

NEBRASKA ADMINISTRATIVE CODE

TITLE 229 - DEPARTMENT OF LABOR

CHAPTER 1 - DEFINITIONS

001. This chapter is adopted pursuant to *Neb. Rev. Stat. §48-727*.

002. Unless the context otherwise requires, the following definitions shall apply for purposes of this title.

ACCIDENT – means any undesired boiler or pressure vessel event that results in personal injury or property damage. This does not include events of routine nature due to the normal operation of a boiler or pressure vessel such as tube leaks, general leakage from the pressure boundary, corrosion, erosion, or other items that are typically associated with maintenance or repair.

ACT – means the Boiler Inspection Act (*Neb. Rev. Stat. §§48-719 to 48-743*).

ALTERATION – Any change in the item described on the original manufacturer's data report which affects the pressure-containing capability of the boiler or unfired pressure vessel. Nonphysical changes such as an increase in the maximum allowable working pressure (internal or external) or design temperature of a boiler or unfired pressure vessel shall be considered an alteration. A reduction in minimum temperature such that additional mechanical tests are required shall also be considered an alteration.

ANSI CODES - The codes of the American National Standard Institute, Inc., which are incorporated by reference in the Boiler Inspection Act at *Neb. Rev. Stat. §48-727*. A copy of the adopted codes is on file in the office of the Commissioner or the Commissioner's designee, and may be obtained from the American National Standards Institute at 11 West 42nd Street, New York, NY 10036.

ANTIQUUE BOILERS - Any power steam boiler and other boilers of a historical nature, leisure or heritage value which are not in general use for profit. To include but not be limited to the following as determined by the Department; steam tractors, cranes, locomotives, trains, and steam powered objects.

API – The American Petroleum Institute.

API-510, Pressure Vessel Inspection Code - The code for maintenance inspection, repair, alteration and re-rating procedures for pressure vessels used by the petroleum and chemical process industries, and published by the American Petroleum Institute. The Code is incorporated by reference in the Boiler Inspection Act at *Neb. Rev. Stat. §48-727*. A copy of the code is on file in the office of the Commissioner or the Commissioner's designee and may be obtained from the American Petroleum Institute, 1220 L Street N.W., Washington, D.C. 20005-4070.

API/ASME CODE - refers to the Code for Unfired Pressure Vessels for Petroleum Liquids and Gases, used in conjunction with the ASME Code, as defined in these rules and regulations. This code existed from 1934 - 1956, and is no longer in use.

API CERTIFIED INSPECTOR - An inspector who is certified by the American Petroleum Institute to perform functions specified in API-510.

APPROVED – means approved by the Boiler Safety Code Advisory Board. The Boiler Safety Code Advisory Board, created pursuant to *Neb. Rev. Stat. §48-739*, shall hold hearings and advise the Commissioner on regulations for methods of testing equipment, the construction and installation of new boilers and pressure vessels required to be inspected by the Boiler Inspection Act, and for inspection and certificate fees for such boilers and pressure vessels.

ASME - The American Society of Mechanical Engineers.

ASME CODE - The American Society of Mechanical Engineers Boiler and Pressure Vessel Code. The Code is incorporated by reference in the Boiler Inspection Act at *Neb. Rev. Stat. §48-727*. A copy of the code is on file in the office of the Commissioner or the Commissioner's designee and may be obtained from said society at 345 East 47 Street, New York, New York 10017.

#### ASME CODE STAMPING

ASME Certification Mark – The standard stamp of the American Society of Mechanical Engineers that is to be applied to all boilers and pressure vessels constructed to the requirements of the ASME Code and certified on-or-after January 1, 2013. A Designator marking shall be applied below the ASME Certification Mark that indicates the appropriate ASME Code section used in construction and design of the item.

ASME Code Symbol Stamp – The stamping applied to an ASME Code boiler or pressure vessel certified prior to January 1, 2013. Each section of the ASME Code has a unique stamp that indicates the appropriate ASME Code section used in construction and design of the item.

References in this Code, NAC Title 229, to the ASME Certification Mark shall be taken to mean the ASME Code Symbol Stamp for those boilers certified prior to January 1, 2013.

ASME INTERNATIONAL - The American Society of Mechanical Engineers International, formerly known as the American Society of Mechanical Engineers (ASME). ASME International is located at 345 East 47 Street, New York, New York 10017.

AUTHORIZED INSPECTION AGENCY – means one of the following:

The Department of Labor, Office of Safety and Labor Standards, for the State of Nebraska.

An insurance company which has been licensed or registered by the appropriate authority of Nebraska to write and does write boiler and pressure vessel insurance, and to provide inspection service of boilers and pressure vessels in Nebraska and whose inspectors hold valid commissions issued by The National Board of Boiler and Pressure Vessel Inspectors.

A company that has been qualified as an Authorized Inspection Agency by The National Board of Boiler and Pressure Vessel Inspectors in accordance with NB-369, *Qualifications and Duties for Authorized Inspection Agencies (AIAs) Performing Inservice Inspection Activities and Qualifications for Inspectors of Boilers and Pressure Vessels*, and which has been approved by the appropriate authority of Nebraska to perform boiler and pressure

vessel inspections within the state, and whose inspectors hold valid commissions issued by The National Board of Boiler and Pressure Vessel Inspectors.

An owner-user inspection organization which has been approved by the State of Nebraska to provide inspection service of pressure vessels in the State and whose inspectors hold valid commissions issued by The National Board of Boiler and Pressure Vessel Inspectors, or whose inspectors are certified by the American Petroleum Institute.

**BOILER** - A closed vessel in which water or other liquid is heated, steam or vapor is generated, steam or vapor is superheated, or any combination thereof, under pressure or vacuum, for internal or external use to itself, by the direct application of heat and an unfired pressure vessel in which the pressure is obtained from an external source or by the application of heat from an indirect or direct source. The term boiler includes fired units for heating or vaporizing liquids other than water only when such unit is separate from processing systems and complete within itself. The term boiler also shall include the apparatus used by which heat is generated and all controls and safety devices associated with such apparatus or the closed vessels. The types of boilers included in these rules and regulations are as follows:

**Power Boiler** - A boiler in which steam or other vapor is generated at a pressure of more than 15 psig for use external to itself. ASME Code Symbol Stamps or Designators: A, S, M, E, PP.

**High-Temperature Power Boiler** - A boiler in which water or other fluid is heated and intended for operation at pressures in excess of 160 psig and/or temperatures in excess of 250 degrees Fahrenheit. This boiler bears the ASME Code Symbol Stamps or Designators: A, S, M, E, PP.

Low Pressure Heating Boilers for external space heating systems include the following:

A steam boiler operating at a pressure not exceeding 15 psig; or

Hot water heating boilers and hot water supply boilers operating at pressures not exceeding 160 psig and/or temperatures not exceeding 250°F.

A boiler with the ASME Code Symbol Stamps or Designators: H, HC, HA.

**Electric Boiler** - A power boiler or low pressure heating boiler in which the source of heat is electricity.

**Miniature Boiler** - A power boiler or high-temperature boiler which does not exceed the following limits:

- 16 inch inside diameter of shell;
- 20 square feet heating surface (not applicable to electric boilers);
- 5 cubic feet gross volume exclusive of casing and insulation;
- 100 psig maximum allowable working pressure.

This boiler bears the ASME Stamps or Designators: S, M, E

**Portable Boiler** - A power boiler or low-pressure heating boiler which is primarily intended for temporary location and the construction and usage permits it to be readily moved from one location to another.

Hot Water Supply Boiler - A low pressure heating boiler used to heat water for purposes other than space heating to be used externally to itself.

Heat Recovery Steam Generator - A power boiler comprised of a heat exchanger that uses a series of heat transfer sections (e.g. superheater, evaporator, and economizer) positioned in the exhaust gas flow of a combustion turbine to recover heat and supply a rated steam flow at a required temperature and pressure. This definition includes those boilers typically defined or referred to as Waste Heat Recovery Steam Generators.

Hobby Boiler - Any power steam boiler and other boilers of a historical nature, leisure or heritage value which are not in general use for profit. To include but not be limited to the following as determined by the Department; steam tractors, cranes, locomotives, trains, and steam powered objects.

Pool Heater - A boiler designed for heating nonpotable water stored at atmospheric pressure such as water in swimming pools, spas, hot tubs, and similar applications. ASME Code Symbol Stamps or Designators: H, HC, HA, HLW.

Water Heater - A closed vessel used to supply potable hot water external to itself which is heated by the combustion of fuels, electricity or any other source and withdrawn for use external to the system at pressures not exceeding 160 psig, and shall include all controls and devices necessary to prevent water temperatures from exceeding 210 degrees Fahrenheit. This boiler has the ASME Code Symbol Stamps and Designators: HLW

BOILER EXTERNAL PIPING – refers to all piping and components connected to a power boiler as defined in ASME B31.1 Power Piping and ASME Section I- Power Boilers.

BOILER NON-EXTERNAL PIPING - refers to all piping and components connected downstream of the boiler external piping as defined in ASME B31.1 - Power Piping.

BTU/HR - British thermal units per hour.

CERTIFICATE OF INSPECTION - An operating permit issued by the State of Nebraska following a satisfactory inspection that indicates the boiler or unfired pressure vessel complies with the Boiler Inspection Act and is permitted to operate.

COMMISSIONER - means the Commissioner of Labor for the State of Nebraska.

CONDEMNED BOILER OR PRESSURE VESSEL - A boiler or pressure vessel that has been inspected and declared unsafe or disqualified by legal requirements by an inspector, and a stamping or marking has been applied by the Chief or a Deputy Inspector designating its condemnation.

CORROSIVE SUBSTANCE - Any fluid that cause physical or chemical alteration of the pressure containing materials of a vessel.

DEPARTMENT - means the Department of Labor of the State of Nebraska.

DERATING - The derating of a boiler or unfired pressure vessel due to any change in the pressure retaining items as described in the original manufactures original data report such that the boiler or unfired pressure vessel cannot be operated within the pressure temperature limits of original design.

EXISTING INSTALLATION - Any boiler or unfired pressure vessel that was installed or within this state ready to be installed or has previously operated in this state prior to the effective date of the most recent amendments of this chapter.

EXTERNAL INSPECTION – means as reasonable an inspection as can be made of the external portions of a boiler or pressure vessel, ideally when the boiler or pressure vessel is in operation.

HAZARDOUS SUBSTANCE - Any fluid for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees, or any fluid that causes a sudden, almost instantaneous release of pressure, gas and heat when subjected to sudden shock, pressure or high temperature.

INSPECTOR – refers to the chief inspector, deputy inspector, or special inspector, or owner-user inspector, defined as follows:

CHIEF INSPECTOR - means the State Boiler Inspector, appointed by the Commissioner under the provisions of *Neb. Rev. Stat. §48-721*.

DEPUTY INSPECTOR - means the Deputy Boiler Inspector appointed by the Commissioner under the provisions of *Neb. Rev. Stat. §48-721*.

SPECIAL INSPECTOR - includes the following:

An inspector employed by an insurance company or Authorized Inspection Agency, which is authorized to insure or inspect boilers in the State of Nebraska, and who shall have been commissioned by the Commissioner. Such inspectors shall be commissioned by the Commissioner provided they hold valid commission from the National Board of Boiler and Pressure Vessel Inspectors; or,

An inspector employed by an Authorized Inspection Agency and is authorized to inspect boilers and pressure vessels during new construction in the field or at the place of manufacture, or to inspect boilers and pressure vessels during repair or alteration activities. Such inspectors shall be commissioned by the Commissioner provided they hold a valid commission with appropriate endorsements from the National Board of Boiler and Pressure Vessel Inspectors; or,

An inspector who holds a valid National Board Owner-User Commission who has passed the examination prescribed by the Board or is an API Certified Inspector under a jurisdictionally approved owner-user inspection organization.

INTERNAL INSPECTION – means as complete an examination as can reasonably be made of the internal and external surfaces of a boiler, or pressure vessel while it is shut down and while the manhole plates, handhole plates or other inspection opening closures are removed, as required by the inspector.

JURISDICTION – The State of Nebraska.

LETHAL SUBSTANCE - Poisonous gases or liquids (fluids) of such a nature that a very small amount of the gas or of the vapor of the liquid mixed or unmixed with air is dangerous to life when inhaled. For purposes of regulations, this definition includes substances of this nature which are stored under pressure or may generate a pressure if stored in a closed vessel. (Pressure vessels containing lethal substances shall be built in accordance with ASME Section VIII, Division I, UW-2.)

NATIONAL BOARD - The National Board of Boiler and Pressure Vessel Inspectors, (NBBI) 1055 Crupper Avenue, Columbus, Ohio 43229, whose membership is composed of the chief inspectors of jurisdictions who are charged with the enforcement of the provisions of a Boiler and Pressure Vessel Safety Act.

**NATIONAL BOARD COMMISSION** - A certificate issued by National Board to an individual who has passed the National Board examination, who holds a valid certificate of competency and who is regularly employed by an Authorized Inspection Agency.

**NATIONAL BOARD COMMISSIONED INSPECTOR** – refers to an individual who holds a valid Certificate of Competency to perform in-service, repair and alteration inspections as defined by the National Board Inspection Code; holds a National Board Commission; and is regularly employed as an inspector by an Authorized Inspection Agency.

**NATIONAL BOARD INSPECTION CODE** - The code for jurisdictional authorities, inspectors, users and organizations performing inspections, repairs and alterations to pressure retaining items at installations other than those covered by API-510 and API-570 unless the jurisdiction rules otherwise. The code is published by the National Board and is developed under procedures accredited as meeting the criteria for American National Standards. A copy of the code is on file in the office of the Commissioner or the Commissioner's designee and may be obtained from The National Board of Boiler & Pressure Vessel Inspectors, 1055 Crupper Ave., Columbus, OH 43229-1183. Interpretations of the NBIC can be used as issued unless there is a disagreement between the organization wishing to use the interpretation and the Authorized Inspection Agency. The Chief Boiler Inspector shall be contacted for resolution and acceptance of any interpretation when there is a disagreement between the organization wishing to use the interpretation and the Authorized Inspection Agency. The Chief Boiler Inspector shall also be contacted for the approval for use of any interpretation referencing an ASME Code Case.

**NEBRASKA COMMISSION** - A commission issued to Special Inspectors by the Commissioner to inspect in-service jurisdictional boilers and pressure vessels or to conduct repair, alteration or new construction inspections of boilers and pressure vessels in the State of Nebraska.

**NEW BOILER INSTALLATION** - means and includes all boilers contracted for, constructed, installed, and placed in operation after the effective date of the most recent amendment of this chapter, whether the boiler actually installed is new or used.

**NFPA Codes** - refers to the National Fire Protection Association Codes as published by the National Fire Protection Association. A copy of the adopted codes is on file in the office of the Commissioner or the Commissioner's designee and may be obtained from the NFPA at P.O. Box 9143, Quincy, MA 02169.

**NPS** - means Nominal Pipe Size.

**ORIGINAL CODE OF CONSTRUCTION** - Documents promulgated by recognized national standards-writing bodies that contain technical requirements for construction of pressure retaining items, or its equivalent, to which the pressure-retaining item was certified by the original manufacturer.

**OWNER-USER** – Any person, firm, or corporation legally responsible for the safe installation, operation, and maintenance of any boiler or pressure vessel within the jurisdiction.

**OWNER-USER INSPECTION ORGANIZATION** - An owner or user of pressure vessels who maintains a regularly established inspection department, quality control system, quality control manual and whose organization and inspection procedures meet the requirements of the National Board Inspection Code or API-510, as applicable and acceptable to the Boiler Safety Code Advisory Board.

**OWNER-USER REPAIR ORGANIZATION** - A repair organization as defined at section 3.16 of API-510 and approved by the jurisdiction or an owner-user repair organization approved under the National Board Inspection Code to work on pressure vessels owned or used by the owner-user organization.

**PRESSURE VESSEL** - A vessel in which the pressure is obtained from an external source, or by the application of heat from an indirect source, or from a direct source other than those boilers defined in this chapter. Pressure vessel shall include any part of the pressure vessel pressure boundary as identified on the Manufacturer's Data Report, original drawings, or as identified in the original code of construction. ASME Code Symbol Stamps or Designators: U, U2, U3.

**P.S.I.G. or PSIG** – means pounds per square inch gage.

**REINSTALLED BOILER OR PRESSURE VESSEL** - A boiler or pressure vessel removed from its original setting and reinstalled at the same location or at a new location without change of ownership.

**RELIEF VALVE** - A pressure relief valve actuated by inlet static pressure having a gradual lift generally proportional to the increase in pressure over opening pressure. It may be provided with an enclosed spring housing suitable for closed discharge system application and is primarily used for liquid service.

**REPAIR** – means the work necessary to restore a pressure retaining item to a safe and satisfactory operating condition.

**REPAIR OF A PRESSURE RELIEF VALVE** – The replacement, re-machining or cleaning of any critical part, lapping of seat and disk or any other operation which may affect the flow passage, capacity function or pressure retaining ability of the valve. Disassembly, reassembly and/or adjustments which affect the pressure relief valve function are also considered a repair.

**REPLACEMENT COMPONENT** – refers to the installation of renewal components, appurtenances and subassemblies or parts of a component or system not affecting existing design requirements.

**SAFETY RELIEF VALVE** - A pressure relief valve characterized by rapid opening or pop action, or by opening in proportion to the increase in pressure over opening pressure, depending on application.

**SAFETY VALVE** - A pressure relief valve actuated by inlet static pressure and characterized by rapid opening or pop action.

**SECOND HAND BOILER OR PRESSURE VESSEL** - A boiler or pressure vessel which has changed location and ownership since primary use.

**STANDARD BOILER OR PRESSURE VESSEL** - A boiler or pressure vessel which bears the stamp of this state, the ASME Certification Mark with Designator, a National Board stamps, or the stamp of another National Board Member jurisdiction which has adopted a standard of construction equivalent to that required by the Board.