

RAILROAD CROSSINGS

OVERHEAD CROSSINGS

GUYS

<u>Contents</u>	<u>Page</u>
1. Side Guys	1
2. Head Guys	2
3. Corner Guys	3
4. Omission of Guys	3
5. Guying in Special Cases	4
6. Guy Leads	4
7. Method of Anchoring Guys	4
8. Guards for Guys	4
9. Pole Braces	4

1. SIDE GUYS

1.01 Poles supporting the crossing span shall be side guyed with guys having strengths specified in Appendix A, except as provided in Parts 4 and 5.

1.02 For the purpose of side guying, aerial cables and their suspension strands shall have the wire equivalents given in the following table:

TABLE 1
WIRE EQUIVALENTS

<u>Diameter of Cable</u>	<u>Equivalent Number of Open Wires</u>		
	<u>Heavy Loading District</u>	<u>Medium Loading District</u>	<u>Light Loading District</u>
Less than 1-1/4 in.	3	4	10
1-1/4 to 2-1/4 in.	4	5	15
Over 2-1/4 in.	5	6	20

2. HEAD GUYS

2.01 Poles supporting the crossing span where the wires are not terminated shall be head guyed away from the crossing span with guys having strengths specified in Appendix B except as provided in Parts 4 and 5. Appendix B specifies the guy strengths required for wires not terminated at the crossing support for heavy, medium and light loading districts.

2.02 Poles supporting the crossing span in the medium and light loading districts, where the wires are terminated, shall be head guyed in accordance with the standard practices. In the heavy loading districts, where the wires are terminated, the poles supporting the crossing span shall be head guyed away from the crossing span with guys having strengths specified in Appendix C.

2.03 The total guy strength requirements may be obtained by using various combinations of standard guys which, when taken together, will give a strength at least as great as that specified in Paragraph 2.01 or 2.02 or both, whichever is applicable. In the event that some wires are terminated while the others continue through, the guying requirements for each condition will be determined and then guyed for the combination. In this case, it is possible that one guy of sufficient strength to satisfy the requirements of both Paragraph 2.01 and 2.02 can be found.

2.04 Head guys are not required for lines carrying only aerial cable. For lines carrying both open wire and aerial cable, head guying need be provided only for the open wire.

2.05 Head guys shall be installed so as not to increase the tension of the conductors in the crossing span. In order to facilitate the installation of the head guys, a 6,000 pound pole to pole guy may be installed between the crossing poles so as to provide additional rigidity in the crossing structure.

3. CORNER GUYS

3.01 Where the line changes direction at a crossing support, corner guys shall be placed in accordance with standard practices in lieu of the requirements for side guys on the outside of the corner. Where a line crossing a railroad changes direction and the resulting pull is more than 9 feet and less than 50 feet at either crossing support, the side guy within the angle may be omitted and the head guy, if required, shall be placed in the direction of the adjacent span. Corners of more than 40 foot pull at the crossing supports should be avoided where it is practicable.

3.02 The strength requirements for corner guys in the light loading districts shall be determined in accordance with standard practices.

3.03 The strength requirements for corner guys in the medium and heavy loading districts shall be determined from the tables in Appendix D, headed "Strength of Corner Guys," unless the guying in Appendix A is greater, in which case the latter guying shall be provided.

4. OMISSION OF GUYS

4.01 Side guys may be omitted where the crossing poles do not carry more than the maximum number of wires for poles having strengths equivalent to that indicated in Appendix E.

4.02 Where a communication line paralleling a railroad track on the right-of-way of the railroad crosses any of the minor tracks described in Section G10.310.1, Paragraph 2.01, the side guy may be omitted where the crossing poles do not carry more than the maximum number of wires for poles having strengths equivalent to that indicated in Appendix F.

4.03 Head guys may be omitted where the crossing poles do not carry more than the maximum number of wires for the various class of poles indicated in Appendix G.

5. GUYING IN SPECIAL CASES

5.01 Where, on account of physical conditions it is impracticable to side-guy the crossing poles as specified in Paragraph 1.01, or to provide the strength of an unguyed pole as specified in Paragraph 4.01, the requirement may be met by head-guying and side-guying the line as near to the crossing as practicable, provided the line is approximately straight and the intermediate poles are not of a class lower than those specified in Section G10.310.4, Paragraph 1.01 and that a strand of strength equivalent to the load in pounds for which head-guying is required, is run between the two guyed poles. Where such guying is employed, it shall meet the requirements of Paragraphs 1.01 to 2.02, inclusive, and shall be applied at a distance not exceeding 500 feet from the nearest crossing pole. The strand shall be dead-ended on the guyed poles close to the point at which the head guys are attached, and shall be securely attached to every pole between the guyed poles.

6. GUY LEADS

6.01 Anchors shall, where practicable, be placed with a ratio of guy lead to height of not less than one for head guys and not less than one-third for side guys. The guys shall be attached as near to the center of the load as practicable.

7. METHOD OF ANCHORING GUYS

7.01 Guy rods and anchors shall be placed in accordance with the standard practices. Guys should preferably be attached to anchors set in earth or secured in rock. Where this is impracticable, guys may be attached to stubs or poles which are properly anchor guyed. Guys should not be attached to trees.

8. GUARDS FOR GUYS

8.01 When anchor guys are located so that persons or livestock may come in accidental contact with them, they shall be equipped with suitable guards.

9. POLE BRACES

9.01 Pole braces may be used in the place of guys called for in Paragraphs 1.01 to 3.03, inclusive, to provide equivalent strength.

STRENGTH OF SIDE GUTS REQUIRED, IN POUNDS
(Combinations of Standard Size Guts May be Used)

APPENDIX A

Number of Sides	Average of Crossing and Adjacent Span 100 Feet or Less		Average of Crossing and Adjacent Span 100 to 125 Feet		Average of Crossing and Adjacent Span 125 to 150 Feet		Average of Crossing and Adjacent Span 150 to 175 Feet		Average of Crossing and Adjacent Span 175 to 200 Feet	
	1	2/3	1	2/3	1	2/3	1	2/3	1	2/3
2	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
4	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
6	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
10	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
20	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
30	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
40	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
50	6,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
60	6,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
70	6,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
80	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
2	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
4	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
6	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
10	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
20	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
30	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
40	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
50	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
60	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
70	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
80	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000

APPENDIX B
NOMINAL STRENGTH IN POUNDS OF LONGITUDINAL
GUYS AT CROSSINGS OF OPEN WIRE COMMUNICATION

<u>No. of Wires</u>	<u>Ratio of Guy Lead to Height Not Less Than</u>				
	<u>1/4</u>	<u>1</u>	<u>3/4</u>	<u>2/3</u>	<u>1/2</u>
	<u>Heavy Loading</u>				
2	4,000	4,000	4,000	4,000	4,000
6	4,000	4,000	4,000	4,000	6,000
10	6,000	6,000	6,000	10,000	10,000
20	10,000	10,000	12,000	16,000	16,000
30	16,000	16,000	20,000	20,000	26,000
40	20,000	20,000	26,000	26,000	32,000
50	20,000	20,000	30,000	32,000	42,000
60	26,000	30,000	36,000	36,000	48,000
70	30,000	30,000	40,000	48,000	60,000
80	36,000	40,000	48,000	60,000	70,000
	<u>Medium Loading</u>				
2	4,000	4,000	4,000	4,000	4,000
6	4,000	4,000	4,000	4,000	4,000
10	4,000	4,000	6,000	6,000	6,000
20	6,000	10,000	10,000	10,000	12,000
30	10,000	10,000	12,000	16,000	16,000
40	12,000	16,000	16,000	16,000	20,000
50	16,000	16,000	20,000	20,000	26,000
60	20,000	20,000	26,000	26,000	30,000
70	20,000	20,000	26,000	30,000	36,000
80	26,000	26,000	30,000	32,000	40,000
	<u>Light Loading</u>				
2	4,000	4,000	4,000	4,000	4,000
6	4,000	4,000	4,000	4,000	4,000
10	4,000	4,000	4,000	4,000	4,000
20	4,000	6,000	6,000	6,000	10,000
30	6,000	10,000	10,000	10,000	12,000

Light Loading (Continued)

<u>No. of Wires</u>	<u>Ratio of Guy Lead to Height Not Less Than</u>				
	<u>1$\frac{1}{4}$</u>	<u>1</u>	<u>3/4</u>	<u>2/3</u>	<u>1/2</u>
40	10,000	10,000	10,000	12,000	16,000
50	10,000	10,000	16,000	16,000	20,000
60	12,000	16,000	16,000	16,000	20,000
70	16,000	16,000	20,000	20,000	26,000
80	16,000	20,000	20,000	26,000	30,000

APPENDIX C
STRENGTH OF HEAD GUYS REQUIRED
HEAVY LOADING
WIRES TERMINATED AT CROSSING SUPPORT

Ratio of Guy Lead to Height Not Less Than

No. of Wires Terminated	<u>1-1/4</u>				<u>1</u>			
	Size of Wire				Size of Wire			
	104c	104cs	128cs	165s	104c	104cs	128cs	165s
2	2.2M	2.2M	6M	6M	2.2M	6M	6M	6M
6	6	10	10	10	6	10	10	10
10	10	10	12	16	10	12	16	16
20	20	22	26	30	20	24	26	32
30	26	32	36	44	30	36	42	50
40	36	42	48	66	42	48	54	70
50	48	54	60	76	50	60	70	86
60	54	64	70	90	60	70	80	100

Ratio of Guy Lead to Height Not Less Than

No. of Wires Terminated	<u>3/4</u>				<u>2/3</u>			
	Size of Wire				Size of Wire			
	104c	104cs	128cs	165s	104c	104cs	128cs	165s
2	6M	6M	6M	6M	6M	6M	6M	6M
6	10	10	10	12	10	10	10	12
10	12	16	16	20	12	16	20	20
20	24	30	32	40	26	30	32	42
30	36	42	48	60	42	48	54	64
40	48	54	64	80	52	60	70	86
50	60	70	80	96	64	76	86	106
60	70	80	96	116	80	90	100	126

APPENDIX C (Continued)
STRENGTH OF HEAD GUYS REQUIRED
HEAVY LOADING
WIRES TERMINATED AT CROSSING SUPPORT

Ratio of Guy Lead to Height Not Less Than

<u>No. of Wires Terminated</u>	<u>1/2</u>			
	<u>Size of Wire</u>			
	<u>104c</u>	<u>104cs</u>	<u>128cs</u>	<u>165s</u>
2	6M	6M	6M	6M
6	10	12	12	16
10	16	20	20	26
20	30	36	42	54
30	48	54	64	80
40	64	76	86	106
50	80	92	106	130
60	100	110	126	154

This table is based on 100 foot spans. Guying for span lengths greater than 100 foot or different wire combinations should be determined by the engineer and specified on the detail plans.

APPENDIX D
STRENGTH OF CORNER GUYS REQUIRED
HEAVY LOADING

Ratio of Guy Lead to Height Not Less Than

No. of Wires	Pull on Pole (feet)	<u>1-1/4</u> Size of Wire			<u>1</u> Size of Wire		
		<u>104c</u>	<u>128c-104cs</u> <u>134s-128cs</u>	<u>165c</u> <u>165s</u>	<u>104c</u>	<u>128c-104cs</u> <u>134s-128cs</u>	<u>165c</u> <u>165s</u>
2	5	2.2M	2.2M	2.2M	2.2M	2.2M	2.2M
	10	2.2	2.2	2.2	2.2	2.2	2.2
	20	2.2	2.2	2.2	2.2	2.2	2.2
	30	2.2	2.2	2.2	2.2	2.2	2.2
	40	2.2	2.2	6	2.2	6	6
6	5	2.2	2.2	2.2	2.2	2.2	2.2
	10	2.2	2.2	2.2	2.2	2.2	2.2
	20	2.2	6	6	2.2	6	6
	30	6	6	6	6	6	6
	40	6	6	10	6	10	10
10	5	2.2	2.2	2.2	2.2	2.2	2.2
	10	2.2	6	6	2.2	6	6
	20	6	6	6	6	6	6
	30	6	10	10	6	10	10
	40	10	10	12	10	12	12
20	5	2.2	6	6	2.2	6	6
	10	6	6	6	6	6	10
	20	10	10	12	10	10	12
	30	10	16	18	12	16	20
	40	16	20	24	16	22	26
30	5	6	6	6	6	6	6
	10	6	10	10	6	10	10
	20	10	16	18	12	16	20
	30	16	20	26	18	24	30
	40	22	30	36	24	34	40
40	5	6	6	6	6	6	10
	10	10	10	12	10	12	16
	20	16	20	22	16	20	26
	30	22	30	34	24	30	40
	40	30	40	48	32	44	54

APPENDIX D (Continued)
STRENGTH OF CORNER GUYS REQUIRED
HEAVY LOADING

Ratio Of Guy Lead to Height Not Less Than

No. of Wires	Pull on Pole (feet)	<u>3/4</u>			<u>2/3</u>		
		<u>Size of Wire</u>			<u>Size of Wire</u>		
		<u>104c</u>	<u>128c-104cs</u>	<u>165c</u>	<u>104c</u>	<u>128c-104cs</u>	<u>165c</u>
2	5	2.2M	2.2M	2.2M	2.2M	2.2M	2.2M
	10	2.2	2.2	2.2	2.2	2.2	2.2
	20	2.2	2.2	2.2	2.2	2.2	2.2
	30	2.2	2.2	6	2.2	2.2	6
	40	2.2	6	6	2.2	6	6
6	5	2.2	2.2	2.2	2.2	2.2	2.2
	10	2.2	2.2	6	2.2	2.2	6
	20	6	6	6	6	6	6
	30	6	6	10	6	6	10
	40	6	10	10	6	10	10
10	5	2.2	2.2	2.2	2.2	2.2	2.2
	10	6	6	6	6	6	6
	20	6	6	10	6	10	10
	30	10	10	12	10	10	12
	40	10	12	16	10	16	18
20	5	6	6	6	6	6	6
	10	6	10	10	6	10	10
	20	10	12	16	10	14	16
	30	16	18	24	16	20	24
	40	18	24	30	20	26	34
30	5	6	6	6	6	6	6
	10	10	10	12	10	10	16
	20	16	18	24	16	20	24
	30	20	26	36	22	30	36
	40	28	38	48	30	40	52
40	5	6	6	10	6	10	10
	10	10	16	16	10	16	18
	20	18	24	32	20	26	32
	30	26	36	48	32	42	48
	40	38	50	60	40	56	68

APPENDIX D (Continued)
STRENGTH OF CORNER GUYS REQUIRED
HEAVY LOADING

Ratio of Guy Lead to Height Not Less Than

No. of Wires	Pull on Pole (feet)	<u>1/2</u> Size of Wire		
		128c-104cs		165c
		104c	134s-128cs	165s
2	5	2.2M	2.2M	2.2M
	10	2.2	2.2	2.2
	20	2.2	2.2	2.2
	30	2.2	6	6
	40	6	6	6
6	5	2.2	2.2	2.2
	10	2.2	6	6
	20	6	6	6
	30	6	10	10
	40	10	10	12
10	5	2.2	2.2	6
	10	6	6	6
	20	6	10	10
	30	10	12	16
	40	12	18	20
20	5	6	6	6
	10	10	10	12
	20	12	16	20
	30	18	26	30
	40	24	34	40
30	5	6	6	10
	10	10	16	16
	20	18	26	32
	30	26	36	48
	40	38	52	64
40	5	6	10	10
	10	16	18	22
	20	24	32	42
	30	38	48	62
	40	50	68	86

Note: These tables are based on 100 foot spans. Guying for span lengths greater than 100 foot, different wire combinations or pull greater than 40 feet, should be determined by the engineer and specified on the detail plans.

APPENDIX D (Continued)
STRENGTH OF CORNER GUYS REQUIRED
MEDIUM LOADING

Ratio of Guy Lead to Height Not Less Than

No. of Wires	Pull on Pole (feet)	<u>1-1/4</u>			<u>1</u>		
		Size of Wire			Size of Wire		
		<u>104c</u>	<u>128c-104cs</u> <u>134s-128cs</u>	<u>165c</u> <u>165s</u>	<u>104c</u>	<u>128c-104cs</u> <u>134s-128cs</u>	<u>165c</u> <u>165s</u>
2	5	2.2M	2.2M	2.2M	2.2M	2.2M	2.2M
	10	2.2	2.2	2.2	2.2	2.2	2.2
	20	2.2	2.2	2.2	2.2	2.2	2.2
	30	2.2	2.2	2.2	2.2	2.2	2.2
	40	2.2	2.2	2.2	2.2	2.2	2.2
6	5	2.2	2.2	2.2	2.2	2.2	2.2
	10	2.2	2.2	2.2	2.2	2.2	2.2
	20	2.2	2.2	2.2	2.2	2.2	2.2
	30	2.2	2.2	4	2.2	4	4
	40	2.2	4	4	2.2	4	4
10	5	2.2	2.2	2.2	2.2	2.2	2.2
	10	2.2	2.2	2.2	2.2	2.2	2.2
	20	2.2	4	4	2.2	4	4
	30	4	4	4	4	4	6
	40	4	6	6	4	6	6
20	5	2.2	2.2	2.2	2.2	2.2	2.2
	10	2.2	4	4	2.2	4	4
	20	4	6	6	4	6	6
	30	6	8	8	6	8	10
	40	8	10	12	8	10	12
30	5	2.2	2.2	2.2	2.2	2.2	4
	10	4	4	4	4	4	6
	20	6	8	8	6	8	10
	30	8	10	12	8	12	14
	40	10	14	16	12	16	18
40	5	2.2	4	4	2.2	4	4
	10	4	6	6	4	6	6
	20	8	10	12	8	10	12
	30	10	14	18	12	16	18
	40	14	18	22	14	20	24

APPENDIX D (Continued)
STRENGTH OF CORNER GUYS REQUIRED
MEDIUM LOADING

Ratio of Guy Lead to Height Not Less Than

No. of Wires	Pull on Pole (feet)	<u>3/4</u>			<u>2/3</u>		
		Size of Wire			Size of Wire		
		<u>104c</u>	<u>128c-104cs</u> <u>134s-128cs</u>	<u>165c</u> <u>165s</u>	<u>104c</u>	<u>128c-104cs</u> <u>134s-128cs</u>	<u>165c</u> <u>165s</u>
2	5	2.2M	2.2M	2.2M	2.2M	2.2M	2.2M
	10	2.2	2.2	2.2	2.2	2.2	2.2
	20	2.2	2.2	2.2	2.2	2.2	2.2
	30	2.2	2.2	2.2	2.2	2.2	2.2
	40	2.2	2.2	2.2	2.2	2.2	2.2
6	5	2.2	2.2	2.2	2.2	2.2	2.2
	10	2.2	2.2	2.2	2.2	2.2	2.2
	20	2.2	2.2	2.2	2.2	2.2	4
	30	2.2	4	4	2.2	4	4
	40	4	4	4	4	4	6
10	5	2.2	2.2	2.2	2.2	2.2	2.2
	10	2.2	2.2	2.2	2.2	2.2	2.2
	20	2.2	4	4	4	4	4
	30	4	6	6	4	6	6
	40	4	6	8	6	8	8
20	5	2.2	2.2	2.2	2.2	2.2	2.2
	10	2.2	4	4	4	4	4
	20	6	6	8	6	8	10
	30	8	10	12	8	10	12
	40	10	12	14	10	14	16
30	5	2.2	2.2	4	2.2	4	4
	10	4	6	6	4	6	6
	20	8	10	10	8	10	12
	30	10	14	16	10	14	18
	40	14	18	22	14	20	24
40	5	2.2	4	4	4	4	4
	10	6	6	8	6	8	8
	20	10	12	16	10	14	16
	30	14	18	22	14	20	24
	40	18	24	30	18	26	32

APPENDIX D (Continued)
STRENGTH OF CORNER GUYS REQUIRED
MEDIUM LOADING

Ratio of Guy Lead to Height Not Less Than

No. of Wires	Pull on Pole (Feet)	<u>1/2</u> <u>Size of Wire</u>		
		<u>104c</u>	<u>128c-104cs</u>	<u>165c</u>
			<u>134s-128cs</u>	<u>165s</u>
2	5	2.2M	2.2M	2.2M
	10	2.2	2.2	2.2
	20	2.2	2.2	2.2
	30	2.2	2.2	2.2
	40	2.2	2.2	2.2
6	5	2.2	2.2	2.2
	10	2.2	2.2	2.2
	20	2.2	4	4
	30	4	4	6
	40	4	6	6
10	5	2.2	2.2	2.2
	10	2.2	2.2	4
	20	4	4	6
	30	6	6	8
	40	6	8	10
20	5	2.2	2.2	4
	10	4	4	6
	20	6	8	10
	30	10	12	14
	40	12	16	20
30	5	2.2	4	4
	10	6	6	8
	20	10	12	16
	30	14	18	22
	40	18	24	30
40	5	4	4	6
	10	6	8	10
	20	12	16	20
	30	18	24	30
	40	24	32	38

APPENDIX E
MAXIMUM NUMBER OF WIRES WHICH CAN BE
SUPPORTED BY POLES OF VARIOUS CLASSES
WITHOUT SIDE GUYS AT CROSSINGS OVER
RAILROAD TRACKS

Class of Pole	<u>Average of Crossing and Adjacent Spans - Feet</u>				
	100	125	150	175	200
		<u>Heavy Loading District</u>			
1	28	22	18	15	13
2	22	18	14	12	11
3	17	14	11	10	8
4	13	11	9	8	7
5	10	8	7	6	5
6	8	6	5	4	4
7	6	5	4	3	3
		<u>Medium Loading District</u>			
1	53	41	33	28	24
2	41	32	26	22	19
3	32	25	21	17	15
4	24	19	16	14	12
5	18	15	12	10	9
6	14	11	9	8	7
7	10	8	7	6	5
		<u>Light Loading District</u>			
1		82	65	54	46
2	81	61	49	41	35
3	58	45	37	31	27
4	42	33	27	23	20
5	29	23	19	15	14
6	19	15	13	11	9
7	10	10	8	7	6

APPENDIX F

MAXIMUM NUMBER OF WIRES WHICH CAN BE
SUPPORTED BY POLES OF VARIOUS CLASSES
WITHOUT SIDE GUYS AT CROSSINGS OVER
MINOR TRACKS UNDER THE CONDITIONS
SPECIFIED IN PARAGRAPH 4.02

<u>Class of Pole</u>	<u>Average of Crossing and Adjacent Spans - Feet</u>					
	100	125	150	175	200	
		<u>Heavy Loading District</u>				
1	62	48	39	33	28	
2	48	38	31	26	23	
3	38	29	24	20	18	
4	29	23	19	16	9	
5	22	17	9	8	7	
6	16	9	8	7	6	
7	8	7	6	5	4	
		<u>Medium Loading District</u>				
1		90	76	63	54	
2		74	59	50	42	
3	75	56	45	39	33	
4	55	42	35	29	25	
5	40	32	26	22	19	
6	20	20	20	17	9	
7	10	10	10	8	7	
		<u>Light Loading District</u>				
1				81	68	
2			75	61	52	
3		70	55	46	39	
4	65	50	40	34	30	
5	45	35	29	24	21	
6	31	25	20	17	15	
7	10	10	10	10	10	

APPENDIX G

MAXIMUM NUMBER OF WIRES WHICH CAN BE
SUPPORTED BY POLES OF VARIOUS CLASSES WITHOUT
HEAD GUYS

<u>Wire Size and Material</u>	<u>Class of Pole</u>						
	1	2	3	4	5	6	7
<u>Heavy Loading District</u>							
104 Copper	8	6	6	4	4	2	2
128 Copper	6	6	4	4	2	2	2
165 Copper	4	2	2	2	2	-	-
134 Steel	4	4	2	2	2	-	-
165 Steel	2	2	2	2	-	-	-
104 Copper-Steel	4	2	2	2	-	-	-
128 Copper-Steel	2	2	2	-	-	-	-
<u>Medium Loading District</u>							
104 Copper	16	12	10	8	6	4	4
128 Copper	10	8	6	4	4	2	2
165 Copper	4	4	4	2	2	2	-
134 Steel	6	6	4	4	2	2	2
165 Steel	4	4	2	2	2	2	-
104 Copper-Steel	6	4	4	2	2	2	-
128 Copper-Steel	4	4	2	2	2	-	-
<u>Light Loading District</u>							
104 Copper	20	18	14	12	8	6	4
128 Copper	12	10	8	6	4	4	2
165 Copper	8	8	6	4	4	2	2
134 Steel	10	8	6	4	4	2	2
165 Steel	6	6	4	4	2	2	2
104 Copper-Steel	8	8	6	4	2	2	2
128 Copper-Steel	6	6	4	4	2	2	2