

**COLORADO DEPARTMENT OF  
LABOR AND EMPLOYMENT**

**DIVISION OF OIL AND PUBLIC SAFETY**

**BOILER AND PRESSURE VESSEL REGULATIONS**

**7 C.C.R. 1101-5**

**Effective: July 1, 2017**



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 COLORADO DEPARTMENT OF LABOR AND EMPLOYMENT  
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# **ARTICLE 1 GENERAL PROVISIONS**

## **Section 1-1 Basis and Purpose**

The basis and purpose of these regulations are to establish construction, installation, inspection, maintenance and repair requirements for boilers and pressure vessels, establish inspection and certificate of inspection fees, adopt nationally recognized codes and standards, add or clarify terminology and add or clarify the duties of owners, users, installers and inspectors in order to ensure the safe operation of boilers and pressure vessels in Colorado.

## **Section 1-2 Technical Rationale**

The technical requirements of these regulations are generally accepted as national and international standards governing the minimum levels of acceptability for the initial design, fabrication and certification, as well as in-service inspection rating, repair, alteration and re-rating of boilers and pressures vessels. The adoption of these consistent standards is necessary for the preservation of the public health, safety and welfare of the citizens of Colorado.

## **Section 1-3 Statutory Authority**

The amendments to these regulations are created pursuant to §§8-20-101, 9-4-103 and 9-4-109(1)(a) of the Colorado Revised Statutes (CRS).

## **Section 1-4 Effective Date**

These amended regulations shall be effective on July 1, 2017, and supersede all prior editions. The prior editions of these regulations were effective June 15, 2013, March 30, 2012, November 30, 2011, April 14, 2011, March 11, 2011, December 13, 2010, December 1, 2008 and December 1, 2002.

## **Section 1-5 Codes Incorporated by Reference**

(a) The following codes are incorporated by reference:

- (1) For the construction of new boilers and pressure vessels, the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Sections I, IV, V, VIII Divisions 1 and 2 and 3, IX, and X, 2015 edition.
- (2) For the installation, in-service inspection, repairs and alterations of boilers, pressure vessels and pressure-retaining items, the National Board Inspection Code (NBIC), 2017 edition.
- (3) For the design, materials, fabrication, erection, test, inspection, operation, and maintenance of boiler external piping, ASME B31.1, Power Piping, 2016 edition.
- (4) For the installation, inspection, repairs, alterations, rating and re-rating of pressure vessels and piping used in the petroleum and chemical processing industries:
  - (A) For pressure vessels, the API/ASME 510, 10th edition, addenda 1-3.
  - (B) For pressure piping, the API/ASME 570, 4th edition, addenda 1-4.
- (5) For the assembly, installation, maintenance and operation of controls and safety devices, ASME CSD-1, 2015 edition.
  - (A) ASME CSD-1 applies to all boilers installed, relocated or returned to service on or after January 1, 1993. The pertinent edition of ASME CSD-1 is the one adopted by the Colorado Boiler and Pressure Vessel Regulations at the installation, re-location, or return to service date.

- (6) NFPA 85, Boiler and Combustion Systems Hazards Code, 2015 edition.
- (7) NB-371, Accreditation of Owner-User Inspection Organizations (OUIO), Rev 8.
- (b) Interested parties may review the referenced incorporated materials by contacting the Program Manager, Boiler Inspection Program, 633 17<sup>th</sup> Street, Suite 500, Denver, CO 80202.
- (c) This rule does not include later amendments to or editions of the incorporated material.
- (d) Code cases approved for use by ASME are allowed to be used in the design, fabrication and testing of boilers and pressure vessels provided acceptance is first obtained from the Director.
- (e) The application for a variance to the codes and standards listed above or to these regulations shall be made on the form provided by the Director.

## **Section 1-6 Definitions**

Terms in these regulations shall have the same meaning as those found in Title 4 Article 9 of the Colorado Revised Statutes. In addition, unless the context otherwise requires:

**Alteration** - Any change in the item described on the original Manufacturers' Data Report that affects the pressure-containing capability of the boiler or pressure vessel. Non-physical changes, such as an increase in the maximum allowable working pressure (internal or external) or design temperature of a boiler or pressure vessel shall be considered an alteration. A reduction in minimum temperature, such that additional mechanical tests are required, shall also be considered an alteration.

**Apartment house** - A building with multiple family dwelling units, including condominiums and townhouses, where boilers are located in a common area outside of the individual dwelling units, such as a boiler room. The exemption for apartment houses with fewer than six units refers to the number of units, not the number of units served by a boiler. Individual dwelling units are considered residences, such that any boiler located inside an individual dwelling unit is exempt.

**ANSI** - The American National Standards Institute.

**API** - The American Petroleum Institute.

**API-certified inspector** - An inspector who is certified by the American Petroleum Institute to perform functions specified in API-510 or API-570.

**API-510, Pressure Vessel Inspection Code** - The code for maintenance inspection, repair, alteration and re-rating procedures for pressure vessels used by the petroleum and chemical process industries. API-510 is published by the American Petroleum Institute and is an approved ANSI standard.

**API-570, Piping Inspection Code** - The code for maintenance inspection, repair, alteration and re-rating procedures for process piping used by the petroleum and chemical process industries. API-570 is published by the American Petroleum Institute and is an approved ANSI standard.

**ASME CSD-1** - The national standard entitled Controls and Safety Devices for Automatically Fired Boilers published by ASME.

**Boiler, ASME Section I** - A boiler falling under the scope of Section I of the ASME Boiler and Pressure Vessel Code. These are boilers in which steam or vapor is generated at a pressure more than 15 psig for use external to itself; or high temperature water boiler intended for operation at pressures exceeding 160 psig and/or temperatures exceeding 250 degrees Fahrenheit.

**Boiler, ASME Section IV** - A boiler or water heater falling under the scope of Section IV of the ASME Boiler and Pressure Vessel Code. These are steam boilers for operation at pressures not exceeding 15 psi, or hot water heating / hot water supply boilers for operation at pressures not exceeding 160 psi or temperatures not exceeding 250 degrees Fahrenheit.

**Boiler, electric** - A boiler whose source of heat is electricity.

**Boiler external piping** – Piping for boilers in which steam or vapor is generated at a pressure more than 15 psig for use external to itself, or a high temperature water boiler intended for operation at pressures exceeding 160 psig and/or temperatures exceeding 250 degrees Fahrenheit. This piping begins at the termination of the boiler proper and ends at:

- (1) the first circumferential joint for welding and connections; or
- (2) the face of the first flange in bolted flanged connections; or
- (3) the first threaded joint in that type of connection; and that extends up to and including the valve or valves as required in ASME B31.1.

**Boiler, heating** - See definition of Boiler, ASME Section IV.

**Boiler, high temperature** - See definition of Boiler, ASME Section I.

**Boiler, hot water supply** - A boiler constructed to ASME Section IV that furnishes hot water to be used externally to itself and not returned to the boiler.

**Boiler, miniature** - Any power boiler that does not exceed any of the following:

- 16 inches inside diameter of shell
- 20 square feet of heating surface
- Five cubic feet of gross volume exclusive of casing and insulation
- 100 psig maximum allowable working pressure

**Boiler, portable or moveable** - An ASME constructed boiler permanently affixed to a trailer with wheels or skid-mounted that is totally self-contained while operating and not attached to any other object for any reason either by pipe, hose or wire while operating.

**Boiler, power** - See Boiler, ASME Section I.

**Boiler, unfired** - A steam or other vapor generating system using heat external from itself, usually from the operation of a processing system or other indirect heat source.

**Boiler, water tube** - A boiler that has water tubes or coils which contain the heating medium constructed primarily of copper or steel material and include but are not limited to the following general attributes:

- ASME Section IV water tube boiler requires forced circulation to prevent overheating and failure of the tubes or coils and has no definitive waterline.
- ASME Section I water tube boiler may not require forced circulation and may or may not have a definitive waterline.

**Btu** - British thermal unit.

**Certificate inspection** - An inspection performed by an authorized State or Special Inspector, the report of which is used as justification for issuing, withholding or revoking the certificate of inspection.

**Certificate inspection, initial** - The certificate inspection conducted by a State Inspector when a new or relocated boiler is being placed in service.

**Certificate of inspection** - A *certificate of inspection*, also known as a *certificate of boiler operation*, an *inspection certificate* or an *operations certificate*, is the certificate issued by the Director authorizing the operation of a boiler until a specific date.

**Condemned** - A boiler or pressure vessel determined by an Inspector to be so unsafe that further use is prohibited until it is satisfactorily repaired or replaced.

**Director** - the Director of the Colorado Department of Labor and Employment, Division of Oil and Public Safety or his or her designee.

**Existing installation** - Any boiler or pressure vessel that has received its initial certificate of inspection.

**Forced circulation water heater** - A water heater requiring forced circulation to prevent overheating and failure of the tubes or coils and has no definitive waterline.

**Grace period** - The time when a boiler may legally be operated without a valid certificate of inspection.

**Hot water storage tank** - A closed vessel connected to a regulated boiler. When heated by steam or any other indirect means, these storage tanks shall comply with ASME construction requirements if any of the following limitations are exceeded:

- Heat input of 200,000 Btu/hr
- Water temperature of 210° F
- Nominal water-containing capacity of 120 gal

**Inspector, State** - A person who is employed and authorized by the Director to perform certificate inspections.

**Inspector, Owner-User** - A person who holds a valid National Board Owner-User Commission and has passed the examination prescribed by the National Board or is an API-Certified Inspector under a jurisdictionally-approved Owner-User Inspection Organization.

**Inspector, Special** - A person employed by an insurance company licensed to sell or provide insurance for boilers or pressure vessels in Colorado who holds a valid commission as inspector issued by the National Board of Boiler and Pressure Vessel Inspectors and is authorized by the Director to inspect boilers insured by his or her employer.

**Installer** - A person or company responsible for setting up for use any regulated boiler or pressure vessel.

**Jacketed steam kettle** - A pressure vessel with inner and outer walls that is subject to steam pressure and stress, is used to boil or heat liquids or to cook food, and falls under the scope of ASME Section VIII Appendix 9 (Jacketed Vessels) or Appendix 19 (Electrically Heated or Gas Fired Jacketed Steam Kettles).

- (a) A direct-fired jacketed steam kettle is a jacketed steam kettle having its own independent source of energy, such as gas or electricity, for generating the steam within the jacket's walls.
- (b) An indirect-fired jacketed steam kettle is one where the steam within the jacket's walls is generated external to itself, such as from a boiler.

**NBIC** - The National Board Inspection Code, also known as ANSI/NB-23.

**National Board** - The National Board of Boiler and Pressure Vessel Inspectors.

**New installation** - Any boiler or pressure vessel that has not received its initial certificate of inspection at its current location.

**NFPA** - The National Fire Protection Association.

**Non-boiler external piping** - Piping outside of the boundary for boiler external piping.

**Operations certificate** - See **certification of inspection**.

**Out of service** - A boiler that has been removed from service in accordance with Section 1-8 of these regulations. A certificate of inspection is not required for an out-of-service boiler or pressure vessel.

**Owner-User Inspection Organization** - 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 rules or API-510/570 and are acceptable to the Director.

**Pressure-retaining item (PRI)** - Any boiler, pressure vessel, piping or material used for the containment of pressure, either internal or external. The pressure may be obtained from an external source, by the application of heat from a direct source, or any combination thereof.

**Pressure Vessel** - A container other than a boiler or piping used for the containment of pressure. See also Section VIII vessel.

**PSI** - Pounds per square inch.

**PSIG** - Pounds per square inch gage.

**Repair** - Work necessary to restore pressure-retaining items to a safe and satisfactory operating condition.

**Re-rate** - A change in the temperature rating, the maximum allowable working pressure rating, or both, of a boiler, pressure vessel or piping that shall be considered an alteration.

**Scrapped** - A boiler that has been cut into pieces or damaged to the point it cannot be returned to service.

**Section VIII vessel** - A pressure vessel falling under the scope of Section VIII of the ASME Boiler and Pressure Vessel Code.

**Stand-by status** - A boiler or pressure vessel not in use, but its fuel supply or source of pressure remains connected. A current certificate of inspection is required for a boiler or pressure vessel in stand-by status.

**Water heater, Service or domestic-type** - A closed vessel constructed to ASME Section IV used to supply potable hot water which is heated by the combustion of fuels, electricity or any other source and withdrawn for use external to the system at pressures not exceeding 160 psig and shall include all controls and devices necessary to prevent water temperatures from exceeding 210 degrees Fahrenheit. This system operates at 200,000 BTU per hour input or more and has a capacity of 120 gallons or more.

## **Section 1-7 Scope**

These regulations apply to all boilers as listed in Section 1-7(a), as defined in Section 1-6, except those listed in Section 1-7(b).

- (a) Boilers and pressure vessels as listed in the scope of ASME Sections I, IV and VIII.
- (b) The following are not included in the scope of these regulations:
  - (1) Boilers owned or operated by the federal government.
  - (2) Locomotive boilers of carriers subject to the Federal Locomotive Inspection Act.
  - (3) Boilers located in private residences.
  - (4) Boilers located in apartment houses having less than six family units.
  - (5) Boilers in any city where city boiler inspectors, record-keeping, and inspection codes are comparable to the State program where the program has been reviewed and recommended by the National Board and approved by the Director upon application to the Director with submission of proof of such comparability.
  - (6) Service and domestic-type water heaters that:
    - (A) Have less than 200,000 BTU per hour input.
    - (B) Have nominal water-containing capacity of less than 120 gallons.
    - (C) Are operated at less than 210 degrees Fahrenheit.
  - (7) A hot-water supply storage tank heated by steam or other indirect means meeting the parameters listed in (6) of this Section.

## **Section 1-8 Removing a Boiler from Service**

- (a) Boilers removed from service must be done so in a safe manner. This may be accomplished by scrapping the boiler or by putting the boiler into out-of-service status. To safely put a boiler into out-of-service status, physically sever all sources of energy (water, gas, electricity, etc.), cap all fuel lines and disconnect or remove all electrical lines.
- (b) Prior to placing a boiler back in service, or when a boiler is moved and reinstalled, the boiler shall:
  - (1) Comply with currently-adopted codes and standards in these regulations or be upgraded as determined by the Director.
  - (2) Comply with rules and regulations for new installations.
  - (3) Successfully pass an inspection conducted by a State boiler inspector.

## **Section 1-9 Registration Requirements**

- (a) All boilers, including reinstalled and second-hand boilers, regardless of code of construction, shall be registered with the National Board (excluding cast iron boilers and non-standard boilers).
- (b) All fired and unfired pressure vessels, regardless of code of construction, shall be registered with the National Board, except for the following:



- (1) Vessels installed or re-installed before April 30, 1999.
- (2) Vessels built to Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code bearing the "UM" symbol before January 1, 2003.

### **Section 1-10 Notification Requirements**

- (a) The owner, user or installer shall report to the Director the location of previously unreported, newly-installed or relocated boilers by completing the application form supplied by the Director and submitting it prior to operation. This application form will assure vital information is obtained, proper codes are utilized and timely inspections are scheduled. No fee will be charged for completing this application form.
- (b) The owner, user or insurer of any existing boiler or pressure vessel shall report to the Director any boiler that is taken out of service or scrapped within 30 days in the format required by the Director.

### **Section 1-11 Repairs**

- (a) Repairs to pressure relief valves shall be made only by an organization that holds a valid Certificate of Authorization for use of the National Board Pressure Relief Valve Repair "VR" symbol stamp in accordance with the regulations set forth in the National Board Inspection Code. The initial installation testing and adjustments of a new pressure relief valve on a boiler or pressure vessel are not considered a repair if made by the manufacturer or assembler of the valve.
- (b) Welded repairs and alterations to boilers and pressure vessels shall be made only by an organization that holds a valid Certificate of Authorization for use of the National Board Repair "R" symbol stamp in accordance with the regulations set forth in the National Board Inspection Code or the API Pressure Vessel Inspection Code (API-510), as applicable.
- (c) The Director recommends that repairs to non-boiler external piping be made only by an organization with a written quality system manual enlisting the features of a quality system described within the NBIC.

### **Section 1-12 Forced-Circulation Water Heaters**

- (a) All water tube or coil-type water heaters, requiring forced circulation shall have the following:
  - (1) An accepted safety control to prevent burner operation at a flow rate inadequate to protect the water heater unit against overheating, at all allowable firing rates. This safety control shall shut down the burner and prevent restarting until an adequate flow is restored. Positive means shall be provided to determine, during testing, that the accepted safety control has functioned upon an inadequate flow condition.
  - (2) A manually-operated remote shutdown switch or circuit breaker which shall be located just outside the water heater room door and marked for easy identification. If the potential for tampering exists, the switch shall be located just inside the door. If there is more than one door to the water heater room, there shall be a switch located at each door. The emergency shutdown switch or circuit breaker must:
    - (A) Disconnect all power to the burner controls.
    - (B) Be wired in series with all safety controls of the boiler circuit.
    - (C) Allow circulation pumps to continue running.

## ARTICLE 2 INSPECTIONS

### Section 2-1 Inspection Schedule

- (a) All new and reinstalled boilers shall receive an initial certificate inspection by a State Inspector. Upon successful installation, completion of inspection and payment of fees, the Director shall issue a certificate of boiler and pressure vessel inspection.
- (b) Pursuant to 9-4-108 CRS, all owners or responsible parties of regulated boilers shall allow access for inspection of a boiler as requested by a State or Special Inspector.
- (c) Except as permitted in (c)(1) of this Section, power boilers and high-temperature water boilers shall receive a certificate inspection annually, which shall be an internal inspection where construction permits; otherwise, it shall be as complete an inspection as possible. Such boilers shall also be inspected externally on an annual frequency while under normal operating conditions.
  - (1) Alternative internal inspection requirements
    - (A) The inspection frequency for fully-attended power boilers and high-temperature boilers may be extended to 36 months if the following requirements are met and approved by the Director:
      - (1) Continuous boiler water treatment under the direct supervision of persons trained and experienced in water treatment for the purpose of controlling and limiting corrosion and deposits.
      - (2) Record-keeping available for review, showing:
        - (i) The date and time the boiler is out of service and the reason therefore.
        - (ii) Daily analysis of water samples that adequately show the conditions of the water and elements or characteristics that are capable of producing corrosion or other deterioration to the boiler or its parts.
      - (3) Controls, safety devices, instrumentation and other equipment necessary for safe operation are up-to-date, in service, calibrated and meet the requirements of an appropriate safety code for that size boiler, such as NFPA 85, ASME CSD-1, National Board Inspection Code ANSI/NB-23 or jurisdictional requirements and are not compromised.
    - (B) Inspection intervals greater than 36 months may be granted at the discretion of the Director.
- (d) ASME Section IV boilers covered by these rules and regulations shall receive a certificate inspection every two years, with an internal inspection at the discretion of a State or Special Inspector, where construction permits.
  - (1) Steam or vapor boilers shall have an external inspection or an internal inspection every two years.
  - (2) Hot water heating and hot water supply boilers shall have an external inspection every two years and, where construction permits, an internal inspection at the discretion of the State or Special Inspector.

- (3) Water heaters, including hot water storage tanks, shall have an external inspection every two years which shall include an inspection of the function of all controls and devices.
- (4) Indirect-fired jacketed steam kettles shall be inspected when the boiler providing steam to the kettle is inspected, although no certificate of inspection shall be issued by the Director.
- (5) Hot water storage tanks shall be inspected when the hot water heating boiler or hot water supply boiler is inspected, although no separate certificate of inspection will issued by the Director.
- (e) Based upon documentation of such actual service conditions by the owner or user of the operating equipment, the Director may, at his/her discretion, permit variations in the inspection frequency requirements as provided in the Act.
- (f) Historical boilers, defined as steam boilers of riveted construction that are preserved, restored or maintained for hobby or demonstration use, shall be subjected to an initial certificate inspection followed by a certificate inspection every three years thereafter if stored inside a shelter and annually if stored outdoors. The initial inspection shall include ultrasonic thickness testing of all pressure boundaries provided by an authorized non-destructive examination testing entity as defined in NBIC. All thinned areas shall be monitored and recorded on the inspection report both to the owner and Director's electronic copy in the comments section.
- (g) When a boiler, water heater, or direct-fired jacketed steam kettle that is required to have an operating certificate has a noted deficiency or a requirement for repair from an inspector authorized to inspect boilers or pressure vessels in the State of Colorado, the Inspector shall re-inspect the pressure-retaining item within 90 days from the date the requirement or deficiency was first noted. The Inspector may omit this re-inspection at his/her discretion.

### **Section 2-2 Condemning a Boiler**

- (a) Conditions which a State or Special Inspector may determine to be unsafe include: bypassed safety controls, inoperative safety valves, an excessive gas leak and any other condition that, in the Inspector's judgment, means the boiler should be condemned.
- (b) The owner or user must shut down the condemned boiler or pressure vessel as directed by the Inspector. If neither the owner nor user is available, the Inspector will cause the boiler to be shut down.
- (c) The Inspector will affix to a condemned boiler or pressure vessel a notice that it has been condemned and may not be used until satisfactory repairs are made, as determined by a re-inspection by an authorized State or Special Inspector.

### **Section 2-3 Inspections of Exempt Vessels**

State or Special Inspectors may perform inspections of exempt boilers or pressure vessels, upon receiving a written request from the boiler owner and based upon inspector availability. The inspector will notify the boiler owner of any safety code violations. An inspection fee and a certificate fee will be charged according to the schedule established by Article 4 of these regulations.

### **Section 2-4 Inspection of Insured Vessels by a State Inspector**

If an insurance company has not submitted to the Director an inspection report of an insured boiler or pressure vessel by 90 days after the expiration date of the certificate of inspection, the Director may send a State Inspector to perform the certificate inspection. Such an inspection by a State Inspector becomes the certificate inspection, regardless of whether the Special Inspector also performs the inspection, and will be invoiced at the State inspection rate.

### **Section 2-5 Submission of Inspection Reports by Special Inspectors**

Special Inspectors shall file their inspection reports either by entering data into the web-based inspection entry form approved by the Director or by electronic transfer of data between the insurance company and the Director. If the electronic transfer of data option is selected, the insurance company is responsible for all costs to develop and implement this functionality.

### **Section 2-6 Inspections Required before Shipment to Colorado**

Before a new power boiler or a used/secondhand boiler or pressure vessel may be shipped for installation in the Director's jurisdiction, an inspection must be made by an Inspector authorized by the Director or by any Inspector holding a valid National Board Commission. The purpose of this inspection is to assess the integrity of the vessel and assure it meets the original design specification. Prior to installation, an application shall be filed by the owner or user of the boiler or pressure vessel with the Director for approval.

## **ARTICLE 3 CERTIFICATE OF INSPECTION**

### **Section 3-1 Requirement of Certificates**

A valid certificate of inspection is required for all boilers that are included in the inspection fee schedule established by these regulations and that are in operational or stand-by status. A certificate of inspection is not required for a boiler that is out of service or scrapped as defined by these regulations.

### **Section 3-2 Grace Periods**

- (a) A boiler may legally be operated without a current, valid certificate of inspection in the following situations:
  - (1) A new or existing boiler has received its initial inspection by a State Inspector, and:
    - (A) No violations were noted or proper notice has been made that all noted violations have been corrected.
    - (B) An enforcement document has not been issued for non-payment of invoiced inspection fees.
  - (2) An existing boiler has an expired certificate because the boiler was not inspected in a timely manner, provided the owner/owner's representative has not hindered the performance of that inspection.
- (b) The Director may extend the grace period provided there is no undue risk to public safety.
- (c) No grace period applies for any boiler when the certificate of inspection has been suspended for non-compliance with safety requirements of these regulations.

## ARTICLE 4 INSPECTION AND CERTIFICATE FEES

The following inspection fee schedule applies to all inspections performed on or after July 1, 2017.

<b>Table 4-1: Boiler Inspection and Certificate Fees</b>					
<b>Boiler type Inspection type BTU input</b>	<b>Inspection Frequency</b>	<b>Certificate Issued?</b>	<b>Inspection Fee</b>		<b>Certificate Fee</b>
			<b>State Inspector</b>	<b>Insurance Inspector</b>	
<b>All Boilers Initial internal/external inspection</b>	Initial after installation	Yes	\$100	N/A	\$25
<b>ASME Sec I Power Boiler Internal (water-side) inspection</b>					
≥ 5,000,000 btu/hr input	Annual	Yes	\$100	\$15	\$25
≥ 1,000,000 but < 5,000,000 btu/hr input	Annual	Yes	\$85	\$15	\$25
< 1,000,000 btu/hr input	Annual	Yes	\$70	\$15	\$25
<b>ASME Sec I Power Boiler External (fire-side) inspection following the internal certificate inspection</b>					
All capacities	Annual	No	\$50	\$15	N/A
<b>ASME Sec I Power Boiler External (fire-side) inspection where construction does not permit internal inspection</b>					
≥ 5,000,000 btu/hr input	Annual	Yes	\$85	\$15	\$25
≥ 1,000,000 but < 5,000,000 btu/hr input	Annual	Yes	\$75	\$15	\$25
< 1,000,000 btu/hr input	Annual	Yes	\$65	\$15	\$25
<b>ASME Sec IV Heating Boiler External (fire-side) inspection</b>					
≥ 5,000,000 btu/hr input	Every 2 years	Yes	\$85	\$15	\$25
≥ 1,000,000 but < 5,000,000 btu/hr input	Every 2 years	Yes	\$75	\$15	\$25
< 1,000,000 btu/hr input	Every 2 years	Yes	\$65	\$15	\$25
<b>Water heaters inspected as boilers due to BTU input, capacity (gallons), or temperature</b>					
All capacities	Every 2 years	Yes	\$35	\$15	\$25
<b>Direct-fired Jacketed Steam Kettles External inspection</b>					
All capacities	Every 2 years	Yes	\$35	\$15	\$25
<b>Exempt boilers and pressure vessels External inspection</b>					
All capacities	Upon request	No	\$85	\$0	\$0
<b>Historical boiler External inspection</b>					
All capacities	Every 3 years	Yes	\$85	\$15	\$25
<b>Historical boiler Internal inspection</b>					
All capacities	Every 3 years	Yes	\$85	\$15	\$25

## ARTICLE 5 OWNER-USER INSPECTION ORGANIZATIONS

### Section 5-1 Requirement

- (a) Any person, firm, partnership, or corporation operating boilers or pressure vessels in Colorado may seek approval and registration as an owner-user inspection organization by filing an application with the Director on the prescribed forms.
- (b) The applicant shall show the name of the organization, its principal address in the jurisdiction and the name and address of the person or persons having supervision over inspections made by said organization on the application and registration. The applicant shall report changes in supervisory personnel to the director within 30 days after any such change.
- (c) Each owner-user inspection organization shall:
  - (1) Conduct inspections of its non-exempt boilers, utilizing only qualified owner-user inspectors.
  - (2) 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 performed the inspection.
  - (3) Promptly notify the Director of any boiler or pressure vessel that does not meet the requirements for safe operation.
  - (4) Maintain inspection records that include a list of non-exempt boilers, showing the serial number and such 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 during business hours.
  - (5) Transmit a statement annually to the Director, on a date mutually agreed upon. Such statement shall be signed by the individual having supervision over the inspections made during the period covered. The statement shall include the number of boilers inspected during the year and shall certify that each inspection was conducted in accordance with the inspection requirements provided by these regulations.
- (d) A state-issued certificate of inspection is required for boilers inspected by an owner-user inspection organization when all of the requirements in this Section are met.
- (e) 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.

## **ARTICLE 6 ACCIDENT REPORTS AND INVESTIGATIONS**

### **Section 6-1 Reporting Accidents**

- (a) The owner or user shall notify the Director within 24 hours of the explosion of any boiler or pressure vessel, or of any accident involving a boiler, pressure vessel or boiler external piping that involves bodily injury or death to any person. The initial accident report may be by telephone (303-318-8484) or email (cdle\_boiler@state.co.us).
- (b) If the initial report is not on the form required by the State Boiler Section, that form must be completed and submitted within seven days of the explosion.

### **Section 6-2 Prohibition against Removal of Boiler or Pressure Vessel**

In the event of an explosion, personal injury or death, the boiler, pressure vessel, power piping and any associated parts shall not be removed or disturbed before permission has been given by the Director, except for the purpose of saving human life or limiting consequential damage.

### **Section 6-3 Investigation of Accidents**

The Director shall investigate any accident or explosion reported to the Division to determine the cause, if possible, and shall maintain a record of all such reports and investigations.



## **ARTICLE 7 ENFORCEMENT**

### **Section 7-1 Enforcement Program**

The Director provides these regulations to assist the regulated community with maintaining safe and proper operation of regulated boilers and pressure vessels. When a regulated boiler or pressure vessel is found to be out of compliance with these regulations, the Director will pursue enforcement actions. The enforcement process will include requiring the boiler owner to make repairs and other actions to bring the boiler or pressure vessel back into compliance. During and following the enforcement process, the Director will continue to assist the boiler owner to remain in compliance. The enforcement process may include monetary penalties up to \$1,000 per boiler or pressure vessel per day of violation according to §8-20-104 CRS if the enforcement obligations are not implemented according to the required schedule.

#### **Section 7-1-1 Notice of Violation**

- (a) A Notice of Violation (NOV) may be issued when a boiler or pressure vessel is found to be out of compliance with these regulations or §8-20 and 9-4 CRS.
- (b) Pursuant to §9-4-105(3) CRS, the NOV may include condemnation of a boiler or pressure vessel that has been determined to be unsafe, and the NOV shall constitute sufficient notice to cease and desist operation of the boiler or pressure vessel such that no further notice by the Director is required. In the case of a condemned boiler or pressure vessel, a re-inspection by a State or Special Inspector must be performed to document that satisfactory repairs were completed before the boiler or pressure vessel may be operated.
- (c) Within 10 working days after an NOV has been issued, the person issued the NOV may file a written request with the Director for an informal conference regarding the NOV. If the person issued the NOV does not request an informal conference within this time frame, all provisions of the NOV shall become final and not subject to further discussion. If the NOV is not resolved within the prescribed time frame, the Director may then seek judicial enforcement of the NOV, or an Enforcement Order may be issued.

#### **Section 7-1-2 Enforcement Order**

- (a) An Enforcement Order may be issued when the violations included within an NOV are not resolved within the prescribed time frame. The Enforcement Order may include increased fines up to \$1,000 per boiler or pressure vessel for each day of violation pursuant to §8-20-104(4)(a) CRS. In addition, the Enforcement Order may include a cease and desist order per §9-4-108 CRS to discontinue use of the boiler or pressure vessel. The Director shall not issue a cease and desist order for a boiler operated without a valid certificate of inspection if the sole reason for failure to have the certificate of inspection is that the boiler was not inspected in a timely manner.
- (b) Within 10 working days after an Enforcement Order has been issued, the boiler owner may file a written request with the Executive Director for an informal conference regarding the Enforcement Order. If the boiler owner does not request an informal conference within this time frame, all provisions of the Enforcement Order shall become final and not subject to further discussion. If the Enforcement Order is not resolved within the prescribed time frame, the Director may seek judicial enforcement of the Enforcement Order.

#### **Section 7-1-3 Informal Conference**

- (a) Upon receipt of the request, the Director shall provide the boiler owner with notice of the date, time and place of the informal conference. The Director shall preside at the informal conference, during which the boiler owner and Division personnel may present information and arguments regarding the allegations and requirements of the NOV or the Enforcement Order.

(b) Within 20 days after the informal conference, the Director shall issue a Settlement Agreement in which the violations from the NOV or Enforcement Order will be upheld, modified or stricken. The Settlement Agreement will include a schedule of required activity for resolution of the violations. If the terms or schedule in the Settlement Agreement are not satisfied, either an Enforcement Order will be issued or the Director may seek judicial enforcement of the previously-issued Enforcement Order.