

shall be used in making out specification cards, shall be stamped on the steam dome or manhole flange.

(b) *Numbers after January 10, 1912.* Numbers which are stamped after January 10, 1912 shall be located on the front side of the steam dome or manhole flange at the upper edge of the vertical surface, oriented in a horizontal manner, and have figures at least  $\frac{3}{8}$  inch high.

(c) *Name of manufacturer or owner.* The number shall be preceded by the name of the manufacturer if the original number is known or the name of the steam locomotive owner if a new number is assigned.

#### SAFETY RELIEF VALVES

##### § 230.48 Number and capacity.

(a) *Number and capacity.* Every boiler shall be equipped with at least two safety relief valves, suitable for the service intended, that are capable of preventing an accumulation of pressure greater than 6 percent above the MAWP under any conditions of service. An FRA inspector may require verification of sufficient safety valve relieving capacity.

(b) *Determination of capacity.* Safety relief valve capacity may be determined by making an accumulation test with the fire in good, bright condition and all steam outlets closed. Additional safety relief valve capacity shall be provided if the safety relief valves allow an excess pressure of more than 6 percent above the MAWP during this test.

##### § 230.49 Setting of safety relief valves.

(a) *Qualifications of individual who adjusts.* Safety relief valves shall be set and adjusted by a competent person who is thoroughly familiar with the construction and operation of the valve being set.

(b) *Opening pressures.* At least one safety relief valve shall be set to open at a pressure not exceeding the MAWP. Safety relief valves shall be set to open at pressures not exceeding 6 psi above the MAWP.

(c) *Setting procedures.* When setting safety relief valves, two steam gauges shall be used, one of which must be so located that it will be in full view of

the persons engaged in setting such valves; and if the pressure indicated by the gauges varies more than 3 psi they shall be removed from the boiler, tested, and corrected before the safety relief valves are set. Gauges shall in all cases be tested immediately before the safety relief valves are set or any change made in the setting. When setting safety relief valves, the water level shall not be higher than  $\frac{3}{4}$  of the length of the visible water glass, as measured from the bottom of the glass.

(d) *Labeling of lowest set pressure.* The set pressure of the lowest safety relief valve shall be indicated on a tag or label attached to the steam gauge so that it may be clearly read while observing the steam gauge.

##### § 230.50 Time of testing.

All safety relief valves shall be tested, and adjusted if necessary, under steam at every 92 service day inspection, and also whenever any irregularity is reported.

#### WATER GLASSES AND GAUGE COCKS

##### § 230.51 Number and location.

Every boiler shall be equipped with at least two water glasses. The lowest reading of the water glasses shall not be less than 3 inches above the highest part of the crown sheet. If gauge cocks are used, the reading of the lowest gauge cock shall not be less than 3 inches above the highest part of the crown sheet.

##### § 230.52 Water glass valves.

All water glasses shall be equipped with no more than two valves capable of isolating the water glass from the boiler. They shall also be equipped with a drain valve capable of evacuating the glass when it is so isolated.

##### § 230.53 Time of cleaning.

The spindles of all water glass valves and of all gauge cocks shall be removed and valves and cocks thoroughly cleaned of scale and sediment at every 31 service day inspection, and when testing indicates that the apparatus may be malfunctioning. In addition, the top and bottom passages of the water column shall be cleaned and inspected at each annual inspection.