§ 171.111

Ground standards and tolerances.

Compliance with this section must be shown as a condition to approval and must be maintained during operation of the SDF.

(a) Frequency. The SDF must operate on odd tenths or odd tenths plus a twentieth MHz within the frequency band 108.1 MHz to 111.95 MHz. The frequency tolerance of the radio frequency carrier must not exceed plus or minus 0.002 percent.

(b) 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.

(1) 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 ±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.