§ 56.50–15 Steam and exhaust piping.

(a) The design pressures of the steam piping connected to the boiler drum or to the superheater inlet header must not be less than the lowest pressure setting of any drum safety valve. The value of allowable stress for the material must not exceed that corresponding to the saturated steam temperature at drum pressure and must be selected as described in § 56.07–10(e).

(b) Main superheater outlet piping systems, desuperheater piping systems, and other auxiliary superheated piping systems led directly from the boiler superheater must be designed for a pressure not less than the pressure at which the superheater safety valve is set. In the case of a superheated safety valve that is drum pilot actuated, the design pressure of such piping systems must not be less than the pressure setting of the actuator valve on the drum. Valves and fittings must be selected for the above systems from the accepted standards in table 1 to 56.60–1, using the pressure-temperature rating in the standard.

(c) Steam stop valves in sizes exceeding 6 inches must be fitted with bypasses.

(d) In multiple boiler installations each boiler's main, auxiliary and desuperheater steam lines must be fitted with two valves, one a stop valve and one a stop check valve.

(e) Main and auxiliary steam stop valves must be readily accessible, operable by one person and arranged to seat against boiler pressure.

(f) The auxiliary steam piping of each vessel equipped with more than one boiler must be so arranged that steam for the whistle and vital auxiliary systems may be supplied from any power boiler.

(g) Steam and engine exhaust pipes must not be led through coal bunkers or dry cargo spaces.

(h)(1) Steam piping, with the exception of the steam heating system, must not be led through passageways, accommodation spaces, or public spaces unless the arrangement is specifically approved by the Marine Safety Center.

(2) The pressure in steam heating systems must not exceed 150 psig, and the steam pressure for accommodation and public space heating must not exceed 45 psig.

(3) Steam lines must be suitably located and shielded to minimize hazards to any personnel within the space.

(4) High temperature hot water for heating systems may not exceed 375 °F.

(i) Where the exhaust side of machinery is not designed for the full inlet pressure, the exhaust side must be protected from over pressure by one of the following means:

(1) A relief valve in the exhaust side with appropriate set pressure and sufficient capacity to prevent the exhaust side from overpressure.

(2) A sentinel valve or other warning device fitted on the exhaust side, together with a trip device, which will close the inlet valve.

(j) Shore steam connections must be fitted with a relief valve set at a pressure not exceeding the design pressure of the piping.

(k) Means must be provided for draining every steam pipe in which water hammer might occur.

[CGFR 68–82, 33 FR 18843, Dec. 18, 1968, as amended by CGFR 69–127, 35 FR 9978, June 17, 1970; CGFR 72–59R, 37 FR 6189, Mar. 25, 1972; CGD 73–254, 40 FR 40165, Sept. 2, 1975; CGD 77–140, 54 FR 40607, Oct. 2, 1989; CGD 83–043, 60 FR 24772, May 10, 1995; USCG–2003–16630, 73 FR 65178, Oct. 31, 2008]

§ 56.50–20 Pressure relief piping.

(a) *General.* There must be no intervening stop valves between the pressure vessel or piping system being protected and its protective device or devices, except as authorized by the Marine Safety Center.

(b) *Discharge lines.* (Reproduces 122.6.2(d).) Discharge lines from pressure-relieving safety devices must be designed to facilitate drainage.

(c) *Stop valves.* Stop valves between the safety or relief valve and the point of discharge are not permitted, except as specifically approved by the Marine Safety Center.

(d) *Reference.* See also § 56.07–10(a) and (b) for specific requirements.

[CGFR 68–82, 33 FR 18843, Dec. 18, 1968, as amended by CGFR 69–127, 35 FR 9979, June 17, 1970; CGD 77–140, 54 FR 40607, Oct. 2, 1989]