

§ 171.113

14 CFR Ch. I (1–1–19 Edition)

(b) *Power output.* The normal carrier power output must be of a value which will provide coverage requirements of § 171.109(a)(6) when reduced by 3 dB to the monitor RF power reduction alarm point specified in § 171.111(j)(3).

(c) *VSWR.* (1) The VSWR of carrier and sideband feedlines must be a nominal value of 1/1 and must not exceed 1.2/1.

(2) The sponsor will also provide additional manufacturer's ground standards and tolerances for all VSWR parameters peculiar to the equipment which can effect performance of the facility in meeting the requirements specified in §§ 171.109 and 171.111.

(d) *Insulation resistance.* The insulation resistance of all coaxial feedlines must be greater than 20 megohms.

(e) *Depth of modulation.* (1) The depth of modulation of the radio frequency carrier due to each of the 90 Hz and 150 Hz tones must be 20 percent $\pm$ 2 percent along the course line.

(2) The depth of modulation of the radio frequency carrier due to the 1020 Hz identification signal must be within 5 percent to 15 percent.

(f) *Course sector width.* The standard course sector width must be 6° or 12°. The course sector must be maintained with $\pm$ 17 percent of the standard.

(g) *Course alignment.* Course alignment must be as specified in § 171.109(a)(8).

(h) *Back course alignment and width.* If a back course is provided, standards and tolerances for back course sector width and alignment must be the same as course sector width and course alignment specified in paragraphs (f) and (g) of this section.

(i) *Clearance.* Clearance must be as specified in § 171.109(a)(10).

(j) *Monitor standards and tolerances.* (1) The monitor system must provide a warning to the designated control point(s) when any of the conditions described in this paragraph occur, within the time periods specified in paragraph (j)(6) of this section.

(2) Course shift alarm: The monitor must alarm and cause radiation to cease, or identification and navigation signals must be removed, if the course alignment deviates from standard alignment by 10 percent or more of the standard course sector width.

(3) RF power reduction alarm: The monitor must alarm and cause radiation to cease, or identification and navigation signals must be removed, if the output power is reduced by 3 db or more from normal.

(4) Modulation level alarm: The monitor must alarm and cause radiation to cease, or identification and navigation signals must be removed, if the 90 Hz and 150 Hz modulation levels decrease by 17 percent or more.

(5) Course sector width alarm: The monitor must alarm and cause radiation to cease, or identification and navigation signals must be removed, for a change in course sector width to a value differing by $\pm$ 17 percent or more from the standard.

(6) Monitor delay before shutdown: Radiation must cease, or identification and navigation signals must be removed, within 10 seconds after a fault is detected by the monitor, and no attempt must be made to resume radiation for a period of at least 20 seconds. If an automatic recycle device is used, not more than three successive recycles may be permitted before a complete SDF shutdown occurs.

(k) *Mean time between failures.* The mean time between failures must not be less than 800 hours. This measure is applied only to equipment failures (monitor or transmitting equipment, including out of tolerance conditions) which result in facility shutdown. It does not relate to the responsiveness of the maintenance organization.

(l) *Course alignment stability.* Drift of the course alignment must not exceed one-half the monitor limit in a 1-week period.

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§ 171.113 Installation requirements.

(a) The facility must be installed according to accepted good engineering practices, applicable electric and safety codes, and FCC requirements.

(b) The SDF facility must have the following basic components:

(1) VHF SDF equipment and associated monitor system;

(2) Remote control, and indicator equipment (remote monitor) when required by the FAA;