

Meeting Minutes: Steam Committee – Board of HPPS

Date: February 1, 2022
Time: 9 a.m.
Minutes by: Kyle Bain
Location: WebEx Event

Committee Members Present

1. Kyle Bain - Present
2. Todd Green – CO’s Designee - Present
3. Nirmal Jain -Present
4. Kincs – Committee Chair - Present
5. Patrick McCullough - Present
6. Kent Spaulding – Present (joined at 9:33 a.m.)

DLI Staff & Visitors

Jeff Lebowski (Gen. Counsel, DLI)
Brittany Wysokinski (Gen. Counsel, DLI)
Lyndy Logan (DLI)
Duane Burbank (DLI)
Matt Marquis (HPPS Board member)
Taite Plaas (Plaas Inc.)

Committee Members Absent

None

1. Call to Order

- A. Roll Call – the meeting was called to order at 9:18 a.m. by Chair Kincs and roll call was completed by Kyle Bain – a quorum was met with 5 of 6 voting committee members present electronically. Kent Spaulding joined the meeting at 9:33 a.m., resulting in 6 of 6 voting committee members.
- B. Announcements/Introductions
 - **Remote Meeting Statement from Chair:** Thank you for joining this remote meeting via WebEx. As the committee chair, I have determined today’s meeting is via the WebEx platform due to the COVID-19 pandemic. Per Minnesota Statutes, section 13D.021, of the Open Meeting Law, electronic meetings are acceptable when an in-person meeting is “not practical or prudent because of a health pandemic or an emergency declared under Chapter 12.” It is not practical or prudent to hold an in-person meeting because, consistent with MDH guidance, the usual meeting place is not open to the public due to the COVID-19 pandemic.
 - Committee members and attendees present on this WebEx are able to hear all discussions.
 - All handouts discussed and WebEx instructions are posted on the Committee’s website at: <http://www.dli.mn.gov/about-department/boards-and-councils/steam-committee>
 - All votes will be by roll call.
- C. WebEx instruction /procedures were read aloud.

2. Approval of Meeting Agenda

A motion was made by Kyle Bain, seconded by Todd Green, to approve the agenda as presented. The roll call vote was unanimous with 5 votes in favor (Spaulding was not present at the time of the vote); the motion carried.

3. **Approval of Previous Meeting Minutes**

No previous meeting.

4. **Approval of Expense Reports**

Electronic expense reports will be sent by Lyndy to Financial Services for payment.

Kent Spaulding joined the meeting at 9:33 a.m., resulting in 6 of 6 committee members present.

5. **Special Business**

Minnesota High Pressure Piping Code: High Pressure Steam

See Attachment A

- Wysokinski/Lebowski – Advised that the rule must reference a code year to adopt by reference instead of stating “current.”
- Kincs – Proposed that the 2017 edition of the ASME boiler code, section 5230.0260, be changed to the 2021 edition (different than as initially proposed in the meeting materials).
- Kincs – Proposed to change section 5230.0265 from 2016 edition to 2020 edition (as presented in the meeting materials).
- Jain – Asked whether Electric Resistance Welded (ERW) pipe is prohibited by code.
- Green – Code does not currently prohibit ERW pipe.
- Discussion from Kincs and Jain on current vs. historic quality issues and methods of ERW pipe fabrication.
- Kincs – Proposed to update 5230.0275 to that as presented in the meeting materials.
- Kincs – Proposed that “to” be changed to “through” in 5230.0305 Section 136.
- Kincs – Proposed to change 5230.0325 to that as presented in the meeting materials.
- Bain – Mentioned that this change would amount to substantive changes and would take a fair amount of work to understand the impact in the SONAR. Changes were discussed during the last rulemaking to clarify this paragraph but were decided against at that time.
- Kincs – Go through the summary of changes of the 2016-2018 and 2018-2020 changes at a high level and committee members may review before the next meeting and bring discussion to the next meeting.
- Bain – Questioned the impact of the addition of paragraph 136.4.7. Committee should consider this addition with respect to the SONAR. Committee to discuss during the next meeting.
- Kincs – Encouraged committee members to review the new appendices O and P and whether these appendices should be considered recommended or mandatory.
- Kincs – Appendix F references latest edition of the ASME Boiler and Pressure Code. Consider how this would affect the use and call out of the 2021 version in paragraph 5230.0260.
- Lebowski – Consider cost for the individual changes.

6. **Committee Discussion**

None

7. Announcements

Next meeting – 9 a.m., Tuesday, February 22, 2022 – via WebEx

8. Adjournment

A motion made by Kyle Bain, seconded by Todd Green, to adjourn the meeting at 10:58 a.m. The roll call vote was unanimous with 6 votes in favor; the motion carried.

Respectfully Submitted,

Kyle Bain

Committee Secretary

Green meeting practices

The State of Minnesota is committed to minimizing in-person environmental impacts by following green meeting practices. DLI is minimizing the environmental impact of its events by following green meeting practices. DLI encourages you to use electronic copies of handouts or to print them on 100% post-consumer processed chlorine-free paper, double-sided.

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MINNESOTA RULES

CHAPTER 5230**BOARD OF HIGH PRESSURE PIPING SYSTEMS
PIPEFITTERS; POWER PIPING SYSTEMS**

- 5230.0005 DEFINITIONS.
- 5230.0035 REGISTRATION OF UNLICENSED INDIVIDUAL.
- 5230.0045 COMPETENCY LICENSING REQUIREMENT.
- 5230.0060 COMPETENCY LICENSE APPLICATIONS.
- 5230.0070 MASTER HIGH PRESSURE PIPEFITTER QUALIFICATIONS.
- 5230.0080 JOURNEYWORKER HIGH PRESSURE PIPEFITTER QUALIFICATIONS.
- 5230.0090 EXAMINATION OF APPLICANTS FOR COMPETENCY LICENSES.
- 5230.0095 HIGH PRESSURE PIPING CONTRACTOR LICENSES.
- 5230.0120 RIGHTS OF LICENSED MASTER HIGH PRESSURE PIPEFITTER.
- 5230.0180 SURRENDER OF LICENSE UPON REVOCATION.
- 5230.0190 DUPLICATE LICENSES.
- 5230.0220 BIOPROCESS PIPING.

CODE FOR STEAM OR HEATING MEDIA PIPING SYSTEMS

- 5230.0250 MINIMUM STANDARDS.
- 5230.0260 SCOPE.
- 5230.0265 ADOPTION OF ASME B31.1 BY REFERENCE.
- 5230.0275 CHAPTER I, SCOPE AND DEFINITIONS.
- 5230.0285 CHAPTER II, DESIGN.
- 5230.0295 CHAPTER III, MATERIALS.
- 5230.0305 CHAPTER VI, INSPECTION, EXAMINATION, AND TESTING.
- 5230.0315 CHAPTER VII, OPERATION AND MAINTENANCE.
- 5230.0325 APPENDICES.
- 5230.0335 EXAMINATION OF WELDED PIPE JOINTS.

CODE FOR AMMONIA REFRIGERATION SYSTEMS

- 5230.5000 MINIMUM STANDARDS.
- 5230.5001 INCORPORATIONS BY REFERENCE.
- 5230.5003 CHAPTER 2, DEFINITIONS.
- 5230.5005 CHAPTER 13, PIPING.
- 5230.5006 CHAPTER 14, PACKAGED SYSTEMS AND EQUIPMENT.
- 5230.5007 CHAPTER 15, OVERPRESSURE PROTECTION DEVICES.
- 5230.5009 CHAPTER 5, GENERAL SYSTEM DESIGN REQUIREMENTS.

CODE FOR STEAM OR HEATING MEDIA PIPING SYSTEMS

5230.0250 MINIMUM STANDARDS.

Parts 5230.0250 to 5230.0335 form the code for steam or heating media piping systems. This code prescribes minimum requirements for design, manufacture, test, and installation of steam or heating media piping systems.

Statutory Authority: *MS s 326.46; 326B.90; 326B.925*

History: *L 2007 c 140 art 10 s 11; art 13 s 4; 34 SR 145*

Published Electronically: *September 16, 2009*

5230.0260 SCOPE.

Valves, fittings, and piping for boilers, as prescribed in the ASME Code for Power Boilers, are within the scope for this code but provisions of the ASME Code for Power Boilers shall govern where they exceed corresponding requirements of this code. For purposes of this chapter, "ASME Code for Power Boilers" means the ~~2017~~current edition of the ASME Boiler and Pressure Vessel Code, section I, as adopted and published by ASME, Two Park Avenue, New York, New York 10016. The ASME Code for Power Boilers is incorporated by reference in the code for steam or heating media piping systems. The ASME Code for Power Boilers is not subject to frequent change and a copy is available in the office of the commissioner of labor and industry and at the State Law Library, 25 Rev. Dr. Martin Luther King Jr. Blvd., Saint Paul, Minnesota 55155.

Economizers, heaters, tanks, and other pressure vessels are outside the scope of this code, but connecting piping shall conform to the requirements herein specified.

Statutory Authority: *MS s 326.46; 326B.90; 326B.925*

History: *L 2007 c 140 art 10 s 11; art 13 s 4; 34 SR 145; 39 SR 1343; 42 SR 1423*

Published Electronically: *May 15, 2018*

5230.0265 ADOPTION OF ASME B31.1 BY REFERENCE.

For purposes of this chapter, "ASME B31.1" means the ~~2016~~2020 edition of the standard for power piping, as approved and published by ASME, Two Park Avenue, New York, New York 10016. ASME B31.1 is incorporated by reference and made part of the code for steam or heating media piping systems, except as amended in this chapter. Portions of this chapter reproduce text from ASME B31.1. ASME B31.1 is not subject to frequent change and a copy of ASME B31.1 is available in the office of the commissioner of labor and industry and at the State Law Library, 25 Rev. Dr. Martin Luther King Jr. Blvd., Saint Paul, Minnesota 55155. ASME B31.1 is copyright by ASME. All rights reserved.

Statutory Authority: *MS s 326B.925*

History: *34 SR 145; 39 SR 1343; 42 SR 1423*

Published Electronically: *May 15, 2018*

5230.0270 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0275 CHAPTER I, SCOPE AND DEFINITIONS.

Subpart 1. **Section 100.1.2.** ~~The first paragraph of part (A) Subparagraph (a)~~ of ASME B31.1, section 100.1.2 is amended to read as follows:

(A) This ~~Ceode~~ code covers boiler external piping as defined below for power boilers and high-temperature, high-pressure water boilers in which steam or vapor is generated at a pressure of more than 15 ~~p.s.i. gauge~~psig [100kPa (gage)]; and high-temperature water or other medium used for heating is generated at pressures exceeding 30 ~~p.s.i. gauge~~psig [1103 kPa (gage)] and temperatures exceeding 250 degrees Fahrenheit (120 degrees Celsius).

Subp. 2. **Section 100.1.3.** Subparagraph (fF) of ASME B31.1, section 100.1.3, is deleted.

Statutory Authority: *MS s 326B.925*

History: *34 SR 145; 39 SR 1343*

Published Electronically: *September 15, 2015*

5230.0280 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0285 CHAPTER II, DESIGN.

Subpart 1. **Parts 1 and 2.** Notwithstanding anything to the contrary in ASME B31.1, the following portions of chapter II of ASME B31.1 are recommended rather than mandatory: Part 1, Conditions and Criteria; and Part 2, Pressure Design of Piping Components. The department shall not enforce compliance with Part 1 or Part 2 of chapter II of ASME B31.1

Subp. 2. **Section 122.5.1.** ASME B31.1, section 122.5.1 is amended by adding the following language at the end:

It is mandatory that a pressure gauge be installed on the low-pressure side of a reducing valve. Where two or more reducing valves are installed in series, a pressure gauge shall be installed on the low-pressure side of each pressure-reducing valve.

Subp. 3. **Section 122.7.** ASME B31.1, section 122.7 and all subsections are deleted.

Subp. 4. **Section 122.8.** ASME B31.1, section 122.8 and all subsections are deleted.

Subp. 5. **Section 122.9.** ASME B31.1, section 122.9 is deleted.

Subp. 6. **Section 122.11.2.** ASME B31.1, section 122.11.2 is amended by adding the following language at the end:

The discharge of a high pressure trap shall not empty into a low-pressure receiver unless first run through a flash tank or there is an ample sized vent so a trap failure could not increase the pressure in low-pressure receiver tank.

Statutory Authority: *MS s 326B.925*

History: *34 SR 145*

Published Electronically: *September 16, 2009*

5230.0290 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0295 CHAPTER III, MATERIALS.

Section 124 is amended by adding a subsection as follows:

124.13. Furnace Butt Welded Pipe

The use of furnace butt welded pipe is prohibited on steam or heating media piping systems.

Statutory Authority: *MS s 326B.925*

History: *34 SR 145; 42 SR 1423*

Published Electronically: *May 15, 2018*

5230.0300 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0305 CHAPTER VI, INSPECTION, EXAMINATION, AND TESTING.

Section 136. ASME B31.1, sections 136.1 ~~through~~ 136.3.2 are deleted.

Statutory Authority: *MS s 326B.925*

History: *34 SR 145; 42 SR 1423*

Published Electronically: *May 15, 2018*

5230.0310 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0315 CHAPTER VII, OPERATION AND MAINTENANCE.

Chapter VII of ASME B31.1 is deleted in its entirety.

Statutory Authority: *MS s 326B.925*

History: *34 SR 145*

Published Electronically: *September 16, 2009*

5230.0320 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0325 APPENDICES.

~~Notwithstanding anything to the contrary in ASME B31.1, the following The "Mandatory Appendices" of ASME B31.1 are recommended rather than mandatory: A, D, G, H, and J incorporated in their entirety to the extent applicable to the adoption of ASME B31.1 under this chapter. This chapter shall govern where requirements conflict.~~

department shall not enforce compliance with "Mandatory Appendices" A, D, G, H, or J of ASME B31.1.

Statutory Authority: *MS s 326B.925*

History: *34 SR 145*

Published Electronically: *September 16, 2009*

5230.0330 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0335 EXAMINATION OF WELDED PIPE JOINTS.

All welds on steam or heating media piping systems must comply with the visual examination acceptance standards in section 136.4.2 of ASME B31.1. When nondestructive examination other than visual examination is required by job specification or by the administrative authority, the welds must comply with the acceptance standards in sections 136.4.3 to 136.4.6 of ASME B31.1 for each type of nondestructive examination required. All costs of nondestructive testing shall be paid by the installing contractor. The contractor shall provide a copy of all examination results to the administrative authority upon request.

Statutory Authority: *MS s 326B.925*

History: *34 SR 145*

Published Electronically: *September 16, 2009*

5230.0340 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0350 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0360 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0370 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0380 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0390 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0400 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0410 [Repealed, 34 SR 145]

Published Electronically: *September 16, 2009*

5230.0420 [Repealed, 34 SR 145]

Page	Location	Change	Corresponding Section of Rule 5230 Potentially Affected	Notable Change for Rulemaking Consideration		
xiii	Introduction	(1) Descriptions of B31.1, B31.3, B31.4, and B31.9 updated (2) Paragraph after (g) added (3) Eighteenth through 20th paragraphs revised	5230.0275 CHAPTER I, SCOPE AND DEFINITIONS	Revise 5230.0275 to reflect reference to Subparagraph (a) of 100.1.2. This is currently referred to as "part (A)". (2018 Edition revision) No changes affecting deletion of 100.1.3 (f)...exemption of piping included as part of shop-assembled packaged equipment built to another B31 Code.		
1	100	Second paragraph revised				
1	100.1	(1) In para. 100.1.1, second paragraph revised (2) In para. 100.1.2, paragraph after (a)(3) revised (3) In para. 100.1.4, title added (4) Paragraph 100.1.5 added				
2	Figure 100.1.2-1	Title, figure, and legend revised				
3	Figure 100.1.2-2	Title, figure, and legend revised				
4	Figure 100.1.2-3	Figure and legend revised				
5	Figure 100.1.2-4	Figure and legend revised				
6	Figure 100.1.2-5	Legend revised				
7	Figure 100.1.2-6	Figure and legend revised				
8	Figure 100.1.2-7	Legend revised				
9	Figure 100.1.2-8	Added				
7	100.2	(1) Definition of <i>covered piping system (CPS)</i> revised (2) Definitions of <i>ferrous material</i> ; <i>indication</i> , <i>linear indication</i> ; <i>indication</i> , <i>rounded indication</i> ; <i>maintenance</i> ; <i>nonferrous</i> ; <i>postweld hydrogen bakeout</i> ; and <i>volumetric examination</i> added				
16	101.1	Revised	5230.0285 CHAPTER II, DESIGN <i>Parts 1 & 2 - "recommended rather than mandatory"</i>	None		
16	101.2.6	Added				
16	101.3.2	In subpara. (a), last sentence added				
16	101.3.3	Added				
17	101.4.3	Added				
17	101.5.5	Added				
18	101.9	Added				
18	102.2.4	Second paragraph revised				
19	102.3.2	Title and subparas. (a), (a)(1), and (b)(1) revised				
25	104.1.2	(1) Title revised by errata (2) Subparagraph (a) revised				
27	104.3.1	Subparagraphs (c)(2) and (f) revised				
33	104.3.3	First paragraph and subparas. (c)(3)(-a) and (c)(3)(-b) revised				
35	104.7.2	Subparagraph (d) revised				
36	104.8	Revised				
37	Figure 104.8-1	Added				
36	104.8.1	Revised				
37	104.8.2	Revised				
37	104.8.3	Revised				
38	104.8.4	Revised in its entirety				
38	Figure 104.8.4-1	Deleted				
40	107.8.3	Subparagraph (e) revised	5230.0285 CHAPTER II, DESIGN <i>Parts 3 through 6</i>	None - No changes affecting Section 122 modifications.		
43	Table 112-1	(1) Under "Gaskets," (d)(1), (d)(2), (d)(3), (h)(1), (h)(2), (h)(3), (i)(1), and (i)(2) revised (2) Notes (1), (9), and (11) revised				
46	114.2.1	Title added				
46	114.2.2	Title added				
46	114.2.3	Title added				
47	119.2	Revised				
49	119.7.3	First and second paragraphs and footnote 4 revised				
54	121.8.2	Subparagraph (b) revised				
55	122.1.2	Subparagraph (a) made regular text and (1) through (5) redesignated as (a) through (e)				
57	122.1.7	Subparagraphs (a)(2) and (d) revised				
59	122.2	Subparagraph (b) revised				
60	122.3.1	First paragraph revised				
61	123.3.3	Revised				
61	122.3.4	Subparagraphs (a) and (c) revised				
61	122.3.6	Subparagraph (a) made regular text and (1) through (5) redesignated as (a) through (e)				
62	122.4	Subparagraph (a)(9) revised				
70	123.1.6	(1) Subparagraphs (a), (b), and (d) [formerly (c)] revised (2) Subparagraph (c) added and subsequent paragraph redesignated			5230.0295 CHAPTER III, MATERIALS	None - No changes affecting added Section 124.13 prohibiting furnace butt welded pipe.
70	123.3	Revised				
72	124.10	Revised in its entirety				
74	Chapter IV	Title revised				
74	126	Title revised	Adopted by ASME B31.1 reference. CHAPTER IV, REFERENCE SPECIFICATIONS, CODES, AND STANDARDS <i>(NOTE: TITLE CHANGED FROM "DIMENSIONAL REQUIREMENTS")</i>	None. Rule 5230 adopts Chapter IV in its entirety. Changes made to titles and content do not warrant action.		
74	126.1	Revised				
82	Table 126.1-1	(1) ASME B16.1 title revised (2) ASME B16.36, ASME B18.31M, ASME B18.31.2, ASME B31P, Component Specifications list, and Note (2) added (3) Notes (1) and (2) redesignated as Notes (3) and (1), respectively				
74	126.4	Added				

84	Figure 127.3-1	SI equivalencies revised	Adopted by ASME B31.1 reference. CHAPTER V, FABRICATION, ASSEMBLY, AND ERECTION	None. Rule 5230 adopts Chapter V in its entirety. Changes made to titles and content do not warrant action.		
84	127.3	Subparagraphs (c) and (e) revised				
84	127.4.1	Subparagraph (d) revised				
84	127.4.2	SI equivalencies in subparas. (b)(4) and (c)(3) revised				
85	127.4.4	(1) Second and third paragraphs redesignated as (a) and (c) (2) Subparagraph (b) added				
85	127.4.8	Subparagraphs (b) and (f) revised				
87	Table 127.4.2-1	SI equivalencies revised				
89	Figure 127.4.4-2	SI equivalencies revised				
89	Figure 127.4.4-3	SI equivalency revised				
93	Figure 127.4.8-6	Revised				
94	Figure 127.4.8-7	SI equivalency revised				
87	127.4.9	(1) First and second paragraphs designated as (a) and (b), and subparas. (a) through (c) redesignated as (b)(1) through (b)(3) (2) Subparagraph (b)(2) [formerly (b)] revised (3) Subparagraph (d) deleted (4) Subparagraph (b)(4) added				
88	127.4.10	Last sentence added				
95	129.3	First paragraph added				
98	131.1	Last paragraph added				
98	131.3	Subparagraph (b) revised				
98	131.6.1	(1) Title added (2) First paragraph and subpara. (c) revised				
98	131.6.2	Revised in its entirety				
100	132.1.1	Last paragraph added				
99	Table 131.4.1-1	In 9th, 11th through 13th, and 17th rows, degrees Celsius revised				
100	132.2	Subparagraphs (c) and (d) added and subsequent subparagraphs redesignated				
101	Table 132.1.1-1	For P-No. 9B, Group 1, degrees Celsius revised				
100	132.3.3	Revised				
103	Table 132.2-1	Revised				
102	132.5	Revised				
107	136.1.2	Subparagraph (a) revised			5230.0305 CHAPTER VI, INSPECTION, EXAMINATION, AND TESTING "...sections 136.1 to 136.3.2 are deleted."	Review 136.4.6, which references new Appendix O. (2018 Edition revision) Consider revision to clarify whether 136.3.2 is deleted...e.g., "...sections 136.1 through 136.3.2 are deleted."
108	136.3.2	Subparagraphs (c) and (e) and last paragraph revised				
108	136.4.2	(1) First paragraph redesignated as (a) and former subpara. (a) redesignated as (b) (2) Subparagraphs (a), (b)(2) [formerly (a)(2)], (b)(7) [formerly (a)(7)], and (b)(8) [formerly (a)(8)] revised (3) Subparagraph (a)(9) added				
110	136.4.3	Subparagraphs (a)(3), (b), (b)(2), and (b)(3) revised				
109	Table 136.4.1-1	In third column and Note (4), SI equivalencies revised				
110	136.4.4	Subparagraphs (a)(3), (b), (b)(2), and (b)(3) revised				
111	136.4.5	(1) First paragraph designated as (a) and subpara. (a) redesignated as (b) (2) Subparagraphs (b)(2)(-a) through (b)(2)(-c) [formerly (a)(2)(-a) through (a)(2)(-c)] and (b)(7) [formerly (a)(5)] revised (3) Note deleted (4) Subparagraphs (b)(5) and (b)(6) added and former subpara. (a)(5) redesignated as (b)(7)				
111	136.4.6	Subparagraphs (b)(2)(-a) through (b)(2)(-c) revised				
111	136.4.7	Added				
112	137.3.2	Second paragraph and subparas. (a) through (b)(2) added				
113	137.4.6	Added				
114	137.5.6	Added				
114	137.8	Added and former para. 137.8 redesignated as 137.9				
115	137.9.3	Formerly 137.8.3, subpara. (a) revised				
117	141.1	Subparagraph (i) added				
118	143	Added				
118	145	(1) Second paragraph revised (2) Third paragraph added				
119	149	Added	5230.0315 CHAPTER VII, OPERATION AND MAINTENANCE "Chapter VII... is deleted in its entirety."	None		
122-298	Mandatory Appendices	Appendices A, C, F, G, H, and N revised.	5230.0325 APPENDICES Mandatory Appendices A, D, G, H, and J are "recommended rather than mandatory".	Revise 5230.0325 to reflect deletion of Mandatory Appendix J. Determine whether Appendices O and P are recommended, rather than mandatory; revise as appropriate. (2018 Edition revision) Appendix F now references "latest edition" of ASME Boiler and Pressure Vessel Code. Consider revision to ensure use of 2021 Section IX.		

ASME B31.1-2018

SUMMARY OF CHANGES (from previous Edition)

Page	Location	Change	Corresponding Section of Rule 5230 Potentially Affected	Notable Change for Rulemaking Consideration
xii	Introduction	(1) Sixth and eighth paragraphs revised (2) Ninth and tenth paragraphs added	5230.0275 CHAPTER I, SCOPE AND DEFINITIONS	Revise 5230.0275 to reflect reference to subparagraph (a) of 100.1.2. This is currently referred to as "part (A)".
1-9	100.1.1 100.1.2 100.1.4 100.2 Figure 100.1.2-1 Figure 100.1.2-2 Figure 100.1.2-3 Figure 100.1.2-4 Figure 100.1.2-5 Figure 100.1.2-6 Figure 100.1.2-7	First paragraph revised In subparagraph (a), third and fourth paragraphs revised Revised (1) <i>Definitions of austenitizing; heat treatments, treatment; and heat treatments, tempering added</i> <i>subcritical heat</i> (2) <i>Definitions of covered piping systems (CPS), failure, heat treatments, reinforcement of weld, repair, and undercut revised</i> Title and illustration revised Title and illustration revised Revised Revised Title and illustration revised Cross-references added to illustration Added		
16	101.7.2	Revised	5230.0285 CHAPTER II, DESIGN <i>Parts 1 & 2 - "recommended rather than mandatory"</i>	None
19	102.4.5	Subparagraph (b) revised		
22	104.1	(1) Paragraph 104.1.1 revised (2) In subparagraph 104.1.2(a), equations revised, nomenclature alphabetized, and <i>W</i> added		
27	Figure 104.3.1-1	In General Note (b), <i>d_t</i> corrected by errata to read <i>d₁</i>		
35	104.8.2	Revised		
35	104.8.4	Subparagraph (c) revised		
36	106.1	Subparagraph (a) punctuation revised	5230.0285 CHAPTER II, DESIGN <i>Part 3</i>	None - No changes affecting Section 122 modifications.
67	123.1.1	Subparagraph (c) revised	5230.0295 CHAPTER III, MATERIALS	None - No changes affecting added Section 124.13 prohibiting furnace butt welded pipe.
69	124.2	(1) Subparagraphs (a) and (b) revised (2) Subparagraph (e) added		
70	125.1	Title revised		
70	125.1.2	Subparagraphs (a) and (c) revised		
71	125.1.3	Subparagraph (c) revised		
73	Table 126.1-1	(1) For ASCE/SEI 7 and ASME B31J, titles revised (2) ASTM A1091/A1091M and Standards of the Expansion Joint Manufacturers Association, Inc. added (3) FCI 79-1 revised	Adopted by ASME B31.1 reference. CHAPTER IV, DIMENSIONAL REQUIREMENTS	None
85	Table 127.4.2-1	Revised	Adopted by ASME B31.1 reference. CHAPTER V, FABRICATION, ASSEMBLY, AND ERECTION	None
93	129.3.3.1	First paragraph revised		
93	129.3.4	Revised		
93	129.3.4.1	First paragraph revised		
94	Table 129.3.3.1-1	Title revised		
96	Table 129.3.4.1-1	Title revised		
97	Table 131.4.1-1	(1) In fifth column, first entry revised		
98	Table 132.1.1-1	(1) In second column, penultimate entry revised (2) Notes (5) and (6) revised		
99	132.4	Title revised		
104	136.1.1	Revised	5230.0305 CHAPTER VI, INSPECTION, EXAMINATION, AND TESTING	Review 136.4.6, which references new Appendix O.
104	136.1.2	Subparagraph (a) revised		
104	136.2	Revised in its entirety		
105	136.3.2	(1) Subparagraph (d) revised (2) Last paragraph revised	"...sections 136.1 to 136.3.2 are deleted."	
108	136.4.6	Subparagraph (c) added		
118-298	Mandatory Appendices	Appendices A, D, F, G, and N revised. Appendix J deleted - "Quality Control Requirements for Boiler External Piping (BEP)". Appendix O added - "Use of Alternative Ultrasonic Acceptance Criteria". Appendix P added - "Metallic Bellows Expansion Joints".	5230.0325 APPENDICES Mandatory Appendices A, D, G, H, and J are "recommended rather than mandatory".	Revise 5230.0325 to reflect deletion of Mandatory Appendix J. Determine whether Appendices O and P are recommended, rather than mandatory; revise as appropriate.