent need to address these concerns as the repair firms cannot comply with the existing wording in 3.3.6. The purpose of this Intent Interpretation is to take the approved revisions to the 2023 NBIC Part 3 and provide immediate guidance to users involved in the repair and alteration activities of impact tested vessels.

Background Information

Existing paragraph 3.3.6 contains some requirements that the repair firm cannot comply with such as determining the heat treated condition and the notch toughness characteristics of the material to be repaired. It also contains references to dead links in the NBIC that provide no guidance to the repair firm. There is a corresponding item that is proposing elimination of the requirements of knowing the heat treated condition and the notch toughness characteristics of the material to be repaired and simply refer back to the original construction code in regards to WPS qualification. The intent interpretation would use the approved revisions and provide immediate guidance to users involved in the repair and alteration activities of impact tested vessels.

Proposed Question

Q1: When performing repair and alteration activities to pressure retaining items that have been impact tested, is it the intent that the test material used to qualify the welding procedure be of the same heat treated condition of the material being repaired? Q2: Is it the intent that the notch toughness of the material to be repaired be verified prior to performing a repair/alteration activity on a pressure retaining item that has been impact tested?

Proposed Reply

Replay 1: No, qualification of the welding procedure shall be in compliance with the following minimum requirements: a) Welding procedures used for repairs shall be qualified with impact testing when required by the original code of construction. The requirements for impact testing shall be in accordance with the rules of the original code of construction except that vessel (production) impact testing is not required. b) The test material for the welding procedure qualification with impact testing shall be of the same P-number and Group number as the material being repaired. Replay 2: No, qualification of the welding procedure shall be in compliance with the following minimum requirements: a) Welding procedures used for repairs shall be qualified with impact testing when required by the original code of construction. The requirements for impact testing shall be in accordance with the rules of the original code of construction except that vessel (production) impact testing is not required. b) The test material for the welding procedure qualification with impact testing shall be of the same P-number and Group number as the material being repaired.

Committee's Question 1

Committee's Reply 1

Rationale

Committee's Question 2