Kansas Administrative Regulations

Department of Labor

Article 50.—General Requirements for All Boilers

49-50-8. Piping system.

(a) Piping connected to the outlet of a boiler shall be attached by one of the following methods:

(1) Screwing into a tapped opening with a screwed fitting or a valve at the other end;

(2) screwing each end into tapered flanges, fittings, or valves with or without rolling or peening;

(3) bolted joints, including those of the van stone type; or

(4) expanding into grooved holes, seal welded, if desired.

(b) Pipe that is expanded, rolled, or peened shall be made from open-hearth or electric-furnace steel. Blowoff piping of fire-tube boilers that is exposed to products of combustion shall be attached by the method in paragraph (a)(1). The attachment methods in paragraphs (a)(2), (3), or (4) may be used for blowoff piping of fire-tube boilers that is not exposed to combustion products. Fusion welding may be used for sealing purposes at the junction of bolted joints.

(c) Welding may be used to attach piping to nozzles or fittings if the rules adopted for fusion welding or forge welding at K.A.R. 49-50-1(b)(1) are followed. All welded piping that is external to the boiler, from the boiler out to the first stop valve, in a single installation, and out to the second stop valve when two or more boilers with manholes are connected to a common steam or high temperature water main or header, shall be installed by a manufacturer or contractor authorized to use any one of the American society of mechanical engineers code symbol stamps for pressure piping ("PP"), power boilers ("S"), or assembly stamp ("A"). The piping or fittings that are adjacent to the welded joint farthest from the boiler shall be stamped with the pressure piping, power boiler, or assembly code symbol stamp of the American society of mechanical engineers when approved by the inspector.

(d) Power boiler piping shall be inspected in all segments of the system carrying substantially the same pressures and temperature encountered in the boiler. The piping shall be inspected to the extent necessary to assure compliance with engineering design, material specifications, fabrication, assembly, and test requirements of section I of the ASME boiler and pressure vessel code, "rules for construction of power boilers," for the piping between the boiler and the first stop valve in a single boiler installation, or the second stop valve in a multiple boiler installation. Power piping and piping beyond these limits shall be installed as required by the appropriate section of ASME B31.1 power piping.

(e) When welded assembly is used, the contractor who welded the pipe shall present welding procedure specification and proof of the welder's qualifications to the inspector for review. The contractor shall be responsible for the quality of the welding performed by the contractor's organization.

(f) Visual inspection of welding performed by qualified welders shall be deemed sufficient unless codes or engineering specifications state otherwise or unless the inspector wishes to augment this visual inspection with other non-destructive tests, including radiography. All tests or retests required by the inspector shall be at the owner's or contractor's expense.

(g) Signed certification of the contractor regarding satisfactory hydrostatic tests performed on piping may be accepted by the inspector. These tests may be required by the inspector to be performed in the inspector's presence.

(h) Heating boiler piping shall be inspected in all segments of the piping system carrying substantially the same pressure and temperatures as the boiler. The piping shall be inspected to the extent necessary to insure good fit-up, assembly, tightness, and support of the system. Welded joints shall be visually inspected for soundness of the weld and freedom from undercutting, cracking, and other surface imperfections. All inspections of piping shall be conducted to the first stop valve on a single boiler installation or the second stop valve in a multiple boiler installation.

(i) Hot water supply boiler installations shall be inspected for conformance with section IV of the ASME heating boiler code.

(Authorized by and implementing K.S.A. 1998 Supp. 44-916; effective May 1, 1987; amended April 28, 2000.)