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, as well as boilers and~~,~~ water heaters ~~and pool 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 in accordance to 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 “V" symbol.

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 "V" or "HV" symbol.

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 "V" or “HV" symbol.

008. All ASME "H' code stamped boilers 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.

009. All units used for building or space heat shall be built in accordance with ASME Section IV and be ASME "H" code symbol stamped. The use of hot water heaters, those with the ASME "HLW" code symbol 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 be ASME "H' code symbol stamped.

010. An ASME "H" symbol stamped units that are listed as meeting the requirements of ANSI Z21.10.13 Gas-Fired Water Heaters shall have all of the controls and safety devices installed meeting 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 have pressure parts that are ASME 'H" symbol stamped.

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 stamped 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 whether in an open system, a system with no valves between the heater and the pumps and the pool, or a closed system, a system where the heater can be isolated.

B. If a heater is constructed or installed so water will be retained in the installed appliance under static conditions, it shall be equipped with a drain valve and be piped to a safe point of discharge.

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

D. All heaters 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 lowest rated component in the system 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.

E. 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 whether in an open system, a system with no valves between the heater and the pumps and the pool, or a closed system, a system where the heater can be isolated.

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, flush the system with a heated 1-2% solution of trisodium phosphate for 2 to 4 hours or as the glycol manufacturer recommends, then drain and rinse 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.