

Federal Communications Commission

§ 74.1235

facilities of such a station, which proposes unattended operation shall include an adequate showing as to the manner of compliance with this section.

[35 FR 15388, Oct. 2, 1970, as amended at 37 FR 18540, Sept. 13, 1972; 38 FR 25992, Sept. 17, 1973; 60 FR 55484, Nov. 1, 1995; 63 FR 33879, June 22, 1998; 67 FR 13234, Mar. 21, 2002]

§ 74.1235 Power limitations and antenna systems.

(a) An application for an FM translator station filed by the licensee or permittee of the primary station to provide fill-in service within the primary station's coverage area will not be accepted for filing if it specifies an effective radiated power (ERP) which exceeds 250 watts.

(b) An application for an FM translator station, other than one for fill-in service which is covered in paragraph (a) of this section, will not be accepted for filing if it specifies an effective radiated power (ERP) which exceeds the maximum ERP (MERP) value determined in accordance with this paragraph. The antenna height above average terrain (HAAT) shall be determined in accordance with § 73.313(d) of this chapter for each of 12 distinct radials, with each radial spaced 30 degrees apart and with the bearing of the first radial bearing true north. Each radial HAAT value shall be rounded to the nearest meter. For each of the 12 radial directions, the MERP is the value corresponding to the calculated HAAT in the following tables that is appropriate for the location of the translator. For an application specifying a nondirectional transmitting antenna, the specified ERP must not exceed the smallest of the 12 MERP's. For an application specifying a directional transmitting antenna, the ERP in each azimuthal direction must not exceed the MERP for the closest of the 12 radial directions.

(1) For FM translators located east of the Mississippi River or in Zone I-A as described in § 73.205(b) of this chapter:

Radial HAAT (meters)	Maximum ERP (MERP in watts)
Less than or equal to 32	250
33 to 39	170
40 to 47	120
48 to 57	80
58 to 68	55

Radial HAAT (meters)	Maximum ERP (MERP in watts)
69 to 82	38
83 to 96	27
97 to 115	19
116 to 140	13
Greater than or equal to 141	10

(2) For FM translators located in all other areas:

Radial HAAT (meters)	Maximum ERP (MERP in watts)
Less than or equal to 107	250
108 to 118	205
119 to 130	170
131 to 144	140
145 to 157	115
158 to 173	92
174 to 192	75
193 to 212	62
213 to 235	50
236 to 260	41
261 to 285	34
286 to 310	28
311 to 345	23
346 to 380	19
381 to 425	15.5
426 to 480	13
481 to 540	11
Greater than or equal to 541	10

(c) The effective radiated power of FM booster stations shall be limited such that the predicted service contour of the booster station, computed in accordance with § 73.313 paragraphs (a) through (d) of this chapter, may not extend beyond the corresponding service contour of the primary FM station that the booster rebroadcasts. In no event shall the ERP of the booster station exceed 20% of the maximum allowable ERP for the primary station's class.

(d) Applications for FM translator stations located within 320 km of the Canadian border will not be accepted if they specify more than 50 watts effective radiated power in any direction or have a 34 dBu interference contour, calculated in accordance with § 74.1204 of this part, that exceeds 32 km. FM translator stations located within 320 kilometers of the Mexican border must be separated from Mexican allotments and assignments in accordance with § 73.207(b)(3) of this chapter and are limited to a transmitter power output of 10 watts or less. For purposes of compliance with that section, FM translators will be considered as Class D FM stations.

(1) Translator stations located within 125 kilometers of the Mexican border may operate with an ERP up to 50 watts (0.050 kW) ERP. A booster station may not produce a 34 dBu interfering contour in excess of 32 km from the transmitter site in the direction of the Mexican border, nor may the 60 dBu service contour of the booster station exceed 8.7 km from the transmitter site in the direction of the Mexican border.

(2) Translator stations located between 125 kilometers and 320 kilometers from the Mexican border may operate with an ERP in excess of 50 watts, up to the maximum permitted ERP of 250 watts per § 74.1235(b)(2). However, in no event shall the location of the 60 dBu contour lie within 116.3 km of the Mexican border.

(3) Applications for translator or booster stations within 320 km of the Canadian border may employ an ERP up to a maximum of 250 watts, as specified in § 74.1235(a) and (b). The distance to the 34 dBu interfering contour may not exceed 60 km in any direction.

(e) In no event shall a station authorized under this subpart be operated with a transmitter power output (TPO) in excess of the transmitter certificated rating. A station authorized under this subpart for a TPO that is less than its transmitter certificated rating shall determine its TPO in accordance with § 73.267 of this chapter and its TPO shall not be more than 105 percent of the authorized TPO.

(f) Composite antennas and antenna arrays may be used where the total ERP does not exceed the maximum determined in accordance with paragraphs (a), (b) or (c) of this section.

(g) Either horizontal, vertical, circular or elliptical polarization may be used provided that the supplemental vertically polarized ERP required for circular or elliptical polarization does not exceed the ERP otherwise authorized. Either clockwise or counterclockwise rotation may be used. Separate transmitting antennas are permitted if both horizontal and vertical polarization is to be provided.

(h) All applications must comply with § 73.316, paragraphs (d) and (e) of this chapter.

(i) An application that specifies use of a directional antenna must comply with § 73.316, paragraphs (c)(1) through (c)(3) of this chapter. Prior to issuance of a license, the applicant must: (1) Certify that the antenna is mounted in accordance with the specific instructions provided by the antenna manufacturer; and (2) certify that the antenna is mounted in the proper orientation. In instances where a directional antenna is proposed for the purpose of providing protection to another facility, a condition may be included in the construction permit requiring that before program tests are authorized, a permittee: (1) Must submit the results of a complete proof-of-performance to establish the horizontal plane radiation patterns for both the horizontally and vertically polarized radiation components; and, (2) must certify that the relative field strength of neither the measured horizontally nor vertically polarized radiation component shall exceed at any azimuth the value indicated on the composite radiation pattern authorized by the construction permit.

NOTE: Existing licensees and permittees that do not furnish data sufficient to calculate the contours in conformance with § 74.1204 will be assigned protected contours having the following radii:

Up to 10 watts—1 mile (1.6 km) from transmitter site.

Up to 100 watts—2 miles (3.2 km) from transmitter site.

Up to 250 watts—4 miles (6.5 km) from transmitter site.

(j) FM translator stations authorized prior to June 1, 1991, with facilities that do not comply with the ERP limitation of paragraph (a) or (b) of this section, as appropriate, may continue to operate, provided that operation is in conformance with § 74.1203 regarding interference. Applications for major changes in FM translator stations must specify facilities that comply with paragraph (a) or (b) of this section, as appropriate.

[55 FR 50697, Dec. 10, 1990, as amended at 56 FR 56170, Nov. 1, 1991; 58 FR 42026, Aug. 6, 1993; 62 FR 51063, Sept. 30, 1997; 63 FR 33879, June 22, 1998; 63 FR 36605, July 7, 1998]