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(e) FAA Advisory Circulars in the 150 series contain standards and procedures for equipment, material, installation, and maintenance of light systems and marking listed in this section which are acceptable to the Administrator.

(f) Notwithstanding paragraph (a) of this section, a certificate holder is not required to provide the identified signs in paragraph (a)(3) of this section until January 1, 1995. Each certificate holder shall maintain each marking system that meets paragraph (a)(3) of this section.

[Doc. No. 24812, 52 FR 44282, Nov. 18, 1987, as amended by Amdt. 139-15, 53 FR 40843, Oct. 18, 1988; Amdt. 139-19, 57 FR 15164, Apr. 24, 1992; Amdt. 139-20, 59 FR 7120, Feb. 14, 1994]

§ 139.313 Snow and ice control.

(a) Each certificate holder whose airport is located where snow and icing conditions regularly occur shall prepare, maintain, and carry out a snow and ice control plan.

(b) The snow and ice control plan required by this section shall include instructions and procedures for—

(1) Prompt removal or control, as completely as practical, of snow, ice, and slush on each movement area;

(2) Positioning snow off of movement area surfaces so that all air carrier aircraft propellers, engine pods, rotors, and wingtips will clear any snowdrift and snowbank as the aircraft's landing gear traverses any full strength portion of the movement area;

(3) Selection and application of approved materials for snow and ice control to ensure that they adhere to snow and ice sufficiently to minimize engine ingestion;

(4) Timely commencement of snow and ice control operations; and

(5) Prompt notification, in accordance with §139.339, of all air carriers using the airport when any portion of the movement area normally available to them is less than satisfactorily cleared for safe operation by their aircraft.

(c) FAA Advisory Circulars in the 150 series contain standards for snow and ice control equipment, materials, and procedures for snow and ice control

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which are acceptable to the Administrator.

[Doc. No. 24812, 52 FR 44282, Nov. 18, 1987; 53 FR 4258, Feb. 12, 1988]

§ 139.315 Aircraft rescue and fire-fighting: Index determination.

(a) An Index is required by paragraph (c) of this section for each certificate holder. The Index is determined by a combination of—

(1) The length of air carrier aircraft expressed in groups; and

(2) Average daily departures of air carrier aircraft.

(b) For the purpose of Index determination, air carrier aircraft lengths are grouped as follows:

(1) Index A includes aircraft less than 90 feet in length.

(2) Index B includes aircraft at least 90 feet but less than 126 feet in length.

(3) Index C includes aircraft at least 126 feet but less than 159 feet in length.

(4) Index D includes aircraft at least 159 feet but less than 200 feet in length.

(5) Index E includes aircraft at least 200 feet in length.

(c) Except as provided in §139.319(c), the Index required by §139.319 is determined as follows:

(1) If there are five or more average daily departures of air carrier aircraft in a single Index group serving that airport, the longest Index group with an average of 5 or more daily departures is the Index required for the airport.

(2) If there are less than five average daily departures of air carrier aircraft in a single Index group serving that airport, the next lower Index from the longest Index group with air carrier aircraft in it is the Index required for the airport. The minimum designated Index shall be Index A.

§ 139.317 Aircraft rescue and fire-fighting: Equipment and agents.

The following rescue and firefighting equipment and agents are the minimum required for the Indexes referred to in §139.315:

(a) *Index A*: One vehicle carrying at least—

(1) 500 pounds of sodium-based dry chemical or halon 1211; or

(2) 450 pounds of potassium-based dry chemical and water with a commensurate quantity of AFFF to total 100 gallons, for simultaneous dry chemical and AFFF foam application.

(b) *Index B*: Either of the following:

(1) One vehicle carrying at least 500 pounds of sodium-based dry chemical or halon 1211, and 1,500 gallons of water, and the commensurate quantity of AFFF for foam production.

(2) Two vehicles—

(i) One vehicle carrying the extinguishing agents as specified in paragraph (a)(1) or (2) of this section; and

(ii) One vehicle carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by both vehicles is at least 1,500 gallons.

(c) *Index C*: Either of the following:

(1) Three vehicles—

(i) One vehicle carrying the extinguishing agents as specified in paragraph (a)(1) or (2) of this section; and

(ii) Two vehicles carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by all three vehicles is at least 3,000 gallons.

(2) Two vehicles—

(i) One vehicle carrying the extinguishing agents as specified in paragraph (b)(1) of this section; and

(ii) One vehicle carrying water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by both vehicles is at least 3,000 gallons.

(d) *Index D*: Three vehicles—

(1) One vehicle carrying the extinguishing agents as specified in paragraph (a)(1) or (2) of this section; and

(2) Two vehicles carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by all three vehicles is at least 4,000 gallons.

(e) *Index E*: Three vehicles—

(1) One vehicle carrying the extinguishing agents as specified in paragraph (a)(1) or (2) of this section; and

(2) Two vehicles carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by

all three vehicles is at least 6,000 gallons.

(f) Notwithstanding the provisions of paragraphs (a) through (e) of this section, any certificate holder whose vehicles met the requirements of this part for quantity and type of extinguishing agent on December 31, 1987, may comply with the Index requirements of this section by carrying extinguishing agents to the full capacity of those vehicles. Whenever any of those vehicles is replaced or rehabilitated, the capacity of the replacement or rehabilitated vehicle shall be sufficient to comply with the requirements of the required Index.

(g) *Foam discharge capacity*. Each aircraft rescue and firefighting vehicle used to comply with Index B, C, D, or E requirements with a capacity of at least 500 gallons of water for foam production shall be equipped with a turret. Vehicle turret discharge capacity shall be as follows:

(1) Each vehicle with a minimum rated vehicle water tank capacity of at least 500 gallons but less than 2,000 gallons shall have a turret discharge rate of at least 500 gallons per minute but not more than 1,000 gallons per minute.

(2) Each vehicle with a minimum rated vehicle water tank capacity of at least 2,000 gallons shall have a turret discharge rate of at least 600 gallons per minute but not more than 1,200 gallons per minute.

(3) Notwithstanding the requirements of paragraph (g) of this section, any certificate holder whose aircraft rescue and firefighting vehicles are not equipped with turrets or do not have the discharge capacity required in this section, but otherwise met the requirements of this part on December 31, 1987, need not comply with paragraph (g) of this section for a particular vehicle until that vehicle is replaced or rehabilitated.

(h) *Dry chemical and halon 1211 discharge capacity*. Each aircraft rescue and firefighting vehicle which is required to carry dry chemical or halon 1211 for compliance with the index requirements of this section must meet one of the following minimum discharge rates for the equipment installed:

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(1) Dry chemical or halon 1211 through a hand line, 5 pounds per second.

(2) Dry chemical or halon 1211 through a turret, 16 pounds per second.

(i) *Extinguishing agent substitutions.* The following extinguishing agent substitutions may be made:

(1) Protein or fluoroprotein foam concentrates may be substituted for AFFF. When either of these substitutions is selected, the volume of water to be carried for the substitute foam production shall be calculated by multiplying the volume of water required for AFFF by the factor 1.5.

(2) Sodium- or potassium-based dry chemical or halon 1211 may be substituted for AFFF. Up to 30 percent of the amount of water specified for AFFF production may be replaced by dry chemical or halon 1211, except that for airports where such extreme climatic conditions exist that water is either unmanageable or unobtainable, as in arctic or desert regions, up to 100 percent of the required water may be replaced by dry chemical or halon 1211. When this substitution is selected, 12.7 pounds of dry chemical or halon 1211 shall be substituted for each gallon of water used for AFFF foam production.

(3) Sodium- or potassium-based dry chemical or halon 1211 may be substituted for protein or fluoroprotein foam. When this substitution is selected, 8.4 pounds of dry chemical or halon 1211 shall be substituted for one gallon of water for protein or fluoroprotein foam production.

(4) AFFF may be substituted for dry chemical or halon 1211. For airports where meteorological conditions, such as consistently high winds and precipitation, would frequently prevent the effective use of dry chemical or halon 1211, up to 50 percent of these agents may be replaced by water for AFFF production. When this substitution is selected, one gallon of water for foam production with the commensurate quantity of AFFF shall be substituted for 12.7 pounds of dry chemical or halon 1211.

(5) Potassium-based dry chemical may be substituted for sodium-based dry chemical. Where 500 pounds of sodium-based dry chemical is specified,

450 pounds of potassium-based dry chemical may be substituted.

(6) Other extinguishing agent substitutions acceptable to the Administrator may be made in amounts that provide equivalent firefighting capability.

(j) In addition to the quantity of water required, each vehicle required to carry AFFF shall carry AFFF in an appropriate amount to mix with twice the water required to be carried by the vehicle.

(k) FAA Advisory Circulars in the 150 series contain standards and procedures for AFFF equipment and agents which are acceptable to the Administrator.

[Doc. No. 24812, 52 FR 44282, Nov. 18, 1987; Amdt. 139-14, 53 FR 4120 and 4258, Feb. 12, 1988]

§ 139.319 Aircraft rescue and firefighting: Operational requirements.

(a) Except as provided in paragraph (c) of this section, each certificate holder shall provide on the airport, during air carrier operations at the airport, at least the rescue and firefighting capability specified for the Index required by § 139.317.

(b) *Increase in Index.* Except as provided in paragraph (c) of this section, if an increase in the average daily departures or the length of air carrier aircraft results in an increase in the Index required by paragraph (a) of this section, the certificate holder shall comply with the increased requirements.

(c) *Reduction in rescue and firefighting.* During air carrier operations with only aircraft shorter than the Index aircraft group required by paragraph (a) of this section, the certificate holder may reduce the rescue and firefighting to a lower level corresponding to the Index group of the longest air carrier aircraft being operated.

(d) Any reduction in the rescue and firefighting capability from the Index required by paragraph (a) of this section in accordance with paragraph (c) of this section shall be subject to the following conditions:

(1) Procedures for, and the persons having the authority to implement, the reductions must be included in the airport certification manual.