

(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>.

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[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:

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

And,

$$-10 \text{ dBk} \leq ERP_{\text{Max}} \leq 20 \text{ dBk}$$

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

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

And,

$$10 \text{ dBk} \leq ERP_{\text{Max}} \leq 20 \text{ dBk}$$

(3) Channels 7-13 in Zone I:

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

And,

$$-4.0 \text{ dBk} \leq ERP_{\text{Max}} \leq 25 \text{ dBk}$$

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

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

And,

$$15 \text{ dBk} \leq ERP_{\text{Max}} \leq 25 \text{ dBk}$$

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

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

And,

$$27 \text{ dBk} \leq ERP_{\text{Max}} \leq 37 \text{ dBk}$$

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

§ 73.615

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 power to the nearest 0.1 dBk. Power specified by kW's shall be obtained by converting dBk to kW's to 3 significant figures. Antenna heights above average terrain will be specified to the nearest meter. Midway figures will be authorized in the lower alternative.

[50 FR 23698, June 5, 1985]

§ 73.616 Post-transition DTV station interference protection.

(a) A petition to add a new channel to the post-transition DTV Table of Allotments contained in § 73.622(i) of this subpart will not be accepted unless it meets: the DTV-to-DTV geographic spacing requirements of § 73.623(d) with respect to all existing DTV allotments in the post-transition DTV Table; the

47 CFR Ch. I (10–1–20 Edition)

principle community coverage requirements of § 73.625(a); the Class A TV and digital Class A TV protection requirements in paragraph (f) of this section; the land mobile protection requirements of § 73.623(e); and the FM radio protection requirement of § 73.623(f).

(b) The reference coordinates of a post-transition DTV allotment shall be the authorized transmitter site, or, where such a transmitter site is not available for use as a reference point, the coordinates as designated in the FCC order creating or modifying the post-transition DTV Table of Allotments.

(c) The protected facilities of a post-transition DTV allotment shall be the facilities (effective radiated power, antenna height and antenna directional radiation pattern, if any) authorized by a construction permit or license, or, where such an authorization is not available for establishing reference facilities, the facilities designated in the FCC order creating or modifying the post-transition DTV Table of Allotments.

(d) An application will not be accepted if it is predicted to cause interference to more than an additional 0.5 percent of the population served by another post-transition DTV station. For this purpose, the population served by the station receiving additional interference does not include portions of the population within the noise-limited service contour of that station that are predicted to receive interference from the post-transition DTV allotment facilities of the applicant or portions of that population receiving masking interference from any other station.

(1) For evaluating compliance with the requirements of this paragraph, interference to populations served is to be predicted based on the 2000 census population data and otherwise according to the procedure set forth in OET Bulletin No. 69: "Longley-Rice Methodology for Evaluating TV Coverage and Interference" (February 6, 2004) (incorporated by reference, see § 73.8000), including population served within service areas determined in accordance with § 73.622(e), consideration of whether F(50,10) undesired signals will exceed the following desired-to-undesired (D/