(c) The primary standard of frequency for radio frequency measurements is the standard frequency maintained by the National Bureau of Standards or the standard signals of Stations WWV, WWVB, and WWVH of the National Bureau of Standards.

[43 FR 32783, July 28, 1978, as amended at 48 FR 44805, Sept. 30, 1983; 65 FR 30004, May 10, 2000]

§ 73.1545 Carrier frequency departure tolerances.

(a) *AM stations.* The departure of the carrier frequency for monophonic transmissions or center frequency for stereophonic transmissions may not exceed ±20 Hz from the assigned frequency.

(b) *FM stations.* (1) The departure of the carrier or center frequency of an FM station with an authorized transmitter output power more than 10 watts may not exceed ±2000 Hz from the assigned frequency.

(2) The departure of the carrier or center frequency of an FM station with an authorized transmitter output power of 10 watts or less may not exceed ±3000 Hz from the assigned frequency.

(c) *TV stations.* (1) The departure of the visual carrier frequency of a TV station may not exceed ±1000 Hz from the assigned visual carrier frequency.

(2) The departure of the aural carrier frequency of a TV station may not exceed ±1000 Hz from the actual visual carrier frequency plus exactly 4.5 MHz.

(d) *International broadcast stations.* The departure of the carrier frequency of an International broadcast station may not exceed 0.0015% of the assigned frequency on which the station is transmitting.

(e) *Class A TV stations.* The departure of the carrier frequency of Class A TV stations may not exceed the values specified in § 74.761 of this chapter. Provided, however, that Class A TV stations licensed to operate with a carrier offset, including those stations licensed with a maximum effective radiated power and/or antenna height greater than the values specified in their initial Class A TV station authorization, must comply with paragraph (c) of this section.

NOTE TO PARAGRAPH (e): At a date not later than nine months after release of the Memorandum Opinion and Order on Reconsideration in MM Docket No. 00–10 (the proceeding that established the Class A TV service), all licensed Class A stations must operate with a carrier frequency offset. See *Memorandum Opinion and Order on Reconsideration*, In the Matter of Establishment of a Class A Television Service, MM Docket No. 00–10, released April 13, 2001.

[44 FR 58734, Oct. 11, 1979; 44 FR 64408, Nov. 7, 1979, as amended at 47 FR 13165, Mar. 29, 1982; 65 FR 30004, May 10, 2000; 67 FR 21691, May 1, 2001]

§ 73.1560 Operating power and mode tolerances.

(a) *AM stations.* (1) Except as provided for in paragraph (d) of this section, the antenna input power of an AM station as determined by the procedures specified in § 73.51 must be maintained as near as is practicable to the authorized antenna input power and may not be less than 90% nor more than 105% of the authorized power.

(2) Whenever the transmitter of an AM station cannot be placed into the specified operating mode at the time required, transmissions of the station must be immediately terminated. However, if the radiated field at any bearing or elevation does not exceed that permitted for that time of day, operation in the mode with the lesser radiated field may continue under the notification procedures of paragraph (d) of this section.

(b) *FM stations.* Except as provided in paragraph (d) of this section, the transmitter output power of an FM station, with power output as determined by the procedures specified in § 73.267, which is authorized for output power more than 10 watts must be maintained as near as practicable to the authorized transmitter output power and may not be less than 90% nor more than 105% of the authorized power. FM stations operating with authorized transmitter output power of 10 watts or less, may operate at less than the authorized power, but not more than 105% of the authorized power.

(c) *TV stations.* (1) Except as provided in paragraph (d) of this section, the visual output power of a TV or Class A TV transmitter, as determined by the procedures specified in Sec. 73.664, must be

maintained as near as is practicable to the authorized transmitter output power and may not be less than 80% nor more than 110% of the authorized power.

(2) The output power of the aural transmitter shall be maintained to provide an aural carrier ERP not to exceed 22% of the peak authorized visual ERP.

(3) The FCC may specify deviation from the power of tolerance requirements for subscription television operations to the extent it deems necessary to permit proper operation.

(d) *Reduced power operation.* In the event it becomes technically impossible to operate at authorized power, a broadcast station may operate at reduced power for a period of not more than 30 days without specific authority from the FCC. If operation at reduced power will exceed 10 consecutive days, notification must be made to the FCC in Washington, DC, Attention: Audio Division (radio) or Video Division (television), Media Bureau, not later than the 10th day of the lower power operation. In the event that normal power is restored within the 30 day period, the licensee must notify the FCC of the date that normal operation was restored. If causes beyond the control of the licensee prevent restoration of the authorized power within 30 days, a request for Special Temporary Authority (see § 73.1635) must be made to the FCC in Washington, DC for additional time as may be necessary.

[44 FR 58734, Oct. 11, 1979, as amended at 49 FR 22093, May 25, 1984; 49 FR 29069, July 18, 1984; 49 FR 47610, Dec. 6, 1984; 50 FR 26568, June 27, 1985; 50 FR 40015, Oct. 1, 1985; 63 FR 33877, June 22, 1998; 65 FR 30004, May 10, 2000; 67 FR 13232, Mar. 21, 2002]

§ 73.1570 Modulation levels: AM, FM, TV and Class A TV aural.

(a) The percentage of modulation is to be maintained at as high a level as is consistent with good quality of transmission and good broadcast service, with maximum levels not to exceed the values specified in paragraph (b). Generally, the modulation should not be less than 85% on peaks of frequent recurrence, but where lower modulation levels may be required to avoid objectionable loudness or to maintain the dynamic range of the program material, the degree of modulation may be reduced to whatever level is necessary for this purpose, even though under such circumstances, the level may be substantially less than that which produces peaks of frequent recurrence at a level of 85%.

(b) Maximum modulation levels must meet the following limitations:

(1) *AM stations.* In no case shall the amplitude modulation of the carrier wave exceed 100% on negative peaks of frequent recurrence, or 125% on positive peaks at any time.

(i) AM stations transmitting stereophonic programs not exceed the AM maximum stereophonic transmission signal modulation specifications of stereophonic system in use.

(ii) For AM stations transmitting telemetry signals for remote control or automatic transmission system operation, the amplitude of modulation of the carrier by the use of subaudible tones must not be higher than necessary to effect reliable and accurate data transmission and may not, in any case, exceed 6%.

(2) *FM stations.* The total modulation must not exceed 100 percent on peaks of frequent reoccurrence referenced to 75 kHz deviation. However, stations providing subsidiary communications services using subcarriers under provisions of § 73.319 concurrently with the broadcasting of stereophonic or monophonic programs may increase the peak modulation deviation as follows:

(i) The total peak modulation may be increased 0.5 percent for each 1.0 percent subcarrier injection modulation.

(ii) In no event may the modulation of the carrier exceed 110 percent (82.5 kHz peak deviation).

(3) *TV and Class A TV stations.* In no case shall the total modulation of the aural carrier exceed 100% on peaks of frequent recurrence, unless some other peak modulation level is specified in an instrument of authorization. For monophonic transmissions, 100% modulation is defined as +/−25 kHz.

(c) If a limiting or compression amplifier is employed to maintain modulation levels, precaution must be taken