## §171.9 Installation requirements.

- (a) The facility must be installed according to accepted good engineering practices, applicable electric and safety codes, and the installation must meet at least the Federal Communication Commission's licensing requirements.
- (b) The facility must have a reliable source of suitable primary power, either from a power distribution system or locally generated, with a supplemental standby system, if needed.
- (c) Dual transmitting equipment with automatic changeover is preferred and may be required to support certain IFR procedures.
- (d) There must be a means for determining, from the ground, the performance of the equipment, including the antenna, initially and periodically.
- (e) A facility intended for use as an instrument approach aid for an airport must have or be supplemented by (depending on circumstances) the following ground-air or landline communications services:
- (1) At facilities outside of and not immediately adjacent to controlled airspace, there must be ground-air communications from the airport served by the facility. Separate communications channels are acceptable.
- (2) At facilities within or immediately adjacent to controlled airspace, there must be the ground-air communications required by paragraph (e)(1) of this section and reliable communications (at least a landline telephone) from the airport to the nearest FAA air traffic control or communication facility.

Paragraphs (e) (1) and (2) of this section are not mandatory at airports where an adjacent FAA facility can communicate with aircraft on the ground at the airport and during the entire proposed instrument approach procedure. In addition, at low traffic density airports within or immediately adjacent to controlled airspace and where extensive delays are not a factor, the requirements of paragraphs (e) (1) and (2) of this section may be reduced to reliable communications (at least a landline telephone) from the airport to the nearest FAA air traffic control or communication facility, if an adjacent FAA facility can communicate with aircraft during the proposed instrument approach procedure, at least down to the minimum en route altitude for the controlled airspace area.

[Doc. No. 5034, 29 FR 11337, Aug. 6, 1964, as amended by Amdt. 171–7, 35 FR 12711, Aug. 11, 1970; Amdt. 171–16, 56 FR 65664, Dec. 17, 1991]

## §171.11 Maintenance and operations requirements.

- (a) The owner of the facility must establish an adequate maintenance system and provide qualified maintenance personnel to maintain the facility at the level attained at the time it was commissioned. Each person who maintains a facility must meet at least the Federal Communications Commission's licensing requirements and show that he has the special knowledge and skills needed to maintain the facility including proficiency in maintenance procedures and the use of specialized test equipment.
- (b) The owner must prepare, and obtain FAA approval of, an operations and maintenance manual that sets forth mandatory procedures for operations, preventive maintenance, and emergency maintenance, including instructions on each of the following:
  - (1) Physical security of the facility.
- (2) Maintenance and operations by authorized persons only.
- (3) FCC licensing requirements for operating and maintenance personnel.
  - (4) Posting of licenses and signs.
- (5) Relations between the facility and FAA air traffic control facilities, with a description of the boundaries of controlled airspace over or near the facility, instructions for relaying air traffic control instructions and information (if applicable), and instructions for the operation of an air traffic advisory service if the VOR is located outside of controlled airspace.
- (6) Notice to the Administrator of any suspension of service.
- (7) Detailed and specific maintenance procedures and servicing guides stating the frequency of servicing.
- (8) Air-ground communications, if provided, expressly written or incorporating appropriate sections of FAA manuals by reference.