BELL SYSTEM PRACTICES
Outisde Plant Construction
and Maintenance

ADDENDUM G23.110
Issue D, September, 1944-S
T. P. T. & T. Co.

GUYING

SIZES OF GUYS

NOTES CONCERNING THIS ADDENDUM

This Addendum supplements Section G23.110 and has been reissued to provide a table for determining the length of strand required for anchor guys, under certain conditions. It includes all of the information contained in the Addendum, Issue C.

The cross-reference, "See Addendum," should be marked in Section G23.110 at Parts 7 to 11, inclusive, which are supplemented by Paragraph 1.03 herein, and after Paragraphs 1.02, 11.02 and 13.01.

1. GENERAL

1.03   In determining the required size of guy by means of the Guy Rule, consider each wire as equivalent to the following:

(a) 165 Copper Line Wire)
    128 Copper-Steel Line Wire) $2\frac{1}{2}$ Wires
    109 High Strength Steel Line Wire)

    For example, eight 165 wires on an 8-pin crossarm are equivalent to 8 x $2\frac{1}{2}$ or 20 wires on the Guy Rule.

(b) 128 Copper Line Wire)
    104 Copper-Steel Line Wire) 2 Wires
    134 Steel Line Wire)

(c) 104 Copper Line Wire)
    080 Copper-Steel Line Wire)
    109 Steel Line Wire) 1 Wire
    083 High Strength Steel Line Wire)

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    (d) 080 Copper Line Wire   )
         083 Steel Line Wire   )
         When used as exchange circuits in spans)1 Wire
         averaging more than 175 feet in length,)
or as toll circuits.   )

    (e) 080 Copper Line Wire   )
         083 Steel Line Wire   )
         When used as exchange circuits in spans)½ Wire
         averaging not more than 175 feet in)
length.   )

1.04 The following tables provide a convenient method
of determining the length (in feet) of strand
required for anchor guys where the ground level be-
tween the pole and anchor rod are at approximately the
same elevation and an insulator is required in the
anchor guy 8 feet to 10 feet above the ground or where
no insulator is required.

      Note: In determining the length to cut the
           strand, add sufficient length for make-ups to
           distances shown in the tables also subtract
           from the anchor end, the distance the anchor
           rod extends out of the ground.

Distance (in feet) from ground level to strand attachment on pole

	P	A	P	A	P	A	P	A	P	A
30	22.2	9.4	22.4	9.6	22.6	9.7	22.9	9.8	23.2	9.9
29	21.2	9.5	21.4	9.6	21.7	9.7	21.9	9.9	22.2	10.0
28	20.2	9.5	20.4	9.7	20.7	9.8	21.0	9.9	21.2	10.1
27	19.2	9.6	19.4	9.7	19.7	9.8	20.0	10.0	20.3	10.1
26	18.2	9.6	18.4	9.8	18.7	9.9	19.0	10.1	19.3	10.2
25	17.2	9.7	17.5	9.8	17.7	10.0	18.1	10.1	18.4	10.3
24	16.3	9.7	16.5	9.9	16.7	10.1	17.1	10.2	17.4	10.4
23	15.3	9.8	15.5	10.0	15.8	10.2	16.1	10.3	16.4	10.5
22	14.3	9.9	14.5	10.1	14.8	10.3	15.1	10.5	15.4	10.7
21	13.3	10.0	13.5	10.2	13.8	10.4	14.1	10.6	14.4	10.8
20	12.3	10.1	12.5	10.3	12.8	10.5	13.1	10.7	13.4	11.0
19	11.3	10.2	11.5	10.4	11.8	10.6	12.1	10.9	12.4	11.2
18	10.3	10.3	10.5	10.5	10.8	10.8	11.1	11.1	11.4	11.4
17	9.3	10.4	9.5	10.7	9.8	11.0	10.1	11.3	10.4	11.6
16	8.3	10.6	8.5	10.9	8.7	11.3	9.0	11.6	9.3	12.0
15	7.2	10.8	7.4	11.2	7.6	11.6	8.0	11.9	8.2	12.3
	P	A	P	A	P	A	P	A	P	A
	10		11		12		13		14	

Distance (in feet) from pole to anchor rod at ground level.

Distance (in feet) from ground level to strand attachment on pole

P=Distance (in feet) between pole attachment and insulator located 9 feet above the ground line.
A=Distance (in feet) between insulator located 9 feet above the ground and anchor rod at ground level.
P+A = Distance (in feet) between pole attachment and anchor rod at ground level.

Distance (in feet) from ground level to strand attachment on pole

	15 P	15 A	16 P	16 A	17 P	17 A	18 P	18 A	19 P	19 A
30	23.5	10.1	23.8	10.2	24.2	10.3	24.5	10.5	24.8	10.6
29	22.6	10.1	22.8	10.3	23.2	10.4	23.5	10.6	23.9	10.8
28	21.6	10.2	21.9	10.4	22.3	10.5	22.6	10.7	23.0	10.9
27	20.6	10.3	21.0	10.5	21.3	10.6	21.7	10.8	22.0	11.0
26	19.6	10.4	20.0	10.6	20.3	10.8	20.7	10.9	21.0	11.2
25	18.7	10.5	19.0	10.7	19.3	10.9	19.7	11.1	20.1	11.3
24	17.7	10.6	18.0	10.8	18.4	11.0	18.8	11.3	19.1	11.5
23	16.7	10.7	17.0	11.0	17.4	11.2	17.8	11.4	18.2	11.7
22	15.7	10.9	16.1	11.1	16.4	11.4	16.8	11.6	17.2	11.9
21	14.8	11.1	15.1	11.3	15.4	11.6	15.8	11.9	16.2	12.1
20	13.8	11.3	14.1	11.6	14.4	11.8	14.8	12.1	15.2	12.4
19	12.7	11.5	13.1	11.8	13.4	12.0	13.8	12.4	14.2	12.7
18	11.7	11.7	12.0	12.0	12.4	12.4	12.7	12.7	13.1	13.1
17	10.7	12.0	10.9	12.4	11.3	12.7	11.7	13.1	12.0	13.5
16	9.6	12.3	9.9	12.7	10.2	13.1	10.6	13.5	10.8	14.0
15	8.5	12.7	8.7	13.2	9.1	13.6	9.3	14.1	9.7	14.5
	P	A	P	A	P	A	P	A	P	A
	15		16		17		18		19	

Distance

Distance (in feet) from pole to anchor rod at ground level.

P=Distance (in feet) between pole attachment and insulator located 9 feet above the ground line.
A=Distance (in feet) between insulator located 9 feet above the ground and anchor rod at ground level.
P+A=Distance (in feet) between pole attachment and anchor rod at ground level.

Distance (in feet) from ground level to strand attachment on pole	20 P	20 A	21 P	21 A	22 P	22 A	23 P	23 A	24 P	24 A
30	25.2	10.8	25.6	11.0	26.0	11.2	26.5	11.3	26.9	11.5
29	24.3	10.9	24.7	11.1	25.1	11.3	25.5	11.5	26.0	11.7
28	23.3	11.1	23.8	11.2	24.2	11.4	24.6	11.6	25.0	11.9
27	22.4	11.2	22.8	11.4	23.3	11.6	23.6	11.8	24.1	12.0
26	21.4	11.4	21.8	11.6	22.3	11.8	22.7	12.0	23.1	12.2
25	20.5	11.5	20.9	11.8	21.3	12.0	21.7	12.2	22.2	12.5
24	19.5	11.7	19.9	12.0	20.3	12.2	20.8	12.5	21.2	12.7
23	18.5	11.9	19.0	12.2	19.3	12.5	19.8	12.7	20.2	13.0
22	17.5	12.2	18.0	12.4	18.4	12.7	18.8	13.0	19.2	13.3
21	16.6	12.4	17.0	12.7	17.4	13.0	17.8	13.3	18.2	13.7
20	15.6	12.7	16.0	13.0	16.3	13.4	16.8	13.7	17.2	14.1
19	14.5	13.1	14.9	13.4	15.3	13.8	15.7	14.1	16.1	14.5
18	13.5	13.5	13.8	13.8	14.2	14.2	14.6	14.6	15.0	15.0
17	12.4	13.9	12.6	14.2	13.1	14.7	13.5	15.1	13.8	15.6
16	11.2	14.4	11.5	14.9	11.9	15.3	12.2	15.8	12.6	16.2
15	10.0	15.0	10.3	15.5	10.6	16.0	11.0	16.5	11.3	17.0
	P	A	P	A	P	A	P	A	P	A
	20		21		22		23		24	

Distance (in feet) from pole to anchor rod at ground level.

P = Distance (in feet) between pole attachment and insulator located 9 feet above the ground line.
A = Distance (in feet) between insulator located 9 feet above the ground and anchor rod at ground level.
P+A = Distance (in feet) between pole attachment and anchor rod at ground level.

11. STRENGTH OF STRAND FOR GUYS ON POLES SUPPORTING BOTH WIRE AND CABLE

11.02 Where one guy is placed for both aerial wire and cable or where it is desired to determine whether an existing guy is of sufficient strength to support both the aerial wire and cable, the size of guy required shall be determined by use of the Guy Rule. To do this, add to the strength of the cable suspension strand 200 pounds for each equivalent wire to be carried on the pole and substitute the total for "Size of Suspension Strand" on the Guy Rule.

Example: To find the equivalent size of suspension strand for a line carrying thirty-two 083 steel line wires and a cable supported on a 6,000-pound suspension strand.

Size of suspension strand............6,000 lbs.
32 083 wires (32 x ½ x 200)...........3,200 lbs.
Equivalent Size of Suspension Strand..9,200 lbs.

14. SIZE OF GUYS WHERE WIRE LOAD HAS VALUE NOT SHOWN ON GUY RULE

14.01 The size of guys required for wire loads with values intermediate to those shown on the Guy Rule may be determined as not less than one-fifth of the guying that would be required for five times the load. For example, for 16 wires, determine by the Guy Rule the guying for 16 x 5 or 80 wires and place one-fifth the amount of guying required for the 80 wires.