OPEN WIRE

TREE WIRE

Contents

	Page
1. General	1
2. Selection and Sizes of Tree Wire	1
3. Sags	2
4. Splicing Tree Wire	3
5. Tying Tree Wire to Insulators	3
6. Dead Ending Tree Wire	3

1. GENERAL

1.01 This section covers the method to be used in installing tree or drop wire in open wire lines. Only such details as are not covered in other sections of the Practices are included.

1.02 Tree wire or drop wire may be used as a means of improving insulation where open wire is subject to tree interference. Wire of this type should be used, however, only where it is impracticable to avoid or remove such interference.

2. SELECTION AND SIZES OF TREE WIRE

2.01 The following general rules should be followed in selecting the type of insulated wire. In general, and particularly in the case of toll circuits, the type of wire to be used will be specified on the detail plans.

(a) B Copper-Steel Tree Wire is for use in copper or copper-steel open wire lines where contacts with trees are unavoidable.

(b) N Steel Tree Wire (steel conductor) is for use in steel open wire lines where tree contacts are unavoidable.

(c) HD Wire may be used in exchange circuits and less important toll circuits, provided tree interference can be avoided by grouping the wires.

(d) NP drop wire may be used in exchange circuits where tree interference can be avoided by grouping the wires.

2.02 Wires of the above types should be protected with approved drop wire guards where contacts with tree limbs are unavoidable. Place the guards as shown in the Drop and Block Wiring Practices covering tree guards.

2.03 Sizes of Tree Wire

(a) B Copper-Steel Tree Wire is available in 080 and 104 sizes. The 080 B Copper-Steel Tree Wire shall be used with 080, 104 and 128 copper or copper-steel open-wire circuits. The 104 size shall be used with 165 copper open-wire circuits only.

(b) N Steel Tree Wire is available in the 109 size and should be used with 083, 109, 109H, or 134 Steel Line Wire.

2.04 In a circuit supported on brackets or crossarms having a wire separation of 10 inches or more, a short piece of tree wire of sufficient length to extend by the interfering limbs should be used instead of placing the tree wire for the entire span. If the circuit has a wire separation of less than 10 inches, the tree wire should extend the entire length of the spans involved.

3. SAGS

3.01 The sags of B Copper-Steel Tree Wire shall be as follows.

(a) When entire lead is B Copper-Steel Tree Wire from dead end to dead end the sags should be greater than those indicated in the G31.116 series of Practices for bare wire by the following percentage.

(1) 100% greater sag for 080 B Copper-Steel Tree Wire than for 080 copper wire.

(2) 70% greater sag for 104 B Copper-Steel Tree Wire than for 104 copper wire.

(b) When there are occasional spans of B Copper Steel Tree Wire spliced into an open wire lead use the normal stringing sag in the spans of bare wire and allow the sag in the tree wire spans to adjust until tension is equalized. Measure sags in bare wire spans only.

3.02 The sags of N Steel Tree Wire should be about one-fourth greater than those indicated for bare wire in the section on Stringing Sags-Copper or Steel Line Wire.

3.03 The sag in Drop Wires should be the same as those indicated in the G32.143 series of Practices for pole-to-pole spans.

4. SPLICING TREE WIRE

4.01 B Copper-Steel and N Steel Tree Wire should be sleeved to the bare line wire in the adjacent span about two feet beyond the insulator, if the circuit has a wire separation of less than 10 inches.

5. TYING TREE WIRE TO INSULATORS

5.01 Use modified horseshoe ties as shown in Section G31.134 for tying B Copper-Steel Tree Wire or N Steel Tree Wire to insulators, employing 24-inch lengths of 104 copper tie wire for tying copper tree wire and 24-inch lengths of 109 steel construction wire for tying steel tree wire. Do not remove the insulation of the tree wire at the tie points.

5.02 Support drop wires as shown in the Practices covering Drop and Block Wiring.

6. DEAD ENDING TREE WIRE

6.01 Dead-end tree wire in accordance with the instructions in the Practices on dead-ending open wire. Where rolled sleeves are used, the tree wire should be connected directly to the half-round dead-end wire. When twisted sleeves are used, the tree wire should be spliced to a piece of bare line wire at a distance of approximately 2 feet from the insulator.