

changes to be made in the height, orientation, gain and radiation pattern of the antenna system.

[61 FR 26677, May 28, 1996, as amended at 62 FR 4924, Feb. 3, 1997; 62 FR 24582, May 6, 1997; 63 FR 6105, Feb. 6, 1998; 65 FR 38329, June 20, 2000; 65 FR 59358, Oct. 5, 2000; 67 FR 43038, June 26, 2002; 68 FR 4957, Jan. 31, 2003; 69 FR 3267, Jan. 23, 2004; 70 FR 29997, May 25, 2005; 72 FR 55677, Oct. 1, 2007; 73 FR 55775, Sept. 26, 2008]

§ 101.117 Antenna polarization.

Except as set forth herein, stations operating in the radio services included in this part are not limited as to the type of polarization of the radiated signal that may be employed. However, in the event interference in excess of permissible levels is caused to the operation of other stations as a result of employing other than linear polarization, the Commission may order a licensee to change its system polarization to mitigate the interference. No change in polarization may be made without prior authorization from the Commission. Unless otherwise allowed, only linear polarization (horizontal and vertical) shall be used. For LMDS systems, unless otherwise authorized, system operators are permitted to use any polarization within its service area, but only vertical and/or horizontal polarization for antennas located within 20 kilometers of the outermost edge of their service area.

[68 FR 4957, Jan. 31, 2003]

§ 101.119 Simultaneous use of common antenna structures.

The simultaneous use of common antenna structures by more than one radio station, or by one of more domestic public radio stations and one or more stations of any other class or service, may be authorized: provided, however, that each licensee or user of any such structure is responsible for maintaining the structure, and for painting and illuminating the structure when obstruction marking is required by the Commission. (See § 101.21(a).)

§ 101.125 Temporary fixed antenna height restrictions.

The overall antenna structure heights employed by mobile stations in

the Local Television Transmission Service and by stations authorized to operate at temporary fixed locations may not exceed the height criteria set forth in § 17.7 of this chapter, unless in each instance, authorization for use of a specific maximum antenna height (above ground and above mean sea level) for each location has been obtained from the Commission prior to erection of the antenna. Requests for such authorization must show the inclusive dates of the proposed operation. (Complete information as to rules concerning the construction, marking and lighting of antenna structures is contained in part 17 of this chapter.)

§ 101.129 Transmitter location.

(a) The applicant must determine, prior to filing an application for a radio station authorization, that the antenna site specified therein is adequate to render the service proposed. In cases of questionable antenna locations, it is desirable to conduct propagation tests to indicate the field intensity which may be expected in the principal areas or at the fixed points of communication to be served, particularly where severe shadow problems may be expected. In considering applications proposing the use of such locations, the Commission may require site survey tests to be made pursuant to a developmental authorization in the particular service concerned. In such cases, propagation tests should be conducted in accordance with recognized engineering methods and should be made with a transmitting antenna simulating, as near as possible, the proposed antenna installation. Full data obtained from such surveys and its analysis, including a description of the methods used and the name, address and qualifications of the engineer making the survey, must be supplied to the Commission.

(b) In the 12.2–12.7 GHz band, licensees must not locate MVDDS transmitting antennas within 10 km of any qualifying NGSO FSS receiver unless mutual agreement is obtained between the MVDDS and NGSO FSS licensees. Such agreements must be retained by the licensees and made available for inspection by interested parties upon request.

(1) A qualifying NGSO FSS receiver, for the purposes of this section, is deemed to be one that is in regular use by an NGSO FSS subscriber for normal reception purposes in the 12.2–12.7 GHz band and not one for monitoring or testing purposes. In addition, qualifying receivers must either be in operation on the date or already be under construction and then operating within thirty days of the date that the MVDDS licensee notifies the NGSO FSS licensee of its intent to construct a new MVDDS transmitting antenna at a specified location.

(2) Except as provided in paragraph (b)(3) of this section, the 10 kilometer spacing requirement for each MVDDS transmitting antenna site shall not apply with respect to NGSO FSS receivers that might be installed or become operational (except for those under construction and operating within thirty days as specified in paragraph (b)(1) of this section) subsequent to the original date that the MVDDS licensee provided notice of its intention to construct a given transmission facility.

(3) In the event that a proposed MVDDS transmitting antenna for which notice has been duly given to the NGSO FSS licensee has not been placed in normal operation within one calendar year of the date of notice, then the MVDDS licensee loses the benefit of the original notice. Upon such anniversary, the MVDDS licensee must re-determine compliance with the minimum 10 kilometer spacing requirement based upon locations of qualifying NGSO FSS receivers on that anniversary date. A new determination of compliance with the spacing requirement shall be made for each succeeding anniversary of non-operation for each proposed MVDDS transmission site or additional antenna. This provision contemplates that failure to commence normal operation at a given MVDDS transmitting antenna site within one year of the date of NGSO FSS notification may require successive relocations of the proposed transmitter site in order to meet the minimum spacing distance as determined on each anniversary of non-operation.

[61 FR 26677, May 28, 1996, as amended at 63 FR 68983, Dec. 14, 1998; 67 FR 43038, June 26, 2002]

§ 101.131 Transmitter construction and installation.

(a) The equipment at the operating and transmitting positions must be so installed and protected that it is not accessible to, or capable of being operated by, persons other than those duly authorized by the licensee.

(b) In any case where the maximum modulating frequency of a transmitter is prescribed by the Commission, the transmitter must be equipped with a low-pass or band-pass modulation filter of suitable performance characteristics. In those cases where a modulation limiter is employed, the modulation filter must be installed between the transmitter stage in which limiting is effected and the modulated stage of the transmitter.

(c) Each transmitter employed in these services must be equipped with an appropriately labeled pilot lamp or meter which will provide continuous visual indication at the transmitter when its control circuits have been placed in a condition to activate the transmitter. In addition, facilities must be provided at each transmitter to permit the transmitter to be turned on and off independently of any remote control circuits associated therewith.

(d) At each transmitter control point the following facilities must be installed:

(1) A carrier operated device which will provide continuous visual indication when the transmitter is radiating, or, in lieu thereof, a pilot lamp or meter which will provide continuous visual indication when the transmitter control circuits have been placed in a condition to activate the transmitter; and

(2) Facilities which will permit the operator to turn transmitter carrier on and off at will.

(e) Transmitter control circuits from any control point must be so installed that grounding or shorting any line in the control circuit will not cause the transmitter to radiate: provided, however, That this provision will not be applicable to control circuits of stations which normally operate with continuous radiation or to control circuits which are under the effective operational control of responsible operating personnel 24 hours per day.