NEBRASKA ADMINISTRATIVE CODE

TITLE 229 - DEPARTMENT OF LABOR

CHAPTER 24 - LOW PRESSURE BOILERS, WATER HEATERS AND POOL HEATERS - NEW INSTALLATIONS

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

002. This chapter covers pool heaters, boilers and water heaters used exclusively for low pressure steam heating, hot water heating, and hot water supply.

003. All boilers, water heaters and pool heaters shall be constructed and certified in accordance to ASME Section IV Rules for Construction of Heating Boilers.

004. The maximum allowable working pressure for low-pressure heating boilers shall not exceed the following limitations: steam boilers - 15 pounds per square inch; hot water heating and hot water supply boilers -160 pounds per square inch, and temperatures not exceeding 250 degrees Fahrenheit,; potable water heaters - 160 pounds per square inch and temperatures not exceeding 210 degrees Fahrenheit.

005. Each steam boiler shall have one (1) or more officially rated safety valves of the spring-pop type adjusted and sealed to discharge at a pressure not to exceed 15 pounds per square inch. These relief valves shall be identified with the ASME Certification Mark and "V" designator.

006. Each hot-water heating boiler shall have at least one (1) officially rated pressure relief valve set to relieve at or below the maximum allowable working pressure of the boiler. These relief valves shall be identified with the ASME Certification Mark and "V" or "HV" designator.

007. Each hot-water supply boiler or water heater supplying potable water shall have at least one (1) officially rated pressure-temperature relief valve of the automatic resealing type, set to relieve at or below the maximum allowable working pressure of the boiler. Hot water supply boilers supplying non-potable water shall have at least: one (1) officially rated pressure temperature relief valve of the automatic resealing type, set to relieve at or below the maximum allowable working pressure of the boiler; or one (1) officially rated pressure relief valve of the automatic resealing type, set to relieve at or below the maximum allowable working pressure of the boiler. These relief valves shall be identified by the ASME Certification Mark and "V" or "HV" designator.

008. All boilers bearing the ASME Certification Mark and "H" designator shall have controls and safety devices installed in accordance with ASME Section IV, Rules for Construction of Heating Boilers and ASME CSD-1 Controls and Safety Devices for Automatically Fired Boilers or NFPA-85 Boiler and Combustion Systems Hazard Code as required.

APPROVED

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009. All low pressure boilers that are used for building or space heat shall be built in accordance with ASME Section IV and shall bear the ASME Certification Mark and "H" designator. The use of hot water heaters, those with the ASME "HLW" designator or those listed as meeting the requirements of ANSI Z21.10.13 Gas-Fired Water Heaters, shall not be used for building or space heat. Dual purpose units shall be built in accordance with ASME Section IV and shall bear the ASME Certification Mark and "H" designator.

010. Units that bear the ASME Certification Mark and "H" designator that are listed as meeting the requirements of ANSI Z21.10.13 Gas-Fired Water Heaters shall have controls and safety devices installed in accordance with the requirements of ASME CSD-1.

011. All units that are listed by the manufacturer as meeting the requirements of ANSI Z21.13 Gas-Fired Low Pressure Steam and Hot Water Heating Boilers shall bear the ASME Certification Mark and "H" designator.

012. Effective January 1, 2006, all newly installed or replacement units used for pool heaters, spa heaters or objects of this nature shall comply with the following.

A. All gas-fired pool heaters shall be built and certified in accordance with ASME Section IV and be listed as meeting the requirements of ANSI Z21.56 Gas-Fired Pool Heaters. The unit shall be inspected annually If a pool heater is constructed or installed so that water will be retained in the installed appliance under static conditions, it shall be equipped with a drain valve that is piped to a safe point of discharge.

B. All pool heaters installed outdoors shall be certified for outdoor use by the manufacturer.

C. All pool heaters shall have at least one (1) officially rated pressure-temperature relief valve or one (1) officially rated pressure relief valve of the automatic resealing type, set to relieve at or below the maximum allowable working pressure of the lowest rated component in the system. These relief valves shall bear the ASME Certification Mark and "V" or "HV" designator

D. All electrically fired heaters shall comply with the requirement of UL 1261 Standard for Electric Water Heaters for Pools and Tubs and shall be inspected annually.

013. Owners or users of units installed in heating systems that use glycol in the system shall maintain records available for review by the inspector that show the type of glycol used, the concentration of glycol in the system, dates the system was tested and test results, the minimum and maximum allowable concentration allowed, the pH range of the solution and the dates and amounts of any addition of glycol. Should the system require cleansing after removing old or damaged anti-freeze, owners or users shall flush the system with a heated 1-2% solution of trisodium phosphate for 2 to 4 hours, or as the glycol manufacturer recommends, and then drain and rinse the system thoroughly. Any boiler with inspection openings used in a glycol system that has been flushed shall have an internal inspection performed by a state inspector or a special inspector before the system is refilled.

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