

199—42.6(476) Engineering standards for electric and communications lines. These engineering standards apply to crossings that do not involve special circumstances such that additional or more stringent engineering standards may be warranted. The determination of such additional or more stringent standards will be determined on a case-by-case basis, according to the procedures in rule 199—42.18(17A,476), depending on the facts and circumstances associated with the particular crossing.

42.6(1) General.

a. Except as provided for in this chapter, electric and communications lines crossing railroads shall be constructed in accordance with 199—Chapter 25, the Iowa electrical safety code.

b. Crossings should be made as near as possible at an angle of 90 degrees to the railroad tracks, but in no event shall any crossing be at less than a 60-degree angle to the railroad track.

c. Aboveground facilities at road or pedestrian crossings shall be located or constructed in a manner that minimizes interference with lines of sight for observing oncoming trains.

42.6(2) Additional requirements for overhead crossings.

a. In determining the line height needed to meet the clearance requirements of the Iowa electrical safety code, the height of a rail car shall be assumed to be 23 feet.

b. Electric and communications lines shall be installed with at least four feet of clearance above overhead railroad signal and communications lines.

c. The perpendicular distance of poles from the centerline of the tracks shall not be less than the largest of the following:

(1) Unguyed poles shall be located a minimum distance equal to the height of the pole above the ground line plus ten feet. If guys are installed, they shall be placed in a manner that would prevent the pole from leaning or falling in the direction of the tracks.

(2) Fifty feet near straight tracks, except for industry track where ten feet is permitted. If the pole is located adjacent to a segment of curved track, the clearance shall be increased by 1.5 inches per degree of track curvature.

(3) Towers for electric lines capable of operating at 34,500 volts or more shall not be located on railroad right-of-way.

d. Poles shall be located a minimum distance from overhead railroad signal or communications lines equal to the height of the pole above ground line, or poles must be guyed at a right angle away from such lines.

e. Crossings shall not be installed under or within 500 feet of a railroad bridge, or 300 feet from the centerline of a culvert or switch area.

42.6(3) Additional requirements for underground crossings.

a. The minimum depth below the base of the rail shall be 4.5 feet except for fiber-optic cables, which shall be 5.0 feet.

b. The minimum depth at other locations on the right-of-way shall be:

(1) 5.0 feet for fiber-optic cables;

(2) 4.0 feet for conductors operating at more than 750 volts;

(3) 3.0 feet for all other lines.

c. Crossings shall not be installed within 50 feet of the end of a railroad bridge, the centerline of a culvert, or a switch area.

d. Casings must extend at least 30 feet from the centerline of the nearest track, measured at a right angle, except that casings for electrical conductors operating at more than 750 volts shall extend the full width of the right-of-way. At burial depths of less than 15 feet below the track, the casing material shall be steel or rigid metal conduit. At depths of 15 feet or more, polyvinyl chloride (PVC) casing pipe may be used.

e. Except for the track and ballast area, warning tape shall be installed one foot below ground level over conductors operating at more than 750 volts, except that tape is not required for lines installed using horizontal directional drilling.

f. Bored crossings shall not be installed using water jetting or other methods that might leave cavities beneath a railroad embankment. Horizontal directional drilling techniques that use drilling mud are permitted. Pits for boring or drilling crossings shall be beyond the limits of the railroad embankment.

g. Unless otherwise authorized by the railroad, a railroad representative must be present during installation of buried crossings if there are underground railroad signal lines in the vicinity of the crossing.
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