PG-67.2.1.2  The minimum required relieving capacity of the pressure relief valves shall not be less than the maximum designed steaming capacity at the MAWP of the boiler, and the boiler shall be provided with controls responsive to steam pressure, which include not less than the following:

(a) a control that reduces that total heat input to the boiler such that the steam generated does not exceed the maximum designed steaming capacity at the MAWP of the boiler

(b) a control that trips the heat input to the boiler if the pressure reaches 106% of the MAWP of the boiler

PG-67.2.1.2  The minimum required relieving capacity for a waste heat boiler shall be determined by the Manufacturer. When auxiliary firing is to be used in combination with waste heat recovery, the maximum output as determined by the boiler Manufacturer shall include the effect of such firing in the total required capacity. When auxiliary firing is to be used in place of waste heat recovery, the minimum required relieving capacity shall be based on auxiliary firing or waste heat recovery, whichever is higher.

PG-67.2.1.3  The minimum required relieving capacity for electric boilers shall be in accordance with PEB-15.

PG-67.2.1.4  The minimum required relieving capacity in lb/hr (kg/h) for a high-temperature water boiler shall be determined by dividing the maximum output in Btu/hr (W) at the boiler nozzle, produced by the highest heating value fuel for which the boiler is designed, by 1,000 (646).

PG-67.2.1.5  The minimum required relieving capacity for organic fluid vaporizers shall be in accordance with PVG-12. The minimum required relieving capacity for miniature boilers shall be in accordance with PMB-15.

PG-67.2.1.6  Any economizer that may be shut off from the boiler, thereby permitting the economizer to become a fired pressure vessel, shall have one or more pressure relief valves with a total discharge capacity, in lb/hr (kg/h), calculated from the maximum expected heat absorption in Btu/hr (W), as determined by the Manufacturer, divided by 1,000 (646). This absorption shall be stated in the stamping (PG-106.4). For overpressure conditions where the fluid relieved is water, the discharge capacity of the pressure relief valve, or valves shall be sufficient to prevent the pressure from rising more than 10% or 3 psi (20 kPa), whichever is greater, above the maximum allowable working pressure.

PG-67.3  One or more pressure relief valves on the boiler proper shall be set at or below the maximum allowable working pressure (except as noted in PG-67.4). If additional valves are used the highest pressure setting shall not exceed the maximum allowable working pressure by more than 3%. The complete range of pressure settings of all the saturated-steam pressure relief valves on a boiler shall not exceed 10% of the highest pressure to which any valve is set. Pressure setting of pressure relief valves on high-temperature water boilers may exceed this 10% range. Economizer pressure relief devices required by PG-67.2.1.6 shall be set as above using the MAWP of the economizer.

PG-67.4  For a forced-flow steam generator with no fixed steam and waterline (Figure PG-67.4), equipped with automatic controls and protective interlocks responsive to steam pressure, pressure relief valves may be provided in accordance with the above paragraphs or the following protection against overpressure shall be provided:

PG-67.4.1  One or more power-actuated pressure-relieving valves shall be provided in direct communication with the boiler when the boiler is under pressure and shall receive a control impulse to open when the maximum allowable working pressure at the superheater outlet, as shown in the master stamping (PG-106.3), is exceeded. The total combined relieving capacity of the power-actuated relieving valves shall be not less than 10% of the maximum design steaming capacity of the boiler under any operating condition as determined by the Manufacturer. The valve or valves shall be located in the pressure part system where they will relieve the overpressure.

An isolating stop valve of the outside-screw-and-yoke or ball type may be installed between the power-actuated relieving valve and the boiler to permit repairs or cleaning of the economizer. Power-actuated pressure-relieving valves discharging into atmosphere shall be capacity certified. Instead, they shall be marked in accordance with PG-69.4. An isolating stop valve of the outside-screw-and-yoke or ball type may be installed between the power-actuated pressure-relieving valve and the boiler to permit repairs or cleaning of the economizer. Power-actuated pressure-relieving valves discharging into atmosphere shall be capacity certified. Instead, they shall be marked in accordance with PG-69.4.

PG-67.4.2  Pressure relief valves shall be provided, having a total combined relieving capacity, including that of the power-actuated pressure-relieving capacity...