

type, foam, or other approved fire extinguishing system.

[CGD 73-251, 43 FR 56808, Dec. 4, 1978, as amended by CGD 95-027, 61 FR 26008, May 23, 1996]

**§ 108.403a Fire extinguishing systems: Non-vital services.**

Each enclosed ventilating system for electric motors or generators not used for vital services must have an access into the system for firefighting or be protected by a fixed fire protection system.

**§ 108.404 Selection of fire detection system.**

(a) If a fire detector is in a space, it must provide effective detection of fires most likely to occur in the space.

(b) The fire detection system must be designed to minimize false alarms.

**§ 108.405 Fire detection system.**

(a) Each fire detection system and each smoke detection system on a unit must—

(1) Be approved by the Commandant; and

(2) Have a visual alarm and an audible alarm in the pilothouse or at a normally manned control station for the system.

(b) Each fire detection system must be divided into zones to limit the area covered by any particular alarm signal.

(c) Each visual alarm must—

(1) Have a chart or diagram next to the alarm that shows the location of the zones in the system and that contains the instructions for operating, and testing the system;

(2) When activated show the zone in the system where fire has been detected; and

(3) Be in a noticeable location in the pilothouse or control station.

**§ 108.407 Detectors for electric fire detection system.**

(a) Each detector in an electric fire detection system must be located where—

(1) No portion of the overhead of a space protected is more than 3 meters (10 feet) from a detector;

(2) Beams and girders extending below the ceiling of the space protected and any other obstructions do not de-

tract from the effectiveness of the detector; and

(3) Damage to the detector is unlikely to occur if it is not protected.

(b) Each detector must be set to activate at not less than 57 °C (135 °F) and at not more than 73 °C (165 °F), except that if a space normally has a high ambient temperature each detector may be set to activate at not less than 80 °C (175 °F) and not more than 107 °C (225 °F).

**§ 108.409 Location and spacing of tubing in pneumatic fire detection system.**

(a) All tubing in a pneumatic fire detection system must be on the overhead or within 300 millimeters (12 inches) of the overhead on a bulkhead in a location where—

(1) No portion of the overhead is more than 3.6 meters (12 feet) from the nearest point of tubing;

(2) Beams or girders extending below the ceiling or other obstructions do not detract from the effectiveness of the tubing; and

(3) Damage to the tubing, is unlikely to occur if it is not protected.

(b) If tubing in a tubing circuit is installed in an enclosed space, at least 5% of the tubing in the circuit must be exposed in the space, except that at least 7.6 meters (25 feet) of tubing must always be exposed in the space.

(c) A pneumatic fire detection system must be set to activate after approximately a 22°C. (40°F.) per minute increase in temperature at the center of the circuit in the system.

**§ 108.411 Smoke detection system.**

Each smoke accumulator in a smoke detection system must be located on the overhead of the compartment protected by the system in a location—

(a) Where no portion of the overhead of the compartment is more than 12 meters (40 feet) from an accumulator;

(b) That is no closer to the opening of a ventilator than 3 times the diameter or equivalent size of the opening.

(c) Where damage to the accumulator is unlikely to occur if it is not protected.