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 Longely-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:

$ERP_{Max}=102.57–33.24*Log_{10}(HAAT)$

And,

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

(2) Channels 2–6 in Zones II and III:

$ERP_{Max}=67.57–17.08*\ Log_{10}\ (HAAT)$

And,

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

(3) Channels 7–13 in Zone I:

$ERP_{Max}=107.57–33.24*\ Log_{10}\ (HAAT)$

And,

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

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

$ERP_{Max}=72.57–17.08*\ Log_{10}\ (HAAT)$

And,

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

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

$ERP_{Max}=84.57–17.08*\ Log_{10}\ (HAAT)$

And,

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

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 power to the nearest 0.1 dBk. Power

specified by kWs shall be obtained by converting dBk to kWs 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) Applications seeking facilities that will operate prior to the end of the DTV transition must also comply with § 73.623.

(b) 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 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).

(c) 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.

(d) 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.

(e) 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/U) signal ratios, assumed use of a directional receiving antenna, and use of the terrain dependent Longley-Rice point-to-point propagation model. Applicants may request the use of a cell size other than the default of 2.0 km per side, but only requests for cell sizes of 1.0 km per side or 0.5 km per side will be considered. The threshold levels at which interference is considered to occur are:

(i) For co-channel stations, the D/U ratio is +15 dB. This value is only valid at locations where the signal-to-noise ratio is 28 dB or greater. At the edge of the noise-limited service area, where the signal-to-noise (S/N) ratio is 16 dB, this value is +23 dB. At locations where the S/N ratio is greater than 16 dB but less than 28 dB, D/U values are computed from the following formula:

$$D/U = 15+10\log_{10}[1.0/(1.0-10^{-x/10})]$$

Where x = S/N–15.19 (minimum signal to noise ratio)

(ii) For interference from a lower first-adjacent channel, the D/U ratio is −28 dB.

(iii) For interference from an upper first-adjacent channel, the D/U ratio is −26 dB.

(2) Due to the frequency spacing that exists between Channels 4 and 5, between Channels 6 and 7, and between