

Kansas Administrative Regulations

Department of Labor

Article 50.—General Requirements for All Boilers

49-50-1. Major repair to boilers and pressure vessels.

(a) Boiler and pressure vessel repairs or alterations shall be made so that each boiler or pressure vessel conforms to original specifications. Any repairs or alterations not covered by this regulation shall be subject to the requirements for new construction.

(b) Welding.

(1) Repairs or alterations by fusion welding shall be approved by an authorized inspector before beginning the work. All welding repairs or alterations shall be made in accordance with the appropriate section of "repairs and alterations to boilers and pressure vessels by welding," part RC, of the national board inspection code.

(2) All welding shall be done by either of the following:

(A) An organization holding the applicable ASME certificate of authorization or the national board "R" or "NR" stamp; or

(B) an owner or user who has demonstrated to the satisfaction of the chief state boiler inspector all of the following:

(i) The owner or user maintains an acceptable quality control system.

(ii) Welding work completed by the owner or user is in compliance with ASME standards for welding.

(iii) Before the welding operations, the owner or user has assured that all welders are qualified by compliance with ASME standards.

(iv) The owner or user has notified the applicable insurance company boiler inspector or state boiler inspector before doing any welding.

The organization performing the repair shall be responsible for filing the national board's repair or alteration form with the office of the chief state boiler inspector.

(c) Each welder or welding operator shall qualify for each welding process used in the repair or alteration of a boiler or pressure vessel. The qualifications for welders shall

be those established in section IX of the ASME code, and by a qualified welding procedure specification of the organization making the repair or alteration.

(d) Each organization making repairs or alterations under this regulation shall list the parameters applicable to welding that are to be performed in the welding procedure specification (WPS) documents. The documents shall have been qualified by the organization as required by the applicable section of the ASME code. The organization shall qualify its WPS by the welding of test coupons, the testing of specimens, and recording the welding data and test results in its procedure qualification record (PQR) document.

(e)(1) The organization making the repair or alteration shall adopt specific procedures for performing welding operations in the shop or the field. The procedure specification shall comply with the requirements of section IX of the ASME code and the national board inspection code.

(2) The procedure specifications shall be written and shall provide all pertinent details about the methods and procedure to be used, including the following:

- (A) The type of electrode or rod to be used;
- (B) the shape of the welding groove;
- (C) the number and sequence of the beads;
- (D) the manner in which slag is to be cleaned;
- (E) peening and current characteristics, if electric welding; and
- (F) if gas welding, the size of the tip, the nature of the flame, and the designation of forehand or backhand technique used.

(3) The procedure specification shall ensure that weld metal and welded joints comply with the characteristics required by section IX of the ASME code and the national board inspection code.

(4) A test demonstrating the sufficiency of the procedure specification shall be witnessed by the inspector, or authentic evidence documenting the sufficiency of the specifications shall be provided to the inspector.

(f) The material used for patches shall be of the same general quality, shall have, at least, the minimum physical properties of the plate to be patched and shall be traceable. The thickness of any patch shall be at least equal to, but not more than, $\frac{1}{8}$ inch greater

than the plate being patched. Flush or butt-welded patches in unstayed shells, drums, or headers shall be radiographed and stress-relieved to conform to the requirements of the national board inspection code, part RC, 1998 edition.

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

***** Authenticated Kansas Administrative Regulation *****