GUYING

INSULATED WIRES

1. GENERAL

1.01 This section covers the requirements for guying multiple wire, C Rural Wire, drop wire, and 6-pair multiple drop wire.

1.02 This section is being reissued to update the information on guying requirements.

1.03 The requirements for guying these insulated wires will vary depending on the type and number of facilities, the span lengths, and the stringing tensions involved.

1.04 In those cases where insulated wire is being placed on a pole line that is already supporting open wire or cable, convert the total load to equivalent numbers of wires or size of suspension strand to determine whether existing guying is adequate or whether additional guying is necessary.

> *Note:* ▶By using the Guy Rule described in Section 621-400-013,◀ the size of the suspension strand can be converted into numbers of wires by multiplying strand size by 6 for a corner or by 3 for a deadend. For example: 6M Strand equals 36 wires and 25M Strand equals 150 wires on a corner. On a dead end, 6M Strand is equal to 18 wires while 25M Strand is equal to 75 wires.

2. MULTIPLE WIRE

2.01 ▶When one multiple wire is placed at double the recommended sag, no guying is required for dead ends or for corners up to 50 feet of pull as follows:

(a) With 109 support wire; spans of 180 feet or less.

(b) With 120 support wire; spans of 135 feet or less.

When more than one multiple wire is placed at double the recommended sags, dead ends must be guyed, but the size of the corner where no guying is required is determined by dividing 50 by the number of wires for the span lengths shown above. For example, two multiple wires with 109 support wire would not require guying for a corner with 25 feet of pull provided the span lengths are 180 feet or less.◀

2.02 ▶Table A shows the maximum size of corner at which no guying is required for one multiple wire with either 109 or 120 support wire placed at the recommended sags or for one multiple wire with 109 support wire placed at the minimum sag.◀ Where more than one multiple wire is involved, divide the maximum pull indicated in

TABLE A

CORNERS WHERE NO GUYING IS REQUIRED FOR ONE MULTIPLE WIRE

AVERAGE SPAN LENGTH (FEET)	109 SUPPORT WIRE		120 SUPPORT WIRE
	PLACED AT RECOMMENDED SAGS	PLACED AT MINIMUM SAGS	PLACED AT RECOMMENDED SAGS
	MAXIMUM PULL-FEET		
100 to 250	30	20	25
250 to 600	20	10	15

TABLE B

WIRE EQUIVALENTS FOR GUY RULE

AVERAGE SPAN LENGTH (FEET)	109 SUPPORT WIRE		120 SUPPORT WIRE
	PLACED AT RECOMMENDED SAGS	PLACED AT MINIMUM SAGS	PLACED AT RECOMMENDED SAGS
	WIRE EQUIVALENTS		
100 to 250	3	5	4
251 to 450	4	5	5
451 to 600	5	7	6

Table A by the number of multiple wires to obtain the reduced corner permitted. For example, two multiple wires for average spans of 350 feet would not require guying for corners with 10 feet of pull if supported by 109 wire or 7-1/2 feet of pull if supported by 120 wire.

Note: Because of excessive tensions that may develop under storm loading conditions, placing multiple wire supported by 120 wires at less than recommended sags is not advisable.

2.03 Where guying is required, determine the size of guy by means of the Guy Rule using the wire equivalents shown in Table B.

3. C RURAL WIRE

3.01 It is not necessary to guy C Rural Wire placed at the recommended sags under the conditions listed in Table C.

3.02 Where guying is required, determine the size of guy by means of the Guy Rule using the following wire equivalents:

Maximum Span	Wire Equivalent
350 Feet	2
450 Feet	2-1/2
600 Feet	3

4. C DROP WIRE

4.01 No guying is required except under the following conditions:

(a) Using normal stringing sags when the number of drop wires times the pull (in feet) exceeds 250.

(b) Using minimum stringing sags when the number of drop wires times the pull (in feet) exceeds 150.

Note: A deadend is equal to 50 feet of pull.

TABLE C

CORNER WHERE NO GUYING IS REQUIRED FOR C RURAL WIRE AT THE RECOMMENDED SAGS

MAXIMUM SPAN LENGTH (FEET)	1 WIRE	2 WIRES	3 WIRES
	MAXIMUM PULL AT CORNERS (FEET)		
100 to 250	50[1]	25	17
251 to 450	40	20	13
451 to 600	35	17	11

Note 1: Deadend

4.02 When guying is required, determine the size of the guy by means of the Guy Rule using the following wire equivalents:

Stringing Sags	Wire Equivalents
Normal	1/3
Minimum	2/3

5. B AND C MULTIPLE DROP WIRE

5.01 No guying is required except under the following conditions:

(a) Using normal stringing sags when the number of multiple drop wires times the pull (in feet) exceeds 75.

(b) Using minimum stringing sags when the number of multiple drop wires times the pull (in feet) exceeds 50.

Note: A deadend is equal to 50 feet of pull. Stringing sags are covered in Section 462-500-011.

5.02 When guying is required, determine the size of the guy by means of the Guy Rule using the following wire equivalents:

Stringing Sags	Wire Equivalents
Normal	1
Minimum	1-1/2