

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

LCB FILE NO. R026-23I

**The following document is the initial draft regulation proposed
by the agency submitted on 07/27/2023**

**PROPOSED REGULATION OF THE
DIVISION OF INDUSTRIAL RELATIONS OF
THE
DEPARTMENT OF BUSINESS AND
INDUSTRY LCB File No.**

Unassigned

July , 2023

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

AUTHORITY: §§ NRS 512.131.

A REGULATION relating to mine health and safety;

Legislative Counsel’s Digest:

Section 1. Chapter 512 of NAC is hereby amended by adding thereto the provisions as follows:

NAC 512.xxx The following provisions apply to NAC 512.500 to NAC 512.595 inclusive:

- 1. Clearance: NAC 455C.250 and NAC 455.252;*
- 2. Platforms and runways NAC 455C.204;*
- 3. Safety Appliances NAC 455C.296;*
- 4. Qualifications of Attendant NAC 455C.268;*
- 5. Supervision NAC 455C.274; and*
- 6. Contractor’s license required NAC 455C.300.*

Sec. 2. NAC 512.500 is hereby amended to read as follows:

NAC 512.500 Definitions. (NRS 455C.110, 512.131) *The definitions of words and terms listed in NAC 455C.020 to NAC 455C.106 apply to NAC 512.500 to NAC 512.595 inclusive.* [~~As used in NAC 512.500 to 512.594, inclusive, unless the context otherwise requires, the words and terms defined in NAC 512.502 to 512.558, inclusive, have the meanings ascribed to them in those sections.~~]

Sec. 3. NAC 512.502 is hereby amended to read as follows:

NAC 512.502 “Authorized inspection entity” defined. (NRS 455C.110, 512.131)

“Authorized inspection entity” means:

1. The *Mechanical Compliance Section or the* Enforcement Section;
2. An insurance company that:
 - (a) Is licensed in this State to write insurance for a boiler or pressure vessel; and
 - (b) Employs or contracts with a special inspector who has been issued a certificate; or
3. An inspection organization that employs or contracts with a special inspector who has been issued a certificate.

Sec. 4. NAC 512.504, NAC 512.506, NAC 512.508, NAC 512.510, NAC 512.512, NAC 512.514, NAC 512.520, NAC 512.522, NAC 512.524, NAC 512.526, NAC 512.528, NAC 512.530, NAC 512.532, NAC 512.534, NAC 512.536, NAC 512.538, NAC 512.540, NAC 512.542, NAC 512.544, NAC 512.546, NAC 512.548, NAC 512.550, NAC 512.552, NAC 512.554, NAC 512.555, NAC 512.556, NAC 512.558, are hereby repealed.

Sec. 5. NAC 512.562 is hereby amended to read as follows:

NAC 512.562 Adoption by reference of certain publications, codes and sections of codes. (NRS 455C.110, 512.131)

1. The Administrator hereby adopts by reference the *publications, codes and sections of codes listed in NAC 455C.108. National Board Inspection Code, 2001 edition and addenda, and any subsequent edition and addenda issued by the National Board of Boiler and Pressure Vessel Inspectors, unless the edition or addenda is disapproved by the Administrator within 60 days after the date the edition is published by the National Board of Boiler and Pressure Vessel Inspectors. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. A copy of the 2001 edition may be obtained from the National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, Ohio 43229, for the price of \$85.*

~~2. The Administrator hereby adopts by reference the following sections of the ASME Boiler and Pressure Vessel Code, 2001 edition and addenda, and of any subsequent edition and addenda issued by the American Society of Mechanical Engineers, unless the edition or addenda is disapproved by the Administrator within 60 days after the date the edition is published by the American Society of Mechanical Engineers. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. A copy of the sections of the 2001 edition and its addenda adopted by reference in this subsection may be obtained from ASME International, 22 Law Drive, P.O. Box 2900, Fairfield, New Jersey 07007-2900, for the price indicated:~~

| | Cost |
|--|-------|
| (a) Section I, Power Boilers | \$295 |
| (b) Section II, Part D: Properties | 435 |
| (c) Section IV, Rules for Construction of Hearing Boilers | 280 |

~~(d) Section V, Nondestructive Examination.....315~~

~~(e) Section VI, Recommended Rules for the
Care and Operation of Heating Boilers.....175~~

~~(f) Section VII, Recommended Guidelines for
Care of Power Boilers 180~~

~~(g) Section VIII, Pressure Vessels—Division
1.....460~~

~~(h) Section IX, Welding and Brazing
Qualifications 330~~

~~(i) Section X, Fiber Reinforced Plastic
Pressure Vessels250~~

~~—3.— The Administrator hereby adopts by reference *Controls and Safety Devices for Automatically Fired Boilers*, CSD 1, 2002 edition, and any subsequent edition issued by the American Society of Mechanical Engineers, unless the edition is disapproved by the Administrator within 60 days after the date the edition is published by the American Society of Mechanical Engineers. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. This publication applies to automatically fired boilers which are directly fired with gas, oil, a combination of gas and oil or electricity. The 2002 edition may be obtained from ASME International, 22 Law Drive, P.O. Box 2900, Fairfield, New Jersey 07007-2900, for the price of \$56.~~

~~—4.— The Administrator hereby adopts by reference the *Power Piping Code*, B31.1, 2001 edition and addenda, and any subsequent edition and addenda issued by the American Society of~~

~~Mechanical Engineers, unless the edition is disapproved by the Administrator within 60 days after the date the edition is published by the American Society of Mechanical Engineers. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. The 2001 edition and its addenda may be obtained from ASME International, 22 Law Drive, P.O. Box 2900, Fairfield, New Jersey 07007-2900, for the price of \$230.~~

~~—5.— The Administrator hereby adopts by reference the *National Fuel Gas Code*, ANSI Z223.1/NFPA 54, 2002 edition, and any subsequent edition issued by the National Fire Protection Association, unless the edition is disapproved by the Administrator within 60 days after the date the edition is published by the National Fire Protection Association. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. The 2002 edition may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112, for the price of \$69.~~

~~—6.— The Administrator hereby adopts by reference the *National Electrical Code*, ANSI/NFPA 70, 2002 edition and any subsequent edition issued by the American National Standards Institute, unless the edition is disapproved by the Administrator within 60 days after the date the edition is published by the American National Standards Institute. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. The 2002 edition may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112, for the price of \$284.~~

~~—7.— The Administrator hereby adopts by reference the *Uniform Building Code*, 1997 edition, and any subsequent editions issued by the International Conference of Building Officials, unless the edition is disapproved by the Administrator within 60 days after the date the edition is~~

~~published by the International Conference of Building Officials. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. The 1997 edition may be obtained from the International Conference of Building Officials, 5360 South Workman Mill Road, Whittier, California 90601, for the price of \$227.~~

~~—8.— The Administrator hereby adopts by reference the *Uniform Mechanical Code*, 2000 edition, and any subsequent edition issued by the International Conference of Building Officials, unless the edition is disapproved by the Administrator within 60 days after the date the edition is published by the International Conference of Building Officials. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. The 2000 edition may be obtained from the International Conference of Building Officials, 5360 South Workman Mill Road, Whittier, California 90601, for a cost of \$70.~~

~~—9.— The Administrator hereby adopts by reference the *Uniform Fire Code*, 2000 edition, and any subsequent editions issued by the International Conference of Building Officials, unless an edition is disapproved by the Administrator within 60 days after the date the edition is published by the International Conference of Building Officials. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. The 2000 edition may be obtained from the International Conference of Building Officials, 5360 South Workman Mill Road, Whittier, California 90601, for the price of \$94.95.~~

~~—10.— The Administrator hereby adopts by reference the *Uniform Plumbing Code*, 2000 edition, and any subsequent edition issued by the International Association of Plumbing and Mechanical Officials, unless the edition is disapproved by the Administrator within 60 days after the date the edition is published by the International Association of Plumbing and Mechanical Officials. The most current edition that has been approved by the Administrator may be determined by contacting~~

~~the Office of the Administrator. The 2000 edition may be obtained from the International Association of Plumbing and Mechanical Officials, 20001 Walnut Drive South, Walnut, California 91789-2825, for the price of \$89.~~

~~—11. The Administrator hereby adopts by reference the *Standard for the Installation of Oil-Burning Equipment*, ANSI/NFPA 31, 2001 edition, and any subsequent edition issued by the National Fire Protection Association, unless the edition is disapproved by the Administrator within 60 days after the date the edition is published by the National Fire Protection Association. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. The 2001 edition may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112, for the price of \$59.~~

~~—12. The Administrator hereby adopts by reference the *Safety Standard for Refrigeration Systems*, ANSI/ASHRAE 15, 2001 edition, and any subsequent edition issued by the American Society of Heating, Refrigeration and Air-Conditioning Engineers, unless the edition is disapproved by the Administrator within 60 days after the date the edition is published by the American Society of Heating, Refrigeration and Air-Conditioning Engineers. The most current edition that has been approved by the Administrator may be determined by contacting the Office of the Administrator. The 2001 edition may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112, for the price of \$46.]~~

Sec. 6. NAC 512.564 is hereby amended to read as follows:

NAC 512.564 Requirements for operation. (NRS 455C.110, 512.131) A new boiler, pressure vessel or water heater must not be operated in this State unless it is designed, constructed, inspected *by the Enforcement Section or the Mechanical Compliance Section* and installed in accordance with the *Code* and the provisions of NAC 512.500 to 512.594, inclusive.

Sec. 7. NAC 512.579, 512.581, 512.583, NAC 512.587, NAC 512.589, NAC 512.590, NAC 512.592, and NAC 512.594 are hereby repealed.

TEXT OF REPEALED SECTIONS

NAC 512.504 “Boiler” defined. (NRS 455C.110, 512.131) “Boiler” means a closed vessel in which water or another liquid is heated, steam or vapor is generated or steam is superheated, or any combination thereof, under pressure or vacuum, for use external to the boiler by the direct application of energy from the combination of fuels or from electricity. The term includes, without limitation, a fired unit for heating or vaporizing liquids other than water if the unit is separate from the processing system and is complete within itself.

NAC 512.506 “Boiler inspector” defined. (NRS 455C.110, 512.131) “Boiler inspector” means a person who:

1. Inspects boilers or pressure vessels;
2. Holds a commission; and
3. Is employed or retained as an independent contractor by an authorized inspection entity.

NAC 512.510 “Code” defined. (NRS 455C.110, 512.131) “Code” means:

1. The Boiler and Pressure Vessel Code of the American Society of Mechanical Engineers with amendments and interpretations adopted by the Council of the Society and approved and adopted by the Division;
2. A code relating to the construction of boiler and pressure vessels that has been approved by the National Board and adopted by the Division; or
3. The National Board Inspection Code.

NAC 512.512 “Commission” defined. (NRS 455C.110, 512.131) “Commission” means the commission issued by the National Board to a person who is authorized to inspect boilers or pressure vessels.

NAC 512.514 “Contractor” defined. (NRS 455C.110, 512.131) “Contractor” has the meaning ascribed to it in NRS 624.020.

NAC 512.520 “Heat exchanger” defined. (NRS 455C.110, 512.131) “Heat exchanger” means a device for transferring energy in the form of heat from a warmer medium to a cooler medium, including, without limitation, a radiator.

NAC 512.522 “Heating boiler” defined. (NRS 455C.110, 512.131) “Heating boiler” means:

1. A steam or vapor boiler intended for operation at pressures not exceeding 15 PSIG; or

2. A hot water boiler intended for operation at pressures not exceeding 160 PSIG or temperatures of not more than 250°F,
↳ that is not used to heat potable water except through a heat exchanger.

NAC 512.524 “High-pressure, high-temperature boiler” defined. (NRS 455C.110, 512.131) “High-pressure, high-temperature boiler” means a boiler in which water or other liquid is heated and which is intended for operation at pressures in excess of 160 PSIG or at temperatures in excess of 250°F. The term includes, without limitation, a miniature boiler.

NAC 512.526 “Hot water supply boiler” defined. (NRS 455C.110, 512.131) “Hot water supply boiler” means a boiler that is completely filled with water that furnishes hot water to be used outside the boiler at pressures not exceeding 160 PSIG or at temperatures not exceeding 250°F at or near the boiler outlet and which:

1. Uses a storage tank to supply hot water to the system;
2. Fires on demand to heat water which is supplied directly into the system; or
3. Is fired at a rate of not less than 200,000 British thermal units.

NAC 512.528 “Inspection organization” defined. (NRS 455C.110, 512.131) “Inspection organization” means an owner or user of pressure-retaining items who maintains an established inspection program and whose organization and inspection procedures comply with the National Board Inspection Code and have been approved by the Enforcement Section.

NAC 512.530 “Miniature boiler” defined. (NRS 455C.110, 512.131) “Miniature boiler” means a power boiler or high-pressure, high-temperature boiler that does not exceed the following limits:

1. An inside diameter of the shell of 16 inches (410 millimeters);
2. Except for electric boilers, a heating surface of 20 square feet (1.9 square meters);
3. A gross volume, not including casing and insulation, of 5 cubic feet (140 liters); and
4. A maximum allowable working pressure of 100 PSIG.

NAC 512.532 “National Board” defined. (NRS 455C.110, 512.131) “National Board” means the National Board of Boiler and Pressure Vessel Inspectors.

NAC 512.534 “National Board Inspection Code” defined. (NRS 455C.110, 512.131) “National Board Inspection Code” means the manual for boiler and pressure vessel inspectors published by the National Board and adopted by reference in NAC 512.562.

NAC 512.536 “New boiler or pressure vessel installation” defined. (NRS 455C.110, 512.131) “New boiler or pressure vessel installation” means the construction, installation or placing into operation of or contracting for any boiler or pressure vessel on or after January 28, 2000.

NAC 512.538 “Owner or user” defined. (NRS 455C.110, 512.131) “Owner or user” means any person who is responsible for the safe installation, operation or maintenance of any boiler or pressure vessel within this State.

NAC 512.540 “Power boiler” defined. (NRS 455C.110, 512.131) “Power boiler” means a boiler in which steam or other vapor is generated at a pressure of more than 15 PSIG. The term includes, without limitation, a high-pressure, high-temperature boiler and a miniature boiler.

NAC 512.542 “Pressure vessel” defined. (NRS 455C.110, 512.131) “Pressure vessel” means a vessel in which pressure is obtained from an external source or by the application of heat from a direct or indirect source. The term includes, without limitation, an unfired steam boiler.

NAC 512.544 “Pressure-retaining item” defined. (NRS 455C.110, 512.131) “Pressure-retaining item” means a boiler, pressure vessel, piping or material used for the containment of:

1. Internal pressure;
2. Pressure obtained from an external source;
3. Pressure obtained by the application of heat from a direct source; or
4. Any combination of subsections 1, 2 and 3.

NAC 512.546 “PSIG” defined. (NRS 455C.110, 512.131) “PSIG” means pounds per square inch gauge.

NAC 512.548 “Relief valve” defined. (NRS 455C.110, 512.131) “Relief valve” means an automatic pressure-relieving device as described in section I, IV or VII of the Boiler and Pressure Vessel Code of the American Society of Mechanical Engineers that is used primarily for liquid service.

NAC 512.550 “Repair” defined. (NRS 455C.110, 512.131) “Repair” means the work necessary to restore a pressure-retaining item to a safe and satisfactory operating condition if there is no deviation from the original design.

NAC 512.552 “Safety relief valve” defined. (NRS 455C.110, 512.131) “Safety relief valve” means a relieving device that is:

1. Automatically pressure actuated; and
2. Suitable for use as a safety valve or relief valve, depending on the application.

NAC 512.554 “Safety valve” defined. (NRS 455C.110, 512.131) “Safety valve” means an automatic pressure-relieving device that:

1. Is actuated by the static pressure upstream of the valve; and
2. Has a full-opening spring-pop type action that is used for gas or vapor service.

NAC 512.555 “Special inspector” defined. (NRS 455C.110, 512.131) “Special inspector” means a boiler inspector who holds a certificate and who is employed or retained as an independent contractor by:

1. An insurance company that is licensed in this State to write insurance for a boiler or pressure vessel; or
2. An inspection organization.

NAC 512.556 “Unfired steam boiler” defined. (NRS 455C.110, 512.131) “Unfired steam boiler” means an unfired pressure vessel or a system of unfired pressure vessels intended for operation at a pressure in excess of 15 PSIG to produce and control an output of thermal energy. The term includes, without limitation, a boiler that heats water with waste heat.

NAC 512.558 “Water heater” defined. (NRS 455C.110, 512.131) “Water heater” means a hot water supply boiler or a closed vessel in which water is heated by the combustion of fuel, electricity or any other source and withdrawn from the heater for use outside the system of the water heater at pressures not exceeding 160 PSIG and which includes, without limitation, any control or device necessary to prevent the water temperature from exceeding 210°F (99°C).

NAC 512.579 Clearance: Generally. (NRS 455C.110, 512.131) Except as otherwise provided in NAC 512.577 and 512.581, if a boiler is replaced or a new boiler is installed in an existing or new building, a minimum height of at least 3 feet must be provided between the top of the boiler, excluding appurtenances, and the ceiling and at least 3 feet between any side of the boiler and any adjacent wall or other structure. A boiler or pressure vessel that has a manhole must have a 5-foot clearance from the opening of the manhole to any wall, ceiling or piping that will prevent a person from entering the boiler or pressure vessel. A boiler or pressure vessel must be located so that adequate space will be provided for the proper operation of the boiler or pressure vessel and its appurtenances, for the inspection of all surfaces, tubes, waterwalls, economizers, piping, valves and other equipment, and for the necessary maintenance and repair and the replacement of tubes. When a pressure vessel is installed or replaced, there must be an area of unobstructed clearance which is at least 18 inches wide and provides access for inspection, maintenance and repair. Clearance for repairs and cleaning may be provided through a door or access panel into another area if the door or access panel is large enough to allow the repairs and cleaning to be performed adequately.

NAC 512.581 Clearance: Fired storage and fired coil water heater. (NRS 455C.110, 512.131) The clearance between a wall or other structure and a fired storage and fired coil water heater must be at least that specified by the manufacturer.

NAC 512.583 Platforms or runways. (NRS 455C.110, 512.131)

1. If a valve or any appurtenance of a boiler or pressure vessel requires frequent manipulation or is so located that it cannot be reached or operated from the floor, a platform or other safe means of operation must be provided. If a platform or runway is used, it must be at least 24 inches wide and be provided with standard handrails and toeboards and have at least 7 feet 6 inches of headroom. A runway must have at least two means of exit remotely located from one another and be connected to a permanent stairway or incline ladder leading to the floor.

2. When necessary for safety, a steel runway or platform of standard construction must be installed across the tops of adjacent boilers or pressure vessels or at some other convenient level to afford safe access. A runway must have at least two means of exit, remotely located from one another.

NAC 512.587 Safety appliances: Generally. (NRS 455C.110, 512.131) Each pressure vessel must be protected by safety or relief valves and indicating and controlling devices that will

ensure its safe operation. These valves and devices must be so constructed, located and installed that the valves and devices cannot be rendered inoperative readily. The relieving capacity of safety valves must be sufficient to prevent a rise of pressure in the vessel of more than 10 percent above the highest pressure to which any device to relieve pressure is set, but in no case more than 6 percent above the maximum allowable working pressure. The opening (set) pressure of the device to relieve pressure must be no greater than the maximum allowable working pressure of the vessel.

NAC 512.589 Safety appliances: Capacity. (NRS 455C.110, 512.131)

1. The capacity of a safety valve that is designed primarily for steam or vapor service must be rated in pounds per hour.

2. The capacity of a relief valve that is designed primarily for liquid service must be rated in British thermal units per hour. The capacity of a relief valve used for liquid service with cold water may be rated in gallons per hour.

3. The capacity of a safety relief valve that is designed for use in steam or vapor and liquid service must be rated in pounds per hour when used for steam or vapor service and in British thermal units per hour when used for heated liquid service.

4. A pressure relief valve that is used for air service must be rated in PSIG and square cubic feet per minute.

NAC 512.590 Qualifications of attendant. (NRS 455C.110, 512.131) A person is qualified to attend a power boiler or high-pressure, high-temperature boiler if the person has the technical training, experience and knowledge necessary to start, operate and shut down the boiler.

NAC 512.592 Boilers: Supervision. (NRS 455C.110, 512.131)

1. Except as otherwise provided in subsection 5, a high-pressure, high-temperature boiler and a power boiler must be attended by a person who meets the qualifications set forth in NAC 512.590.

2. A steam boiler must be attended by a person who meets the qualifications set forth in NAC 512.590, unless the boiler is equipped with:

- (a) A mechanism that cuts off fuel if the level of water in the boiler or pressure vessel is low;
- (b) An automatic feed water regulator;
- (c) Fireside regulators and controls;
- (d) An audible alarm to indicate low water; and
- (e) A pressure control.

3. The attendant shall check personally the operation of the boiler, the necessary auxiliaries and the level of water in the boiler at intervals necessary to ensure the safe operation of the boiler but not less than once every 60 minutes or for intervals in excess of the time required to evaporate the water from the normal operating level to the lowest water level permissible if the feed water is shut off or the boiler is forced to its maximum capacity. A log noting the time of all checks and observations must be kept in the boiler room.

4. If attendance of the boiler is required pursuant to this section, a time clock to start or stop the operation of the boiler automatically must not be used, unless the timing mechanism is a device or system that has been approved by the Administrator.

5. A high-pressure, high-temperature boiler and a power boiler do not need to be attended, if the boiler is equipped with the following protective devices which are functioning properly, as

required by the applicable provisions of Controls and Safety Devices for Automatically Fired Boilers, CSD-I, which is adopted by reference pursuant to NAC 512.562:

(a) If the boiler is operated at less than supercritical pressure:

(1) A mechanism that cuts off fuel if the level of water in the boiler or pressure vessel is low;

(2) An automatic feed regulator;

(3) Fireside regulators and controls;

(4) An audible alarm to indicate low water;

(5) A pressure control; and

(6) A programmed flame safeguard system with an audible alarm on burners equipped with spark ignition.

(b) If the boiler is operated at supercritical pressure (3206 PSIG and 705°F):

(1) All the devices set forth in paragraph (a);

(2) A cutoff device for high temperature or fuel; and

(3) An audible alarm to indicate high temperature.

NAC 512.594 Contractor's license required for certain activities. (NRS 455C.110, 512.131)

A person shall not undertake to, or offer to undertake to, install, construct, add to, subtract from, improve or move any boiler, pressure vessel or water heater unless the person holds a current contractor's license issued pursuant to chapter 624 of NRS that authorizes him or her to install boilers or pressure vessels.