

**APPROVED REGULATION OF THE DIVISION OF INDUSTRIAL
RELATIONS OF THE DEPARTMENT OF
BUSINESS AND INDUSTRY**

LCB File No. R033-21

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EXPLANATION – Matter in *italics* is new; matter in brackets ~~omitted material~~ is material to be omitted.

AUTHORITY: §§ 1-6, 8 and 9, NRS 455C.110 and 455C.112; § 7, NRS 455C.112 and 455C.120.

A REGULATION relating to public safety; creating and revising certain definitions; revising and removing certain exceptions to provisions governing boilers and pressure vessels; establishing certain inspection fees for the equipment and apparatuses used in connection with a water heater; providing an inspection schedule of the equipment and apparatuses used in connection with a water heater; providing when an inspector or special inspector may inspect boilers or pressure vessels; requiring that certain persons allow an inspector, upon presentation of credentials, to enter upon the premises containing a boiler or pressure vessel at any reasonable time to carry out an inspection; providing that certain connective pipes are part of the installation of a boiler or pressure vessel and must comply with the requirements for the boiler or pressure vessel; and providing other matters properly relating thereto.

Legislative Counsel’s Digest:

Existing law authorizes the Division of Industrial Relations of the Department of Business and Industry to adopt regulations that apply to the equipment and apparatuses used in connection with a water heater. (NRS 455C.112) Existing law clarifies that such regulations do not apply to the water heater itself if, with regard to the water heater, none of the following limitations are exceeded: (1) an input of heat of 199,999 British thermal units per hour (58,600 watts); (2) a water temperature of 210 degrees Fahrenheit (99 degrees Centigrade); and (3) a water capacity of 120 gallons (450 liters). (NRS 455C.090)

Existing law defines “water heater” to mean an appliance that is: (1) designed primarily to supply hot water for domestic or commercial purposes; and (2) equipped with automatic controls which limit water temperature to a maximum of 210 degrees Fahrenheit (99 degrees Centigrade). (NRS 455C.085) Existing regulations define “potable water heater” and set forth various provisions governing certain water heaters, fired water heaters, storage water heaters, hot water heaters, hot water heating boilers and potable water heaters. (NAC 455C.064, 455C.114, 455C.156, 455C.210, 455C.232, 455C.234) **Section 3** of this regulation clarifies that the statutory definition for “water heater” applies to these existing regulations.

Existing regulations govern boilers and pressure vessels. (Chapter 455C of NAC) **Section 5** of this regulation provides that the term “boiler” includes the equipment and apparatuses used in connection with a water heater, which results in the existing regulations that govern boilers also governing the equipment and apparatuses used in connection with a water heater.

Existing regulations exempt certain boilers, pressure vessels and other appliances from the regulations that govern boilers and pressure vessels. (NAC 455C.114) **Section 6** of this regulation exempts any water heater from these existing regulations if the water heater does not exceed certain limitations as provided in existing law. (NRS 455C.090) **Section 6** additionally removes the exemption for certain boilers or heaters for a pool and revises an exemption for water heaters that meet certain criteria so that the exemption is the same as the statutory exemption for water heaters. (NRS 455C.090)

Existing law requires the Division to prescribe any fee that is necessary to carry out the provisions governing boilers and pressure vessels, including fees for inspections of boilers or pressure vessels. (NRS 455C.120) **Section 7** of this regulation sets forth a fee of: (1) \$110 for the issuance of an initial operating permit for the equipment and apparatuses used in connection with a water heater; and (2) \$50 for the biennial renewal of such an operating permit.

Existing regulations set forth the frequency and scope of inspections of various types of boilers and pressure vessels. (NAC 455C.156) Unless the type of inspection is specified, existing regulations require the inspection to be internal or, for certain inspections, to be made by ultrasonic testing. Existing regulations provide that an external inspection is acceptable if the design or construction of a boiler or pressure vessel is such that an internal inspection is not possible. (NAC 455C.154) **Section 8** of this regulation requires the equipment and apparatuses used in connection with a water heater to be inspected upon installation and at least once every 2 years thereafter. **Section 8** further provides, for all applicable devices, that: (1) an inspector employed by the Mechanical Compliance Section of the Division must perform the initial inspection or the inspection upon installation, as applicable; and (2) an inspector or a special inspector employed or retained as an independent contractor by certain companies or organizations may perform any subsequent inspection. (NAC 455C.060, 455C.100) **Section 8** requires the owner, operator or agent in charge of the premises containing a boiler or pressure vessel to allow an inspector, upon presentation of credentials, to enter upon the premises at any reasonable time to carry out an inspection or subsequent inspection.

Existing regulations provide that all connective pipes that are subjected to pressure emanating from certain appliances and vessels are part of the installation of the boiler or pressure vessel and must comply with the requirements for the boiler or pressure vessel. (NAC 455C.210) **Section 9** of this regulation provides that all connective pipes that are subjected to pressure emanating from the equipment and apparatuses used in connection with a water heater are part of the installation of the boiler or pressure vessel and must comply with the requirements for the boiler or pressure vessel.

Section 1. Chapter 455C of NAC is hereby amended by adding thereto the provisions set forth as sections 2 and 3 of this regulation.

Sec. 2. 1. *“Equipment and apparatuses used in connection with a water heater” means*

the following systems and rooms that are used for fuel-fired water heater systems:

- (a) The emergency shut-off valve described in NAC 455C.206;*
- (b) Carbon monoxide monitoring systems;*
- (c) Air and ventilation systems as described in NAC 455C.270; and*
- (d) Any rooms and any exits from such rooms that are described in NAC 455C.272.*

2. As used in this section, “fuel-fired water heater system” means a system which:

(a) Has a capacity to burn fuel at an input heat of not less than 1,000,000 British thermal units per hour; and

(b) Is comprised of water heaters that individually would be exempt pursuant to subsection 7 of NAC 455C.114 but, together, make up the system.

Sec. 3. *“Water heater” has the meaning ascribed to it in NRS 455C.085.*

Sec. 4. NAC 455C.020 is hereby amended to read as follows:

455C.020 As used in NAC 455C.020 to 455C.300, inclusive, *and sections 2 and 3 of this regulation*, unless the context otherwise requires, the words and terms defined in NAC 455C.022 to 455C.106, inclusive, *and sections 2 and 3 of this regulation* have the meanings ascribed to them in those sections.

Sec. 5. NAC 455C.026 is hereby amended to read as follows:

455C.026 “Boiler” has the meaning ascribed to it in NRS 455C.020 ~~H~~ *and includes the equipment and apparatuses used in connection with a water heater.*

Sec. 6. NAC 455C.114 is hereby amended to read as follows:

455C.114 The provisions of NAC 455C.020 to 455C.300, inclusive, *and sections 2 and 3 of this regulation* do not apply to:

1. Boilers and pressure vessels governed by the provisions of chapter 512 of NRS and chapter 512 of NAC.
2. Boilers and pressure vessels installed or used in a single-family residence unless the boiler or pressure vessel is a:
 - (a) Hot water supply boiler;
 - (b) Hot water supply tank that has a storage capacity which exceeds 120 gallons;
 - (c) Low-pressure heating boiler;
 - (d) Power boiler; or
 - (e) Pressure vessel that:
 - (1) Operates at pressures that exceed 15 PSIG; or
 - (2) Has a storage capacity of 5 cubic feet or more by volume.
3. Boilers and pressure vessels under the control of the Federal Government.
4. Unfired pressure vessels meeting the requirements of the United States Department of Transportation for the shipment of liquids or gases under pressure.
5. Unfired pressure vessels having an inside diameter not exceeding 6 inches (152 millimeters).
6. Unfired pressure vessels containing cold water under pressure, including those containing air, the compression of which serves only as a cushion.
7. A ~~fire storage~~ water heater ~~that is directly fired with oil, gas or electricity,~~ or a pressure vessel containing water heated by steam or by any other indirect means, if none of the following limitations is exceeded:
 - (a) An input of heat of 199,999 British thermal units per hour (58,600 watts).
 - (b) A water temperature of 210 degrees Fahrenheit (99 degrees Centigrade).

(c) A water capacity of 120 gallons (450 liters).

8. Unfired pressure vessels that do not exceed 5 cubic feet in volume and 15 PSIG.

9. An unfired pressure vessel that may be classified as a pressure container which is an integral part or component of a rotating or reciprocating mechanical device, including a pump, compressor, turbine, generator, engine and hydraulic or pneumatic cylinder where the primary considerations of stresses in the design, or both, are derived from the functional requirements of the device.

10. Unfired pressure vessels used for the storage of compressed air only.

11. A hot water heater constructed of continuous coils, which is used only to produce steam vapor to clean machinery, equipment and buildings, if:

(a) The tubing or pipe size does not exceed three-fourths of an inch in diameter and drums and headers are not attached;

(b) The nominal water containing capacity does not exceed 6 gallons;

(c) The water temperatures do not exceed 350 degrees Fahrenheit; and

(d) Steam is not generated within the coil,

↪ except that the provisions of NAC 455C.020 to 455C.300, inclusive, *and sections 2 and 3 of this regulation* do apply to safety relief valves on a hot water heater constructed of continuous coils.

12. Unfired pressure vessels and piping containing liquid petroleum gas and liquid natural gas.

~~13. — A boiler or heater for a pool, if:~~

~~—(a) The supply or return line has no stop valves installed; and~~

~~—(b) It is impossible for the unit to build pressure in excess of 15 pounds per square inch.]~~

Sec. 7. NAC 455C.118 is hereby amended to read as follows:

455C.118 1. Except as otherwise provided in subsections 3 and 4, the Mechanical Compliance Section shall charge and collect the following fees:

Certificates	Fees
For the issuance of a certificate.....	\$100
For the renewal of a certificate.....	50

Power Boilers	Fees
If the power boiler has 250 square feet or less of heating surface:	
For the issuance of an initial operating permit, based on a preliminary and final inspection by an inspector	\$160
For the annual renewal of an operating permit, based on one internal inspection and one external inspection or two external inspections	110

If the power boiler has more than 250 square feet but not more than 750 square feet of heating surface:	
For the issuance of an initial operating permit, based on a preliminary and final inspection by an inspector	160
For the annual renewal of an operating permit, based on one internal inspection and one external inspection or two external inspections	120

If the power boiler has more than 750 square feet of heating surface:

Power Boilers

Fees

For the issuance of an initial operating permit, based on a preliminary and final inspection by an inspector 160

For the annual renewal of an operating permit, based on one internal inspection and one external inspection or two external inspections 140

Equipment and Apparatuses Used in Connection with a Water Heater *Fees*

For the issuance of an initial operating permit, based on an inspection by an inspector..... \$110

For the biennial renewal of an operating permit, based on an inspection by an inspector or a special inspector..... 50

Low-Pressure Steam Heating Boilers

Fees

If the low-pressure steam heating boiler has less than 500 square feet of heating surface:

For the issuance of an initial operating permit, based on a preliminary and final inspection by an inspector \$160

For the annual renewal of an operating permit, based on one internal inspection and one external inspection or two external inspections 60

Low-Pressure Steam Heating Boilers

Fees

If the low-pressure steam heating boiler has 500 square feet or more of heating surface:

- For the issuance of an initial operating permit, based on a preliminary and final inspection by an inspector 160
- For the annual renewal of an operating permit, based on one internal inspection and one external inspection or two external inspections 65

Low-Pressure Hot Water Heating Boilers

Fees

If the low-pressure hot water heating boiler has less than 500 square feet of heating surface:

- For the issuance of an initial operating permit, based on a preliminary and final inspection by an inspector \$160
- For the biennial renewal of an operating permit, based on one internal inspection or one external inspection..... 60

If the low-pressure hot water heating boiler has 500 square feet or more of heating surface:

- For the issuance of an initial operating permit, based on a preliminary and final inspection by an inspector 160
- For the biennial renewal of an operating permit, based on one internal inspection or one external inspection..... 65

Hot Water Supply Boilers Fees

For the issuance of an initial operating permit for a hot water supply boiler, based on a preliminary and final inspection by an inspector	\$110
For the biennial renewal of an operating permit for a hot water supply boiler, based on one internal inspection or one external inspection	50

Unfired Pressure Vessels Fees

For the issuance of an initial operating permit for an unfired pressure vessel, based on a preliminary and final inspection by an inspector.....	\$90
For the renewal of an operating permit for an unfired pressure vessel, based on one internal inspection or one external inspection.....	40

Refrigeration Pressure Vessels Fees

If the output capacity of the system of refrigeration is less than 100 tons:

For the issuance of an initial operating permit for the refrigeration pressure vessel, based on a preliminary and final inspection by an inspector	\$80
For the renewal of an operating permit for the refrigeration pressure vessel, based on one internal inspection or one external inspection	50

If the output capacity of the system of refrigeration is 100 tons or more:

Refrigeration Pressure Vessels

Fees

- For the issuance of an initial operating permit for the refrigeration pressure vessel, based on a preliminary and final inspection by an inspector 90
- For the renewal of an operating permit for the refrigeration pressure vessel, based on one internal inspection or one external inspection 60

Boilers or Pressure Vessels Installed or Used in Single-Family Residences

Fees

- For the preliminary and final inspections of a boiler or pressure vessel that is installed or used in a single-family residence that are required to be made at the time of installation pursuant to NAC 455C.156..... \$80
- For each subsequent inspection of the boiler or pressure vessel that is requested by the owner of the boiler or pressure vessel..... 40

Renewal of Operating Permits for Boilers or Pressure Vessels

Inspected by Special Inspectors

Fees

- For the renewal of an operating permit for a boiler or pressure vessel if the operating permit is renewed based on a report of an inspection made by a special inspector \$20

Special Services

Fees

For any services rendered by the Mechanical Compliance Section to assist a person in complying with the provisions of this chapter, including, without limitation, an inspection other than an inspection required by NAC 455C.156 and the review of plans and specifications before those plans and specifications are submitted to the Mechanical Compliance Section pursuant to NAC 455C.182:

Per hour charge for those services provided during the first 8 hours of a day \$40

Per hour charge for those services provided after the first 8 hours of the day 60

2. In addition to paying the fees imposed by this section for services rendered by the Mechanical Compliance Section to assist a person in complying with the provisions of this chapter, a person who requests that the Mechanical Compliance Section perform such services must pay all necessary expenses incurred by the Mechanical Compliance Section in fulfilling the request.

3. The fees imposed by this section for operating permits or inspections of boilers or pressure vessels do not apply to boilers or pressure vessels that are owned by the United States, the State of Nevada or any political subdivision of the State of Nevada, including, without limitation, any county, city, municipality, district or commission.

4. The fees imposed by this section for a request for services by the Mechanical Compliance Section to assist a person in complying with the provisions of this chapter and any necessary expenses incurred by the Mechanical Compliance Section in fulfilling the request will not be

charged to the United States, the State of Nevada or any political subdivision of the State of Nevada, including, without limitation, any county, city, municipality, district or commission.

Sec. 8. NAC 455C.156 is hereby amended to read as follows:

455C.156 1. A power boiler or a high-pressure, high-temperature water boiler must be inspected upon installation and must have an internal inspection, if the construction and design of the boiler so allows, at least once each year thereafter, and an external inspection approximately 6 months after the date of the internal inspection. If an internal inspection is not possible, such a boiler must have an external inspection at least once every 6 months.

2. A low-pressure steam heating boiler must be inspected upon installation and at least once each year thereafter. The inspection must be:

(a) An internal inspection, if the construction and design of the boiler so allows and the inspector or special inspector so requests; or

(b) An external inspection that includes operational testing of all controls and safety devices.

3. Except as otherwise provided in subsection 4, a low-pressure hot water heating boiler and a hot water supply boiler must be inspected upon installation and at least once every 2 years thereafter. The inspection must be:

(a) An internal inspection, if the construction and design of the boiler so allows and the inspector or special inspector so requests; or

(b) An external inspection that includes operational testing of all controls and safety devices.

4. A potable water heater must have an external inspection at least once every 2 years. The external inspection must include operational testing of all controls and safety devices if the installation and construction of the potable water heater so allows.

5. Any other fired pressure vessel for which a frequency of inspection is not specified in subsections 1 to 4, inclusive, must be inspected upon installation and at least once each year thereafter. The inspection must be:

- (a) An internal inspection, if the construction and design of the pressure vessel so allows;
- (b) An external inspection that includes operational testing of all controls and safety devices, if the installation and construction of the pressure vessel so allows; or
- (c) An external inspection that includes operational testing of each control and safety device that it is possible to test given the installation and construction of the pressure vessel.

6. An unfired pressure vessel must be inspected upon installation and at least once every 4 years thereafter. The inspection must be:

- (a) An internal inspection, if the construction and design of the pressure vessel so allows; or
- (b) An external inspection that includes operational testing of all controls and safety devices.

7. A refrigeration pressure vessel must be inspected upon installation and at least once every 4 years thereafter. The inspection must be:

- (a) An internal inspection, if the construction and design of the pressure vessel so allows; or
- (b) An external inspection that includes operational testing of all controls and safety devices.

8. A boiler or pressure vessel installed or used in a single-family residence must be inspected by an inspector upon installation. The inspection must include a preliminary and a final inspection and must be an internal inspection, if the construction and design of the boiler or pressure vessel so allows, or an external inspection that includes operational testing of all controls and safety devices. If the owner of the boiler or pressure vessel wishes to have an inspector perform any subsequent inspections of the boiler or pressure vessel, he or she must submit a written request for such an inspection to the Mechanical Compliance Section.

9. *The equipment and apparatuses used in connection with a water heater must be inspected upon installation and at least once every 2 years thereafter.*

10. An inspector or special inspector may require any boiler or pressure vessel to be prepared for inspection in the manner set forth in NAC 455C.158 if, in his or her opinion, an inspection is necessary to determine whether the boiler or pressure vessel is operating in a safe manner.

~~10.~~ 11. An inspection organization that has been authorized by the Mechanical Compliance Section to inspect its boilers and pressure vessels may request approval from the Mechanical Compliance Section to inspect its boilers and pressure vessels at a different interval.

~~11.~~ 12. Upon application from a petroleum company, chemical plant, public utility or other employer considered by the Mechanical Compliance Section as having a program acceptable to the Mechanical Compliance Section for preventive maintenance and examination, an operating permit that allows an extension of time between required internal inspections may be granted if the power boiler is inspected by external inspections at intervals of approximately 6 months. The application for the operating permit that allows an extension of time must be submitted in writing at least 45 days before the required internal inspection. The application must include the history of the power boiler or, if the power boiler is newly installed, of a similar boiler, substantiating that there is no significant deterioration from scaling, corrosion, erosion or overheating. Points of reference established by the owner of the power boiler or an authorized inspection entity at the time of the first inspection must be used to determine the thickness of the walls of the power boiler. If the application is approved after the internal inspection of each power boiler, a record showing the total corrosion and any other conditions that need correction must be submitted to the Mechanical Compliance Section.

~~H2~~ 13. An operating permit issued pursuant to subsection ~~H1~~ 12 expires 1 year after the date of an internal inspection. Before the expiration of the permit, the boiler must be inspected by an external inspection conducted by an inspector or special inspector who will review the operation logs and records of water treatment. If the owner of the power boiler or his or her agent applies for an extension of an operating permit issued pursuant to subsection ~~H1~~ 12, the inspector or special inspector shall submit a report of inspection and recommendations to the Mechanical Compliance Section. If the Mechanical Compliance Section approves the application, it may extend the operating permit for a period not to exceed 6 months. Before the expiration date of the extension, the owner or his or her agent must apply again for an extension and the boiler must again be inspected by an external inspection conducted by an inspector or special inspector. A second extension may be issued for an additional period of 6 months after which the boiler must be inspected by an internal inspection.

14. An inspector shall perform the initial inspection or the inspection upon installation, as applicable. An inspector or special inspector may perform any subsequent inspection.

15. The owner, operator or agent in charge of the premises containing a boiler or pressure vessel shall allow an inspector, upon presentation of credentials, to enter upon the premises at any reasonable time to carry out an inspection or subsequent inspection.

Sec. 9. NAC 455C.210 is hereby amended to read as follows:

455C.210 All connective pipes that are subjected to pressure emanating from:

1. A heating boiler;
2. A hot water supply boiler;
3. A fired storage water heater;
4. A power or process boiler; ~~or~~

5. *The equipment and apparatuses used in connection with a water heater; or*

6. An unfired pressure vessel,

↪ are part of the installation of the boiler or pressure vessel and must comply with the requirements for the boiler or pressure vessel. The inspection of the initial installation of such pipes must be performed by an inspector.