

(3) For other types of foam systems, the water rate to the dry-powder generators or air foam production equipment shall be at least 1.6 gallons per minute for each 10 square feet of area protected.

(c) *Supply of foam-producing material.*

(1) There shall be provided a quantity of foam-producing material sufficient to operate the equipment at the minimum discharge rate specified in paragraph (b) of this section for a period of at least 3 minutes.

(d) *Separate supply of foam-producing material.* (1) A separate supply of foam-producing material need not be provided for each space protected. This includes a deck foam system. The total available supply shall be at least sufficient for the space requiring the greatest amount.

(e) *Water supply for required pumps.* (1) The water supply shall be from outside and completely independent of the space protected.

§ 34.17-10 Controls—T/ALL.

(a) The foam agent, its container, measuring devices, and other items peculiar to the system shall be of an approved type.

(b) The foam-producing material container and all controls and valves for the operation of the system shall be outside the space protected and shall not be located in such space as might be cut off or made inaccessible in the event of fire in any of the spaces protected. The control space shall be as convenient as practicable to one of the main escapes from the spaces protected, and shall be marked as required by § 35.40-10 of this subchapter. Where pumps are required, it shall not be necessary that they be started from the control space.

(c) Complete, but simple instructions for the operation of the system shall be located in a conspicuous place at or near the controls.

(d) The valves to the various spaces served shall be marked as required by § 35.40-10 of this subchapter.

§ 34.17-15 Piping—T/ALL.

(a) All piping, valves, and fittings shall meet the applicable requirements of subchapter F (Marine Engineering) of this chapter.

(b) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved otherwise by the Commandant.

(c) All piping, valves, and fittings shall be securely supported, and where necessary, protected against injury.

(d) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture.

(e) Piping shall not be used for any other purpose than firefighting, drills and testing.

§ 34.17-20 Discharge outlets—T/ALL.

(a) Discharge outlets shall be of an approved type.

§ 34.17-25 Additional protection required—T/ALL.

(a) In order that any residual fires above the floor plates may be extinguished when a foam system is installed for the protection of machinery spaces, at least 2 fire hydrants, in addition to those required for the machinery space by subpart 34.10, shall be installed outside of the machinery space entrance. Such hydrants shall be fitted with sufficient hose so that any part of the machinery space may be reached with at least 2 streams of water, and each hose shall be equipped with an approved combination nozzle and applicator.

§ 34.17-90 Installations contracted for prior to January 1, 1962—T/ALL.

(a) Installations contracted for prior to January 1, 1962, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 34.17-5 through 34.17-20, insofar as is reasonable and practicable. Installations contracted for prior to November 19, 1952, need not comply with paragraph (a)(2)

§ 34.20-1

of § 34.17-5 and § 34.17-25. A 6-inch blanket of foam in 3 minutes for machinery spaces and pumprooms will be considered as meeting the requirements of § 34.17-5.

(3) Where a system is installed to protect a tank, it shall be so designed and arranged as to spread a blanket of foam over the entire liquid surface of the tank within the range of usual trim. The arrangement of piping shall be such as to give a relatively uniform distribution over the entire area protected.

(4) For tanks, the rate of discharge to foam outlets protecting the hazard shall be as set forth in § 34.17-5(b), except that the value of 1 gallon per minute shall be substituted in both cases for the value of 1.6 gallons per minute. The quantity of foam provided shall be sufficient to operate the equipment for 5 minutes.

(5) On installations installed prior to November 19, 1952, a semiportable foam generator using a dry-chemical mixture or mechanical foam in conjunction with the fire lines may be substituted for the fixed system subject to the following conditions:

(i) There shall be at least one fire pump of suitable capacity available which can be operated and controlled from outside the space protected.

(ii) Stop valves shall be installed in the line so that if any portion of the fire main is ruptured, the foam generator may still be operated. Connections for at least two fire hoses shall be provided between the pump and the stop valve.

(iii) If the foam system is of the portable or semiportable type, the apparatus and chemicals shall be stored in a readily accessible place protected from the weather.

Subpart 34.20—Deck Foam System, Details

§ 34.20-1 Application—T/ALL.

(a) Where a deck foam system is installed, the provisions of this subpart, except § 34.20-90, apply to all installations that are contracted for on or after January 1, 1970, unless otherwise indicated.

46 CFR Ch. I (10-1-04 Edition)

(b) Installations contracted for prior to January 1, 1970, shall meet the requirements of § 34.20-90.

(c) Foreign flag crude oil tankers and product carriers required to have fixed deck foam systems by this subpart must have systems that are designed and installed in accordance with Regulation 61 of Chapter II-2 of SOLAS 1974. (Senate Document, 57-1180, GPO, Washington, 1976; "Message from the President of the United States transmitting, the International Convention for the Safety of Life at Sea, 1974, Done at LONDON, November 1, 1974").

(46 U.S.C. 391a; 49 CFR 1.46(n)(4))

[CGFR 69-72, 34 FR 17481, Oct. 29, 1969, as amended by CGD 74-127, 41 FR 3846, Jan. 26, 1976; CGD 77-057a, 44 FR 66502, Nov. 19, 1979]

§ 34.20-3 Cargo area definition—T/ALL.

(a) For the purpose of this subpart, the term *cargo area* is defined as the maximum beam of the vessel times the total longitudinal extent of the cargo tank spaces.

§ 34.20-5 Quantity of foam required—T/ALL.

(a) *Area protected.* Systems of this type are designed to give primary protection to the spaces over the cargo tanks.

(b) *Rate of application.* The water rate of the foam production equipment shall be determined as follows:

(1) For usual petroleum products the rate of supply of foam solution shall be not less than the greatest of the following:

(i) 0.6 liters/min per square meter of cargo tanks deck area, where cargo tanks deck area means the maximum breadth of the ship multiplied by the total longitudinal extent of the cargo tank spaces;

(ii) 6 liters/min per square meter of the horizontal sectional area of the single tank having the largest such area; or

(iii) 3 liters/min per square meter of the area protected by the largest monitor, such area being entirely forward of the monitor, but not less than 1,250 liters/min.

(2) For polar solvent products (e.g. alcohols, ketones, etc.) the water rate shall be determined for each vessel.