

## § 1.30001

as a result of the installation of an antenna on an AM tower. In the event these processes are not completed before an antenna structure is constructed, any holder of or applicant for a Commission authorization is responsible for completing these processes before locating or proposing to locate an antenna on the structure, as described in this subpart.

### § 1.30001 Definitions.

For purposes of this subpart:

(a) *Wavelength at the AM frequency.* In this subpart, critical distances from an AM station are described in terms of the AM wavelength. The AM wavelength, expressed in meters, is computed as follows:

$(300 \text{ meters})/(\text{AM frequency in megahertz}) = \text{AM wavelength in meters.}$

For example, at the AM frequency of 1000 kHz, or 1 MHz, the wavelength is  $(300/1 \text{ MHz}) = 300 \text{ meters.}$

(b) *Electrical degrees at the AM frequency.* This term describes the height of a proposed tower as a function of the frequency of a nearby AM station. To compute tower height in electrical degrees, first determine the AM wavelength in meters as described in paragraph (a) of this section. Tower height in electrical degrees is computed as follows:  $(\text{Tower height in meters})/(\text{AM wavelength in meters}) \times 360 \text{ degrees} = \text{Tower height in electrical degrees.}$  For example, if the AM frequency is 1000 kHz, then the wavelength is 300 meters, per paragraph (a) of this section. A nearby tower 75 meters tall is therefore  $[75/300] \times 360 = 90 \text{ electrical degrees}$  tall at the AM frequency.

(c) *Proponent.* The term proponent refers in this section to the party proposing tower construction or significant modification of an existing tower or proposing installation of an antenna on an AM tower.

(d) *Distance from the AM station.* The distance shall be calculated from the tower coordinates in the case of a non-directional AM station, or from the array center coordinates given in CDBS or any successor database for a directional AM station.

## 47 CFR Ch. I (10–1–15 Edition)

### § 1.30002 Tower construction or modification near AM stations.

(a) Proponents of construction or significant modification of a tower which is within one wavelength of a non-directional AM station, and is taller than 60 electrical degrees at the AM frequency, must notify the AM station at least 30 days in advance of the commencement of construction. The proponent shall examine the potential impact of the construction or modification as described in paragraph (c) of this section. If the construction or modification would distort the radiation pattern by more than 2 dB, the proponent shall be responsible for the installation and maintenance of any detuning apparatus necessary to restore proper operation of the non-directional antenna.

(b) Proponents of construction or significant modification of a tower which is within the lesser of 10 wavelengths or 3 kilometers of a directional AM station, and is taller than 36 electrical degrees at the AM frequency, must notify the AM station at least 30 days in advance of the commencement of construction. The proponent shall examine the potential impact of the construction or modification as described in paragraph (c) of this section. If the construction or modification would result in radiation in excess of the AM station's licensed standard pattern or augmented standard pattern values, the proponent shall be responsible for the installation and maintenance of any detuning apparatus necessary to restore proper operation of the directional antenna.

(c) Proponents of construction or significant modification of a tower within the distances defined in paragraphs (a) and (b) of this section of an AM station shall examine the potential effects thereof using a moment method analysis. The moment method analysis shall consist of a model of the AM antenna together with the potential re-radiating tower in a lossless environment. The model shall employ the methodology specified in § 73.151(c) of this chapter, except that the AM antenna elements may be modeled as a series of thin wires driven to produce the required radiation pattern, without any requirement for measurement of tower impedances.

(d) A significant modification of a tower in the immediate vicinity of an AM station is defined as follows:

(1) Any change that would alter the tower's physical height by 5 electrical degrees or more at the AM frequency; or

(2) The addition or replacement of one or more antennas or transmission lines on a tower that has been detuned or base-insulated.

(e) The addition or modification of an antenna or antenna-supporting structure on a building shall be considered a construction or modification subject to the analysis and notice requirements of this subpart if and only if the height of the antenna-supporting structure alone exceeds the thresholds in paragraphs (a) and (b) of this section.

(f) With respect to an AM station that was authorized pursuant to a directional proof of performance based on field strength measurements, the proponent of the tower construction or modification may, in lieu of the study described in paragraph (c) of this section, demonstrate through measurements taken before and after construction that field strength values at the monitoring points do not exceed the licensed values. In the event that the pre-construction monitoring point values exceed the licensed values, the proponent may demonstrate that post-construction monitoring point values do not exceed the pre-construction values. Alternatively, the AM station may file for authority to increase the relevant monitoring-point value after performing a partial proof of performance in accordance with § 73.154 to establish that the licensed radiation limit on the applicable radial is not exceeded.

(g) Tower construction or modification that falls outside the criteria described in the preceding paragraphs is presumed to have no significant effect on an AM station. In some instances, however, an AM station may be affected by tower construction or modification notwithstanding the criteria set forth above. In such cases, an AM station may submit a showing that its operation has been affected by tower construction or modification. Such a showing shall consist of either a moment method analysis as described in paragraph (c) of this section, or of field

strength measurements. The showing shall be provided to:

(1) The tower proponent if the showing relates to a tower that has not yet been constructed or modified and otherwise to the current tower owner; and

(2) To the Commission, within two years after the date of completion of the tower construction or modification. If necessary, the Commission shall direct the tower proponent or tower owner, if the tower proponent or tower owner holds a Commission authorization, to install and maintain any detuning apparatus necessary to restore proper operation of the AM antenna. An applicant for a Commission authorization may not propose, and a party holding a Commission authorization may not locate, an antenna on any tower or support structure that has been shown to affect an AM station's operation pursuant to this subparagraph, or for which a disputed showing of effect on an AM station's operation is pending, unless the applicant, party, or tower owner notifies the AM station and takes appropriate action to correct the disturbance to the AM pattern.

(h) An AM station may submit a showing that its operation has been affected by tower construction or modification that was commenced or completed prior to or on the effective date of the rules adopted in this Part pursuant to MM Docket No. 93-177. Such a showing shall consist of either a moment method analysis as described in paragraph (c) of this section, or of field strength measurements. The showing shall be provided to the current tower owner and the Commission within one year of the effective date of the rules adopted in this Part pursuant to MM Docket No. 93-177. If necessary, the Commission shall direct the tower owner, if the tower owner holds a Commission authorization, to install and maintain any detuning apparatus necessary to restore proper operation of the AM antenna.

(i) An applicant for a Commission authorization may not propose, and a party holding a Commission authorization may not locate, an antenna on any tower or support structure, whether constructed before or after December 5,

### § 1.30003

### 47 CFR Ch. I (10–1–15 Edition)

2013, that meets the criteria in paragraphs (a) and (b) of this section, unless the analysis and notice process described in this subpart, and any necessary measures to correct disturbances of the AM radiation pattern, have been completed by the tower owner, the party proposing to locate the antenna, or any other party, either prior to construction or at any other time prior to the proposal or antenna location.

[78 FR 66295, Nov. 5, 2013]

#### § 1.30003 Installations on an AM antenna.

(a) *Installations on a nondirectional AM tower.* When antennas are installed on a nondirectional AM tower the AM station shall determine the operating power by the indirect method (see § 73.51 of this chapter). Upon completion of the installation, antenna impedance measurements on the AM antenna shall be made. If the resistance of the AM antenna changes by more than 2 percent (see § 73.45(c)(1) of this chapter), an application on FCC Form 302-AM (including a tower sketch of the installation) shall be filed with the Commission for the AM station to return to direct power measurement.

(b) *Installations on a directional AM array.* Before antennas are installed on a tower in a directional AM array, the proponent shall notify the AM station so that, if necessary, the AM station may determine operating power by the indirect method (see § 73.51 of this chapter) and request special temporary authority pursuant to § 73.1635 of this chapter to operate with parameters at variance.

(1) For AM stations licensed via field strength measurements (see § 73.151(a)), a partial proof of performance as defined by § 73.154 of this chapter shall be conducted by the tower proponent both before and after construction to establish that the AM array will not be and has not been adversely affected. If the operating parameters of the AM array change following the installation, the results of the partial proof of performance shall be filed by the AM station with the Commission on Form 302-AM.

(2) For AM stations licensed via a moment method proof (see § 73.151(c) of this chapter), a base impedance meas-

urement on the tower being modified shall be made by the tower proponent as described in § 73.151(c)(1). The result of the new tower impedance measurement shall be retained in the station's records. If the new measured base resistance and reactance values of the affected tower differ by more than  $\pm 2$  ohms and  $\pm 4$  percent from the corresponding modeled resistance and reactance values contained in the last moment method proof, then the station shall file Form 302-AM. The Form 302-AM shall be accompanied by the new impedance measurements for the modified tower and a new moment method model for each pattern in which the tower is a radiating element. Base impedance measurements for other towers in the array, sampling system measurements, and reference field strength measurements need not be repeated. The procedures described in this paragraph may be used as long as the affected tower continues to meet the requirements for moment method proofing after the modification.

(c) *Form 302-AM Filing.* When the AM station is required to file Form 302-AM following an installation as set forth in paragraphs (a) and (b) of this section, the Form 302-AM shall be filed before or simultaneously with any license application associated with the installation. If no license application is filed as a result of the installation, the Form 302-AM shall be filed within 30 days after the completion of the installation.

[78 FR 66295, Nov. 5, 2013]

#### § 1.30004 Notice of tower construction or modification near AM stations.

(a) Proponents of proposed tower construction or significant modification to an existing tower near an AM station that are subject to the notification requirement in §§ 1.30002 and 1.30003 shall provide notice of the proposed tower construction or modification to the AM station at least 30 days prior to commencement of the planned tower construction or modification. Notice shall be provided to any AM station that is licensed or operating under Program Test Authority using the official licensee information and address listed