

## CLEARANCES AND SEPARATIONS FOR AERIAL PLANT GENERAL

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### 1. GENERAL

1.01 This group of sections contains the MINIMUM clearance and separation requirements applying generally to the construction and maintenance of aerial telephone plant. Requirements pertaining to jointly used pole lines are contained in the Subdivision 215 of this Division. This section is revised to include reference to the B Clearance Rod for measuring← clearances.

1.02 The clearances and separations recommended are based on the Fifth Edition of the National Electrical Safety Code and are **minimum** requirements when no other values are shown on the work prints, detail plans, etc. Voltages indicated in the tables refer to the voltage between supply wires unless otherwise specified.

1.03 The clearances specified are those which should exist at 60°F with no wind. The clearances for wires and cables placed at temperatures other than 60°F should be adjusted for temperature differences. For information regarding effects of temperature changes on sags refer to the sections of the Practices covering sags of wire, cable, etc., and make proper allowance for changes in sags and clearances due to temperature changes.

1.04 The clearance values shown in these sections should not be regarded as requiring the rearrangement of existing plant to meet minimum clearances. If conditions are found which appear to require the rearrangement of plant for clearance reasons, notify your Supervisor so that the case can be handled in accordance with established local procedures.

1.05 These sections shall be supplemented by locally prepared instructions covering any changes required to meet:

- (a) The lawful requirements of state, municipal, or other authorities, and
- (b) Specific local conditions not covered herein.

### 2. MEASURING SEPARATIONS AT THE POLE

For safety reasons, the methods and tools to be employed in determining or measuring separations should not expose the workman to foreign potentials. In connection with selecting the proper location for telephone attachments on jointly used poles, be guided by the above as well as by the following.

2.01 If 0-750 volt supply circuits are in place, wear rubber gloves and use a standard measuring rule or approved equivalent free from metallic strips or edging. Measure from non-metallic parts of the supply structure such as a wood crossarm, or measure along the surface of the wood pole, and make adjustments for the difference in elevation or position of the foreign wires, metallic parts of the structure, etc.

2.02 If supply circuits of **more than 750 volts** are in place, separations from such circuits should be estimated or the proper location of telephone attachments relative to such

circuits should be obtained from your Supervisor. Gains or bolt holes below existing supply attachments may be used as reference points in which case the measuring rule can be used.

2.03 If supply circuits are not in place at the time telephone attachments are to be placed, obtain from your Supervisor the location of the lower limit of the supply company's space and the separation to be provided from that point to the telephone attachments. Measurements may be made with measuring rules, linen tapes, etc., if no supply circuits are present.

### 3. MEASURING CLEARANCES AND SEPARATIONS IN THE SPAN

3.01 For safety reasons, the methods and tools to be employed in determining or measuring clearances and separations in the span should not expose the workman to foreign potentials. If local practices or other specific instructions do not cover the methods and tools to be used, be guided by the following recommendations.

3.02 The tools that can be used to measure clearances and separations are of four general groups depending on the plant involved and the manner in which the tool is used.

Group 1—Tools that are either attached to or passed over the **telephone** wire, strand, etc., being measured such as clearance measuring lines, linen tapes, and ropes. When these tools are used, contact is made with the item of telephone plant being measured and their use is, therefore, confined to measuring the height of telephone wires, cables, strands, etc., on which hazardous voltages are ordinarily not present; they are **not to be used** to measure the height of supply wires or other foreign wires.

All lines, linen tapes, ropes, etc., used for this purpose must be dry and free from metallic strands or threads.

Group 2—Tools that are raised adjacent to the line and are used as reference markers such as tree pruner handles, pike poles, sectional rods of wood, bamboo, etc. While such tools are not intended to make contact with the item of plant being measured, the possibility of a contact due to a swinging conductor or an unsteady measuring pole makes it necessary to confine the use of these measuring poles to the following—

- (a) Measuring the height of **telephone** wires, cables, strands, etc., and
- (b) Measuring the vertical clearance or separation between **telephone** wires, cables, strands, etc. ←

Group 3—Tools specifically intended and **approved** for use in measuring clearances and separations where supply conductors are concerned. The B Clearance Rod is intended for this purpose. ↴

Group 4—Tools of the optical type such as a transit, tele-height, sextant, hand level, range finder, hitometer, clearance meter, etc. Tools of this type may be used in determining and computing the height of telephone and supply wires, cables, strands, etc., as well as the vertical clearance and separation between telephone wires, cables, strands, etc., and supply wires, cables and guys of all voltages.

3.03 The following reference table summarizes the above recommendations.

TOOLS RECOMMENDED FOR USE WHEN MEASURING CLEARANCES AND SEPARATIONS IN THE SPAN				
Tools (By groups)	Telephone line wires, cables, guys, and drop wires	Supply cables, multi-grounded neutral wires, guys, and 0-750 volt supply wires	All other supply wires	Remarks
<b>Group 1</b> Clearance measuring lines, non-metallic linen tapes, ropes, etc.	Yes	Must not be used	Must not be used	Tools must be dry and free of metallic strands or threads
<b>Group 2</b> Tree pruner handles, pike poles, rods of wood, bamboo, etc.	Yes	No	Must not be used	—
<b>Group 3</b> B Clearance Rod	Yes	Yes	Yes	—
<b>Group 4</b> Transits, sextants, range finders, hand levels, tele-heights, hitometers, etc.	Yes	Yes	Yes	—