Department of Labor and Industry

Adopted Permanent Rules Regulating the Board of High Pressure Piping

5230.0220 BIOPROCESS PIPING.

Subpart 1. **ASME BPE.** All bioprocess piping must meet the requirements of ASME BPE. For purposes of this chapter, "ASME BPE" means the 2019 edition of the Bioprocessing Equipment Standard adopted and published by ASME, Two Park Avenue, New York, New York 10016. ASME BPE is incorporated by reference and made part of the code for high pressure piping systems. ASME BPE is not subject to frequent change and a copy of ASME BPE 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.

[For text of subpart 2, see Minnesota Rules]

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 2021 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.

5230.0265 ADOPTION OF ASME B31.1 BY REFERENCE.

For purposes of this chapter, "ASME B31.1" means the 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.

5230.0275 CHAPTER I, SCOPE AND DEFINITIONS.

Subpart 1. **Section 100.1.2.** Subparagraph (a) of ASME B31.1, section 100.1.2 is amended to read as follows:

(a) This 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 psig [100 kPa (gage)]; and high-temperature water or other medium used for heating is generated at pressures exceeding 30 psig [207 kPa (gage)] and temperatures exceeding 250 degrees Fahrenheit (120 degrees Celsius).

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

5230.0325 APPENDICES.

Notwithstanding anything to the contrary in ASME B31.1, the following "Mandatory Appendices" in ASME B31.1 are recommended rather than mandatory: A, D, G, H, and P. The department shall not enforce compliance with "Mandatory Appendices" A, D, G, H, or P of ASME B31.1.

5230.5001 INCORPORATIONS BY REFERENCE.

Subpart 1. **ANSI/IIAR 2.** For purposes of this chapter, "ANSI/IIAR 2" means the 2021 revision of the standard for Safe Design of Closed-Circuit Ammonia Refrigeration Systems, as approved by the American National Standards Institute and as published by the International Institute of Ammonia Refrigeration, 1001 North Fairfax Street, Suite 503, Alexandria, Virginia 22314. ANSI/IIAR 2 is incorporated by reference and made part of the code for ammonia refrigeration systems, except as amended in this chapter. Portions of this chapter reproduce text from ANSI/IIAR 2. ANSI/IIAR 2 is not subject to frequent change and a copy of ANSI/IIAR 2 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. ANSI/IIAR 2 is copyrighted by the International Institute of Ammonia Refrigeration. All rights reserved.

Subp. 2. **ASME B31.5.** For purposes of this chapter, "ASME B31.5" means the 2019 revision of the standard for Refrigeration Piping and Heat Transfer Components as approved and published by ASME, Two Park Avenue, New York, New York 10016. ASME B31.5 is incorporated by reference and made part of the code for ammonia refrigeration piping. ASME B31.5 is not subject to frequent change and a copy of ASME B31.5 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.

5230.5005 CHAPTER 13, PIPING.

[For text of subparts 1 to 3, see Minnesota Rules]

Subp. 4. **Chapter 13.3.** ANSI/IIAR 2, chapter 13.3, is amended by adding a subsection as follows:

13.3.2.9. Operating speed of control valve actuators shall be considered in the system design. Quarter turn valves (ball valves, butterfly valves, etc.) must

utilize an actuator that restricts the time from fully open to fully closed, both directions, to at a minimum of 60 seconds.

5230.5007 CHAPTER 15, OVERPRESSURE PROTECTION DEVICES.

Subpart 1. **Chapter 15.2.7.** ANSI/IIAR 2, chapter 15.2.7, is amended to read as follows:

15.2.7. Relief valves shall not be located in refrigerated spaces unless precautions are taken to prevent moisture migration into the valve body or relief valve vent line. A drip pocket the size of the discharge pipe and at least 24 inches in length must be installed below a vertical riser in the discharge pipe and must be fitted with a drain plug or valve.

Subp. 2. **Chapter 15.2.8.2.** ANSI/IIAR 2, chapter 15.2.8.2, is amended by adding the following paragraph at the end:

Rupture discs may only be used when installed in series with a pressure relief valve.

Subp. 3. **Chapter 15.3.3.** ANSI/IIAR 2, chapter 15.3.3, is amended by adding a subsection as follows:

15.3.3.1. Where the refrigerant inlet and outlet of air-cooled or evaporative condensers can be isolated, they shall be equipped with overpressure protection.

[For text of subpart 4, see Minnesota Rules]

5230.5920 QUALIFICATION OF WELDING PROCEDURES, WELDERS, AND WELDING OPERATORS.

Subpart 1. **Scope.** This part applies to welding that is part of any high pressure piping work, except where the welding is regulated by other codes or Minnesota state regulatory

bodies, such as the Power Boiler and Pressure Vessel sections of the ASME Boiler and Pressure Vessel Code.

Subp. 2. **Incorporation by reference.** For purposes of this chapter, "ASME section IX" means the 2021 edition of section IX of the Boiler and Pressure Vessel Code, as approved and published by ASME, Two Park Avenue, New York, New York 10016. ASME section IX is incorporated by reference and made a part of this chapter. ASME section IX is not subject to frequent change. A copy of ASME section IX 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.

[For text of subparts 3 and 4, see Minnesota Rules]

Subp. 5. **Weld procedure and qualification requirements.** No welding may be performed on high pressure piping systems without a welding procedure specification and an associated procedure qualification record. Welding performed on high pressure piping systems must be performed using only welders or welding operators properly qualified in accordance with ASME section IX. All welding procedures must meet the requirements of ASME section IX.

Subp. 6. **Department evaluation.** The welding procedure specifications, procedure qualification records, and welder or welding operator performance qualification and associated continuity records must be objectively evaluated by and acceptable to the administrative authority in accordance with ASME section IX.

Subp. 7. **Documentation required.** Welding performed on high pressure piping systems must be supported by the mandatory documents of the welding procedure specification and procedure qualification record. These documents, along with support for welder qualification, must be available at the work site upon request.

Subp. 8. **Welder identification requirement.** A welder or welding operator qualified for a project must be assigned an identification number, letter, or symbol unique to that welder. Each weld must be stamped or marked with the welder's unique identifier. Alternatively, the contractor shall maintain records that identify welds made by the welder or welding operator.

[For text of subpart 9, see Minnesota Rules]