

## NBIC Sub-Group Repairs & Alterations

**Subject:** Minimum description detail needed to identify an exact scope of work for a repair and alteration.

**NB-Item number:** Initiated by NB-staff ➔ NB08-0304 *(accepted by LB- R/A Sub-Committee 5-25-10)*

**Explanation of assignment needed:** The “R”-Form instruction guide shown at Part 3, Section 5.13.4.1 needs to be improved. Revise the “R”-Form Instruction Guide and determine if the forms R-1 & R-2 can be revised to allow additional space to better accommodate a complete description of work when the forms are completed outside of an electronic format. Also consider if making the R-2 form a 2-page document to allow electronic transfer while emphasizing the need to complete the design certification and review PRIOR to the start of construction.


**Assigned to:** R. Pulliam, M. Webb, W. Jones

**Background:** Mr. Terry Parks proposed a review to identify a more suitable orientation of the forms to better accommodate completing the form outside of an electronic format. Currently, the Code lacks sufficient guidance & instruction for what minimum description would represent an “exact scope of work” described in the completion guide at 5.13.4.1- step 12, for “work performed” as a repair or alteration. In focus was what responsibility did the certificate holder have to provide adequate details in describing the “exact scope of work” and what responsibility did the Inspector have to assure the description was adequate where no guidance was represented in the Code.

Existing Text in '09-addenda	<u><a href="#">Proposed Change #1</a></u>	Rationale
<b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD “R” REPORTS</b>	<p style="color: blue;">Re-title the GUIDE as “<b>INSTRUCTIONS</b>” and introduce an introductory statement.</p> <p><b>5.13.4.1 <u><a href="#">INSTRUCTIONS FOR COMPLETING NATIONAL BOARD “R” REPORTS</a></u></b></p> <p style="color: blue;"><u><a href="#">These instructions are to be used when completing the National Board Form “R”-Reports. When computer generated, the format of the form shall replicate the type and relative location of the information depicted on the Form “R” Reports shown in Part 3, Section 5.13.1 through 5.13.4.</a></u></p>	<p>The added paragraph proposes an introductory statement to the guide for completing the National Board R-Forms. Subtle inaccuracies in computer generated forms when compared to the forms in Part 3, Section 5.13, may not be noticed and truly represent the interests of the National Board. The proposed language may allow some latitude without compromising the objectives of the National Board.</p> <p style="text-align: center;">Interpretation 95-40</p> <p><b>Subject:</b> Appendix 5, Form R-2 Report of Alteration, 1995 Edition with 1995 Addendum</p> <p><i>Question 1:</i> Does the NBIC require that the Data Report Forms used to report repairs and alterations be identical to the forms shown in Appendix 5? Reply: Yes.</p> <p><i>Question 2:</i> May the Data Report Forms used for repairs and alterations be computer generated? Reply: Yes, provided they are <u>identical</u> to the forms shown in Appendix 5.</p>

## NBIC Sub-Group Repairs & Alterations

Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<u><a href="#">Proposed Change #2</a></u>	Rationale
1. Name and address of the "R" Certificate organization that performed the work. On Form R-2, the organization that performed the construction work (Line 1a) or the Design (Line 1b).	1. <u><a href="#">The name and address of the "R" Certificate Holder performing the work as it appears on the "Certificate of Authorization". On a Form R-2, the organization that performed the design-work will complete sheet 1 of 2, and the organization completing the construction activities will complete sheet 2 of 2.</a></u>	The exact name is needed in the event that the line offered at the lower portion of the page @ instruction item 20 is not sufficient and must be abbreviated to meet the single-page requirements of the National Board. See Interpretation 95-40

Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<u><a href="#">Proposed Change #3</a></u>	Rationale
2. For NBIC Report Forms registered with the National Board, indicate the sequential Form R Number assigned by the "R" Certificate Holder organization that is registering the form; otherwise indicate "N/A". For re-rating only, the Design Organization registers the R-2. Where physical work is also performed, the Construction Organization registers the R-2.	2. <u><a href="#">When registering a Form "R"-Report with the National Board, this line is solely designated for a unique sequential number assigned by the "R" Certificate Holder. When the "R"-Form is not to be registered, indicate so by "N/A". As described in 5.6, a log shall be maintained identifying sequentially, any "R"-forms registered with the National Board.</a></u> For re-rating only, the Design Organization registers the R-2. Where physical work is also performed, the Construction Organization registers the R-2.  <u><a href="#">See Form R-2 &amp; R-1 changes proposed @ change #21 &amp; 22</a></u> 	Relative to the "R" Forms shown in change #21 & 22, the subscript information in the upper right corner on the "R" forms is proposed to change from "Form R No." to " <u>Form "R" Registration No.</u> "

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Existing Text in '09-addenda <b>5.6 FORM "R" LOG</b>	<u><a href="#">Proposed Change #4</a></u>	Rationale
<p><b>5.6 FORM "R" LOG</b></p> <p>The "R" Certificate Holder shall maintain a single, sequential log of "R" Form numbers assigned for NBIC Report Forms (e.g., R-1, R-2, and R-3) that are registered with the National Board.</p>	<p><b>5.6 FORM "R" LOG</b></p> <p>The "R" Certificate Holder shall maintain a single <a href="#">log, documenting unique and sequentially numbered Form "R"-Reports</a> (e.g., R-1, R-2, and R-3) that are registered with the National Board.</p>	

Existing Text in '09-addenda <b>5.2.2 PREPARATION OF FORM R-2</b>	<u><a href="#">Proposed Change #5</a></u>	Rationale
<p><b>5.2.2 PREPARATION OF FORM R-2 (ALTERATIONS)</b></p> <p>c) ..... The construction organization shall complete the Form R-2 provided by the design organization, including the "Construction Certificate" 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 the gathering and attaching of the supporting reports.</p> <p>d) 2) Form R-3, Report of Fabricated Parts or Manufacturer's Partial Data Reports; and</p>	<p><b>5.2.2 PREPARATION OF FORM R-2 (ALTERATIONS)</b></p> <p>c) ..... The construction organization shall complete the Form R-2 provided by the design organization, including the "Construction <del>Certificate</del> <u>Certification</u>" 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 the gathering and attaching of the supporting reports.</p> <p>d) 2) Form R-3, Report of Fabricated Parts, Manufacturer's Partial Data Reports, <u>or Certificates of Compliance</u>; and</p>	<p>c) The proposed change merely identifies the Construction "Certification" section of the form by the true nomenclature used on the existing form.</p> <p>d) Certificate of Compliance allowed by ASME Section I &amp; VIII is proposed for inclusion to the list of supporting information.</p>

Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<u><a href="#">Proposed Change #6</a></u>	Rationale
<p>5. Description of the pressure retaining item, such as a boiler or pressure vessel.</p>	<p>5. Description of the pressure retaining item, such as a boiler, or pressure vessel, <u>or piping. Include the unit identification if applicable.</u></p>	<p>Regarding the Form "R-2" and "R-1", see the proposed change <b>#21 &amp; #22</b> to "<u>Item</u>" on line 4.</p>

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Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<u><a href="#">Proposed Change #7</a></u>	Rationale
6. Name of original manufacturer of the pressure-retaining item if a boiler or pressure vessel. If other than a boiler or pressure vessel, complete if known.	6. Name of <u>the</u> original manufacturer of the pressure-retaining item. <del>if a boiler or pressure vessel. If other than a boiler or pressure vessel, complete if known.</del> <u>If the original manufacturer is unknown, indicate by, "unknown".</u>	The current text proposes that if the original manufacturer is not known, the line may be left "blank". A blank-line could indicate the information was overlooked.

Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<u><a href="#">Proposed Change #8</a></u>	Rationale
7. Serial number of the pressure retaining item as assigned by the original manufacturer.	7. <u>Document</u> the serial number of the pressure retaining item <u>if</u> assigned by the original manufacturer. <u>If there is no serial number assigned or is unknown, indicate "unknown".</u>	Following proposed change #7, if a manufacturer is not identified, there may also be no serial number. No blanks in the report. All lines should be completed or an indication made that the line was not overlooked.

Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<u><a href="#">Proposed Change #9</a></u>	Rationale
8. Identification of the pressure-retaining item by applicable registration number. If installed in Canada, indicate the Canadian design registration number (CRN), and list the drawing number under "other".	8. <u>When the pressure-retaining item is registered with the National Board, document the applicable registration number.</u> <del>identification of the pressure-retaining item by applicable registration number.</del> If <u>the pressure-retaining item is</u> installed in Canada, indicate the Canadian design registration number (CRN), and list the drawing number under "other". <u>If the item is not registerd, indicate, "none".</u>	


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Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<b><u>Proposed Change #10</u></b> <b>(the <u>text shown below is all new and not double-underlined to clearly identify punctuation</u>)</b>	Rationale
<p>12. State exact scope of work, and attach additional data, sketch, Form R-4, etc. as necessary. If additional data is attached, so state.</p>	<p>12. Provide a summary describing the exact scope of work that was completed to a Pressure Retaining Item (PRI). The information to be included when describing the scope of work shall consider items such as, the nature of the repair or alteration characterized by the listed examples, the specific location of the work performed to the PRI, the method of repair used to include as applicable, the steps taken to remove a defect or as allowed by 3.3.4.8 to remain in place, the welding process and procedure when used, any special processes required such as PWHT; noting the soak time and temperatures recorded, and any acceptable in-process and final NDE-examinations or tests performed. When additional space is needed to fully describe the scope of work, a Form R-4 shall be used and attached.</p>	<p>Currently, the NBIC provides no guidance for what constitutes an exact scope of work. The following interpretation as well as the current NB instruction guide item #12 identifies the need for communicating a complete description.</p> <p>Per Part 3, Section 3.3.4.8, Method of repair allowing defects to remain in place.</p> <p style="text-align: center;">Interpretation 01-41</p> <p>Question 1: In the event of an alteration to a boiler in which the boiler heating surface and steaming capacity is increased, is the new heating surface or new steaming capacity of this boiler required to be stamped on the new nameplate, boiler, or Form R-2? Re: No, however, <b>the exact scope of work must be included in the Form R-2</b>, which should include the added heating surface and / or steaming capacity.</p>

<b><i>Current Wording at 5.2.1, a-c:</i></b>	<b><u>Proposed Change #11</u></b>
<p>5.2.1 Preparation of Form R-1 (Repairs)</p> <p>a) Preparation of Form R-1 shall be the responsibility of the "R" Certificate Holder performing the repair.</p> <p>b) An Inspector shall indicate acceptance by signing the Form R-1</p> <p>c) The Form R-3 and Manufacturer's Data Reports described in this section shall be a part of the completed Form R-1 and shall be attached thereto.</p>	<p>5.2.1 Preparation of Form R-1 (Repairs)</p> <p>a) <u>Using the instructions found at 5.13.4.1, preparation of the Form R-1 shall be the responsibility of the "R" Certificate holder performing the repair.</u></p> <p>b) <u>Information describing the scope of work used to repair a Pressure Retaining Item (PRI) shall be documented on a Form R-1 and extended to a Form R-4 as needed to fully describe the repair activities completed per the instructions at 5.13.4.1.</u></p> <p>c) An Inspector shall indicate acceptance by signing the Form R-1, <u>and Form R-4, if attached</u></p> <p>d) The Form R-3, <u>and Manufacturer's Data Reports, and Certificates of Compliance</u> described in this section shall be a part of the completed Form R-1 and shall be attached thereto.</p>

**The former "c" now becomes "d"**

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Existing Text in '09-addenda Instruction guide for completing "R"- forms- continued	<a href="#"><u>Proposed Change #12</u></a>	Rationale
<b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>		
<p>14. To be completed for all welded pressure components added during the work. Indicate the part, item number, manufacturer's name, stamped identification, and data report type.</p>	<p>14. <a href="#"><u>As applicable, identify what parts manufactured by welding or bonding were introduced as needed to complete the scope of work.</u></a> Indicate the part, item number, manufacturer's name, stamped identification, data report type <a href="#"><u>or certificate of compliance.</u></a></p> <p><b>NOTE:</b> </p>	<p>The current lines on the R-forms noting "Replacement Parts" (line 9 for Form R-1 and line 8 for Form R-2) asks the certificate holder to describe the part, part reference information, the manufacturer, and attach Manufacturer's Partial Data Reports <u>denoting a fabricated part by welding.</u></p> <p>However, the current Instruction Guide Note 14 identifies, "<u>all welded pressure components added during the work</u>". This could imply pressure retaining material added using welding to complete the scope of work. This represents a conflict of information and guidance.</p> <p>"Bonded" is introduced because ASME Section 10 enlists Partial Data Report RP-2 for FRP-equipment. If this is accepted, the Form R-3 may need to be re-titled, "<i>FORM R-3, REPORT OF FABRICATED PARTS</i>" <b>BY WELDING.</b></p>

Existing Text in '09-addenda 5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS	<a href="#"><u>Proposed Change #13</u></a>	Rationale
<p>16. Type or print name of the authorized representative of the "R" Certificate Holder.</p>	<p>16. Type or print <u>the</u> name of the authorized representative of the "R" Certificate Holder <a href="#"><u>attesting to the accuracy of the work described.</u></a></p>	

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Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<u><b>Proposed Change #14</b></u>	Rationale
20. Name of the "R" Certificate organization that performed the identified work..	20. <u>Document</u> the name of the "R" Certificate <u>Holder</u> that performed <u>the described work, using the full name as shown on the Certificate of Authorization or an abbreviation acceptable by the National Board.</u>	<p>The exact name appearing on the "Certificate of Authorization" may not fit in the limited space provided on the Form "R" Report. In the event the line at instruction item-20 is not sufficient, an acceptable abbreviation may be needed to meet the administrative protocol of the National Board.</p> <p><b>The use of an abbreviated company name</b> is being reviewed in a parallel item using NB-Item NB10-1601. In that item, the following is proposed for acceptance into the Code:</p> <p>20. <u>Document</u> the name of the "R" Certificate <u>Holder</u> that performed <u>the described work, using the full name as shown on the Certificate of Authorization or an abbreviation acceptable to the National Board.</u></p>
Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<u><b>Proposed Change #15</b></u>	Rationale
29. Name and address of the organization that purchased the parts for incorporation into the repair or alteration, if known. If built for stock, so state.	29. <u>Document the</u> name and address of the organization that purchased the parts for incorporation into the repair or alteration. <del>if known.</del> If <u>the part's origin is unknown or the part was</u> built for stock, so state.	The exact name appearing on the "Certificate of Authorization" may not fit in the limited space provided on the Form "R" Report. In the event the line at instruction item-29 is not sufficient, an acceptable abbreviation may be needed to meet the single-page administrative protocol of the National Board
Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<u><b>Proposed Change #16</b></u>	Rationale
30. Name of organization responsible for specifying the code design conditions.	30. <u>Document the</u> name of <u>the</u> organization responsible for specifying the code design conditions, <u>if known.</u> If <u>the origin of the design conditions are unknown, state "unknown".</u>	<p>The exact name of the design organization may not fit in the limited space provided on the Form "R" Report. In the event the line at instruction item-30 is not sufficient, an acceptable abbreviation may be needed to meet the single-page administrative protocol of the National Board.</p> <p><u>"If known"</u> was added to reflect the other potential unknowns of instruction items 31, 32, and 35.</p>

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Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<b><u>Proposed Change #17</u></b>	Rationale
31. Name of organization responsible for performing the code design, if known.	31. <u>Document the</u> name of <u>the</u> organization responsible for performing the code design, if known. <u>If the code design organization is unknown, state "unknown".</u>	The exact name of the design organization may not fit in the limited space provided on the Form "R" Report. In the event the line at instruction item-30 is not sufficient, an acceptable abbreviation may be needed to meet the single-page administrative protocol of the National Board.

Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<b><u>Proposed Change #18</u></b>	Rationale
32. Name, section, and division of the design code, if known.	32. Name, section, and division of the design code, if known. <u>If the design is unknown, state "unknown".</u>	No blanks on the report. All lines should be completed or an indication made that the line was not overlooked.

Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<b><u>Proposed Change #19</u></b>	Rationale
35. Indicate code paragraph reference for formula used to establish the MAWP, if known. Name, section, and division of the design code, if known.	35. Indicate <u>the</u> code paragraph reference for <u>the</u> formula used to establish the MAWP, if known. <u>If the code reference of the formula is unknown, state "unknown".</u>	No blanks on the report. All lines should be completed or an indication made that the line was not overlooked.

Existing Text in '09-addenda <b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD "R" REPORTS</b>	<b><u>Proposed Change #20</u></b>	Rationale
36. Identify name of part, such as "superheater header".	36. <u>If available, identify the component by the part's original name, function, or use the original equipment manufacturer's "mark or item-number."</u>	Manufacturers use different system names or nomenclature in describing their organization's components. Efforts should be made to ensure the correct component is being represented during replacements. Desuperheaters Vs. Attemporator, Secondary Superheater Vs. Finishing Superheater Vs. Rear-Pendant Superheater are examples.

# NBIC Sub-Group Repairs & Alterations

Existing Form R-2, REPORT OF ALTERATION in '09-addenda @ 5.13.2

Proposed Change #21 - Form R-2 SHEET 1 of 2, REPORT OF ALTERATION, DESIGN REPORT @ 5.13.2

## FORM R-2 REPORT OF ALTERATION in accordance with provisions of the National Board Inspection Code

1a. Construction performed by \_\_\_\_\_ (name of "R" organization responsible for construction) (Form "R" No.) \_\_\_\_\_  
(address) \_\_\_\_\_ (P.O. No., Job No., etc.) \_\_\_\_\_

1b. Design performed by \_\_\_\_\_ (name of "R" organization responsible for design) (Form "R" No.) \_\_\_\_\_  
(address) \_\_\_\_\_ (P.O. No., Job No., etc.) \_\_\_\_\_

2. Owner \_\_\_\_\_ (name)  
(address) \_\_\_\_\_

3. Location of installation \_\_\_\_\_ (name)  
(address) \_\_\_\_\_

4. Unit identification \_\_\_\_\_ (boiler, pressure vessel) Name of original manufacturer \_\_\_\_\_

5. Identifying nos.: \_\_\_\_\_ (mfg. serial no.) \_\_\_\_\_ (National Board No.) \_\_\_\_\_ (jurisdiction no.) \_\_\_\_\_ (other) \_\_\_\_\_ (year built)

6. NBIC Edition / Addenda: \_\_\_\_\_ (edition) \_\_\_\_\_ (addenda)

Original Code of Construction for Item: \_\_\_\_\_ (name / section / division) \_\_\_\_\_ (edition / addenda)

Construction Code Used for Alteration Performed: \_\_\_\_\_ (name / section / division) \_\_\_\_\_ (edition / addenda)

7a Description of construction work: \_\_\_\_\_ (use supplemental sheet, Form R-4, if necessary)

7b Description of design scope: \_\_\_\_\_ (use supplemental sheet, Form R-4, if necessary)

Pressure Test, if applied \_\_\_\_\_ psi MAWP \_\_\_\_\_ psi

8. Replacement Parts. Attached are Manufacturer's Partial Data Reports or Form R-3's properly completed for the following items of this report:  
\_\_\_\_\_ (name of part, item number, data report type, mfg's. name and identifying stamp)

9. Remarks: \_\_\_\_\_

## FORM R-2 REPORT OF ALTERATION in accordance with provisions of the National Board Inspection Code

### DESIGN REPORT

### SHEET 1 OF 2

1. Design performed by \_\_\_\_\_ (name of "R" organization responsible for design) (Form "R" Revision No.) \_\_\_\_\_  
(address) \_\_\_\_\_ (P.O. No., Job No., etc.) \_\_\_\_\_

2. Owner \_\_\_\_\_ (name)  
(address) \_\_\_\_\_

3. Location of installation \_\_\_\_\_ (name)  
(address) \_\_\_\_\_

4. Item identification \_\_\_\_\_ (boiler, pressure vessel, or piping) Name of original manufacturer \_\_\_\_\_

5. Identifying nos.: \_\_\_\_\_ (mfg. serial no.) \_\_\_\_\_ (National Board No.) \_\_\_\_\_ (jurisdiction no.) \_\_\_\_\_ (other) \_\_\_\_\_ (year built)

6. NBIC Edition / Addenda: \_\_\_\_\_ (edition) \_\_\_\_\_ (addenda)

Original Code of Construction for Item: \_\_\_\_\_ (name / section / division) \_\_\_\_\_ (edition / addenda)

Construction Code to be Used for Alteration Performed: \_\_\_\_\_ (name / section / division) \_\_\_\_\_ (edition / addenda)

7. Description of design scope: \_\_\_\_\_  
(use supplemental sheet, Form R-4, if necessary)  FORM R-4, REPORT SUPPLEMENTARY SHEET IS ATTACHED

Pressure Test, if applied \_\_\_\_\_ psi MAWP \_\_\_\_\_ psi

8. Replacement Parts. Attached are Manufacturer's Partial Data Reports or Form R-3's properly completed for the following items of this report:  
\_\_\_\_\_ (name of part, item number, data report type, mfg's. name and identifying stamp)

9. Remarks: \_\_\_\_\_

### DESIGN CERTIFICATION

I, \_\_\_\_\_ certify that to the best of my knowledge and belief the statements in this report are correct and that the Design Change described in this report conforms to the National Board Inspection Code.  
National Board "R" Certificate of Authorization No. \_\_\_\_\_ expires on \_\_\_\_\_  
Date \_\_\_\_\_ Signed \_\_\_\_\_  
(name of design organization) (authorized representative)

### CERTIFICATE OF DESIGN CHANGE REVIEW

I, \_\_\_\_\_ holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of \_\_\_\_\_ and employed by \_\_\_\_\_ of \_\_\_\_\_ have reviewed the design change as described in this report and state that to the best of my knowledge and belief such change complies with the applicable requirements of the National Board Inspection Code.  
By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.  
Date \_\_\_\_\_ Signed \_\_\_\_\_ Commissions \_\_\_\_\_  
(inspector) (National Board and jurisdiction no.)

# NBIC Sub-Group Repairs & Alterations

**Existing Form R-2, REPORT OF ALTERATION (back)**  
in '09-addenda @ 5.13.2

**Proposed Change #21- (CONTINUED) Form R-2, SHEET 2 of 2**  
REPORT OF ALTERATION, **CONSTRUCTION REPORT**, @ 5.13.2

Form R-2 (back)

(Form R No.) \_\_\_\_\_

### DESIGN CERTIFICATION

I, \_\_\_\_\_ certify that to the best of my knowledge and belief the statements in this report are correct and that the Design Change described in this report conforms to the *National Board Inspection Code*.  
National Board "R" Certificate of Authorization No. \_\_\_\_\_ expires on \_\_\_\_\_  
Date \_\_\_\_\_ Signed \_\_\_\_\_  
(name of design organization) (authorized representative)

### CERTIFICATE OF DESIGN CHANGE REVIEW

I, \_\_\_\_\_ holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of \_\_\_\_\_ and employed by \_\_\_\_\_ of \_\_\_\_\_ have reviewed the design change as described in this report and state that to the best of my knowledge and belief such change complies with the applicable requirements of the *National Board Inspection Code*.  
By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.  
Date \_\_\_\_\_ Signed \_\_\_\_\_ Commissions \_\_\_\_\_  
(inspector) (National Board and jurisdiction no.)

### CONSTRUCTION CERTIFICATION

I, \_\_\_\_\_ certify that to the best of my knowledge and belief the statements in this report are correct and that all material, construction, and workmanship on this Alteration conforms to the *National Board Inspection Code*.  
National Board "R" Certificate of Authorization No. \_\_\_\_\_ expires on \_\_\_\_\_  
Date \_\_\_\_\_ Signed \_\_\_\_\_  
(name of alteration organization) (authorized representative)

### CERTIFICATE OF INSPECTION

I, \_\_\_\_\_ holding a valid Commission issued by the National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of \_\_\_\_\_ and employed by \_\_\_\_\_ of \_\_\_\_\_ have inspected the work described in this report on \_\_\_\_\_ and state that to the best of my knowledge and belief this work complies with the applicable requirements of the *National Board Inspection Code*.  
By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.  
Date \_\_\_\_\_ Signed \_\_\_\_\_ Commissions \_\_\_\_\_  
(inspector) (National Board and jurisdiction no.)

## FORM R-2 REPORT OF ALTERATION

in accordance with provisions of the *National Board Inspection Code*

### CONSTRUCTION REPORT

SHEET 2 OF 2

- Construction performed by \_\_\_\_\_  
(name of "R" organization responsible for construction) (Form "R" Registration No.)  
(address) \_\_\_\_\_ (P.O. No., Job No., etc.) \_\_\_\_\_
- Owner \_\_\_\_\_  
(name)  
(address) \_\_\_\_\_
- Location of installation \_\_\_\_\_  
(name)  
(address) \_\_\_\_\_
- Item identification \_\_\_\_\_ Name of original manufacturer \_\_\_\_\_  
(boiler, pressure vessel, or vessel)
- Identifying nos.: \_\_\_\_\_  
(fig. serial no.) (National Board No.) (jurisdiction no.) (other) (year built)

### CERTIFICATE of DESIGN RECOGNIZED BY CONSTRUCTION ORGANIZATION

I, \_\_\_\_\_ acknowledge the provisions and requirements of design described on the DESIGN REPORT, sheet 1, and the design was introduced into the construction scope as required by the *National Board Inspection Code*.  
Date \_\_\_\_\_ Signed \_\_\_\_\_  
(name of construction organization) (authorized representative)

### 7. Description of Construction Scope:

(use supplemental sheet, Form R-4, if necessary)

FORM R-4, REPORT SUPPLEMENTARY SHEET IS ATTACHED

Pressure Test, if applied \_\_\_\_\_ psi MAWP \_\_\_\_\_ psi

### 8. Replacement Parts.

Attached are Manufacturer's Partial Data Reports or Form R-3's properly completed for the following items of this report:

(name of part, item number, data report type *or Certificate of Compliance*, fig's name and identifying stamp)

### 9. Remarks:

### CONSTRUCTION CERTIFICATION

I, \_\_\_\_\_ certify that to the best of my knowledge and belief the statements in this report are correct and that all material, construction, and workmanship on this Alteration conforms to the *National Board Inspection Code*.  
National Board "R" Certificate of Authorization No. \_\_\_\_\_ expires on \_\_\_\_\_  
Date \_\_\_\_\_ Signed \_\_\_\_\_  
(name of alteration organization) (authorized representative)

### CERTIFICATE OF INSPECTION

I, \_\_\_\_\_ holding a valid Commission issued by the National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of \_\_\_\_\_ and employed by \_\_\_\_\_ of \_\_\_\_\_ have inspected the work described in this report on \_\_\_\_\_ and state that to the best of my knowledge and belief this work complies with the applicable requirements of the *National Board Inspection Code*.  
By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.  
Date \_\_\_\_\_ Signed \_\_\_\_\_ Commissions \_\_\_\_\_  
(inspector) (National Board and jurisdiction no.)

This form may be obtained from The National Board of Boiler and Pressure Vessel Inspectors, 1017 Copper Ave., Columbus, OH 43219

NB-229 Rev. 1



## NBIC Sub-Group Repairs & Alterations

<b>Summary of Proposed Changes #21</b>	<b>Rationale</b>
<p><b>Revise Form R-2 to Sheet 1 and Sheet 2</b></p> <p>As proposed the traditional identification of the form, FORM R-2, REPORT OF ALTERATION”, would be unchanged. As shown, the following changes have been proposed:</p> <ol style="list-style-type: none"> <li>1. “Design &amp; Construction Reports represent sheet 1 &amp; sheet 2 of the Form R-2</li> <li>2. “Form “R” <a href="#">Registration</a> No. is now identified.</li> <li>3. The “<a href="#">item</a>”, is now described in lieu of “unit” and “<a href="#">or piping</a>”, is included to better describe recognized pressure-retaining items.</li> <li>4. The design organization defines the Code-edition / addenda that the Construction organization is required to follow- <a href="#">displacing any difference in the Code used</a>.</li> <li>5. A check-box now identifies a FORM R-4 is attached with additional and supporting information for the Design &amp; Construction organizations at line #7 on each of the two sheets.</li> <li>6. <a href="#">Certificate of Compliance</a> allowed by Section VIII is added to the form @ line-8.</li> <li>7. Continuity of work is demonstrated, seemingly the “Certificate of Design would be acknowledged by the construction organization” before the construction activities begin.</li> </ol>	<p>Revising the current one sheet, 2-sided Form “R” -2 profile, into two, single-sided sheets:</p> <ul style="list-style-type: none"> <li>• Will allow electronic completion and electronic document transfer.</li> <li>• The Forms have also been revised to demonstrate process continuity by establishing the design requirements and acceptance PRIOR to starting the Construction phase of the work scope.</li> <li>• The check-box when marked would identify additional information not necessarily apparent to an Inspector, the National Board, or organization requesting registered information from the National Board.</li> <li>• As a single sided form, the design and construction organizations can be assured that all attachments have been accounted for.</li> </ul> <p>The Preparation of Form R-2 described at 5.2.2 d) 2) is proposed for revision to include “<a href="#">Certificates of Compliance</a>”. See proposed change <b>#12</b>.</p>

<b>Summary of Proposed Changes #22</b>	
<p><b>Revise Form R-1</b></p> <p>As shown, the following changes have been proposed:</p> <ol style="list-style-type: none"> <li>1. “Form “R” <a href="#">Registration</a> No. is now identified.</li> <li>2. The “<a href="#">item</a>”, is now described in lieu of “unit” and “<a href="#">or piping</a>”, is included to better describe recognized pressure-retaining items.</li> <li>3. The addition of the reference boxes, <a href="#">Form R-4, Report Supplementary Sheet is attached</a> and <a href="#">FFSA-Form (NB-403) is attached</a>” @ line 8.</li> <li>4. <a href="#">Certificate of Compliance</a> allowed by ASME Section I &amp; VIII is added to the form @ line-9.</li> </ol>	<p>The reference boxes, when marked, would identify additional information not necessarily apparent to an Inspector, the National Board, or an organization requesting registered information from the National Board.</p> <p>The use or reference to the Form R-4, Report Supplementary Sheet and FFSA-Form, as proposed at item 12 of the Instruction guide is consistent between the R-Forms</p> <p>The Preparation of Form R-1 described at 5.2.1 d) 2) is proposed for revision to include “<a href="#">Certificates of Compliance</a>”. See proposed change <b>#11</b></p>

Existing Text in '09-addenda	<b><u>Proposed Change #23</u></b>	Rationale
<p><b>5.13.4.1 GUIDE FOR COMPLETING NATIONAL BOARD “R” REPORTS</b></p>		
<p>53. If applicable, purchase order, job number, etc., assigned by the organization performing the work.</p>	<p>53. If applicable, <a href="#">document the unique</a> purchase order, job, <a href="#">or tracking</a> number, <del>etc.</del>, assigned by the organization performing the work.</p>	