

(2) The coordinates of the other community as set forth in the Index to *The National Atlas of the United States of America*; or if not contained therein,

(3) The coordinates of the main post office of such other community.

(4) In addition, where there are pending applications in other communities which, if granted, would have to be considered in determining station separations, the coordinates of the transmitter sites proposed in such applications must be used to determine whether the requirements with respect to minimum separations between the proposed stations in the respective cities have been met.

(c) In measuring assignment and station separations involving cities listed in the Table in combination, where there is no authorized transmitter site in any of the combination cities on the channel involved, separation measurements shall be made from the reference point which will result in the lowest separation.

(d) To calculate the distance between two reference points see paragraph (c), § 73.208. However, distances shall be rounded to the nearest tenth of a kilometer.

[52 FR 11655, Apr. 10, 1987]

§ 73.612 Protection from interference.

(a) Permittees and licensees of TV broadcast stations are not protected from any interference which may be caused by the grant of a new station or of authority to modify the facilities of an existing station in accordance with the provisions of this subpart. The nature and extent of the protection from interference accorded to TV broadcast stations is limited solely to the protection which results from the minimum allotment and station separation requirements and the rules and regulations with respect to maximum powers and antenna heights set forth in this subpart.

(b) When the Commission determines that grant of an application would serve the public interest, convenience, and necessity and the instrument of authorization specifies an antenna location in a designated antenna farm area which results in distance separation less than those specified in this subpart, TV broadcast station permit-

tees and licensees shall be afforded protection from interference equivalent to the protection afforded under the minimum distance separations specified in this subpart.

NOTE: The nature and extent of the protection from interference accorded to TV broadcast stations which were authorized prior to April 14, 1952, and which were operating on said date is limited not only as specified above but is further limited by any smaller separations existing between such stations on said date. Where, as a result of the adoption of the Table of Allotments or of changes in transmitter sites made by such stations after said date, separations smaller than the required minimum are increased but still remain lower than the required minimum, protection accorded such stations will be limited to the new separations.

[28 FR 13660, Dec. 14, 1963, as amended at 32 FR 8814, June 21, 1967; 50 FR 23698, June 5, 1985; 51 FR 44070, Dec. 8, 1986]

§ 73.613 Protection of Class A TV stations.

(a) An application for a new TV broadcast station or for changes in the operating facilities of an existing TV broadcast station will not be accepted for filing if it fails to comply with the requirements specified in this section.

NOTE TO § 73.613(a): Licensees and permittees of TV broadcast stations that were authorized on November 29, 1999 (and applicants for new TV stations that had been cut-off without competing applications or that were the winning bidder in a TV broadcast station auction as of that date, or that were the proposed remaining applicant in a group of mutually exclusive applications for which a settlement agreement was on file as of that date) may continue to operate with facilities that do not protect Class A TV stations. Applications filed on or before November 29, 1999 for a change in the operating facilities of such stations also are not required to protect Class A TV stations under the provisions of this section.

(b) Due to the frequency spacing which exists between TV channels 4 and 5, between channels 6 and 7, and between channels 13 and 14, first-adjacent channel protection standards shall not be applicable to these pairs of channels. Some interference protection requirements of this section only apply to stations transmitting on the UHF TV channels 14 through 51 (See § 73.603(a) of this part).

(c) A UHF TV broadcast station application will not be accepted if it specifies a site less than 100 kilometers from the transmitter site of a UHF Class A TV station operating on a channel which is the seventh channel above the requested channel. Compliance with this requirement shall be determined based on a distance computation rounded to the nearest kilometer.

(d) A UHF TV broadcast station application will not be accepted if it specifies a site less than 32 kilometers from the transmitter site of a UHF Class A TV station that is authorized an effective radiated power of more than 50 kilowatts and operating on a channel which is the second, third, or fourth channel above or below the requested channel. Compliance with this requirement shall be determined based on a distance computation rounded to the nearest kilometer.

(e) In cases where a TV broadcast station has been authorized facilities that do not meet the distance separation requirements of this section, an application to modify such a station's facilities will not be accepted if it decreases that separation.

(f) New interference must not be caused to Class A TV stations authorized pursuant to Subpart J of this part, within the protected contour defined in §73.6010 of this part. For this prediction, the TV broadcast station field strength is calculated from the proposed effective radiated power and the antenna height above average terrain in pertinent directions using the methods in §73.684 of this part.

(1) For co-channel protection, the field strength is calculated using the appropriate F(50,10) chart from Figure 9a, 10a, or 10c of §73.699 of this part.

(2) For TV broadcast stations that do not specify the same channel as the Class A TV station to be protected, the field strength is calculated using the appropriate F(50,50) chart from Figure 9, 10, or 10b of §73.699 of this part.

(g) A TV broadcast station application will not be accepted if the ratio in dB of its field strength to that of the Class A TV station at the Class A TV station's protected contour fails to meet the following:

(1) –45 dB for co-channel operations where the Class A TV station does not

specify an offset carrier frequency or where the TV broadcast and Class A TV stations do not specify different offset carrier frequencies (zero, plus or minus) or –28 dB for offset carrier frequency operation where the TV broadcast and Class A TV stations specify different offset carrier frequencies.

(2) 6 dB when the protected Class A TV station operates on a VHF channel that is one channel above the requested channel.

(3) 12 dB when the protected Class A TV station operates on a VHF channel that is one channel below the requested channel.

(4) 15 dB when the protected Class A TV station operates on a UHF channel that is one channel above or below the requested channel.

(5) 23 dB when the protected Class A TV station operates on a UHF channel that is fourteen channels below the requested channel.

(6) 6 dB when the protected Class A TV station operates on a UHF channel that is fifteen channels below the requested channel.

(h) New interference must not be caused to digital Class A TV stations authorized pursuant to Subpart J of this part, within the protected contour defined in §73.6010 of this part. A TV broadcast station application will not be accepted if the ratio in dB of the field strength of the digital Class A TV station at the digital Class A TV station's protected contour to the field strength resulting from the facilities proposed in the TV broadcast station application fails to meet the D/U signal ratios for "analog TV-into-DTV" specified in §§73.623(c)(2) and 73.623(c)(3) of this part. For digital Class A TV station protection, the TV broadcast station field strength is calculated from the proposed effective radiated power and the antenna height above average terrain in pertinent directions using the methods in §73.684 of this part and using the appropriate F(50,10) chart from Figure 9a, 10a, or 10c of §73.699 of this part.

(i) In cases where a TV broadcast station has been authorized facilities that do not meet the interference protection

requirements of this section, an application to modify such a station's facilities will not be accepted if it is predicted to cause new interference within the protected contour of the Class A TV or digital Class A TV station.

(j) In support of a request for waiver of the interference protection requirements of this section, an applicant for a TV broadcast station may make full use of terrain shielding and Longley-Rice terrain dependent propagation methods to demonstrate that the proposed facility would not be likely to cause interference to Class A TV stations. Guidance on using the Longley-Rice methodology is provided in *OET Bulletin No. 69*, which is available through the Internet at <http://www.fcc.gov/oet/info/documents/bulletins/#69>.

[65 FR 3001, May 10, 2000]

§ 73.614 Power and antenna height requirements.

(a) *Minimum requirements.* Applications will not be accepted for filing if they specify less than -10 dBk (100 watts) horizontally polarized visual effective radiated power in any horizontal direction. No minimum antenna height above average terrain is specified.

(b) *Maximum power.* Applications will not be accepted for filing if they specify a power which exceeds the maximum permitted boundaries specified in the following formulas:

(1) Channels 2-6 in Zone I:

$$\text{ERP}_{\text{Max}} = 102.57 - 33.24 * \text{Log}_{10}(\text{HAAT})$$

And,

$$-10 \text{ dBk} \leq \text{ERP}_{\text{Max}} \leq 20 \text{ dBk}$$

(2) Channels 2-6 in Zones II and III:

$$\text{ERP}_{\text{Max}} = 67.57 - 17.08 * \text{Log}_{10}(\text{HAAT})$$

And,

$$10 \text{ dBk} \leq \text{ERP}_{\text{Max}} \leq 20 \text{ dBk}$$

(3) Channels 7-13 in Zone I:

$$\text{ERP}_{\text{Max}} = 107.57 - 33.24 * \text{Log}_{10}(\text{HAAT})$$

And,

$$-4.0 \text{ dBk} \leq \text{ERP}_{\text{Max}} \leq 25 \text{ dBk}$$

(4) Channels 7-13 in Zones II and III:

$$\text{ERP}_{\text{Max}} = 72.57 - 17.08 * \text{Log}_{10}(\text{HAAT})$$

And,

$$15 \text{ dBk} \leq \text{ERP}_{\text{Max}} \leq 25 \text{ dBk}$$

(5) Channels 14-69 in Zones I, II, and III:

$$\text{ERP}_{\text{Max}} = 84.57 - 17.08 * \text{Log}_{10}(\text{HAAT})$$

And,

$$27 \text{ dBk} \leq \text{ERP}_{\text{Max}} \leq 37 \text{ dBk}$$

Where:

ERP_{Max} = Maximum Effective Radiated Power measured in decibels above 1 kW (dBk).

HAAT = Height Above Average Terrain measured in meters.

The boundaries specified are to be used to determine the maximum possible combination of antenna height and ERP_{dBk} . When specifying an ERP_{dBk} less than that permitted by the lower boundary, any antenna HAAT can be used. Also, for values of antenna HAAT greater than 2,300 meters the maximum ERP is the lower limit specified for each equation.

(6) The effective radiated power in any horizontal or vertical direction may not exceed the maximum values permitted by this section.

(7) The effective radiated power at any angle above the horizontal shall be as low as the state of the art permits, and in the same vertical plane may not exceed the effective radiated power in either the horizontal direction or below the horizontal, whichever is greater.

(c) *Determination of applicable rules.* The zone in which the transmitter of a television station is located or proposed to be located determines the applicable rules with respect to maximum antenna heights and powers for VHF stations when the transmitter is located in Zone I and the channel to be employed is located in Zone II, or the transmitter is located in Zone II and the channel to be employed is located in Zone I.

[28 FR 13660, Dec. 14, 1963, as amended at 42 FR 20823, Apr. 22, 1977; 42 FR 48881, Sept. 26, 1977; 47 FR 35990, Aug. 18, 1982; 50 FR 23698, June 5, 1985; 56 FR 49707, Oct. 1, 1991; 58 FR 51250, Oct. 1, 1993]

§ 73.615 Administrative changes in authorizations.

In the issuance of television broadcast station authorizations, the Commission will specify the transmitter output power and effective radiated