(7) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

(c) The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals.

(d) Any U-NII device that operates in the 5.15-5.25 GHz band shall use a transmitting antenna that is an integral part of the device.

(e) Within the 5.15-5.25 GHz band, U-NII devices will be restricted to indoor operations to reduce any potential for harmful interference to co-channel MSS operations.

(f) U-NII devices are subject to the radio frequency radiation exposure requirements specified in §§1.1307(b), 2.1091 and 2.1093 of this chapter, as appropriate. All equipment shall be considered to operate in a “general population/uncontrolled” environment. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

(g) The frequency stability of the carrier frequency of an intentional radiator operating under this section shall be ±10 ppm over 10 milliseconds. The frequency stability shall be maintained over a temperature variation of ± 20 degrees to +90 degrees Celsius at normal supply voltage, and over a variation in the primary supply voltage of 95 percent to 115 percent of the rated supply voltage at a temperature of ±20 degrees Celsius. For equipment that is capable of operating only from a battery, the frequency stability tests shall be performed using a new battery without any further requirement to vary supply voltage.
§ 17.1 Basis and purpose.
(a) The rules in this part are issued pursuant to the authority contained in Title III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to issue licenses to radio stations when it is found that the public interest, convenience, and necessity would be served thereby, and to require the painting, and/or illumination of antenna structures if and when in its judgment such structures constitute, or there is reasonable possibility that they may constitute, a menace to air navigation.

(b) The purpose of this part is to prescribe certain procedures for antenna structure registration and standards with respect to the Commission's consideration of proposed antenna structures which will serve as a guide to antenna structure owners. The standards are referenced from two Federal Aviation Administration (FAA) Advisory Circulars.

[61 FR 4362, Feb. 6, 1996]

§ 17.2 Definitions.
(a) Antenna structure. The term antenna structure includes the radiating and/or receive system, its supporting structures and any appurtenances mounted thereon.

(b) An antenna farm area is defined as a geographical location, with established boundaries, designated by the Federal Communications Commission, in which antenna towers with a common impact on aviation may be grouped.

(c) Antenna structure owner. For the purposes of this part, an antenna structure owner is the individual or entity vested with ownership, equitable ownership, dominion, or title to the antenna structure. Notwithstanding any agreements made between the owner and any entity designated by the owner to maintain the antenna structure, the owner is ultimately responsible for compliance with the requirements of this part.

(d) Antenna structure registration number. A unique number, issued by the Commission during the registration process, which identifies an antenna structure. Once obtained, this number must be used in all filings related to this structure.


§ 17.4 Antenna structure registration.
(a) Effective July 1, 1996, the owner of any proposed or existing antenna structure that requires notice of proposed construction to the Federal Aviation Administration must register the structure with the Commission. This includes those structures used as part of stations licensed by the Commission for the transmission of radio energy, or to be used as part of a cable television head end system. If a Federal Government antenna structure is to be used by a Commission licensee, the structure must be registered with the Commission.

(1) For a proposed antenna structure or alteration of an existing antenna structure, the owner must register the structure prior to construction or alteration.

(2) For an existing antenna structure that had been assigned painting or lighting requirements prior to July 1, 1996, the owner must register the structure prior to July 1, 1996.

(3) For a structure that did not originally fall under the definition of “antenna structure,” the owner must register the structure prior to hosting a Commission licensee.

(b) Except as provided in paragraph (e) of this section, each owner must file FCC Form 854 with the Commission. Additionally, each owner of a proposed structure referred to in paragraphs (a)(1) or (a)(3) of this section must submit a valid FAA determination of “no hazard.” In order to be considered valid by the Commission, the FAA determination of “no hazard” must not have expired prior to the date on which FCC Form 854 is received by the Commission. The height of the structure will include the highest point of the structure including any obstruction lighting or lighting arrester.
§ 17.5 Commission consideration of applications for station authorization.

(a) Applications for station authorization, excluding services authorized on a geographic basis, are reviewed to determine whether there is a requirement that the antenna structure in question must be registered with the Commission.

(b) If registration is required, the registrant must supply the structure's registration number upon request by the Commission.

(c) If registration is not required, the application for authorization will be processed without further regard to this chapter.

§ 17.6 Responsibility of Commission licensees and permittees.

(a) The antenna structure owner is responsible for maintaining the painting and lighting in accordance with this part. However, if a licensee or permittee authorized on an antenna structure is aware that the structure is not being maintained in accordance with the specifications set forth on the Antenna Structure Registration (FCC Form 854R) or the requirements of this part, or otherwise has reason to question whether the antenna structure owner is carrying out its responsibility under this part, the licensee or permittee must take immediate steps to ensure that the antenna structure is brought into compliance and remains in compliance. The licensee must:

(1) Immediately notify the structure owner;

(2) Immediately notify the site management company (if applicable);

(3) Immediately notify the Commission; and,

(4) Make a diligent effort to immediately bring the structure into compliance.

(b) In the event of non-compliance by the antenna structure owner, the Commission may require each licensee and permittee authorized on an antenna structure to maintain the structure, for an indefinite period, in accordance with the Antenna Structure Registration (FCC Form 854R) and the requirements of this part.

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§ 17.8

(c) If the owner of the antenna structure cannot file FCC Form 854 because it is subject to a denial of federal benefits under the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862, the first licensee authorized to locate on the structure must register the structure using FCC Form 854, and provide a copy of the Antenna Structure Registration (FCC Form 854R) to the owner. The owner remains responsible for providing a copy of FCC Form 854R to all tenant licensees on the structure and for posting the registration number as required by §17.4(g).

[61 FR 4363, Feb. 6, 1996]

Subpart B—Federal Aviation Administration Notification Criteria

§ 17.7 Antenna structures requiring notification to the FAA.

A notification to the Federal Aviation Administration is required, except as set forth in §17.14, for any of the following construction or alteration:

(a) Any construction or alteration of more than 60.96 meters (200 feet) in height above ground level at its site.

(b) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one of the following slopes:

(1) 100 to 1 for a horizontal distance of 6.10 kilometers (20,000 feet) from the nearest point of the nearest runway of each airport specified in paragraph (d) of this section with at least one runway more than 0.98 kilometers (3,200 feet) in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 3.05 kilometers (10,000 feet) from the nearest point of the nearest runway of each airport specified in paragraph (d) of this section with its longest runway no more than 0.98 kilometers (3,200 feet) in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 1.52 kilometers (5,000 feet) from the nearest point of the nearest landing and takeoff area of each heliport specified in paragraph (d) of this section.

(c) When requested by the FAA, any construction or alteration that would be in an instrument approach area (defined in the FAA standards governing instrument approach procedures) and available information indicates it might exceed an obstruction standard of the FAA.

(d) Any construction or alteration on any of the following airports (including heliports):

(1) An airport that is available for public use and is listed in the Airport Directory of the current Airman’s Information Manual or in either the Alaska or Pacific Airman’s Guide and Chart Supplement.

(2) An airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration, and except for military airports, it is clearly indicated that the airport will be available for public use.

(3) An airport that is operated by an armed force of the United States.

NOTE: Consideration to aeronautical facilities not in existence at the time of the filing of the application for radio facilities will be given only when proposed airport construction or improvement plans are on file with the Federal Aviation Administration as of the filing date of the application for such radio facilities.


§ 17.8 Establishment of antenna farm areas.

(a) Each antenna farm area will be established by an appropriate rulemaking proceeding, which may be commenced by the Commission on its own motion after consultation with the FAA, upon request of the FAA, or as a result of a petition filed by any interested person. After receipt of a petition from an interested person disclosing sufficient reasons to justify institution of a rulemaking proceeding, the Commission will request the advice of the FAA with respect to the considerations of menace to air navigation in terms of air safety which may be presented by the proposal. The written communication received from the FAA in response to the Commission’s request shall be placed in the Commission’s public rulemaking file containing the petition, and interested persons shall be allowed a period of 30 days within which to file statements with respect thereto. Such
§ 17.9 Designated antenna farm areas.

The areas described in the following paragraphs of this section are established as antenna farm areas [appropriate paragraphs will be added as necessary].

[32 FR 8813, June 21, 1967]

§ 17.10 Antenna structures over 304.80 meters (1,000 feet) in height.

Where one or more antenna farm areas have been designated for a community or communities (see §17.9), the Commission will not accept for filing an application to construct a new station or to increase height or change antenna location of an existing station proposing the erection of an antenna structure over 304.80 meters (1,000 feet) above ground unless:

(a) It is proposed to locate the antenna structure in a designated antenna farm area, or

(b) It is accompanied by a statement from the Federal Aviation Administration that the proposed structure will not constitute a menace to air navigation, or

(c) It is accompanied by a request for waiver setting forth reasons sufficient, if true, to justify such a waiver.


§ 17.14 Certain antenna structures exempt from notification to the FAA.

A notification to the Federal Aviation Administration is not required for any of the following construction or alteration:

(a) Any object that would be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height, and would be located in the congested area of a city, town, or settlement where it is evident beyond all reasonable doubt that the structure so shielded will not adversely affect safety in air navigation. Applicant claiming such exemption under §17.14(a) shall submit a statement with their application to the FCC explaining basis in detail for their finding.

(b) Any antenna structure of 6.10 meters (20 feet) or less in height except one that would increase the height of another antenna structure.

(c) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device, of a type approved by the Administrator of the Federal Aviation Administration, the location and height of which is fixed by its functional purpose.


§ 17.17 Existing structures.

(a) The requirements found in §17.23 relating to painting and lighting of antenna structures shall not apply to those structures authorized prior to July 1, 1996. Previously authorized structures may retain their present painting and lighting specifications, so long as the overall structure height or site coordinates do not change. The
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§§ 17.24-17.38

Antenna Structure Registration requirements found in § 17.5, however, shall apply to all antenna structures that have been assigned painting or lighting requirements by the Commission, regardless of prior authorization. Relocation of airports shall at any time impose a new restriction upon any then existing or authorized antenna structure or structures.

[b]Subpart C—Specifications for Obstruction Marking and Lighting of Antenna Structures[b]

§ 17.21 Painting and lighting, when required.

Antenna structures shall be painted and lighted when:

(a) They exceed 60.96 meters (200 feet) in height above the ground or they require special aeronautical study.

(b) The Commission may modify the above requirement for painting and/or lighting of antenna structures, when it is shown by the applicant that the absence of such marking would not impair the safety of air navigation, or that a lesser marking requirement would insure the safety thereof.


§ 17.22 Particular specifications to be used.

Whenever painting or lighting is required, the Commission will generally assign specifications in accordance with the FAA Advisory Circulars referenced in § 17.23. If an antenna installation is of such a nature that its painting and lighting in accordance with these specifications are confusing, or endanger rather than assist airmen, or are otherwise inadequate, the Commission will specify the type of painting and lighting or other marking to be used in the individual situation.


§ 17.23 Specifications for painting and lighting antenna structures.

Unless otherwise specified by the Commission, each new or altered antenna structure to be registered on or after July 1, 1996, must conform to the FAA’s painting and lighting recommendations set forth on the structure’s FAA determination of “no hazard,” as referenced in the following FAA Advisory Circulars: AC 70/7460-1H, “Obstruction Marking and Lighting,” August 1, 1991, as amended by Change 2, July 15, 1992, and AC 150/5345-43D, “Specification for Obstruction Lighting Equipment,” July 15, 1988. These documents are incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. The documents contain FAA recommendations for painting and lighting structures which pose a potential hazard to air navigation. For purposes of this part, the specifications, standards, and general requirements stated in these documents are mandatory. The Advisory Circulars listed above are available for inspection at the Commission Headquarters in Washington, DC, 2025 M Street NW., room 8112, or at the Office of the Federal Register, 800 North Capitol Street NW., room 700, Washington, DC, or may be obtained from Department of Transportation, Utilization and Storage Section (Publications), M 443.2, 400 7th Street SW., Washington, DC 20590, telephone (202) 366-0039 or (202) 366-0451.

[61 FR 4363, Feb. 6, 1996]

Aviation Red Obstruction Lighting

[Reserved]

§§ 17.24-17.38 [Reserved]

High Intensity White Obstruction Lighting

Note: When authorized by the Commission, high intensity white obstruction lighting will be used in lieu of obstruction marking and lighting specified in §§ 17.23 through 17.37.

In general, the number of levels of high intensity lighting specified is dependent upon the overall height of the skeletal frame or comparable main support structure, excluding antennas or similar appurtenances. A white capacitor discharge omnidirectional light is mounted on or adjacent to the appurtenance, if more than 6.10 meters (20 feet), to complement the lighting system.

Where a dual lighting system is employed, i.e., high intensity white obstruction lighting during daylight and red obstruction lighting at night, the omnidirectional high intensity light, if equipped with an aviation
red color filter for nighttime illumination, may be used in lieu of the 300 mm top beacon specified in §17.24(a) and paragraph (a)(1) in §§17.25 through 17.37.

§§ 17.39-17.43 [Reserved]

§ 17.45 Temporary warning lights.
During construction of an antenna structure, for which red obstruction lighting is required, at least two 116- or 125-watt lamps (A21/TS) enclosed in aviation red obstruction light globes, shall be installed at the uppermost point of the structure. The intensity of each lamp shall not be less than 32.5 candelas. In addition, as the height of the structure exceeds each level at which permanent obstruction lights will be required, two similar lights shall be installed at each such level. These temporary warning lights shall be displayed nightly from sunset to sunrise until the permanent obstruction lights have been installed and placed in operation, and shall be positioned so as to insure unobstructed visibility of at least one of the lights at any normal angle of approach. If practical, the permanent obstruction lights may be installed and operated at each required level as construction progresses.


§ 17.47 Inspection of antenna structure lights and associated control equipment.
The owner of any antenna structure which is registered with the Commission and has been assigned lighting specifications referenced in this part:
(a)(1) Shall make an observation of the antenna structure’s lights at least once each 24 hours either visually or by observing an automatic properly maintained indicator designed to register any failure of such lights, to insure that all such lights are functioning properly as required; or alternatively,
(a)(2) Shall provide and properly maintain an automatic alarm system designed to detect any failure of such lights and to provide indication of such failure to the owner.
(b) Shall inspect at intervals not to exceed 3 months all automatic or mechanical control devices, indicators, and alarm systems associated with the antenna structure lighting to insure that such apparatus is functioning properly.

[61 FR 4363, Feb. 6, 1996]

§ 17.48 Notification of extinguishment or improper functioning of lights.
The owner of any antenna structure which is registered with the Commission and has been assigned lighting specifications referenced in this part:
(a) Shall report immediately by telephone or telegraph to the nearest Flight Service Station or office of the Federal Aviation Administration any observed or otherwise known extinguishment or improper functioning of any top steady burning light or any flashing obstruction light, regardless of its position on the antenna structure, not corrected within 30 minutes. Such reports shall set forth the condition of the light or lights, the circumstances which caused the failure, the probable date for restoration of service, the FCC Antenna Structure Registration Number, the height of the structure (AGL and AMSL if known) and the name, title, address, and telephone number of the person making the report. Further notification by telephone or telegraph shall be given immediately upon resumption of normal operation of the light or lights.
(b) An extinguishment or improper functioning of a steady burning side intermediate light or lights, shall be corrected as soon as possible, but notification to the FAA of such extinguishment or improper functioning is not required.


§ 17.49 Recording of antenna structure light inspections in the owner record.
The owner of each antenna structure which is registered with the Commission and has been assigned lighting specifications referenced in this part must maintain a record of any observed or otherwise known extinguishment or improper functioning of a structure light and include the following information for each such event:
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(a) The nature of such extinguishment or improper functioning.
(b) The date and time the extinguishment or improper operation was observed or otherwise noted.
(c) Date and time of FAA notification, if applicable.
(d) The date, time and nature of adjustments, repairs, or replacements made.

§ 17.50 Cleaning and repainting.

Antenna structures requiring painting under this part shall be cleaned or repainted as often as necessary to maintain good visibility.

§ 17.51 Time when lights should be exhibited.

(a) All red obstruction lighting shall be exhibited from sunset to sunrise unless otherwise specified.
(b) All high intensity and medium intensity obstruction lighting shall be exhibited continuously unless otherwise specified.

§ 17.53 Lighting equipment and paint.

The lighting equipment, color or filters, and shade of paint referred to in the specifications are further defined in the following government and/or Army-Navy aeronautical specifications, bulletins, and drawings (lamps are referred to by standard numbers):

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Standard Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside white</td>
<td>TT±P±102</td>
</tr>
<tr>
<td>Avation surface orange</td>
<td>TT±P±59</td>
</tr>
<tr>
<td>Aviation surface orange, enamel</td>
<td>TT±E±489</td>
</tr>
<tr>
<td>Aviation red obstruction light—color</td>
<td>MIL±C±25050</td>
</tr>
<tr>
<td>Flashing beacons</td>
<td>CAA±446</td>
</tr>
<tr>
<td>Do</td>
<td>MIL±6273</td>
</tr>
<tr>
<td>Double and single obstruction light</td>
<td>L±810</td>
</tr>
<tr>
<td>Do</td>
<td>FAA/DOD L±856</td>
</tr>
<tr>
<td>High intensity white obstruction light</td>
<td>No. 116 A21/TS</td>
</tr>
<tr>
<td>116-Watt lamp</td>
<td>No. 116 A21/TS</td>
</tr>
<tr>
<td>125-Watt lamp</td>
<td>No. 125 A21/TS</td>
</tr>
<tr>
<td>620-Watt lamp</td>
<td>No. 620 P5±40</td>
</tr>
</tbody>
</table>

§ 17.54 Rated lamp voltage.

To insure the necessary lumen output by obstruction lights, the rated voltage of incandescent lamps used shall correspond to be within 3 percent higher than the voltage across the lamp socket during the normal hours of operation.

§ 17.55 Maintenance of lighting equipment.

(a) Replacing or repairing of lights, automatic indicators or automatic control or alarm systems shall be accomplished as soon as practicable.
(b) The flash tubes in a high intensity obstruction lighting system shall be replaced whenever the peak effective daytime intensity falls below 200,000 candelas.

§ 17.57 Report of radio transmitting antenna construction, alteration, and/or removal.

The owner of an antenna structure for which an Antenna Structure Registration Number has been obtained must notify the Commission within 24 hours of completion of construction (FCC Form 854-R) and/or dismantle-ment (FCC Form 854). The owner must also immediately notify the Commission using FCC Form 854 upon any change in structure height or change in ownership information.
§ 17.58 - Facilities to be located on land under the jurisdiction of the U.S. Forest Service or the Bureau of Land Management.

Any application proposing new or modified transmitting facilities to be located on land under the jurisdiction of the U.S. Forest Service or the Bureau of Land Management shall include a statement that the facilities will be so located, and the applicant shall comply with the requirements of §1.70 of this chapter.

[32 FR 11274, Aug. 3, 1967]

PART 18—INDUSTRIAL, SCIENTIFIC, AND MEDICAL EQUIPMENT

Subpart A—General Information

§ 18.101 Basis and purpose.

The rules in this part, in accordance with the applicable treaties and agreements to which the United States is a party, are promulgated pursuant to section 302 of the Communications Act of 1934, as amended, vesting the Federal Communications Commission with authority to regulate industrial, scientific, and medical equipment (ISM) that emits electromagnetic energy on frequencies within the radio frequency spectrum in order to prevent harmful interference to authorized radio communication services. This part sets forth the conditions under which the equipment in question may be operated.

§ 18.103 Organization and applicability of the rules.

The rules in this part are divided into the following subparts:
(a) Subpart A contains general information and definitions for use in this part.
(b) Subpart B describes the procedures and requirements for authorization to market or operate ISM equipment under this part.
(c) Subpart C contains the technical standards for ISM equipment.

§ 18.105 Other applicable rules.

Other Commission rule parts relating to the authorization and operation of ISM equipment include the following:
(a) Part 0 describes the Commission’s organization and delegations of authority. This part also lists available Commission publications, standards and procedures for access to Commission records, and location of Commission field offices.
(b) Part 1 contains the rules of practice and procedure for adjudicatory proceedings including hearing proceedings; procedures for reconsideration and review of the Commission’s actions; provisions concerning violation notices and for forfeiture proceedings; and the requirements for environmental impact statements.
(c) Part 2 contains special requirements in international regulations, agreements, treaties, and the table of frequency allocations. This part also