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§ 73.508 Standards of good engineering practice.

(a) All noncommercial educational stations and LPFM stations operating with more than 10 watts transmitter power output shall be subject to all of the provisions of the FM Technical Standards contained in subpart B of this part. Class D educational stations and LPFM stations operating with 10 watts or less transmitter output power shall be subject to the definitions contained in § 73.310, and also to those other provisions of the FM Technical Standards which are specifically made applicable to them by the provisions of this subpart.

(b) The transmitter and associated transmitting equipment of each non-commercial educational FM station and LPFM station licensed for transmitter power output above 10 watts must be designed, constructed and operated in accordance with § 73.317.

(c) The transmitter and associated transmitting equipment of each non-commercial educational FM station licensed for transmitter power output of 10 watts or less, although not required to meet all requirements of § 73.317, must be constructed with the safety provisions of the current national electrical code as approved by the American National Standards Institute. These stations must be operated, tuned, and adjusted so that emissions are not radiated outside the authorized band causing or which are capable of causing interference to the communications of other stations. The audio distortion, audio frequency range, carrier hum, noise level, and other essential phases of the operation which control the external effects, must be at all times capable of providing satisfactory broadcast service. Studio equipment properly covered by an underwriter's certificate will be considered as satisfying safety requirements.

[65 FR 7640, Feb. 15, 2000]

§ 73.509 Prohibited overlap.

(a) An application for a new or modified NCE-FM station other than a Class D (secondary) station will not be accepted if the proposed operation would involve overlap of signal strength contours with any other station licensed

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by the Commission and operating in the reserved band (Channels 200–220, inclusive) as set forth below:

Frequency separation	Contour of proposed station	Contour of other station
Co-channel	0.1 mV/m (40 dBu) ...	1 mV/m (60 dBu)
	1 mV/m (60 dBu)	0.1 mV/m (40 dBu)
200 kHz	0.5 mV/m (54 dBu) ..	1 mV/m (60 dBu)
	1 mV/m (60 dBu)1 ...	0.5 mV/m (54 dBu)
400 kHz/600 kHz.	100 mV/m (100 dBu)	1 mV/m (60 dBu)
	1 mV/m (60 dBu)	100 mV/m (100 dBu)

(b) An application by a Class D (secondary) station, other than an application to change class, will not be accepted if the proposed operation would involve overlap of signal strength contours with any other station as set forth below:

Frequency separation	Contour of proposed station	Contour of any other station
Co-channel	0.1 mV/m (40 dBu) ..	1 mV/m (60 dBu).
200 kHz	0.5 mV/m (54 dBu) ..	1 mV/m (60 dBu).
400 kHz	10 mV/m (80 dBu) ...	1 mV/m (60 dBu).
600 kHz	100 mV/m (100 dBu)	1 mV/m (60 dBu).

(c) The following standards must be used to compute the distances to the pertinent contours:

(1) The distance of the 60 dBu (1 mV/m) contours are to be computed using Figure 1 of § 73.333 [F(50,50) curves] of this part.

(2) The distance to the other contours are to be computed using Figure 1a of § 73.333 [F(50,10) curves]. In the event that the distance to the contour is below 16 kilometers (approximately 10 miles), and therefore not covered by Figure 1a, curves in Figure 1 must be used.

(3) The effective radiated power (ERP) that is the maximum ERP for any elevation plane on any bearing will be used.

(d) An application for a change (other than a change in channel) in the facilities of a NCE-FM broadcast station will be accepted even though overlap of signal strength contours, as specified in paragraphs (a) and (b) of this section, would occur with another station in an area where such overlap does not already exist, if:

(1) The total area of overlap with that station would not be increased;

(2) The area of overlap with any other station would not increase;

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(3) The area of overlap does not move significantly closer to the station receiving the overlap; and,

(4) No area of overlap would be created with any station with which the overlap does not now exist.

(e) The provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water.

[50 FR 27962, July 9, 1985, as amended at 52 FR 43765, Nov. 16, 1987; 65 FR 79778, Dec. 20, 2000]

§ 73.510 Antenna systems.

(a) All noncommercial educational stations operating with more than 10 watts transmitter output power shall be subject to the provisions of § 73.316 concerning antenna systems contained in subpart B of this part.

(b) *Directional antenna.* No application for a construction permit of a new station, or change in channel, or change in an existing facility on the same channel will be accepted for filing if a directional antenna with a maximum-to-minimum ratio of more than 15 dB is proposed.

[42 FR 36829, July 18, 1977]

§ 73.511 Power and antenna height requirements.

(a) No new noncommercial educational station will be authorized with less power than minimum power requirements for commercial Class A facilities. (See § 73.211.)

(b) No new noncommercial educational FM station will be authorized with facilities greater than Class B in Zones I and I-A or Class C in Zone II, as defined in § 73.211.

(c) Stations licensed before December 31, 1984, and operating above 50 kW in Zones I and I-A, and above 100 kW and in Zone II may continue to operate as authorized.

[50 FR 27963, July 9, 1985, as amended at 50 FR 31379, Aug. 2, 1985; 54 FR 3602, Jan. 25, 1989]

§ 73.512 Special procedures applicable to Class D noncommercial educational stations.

(a) All Class D stations seeking renewal of license for any term expiring June 1, 1980, or thereafter shall comply

with the requirements set forth below and shall simultaneously file an application on FCC Form 340, containing full information regarding such compliance with the provisions set forth below.

(1) To the extent possible, each applicant shall select a commercial FM channel on which it proposes to operate in lieu of the station's present channel. The station may select any commercial channel provided no objectionable interference, as set forth in § 73.509(b), would be caused. The application shall include the same engineering information as is required to change the frequency of an existing station and any other information necessary to establish the fact that objectionable interference would not result. If no commercial channel is available where the station could operate without causing such interference, the application shall set forth the basis upon which this conclusion was reached.

(2) If a commercial channel is unavailable, to the extent possible each applicant should propose operation on Channel 200 (87.9 MHz) unless the station would be within 402 kilometers (250 miles) of the Canadian border or 320 kilometers (199 miles) of the Mexican border or would cause interference to an FM station operating on Channels 201, 202, or 203 or to TV Channel 6, as provided in § 73.509.

(3) If a channel is not available under either paragraph (a) (1) or (2) of this section, the renewal applicant shall study all 20 noncommercial educational FM channels and shall propose operation on the channel which would cause the least preclusion to the establishment of new stations or increases in power by existing stations. Full information regarding the basis for the selection should be provided.

(b) At any time before the requirements of paragraph (a) become effective, any existing Class D station may file a construction permit application on FCC Form 340 to change channel in the manner described above which shall be subject to the same requirements. In either case, any license granted shall specify that the station's license is for a Class D (secondary) station.