

**Federal Communications Commission**

**§73.37**

**73.33 Antenna systems; showing required.**

(a) An application for authority to install a broadcast antenna shall specify a definite site and include full details of the antenna design and expected performance.

(b) All data necessary to show compliance with the terms and conditions of the construction permit must be filed with the license application. If the station is using a directional antenna, a proof of performance must also be filed.

[28 FR 13574, Dec. 14, 1963, as amended at 37 FR 25840, Dec. 5, 1972]

**§73.35 Calculation of improvement factors.**

A petition for an allotment (See §73.30) in the 1605–1705 kHz band filed by an existing fulltime AM station licensed in the 535–1605 kHz band will be ranked according to the station's calculated improvement factor. (See §73.30). Improvement factors relate to both nighttime and daytime interference conditions and are based on two distinct considerations: (a) Service area lost by other stations due to interference caused by the subject station, and (b) service area of the subject station. These considerations are represented by a ratio. The ratio consists, where applicable, of two separate additive components, one for nighttime and one for daytime. For the nighttime component, to determine the numerator of the ratio (first consideration), calculate the RSS and associated service area of the stations (co- and adjacent channel) to which the subject station causes nighttime interference. Next, repeat the RSS and service area calculations excluding the subject station. The cumulative gain in the above service area is the numerator of the ratio. The denominator (second consideration) is the subject station's interference-free service area. For the daytime component, the composite amount of service lost by co-channel and adjacent channel stations, each taken individually, that are affected by the subject station, excluding the effects of other assignments during each study, will be used as the numerator of the daytime improvement factor. The denominator will consist of the actual

daytime service area (0.5 mV/m contour) less any area lost to interference from other assignments. The value of this combined ratio will constitute the petitioner's improvement factor. Notwithstanding the requirements of §73.153, for uniform comparisons and simplicity, measurement data will not be used for determining improvement factors and FCC figure M-3 ground conductivity values are to be used exclusively in accordance with the pertinent provisions of §73.183(c)(1).

[56 FR 64858, Dec. 12, 1991]

**§73.37 Applications for broadcast facilities, showing required.**

(a) No application will be accepted for a new station if the proposed operation would involve overlap of signal strength contours with any other station as set forth below in this paragraph; and no application will be accepted for a change of the facilities of an existing station if the proposed change would involve such overlap where there is not already such overlap between the stations involved:

Frequency separation (kHz)	Contour of proposed station (classes B, C and D) (mV/m)	Contour of any other station (mV/m)
0 .....	0.005 0.025 0.500	0.100 (Class A). 0.500 (Other classes). 0.025 (All classes).
10 .....	0.250 0.500	0.500 (All classes). 0.250 (All classes).
20 .....	5 5	5 (All classes). 5 (All classes).
30 .....	25	25 (All classes).

(b) In determining overlap received, an application for a new Class C station with daytime power of 250 watts, or greater, shall be considered on the assumption that both the proposed operation and all existing Class C stations operate with 250 watts and utilize non-directional antennas.

(c) If otherwise consistent with the public interest, an application requesting an increase in the daytime power of an existing Class C station on a local channel from 250 watts to a maximum of 1kW, or from 100 watts to a maximum of 500 watts, may be granted notwithstanding overlap prohibited by paragraph (a) of this section. In the

case of a 100 watt Class C station increasing daytime power, the provisions of this paragraph shall not be construed to permit an increase in power to more than 500 watts, if prohibited overlap would be involved, even if successive applications should be tendered.

(d) In addition to demonstrating compliance with paragraphs (a), and, as appropriate, (b), and (c) of this section, an application for a new AM broadcast station, or for a major change (see §73.3571(a)(1)) in an authorized AM broadcast station, as a condition for its acceptance, shall make a satisfactory showing, if new or modified nighttime operation by a Class B station is proposed, that objectionable interference will not result to an authorized station, as determined pursuant to §73.182(1).

(e) An application for an authorization in the 1605-1705 kHz band which has been selected through the petition process (See §73.30) is not required to demonstrate compliance with paragraph (a), (b), (c), or (d) of this section. Instead, the applicant need only comply with the terms of the allotment authorization issued by the Commission in response to the earlier petition for establishment of a station in the 1605-1705 kHz band. Within the allotment authorization, the Commission will specify the assigned frequency and the applicable technical requirements.

(f) Stations on 1580, 1590 and 1600 kHz. In addition to the rules governing the authorization of facilities in the 535-1605 kHz band, stations on these frequencies seeking facilities modifications must protect assignments in the 1610-1700 kHz band. Such protection shall be afforded in a manner which considers the spacings that occur or exist between the subject station and a station within the range 1605-1700 kHz. The spacings are the same as those specified for stations in the frequency band 1610-1700 kHz or the current separation distance, whichever is greater. Modifications that would result in a spacing or spacings that fails to meet any of the separations must include a showing that appropriate adjustment has been made to the radiated signal which effectively results in a site-to-

site radiation that is equivalent to the radiation of a station with standard Model I facilities (10 kW-D, 1 kW-N, non-DA, 90 degree antenna ht. & ground system) operating in compliance with all of the above separation distances. In those cases where that radiation equivalence value is already exceeded, a station may continue to maintain, but not increase beyond that level.

NOTE 1: In the case of applications for changes in the facilities of AM broadcast stations covered by this section, an application will be accepted even though overlap of field strength contours as mentioned in this section would occur with another station in an area where such overlap does not already exist, if:

- (1) The total area of overlap with that station would not be increased;
- (2) There would be no net increase in the area of overlap with any other station; and
- (3) There would be created no area of overlap with any station with which overlap does not now exist.

NOTE 2: The provisions of this section concerning prohibited overlap of field strength contours will not apply where:

- (1) The area of overlap lies entirely over sea water; or
- (2) The only overlap involved would be that caused to a foreign station, in which case the provisions of the applicable international agreement, as identified in §73.1650, will apply. When overlap would be received from a foreign station, the provisions of this section will apply, except where there would be overlap with a foreign station with a frequency separation of 20 kHz, in which case the provisions of the international agreement will apply in lieu of this section.

NOTE 3: In determining the number of "authorized" aural transmission facilities in a given community, applications for that community in hearing or otherwise having protected status under specified "cut-off" procedures shall be considered as existing stations. In the event that there are two or more mutually exclusive protected applications seeking authorization for the proposed community it will be assumed that only one is "authorized."

NOTE 4: A "transmission facility" for a community is a station licensed to the community. Such a station provides a "transmission service" for that community.

[56 FR 64858, Dec. 12, 1991; 57 FR 43290, Sept. 18, 1992]