FCC Paragraph Number | FCC Paragraph Text
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1 | 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 30.48 meters (100 feet) nor less than .46 meters (1 1/2 feet) in width. All towers shall be cleaned or repainted as often as necessary to maintain good visibility.

10 | On levels at approximately four-fifths, three-fifths, two-fifths and one-fifth 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.

10.1 | On levels at approximately eight-elevenths, six-elevenths, four-elevenths and two elevenths 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.

10.2 | On levels at approximately five-sixths, two-thirds, one-half, one-third and one-sixth 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.

10.3 | On levels at approximately ten-thirteenths, eight-thirteenths, six-thirteenths, four-thirteenths and two-thirteenths 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.

10.4 | 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.

At the approximate midpoint 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. 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.

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. 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.

On levels at approximately three-fourths and one-fourth of the overall
height of the tower, at least one 116- or 125-watt lamp (A21/TS) enclosed
in an aviation red obstruction light globe shall be installed on each
outside corner of the structure.

On levels at approximately four-fifths, three-fifths and one-fifth of the
overall height of the tower, at least one 116- or 125-watt lamp (A21/TS)
enclosed in an aviation red obstruction light globe shall be installed on
each outside corner of the structure.

On levels at approximately five-sixths, one-half, and one-sixth of the
overall height of the tower, at least one 116- or 125-watt lamp (A21/TS)
enclosed in an aviation red obstruction light globe shall be installed on
each outside corner of the structure.

On levels at approximately six-sevenths, five-sevenths, three-sevenths and
one-seventh of the overall height of the tower, at least two 116- or
125-watt lamps (A21/TS) enclosed in an aviation red obstruction light
globes shall be installed on each outside corner of the structure.

On levels at approximately seven-eighths, five-eighths, three-eighths and
one-eighth of the overall height of the tower, at least two 116- or
125-watt lamps (A21/TS) enclosed in an aviation red obstruction light
globes shall be installed on each outside corner of the structure.

On levels at approximately eight-ninths, seven-ninths, five-ninths,
one-third and one-ninth of the overall height of the tower, at least two
116- or 125-watt lamps (A21/TS) enclosed in an aviation red obstruction
light globes shall be installed on each outside corner of the structure.

On levels at approximately nine-tenths, seven-tenths, one-half,
three-tenths and one-tenth of the overall height of the tower, at least
two 116- or 125-watt lamps (A21/TS) enclosed in an aviation red obstruction
light globes shall be installed on each outside corner of the structure.

On levels at approximately ten-elevenths, nine-elevenths, seven-elevenths,
five-elevenths, three-elevenths and one-eleventh of the overall height of
19.1 the tower, at least two 116- or 125-watt lamps (A21/TS) enclosed in an aviation red obstruction light globes shall be installed on each outside corner of the structure.

19.2 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 two 116- or 125-watt lamps (A21/TS) enclosed in an aviation red obstruction light globes shall be installed on each outside corner of structure.

19.3 On levels at approximately twelve-thirteenths, eleven-thirteenths, nine-thirteenths, seven-thirteenths, five-thirteenths, three-thirteenths and one-thirteenth of the overall height of the tower, at least two 116- or 125-watt lamps (A21/TS) enclosed in an aviation red obstruction light globes shall be installed on each outside corner of the structure.

19.4 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 two 116- or 125-watt lamps (A21/TS) enclosed in an aviation red obstruction light globes shall be installed on each outside corner of the structure.

2 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 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 should be adjusted so that the lights will be turned on at a north sky light intensity level of about thirty-five foot candles and turned off at a north sky light intensity level of about fifty-eight foot candles.

20 All lighting shall be exhibited from sunset to sunrise unless otherwise specified.

21 All lights shall burn continuously or shall be controlled by a light sensitive device adjusted so that the lights will be turned on at a north sky light intensity level of about 35 foot candles and turned off at a north sky light intensity level of about 58 foot candles.

22 During construction of an antenna structure, for which 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. In addition, as the height of the structure exceeds each level at which permanent obstruction lights will be required, two similar 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. In lieu of the above temporary warning lights, the permanent obstruction lighting fixtures may be installed and operated at each required level as each such level is exceeded in height during construction.

23 Dual Lighting. Use aviation red obstruction lights for nighttime and high or medium intensity flashing white obstruction lights for daytime and
twilight as prescribed above.

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. 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.

At approximately one-half 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 this beacon cannot be installed in a manner to insure unobstructed visibility of it from aircraft at any normal angle of approach, there shall be installed two such beacons. Each beacon shall be mounted on the outside of the tower at the prescribed height.

At approximately two-fifths 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 this beacon cannot be installed in a manner to insure unobstructed visibility of it from aircraft at any normal angle of approach, there shall be installed two such beacons. Each beacon shall be mounted on the outside of diagonally opposite corners or opposite sides of the tower at the prescribed height.

On levels at approximately two-thirds and one-third 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.

On levels at approximately four-sevenths and two-sevenths 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.

On levels at approximately three-fourths, one-half and one-fourth 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.

On levels at approximately two-thirds, four-ninths and two-ninths 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.

A1 There shall be installed at the top of the antenna structure a white
capacitor discharge omnidirectional light which conforms to FAA/DOD
Specification L-865, Medium Intensity Obstruction Lighting Systems. This
light shall be mounted on the highest point of the structure. If the
antenna or other appurtenance at its highest point is incapable of
supporting the omnidirectional light, one or more such lights shall be
installed on a suitable adjacent support with the lights mounted not more
than 6.10 meters (20 feet) below the tip of the appurtenance. The lights shall be
positioned so as to permit unobstructed viewing of at least one light from
aircraft at any normal angle of approach. The light unit(s) shall emit a
beam with a peak intensity around its periphery of approximately 20,000
candelas during daytime and twilight, and approximately 2,000 candelas at
night.

A2 There shall be installed at the top and mid-levels of the antenna structure
a white capacitor discharge omnidirectional light which conforms to FAA/DOD
Specification L-865, Medium Intensity Obstruction Lighting Systems. This
light shall be mounted on the highest point of the structure. If the
antenna or other appurtenance at its highest point is incapable of
supporting the omnidirectional light, one or more such lights shall be
installed on a suitable adjacent support with the lights mounted not more
than 6.10 meters (20 feet) below the tip of the appurtenance. The lights shall be
positioned so as to permit unobstructed viewing of at least one light from
the aircraft at any normal angle of approach. The light unit(s) shall emit
a beam with a peak intensity around its periphery of approximately 20,000
candelas during daytime and twilight, and approximately 2,000 candelas at
night.

A3 There shall be installed at the top, 1/3 and 2/3 levels of the antenna
structure a white capacitor discharge omnidirectional light which conforms
to FAA/DOD Specification L-865, Medium Intensity Obstruction Lighting
Systems. This light shall be mounted on the highest point of the
structure. If the antenna or other appurtenance at its highest point is
incapable of supporting the omnidirectional light, one or more such lights
shall be installed on a suitable adjacent support with the lights mounted
not more than 6.10 meters (20 feet) below the tip of the appurtenance. The lights shall
be positioned so as to permit unobstructed viewing of at least one light
from the aircraft at any normal angle of approach. The light unit(s) shall emit a beam with a peak intensity around its periphery of approximately 20,000 candelas during daytime and twilight, and approximately 2,000 candelas at night.

There shall be installed at the top, 1/4, 1/2, and 3/4 levels of the antenna structure a white capacitor discharge omnidirectional light which conforms to FAA/DOD Specification L-865, Medium Intensity Obstruction Lighting Systems. This light shall be mounted on the highest point of the structure. If the antenna or other appurtenance at its highest point is incapable of supporting the omnidirectional light, one or more such lights shall be installed on a suitable adjacent support with the lights mounted not more than 6.10 meters (20 feet) below the tip of the appurtenance. The lights shall be positioned so as to permit unobstructed viewing of at least one light from the aircraft at any normal angle of approach. The light unit(s) shall emit a beam with a peak intensity around its periphery of approximately 20,000 candelas during daytime and twilight, and approximately 2,000 candelas at night.

There shall be installed at the top, 1/5, 2/5, 3/5, 4/5 levels of the antenna structure a white capacitor discharge omnidirectional light which conforms to FAA/DOD Specification L-865, Medium Intensity Obstruction Lighting Systems. This light shall be mounted on the highest point of the structure. If the antenna or other appurtenance at its highest point is incapable of supporting the omnidirectional light, one or more such lights shall be installed on a suitable adjacent support with the lights mounted not more than 6.10 meters (20 feet) below the tip of the appurtenance. The lights shall be positioned so as to permit unobstructed viewing of at least one light from the aircraft at any normal angle of approach. The light unit(s) shall emit a beam with a peak intensity around its periphery of approximately 20,000 candelas during daytime and twilight, and approximately 2,000 candelas at night.

There shall be installed at the top, 1/6, 1/3, 1/2, 2/3 and 5/6 levels of the antenna structure a white capacitor discharge omnidirectional light which conforms to FAA/DOD Specification L-865, Medium Intensity Obstruction Lighting Systems. This light shall be mounted on the highest point of the structure. If the antenna or other appurtenance at its highest point is incapable of supporting the omnidirectional light, one or more such lights shall be installed on a suitable adjacent support with the lights mounted not more than 6.10 meters (20 feet) below the tip of the appurtenance. The lights shall be positioned so as to permit unobstructed viewing of at least one light from the aircraft at any normal angle of approach. The light unit(s) shall emit a beam with a peak intensity around its periphery of approximately 20,000 candelas during daytime and twilight, and approximately 2,000 candelas at night.

There shall be installed at the top of the skeletal or other main support structure three or more high intensity light units which conform to FAA/DOD Specification L-856, High Intensity Obstruction Lighting Systems. The complement of units shall emit a white high intensity light and produce an effective intensity of not less than 200,000 candelas (daytime) uniformly about the antenna structure in the horizontal plane. The effective intensity shall be reduced to approximately 20,000 candelas at twilight, and to approximately 2,000 candelas at night. The light units shall be mounted in a manner to insure unobstructed viewing from aircraft at any normal angle of approach, so that the effective intensity of the full
beam is not impaired by any structural member of the skeletal framework.
The units will normally be adjusted so that the center of the beam is in the horizontal plane.

At the approximate one-half level of the skeletal tower there shall be installed three or more high intensity light units which conform to FAA/DOD Specification L-856, High Intensity Obstruction Lighting Systems. The complement of units shall emit a white high intensity light and produce an effective intensity of not less than 200,000 candelas (daytime) uniformly about the antenna structure in the horizontal plane. The effective intensity shall be reduced to approximately 20,000 candelas at twilight, and to approximately 2,000 candelas at night. The light units shall be mounted in a manner to insure unobstructed viewing from aircraft at any normal angle of approach, so that the effective intensity of the full beam is not impaired by any structural member of the skeletal framework. The normal angular adjustment of the beam centers above the horizontal shall be two degrees (2º).

At the approximate one-third and two-thirds levels of the skeletal tower there shall be installed three or more high intensity light units which conform to FAA/DOD Specification L-856, High Intensity Obstruction Lighting Systems. The complement of units shall emit a white high intensity light and produce an effective intensity of not less than 200,000 candelas (daytime) uniformly about the antenna structure in the horizontal plane. The effective intensity shall be reduced to approximately 20,000 candelas at twilight, and to approximately 2,000 candelas at night. The light units shall be mounted in a manner to insure unobstructed viewing from aircraft at any normal angle of approach, so that the effective intensity of the full beam is not impaired by any structural member of the skeletal framework. The normal angular adjustment of the beam centers above the horizontal shall be two degrees (2º) at the one-third level and one degree (1º) at the two-thirds level.

At the approximate one-fourth, one-half and three-fourths levels of the skeletal tower there shall be installed three or more high intensity light units which conform to FAA/DOD Specification L-856, High Intensity Obstruction Lighting Systems. The complement of units shall emit a white high intensity light and produce an effective intensity of not less than 200,000 candelas (daytime) uniformly about the antenna structure in the horizontal plane. The effective intensity shall be reduced to approximately 20,000 candelas at twilight, and to approximately 2,000 candelas at night. The light units shall be mounted in a manner to insure unobstructed viewing from aircraft at any normal angle of approach, so that the effective intensity of the full beam is not impaired by any structural member of the skeletal framework. The normal angular adjustment of the beam centers above the horizontal shall be three degrees (3º) at the one-fourth level, two degrees (2º) at the one-half level and one degree (1º) at the three-fourths level.

At the approximate one-fifth, two-fifths, three-fifths and four-fifths levels of the skeletal tower there shall be installed three or more high intensity light units which conform to FAA/DOD Specification L-856, High Intensity Obstruction Lighting Systems. The complement of units shall emit a white high intensity light and produce an effective intensity of not less than 200,000 candelas (daytime) uniformly about the antenna structure in the horizontal plane. The effective intensity shall be reduced to approximately 20,000 candelas at twilight, and to approximately 2,000 candelas at night. The light units shall be mounted in a manner to insure unobstructed viewing from aircraft at any normal angle of approach, so that the effective intensity of the full beam is not impaired by any structural member of the skeletal framework. The normal angular adjustment of the beam centers above the horizontal shall be two degrees (2º) at the one-fifth level, three degrees (3º) at the two-fifths level, and four degrees (4º) at the three-fifths level.
candelas at night. The light units shall be mounted in a manner to insure unobstructed viewing from aircraft at any normal angle of approach, so that the effective intensity of the full beam is not impaired by any structural member of the skeletal framework. The normal angular adjustment of the beam centers above the horizontal shall be three degrees (3°) at the one-fifth level, two degrees (2°) at the two-fifths level, one degree (1°) at the three-fifths level and zero degrees (0°) at the four-fifths level.

At the approximate one-sixth, one-third, one-half, two-thirds and five-sixths levels of the skeletal tower there shall be installed three or more high intensity light units which conform to FAA/DOD Specification L-856, High Intensity Obstruction Lighting Systems. The complement of units shall emit a white high intensity light and produce an effective intensity of not less than 200,000 candelas (daytime) uniformly about the antenna structure in the horizontal plane. The effective intensity shall be reduced to approximately 20,000 candelas at twilight, and to approximately 2,000 candelas at night. The light units shall be mounted in a manner to insure unobstructed viewing from aircraft at any normal angle of approach, so that the effective intensity of the full beam is not impaired by any structural member of the skeletal framework. The normal angular adjustment of the beam centers above the horizontal shall be three degrees (3°) at the one-sixth level, two degrees (2°) at the one-third level, two degrees (2°) at the one-half level, one degree (1°) at the two-thirds level and zero degrees (0°) at the five-sixths level.

All high and medium intensity lights shall be synchronized to flash simultaneously at 40 pulses per minute. The light system shall be equipped with a light sensitive control device which shall face the north sky and cause the intensity steps to change automatically when the north sky illumination on a vertical surface is as follows: 1. Day to Twilight: Shall not occur before the illumination drops to 60 footcandles, but shall occur before it drops below 30 footcandles. 2. Twilight to Night: Shall not occur before the illumination drops to 5 footcandles, but shall occur before it drops to 2 footcandles. 3. Night to Day: The intensity changes listed in 1. and 2. above shall be reversed in transitioning from the night to day modes.

During construction of an antenna structure for which high or medium intensity lighting is required, at least two lights shall be installed at the uppermost part of the structure. In addition, at each level where permanent obstruction lighting will be required, two similar lights shall be installed. Each temporary light shall consist of at least 1,500 candelas (peak effective intensity), synchronized to flash simultaneously at 40 pulses per minute. Temporary lights shall be operated continuously, except for periods of actual construction, until the permanent obstruction lights have been installed and placed in operation. Lights shall be positioned to insure unobstructed viewing from aircraft at any normal angle of approach. If practical, the permanent obstruction lights may be installed at each level as the structure progresses. NOTE: If battery operated, the batteries should be replaced or recharged at regular intervals to preclude failure during operation.

Antenna structures shall be equipped with: 1. High intensity lighting for daytime use and red lighting for nighttime use as specified in FCC Form 715; or 2. High intensity lighting, 24 hours a day, which conforms to FAA/DOD Specification L-856, High Intensity Obstruction Lighting Systems.