Safety Distance from Ground to Transmission Line and Scissors Crossing

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1. Distance from buildings, tress, road, river, pipelines or other overhead transmission lines to the conductors shall be calculated in accordance with maximum sag at highest temperature and maximum windage yaw at highest wind speed or ice coating. The initial elongation and tolerance caused by installation shall be considered when calculating. If the transmission line is crossing a railway, highway or public road, the maximum sag should be calculated in accordance with conductor temperature at +70 °C.

2. Distance from ground to the conductor at maximum sag should be no less than the values given in table 8

   Table 8 Minimum distance from the ground to the conductor

Area voltage	35～110kv	220kv
Residential area	7m	7.5m
Non-residential area	6m	6.5m
Road-blocked area	5m	5.5m

3. Space distance from hillside, precipice or rocks to the conductor at maximum calculated windage yaw should be no less than the values given in table 9

   Table 9 Minimum space distance from hillside, precipice or rock to the conductor

Area voltage	35～110kv	220kv
Hillside can be reached by foot	5m	5.5m
Hillside, precipice or rock can not be reached by foot	3m	4m

4. Vertical distance from building to the conductor at maximum sag should be no less than the values below

   35kv……..4m
   110kv……5m
   220kv……6m

   Horizontal distance from building to the conductor at maximum calculated windage yaw should be no less than the values given below
   35kv……..…3m
   110kv……4m
   220kv……5m

5. Where the transmission line crosses a jungle zone, a path should be cut out and no trees shall be planted in this path. The width of the path should be no less than the distance between the phase conductors at the two sides of transmission line. Any extremely high plants around the path shall also be cut off. Trees, fruit bearing forest or industrial crops which is no harm to transmission line inspection and maintenance could be preserved, but the owner should sign an agreement with power supplier management to confirm responsibility of each party and make sure the distance from the plants/trees/crops to the conductor at maximum sag or maximum calculated windage yaw should be no less than the values given in table 10

   Table 10 Safety distance from the plants/trees/crops to the conductor at maximum sag or maximum calculated windage yaw

Voltage	35～110 kV	220 kV
Vertical distance at Maximum sag	4.0 m	4.5 m
Space distance at Maximum calculated windage yaw	3.5 m	4.0 m

6. Where the transmission line crosses a weak current circuit, the crossing angle to ground and second class weak current circuit should be more than 45° and 30°, there is no requirement to third class weak current circuit

   Requirements where the transmission line crosses a weak current circuit:

   (1). No joints in the conductor within the crossing span length of first class and second class weak circuits

(2). Minimum Vertical distance:
35kv～110kv……3m
220kv…… 4m
(3) Minimum horizontal distance
35kv～110kv……4m
220kv……5m

7. Requirements where the transmission line crosses a railway or a public road

Where the transmission line crosses a railway

(1) No joints in the conductor or ground wire within the crossing span length.
(2) Minimum vertical distance from the tread to the conductor
35kv～110kv……7.5m
220kv……8.5m

Where the transmission line crosses public road

(1) No joints in the conductor within the crossing span length of first class and second class circuits
(2) Minimum Vertical distance from ground to the conductor
35kv～110kv……7m
220kv……8m

Minimum horizontal distance from railway or public road to the conductor should be no less than:

(1) From the pole to railway edge
Where the transmission line is parallel with the railway,
35kv～220kv……, pole height + 3m
Where the transmission line is crossing the railway,
35kv～220kv……5m
(2) From the pole to roadbed edge
35kv～220kv……5m

8. Requirement where the transmission line crosses a navigable river
   (1) No joints in the conductor within the crossing span length
   (2) The minimum distance from quinquennial flood level to the conductor should be more than
   35kv～110kv……6m
   220kv…… 7m

9. Requirement where the transmission line crosses other lines:
   (1) No joints in the conductor within the crossing span length
   (2) Minimum vertical distance
   35kv～110kv……3m
   220kv……4m
   (3) Minimum horizontal distance
   35kv～110kv……5m
   220kv……7m