CHAPTER 89

BOILERS AND UNFIRED STEAM PRESSURE VESSELS

89.1 Authority.
89.2 Definitions.
89.3 Inspection made.
89.4 Exemptions.
89.5 Rules — records.
89.6 Notice to commissioner.
89.7 Special inspectors.
89.7A Certificates.
89.8 Boiler and pressure vessel safety fund — fees appropriated.
89.9 Disposal of fees.
89.10 Penalty.
89.11 Injunction.
89.12 Hearing — notice — decree.
89.13 Civil penalty allowed.
89.14 Boiler and pressure vessel board — created — duties.

89.1 Authority.

The labor commissioner shall enforce the provisions of this chapter and may employ qualified personnel under the provisions of chapter 8A, subchapter IV, to administer the provisions of this chapter.

The provisions of this chapter shall apply to all boilers and unfired steam pressure vessels in this state, except as otherwise provided in this chapter.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §89.1]

2003 Acts, ch 145, §161

89.2 Definitions.

For the purpose of this chapter unless the context otherwise requires:

1. *"ASME code"* means the boiler and pressure vessel code published by the American society of mechanical engineers.

2. *"Board"* means the boiler and pressure vessel board created in section 89.14.

3. *"Boiler"* means a vessel in which water or other liquids are heated, steam or other vapors are generated, steam or other vapors are superheated, or any combination thereof, under pressure or vacuum by the direct application of heat.

4. *"Commissioner"* means the labor commissioner or the labor commissioner's designee.

5. *"Exhibition boiler"* means a boiler which is operated in the state for nonprofit purposes including, but not limited to, exhibitions, fairs, parades, farm machinery shows, or any other event of an historical or educational nature. An *"exhibition boiler"* includes steam locomotives, traction and portable steam engines, and stationary boilers of the firetube, watertube, and returntube class, model or miniature, and may be riveted, riveted and welded, or all welded construction, if used within the state solely for nonprofit purposes.

6. *"Object"* means a boiler or pressure vessel.

7. *"Power boiler"* means a boiler in which steam or other vapor is generated at a pressure of more than fifteen pounds per square inch or a water boiler intended for operation at pressures in excess of one hundred sixty pounds per square inch or temperatures in excess of 250 degrees Fahrenheit.

8. *a.* *"Public assembly"* means the assembly of people in any of the following:

(1) A building or structure primarily used as a theater, motion picture theater, museum, arena, exhibition hall, school, college, dormitory, bowling alley, physical fitness center, family entertainment center, lodge hall, union hall, pool hall, casino, place of worship, funeral home, institution of health and custodial care, hospital, or child care or adult day services facility.

(2) A building or structure, a portion of which is primarily used for amusement, entertainment, or instruction.

(3) A building or structure owned by or leased to the state or any of its agencies or political subdivisions.

b. However, for purposes of this chapter, *"public assembly"* does not include the assembly of people in buildings or structures containing only eating and drinking establishments or in any building used exclusively by an employer for training or instruction of its own employees.

9. *"Special inspector"* means an inspector who holds a commission from the commissioner and who is not a state employee.

10. *"Steam heating boiler"* means a boiler operating at not more than fifteen pounds per square inch; or a hot water heating boiler operating at not more than one hundred sixty pounds per square inch and not more than 250 degrees Fahrenheit at the boiler outlet.

11. *"Unfired steam pressure vessel"* means a vessel or container used for the containment of steam pressure either internal or external in which the pressure is obtained from an external source.

[C62, 66, 71, 73, 75, 77, §89.12; C79, 81, §89.2]

89 Acts, ch 321, §26; 92 Acts, ch 1098, §3; 2000 Acts, ch 1097, §1; 2001 Acts, ch 24, §26; 2001 Acts, ch 64, §1; 2004 Acts, ch 1107, §2, 30; 2008 Acts, ch 1032, §201; 2009 Acts, ch 94, §1

89.3 Inspection made.

1. It shall be the duty of the commissioner, to inspect or cause to be inspected internally and externally, at least once every twelve months, except as otherwise provided in this section, in order to determine whether all such equipment is in a safe and satisfactory condition, and properly constructed and maintained for the purpose for which it is used, all boilers and unfired steam pressure vessels operating in excess of fifteen pounds per square inch, all low pressure heating boilers and unfired steam pressure vessels located in places of public assembly and other appurtenances used in this state for generating or transmitting steam for power, or for using steam under pressure for heating or steaming purposes.

2. The commissioner may enter any building or structure, public or private, for the purpose of inspecting any equipment covered by this chapter or gathering information with reference thereto.

3. The commissioner may inspect boilers and tanks and other equipment stamped with the American society of mechanical engineers code symbol for other than steam pressure, manufactured in Iowa, when requested by the manufacturer.

4. *a.* An object that meets all of the following criteria shall be inspected at least once every two years internally and externally while not under pressure, and at least once every two years externally while under pressure, unless the commissioner determines that an earlier inspection is warranted.

(1) The object is a boiler with one hundred thousand pounds per hour or more capacity, or the object is an unfired steam pressure vessel or a regulated appurtenance that is part of the same system as a boiler with one hundred thousand pounds per hour or more capacity.

(2) The object contains only water subject to internal continuous water treatment under the direct supervision of a graduate engineer or chemist, or one having equivalent experience in the treatment of boiler water.

(3) The water treatment is for the purpose of controlling and limiting serious corrosion and other deteriorating factors.

b. The owner or user of an object meeting the criteria in paragraph *"a"* shall do the following:

(1) At any time the commissioner, a special inspector, or the supervisor of water treatment deems a hydrostatic test is necessary to determine the safety of an object, conduct the test under the supervision of the commissioner.

(2) Keep available for examination by the commissioner accurate records showing the date and actual time the object is out of service and the reason it is out of service.

(3) Keep available for examination by the commissioner chemical physical laboratory analyses of samples of the object water taken at regular intervals of not more than forty-eight hours of operation as will adequately show the condition of the water and any elements or characteristics of the water which are capable of producing corrosion or other deterioration of the object or its parts.

5. *a.* An object that meets all of the following criteria shall be inspected at least once each year externally while under pressure and at least once every four years internally while not under pressure, unless the commissioner determines an earlier inspection is warranted:

(1) The object is a boiler with one hundred thousand pounds per hour or more capacity, or the object is an unfired steam pressure vessel or a regulated appurtenance that is part of the same system as a boiler with one hundred thousand pounds per hour or more capacity.

(2) The object contains only water subject to internal continuous water treatment under

the direct supervision of a graduate engineer or chemist, or one having equivalent experience in the treatment of boiler water.

(3) The water treatment is for the purpose of controlling and limiting serious corrosion and other deteriorating factors.

(4) Either of the following:

(a) The owner or user is a participant in good standing in the Iowa occupational safety and health voluntary protection program and has achieved star status within the program, which is administered by the division of labor in the department of workforce development.

(b) The object is an unfired steam pressure vessel and is part of or integral to the continuous operation of a process covered by and compliant with the occupational safety and health administration process safety management standard contained in 29 C.F.R. §1910.119 and the owner demonstrates such compliance to a special inspector or the commissioner. The unfired steam pressure vessel must also be included as process safety management process equipment in the owner of the unfired steam pressure vessel's process safety management program.

b. The owner or user of an object that meets the criteria in paragraph *"a"* shall do the following:

(1) At any time the commissioner, a special inspector, or the supervisor of the water treatment deems a hydrostatic test necessary to determine the safety of an object, conduct the test under the supervision of the commissioner.

(2) Keep available for examination by the commissioner accurate records showing the date and actual time the object is out of service and the reason it is out of service.

(3) Arrange for an internal inspection of the object during each planned outage by a special inspector or the commissioner.

(4) Keep for examination by the commissioner accurate records showing the chemical physical laboratory analyses of samples of the object's water taken at regular intervals of not more than forty-eight hours of operation adequate to show the condition of the water and any elements or characteristics of the water that are capable of producing corrosion or other deterioration of the object or its parts.

6. Internal inspections of cast aluminum steam, cast aluminum hot water heating, sectional cast iron steam, and cast iron hot water heating boilers shall be conducted only as deemed necessary by the commissioner. External operating inspections shall be conducted annually.

7. Internal inspections of steel hot water boilers shall be conducted once every six years. External operating inspections shall be conducted annually.

8. Inspections of unfired steam pressure vessels operating in excess of fifteen pounds per square inch and low pressure steam boilers shall be conducted at least once each calendar year. The inspections conducted within each two-year period shall include an external inspection conducted while the boiler is operating and an internal inspection, where construction permits. No more than one inspection shall be conducted per six-month period. An internal inspection of an unfired steam pressure vessel or low pressure steam boiler may be required at any time by the commissioner upon the observation by an inspector of conditions, enumerated by the commissioner through rules, warranting an internal inspection.

9. An internal inspection shall not be required on an unfired steam pressure vessel that was manufactured without an inspection opening.

10. An exhibition boiler does not require an annual inspection certificate but special inspections may be requested by the owner or an event's management to be performed by the commissioner. Upon the completion of an exhibition boiler inspection a written condition report shall be prepared by the commissioner regarding the condition of the exhibition boiler's boiler or pressure vessel. This report will be issued to the owner and the management of all events at which the exhibition boiler is to be operated. The event's management is responsible for the decision on whether the exhibition boiler should be operated and shall inform the division of labor of the event's management's decision. The event's management is responsible for any injuries which result from the operation of any exhibition boiler approved for use at the event by the event's management. A repair symbol,

known as the "R" stamp, is not required for repairs made to exhibition boilers pursuant to the rules regarding inspections and repair of exhibition boilers as adopted by the commissioner, pursuant to chapter 17A.

11. An inspection report created pursuant to this chapter that requires modification, alteration, or change shall be in writing and shall cite the state law or rule or the ASME code section allegedly violated.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §89.2; C79, 81, §89.3]

85 Acts, ch 105, §1; 89 Acts, ch 321, §27; 97 Acts, ch 27, §1; 2004 Acts, ch 1107, §3, 30; 2007 Acts, ch 135, §1 – 3; 2009 Acts, ch 94, §2; 2009 Acts, ch 179, §34; 2010 Acts, ch 1015, §3; 2011 Acts, ch 34, §19; 2012 Acts, ch 1043, §1; 2013 Acts, ch 66, §1, 5; 2014 Acts, ch 1092, §23

Subsection 8 amended

89.4 Exemptions.

1. The provisions of this chapter shall not apply to the following boilers:

a. Boilers of railway locomotives subject to federal inspection.

b. Boilers operated and regularly inspected by railway companies operating in interstate commerce.

c. Boilers under the jurisdiction and subject to inspection by the United States government.

d. Steam heating boilers and unfired steam pressure vessels associated therewith and mobile power boilers used exclusively for agricultural purposes.

e. Heating boilers in residences.

f. Fire engine boilers brought into the state for temporary use in times of emergency.

g. Low pressure heating boilers used in buildings other than those for public assembly.

h. Hot water heating boilers used for heating pools or spas regulated by the department of public health pursuant to chapter 135I.

i. Water heaters used for potable water if the capacity is less than or equal to fifty gallons, the burner input is less than or equal to fifty thousand British thermal units, and the maximum allowable working pressure is less than one hundred sixty pounds per square inch.

j. An electric boiler with a water capacity of six gallons or less that is used as an integral part of an espresso coffee machine, cappuccino coffee machine, or cleaning machine.

k. Continuous coil-type hot water boilers used only for steam vapor cleaning, to which all of the following apply:

(1) The size of the tubing or pipe, with no drums or headers attached, does not exceed three-fourths of one inch in diameter.

(2) Nominal water capacity of the boiler does not exceed six gallons.

(3) Water temperature in the boiler does not exceed 350 degrees Fahrenheit.

(4) Steam is not generated within the coil.

2. Unfired steam pressure vessels not exceeding the following limitations are not required to be reported to the commissioner and shall be exempt from regular inspection under provisions of this chapter:

a. A vessel not greater than five cubic feet in volume and not having a pressure greater than two hundred fifty pounds per square inch.

b. A vessel not greater than one and one-half cubic feet in volume with no limit on pressure.

3. Jacketed direct or indirect fired vessels built and installed in accordance with the American society of mechanical engineers code, section VIII, division 1, appendix 19, shall not be considered boilers or power boilers for purposes of this chapter and shall not be required to meet the American society of mechanical engineers standard for controls and safety devices for automatically fired boilers. However, jacketed direct or indirect fired vessels as described in this subsection shall be subject to inspection under section 89.3 as pressure vessels.

4. An object shall not be considered under pressure and shall not be within the scope of this chapter when there is clear evidence that the manufacturer did not intend the object to

be operated at more than three pounds per square inch and the object is operating at three pounds per square inch or less.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §89.3; C79, 81, §89.4]

92 Acts, ch 1098, §4; 98 Acts, ch 1222, §21, 28; 2005 Acts, ch 47, §1; 2007 Acts, ch 135, §4; 2010 Acts, ch 1015, §4; 2013 Acts, ch 66, §2, 3, 5; 2014 Acts, ch 1026, §20

Subsection 1, paragraph k, subparagraph (3) amended

89.5 Rules — records.

1. The commissioner shall investigate and record the cause of any boiler explosion that may occur in the state, the loss of life, injuries sustained, and estimated loss of property, if any; and such other data as may be of benefit in preventing a recurrence of similar explosions.

2. The commissioner shall keep a complete and accurate record of the name of the owner or user of each steam boiler or other equipment subject to this chapter, giving a full description of the equipment, including the type, dimensions, age, condition, the amount of pressure allowed, and the date when last inspected.

3. A rule adopted pursuant to this chapter which adopts standards by reference to another publication shall be exempt from the requirements of section 17A.6, subsection 2, if the following conditions exist:

a. The cost of the publication is an unreasonable expense when compared to the anticipated usage of the publication.

b. A copy of the publication is available from an entity located within the state capitol complex.

c. The rule identifies the location where the publication is available.

d. The administrative rules coordinator approves the exemption.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §89.4; C79, 81, §89.5]

96 Acts, ch 1149, §1; 2004 Acts, ch 1107, §4, 5, 30; 2010 Acts, ch 1031, §54; 2011 Acts, ch 34, §20

See §256.53

89.6 Notice to commissioner.

1. Before any equipment included under the provisions of this chapter is installed by any owner, user, or lessee thereof, a ten days' written notice of intention to install the equipment shall be given to the commissioner. The notice shall designate the proposed place of installation, the type and capacity of the equipment, the use to be made thereof, the name of the company which manufactured the equipment, and whether the equipment is new or used.

2. Before any power boiler is converted to a low pressure boiler, the owner or user shall give to the commissioner ten days' written notice of intent to convert the boiler. The notice shall designate the boiler location, the uses of the building, and other information specified by rule by the board.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §89.5; C79, 81, §89.6]

2010 Acts, ch 1015, §5; 2011 Acts, ch 25, §11

89.7 Special inspectors.

1. The inspection required by this chapter shall not be made by the commissioner if an owner or user of equipment specified by this chapter obtains an inspection by a representative of a reputable insurance company and obtains a policy of insurance upon the equipment from that insurance company.

2. The representative conducting the inspection shall be commissioned by the commissioner as a special inspector for the year during which the inspection occurs and shall meet such other requirements as the commissioner may by rule establish. The commission shall be valid for one year and the special inspector shall pay a fee for the issuance of the commission. The commissioner shall establish the amount of the fee by rule. The commissioner shall establish rules for the issuance and revocation of special inspector commissions. The rules are subject to the requirements of chapter 17A.

3. The insurance company shall file a notice of insurance coverage on forms approved by

the commissioner stating that the equipment is insured and that inspection shall be made in accordance with section 89.3.

4. The special inspector shall provide the user and the commissioner with an inspection report including the nature and extent of all defects and violations, in a format approved by the labor commissioner.

5. The failure of a special inspector to inform the commissioner of violations shall not subject the commissioner to liability for any damages incurred.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §89.6; C79, 81, §89.7]

85 Acts, ch 102, §1; 87 Acts, ch 15, §1; 90 Acts, ch 1136, §4, 5; 91 Acts, ch 136, §2; 2004 Acts, ch 1107, §6, 30; 2007 Acts, ch 135, §5

89.7A Certificates.

1. The commissioner shall issue a certificate of inspection valid for the period specified in section 89.3 after the payment of a fee, the filing of an inspection report, and the correction or other appropriate resolution of any defects identified in the inspection report. The certificate shall be posted at a place near the location of the equipment.

2. The owner or user of any equipment covered in this chapter, or persons in charge of such equipment, shall not allow or permit a greater pressure in any unit than is stated in the certificate of inspection issued by the commissioner.

3. The commissioner shall indicate to the user whether or not the equipment may be used without making repair or replacement of defective parts, or whether or how the equipment may be used in a limited capacity before repairs or replacements are made, and the commissioner may permit the user a reasonable time to make such repairs or replacements.

2007 Acts, ch 135, §6; 2008 Acts, ch 1031, §29

89.8 Boiler and pressure vessel safety fund — fees appropriated.

A boiler and pressure vessel safety revolving fund is created within the state treasury under the control of the commissioner and shall consist of moneys collected by the commissioner as fees. Moneys in the fund are appropriated and shall be used by the commissioner to pay the actual costs and expenses necessary to operate the board and administer the provisions of this chapter. All salaries and expenses properly chargeable to the fund shall be paid from the fund. Section 8.33 does not apply to any moneys in the fund. Notwithstanding section 12C.7, subsection 2, interest or earnings on moneys deposited in the fund shall be credited to the fund.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §89.7; C79, 81, §89.8]

85 Acts, ch 102, §2; 2004 Acts, ch 1107, §7, 30; 2008 Acts, ch 1023, §1

Referred to in **§89.9**

89.9 Disposal of fees.

All fees provided for in this chapter shall be collected by the commissioner and remitted to the treasurer of state, to be deposited in the boiler and pressure vessel safety fund pursuant to section 89.8, together with an itemized statement showing the source of collection.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §89.8; C79, 81, §89.9]

2004 Acts, ch 1107, §8, 30

89.10 Penalty.

Any person or persons, corporations and directors, managers and superintendents, and officers thereof, violating any of the provisions of this chapter, shall be guilty of a simple misdemeanor.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §89.9; C79, 81, §89.10]

89.11 Injunction.

1. In addition to all other remedies, if any owner, user, or person in charge of any equipment covered by this chapter continues to use any equipment covered by this chapter, after receiving an inspection report identifying defects and exhausting appeal rights as provided by this chapter without first correcting the defects or making replacements, the

commissioner may apply to the district court by petition in equity, in an action brought in the name of the state, for a writ of injunction to restrain the use of the alleged defective equipment.

2. If the commissioner believes that the continued operation of equipment constitutes an imminent danger that could seriously injure or cause death to any person, in addition to all other remedies, the commissioner may apply to the district court in the county in which the imminently dangerous condition exists for a temporary order to enjoin the owner, user, or person in charge from operating the equipment before the owner's, user's, or person's rights to administrative appeals have been exhausted.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §89.10; C79, 81, §89.11]

2004 Acts, ch 1107, §9, 30; 2007 Acts, ch 135, §7; 2009 Acts, ch 133, §23

89.12 Hearing — notice — decree.

The commissioner shall notify in writing the owner or user of the equipment of the time and place of hearing of the petition as fixed by the court or judge, and shall serve the notice on the defendant at least five days prior to the hearing in the same manner as original notices are served. The general provisions relating to civil practice and procedure as may be applicable, shall govern the proceedings, except as herein modified. In the event the defendant does not appear or plead to the action, default shall be entered against the defendant. The action shall be tried in equity, and the court or judge shall make such order or decree as the evidence warrants.

[C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, §89.11; C79, 81, §89.12]

89.13 Civil penalty allowed.

If upon notice and hearing the commissioner determines that an owner has operated a facility in violation of a safety order, the commissioner may assess a civil penalty against the owner in an amount not exceeding five hundred dollars, as determined by the commissioner. An order assessing a civil penalty is subject to appeal to the employment appeal board and to judicial review. The commissioner may commence an action in the district court to enforce payment of a civil penalty. Revenue from the penalty provided in this section shall be remitted to the treasurer of state for deposit in the general fund of the state.

90 Acts, ch 1136, §6

89.14 Boiler and pressure vessel board — created — duties.

1. A boiler and pressure vessel board is created within the division of labor services of the department of workforce development to formulate definitions and rules requirements for the safe and proper installation, repair, maintenance, alteration, use, and operation of boilers and pressure vessels in this state.

2. The boiler and pressure vessel board is composed of nine members as follows:

a. The commissioner or the commissioner's designee.

b. The following eight members who shall be appointed by the governor, subject to confirmation by the senate, to four-year staggered terms beginning and ending as provided in section 69.19.

(1) One member shall be a special inspector who is employed by an insurance company that is licensed and actively writing boiler and machinery insurance in this state and who is commissioned to inspect boiler and pressure vessels in this state.

(2) One member shall be appointed from a certified employee organization and shall represent steamfitters.

(3) One member shall be appointed from a certified employee organization and shall represent boilermakers.

(4) Two members shall be mechanical engineers who regularly practice in the area of boilers and pressure vessels.

(5) One member shall be a boiler and pressure vessel distributor in this state.

(6) One member shall represent boiler and pressure vessel manufacturers.

(7) One member shall be a mechanical contractor engaged in the business of installation, renovation, and repair of boilers and pressure vessels.

3. A vacancy in membership shall be filled in the same manner as the original appointment. The members shall serve without compensation, but shall be reimbursed for actual and necessary expenses incurred in the performance of official duties as a member.

4. The members of the board shall select a chairperson, vice chairperson, and secretary from their membership. However, neither the commissioner nor the commissioner's designee shall serve as chairperson. The board shall meet at least quarterly but may meet as often as necessary. Meetings shall be set by a majority of the board or upon the call of the chairperson, or in the chairperson's absence, upon the call of the vice chairperson. A majority of the board members shall constitute a quorum.

5. The board shall adopt rules pursuant to chapter 17A necessary to administer the duties of the board. Rules adopted by the board shall be in accordance with accepted engineering standards and practices. The board shall adopt rules relating to the equipment covered by this chapter that are in accordance with the ASME code, which may include addenda, interpretations, and code cases, as soon as reasonably practical following publication by the American society of mechanical engineers. The board shall adopt rules to require that operation of equipment cease in the event of imminent danger.

6. A notice of defect or inspection report issued by the commissioner pursuant to this chapter may, within thirty days after the making of the order, be appealed to the board. Board action constitutes final agency action for purposes of chapter 17A.

7. Not later than July 1, 2005, and every three years thereafter, the board shall conduct a comprehensive review of existing boiler rules, regulations, and standards, including but not limited to those relating to potable hot water supply boilers and water heaters.

8. The board shall establish fees for examinations, inspections, annual statements, shop inspections, and other services. The fees shall reflect the actual costs and expenses necessary to operate the board and perform the duties of the commissioner.

9. The board may adopt rules governing the conversion of power boilers to low pressure boilers.

10. The board may adopt rules establishing an internal inspection interval of up to four years for objects that are subject to inspection pursuant to section 89.3, subsection 4, and are owned and operated by electric public utilities subject to rate regulation under chapter 476.

2004 Acts, ch 1107, §10, 30; 2007 Acts, ch 135, §8; 2009 Acts, ch 94, §3; 2010 Acts, ch 1015, §6; 2013 Acts, ch 66, §4, 5

Referred to in **§89.2**

Confirmation, see §2.32