§ 29.1359 Electrical system fire and smoke protection.

(a) Components of the electrical system must meet the applicable fire and smoke protection provisions of §§ 29.831 and 29.863.

(b) Electrical cables, terminals, and equipment, in designated fire zones, and that are used in emergency procedures, must be at least fire resistant.

(c) Insulation on electrical wire and cable installed in the rotorcraft must be self-extinguishing when tested in accordance with Appendix F, Part I(a)(3), of part 25 of this chapter.

[Doc. No. 5084, 29 FR 16150, Dec. 3, 1964, as amended by Amdt. 29–42, 63 FR 43285, Aug. 12, 1998]

§ 29.1363 Electrical system tests.

(a) When laboratory tests of the electrical system are conducted—

(1) The tests must be performed on a mock-up using the same generating equipment used in the rotorcraft;

(2) The equipment must simulate the electrical characteristics of the distribution wiring and connected loads to the extent necessary for valid test results; and

(3) Laboratory generator drives must simulate the prime movers on the rotorcraft with respect to their reaction to generator loading, including loading due to faults.

(b) For each flight condition that cannot be simulated adequately in the laboratory or by ground tests on the rotorcraft, flight tests must be made.

LIGHTS

§ 29.1381 Instrument lights.

The instrument lights must—

(a) Make each instrument, switch, and other device for which they are provided easily readable; and

(b) Be installed so that—

(1) Their direct rays are shielded from the pilot's eyes; and

(2) No objectionable reflections are visible to the pilot.

§ 29.1383 Landing lights.

(a) Each required landing or hovering light must be approved.

(b) Each landing light must be installed so that—

(1) No objectionable glare is visible to the pilot;

(2) The pilot is not adversely affected by halation; and

(3) It provides enough light for night operation, including hovering and landing.

(c) At least one separate switch must be provided, as applicable—

(1) For each separately installed landing light; and

(2) For each group of landing lights installed at a common location.

§ 29.1385 Position light system installation.

(a) *General.* Each part of each position light system must meet the applicable requirements of this section and each system as a whole must meet the requirements of §§ 29.1387 through 29.1397.

(b) *Forward position lights.* Forward position lights must consist of a red and a green light spaced laterally as far apart as practicable and installed forward on the rotorcraft so that, with the rotorcraft in the normal flying position, the red light is on the left side, and the green light is on the right side. Each light must be approved.

(c) *Rear position light.* The rear position light must be a white light mounted as far aft as practicable, and must be approved.

(d) *Circuit.* The two forward position lights and the rear position light must make a single circuit.

(e) *Light covers and color filters.* Each light cover or color filter must be at least flame resistant and may not change color or shape or lose any appreciable light transmission during normal use.

§ 29.1387 Position light system dihedral angles.

(a) Except as provided in paragraph (e) of this section, each forward and rear position light must, as installed, show unbroken light within the dihedral angles described in this section.

(b) Dihedral angle *L* (left) is formed by two intersecting vertical planes, the first parallel to the longitudinal axis of the rotorcraft, and the other at 110 degrees to the left of the first, as viewed when looking forward along the longitudinal axis.