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(32 FR 11269, Aug. 3, 1967)

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

§ 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.

(32 FR 11269, Aug. 3, 1967, as amended at 42 FR 54824, Oct. 11, 1977)

§ 17.22 Particular specifications to be used.

Whenever painting and lighting are required, the Commission will assign painting and lighting specifications pursuant to the provisions of this subpart. 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.

(32 FR 11269, Aug. 3, 1967)

§ 17.23 Specifications for the painting of antenna structures in accordance with § 17.21.

Except for antenna structures lighted in conformance with §§ 17.39, 17.40, 17.41 and § 17.42 (High Intensity Obstruction Lighting), antenna structures shall be painted throughout their height with alternate bands of aviation surface orange and white, terminating with aviation surface orange bands at both top and bottom. The width of the bands shall be equal and approximately one-seventh the height of the structure, provided however, that the bands shall not be more than

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(1) There shall be installed at the top of the structure one 300 m/m electric code beacon equipped with two 620- or 700-watt lamps (PS-40 Code Beacon type) both lamps to burn simultaneously, and equipped with aviation red color filters. The steady burning intensity shall not be less than 2,000 candelas (in red). Where a rod or other construction of not more than 6.10 meters (20 feet) in height and incapable of supporting this beacon is mounted on top of the structure and it is determined that this additional construction does not permit unobstructed visibility of the code beacon from aircraft at any normal angle of approach, there shall be installed two such beacons positioned so as to insure unobstructed visibility of at least one of the beacons from aircraft at any normal angle of approach. The beacons shall be equipped with a flashing mechanism producing not more than 40 flashes per minute nor less than 12 flashes per minute, with a period of darkness equal to approximately one-half of the luminous period.

(2) At the approximate mid point of the overall height of the tower there shall be installed at least two 116- or 125-watt lamps (A21/Ts) enclosed in aviation red obstruction light globes. The intensity of each lamp shall not be less than 32.5 candelas. Each light shall be mounted so as to insure unobstructed visibility of at least one light at each level from aircraft at any normal angle of approach.

(3) All lights shall burn continuously or shall be controlled by a light sensitive device adjusted so that the lights will be turned on when the north sky illuminance on a vertical surface falls to a level of not less than 376.74 lux (35 fc) and turned off when the north sky illuminance on a vertical surface rises to a level of not less than 624.31 lux (58 fc).

(28 FR 12529, Nov. 22, 1963, as amended at 32 FR 11269, Aug. 3, 1967; 39 FR 26157, July 17, 1974; 42 FR 54824, Oct. 11, 1977)

§ 17.26 Specifications for the lighting of antenna structures over 91.44 meters (300 feet) up to and including 137.16 meters (450 feet) in height.

(a) Antenna structures over 91.44 meters (300 feet) up to and including

137.16 meters (450 feet) in height above the ground shall be lighted as follows:

(1) There shall be installed at the top of the structure one 300 m/m electric code beacon equipped with two 620- or 700-watt lamps (PS-40 Code Beacon type) both lamps to burn simultaneously, and equipped with aviation red color filters. The steady burning intensity shall not be less than 2,000 candelas (in red). Where a rod or other construction of not more than 6.10 meters (20 feet) in height and incapable of supporting this beacon is mounted on top of the structure and it is determined that this additional construction does not permit unobstructed visibility of the code beacon from aircraft at any normal angle of approach, there shall be installed two such beacons positioned so as to insure unobstructed visibility of at least one of the beacons from aircraft at any normal angle of approach. The beacons shall be equipped with a flashing mechanism producing not more than 40 flashes per minute, nor less than 12 flashes per minute, with a period of darkness equal to approximately one-half of the luminous period.

(2) On levels at approximately two-thirds and one-third of the overall height of the tower, there shall be installed at least two 116- or 125-watt lamps (A21/Ts) enclosed in aviation red obstruction light globes. The intensity of each lamp shall not be less than 32.5 candelas. Each light shall be mounted so as to insure unobstructed visibility of at least one light at each level from aircraft at any normal angle of approach.

(3) All lights shall burn continuously or shall be controlled by a light sensitive device adjusted so that the lights will be turned on when the north sky illuminance on a vertical surface falls to a level of not less than 376.74 lux (35 fc) and turned off when the north sky illuminance on a vertical surface rises to a level of not less than 624.31 lux (58 fc).

(28 FR 12529, Nov. 22, 1963, as amended at 32 FR 11270, Aug. 3, 1967; 39 FR 26157, July 17, 1974; 42 FR 54824, Oct. 11, 1977)

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30.48 meters (100 feet) nor less than 0.46 meters (1.5 feet) in width.

(40 FR 30265, July 18, 1975, as amended at 42 FR 54824, Oct. 11, 1977)

AVIATION RED OBSTRUCTION LIGHTING

§ 17.24 Specifications for the lighting of antenna structures up to and including 45.72 meters (150 feet) in height.

Antenna structures up to and including 45.72 meters (150 feet) in height above ground, which are required to be lighted as a result of notification to the FAA under § 17.7, shall be lighted as follows:

(a) There shall be installed at the top of the tower at least two 116- or 125-watt lamps (A21/Ts) enclosed in aviation red obstruction light globes. The intensity of each lamp shall not be less than 32.5 candelas. The two lights shall burn simultaneously from sunset to sunrise and shall be positioned so as to insure unobstructed visibility of at least one of the lights from aircraft at any normal angle of approach. A light sensitive control device or an astronomic dial clock and time switch may be used to control the obstruction lighting in lieu of manual control. When a light sensitive device is used, it shall be adjusted so that the lights will be turned on when the north sky illuminance on a vertical surface falls to a level of not less than 376.74 lux (35 fc) and turned off when the north sky illuminance on a vertical surface rises to a level of not less than 624.31 lux (58 fc).

(32 FR 11269, Aug. 3, 1967, as amended at 39 FR 26157, July 17, 1974; 42 FR 54824, Oct. 11, 1977)

§ 17.25 Specifications for the lighting of antenna structures over 45.72 meters (150 feet) up to and including 91.44 meters (300 feet) in height.

(a) Antenna structures over 45.72 meters (150 feet), up to and including 60.96 meters (200 feet) in height above ground, which are required to be lighted as a result of notification to the FAA under § 17.7 and antenna structures over 60.96 meters (200 feet), up to and including 91.44 meters (300 feet) in height above ground, shall be lighted as follows:

(3) On levels at approximately eleven-twelfths, three-fourths, seven-twelfths, five-twelfths, one-fourth, and one-twelfth of the overall height of the tower at least one 116- or 125-watt lamp (A21/T5) enclosed in an aviation red obstruction light globe shall be installed on each outside corner of the tower at each level. The intensity of each lamp shall not be less than 32.5 candelas.

(4) All lights shall burn continuously or shall be controlled by a light sensitive device adjusted so that the lights will be turned on when the north sky illuminance on a vertical surface falls to a level not less than 367.74 lux (35 fc) and turned off when the north sky illuminance on a vertical surface rises to a level of not less than 624.31 lux (58 fc).

[32 FR 11272, Aug. 3, 1967; 33 FR 7039, May 10, 1968, as amended at 39 FR 26157, July 17, 1974; 42 FR 54825, Oct. 11, 1977]

§ 17.36 Specifications for the lighting of antenna structures over 548.64 meters (1,800 feet) up to and including 594.36 meters (1,950 feet) in height.

(a) Antenna structures over 548.64 meters (1,800 feet) up to and including 594.36 meters (1,950 feet) in height above the ground shall be lighted as follows:

(1) There shall be installed at the top of the structure one 300 m/m electric code beacon equipped with two 620- or 700-watt lamps (PS-40 Code Beacon type) both lamps to burn simultaneously, and equipped with aviation red color filters. The steady burning intensity shall not be less than 2,000 candelas (in red). Where a rod or other construction of not more than 6.10 meters (20 feet) in height and incapable of supporting this beacon is mounted on top of the structure and it is determined that this additional construction does not permit unobstructed visibility of the code beacon from aircraft at any normal angle of approach, there shall be installed two such beacons positioned so as to insure unobstructed visibility of at least one of the beacons from aircraft at any normal angle of approach. The beacons shall be equipped with a flashing mechanism producing not more than 40 flashes per minute nor less than 12

above the ground shall be lighted as follows:

(1) There shall be installed at the top of the structure one 300 m/m electric code beacon equipped with two 620- or 700-watt lamps (PS-40, Code Beacon type) both lamps to burn simultaneously, and equipped with aviation red color filters. The steady burning intensity shall not be less than 2,000 candelas (in red). Where a rod or other construction of not more than 6.10 meters (20 feet) in height and incapable of supporting this beacon is mounted on top of the structure and it is determined that this additional construction does not permit unobstructed visibility of the code beacon from aircraft at any normal angle of approach, there shall be installed two such beacons positioned so as to insure unobstructed visibility of at least one of the beacons from aircraft at any normal angle of approach. The beacons shall be equipped with a flashing mechanism producing not more than 40 flashes per minute nor less than 12 flashes per minute, with a period of darkness equal to approximately one-half of the luminous period.

(2) On levels at approximately six-sevenths, five-sevenths, four-sevenths, three-sevenths, two-sevenths, and one-seventh of the overall height of the tower one similar flashing 300 m/m electric code beacon shall be installed in such position within the tower proper that the structural members will not impair the visibility of this beacon from aircraft at any normal angle of approach. In the event these beacons cannot be installed in a manner to insure unobstructed visibility of the beacons from aircraft at any normal angle of approach, there shall be installed two such beacons at each level. Each beacon shall be mounted on the outside of diagonally opposite corners or opposite sides of the tower at the prescribed height.

(3) On levels at approximately thirteen-fourteenths, eleven-fourteenths, nine-fourteenths, one half, five-fourteenths, three-fourteenths, and one-fourteenth of the overall height of the tower at least one 116- or 125-watt lamp (A21/T5) enclosed in an aviation red obstruction light globe shall be installed on each outside corner of the

tower at each level. The intensity of each lamp shall not be less than 32.5 candelas.

(4) All lights shall burn continuously or shall be controlled by a light sensitive device adjusted so that the lights will be turned on when the north sky illuminance on a vertical surface falls to a level of not less than 367.74 lux (35 fc) and turned off when the north sky illuminance on a vertical surface rises to a level of not less than 624.31 lux (58 fc).

[32 FR 11272, Aug. 3, 1967, as amended at 39 FR 26157, July 17, 1974; 42 FR 54825, Oct. 11, 1977]

§ 17.38 Specifications for the lighting of antenna structures over 640.08 meters (2,100 feet) in height.

Antenna structures over 640.08 meters (2,100 feet) in height above the ground shall be lighted in accordance with specifications to be determined by the Commission after aeronautical study which will include lighting recommendations.

[32 FR 11272, Aug. 3, 1967, as amended at 42 FR 54826, Oct. 11, 1977]

HIGH INTENSITY WHITE OBSTRUCTION LIGHTING

NOTE: When authorized by the Commission, high intensity white obstruction lighting 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 appendances. 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.