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THE NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS

NATIONAL BOARD INSPECTION CODE TASK GROUP LOCOMOTIVE BOILERS

AGENDA

Meeting of February 24-25, 2025 Columbus, OH

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 9:00 a.m. Eastern Time.

- 2. Introduction of Members and Visitors
- 3. Check for a Quorum (51% with 16 members, 9 must be present)
- 4. Announcements
- 5. Adoption of the Agenda
- 6. **Approval of the Minutes of the July 2024 Meeting -** The minutes are available for review on the NBIC Committee Information page under the NBIC tab on <u>NBBI.org</u>.

7. Review of Rosters

- a. Membership Nomination
- b. Membership Reappointments
- c. Officer Elections

8. Interpretations

9. Action Items

Old Business:

Item Number: 24-77	NBIC Location: Part 3, S1.2.3k)	No Attachment
General Description: Cla	rify Alteration for transition from rigid to flexible bolts	
Subgroup: TG Locomotiv Task Group: M. Ray (PM	e 1), W. Fengler, T. Botti, J. Churchill	
Explanation of Need: Thi	s is omission from the code.	
July 2024 Action:		
A TG was assigned.		
TASK GROUP: M. Ray (I	PM), W. Fengler, T. Botti, J. Churchill	
Item Number: 24-78	NBIC Location: Part 2, S1.2.4.22	No Attachment

General Description: Minimum Washout Plug Thread Engagement

Subgroup: TG Locomotive Task Group: B. Zeigler (PM), E. Armpriester, D. Domitrovich

Explanation of Need: Text should be changed to clarify how minimum thread engagement is quantified.

July 2024 Action:

A TG was assigned.

TASK GROUP: B. Zeigler (PM), E. Armpriester, D. Domitrovich

Item Number: 24-79

Subgroup: TG Locomotive **Task Group:** M. Ray (PM)

Explanation of Need: FRA mandates default of 50,000 psi but boilers built after 1921 have better than 55,000 psi steel.

NBIC Location: Part 3, S1.2.2

July 2024 Action:

A TG was assigned.

Item Number: 24-80

TASK GROUP: M. Ray (PM)

General Description: adding a paragraph m) to Part 3, S1.2.2

Subgroup: TG Locomotive **Task Group:** S. Butler (PM), Dervin Lambert

Explanation of Need: It is a pasted practice used in locomotive boiler repair for stay bolts that could not be accessed from both sides.

July 2024 Action:

A TG was assigned.

TASK GROUP: S. Butler (PM), Dervin Lambert

Item Number: 24-81 NBIC Location: Part 3, Table S1.1.3.1 At

Attachment Page 1

General Description: Revise Table S1.1.3.1, Part 3, Section 6

Subgroup: TG Locomotive **Task Group:** R. Franzen (PM), T. Botti

Explanation of Need:

1) Need alternate material for Hollow Cylindrical Pressure Retaining Parts. Propose SA-106-B which is hollow seamless pipe to be used for super heater ball end parts. The new line-item title in the table would be "SH Unit Ball Ends", material options would be SA-106-B, SA-675, SA-696.

2) Change first line item from Boiler Tubes & Flues, Arch Tubes, Superheater Units, change to Boiler Tubes & Flues, Arch Tubes, Superheater Units & Tubing.

3) See other changes in table in RED.

July 2024 Action:

Mr. Franzen presented a proposal to the TG. The group had a lot of discussion on the additions/changes to the table, and Mr. Franzen has stated that he is not necessarily an expert when it comes to this subject, and he would like to have someone join the TG that is more knowledgeable in this subject. Mr. Ray suggested the task group speak with Mr. George Galanes. It was questioned if this table should be removed and then have a reference to ASME Code for the list of materials. The feedback was that they did not want to do that because they didn't want to make the locomotive industry have to purchase another code. A motion was made to accept the proposal as presented. The motion was seconded, and then the group then had further discussion. The TG made many changes to the proposal, and the member who made the original motion revised his motion to accept the revised proposal. The seconder also revised his second to accept the revised proposal. The motion to accept the revised proposal was **unanimously approved**.

UPDATE: This item was omitted from the SC R& A January 2025 agenda. The proposal will be sent to letter ballot to the SC R&A for vote.

No Attachment

NBIC Location: Part 3, S1.1.1 b)

General Description: Value of Default Tensile Strength

New Business:

Item Number: 24-106	NBIC Location: Part 3, S1.1.4	No Attachment	
General Description: S1.2.2 Threaded Staybolts, change wording concerning reduced body staybolts			
Subgroup: TG Locomotive Task Group: None Assign Submitted by: R. Franzen	ed (PM)		
Explanation of Need: Clarification on staybolts over 8" long is needed whether they need talltale holes or not in ridgid, flexible, radial and crown bolts.			

February 2025 Meeting Action:

10. Discussion Items

11. Future Meetings

- July 7-10, 2025 NBIC Committee Meeting in Cincinnati, OH
- August 18-19, 2025 TG Locomotive Meeting in Columbus, OH

12. Adjournment

Respectfully submitted,

Metymain

Jodi Metzmaier Task Group Locomotive Secretary

Item Number 24-81 R. Franzen 7/30/24

Part 3 S1.1.3.1 MATERIAL LIST FOR STEAM LOCOMOTIVE BOILERS

Table S1.1.3.1 is intended as a basic guideline only and covers basic carbon steel and some alloy steel material specifications. Other alloy materials may be available for these applications if necessary.

- a) SA-516 steel is recommended for firebox repairs. It is a fine grain steel that accepts flanging and bending with less tendency to crack than coarse grain steels such as SA-515 or SA-285 Grade C. Coarse grain steels have, on occasion, been found to crack or split after complicated flanging, bending, and forming.
- b) SA-36 shall not be used to make any pressure-retaining part such as shells, staybolt sleeves, or caps.
- c) When rivets are made from SA-675, the finished rivets must meet the physical requirements of the original rivet specification or SA-31 Grade A or B.
- d) When staybolt material tensile strength is greater than that of the firebox sheets, the firebox sheets deflect instead of the staybolts, which can result in the sheets developing cracks and leaking staybolts. In addition, high tensile strength steels are difficult to drive. Maximum allowable tensile stress shall be 7,500 psi (51.71 MPa).

Application	Specification	
Boiler Tubes & Flues, Arch Tubes Superheater	SA-178 Grade A, SA-192, SA-210, <u>SA-106-B</u>	
Boiler & Firebox Plate, Pressure Retaining Plate	SA-285 Grade C, SA-515, SA-516, SA- 203, SA-204	
Exterior & Internal Firebox Plate, Front Flue Sheet	<u>SA-285 Grade C, SA-515, SA-516, SA-203,</u>	
Corners & Flanges	<u>SA-204, SA-106-B</u>	
Welded Staybolts	SA-675, SA-36, SA-31	
Threaded Staybolts and Patch Bolts	SA-31 Grade A, SA-675 gG rade 45, 50, 55	
Staybolt Sleeves and Caps	SA-105-Forging, SA-675, SA-696, SA-216 WCA, SA-217 WC1	
Boiler Braces	SA-675, SA-36	
Rivets	SA-675, SA-31	
Forged Parts & Fittings	SA-105, SA-181	
Pressure-Retaining Steel Castings	SA-216, A-217	
Hollow Cylindrical Pressure-Retaining Parts	<u>SA-216, A-217, SA-178 Grade A, SA-192, SA-</u> <u>210, SA-106-B,</u> SA-105-Forgings, SA-675-Bar <u>Stock</u> , SA-696	
Superheater Units: Bolts & Nuts	Bolts - SA-193, Nuts - SA-194	
Bolts & Nuts	Bolts - SA-193, Nuts - SA-194	
Pressure Retaining Parts & Tubing	SA-216, A-217, SA-178 Grade A, SA-192, SA- 210, SA-106-B, SA-105, SA-675, SA-696	
Pipe Flanges	SA-181, SA-105	
Bolts & Studs	SA-307 Grades A&B, SA-675 gG rade 60, 65, 70	
Pipe	SA-106, SA-53 <u>S</u> eamless	
Bronze Castings, & Washout Plugs	SB-61, SB-62, B-148. SA-696	

TABLE S1.1.3.1