

boiler, the steam locomotive owner and/or operator shall submit a written request for approval to the FRA Regional Administrator. If approval is granted, the steam locomotive owner and/or operator shall perform any riveting to unstayed portions of the boiler in accordance with established railroad practices or an accepted national standard for boiler repairs. The steam locomotive owner and/or operator shall satisfy reporting requirements in § 230.20 at this time.

(b) *Repairs to unstayed portions of the boiler.* The steam locomotive owner and/or operator shall perform any riveted repairs to unstayed portions of the boiler in accordance with established railroad practices, or an accepted national standard for boiler repairs. The steam locomotive owner and/or operator shall satisfy reporting requirements in § 230.20 at this time.

(c) *Repairs to stayed portions of the boiler.* The steam locomotive owner and/or operator shall perform riveted repairs or alterations on stayed portions of the boiler in accordance with established railroad practices or an accepted national standard for boiler repairs. The steam locomotive owner and/or operator shall satisfy reporting requirements in § 230.20 at this time.

PRESSURE TESTING OF BOILERS

§ 230.35 Pressure testing.

The temperature of the steam locomotive boiler shall be raised to at least 70 deg. F any time hydrostatic pressure is applied to the boiler.

§ 230.36 Hydrostatic testing of boilers.

(a) *Time of test.* The locomotive owner and/or operator shall hydrostatically test every boiler at the following times:

- (1) During the 1472 service day inspection, and at every annual inspection thereafter;
- (2) After making any alteration to the boiler;
- (3) After installing a flush patch on an unstayed portion of the boiler; and
- (4) After any riveting on an unstayed portion of the boiler.

(b) *Method of testing.* The metal temperature of the boiler shall be between 70 degrees Fahrenheit and 120 degrees

Fahrenheit each time it is subjected to any hydrostatic pressure. Hydrostatic testing required by these rules shall be conducted at 25 percent above the MAWP.

(c) *Internal inspection.* An internal inspection of the boiler shall be conducted following any hydrostatic test where the pressure exceeds MAWP.

§ 230.37 Steam test following repairs or alterations.

Upon completion of any repair or alteration, the locomotive owner and/or operator shall conduct a steam test of the boiler with steam pressure raised to between 95 percent and 100 percent of the MAWP. At this time, the boiler shall be inspected to ensure that it is in a safe and suitable condition for service.

STAYBOLTS

§ 230.38 Telltale holes.

(a) *Staybolts less than 8 inches long.* All staybolts shorter than 8 inches, except flexible bolts, shall have telltale holes 3/16 inch to 7/32 inch diameter and at least 1¼ inches deep in the outer end.

(b) *Reduced body staybolts.* On reduced body staybolts, the telltale hole shall extend beyond the fillet and into the reduced section of the staybolt. Staybolts may have through telltale holes.

(c) *Telltale holes kept open.* All telltale holes, except as provided for in § 230.41, must be kept open at all times.

§ 230.39 Broken staybolts.

(a) *Maximum allowable number of broken staybolts.* No boiler shall be allowed to remain in service with two broken staybolts located within 24 inches of each other, as measured inside the firebox or combustion chamber on a straight line. No boiler shall be allowed to remain in service with more than 4 broken staybolts inside the entire firebox and combustion chamber, combined.

(b) *Staybolt replacement.* Broken staybolts must be replaced during the 31 service day inspection, if detected at that time. Broken staybolts detected in between 31 service day inspections