**ADOPTED REGULATION OF THE ADMINISTRATOR OF THE**

**DIVISION OF INDUSTRIAL RELATIONS OF THE**

**DEPARTMENT OF BUSINESS AND INDUSTRY**

**LCB File No. R141-98**

Effective January 28, 2000

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

AUTHORITY: §§2-52; NRS 512.131, §53, NRS 512.131 and 512.220, §54, NRS 512.131, 512.160 and 512.220; §55, NRS 512.131.

**Section 1.** Chapter 512 of NAC is hereby amended by adding thereto the provisions set forth as sections 2 to 54, inclusive, of this regulation.

**Sec. 2.** ***"Administrator" means the administrator of the division.***

**Sec. 3.** ***As used in sections 3 to 52, inclusive, of this regulation, unless the context otherwise requires, the words and terms defined in sections 4 to 32, inclusive, of this regulation have the meanings ascribed to them in those sections.***

**Sec . 4.** ***"Authorized inspection entity" means:***

***1. The division;***

***2. An insurance company that:***

***(a) Is licensed in this state to write insurance for a boiler or pressure vessel; and***

***(b) Employs boiler inspectors who have been issued certificates of competency by the division; or***

***3. An inspection organization.***

**Sec. 5.** ***"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.*

**Sec . 6.** *"Boiler inspector" means an inspector of boilers or pressure vessels who holds a current commission and who is employed by an authorized inspection entity.*

**Sec. 7.** *"Certificate of competency" means a certificate issued to a person who has passed an examination that is prescribed by the division for qualification as a boiler inspector.*

**Sec. 8.** *"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.*

**Sec. 9.** *"Commission" means the commission issued by the national board to a holder of a certificate of competency who is authorized to inspect boilers or pressure vessels.*

**Sec. 10.** *"Contractor" has the meaning ascribed to it in NRS 624.020.*

**Sec. 11.** *"Division" means the division of industrial relations of the department of business and industry.*

**Sec. 12.** *"Enforcement section" means the mine safety and training section of the division, or its successor.*

**Sec. 13.** ***"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.***

**Sec. 14.** ***"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,***

FLUSH

***that is not used to heat potable water except through a heat exchanger.***

**Sec. 15.** ***"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.***

**Sec. 16.** ***"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.***

**Sec. 17.** ***"Inspection organization" means an owner or user of pressure-retaining items that maintains an established inspection program and whose organization and inspection procedures comply with the national board inspection code and have been approved by the division.***

**Sec. 18.** ***"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.*

**Sec. 19.** *"National board" means the National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, Ohio 43229.*

**Sec. 20.** *"National board inspection code" means the code contained in the National Board Inspection Code published by the national board.*

**Sec. 21.** *"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 the effective date of this regulation.*

**Sec. 22.** *"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.*

**Sec. 23.** *"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.*

**Sec. 24.** *"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 to heat from a direct source; or*

*4. Any combination of subsections 1, 2 and 3.*

**Sec. 25.** ***"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.***

**Sec. 26.** ***"PSIG" means pounds per square inch gauge.***

**Sec. 27.** ***"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.***

**Sec. 28.** ***"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.***

**Sec. 29.** ***"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.***

**Sec. 30.** ***"Safety valve" means an automatic pressure relieving device that is:***

***1. Actuated by the static pressure upstream of the valve; and***

***2. A full-opening spring-pop type used for gas or vapor service.***

**Sec. 31.** ***"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.***

**Sec. 32.** ***"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).*

**Sec. 33.** *The administrator may delegate any duties which the administrator is assigned pursuant to sections 3 to 52, inclusive of this regulation, to the mine safety and training section of the division, or its successor.*

**Sec. 34.** *1. The administrator hereby adopts by reference the "National Board Inspection Code," 1998 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 1998 edition may be obtained from the National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, Ohio 43229, for the price of $70.*

*2. The administrator hereby adopts by reference the following sections of the "American Society of Mechanical Engineers Boiler and Pressure Vessel Code," 1998 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 1998 edition may be obtained from the American Society of Mechanical Engineers, P. O. Box 2900, Fairfield, New Jersey 07007-2900, for the price indicated:*

*Cost*

*(a) Section I, Power Boilers .....$210*

*(b) Section II, Material Specifications .....1,400*

*(c) Section IV, Heating Boilers.....195*

*(d) Section V, Nondestructive Testing .....215*

*(e) Section VI, Recommended Rules for the Care and Operation of Heating Boilers.....125*

*(f) Section VII, Recommended Guidelines for the Care of Power Boilers .....145*

*(g) Section VIII, Pressure Vessels.....1,065*

*(h) Section IX, Welding and Brazing Qualifications.....215*

*(i) Section X, Fiberglass Reinforced Plastic Pressure Vessels.....185*

*3. The administrator hereby adopts by reference "Control and Safety Devices for Automatically Fired Boilers," CSD-1, 1998 edition and addenda, and 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. This publication applies to automatically fired boilers which are directly fired with gas, oil, a combination of gas and oil or electricity. The 1998 edition may be obtained from the American Society of Mechanical Engineers, P. O. Box 2900, Fairfield, New Jersey 07007-2900, for the price of $52.*

*4. The administrator hereby adopts by reference the "Power Piping Code," B31.1, 1998 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 1998 edition may be obtained from the American Society of Mechanical Engineers, P. O. Box 2900, Fairfield, New Jersey 07007-2900, for the price of $164.***

***5. The administrator hereby adopts by reference the "National Fuel Gas Code," ANSI/NFPA 54, Z223.1, 1996 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 1996 edition may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80012, for the price of $64.***

***6. The administrator hereby adopts by reference the "National Electrical Code," ANSI/NFPA 70, 1999 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 1999 edition may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80012, for the price of $96.***

***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 editions may be obtained from the International Conference of Building Officials, 5360 South Workman Mill Road, Whittier, California 90601, for the price of $180.70.*

*8. The administrator hereby adopts by reference the "Uniform Mechanical Code," 1997 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 1997 edition may be obtained from the International Conference of Building Officials, 5360 South Workman Mill Road, Whittier, California 90601, for a cost of $48.30.*

*9. The administrator hereby adopts by reference the "Uniform Fire Code," 1997 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 editions that have been approved by the administrator may be determined by contacting the office of the administrator. The 1997 editions may be obtained from the International Conference of Building Officials, 5360 South Workman Mill Road, Whittier, California 90601, for the price of $136.15.*

*10. The administrator hereby adopts by reference the "Uniform Plumbing Code," 1997 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 1997 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 $45.45.***

***11. The administrator hereby adopts by reference the "Standard for Installation of Oil-Burning Equipment," ANSI/NFPA 31, 1997 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 1997 edition may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80012, for the price of $48.***

***12. The administrator hereby adopts by reference the "Safety Code for Mechanical Refrigeration," ANSI/ASHRAE 15, 1999 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 1999 edition may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80012, for the price of $64.***

**Sec. 35.** ***The provisions of sections 3 to 52, inclusive, of this regulation do not apply to:***

***1. An unfired pressure vessel that meets the requirements of the United States Department of Transportation for the shipment of liquids or gases under pressure.***

***2. An unfired pressure vessel which has an inside diameter that does not exceed 6 inches (152 millimeters).***

***3. An unfired pressure vessel used for domestic purposes which contains cold water under pressure, including, without limitation, a vessel containing air, the compression of which serves only as a cushion.***

***4. A pressure vessel which contains water heated by steam or by any other 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°F (99°C); and***

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

***5. A fired storage water heater that is directly fired with oil, gas or electricity 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°F (99°C); and***

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

***6. An unfired pressure vessel that does not exceed 5 cubic feet in volume and 250 PSIG.***

***7. 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°F; and*

*(d) Steam is not generated within the coil,*

FLUSH

*except that the provisions of sections 3 to 52, inclusive, of this regulation, do apply to safety relief valves on a hot water heater constructed of continuous coils.*

*8. An unfired pressure vessel and piping containing liquid petroleum gas and liquid natural gas.*

*9. Any vessel, regardless of its size, that has an internal or external operating pressure less than or equal to 15 PSIG.*

*10. As used in this section, "fired storage water heater" means a hot water supply boiler used to store or directly supply potable hot water for external use which has:*

*(a) A 100 percent make-up; and*

*(b) A firing rate of not less than 200,000 British thermal units.*

**Sec. 36.** *1. An internal inspection conducted pursuant to this section must consist of as complete an examination as can reasonably be made of the internal and external surfaces of a boiler or pressure vessel while it is not operating and must not be conducted until any plates for a manhole or handhole or other closures of openings used for an inspection are removed. An external inspection conducted pursuant to this section must consist of an examination of the external surfaces of a boiler or pressure vessel and must be performed while the boiler or pressure vessel is in operation. An inspection conducted pursuant to this section must include operational testing of all controls and safety devices.*

*2. A power boiler and a high-pressure, high-temperature boiler must be inspected internally, if the construction and design of the boiler so allows, at least once each year and*

***externally approximately 6 months after the date of the internal inspection. If an internal inspection is not possible, such a boiler must be inspected externally at least once every 6 months.***

***3. A low-pressure steam boiler must be inspected externally at least once every year and internally, if the construction and design of the boiler so allows, at least once every 2 years.***

***4. A hot water heating boiler and a hot water supply boiler must be inspected externally at least once every 2 years and internally, if the construction and design of the boiler so allows, at the request of the boiler inspector.***

***5. A lined potable water heater must be inspected externally at least once every 2 years.***

***6. Any other fired pressure vessel for which a frequency of inspection is not specified in subsections 1 to 5, inclusive, must be inspected internally, if the construction and design of the pressure vessel so allows, at least once each year.***

***7. A pressure vessel must be inspected externally at least once every 3 years.***

***8. A boiler inspector employed by an authorized inspection entity may require any boiler or pressure vessel to be prepared for inspection if, in his opinion, an inspection is necessary to determine whether the boiler or pressure vessel is operating in a safe manner.***

***9. As used in this section:***

***(a) "Fired pressure vessel" means a vessel other than a boiler in which steam or vapor pressure is generated in excess of 15 pounds per square inch by direct firing with a solid, liquid or gaseous fuel or by an electric heating element.***

***(b) "Lined potable water heater" means a fired heater for the storage of water which has a corrosion-resistant lining and is used to supply potable hot water.***

**Sec. 37.** *If a boiler inspector, upon his inspection of a boiler or pressure vessel, finds that the boiler or pressure vessel or any appurtenance thereof is in such condition as to be unsafe, the boiler inspector shall immediately notify the owner or user and the administrator in writing and, as soon as practicable thereafter, submit to the owner or user and the administrator a report on the defects, which states which repairs or other corrective measures are required. Until the corrections have been made, the boiler or pressure vessel must not be operated.*

**Sec. 38.** *If an accident occurs that renders a boiler, pressure vessel or pressure-retaining item inoperative, the owner or user shall immediately notify the administrator at (775) 687-5243. The owner or user shall investigate the accident and submit a report relating to the investigation to the administrator within 10 business days after the accident. Such a boiler, pressure vessel or pressure-retaining item and any parts thereof must not be removed or disturbed before an inspection has been made by the boiler inspector unless human life is endangered or except to limit further damage.*

**Sec. 39.** *1. A boiler inspector shall stamp a boiler or pressure vessel that he has inspected and declared unsafe with the letters "XXX" on each side of the number that indicates the registration of the boiler or pressure vessel with the national board or the number designated by the enforcement section. Such a stamp indicates that the boiler or pressure vessel is condemned.*

*2. No person may use or offer for sale in this state a boiler or pressure vessel that has been stamped pursuant to subsection 1.*

**Sec. 40.** ***An insurance company shall notify the enforcement section within 30 days after the insurance company commences coverage of or cancels, refuses to renew or suspends the coverage of a boiler or pressure vessel.***

**Sec. 41.** ***1. A contractor shall submit a written notice to the administrator before installing a boiler or pressure vessel in this state that is constructed in a manner that meets the standards of this state, the American Society of Mechanical Engineers or the national board. Except for an existing or a reinstalled boiler or pressure vessel, a boiler or pressure vessel must not be installed in this state unless it has been registered with the national board.***

***2. Except as otherwise provided in subsection 4, the notice of installation of a boiler or pressure vessel must include the American Society of Mechanical Engineers' data report of the manufacturer concerning the construction of the boiler or pressure vessel, or an equivalent standard which is approved by the national board, unless the boiler is constructed of cast iron.***

***3. A notice of installation of a new boiler or pressure vessel must include the plans and specifications of the boiler room in which the boiler or pressure vessel is being installed which designates the location of the boiler or pressure vessel and which complies with the requirements of section 42 of this regulation.***

***4. Before a secondhand or portable boiler or pressure vessel may be installed or shipped for installation into this state, the owner or user or the contractor installing the boiler or pressure vessel must submit to the administrator a notice of installation. The notice of installation must include, without limitation, a report of inspection by a boiler inspector. The fittings and appurtenances of the boiler or pressure vessel must comply with the requirements for the installation of a new boiler or pressure vessel.***

*5. As used in this section:*

*(a) "Existing boiler or pressure vessel" means any boiler or pressure vessel constructed, installed, placed in operation or contracted for use in this state before the effective date of this regulation.*

*(b) "Portable boiler" means a boiler that is intended primarily for temporary use and has a construction that allows it to be moved readily from one location to another.*

*(c) "Reinstalled boiler or pressure vessel" means a boiler or pressure vessel removed from its original setting at a new location without a change of ownership.*

*(d) "Secondhand boiler or pressure vessel" means a boiler or pressure vessel that has been moved since its original installation.*

**Sec. 42.** *Except as otherwise provided in sections 43 and 44 of this regulation, 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.*

**Sec. 43.** *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.*

**Sec. 44.** *1. If a boiler or pressure vessel is removed from its original site and reinstalled at the same location or reinstalled at a new location without a change of ownership before reinstallation, the contractor must submit to the administrator a notice of installation before installing the boiler or pressure vessel. The fittings and appurtenances must comply with the requirements for the installation of a new boiler or pressure vessel.*

*2. If a standard boiler or pressure vessel is to be moved to another state for temporary use or repair, the owner or user must notify the administrator in writing before reinstalling the boiler or pressure vessel within this state.*

*3. As used in this section, "standard boiler or pressure vessel" means a boiler or pressure vessel that:*

*(a) Bears the stamp of the American Society of Mechanical Engineers or meets a standard of construction approved by the national board and adopted by the division; and*

*(b) Is registered with the national board.*

**Sec. 45.** *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 and 6 inches of head room. 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.*

**Sec. 46.** *1. A repair or alteration to a boiler or pressure vessel must conform to the applicable provisions of the code or this chapter, and any jurisdictional requirements..*

*2. If a repair or alteration to a boiler or pressure vessel is necessary, a boiler inspector must be consulted regarding the best method for making the repair or alteration. After the repair or alteration is made, the boiler inspector shall inspect it pursuant to the code. The person who makes such a repair or alteration shall submit to the administrator the appropriate "R" form prescribed by the national board within 30 days after completion of the repair or alteration.*

*3. A person who makes a repair or alteration to a boiler or pressure vessel must be qualified pursuant to the national board inspection code.*

*4. A person who makes a repair or alteration to a boiler or pressure vessel by fusion welding to the pressure parts of the boiler or pressure vessel must hold a valid certificate of authorization and stamp designated as "R," which have been issued by the national board.*

*5. A repair or alteration made by fusion welding must not be made to the pressure parts of a boiler constructed of cast iron.*

*6. A person who is in the business of repairing safety valves must have a certificate of authorization and a stamp designated as "VR" from the national board.*

*7. As used in this section, "alteration" means a change in any item described in the data report from the original manufacturer for the boiler or pressure vessel which affects the capability of the boiler or pressure vessel to contain pressure, and which includes:*

*(a) Changes which do not physically alter the boiler or pressure vessel, including, without limitation, an increase in the maximum allowable internal or external working pressure in the boiler or pressure vessel or a change in the temperature at which a boiler or pressure vessel is designed to be operated; and*

*(b) A reduction in the minimum temperature of a boiler or pressure vessel which requires additional mechanical tests..*

**Sec. 47.** *A person is qualified to attend a power boiler or high-pressure, high-temperature boiler if he has the technical training, experience and knowledge necessary to start, operate and shut down the boiler.*

**Sec. 48.** *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 section 47 of this regulation.*

*2. A steam boiler must be attended by a person who meets the qualifications set forth in section 47 of this regulation, 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 section 34 of the this regulation:***

***(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 705ºF):*

*(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.*

**Sec. 49.** *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.*

**Sec. 50.** *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.*

**Sec. 51.** ***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 he holds a current contractor's license issued pursuant to chapter 624 of NRS that authorizes him to install boilers or pressure vessels.***

**Sec. 52.** ***A new boiler, pressure vessel or water heater must not be operated in this state unless it is designed, constructed, inspected and installed in accordance with the code and the provisions of sections 3 to 52, inclusive, of this regulation.***

**Sec. 53.** ***As used in NRS 512.220, the administrator will interpret the phrase "serious accident" to include, without limitation:***

***1. The death of a person;***

***2. An injury to a person that has a reasonable potential to cause death;***

***3. The entrapment of a person for more than 30 minutes;***

***4. An unplanned inundation by a liquid or gas;***

***5. An unplanned ignition or explosion of gas or dust;***

***6. An unplanned fire that is not extinguished within 30 minutes after discovery;***

***7. An unplanned ignition or explosion of a blasting agent or explosive;***

***8. The unplanned fall of a roof which occurs at or above the zone of anchorage in active workings where roof bolts are in use or which impairs ventilation or impedes passage of persons;***

***9. An outburst of coal or rock that causes the withdrawal of persons from the mine or the disruption of regular mining activity for more than 1 hour;***

*10. An unstable condition at an impoundment, refuse pile or culm bank that requires emergency action to prevent the failure of the impoundment, refuse pile or culm bank or causes the evacuation of an area;*

*11. The failure of an impoundment, refuse pile or culm bank;*

*12. Damage to hoisting equipment in a shaft or slope that endangers a person or interferes with the use of the hoisting equipment for more than 30 minutes;*

*13. Any event that causes death or bodily injury to a person who is not at the mine when the event occurred; and*

*14. Damage to haulage or support equipment used in a mine which endangers a person.*

**Sec. 54.** *1. An operator of a mine shall report a serious accident that occurs at the mine immediately to the administrator at (775) 687-5243.*

*2. An operator shall:*

*(a) Investigate any serious accident, occupational injury or occupational illness that occurs at the mine; and*

*(b) Submit a report relating to the investigation to the administrator within 10 business days after the serious accident, injury or occupational illness occurs.*

*3. As used in this section:*

*(a) "Occupational illness" means an illness or disease of a worker which may have resulted from working at the mine or for which an award of compensation is made.*

*(b) "Occupational injury" means an injury to a worker which occurs at a mine for which medical treatment is administered, or which results in death, or loss of consciousness, inability to perform all job duties on any day after an injury, temporary assignment to other duties, or transfer to another job.*

**Sec. 55.** NAC 512.010 is hereby amended to read as follows:

512.010 As used in this chapter, unless the context otherwise requires, the words and terms defined in NAC 512.015 to 512.140, inclusive, ***and section 2 of this regulation*** have the meanings ascribed to them in those sections.