

Colorado Revised Statutes 2021

TITLE 9

SAFETY - INDUSTRIAL AND COMMERCIAL

ARTICLE 4

Boiler Inspection

Editor's note: This article was numbered as article 3 of chapter 17, C.R.S. 1963. The substantive provisions of this article were repealed and reenacted in 1971, resulting in the addition, relocation, and elimination of sections as well as subject matter. For amendments to this article prior to 1971, consult the Colorado statutory research explanatory note beginning on page vii in the front of this volume.

9-4-101. Definitions. As used in this article, unless the context otherwise requires:

(1) "A.S.M.E. boiler and pressure vessel code" means the boiler and pressure vessel code developed by the boiler and pressure vessel committee of the American society of mechanical engineers with amendments, addenda, and interpretations thereto, made and approved by the council of said society, 1968 edition, a copy of which code is on file in the office of the boiler inspection section of the division of oil and public safety.

(1.5) "A.S.M.E. review and survey" means the review and survey of the manufacturers quality control system for the certification of authorization for the use of the A.S.M.E. applicable code symbol stamp.

(2) "Boiler" means a closed pressure vessel in which a fluid is heated for use external to itself by the direct application of heat resulting from the combustion of fuel, solid, liquid, or gaseous, or by the use of electricity or nuclear energy.

(2.5) "Chief boiler inspector" means the person appointed by the director to oversee the boiler inspection section created in section 9-4-102.

(3) "Colorado boiler and pressure vessel code" is used to designate the accepted reference for construction, installation, operation, and inspection of boilers and pressure vessels and will be referred to as the "Colorado boiler and pressure vessel code", which includes the A.S.M.E. boiler and pressure vessel codes and the national board inspection code.

(4) "Condemned boiler" means a boiler which has been inspected and declared unsafe or disqualified as to legal requirements by an inspector qualified to take such action and to which has been applied a stamping or marking designating its rejection.

(5) "Director" means the director of the division of oil and public safety or his or her designee.

(6) "External inspection" means an inspection made when a boiler is in operation.

(7) "Hot-water heating boiler" means a boiler operated at pressure not exceeding one hundred sixty PSIG and temperature not exceeding two hundred fifty degrees Fahrenheit for water.

(8) "Hot-water supply boiler" means a boiler used to supply hot water operated at pressure not exceeding one hundred sixty PSIG and temperatures not exceeding two hundred fifty degrees Fahrenheit at or near the boiler outlet.

(9) "Internal inspection" means an inspection made when a boiler is shut down with all handholes or manholes opened for inspection of its interior.

(10) "Locomotive boiler" means a boiler mounted on a self-propelled track carrier and which is used to furnish motivating power for traveling on rails.

(11) "Miniature boiler" means any boiler which does not exceed any of the following limits:

(a) Sixteen inches inside diameter of shell;

(b) Five cubic feet gross volume exclusive of casing and insulation;

(c) One hundred pounds PSIG maximum working pressure.

(12) "National board inspection code" means the "manual for boiler and pressure vessel inspections" published in 1970 by the national board of boiler and pressure vessel inspectors, 10th edition, and subsequent revisions.

(13) "Nonstandard boiler" means any boiler which does not qualify as a standard boiler.

(14) "Owner or user" means any person, firm, corporation, or business entity of whatever nature owning or operating any boiler within this state.

(14.3) "Owner-user inspection organization" means an owner or user of pressure-retaining items who maintains a regularly established inspection department, and whose organization and inspection procedures meet the requirements of the national board of boiler and pressure vessel inspectors rules or the American petroleum institute's API 510 program and are acceptable to the director.

(14.5) "Owner-user inspector" means an inspector who holds a valid national board of boiler and pressure vessel inspectors owner-user inspector commission and who has passed the examination prescribed by the national board or is an American petroleum institute certified inspector under a jurisdictionally approved owner-user inspection organization.

(15) "Portable boiler" means an internally fired boiler which is primarily intended for temporary locational use, the construction and usage of which is obviously portable for use in multiple locations.

(16) "Power boiler" means any boiler exceeding the miniature boiler size which generates steam or vapor at a pressure of more than fifteen pounds per square inch gauge (PSIG).

(16.5) "Pressure vessel" means a pressure vessel or a container for the containment of pressure, either internal or external. Except as exempted in section 1910.172 of the Colorado occupational safety and health general standards, such pressure may be obtained from an external source or by the application of heat from a direct or indirect source or by any combination of such methods. The scope in relation to the geometry of pressure-containing parts shall terminate at the following: The first circumferential joint for welding end connections, or the face of the first flange in bolted flanged connections, or the first threaded joint in that type of connection.

(17) "Reinstalled boiler" means a boiler removed from its original setting and reerected at the same location or erected at a new location without change of ownership.

(18) "Relief valve" means an automatic pressure-relieving device actuated by static pressure upstream of the valve which opens farther with an increase in pressure over the opening pressure. It is used primarily for liquid service.

(19) "Safety relief valve" means an automatic pressure-actuated relieving device suitable for use either as a safety valve or relief valve, depending on application.

(20) "Safety valve" means an automatic pressure-relieving device activated by static pressure upstream of the valve and characterized by full-opening pop action. It is used for steam, gas, or vapor service.

(21) "Secondhand boiler" means a boiler in which both location and ownership have been changed after primary use.

(22) "Section" means the boiler inspection section of the division of oil and public safety.

(23) "Service and domestic-type water heater" means a water heater of either instantaneous or storage type used for heating or combined heating and storage of hot water for domestic or sanitary purposes or for space heating in which none of the following limitations is exceeded:

- (a) Heat input of two hundred thousand BTUs per hour;
- (b) Fluid temperature of two hundred ten degrees Fahrenheit;
- (c) Normal internal fluid capacity of one hundred twenty gallons.

(24) "Shop inspection" means inspection of new construction of boilers or pressure vessels, and shall include review of the specifications, determination that such construction is in accordance with the applicable codes, and certification to the national board and to the A.S.M.E. that such completed new construction is eligible to be stamped with the appropriate A.S.M.E. symbol.

(25) "Special boiler inspector" means an inspector who has received and maintained in force a commission as inspector issued by the national board of boiler and pressure vessel inspectors and authorized by the boiler inspection section to inspect or insure boilers in the state of Colorado.

(26) "Standard boiler" means a boiler which bears the stamp of the state of Colorado or another state which has adopted a standard boiler construction equivalent to that required by the Colorado boiler and pressure vessel code or a boiler which bears the A.S.M.E. stamp.

(27) "State boiler inspector" means any boiler inspector employed by the division of oil and public safety.

(28) "Steam-heating boiler" means a boiler operated at pressure not exceeding fifteen PSIG for steam.

Source: L. 71: R&RE, p. 267, § 1. **C.R.S. 1963:** § 17-3-1. **L. 76:** (28) amended and (1.5) and (16.5) added, p. 362, § 1, effective July 1. **L. 2001:** (1), (22), and (27) amended, p. 1134, § 56, effective June 5. **L. 2009:** (23)(b) amended, (HB 09-1309), ch. 234, p. 1071, § 1, effective May 4. **L. 2011:** (2.5) added and (5) amended, (HB 11-1050), ch. 8, p. 16, § 1, effective August 10. **L. 2012:** (14.3) and (14.5) added, (HB 12-1217), ch. 51, p. 184, § 1, effective August 8.

9-4-102. Boiler inspection section - created - director - chief boiler inspector - inspectors - qualifications. (1) The director shall carry out the provisions of this article. The director may appoint a chief boiler inspector to oversee the boiler inspection section, which is

hereby created in the division of oil and public safety. The chief boiler inspector and each state boiler inspector must be qualified from practical experience in the construction, maintenance, repair, or operation of boilers as a mechanical or safety engineer, steam engineer, boilermaker, or boiler inspector of not less than five years' actual experience to enable him or her to judge the safety of boilers for use as such. Neither the chief boiler inspector nor any state boiler inspector shall be interested directly or indirectly in the manufacture, ownership, or sale of boilers or boiler supplies.

(2) The chief boiler inspector and state boiler inspectors shall be reimbursed for necessary traveling expenses as provided by law.

Source: L. 71: R&RE, p. 269, § 1. C.R.S. 1963: § 17-3-2. L. 2001: (1) amended, p. 1135, § 57, effective June 5. L. 2011: Entire section amended, (HB 11-1050), ch. 8, p. 16, § 2, effective August 10.

9-4-103. Duties - rules. (1) The director shall keep in his or her office a complete and accurate record of the names of owners or users of boilers inspected, giving a full description of the boiler, the pressure allowed, the date when last inspected, and by whom. The director or chief boiler inspector shall investigate and report to the division of oil and public safety the cause of any boiler explosion that occurs within the state. Definitions and rules for the safe construction, installation, inspection, operation, maintenance, and repair of boilers and pressure vessels in the state of Colorado, in addition or supplemental to the existing rules, shall be formulated by the section under the direction of the chief boiler inspector and shall become effective upon approval by the director.

(2) The definitions and rules so formulated for new construction shall be based upon and at all times follow the generally accepted nationwide engineering standards, formulas, and practices established and pertaining to boiler and pressure vessel construction and safety, and the section, with the approval of the director of the division of oil and public safety, may adopt an existing codification thereof known as the boiler and pressure vessel code of the American society of mechanical engineers, and when so adopted and incorporated by reference pursuant to section 24-4-103 (12.5), C.R.S., shall constitute a part of the whole of the definitions and rules of the section.

(3) The section, under the direction of the director, shall formulate rules establishing a schedule for the inspection of boilers and pressure vessels and may formulate other rules governing the inspection, operation, maintenance, and repair of boilers and pressure vessels in addition and supplemental to those rules that are part of the Colorado boiler construction code as originally enacted and amended. The rules so formulated shall be based upon and at all times follow the generally accepted nationwide engineering standards and may be based upon those portions of an existing published codification of such rules known as the inspection code of the national board of boiler and pressure vessel inspectors as are considered by the section to be properly applicable. Rules formulated by the section and identification of those portions of the national board inspection code which are declared to be applicable shall be made available to all persons directly affected by a publication which will be prepared and issued, upon request, to such persons by the section.

(4) Inspectors shall carefully inspect every boiler used or proposed to be used in this state for steaming, hot-water heating purposes, or hot-water supply, including all attachments

and connections, in accordance with the inspection schedule established pursuant to subsection (3) of this section.

Source: L. 71: R&RE, p. 270, § 1. C.R.S. 1963: § 17-3-3. L. 2000: (3) and (4) amended, p. 163, § 1, effective March 17. L. 2001: (1) and (2) amended, p. 1135, § 58, effective June 5. L. 2011: (1) amended, (HB 11-1050), ch. 8, p. 17, § 3, effective August 10.

9-4-104. Exemptions. (1) The following are exempt from the provisions of this article:

- (a) Boilers located in private residences;
- (b) Boilers located in apartment houses having less than six family units;
- (c) Any city or town where boiler inspectors of comparable capability to state boiler inspectors are employed, where adequate records of boiler inspections are maintained, and where there is in effect a boiler inspection code comparable to that of the state pursuant to the ordinances of said city or town. A city or town not now providing such service may, upon application to the director of the division of oil and public safety with submission of proof of such comparability, be authorized by the director of the division of oil and public safety to establish a boiler inspection system that is exempt from the provisions of this article.
- (d) Service and domestic-type water heaters;
- (e) Boilers owned or operated by the federal government;
- (f) Locomotive boilers of carriers subject to the federal locomotive inspection law.

Source: L. 71: R&RE, p. 270, § 1. C.R.S. 1963: § 17-3-4. L. 2001: (1)(c) amended, p. 1136, § 59, effective June 5.

9-4-105. Inspections of boilers. (1) Inspectors making internal inspections of boilers shall give the owner or user not less than five days' prior notice of the time when they will make such inspections.

(2) An inspector may, upon seeing conditions that, in the inspector's discretion, indicate that there has been deterioration of any pressure-containing portion of a boiler or pressure vessel, assess the leak tightness capability of a boiler or pressure vessel by conducting a pressure test in accordance with the pressure testing considerations and guidance contained in the national board inspection code. The owner or user of the pressure-retaining boiler or pressure vessel shall provide any necessary labor and equipment required to apply the pressure test prescribed by the inspector.

(3) If at any time an inspector finds a boiler or pressure vessel which, according to the Colorado boiler and pressure vessel code, is unsafe after inspection of same, he shall condemn and forbid its future use until satisfactory repairs are made or said boiler is replaced.

Source: L. 71: R&RE, p. 271, § 1. C.R.S. 1963: § 17-3-5. L. 2009: (2) amended, (HB 09-1309), ch. 234, p. 1071, § 2, effective May 4.

9-4-106. Owner to report boilers - wrongful use - inspection of new installations. (1) It is the duty of the owner or user of boilers, except those boilers exempt from the provisions of this article under section 9-4-104, used or which are to be used in this state, to report to the section the location of newly installed or relocated boilers.

(2) Before the installers of any boiler have boilers placed in service, they shall notify the section, which, within ten days or as soon thereafter as possible from the date of receiving such notification, shall send an inspector to examine said boilers to determine that the construction, material, bracing, fuel and fluid supply systems, control apparatus, combustion air and ventilating air, electric wiring, piping, and all other parts of such boilers are such as to assure the safety of the boilers.

(3) Upon completion of installation, all boilers shall be inspected by a state boiler inspector. At the time of inspection, each boiler shall be assigned a serial number by the inspector, which serial number shall be stamped on or affixed to the boiler.

(4) The serial number and letters, whether stamped on or affixed to the boiler, shall not be less than five-sixteenths of an inch in height, and the serial number shall be preceded by the letters "Colo". The stamping shall not be concealed by lagging or paint and shall be exposed at all times. Metal tags shall be furnished by the section on which the assigned number may be stamped. The tag shall be securely affixed to the boiler in the area of the manufacturer's identification and must be used when the metal of which the boiler is made may be damaged by direct stamping.

(5) The owners or users of boilers, or engineers in charge of same, shall not allow a greater pressure in any boiler than is stated on the certificate of inspection issued by the section. No person or business entity shall use any boiler that has been condemned as unsafe by a state boiler inspector. No person or business entity shall operate a boiler without a valid certificate of inspection.

Source: L. 71: R&RE, p. 271, § 1. **C.R.S. 1963:** § 17-3-6.

9-4-106.5. Owner to report boilers taken out of service. (1) It is the duty of the owner or user of boilers used in this state, except those boilers exempt from the provisions of this article under section 9-4-104, to report to the section the location and state serial number of boilers that have been taken out of service but not removed from the premises. For purposes of this article, a boiler is not "taken out of service" if it is temporarily shut down for routine maintenance or minor repairs.

(2) The section, under the direction of the director, shall formulate rules for the safe removal from service of boilers condemned pursuant to section 9-4-105 (3) or voluntarily taken out of service by the owner or user.

(3) A boiler that has been condemned or voluntarily taken out of service may be placed back in service, subject to any applicable requirements for satisfactory repair, imposed pursuant to section 9-4-105 (3), and subject to compliance with section 9-4-106. For purposes of section 9-4-106, such a boiler shall be treated as a new boiler.

Source: L. 2000: Entire section added, p. 164, § 2, effective March 17.

9-4-107. Certificate. (1) If, upon inspection, a boiler is found to comply with the Colorado boiler and pressure vessel code, the owner or user thereof shall pay directly to the section such fee as is prescribed by section 9-4-109, and the division of oil and public safety shall issue to such owner or user an inspection certificate bearing the date of inspection and the

date of expiration of the certificate and specifying the maximum pressure under which the boiler may be operated.

(2) An inspection certificate is valid for the period stated on the face of the certificate.

(3) The certificate of inspection or a copy of the certificate of inspection shall be posted in the room containing the boiler inspected or, in the case of a portable boiler, shall be kept in a metal container to be fastened to the boiler. Failure to properly exhibit the certificate of inspection will result in another inspection of the boiler and demand for inspection fees.

Source: L. 71: R&RE, p. 272, § 1. C.R.S. 1963: § 17-3-7. L. 2001: (1) amended, p. 1136, § 60, effective June 5. L. 2011: (2) and (3) amended, (HB 11-1050), ch. 8, p. 17, § 4, effective August 10.

9-4-108. Violation by owner or user - penalty - enforcement. (1) If the owner of any boiler fails to report the location of such boiler to the section, the owner is guilty of a misdemeanor, and, if the owner or his agent fails to have said boiler ready for internal inspection as provided in this article, said owner shall be liable to pay fees and expenses of the inspector incurred in the inspection of any such boiler.

(2) Any owner who fails or refuses to comply with all requirements or directions of this article pertaining to notification of boiler placement, replacement, or operation; condones operation of condemned boilers; refuses a reasonable request to inspect any boiler used for heating or water supply service or any similar use; refuses to pay inspection and expenses or penalties or license fees; operates any boiler or similar device in defiance of a division of oil and public safety order or an order of the director shall, upon notice, cease to use or operate or allow the use or operation of any approved or nonapproved boiler or water-heating equipment owned by him or her until permission to resume use of such equipment is granted by the director.

(3) Actions shall be instituted by the attorney general or the district attorney, or may be instituted by the city attorney of any city, to prosecute such acts in violation of this article within his jurisdiction as may come to his knowledge or to enforce the provisions of this article independently and without specific direction of the director. Each such violation shall be a separate offense.

(4) *[Editor's note: This version of subsection (4) is effective until March 1, 2022.]* Any person convicted of a violation of this article shall be punished by a fine of not more than one thousand dollars, or by imprisonment in the county jail for a period of not more than one year, or by both such fine and imprisonment.

(4) *[Editor's note: This version of subsection (4) is effective March 1, 2022.]* Any person convicted of a violation of this article 4 commits a petty offense.

Source: L. 71: R&RE, p. 272, § 1. C.R.S. 1963: § 17-3-8. L. 76: (3) amended, p. 363, § 2, effective July 1. L. 2001: (2) amended, p. 1136, § 61, effective June 5. L. 2021: (4) amended, (SB 21-271), ch. 462, p. 3145, § 102, effective March 1, 2022.

Editor's note: Section 803(2) of chapter 462 (SB 21-271), Session Laws of Colorado 2021, provides that the act changing this section applies to offenses committed on or after March 1, 2022.

9-4-108.5. Variances. Any owner or user may apply to the director for a rule or order for a variance from the standards, rules, regulations, or requirements of this article, upon providing such information as prescribed by the director. The director shall issue such rule or order if he determines that the proponent of the variance has demonstrated that the construction, installation, and operation of the boiler or pressure vessel will be as safe as if the standards, rules, regulations, or requirements were complied with. The rule or order so issued shall prescribe the construction, installation, operation, maintenance, and repair conditions that the owner or user must maintain. Such a rule or order may be modified or revoked upon application by an owner or user or by the director on his own motion at any time after six months from its issuance.

Source: L. 76: Entire section added, p. 363, § 3, effective July 1.

9-4-109. Fees for boiler and pressure vessel inspection certificates. (1) (a) (I) There shall be paid for the issuance of a certificate of boiler or pressure vessel inspection of each individual boiler or pressure vessel, regardless of how it is joined or connected, according to this article by the owner or user of said boiler or pressure vessel, such fees as shall be established by the director of the division of oil and public safety by rule; except that such fees shall not exceed the amount necessary to accumulate and maintain in the boiler inspection fund a reserve sufficient to defray the division's administrative expenses for a period of two months, and in no event shall the basic fee for an annual inspection exceed one hundred fifty dollars for an internal inspection or eighty-five dollars for an external inspection. The basic fee for a biennial or triennial inspection shall not exceed eighty-five dollars. The division shall not charge for an inspection other than to assess the fees established pursuant to this subsection (1). Any fees established pursuant to subparagraphs (III) to (V) of this paragraph (a) or pursuant to paragraph (b) of this subsection (1) shall be in addition to the basic fee.

(II) (Deleted by amendment, L. 2001, p. 529, § 1, effective July 1, 2001.)

(III) In addition to the basic fee established in subparagraph (I) of this paragraph (a), the division may assess a reinspection fee for any boiler condemned pursuant to section 9-4-105 (3). The reinspection fee shall be assessed and collected for each reinspection until the repairs are deemed satisfactory in accordance with section 9-4-105 (3).

(IV) In addition to the basic fee established in subparagraph (I) of this paragraph (a), the division may assess a disconnection inspection fee.

(V) In addition to the basic inspection fee established in subparagraph (I) of this paragraph (a), the division shall assess a certificate of boiler operation issuance fee not to exceed twenty-five dollars per certificate.

(b) There shall be paid, for the services provided by the national board of boiler and pressure vessel commissioned inspectors, fees as provided in the following schedule:

(I) Secondhand boiler or equipment at the request of the owner for certificate \$30.00 plus expenses

(II) National board shop inspection or A.S.M.E. quality control survey
\$100.00 1/2 day,
\$200.00 full day plus travel and subsistence expense (1/2 day minimum).

(2) The section may prorate the boiler inspection fees. Twenty-five percent of the inspection fee shall be charged for a period up to and including twenty-five percent of the

certificate term. Fifty percent of the inspection fee shall be charged for periods up to and including fifty percent of the certificate term. Seventy-five percent of the inspection fee shall be charged for periods up to and including seventy-five percent of the certificate term. The full fee shall be charged for periods exceeding seventy-five percent of the certificate term.

(2.5) Repealed.

(3) All boiler or pressure vessel inspection certificate fees shall be paid within thirty days from the date of inspection to the department of labor and employment. Upon failure to pay the department of labor and employment, the chief boiler inspector shall issue an order to the owner or user to cease and desist the use or operation or allowing the use or operation of the boiler or pressure vessel until permission to resume use of such equipment is granted by the director.

(4) All fees collected by the department of labor and employment under the provisions of this article shall be used to defray the salaries and operating expenses incurred in the administration of this article and shall be appropriated for such purposes by the general assembly. Such moneys shall be transferred to the state treasurer, who shall deposit the same to the credit of the boiler inspection fund, which fund is hereby created.

(5) If any person who is required to pay a fee pursuant to subsection (1) of this section fails or refuses to remit such fee, the department of labor and employment shall proceed at once to collect the fee by employing such legal processes as may be necessary for that purpose.

(6) The state treasurer shall invest any portion of the boiler inspection fund which is not needed for immediate use. All interest earned upon such invested portion shall be credited to the fund and used for the same purposes and in the same manner as other moneys in the fund. Such moneys may be invested in the types of investments authorized in sections 24-36-109, 24-36-112, and 24-36-113, C.R.S.

Source: L. 71: R&RE, p. 273, § 1. C.R.S. 1963: § 17-3-9. L. 76: R&RE, p. 363, § 4, effective July 1. L. 83: (1)(a)(I), (1)(a)(II), (1)(b)(I), and (1)(b)(II) amended and (4), (5), and (6) added, p. 445, § 1, effective July 1. L. 86: (2.5) added, p. 548, § 1, effective May 28. L. 92: (1)(a), (2.5), (3), (4), and (5) amended, p. 1814, § 1, effective March 20. L. 97: (2.5) repealed, p. 1477, § 19, effective June 3. L. 2000: (1)(a) amended, p. 164, § 3, effective March 17. L. 2001: (1)(a)(I) amended, p. 1136, § 62, effective June 5; (1)(a)(I) and (1)(a)(II) amended and (1)(a)(V) added, p. 529, § 1, effective July 1. L. 2008: (1)(a)(I) amended, p. 985, § 3, effective May 21. L. 2011: (2) amended, (HB 11-1050), ch. 8, p. 17, § 5, effective August 10.

Editor's note: Amendments to subsection (1)(a)(I) by House Bill 01-1373 and House Bill 01-1279 were harmonized.

9-4-110. Special inspectors. (1) In addition to the boiler inspectors authorized by this article, the section shall, upon request of any company authorized to insure against loss from explosion of boilers in this state, issue to any boiler inspectors of said company commissions as special boiler inspectors. Each such inspector, before receiving a commission, shall satisfy the division of oil and public safety that such inspector is properly qualified to perform such inspections. Possession of a valid commission as inspector issued by the national board of boiler and pressure vessel inspectors shall be considered to be proper qualification.

(2) Such special boiler inspectors shall receive no salary from, nor shall any of their expenses be paid by, the state, and continuance of a special boiler inspector's commission shall be conditioned upon such special boiler inspector's continuing in the employ of the boiler insurance company duly authorized as aforesaid and upon the maintenance of the standards imposed by the division of oil and public safety. Such special boiler inspectors shall perform their functions in accordance with the instructions for special boiler inspectors formulated by the section.

(3) Such special boiler inspectors shall inspect all boilers insured by their respective companies and, when so inspected, the owners or users of such insured boilers shall pay Colorado boiler inspection fees for the issuance of a certificate of inspection.

(4) Each company employing such special boiler inspectors, within thirty days following each boiler inspection made by such inspectors, shall file a report of such inspection with the section upon appropriate forms promulgated by the division of oil and public safety.

(5) If the division of oil and public safety has reason to believe that a special boiler inspector is no longer qualified to hold an appointment or commission, the division of oil and public safety or its selected agent, upon not less than ten days' written notice to the inspector and the inspector's employer, shall hold a hearing at which such inspector and the inspector's employer shall have an opportunity to be heard. If, as a result of such hearing, the division of oil and public safety or its selected agent finds that such inspector is no longer qualified to hold an appointment or commission, the division of oil and public safety, or upon recommendation of its selected agent, shall revoke or suspend such appointment or commission.

(6) A person whose appointment or commission has been suspended shall be entitled to apply, after ninety days from the date of such suspension, for reinstatement of such appointment or commission.

Source: L. 71: R&RE, p. 275, § 1. C.R.S. 1963: § 17-3-10. L. 2001: (1), (2), (4), and (5) amended, p. 1137, § 63, effective June 5; (3) amended, p. 530, § 2, effective July 1.

9-4-110.5. Owner-user inspection organizations - registration. (1) A person, firm, partnership, or corporation operating boilers or pressure vessels may seek approval and registration as an owner-user inspection organization by filing an application with the director on prescribed forms.

(2) The applicant shall show the name of the organization and its principal address and the name and address of the person or persons having supervision over inspections made by the organization on the application and registration. The applicant shall report changes in supervisory personnel to the director within thirty days after the change.

(3) Each owner-user inspection organization shall:

(a) Conduct inspection of its nonexempt boilers and pressure vessels, utilizing only qualified inspection personnel;

(b) Retain on file at the location where equipment is inspected a true record or copy of the report of each inspection signed by the owner-user inspector who made the inspection;

(c) Promptly notify the director of any boiler or pressure vessel that does not meet requirements for safe operation;

(d) Maintain inspection records that include a list of nonexempt boilers and pressure vessels, showing the serial number and the abbreviated description as may be necessary for

identification, the date of the last inspection of each unit, the approximate date of the next inspection, and documentation of all repairs. Such inspection records shall be readily available for examination by the director, the chief boiler inspector, or their designee during business hours.

(e) Transmit a statement annually to the director, on a date mutually agreed upon. The individual having supervision over the inspections made during the period covered shall sign the statement and shall include the number of vessels inspected during the year and shall certify that each inspection was conducted in accordance with the inspection requirements in the Colorado boiler and pressure vessel rules.

(4) A state-issued certificate of inspection is required for boilers and pressure vessels inspected by an owner-user inspection organization when all of the requirements in this section are met.

(5) An individual or organization performing an inspection pursuant to this section shall have liability insurance appropriate for the size and scope of the relevant inspection.

Source: L. 2012: Entire section added, (HB 12-1217), ch. 51, p. 184, § 2, effective August 8.

9-4-111. Penalty - inspector fails to perform duty. [*Editor's note: This version of this section is effective until March 1, 2022.*] An inspector of boilers for every failure to perform his duties is guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not less than one hundred dollars nor more than one thousand dollars, or by imprisonment in the county jail for a period of not less than two months nor more than one year, or by both such fine and imprisonment.

9-4-111. Penalty - inspector fails to perform duty. [*Editor's note: This version of this section is effective March 1, 2022.*] An inspector of boilers, for every failure to perform his or her duties, commits a class 2 misdemeanor.

Source: L. 71: R&RE, p. 275, § 1. **C.R.S. 1963:** § 17-3-11. **L. 2021:** Entire section amended, (SB 21-271), ch. 462, p. 3145, § 103, effective March 1, 2022.

Editor's note: Section 803(2) of chapter 462 (SB 21-271), Session Laws of Colorado 2021, provides that the act changing this section applies to offenses committed on or after March 1, 2022.

9-4-112. Regulations common to all types and services of boilers. (1) Each boiler shall be supported by masonry or structural supports of sufficient strength and rigidity to safely support the boiler. There shall be no excessive vibration in either the boiler or its connecting piping.

(2) All boilers shall be so located that adequate space on each side will be provided for proper operation of the boiler and its appurtenances, for the inspection of all surfaces, tubes, water walls, piping, valves, and other equipment, and for their necessary maintenance and repair.

(3) Inflammable or volatile materials shall not be stored in boiler rooms. Gas meters shall not be installed in boiler rooms.

(4) There shall be provided to all boiler installations sufficient air to assure adequate combustion of fuel. There shall be ventilating air provided to prevent undue overheating in the boiler room. Nationally accepted standards such as the publications of the national fire protection association shall be followed in determining the adequacy of combustion and ventilating air.

(5) Safety or safety relief valves, or both, shall be of adequate capacity to prevent accumulation of excess pressure with fixed settings not in excess of the maximum allowable working pressure of the boiler to which they are attached. All new safety relief valves shall bear stamping which indicates that they have been capacity-rated according to national board standards and that they have been constructed according to A.S.M.E. standards.

(6) The use of weighted-lever safety valves shall be prohibited, and these valves shall be replaced by direct spring-loaded safety or safety relief valves that conform to the requirements of the A.S.M.E. boiler and pressure vessel code.

(7) Safety valves having either a seat or disc of cast-iron construction are prohibited.

(8) The safety or safety relief valve shall be connected directly to the hottest part of the boiler, independent of any other connection, without a shutoff valve of any description between the safety or safety relief valve and the boiler.

(9) Each automatically fired boiler shall be equipped with a flame failure safeguard device which will positively discontinue flow of fuel to the firing chamber in event of absence of flame. Discontinuation must occur in time to prevent an explosive accumulation of fuel in the firing chamber and connecting passages.

(10) Every safety or safety relief valve shall be connected to the boiler in an upright position with spindle vertical and shall be equipped with a try lever to test opening of the valve.

(11) When a discharge pipe is attached to a safety or safety relief valve, it shall not be reduced less than the valve outlet and shall be as short and straight as possible and arranged to avoid undue stresses on the valve. There shall be no shutoff valve in such discharge pipe.

(12) The discharge opening of safety or safety relief valves shall be so located that the released fluids and vapors cannot come into harmful contact with attendants or other persons. All safety or safety relief valve discharges shall be located or piped to clear running boards or platforms. Ample provision for gravity drain shall be made in the discharge pipe at or near each safety valve and where condensation may collect. Any discharge pipe extending above the safety or safety relief valve shall be equipped with a drain hole which will prevent accumulation of fluid above the valve disc.

(13) All electric wiring to boilers and to electrically operated automatic devices and control mechanisms shall be of a high temperature resistant insulation, and wiring shall be in conduit or other approved covering.

(14) All fuel and fluid piping valves and appliances shall be of materials listed in nationally approved standards, installed in a workmanlike manner, with such support as is necessary to prevent vibration. They shall be maintained so as to be free of leakage.

(15) Repairs shall be made in accordance with the regulations set forth in the national board inspection code. Major repairs shall be reported to the section before being performed. The major repair procedure and the shop performing the repair must be approved by the section or the authorized insurer and an inspection made by a state or special boiler inspector before the boiler is used.

(16) All boilers, unless exempt by this article, are subject to regular inspections as provided for in section 9-4-103 (4). Each boiler shall be prepared by the owner or user for inspections or hydrostatic test whenever necessary when notified by the inspector or the section. The owner or user shall prepare each boiler for internal inspection, when so requested by a state boiler inspector, in the manner prescribed in the national board inspection code.

(17) If the boiler is jacketed so that longitudinal seams of shells, drums, or domes cannot be seen, enough of the jacketing, setting, wall, or other form of casing or housing shall be removed to permit the inspection of the size of the rivets, pitch of the rivets, and other data necessary to determine the safety of the boiler if such information cannot be determined by other means.

(18) No person shall remove or tamper with any safety appliances prescribed by this article except for the purpose of making repairs.

(19) All insurance companies insuring boilers operated in this state shall notify the section within thirty days after any insurance policy insuring a boiler has been written, canceled, not renewed, or suspended because of unsafe conditions.

(20) If upon an external inspection there is evidence of a leak or crack, enough of the covering of the boiler shall be removed to permit a boiler inspector to determine the safety of the boiler; or, if the covering cannot be removed immediately, he may order the operation of the boiler stopped until such time as the covering can be removed and proper examination made.

Source: L. 71: R&RE, p. 276, § 1. C.R.S. 1963: § 17-3-12. L. 76: (8) amended, p. 364, § 5, effective July 1.

9-4-113. New power boiler installations. (1) No power boiler, except those exempt by this article, shall be installed in this state unless it has been constructed, inspected, and stamped in conformity with the rules for construction of power boilers of the A.S.M.E. boiler and pressure vessel code and is registered with the national board of boiler and pressure vessel inspectors, and inspected in accordance with the requirements of this article and the rules and regulations of the section.

(2) A power boiler having the standard stamping of another state that has adopted a standard of construction equivalent to the standard provided in this article may be accepted by the director; however, the person or firm desiring to install the boiler shall make application for the installation and shall file with this application the manufacturer's data report covering the construction of the boiler in question.

(3) All new power boiler installations and reinstalled boilers shall be installed in accordance with the requirements of the A.S.M.E. boiler and pressure vessel code and, in addition, in accordance with the requirements of this section.

(4) All power boilers heated with gas, oil, or mechanical firing, except forced flow steam generators designed to operate without a fixed water level and stoker- or hand-fired coal-burning units which are constantly attended, shall be provided with an automatic low-water fuel cutout and with an automatic fuel-regulating control, controlled by boiler pressure or temperature, or both.

(5) All new power boiler rooms shall be constructed to have at least two means of exit. Each exit shall be remotely located from the other. Each elevation shall have at least two means of egress, each remotely located from the other.

Source: L. 71: R&RE, p. 277, § 1. C.R.S. 1963: § 17-3-13.

9-4-114. Existing power boiler installations. (1) The maximum allowable working pressure of standard boilers shall be determined by the applicable sections of the codes under which they were constructed and stamped. The maximum allowable working pressure on the shell of a nonstandard boiler or drum shell shall be determined by the strength of the weakest section of the structure computed in accordance with formulas provided by the national board of boiler and pressure vessel inspectors or any other nationally recognized engineering authority.

(2) Each power boiler having not more than five hundred square feet of water-heating surface shall have at least one approved safety valve. Each boiler having more than five hundred square feet of water-heating surface shall have two or more approved safety valves.

(3) The safety valve capacity of each power boiler shall be that which will discharge all the steam that can be generated by the boiler without allowing the pressure to rise more than six percent above the highest pressure any valve is set, and in no case to more than six percent above the maximum allowable working pressure.

(4) Power boilers equipped with one safety valve shall have the safety valve set at or below the maximum allowable working pressure. If additional valves are used, the highest pressure setting on additional valves shall not exceed the maximum allowable working pressure by more than three percent.

(5) When two or more power boilers operating at different pressures and safety valve settings are interconnected, the lower pressure boilers or interconnected piping shall be equipped with safety valves of sufficient capacity to prevent overpressure, considering the generating capacity of the boiler with the lowest allowable pressure.

(6) All power boilers shall have a water-feed supply which will permit the boilers being fed at any time while under pressure.

(7) Power boilers that are fired with solid fuel not in suspension and having more than five hundred square feet of water-heating surface shall have at least two means of feeding water. Each source of feeding shall be capable of supplying water to the boiler at a pressure of six percent higher than the highest setting of any safety valve on the boiler, and one such source of feeding shall be steam-operated.

(8) Power boilers fired by gaseous, liquid, or solid fuel in suspension and having less than five hundred square feet of water-heating surface may be equipped with a single source of feeding water if:

(a) Means are provided for immediate shutoff of heat release;

(b) The boiler furnace and fuel system do not retain sufficient stored heat to cause damage to the boiler if the water-feed supply is interrupted.

(9) Power boilers that have a water-heating surface of not more than one hundred square feet shall not have water-feed piping and connection to the boiler smaller than one-half inch pipe size. For boilers having a water-heating surface of more than one hundred square feet, the water-feed piping and connection to the boiler shall not be less than three-fourths inch pipe size. The feed water shall be introduced into a boiler in such a manner that the water will not be discharged directly against surface-exposed gases of high temperature or to direct radiation from the fire or near any riveted joints of the furnace sheets or shell. The water-feed pipe shall be provided with a check valve near the boiler and a valve or cock between the check valve and the boiler. When two or more boilers are fed from a common source, there shall be a regulating

valve on the branch to each boiler between the check valve and the source of supply. In all cases where returns are fed back to the boiler by gravity, a check valve and stop valve shall be on each return line, the stop valve placed between the boiler and the check valve, and both shall be located as close to the boiler as practicable.

(10) Fire-actuated plugs, if used, shall conform to the requirements of the A.S.M.E. boiler and pressure vessel code for power boilers.

(11) No outlet connections, except for damper regulator, feed-water regulator, low-water fuel cutout, drains, or steam gauges, shall be placed on the piping that connects the water column or gauge glass to the boiler. The water column shall be provided with a drain valve of at least three-fourths of an inch pipe size.

(12) Each power boiler, except forced flow steam generators designed to operate without a fixed water level, shall have at least one water-gauge glass; except that boilers operated at pressures over four hundred PSI shall be provided with two water-gauge glasses which may be connected to a single water column or connected directly to the drum, in which case they shall conform to A.S.M.E. requirements. The gauge-glass connections and pipe connections shall not be less than one-half inch pipe size. Each water-gauge glass will be fitted with a drain cock or valve. When the boiler operating pressure exceeds one hundred PSI, the glass will be fitted with a globe or gate-valved drain.

(13) The lowest visible part of the water-gauge glass shall be at least two inches above the lowest permissible water level, which level shall be that at which there will be no danger of overheating any part of the boiler when in operation at that level. This subsection (13) does not apply to forced flow steam generators which are designed to operate without a fixed water level.

(14) Each power boiler shall have a steam gauge, with dial range not less than one and one-half times the maximum allowable working pressure, connected to the steam space or to the steam connection to the water column. The steam gauge shall be connected to a siphon or equivalent device of sufficient capacity to keep the gauge tube filled with water and so arranged that the gauge cannot be shut off from the boiler except by a cock placed near the gauge and provided with a tee or lever handle arranged to be parallel to the pipe in which it is located when the cock is open.

(15) Each power boiler shall be provided with a one-fourth inch nipple and globe valve connected to a steam space for the exclusive purpose of attaching a test gauge when the boiler is in service so the accuracy of the gauge may be ascertained.

(16) Steam-gauge connections shall be suitable for the maximum allowable working pressure and steam temperature; if the temperature exceeds four hundred degrees Fahrenheit, brass or copper pipe or tubing shall not be used.

(17) When a steam-gauge connection longer than eight feet becomes necessary, a shutoff valve may be used near the boiler if the valve is of the outside-screw-and-yoke type and is locked open when the boiler is in operation. The line shall be of ample size with provisions for free blowing.

(18) Each steam-discharge outlet, except a safety valve, shall be fitted with a stop valve located as close as practicable to the boiler. When such outlets are over two-inch pipe size, the valve used on the connection shall be the outside-screw-and-yoke rising spindle type to indicate, at a distance, the position of its spindle, whether it is closed or open. The wheel may be carried either on the yoke or attached to the spindle.

(19) When power boilers provided with manholes are connected to a common steam main, the steam connection from each boiler shall be fitted with two stop valves having ample free-blow drain between them. The discharge of this drain shall be visible to the operator while manipulating the valves and shall be piped clear of the boiler setting. The stop valve shall consist preferably of one automatic nonreturn valve set next to the boiler and a second valve of the outside-screw-and-yoke type; or two valves of the outside-screw-and-yoke type may be used.

(20) Each power boiler shall have a blow-off pipe fitted with a valve or cock. All fittings and pipe shall conform to the applicable section of the A.S.M.E. boiler and pressure vessel code.

(21) Provisions shall be made for the expansion and contraction of steam mains connected to power boilers by providing substantial anchorage at suitable points so undue strain shall not be transmitted to the boiler. Steam reservoirs shall be used on steam mains when heavy pulsations of the steam currents cause vibration of the boiler shell plates.

(22) All power boilers heated with gas, oil, or mechanical firing, except stoker- or hand-fired coal-burning units which are constantly attended, shall be provided with an automatic low-water fuel cutout and with an automatic fuel-regulating control, controlled by boiler pressure.

(23) All cases not specifically covered by this article shall be treated as new installations or may be referred to the director for instructions concerning the requirements.

Source: L. 71: R&RE, p. 278, § 1. **C.R.S. 1963:** § 17-3-14.

9-4-115. New miniature boiler installations. (1) No miniature boiler, except those exempted by rules promulgated by the division of oil and public safety, shall be installed in this state unless it has been constructed, inspected, and stamped in conformity with the rules of construction of miniature boilers of the A.S.M.E. boiler and pressure vessel code and is registered with the national board of boiler and pressure vessel inspectors and inspected in accordance with this article.

(2) A miniature boiler having the standard stamping of another state that has adopted a standard of construction equivalent to the standard of the state of Colorado may be accepted by the director; however, the person or firm desiring to install the boiler shall make application for the installation and shall file with this application the manufacturer's data report covering the construction of the boiler in question.

(3) All new boiler installations and reinstalled boilers shall be installed in accordance with the requirements of the A.S.M.E. boiler and pressure vessel code and this article.

(4) Upon completion of the installation, all boilers shall be inspected by a state or special boiler inspector. At the time of inspection, each boiler shall be assigned a serial number by the inspector, which serial number shall be stamped on or affixed to the boiler as provided by section 9-4-106 (3).

Source: L. 71: R&RE, p. 281, § 1. **C.R.S. 1963:** § 17-3-15. **L. 2001:** (1) amended, p. 1137, § 64, effective June 5.

9-4-116. Existing miniature boiler installations. (1) Miniature boilers shall be installed in accordance with the provisions in section 9-4-113 unless a special exemption is stated in this article or otherwise provided by the director.

(2) The maximum allowable working pressure on the shell or drum of a miniature boiler shall be determined by the provisions of section 9-4-114 (1).

(3) The factor of safety and the construction of miniature boilers, except where otherwise specified, shall conform to that required for power boilers.

(4) Each miniature boiler shall be equipped with a spring-load, pop-type safety valve not less than one-half inch pipe size connected directly to the boiler.

(5) The safety valve shall have sufficient capacity to discharge all the steam that can be generated by the boiler without allowing the pressure to rise more than six percent above the maximum allowable working pressure.

(6) In cases where the miniature boiler is supplied with feed water directly from a pressure main or system without the use of a mechanical feeding device, the safety valve shall be set to release at a pressure not in excess of ninety-four percent of the lowest pressure obtained in the supply main or system feeding the boiler. Return traps shall not be considered mechanical feeding devices.

(7) Each miniature boiler designed for operation with a definite water level shall be equipped with a glass water-gauge for determining the water level.

(8) Miniature boilers operated in a closed system where there is insufficient space for the usual glass water-gauge may use water-level indicators of the glass bull's-eye type.

(9) Every miniature boiler shall be provided with at least one water-feed pump or other water-feeding device, except where it is connected to a water main carrying sufficient pressure to feed the boiler or where it is operated with no extraction of steam, such system being commonly known as a closed system.

(10) The water-feed pipe shall be provided with a check valve and a stop valve no less in size than that of the pipe.

(11) Feed water shall not be introduced through the water column or gauge-glass connection while the boiler is under pressure.

(12) Pressure of a feed water system greater than the maximum allowable working pressure of the boiler shall be fitted with a pressure-reducing valve before feed water is introduced into the boiler.

(13) Each miniature boiler shall be provided with a blow-off connection, not less than one-half inch iron pipe size, connected directly to the lowest water space.

(14) Blow-off piping shall not be galvanized and shall be provided with a valve or cock.

(15) Each miniature boiler shall be equipped with a steam-gauge having its dial graduated to not less than one and one-half times the maximum allowable working pressure. The gauge shall be connected to the steam space or to a steam connection to the water column. The gauge or connection shall contain a siphon or equivalent device which will develop and maintain a water seal that will prevent steam from entering the gauge tube. The minimum size of a siphon, if used, shall be one-fourth inch inside diameter.

(16) The steam piping from a miniature boiler shall be provided with a stop valve located as close to the boiler shell or drum as is practicable, except where the boiler and steam receiver are operated as a closed system.

(17) For miniature boiler installations which are gas-fired, the burners shall conform to the requirements of the American gas association and the A.S.M.E. boiler and pressure vessel code.

(18) The heating element for electrically heated steam boilers, closed system, shall be so constructed that the temperature will not exceed one thousand two hundred degrees Fahrenheit.

(19) All miniature boilers heated with gas, oil, or electrical energy shall be provided with an automatic low-water fuel cutout and with an automatic fuel-regulating control, controlled by boiler pressure.

(20) All cases not specifically covered by this article shall be treated as new installations or may be referred to the director for instructions concerning the requirement.

Source: L. 71: R&RE, p. 281, § 1. **C.R.S. 1963:** § 17-3-16.

9-4-117. New heating boilers and hot-water supply boilers installations. No heating boiler or hot-water supply boiler, except those exempt by this article, shall be installed in this state unless it has been constructed, inspected, and stamped in conformity with the rules for construction of low-pressure heating boilers of the A.S.M.E. boiler and pressure vessel code and is approved, registered, and inspected in accordance with the requirements of this article.

Source: L. 71: R&RE, p. 282, § 1. **C.R.S. 1963:** § 17-3-17.

9-4-118. Existing heating boilers and hot-water supply boilers installations. (1) The maximum allowable working pressure of a boiler built in accordance with the A.S.M.E. boiler and pressure vessel code shall in no case exceed the pressure indicated by the manufacturer's identification stamped or cast on the boiler or a plate secured to it.

(2) The maximum allowable working pressure on the shell of a nonstandard, riveted heating boiler shall be determined in accordance with section 9-4-114 (1) covering existing power boiler installations. In no case shall the maximum allowable working pressure of a steam-heating boiler exceed fifteen pounds per square inch gauge, or a hot-water boiler exceed one hundred sixty pounds per square inch gauge, at a temperature not exceeding two hundred fifty degrees Fahrenheit.

(3) The maximum allowable working pressure of a nonstandard steel or wrought-iron heating boiler of welded construction shall not exceed fifteen pounds per square inch gauge. For other than steam service, the maximum allowable working pressure shall be calculated in accordance with the rules for construction of low-pressure heating boilers of the A.S.M.E. boiler and pressure vessel code.

(4) The maximum allowable working pressure of a nonstandard boiler composed principally of cast iron shall not exceed fifteen pounds per square inch gauge for steam service or thirty pounds per square inch gauge for hot-water service.

(5) The maximum allowable working pressure of a nonstandard boiler having cast-iron shell or heads and steel wrought-iron tubes shall not exceed fifteen pounds per square inch gauge for steam service or thirty pounds per square inch gauge for water service.

(6) A radiator in which steam pressure is generated at a pressure of fifteen pounds per square inch gauge or less is a low-pressure boiler.

(7) Each steam-heating boiler shall have one or more officially rated valves of the spring pop-type adjusted to discharge at a pressure not to exceed fifteen PSI. The safety valves shall be arranged so that they cannot be reset to relieve at a higher pressure than the maximum allowable working pressure of the boiler.

(8) No safety valve for a steam-heating boiler shall be smaller than three-fourths of an inch except in case the boiler and radiating surfaces are a self-contained unit.

(9) The safety valve capacity for each steam-heating boiler shall be such that with the fuel-burning equipment installed the pressure cannot rise more than five pounds above the maximum allowable working pressure.

(10) Each hot-water boiler shall have not less than one officially rated pressure relief valve set to relieve at or below the maximum allowable working pressure of the boiler. Each hot-water supply boiler shall have not less than one officially rated relief valve or not less than one officially rated pressure-temperature relief valve of the automatic-reseating type set to relieve at or below the maximum allowable working pressure of the boiler. Relief valves shall be so constructed that they cannot be reset to relieve at a higher pressure than the maximum permitted pressure.

(11) Seats and discs of safety relief valves shall be of material suitable to resist corrosion. No materials subject to deterioration or vulcanization when subjected to saturated steam temperature corresponding to capacity test pressure shall be used in any safety relief valve.

(12) No safety relief valve shall be smaller than three-fourths of an inch nor larger than four and one-half inches pipe size.

(13) When the size of the boiler requires a safety relief valve larger than four and one-half inches in diameter, two or more valves having the required combined capacity shall be used.

(14) Each steam-heating boiler shall have a steam gauge connected to its steam space, or to its water column, or to its steam connection. The gauge or connection shall have a siphon or equivalent device which will develop and maintain a water seal that will prevent steam from entering the gauge tube. The connection shall be so arranged that the gauge cannot be shut off from the boiler except by a cock placed in the pipe at the gauge and provided with a tee or lever handle arranged to be parallel to the pipe in which it is located when the cock is open.

(15) Each hot-water heating boiler or hot-water supply boiler shall have a pressure or altitude gauge connected to it or to its flow connection in such a manner that it cannot be shut off from the boiler except by a cock with tee or lever handle placed on the pipe near the gauge. The handle of the cock, when the cock is open, shall be parallel to the pipe in which it is located.

(16) The scale on the dial of the pressure or altitude gauge for a hot-water heating boiler shall be graduated to not less than one and one-half nor more than three times the maximum allowable working pressure.

(17) The scale on the dial of a steam-heating boiler gauge shall be graduated to not less than thirty PSIG nor more than sixty PSIG, and travel of the pointer from zero to thirty PSIG pressure shall be at least three inches.

(18) In addition to the mandatory requirements for a pressure relief device, each hot-water heating or hot-water supply boiler shall be fitted with a temperature-actuated control, which will control the rate of combustion to prevent the temperature of the water from rising above two hundred fifty degrees Fahrenheit at or near the boiler outlet. The control shall be constructed so that it cannot be set or reset to permit operation of the firing equipment when the temperature of the water is higher than two hundred degrees Fahrenheit.

(19) When a pressure-actuated control is used on a steam-heating boiler, it shall operate to prevent the steam pressure from rising above fifteen PSIG.

(20) Each automatically fired steam or vapor-system heating boiler shall be equipped with an automatic low-water fuel cutoff, so located as to automatically cut off fuel supply when the surface of the water falls to the lowest safe water line.

(21) Each steam-heating boiler shall have one or more water-gauge glasses attached to the water column or boiler by means of valved fittings with the lower fitting provided with a drain valve of the straightway type with opening not less than one-fourth inch diameter to facilitate cleaning. Gauge-glass replacement shall be possible under pressure.

(22) If, in the judgment of an inspector, a steam-heating or hot-water supply boiler is unsafe for operation at the pressure previously approved, the pressure shall be reduced, proper repair made, or the boiler retired from service.

Source: L. 71: R&RE, p. 283, § 1. C.R.S. 1963: § 17-3-18.