

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

SAFETY DIVISION
UTILITIES SAFETY BRANCH

RESOLUTION SU-6
November 21, 1990

R E S O L U T I O N

RESOLUTION SU-6, ORDER AUTHORIZING RULE CHANGES TO GENERAL ORDER NO.95 (G.O.95) , RULES FOR OVERHEAD ELECTRIC LINE CONSTRUCTION AND GENERAL ORDER NO.128 (G.O.128) , RULES FOR CONSTRUCTION OF UNDERGROUND ELECTRIC SUPPLY AND COMMUNICATION SYSTEMS

SUMMARY

1. The staff of the Safety Division's Utilities Safety Branch requests authorization for changes to G.O.95 and G.O.128 contained in the enclosed Appendix A.
2. The request follows the submittal of proposed changes by the General Orders 95/128 Rules Committee, which is composed of representatives from operators of electric and communication lines in California. The committee has obtained a consensus of investor owned utilities, utility districts, municipalities, California Cable Television Association and the associated labor unions concerning the changes.
3. The changes authorized are to rules concerning underground electric supply system maintenance, fiber optic cable, climbing space on poles, conductor clearances, and guy markers.

BACKGROUND

1. The changes are the result of informal proposals by the General Orders 95/128 Rules Committee. The committee represents operators of overhead and underground lines and the associated labor unions in California. It was formed by the line operators to review electric and communication line construction, maintenance methods and materials. All operators are invited to participate in ongoing workshops held in numerous locations each year to consider state-of-the-art methods and materials for the industry, along with changes in the General Orders.
2. Members of the Commission's utilities Safety Branch staff attend meetings of the rules committee and its subcommittee to participate in its discussions and assist in its work.

3. When a study group or subcommittee of the "Rules Committee" drafts a rule change proposal, the draft is sent to the whole committee for evaluation. The proposal may be modified to obtain a consensus of the committee; if consensus is not reached, the proposal is dropped.
4. After a final draft of proposed rule changes is ~ approved in committee meetings, the draft is mailed with a ballot to all members so that those who may have missed any discussion sessions may review and vote on each change. Any dissenting vote requires that meetings be held to resolve the issues.
5. Safety is a primary concern when a rule change is proposed. As noted in the rationale for changes in Appendix A, safety to workers and the general public is considered.

DISCUSSION

1. The proposed rule changes are presented in the enclosed Appendix A. A list of the rules is contained in the Table of Contents of Appendix A.
2. To assist in analyzing the changes which are divided generically into eleven (11) items. Each is preceded with the rationale explaining the change, followed by the existing rule and the proposed rule changes (deletions struck out and additions underlined), and the final proposed rule marked by an asterisk (*)
The following sections of the General Orders are affected by the proposal:

General Order No. 128. Rules: 12.2-A, 22.4 (new section)

General Order No. 95. Rules: 20.3, 20.5, 20.8, 54.4-C4c, 54.6-C4, 54.4-A4, 54.8-B5, 56.4-A3, 56.9, 84.4-A6 (new section), 84.4-A5, 84.8-C5, 86.4-A3, 84.4-E, 84.8-C4, 81.3, 84.4-C1b, 84.4-D1, 84.4-D3, 84.7-A, 87.4-C3 and 86.9.

3. Except for the addition of Figures 54-8 and 84-1, where a pictorial representation is part of the rule, it has been taken from the appendix at the end of G.O.95 and moved into the text of the rule. This should lend clarity and aid in the interpretation of the rules.
4. The staff believes the changes provide for increased safety to workers and the general public; the changes incorporate state-of-the-art methods and materials and should provide for economical construction and maintenance. The Safety Division staff recommends authorization of the changes.

FINDINGS

1. We find that the changes to G.O.95 and G.O.128 authorized in this Resolution are just and reasonable.

THEREFORE. IT IS ORDERED that:

1. The changes in text shown in Appendix A shall be made in G.O.95 and G.O.128.

2. All rules changed shall be marked "Revised November 21, 1990, by Resolution SU-6".

3. This Resolution is effective today.

I hereby certify that this Resolution was adopted by the Public Utilities Commission at its regular meeting November 21, 1990.

The following Commissioners approved it;

G. MITCHELL WILK

President

STANLEY W. HULETT

J. JOHN B. OHANIAN

PATRICIA M ECKERT

Commissioners

Commissioner Frederick R. Duda, being necessarily absent, did not participate.

APPENDIX A

PROPOSED RULE CHANGES

RULES FOR OVERHEAD AND UNDERGROUND ELECTRIC LINE CONSTRUCTION, GENERAL ORDERS NOS. 95 AND 128

STATE OF CALIFORNIA PUBLIC UTILITIES COMMISSION

- NOTE: (1) For each rule proposed to be changed, the appendix provides the following:
- (a) The rationale for the change.
 - (b) The existing rule and the proposed rule changes, with deletions struck out and additions underlined. .
 - (c) The final proposed rule, marked by an asterisk (*).
- (2) The changes are divided generically into eleven (11) items.

APPENDIX A -TABLE OF CONTENTS

<u>Item</u>	<u>Description</u>	<u>Page</u>
1. (G.O.128)	Rules 12.2-A and 22.4 Maintenance	6
2. (G.O.95)	Rules 20.3, 20.5 and 20.8 Fiber Optic Cable	11-13
3. (G.O.95)	Rule 54.4-C4c, Conductors on Non-Climbable Poles	18
4. (G.O.95)	Rule 54.6-C4, Extent of Run	21-22
5. (G.O.95)	Rules 54.4-A4, 54.8-B5 and 56.4-A3 Clearances	29-31, 34, 37
6. (G.O.95)	Rule 56.9, Guy Marker (Guy Guard)	42
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10. (G.O.95)	Rules 81.3, 84.4-C1b, 84.4-D1, 84.4-D3, 84.7-A and 87.4-C3 poles, towers, structures, climbing space, clearances, cables and messengers	72, 76 81-83 86, 91-92 97
11. (G.O.95)	Rules 86.9, Guy Marker (Guy Guard)	102

ITEM 1

General Order 128

Rule 12.2-A
Rule 22.4

RATIONALE:

To clarify underground electric supply system requirements for a formal maintenance program.

Proposed Rule Change

"Maintenance"

Section I GENERAL PROVISIONS

- 12 Applicability of Rules
- 12.2 Maintenance

Systems shall be maintained in such condition as to secure safety to workmen and the public in general. Systems and portions thereof constructed, reconstructed, or replaced on or after the effective date of these rules shall be kept in conformity with the requirement of these rules.

A Electric Supply System - An Auditable and consistent maintenance program, see Rule 22.4 , shall be in place to minimize deterioration of underground equipment.

Proposed New Rule

"Definition of Maintenance Program"

Section II DEFINITIONS OF TERMS AS USED IN THESE RULE

22.4 A Maintenance Program means a written policy that shall include the following key elements:

- 1) Inspection intervals
- 2) Rejection criteria
- 3) Corrective actions

22.45	MANHOLE	{No change}
22.56	PARKWAY	{No change}
22.67-	POLICE	{No change}
22.78	PRACTICABLE	{No change}
22.89	PROTECTION	{No change}
223.90	RANDOM	{No change}
23.01	SERVICE(s)	{No change}
23.12	SHIELDING	{No change}
23.23	SIDEWALK	{No change}
23.2 4.1	SUBSURFACE	{No change}
23.35	SUPPLY	{No change}
23.46	THOROUGHFARE	{No change}
23.57	TRENCH	{No change}
23.68	VAULT	{No change}
23.79	VOLTAGE	{No change}
234.80	WIRE	{No change}
234.91	WORKING	{No change}

Final proposed Rule Change (*)

"Maintenance"

Section I GENERAL PROVISIONS

12 Applicability of Rules

12.2 Maintenance

Systems shall be maintained in such condition as to secure safety to workmen and the public in general. Systems and portions thereof constructed, reconstructed, or replaced on or after the effective date of these rules shall be kept in conformity with the requirement of these rules.

- A Electric Supply System - An Auditable and consistent maintenance program, see Rule 22.4 , shall be in place to minimize deterioration of underground equipment.

Final proposed Rule Change (*)

"Definition of Maintenance Program"

Section II DEFINITIONS OF TERMS AS USED IN THESE RULE

22.4 A Maintenance Program means a written policy that shall include the following key elements:

- 1) Inspection intervals
- 2) Rejection criteria
- 3) Corrective actions

22.5	MANHOLE	{No change}
22.6	PARKWAY	{No change}
22.7-	POLICE	{No change}
22.8	PRACTICABLE	{No change}
22.9	PROTECTION	{No change}
23.0	RANDOM	{No change}
23.1	SERVICE(s)	{No change}
23.2	SHIELDING	{No change}
23.3	SIDEWALK	{No change}
23.4	SUBSURFACE	{No change}
23.5	SUPPLY	{No change}
23.6	THOROUGHFARE	{No change}
23.7	TRENCH	{No change}
23.8	VAULT	{No change}
23.9	VOLTAGE	{No change}
24.0	WIRE	{No change}
24.1	WORKING	{No change}

ITEM 2

General Order 95

Rule 20.3

Rule 20.5

Rule 20.8

RATIONALE

Presently the General Order 95 language does not appropriately address the recently developed Fiber Optics technology. It was formulated to specifically define rules associated with the conductance of electric current. As such various terms as defined are not applicable to Fiber Optic application.

These proposed rule changes broaden the definition in such a manner that the general context of the General Order can now be applied to lines utilizing the new Fiber Optic technology.

PROPOSED G.O. 95 Rule

Rule 20.3 Page 24

Cable means a stranded conductor (single conductor cable) or a combination of conductors insulated from one another (multiple-conductor cable).

- A. Optic Cable communication means a fiber optic cable meeting the requirements for a communication circuit and located communication level. Such cable shall have the same clearance from supply facilities as required for a communication messenger per Rule 87.4-Cb
- B. Optic Cable- Supply means a fiber optic cable located at the supply level.
 - 1. Cable passing vertically through the communication level on a structure shall be treated per Rules 54. 6-D and 84.6-D.
 - 2. Cable supported on a messenger that is effectively rounded (Rule 57.8) throughout its length shall have the same clearance from communication facilities as required for neutral conductor meeting Rule 33.1
 - 3. Cable supported on or with other messengers or conductors shall have the same clearances from facilities required for such messengers or conductors meeting Rule 89.2
- C. Dielectric Fiber Optic Cable means a fiber optic cable which contains no components capable of conducting electricity.
- D. Non- Dielectric Fiber Optic Cable means a fiber optic cable which contains components capable of conducting electricity.

Final proposed Rule Change (*)

Rule 20.3 Page 24

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 - 2. Cable supported on a messenger that is effectively rounded (Rule 57.8) throughout its length shall have the same clearance from communication facilities as required for neutral conductor meeting Rule 33.1
 - 3. Cable supported on or with other messengers or conductors shall have the same clearances from facilities required for such messengers or conductors meeting Rule 89.2
- C Dielectric Fiber Optic Cable means a fiber optic cable which contains no components capable of conducting electricity.
- D Non- Dielectric Fiber Optic Cable means a fiber optic cable which contains components capable of conducting electricity.

Existing G.O. 95 Rule

Rule 20.5 Page 24

20.5 Circuit means a conductor or system of conductors located outside of buildings and through which an electric current is intended to flow.

Proposed Change to Rule G.O. 95
(STRIKE OUT AND UNDERLINE)

Rule 20.5 Page 24

20.5 Circuit means a conductor or system of conductors located outside of buildings and through which an electric current ~~is intended to flow~~ flows or light is transmitted.

Final proposed Rule Change (*)

Rule 20.5 Page 24

20.5 Circuit means a conductor or system of conductors located outside of buildings and through which an electric current flows or light is transmitted.

Existing G.O. 95 Rule

Rule 20.8 Page 26

20.8 Conductor means a wire, or combination of wires not insulated from one another suitable for carrying electric current.

Proposed Change to Rule G.O. 95
(STRIKE OUT AND UNDERLINE)

Rule 20.8 Page 26

20.8 Conductor means ~~a wire, or combination of wires not insulated from one another~~ material suitable for: (1) carrying electric current; , usually in the form of a wire, cable or bus bar, or (2) transmitting light in the case of fiber optics.

Final proposed Rule Change (*)

Rule 20.8 Page 26

20.8 Conductor means a material suitable for: (1) carrying electric current, usually in the form of a wire, cable or bus bar, or (2) transmitting light in the case of fiber optics.

ITEM 3

General Order 95

Rule 54.4-C4c

RULE 54.4-C4c
CLEARANCE BETWEEN CONDUCTORS DEAD ENDED ON A POLE
IN VERTICAL CONFIGURATION
(c) CONDUCTORS OF MORE THAN 750 VOLTS SUPPORTED ON NON-CLIMBABLE
POLES

RATIONALE

This rule was established in 1964 and placed certain restrictions where conductors of more than 750 volts are supported (dead ended) in vertical configuration on non-climbable pole in partial underground distribution at line terminations, angles, or corners.

The requirement of not allowing more than three conductors of a single circuit of 750-22,500 volts to be supported (dead ended) direction the pole in vertical configuration without the use of crossarms should be changed to allow four conductors. This change will allow safe, cost effective conversion of three-phase three wire 12 kV to three-phase four wire 21 kV distribution circuits. Currently a fourth conductor can be attached to a pole in tangent construction, the restriction applies to dead end configuration only.

There are currently two alternatives to dead ending a fourth wire on a pole with three wires already dead ended at that location. One is the installation of additional poles to permit the attachment of the fourth wire to the dead end pole in a tangent configuration and dead ending it a span away. The other is to underground the neutral conductor the entire length of the partial underground portion of the circuit. Both of these alternatives are costly and afford more exposure to workman and the public.

With today's state of the art aerial lifts, protective equipment and live line methods safety to the workman and to the public will not be lessened from the proposed design.

Existing G.O. 95 Rule
(Line by Line)

c) Conductors of More than 750 Volts supported on non-climbable pole, :
Where conductors of more than 750 volts are supported in vertical configuration on non-climbable poles in partial underground distribution at line terminations, angles, or corners, the following requirements apply:

Not more than three conductors of a single circuit of 750-22,500 volts shall be supported directly on the pole in vertical configuration without the use of crossarms, Branch circuits may be taken from such construction without the use of crossarms provided that conductors are supported on not more than three sides of the pole, there being four sides (see App. G, Fig. 88);

The vertical separation between conductors shall be not less than the pin spacings specified in Table 2, Case 15;

The clearance of conductors from surface of pole shall be not less than, as specified in Rule 54.4-D2.

Proposed Rule Change

c) Conductors of More than 750 Volts supported on non-climbable pole,:
Where conductors of more than 750 volts are supported in vertical configuration on non-climbable poles in partial underground distribution at line terminations, angles, or corners, the following requirements apply:

Not more than ~~three~~ four conductors of a single circuit of 750-22,500 volts shall be supported directly on the pole in vertical configuration without the use of crossarms, Branch circuits may be taken from such construction without the use of crossarms provided that conductors are supported on not more than three sides of the pole, there being four sides (see App. G, Fig. 88);

[Figure 88-89 to be placed here]

The vertical separation between conductors shall ~~be not~~ not be less than the pin spacings specified in Table 2, Case 15;

The clearance of conductors from surface of pole shall ~~be not~~ not be less than, as specified in Rule 54.4-D2.

Final Proposed Rule Change

c) Conductors of More than 750 Volts supported on non-climbable pole,:
Where conductors of more than 750 volts are supported in vertical configuration on non-climbable poles in partial underground distribution at line terminations, angles, or corners, the following requirements apply:

Not more than ~~three~~ four conductors of a single circuit of 750-22,500 volts shall be supported directly on the pole in vertical configuration without the use of crossarms, Branch circuits may be taken from such construction without the use of crossarms provided that conductors are supported on not more than three sides of the pole, there being four sides (see App. G, Fig. 88);

Rules 21.10, 54.4-C4c, 54.4-D2

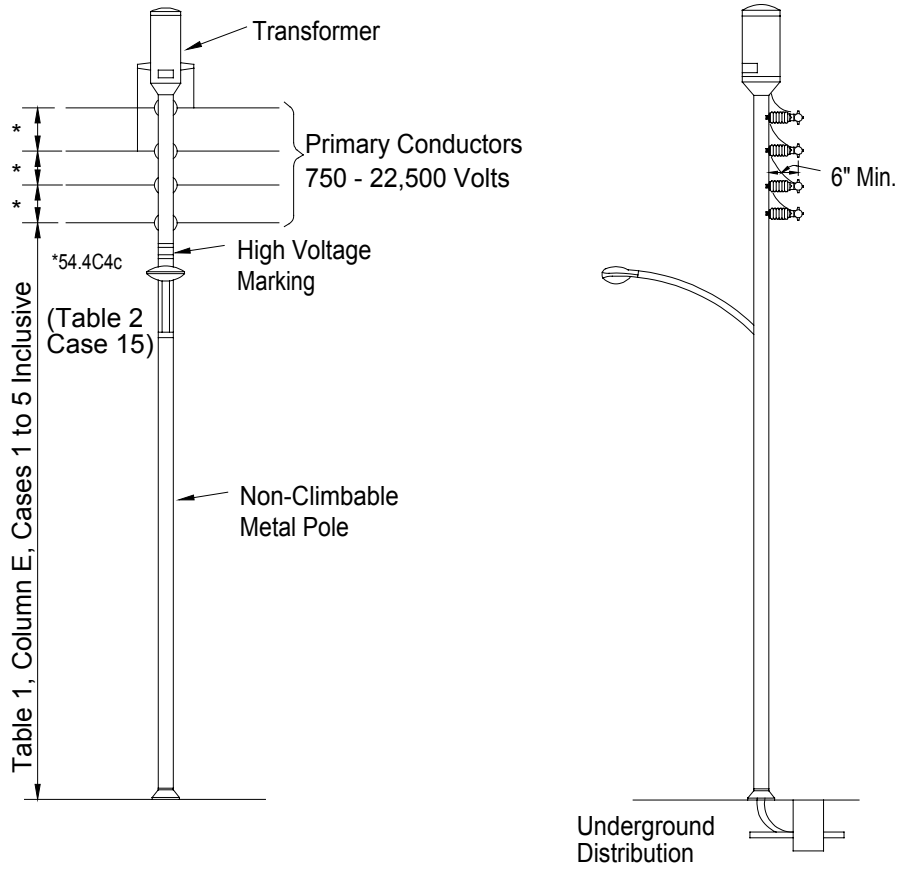


Figure 54-2
Partial Underground

**Conductor Clearance and Arrangement
Partial Underground Rule 54.4-D2**

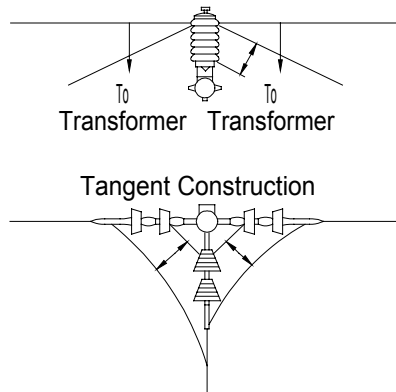


Figure 54-3
Deadend Construction

The vertical separation between conductors shall ~~be not~~ not be less than the pin spacings specified in Table 2, Case 15;

The clearance of conductors from surface of pole shall ~~be not~~ not be less than, as specified in Rule 54.4-D2.

ITEM 4

General Order 95

Rule 54.6-C4

RATIONALE FOR CHANGE G. O. RULE 54 .6-C4

It is virtually impossible to bend large conductors to bring out through holes cut into conduit as described in existing rule.

The method as it exists creates a problem when an arm is supported by a metal "V" brace or steel pins are used. The proposed method eliminates the majority of these problems without comprising safety.

CORRESPONDING RULE TO CHANGE

None

FORMAT FOR PROPOSED G.O. 95 RULE CHANGES

EXISTING Rule: 54.6-C4 Extent of Run

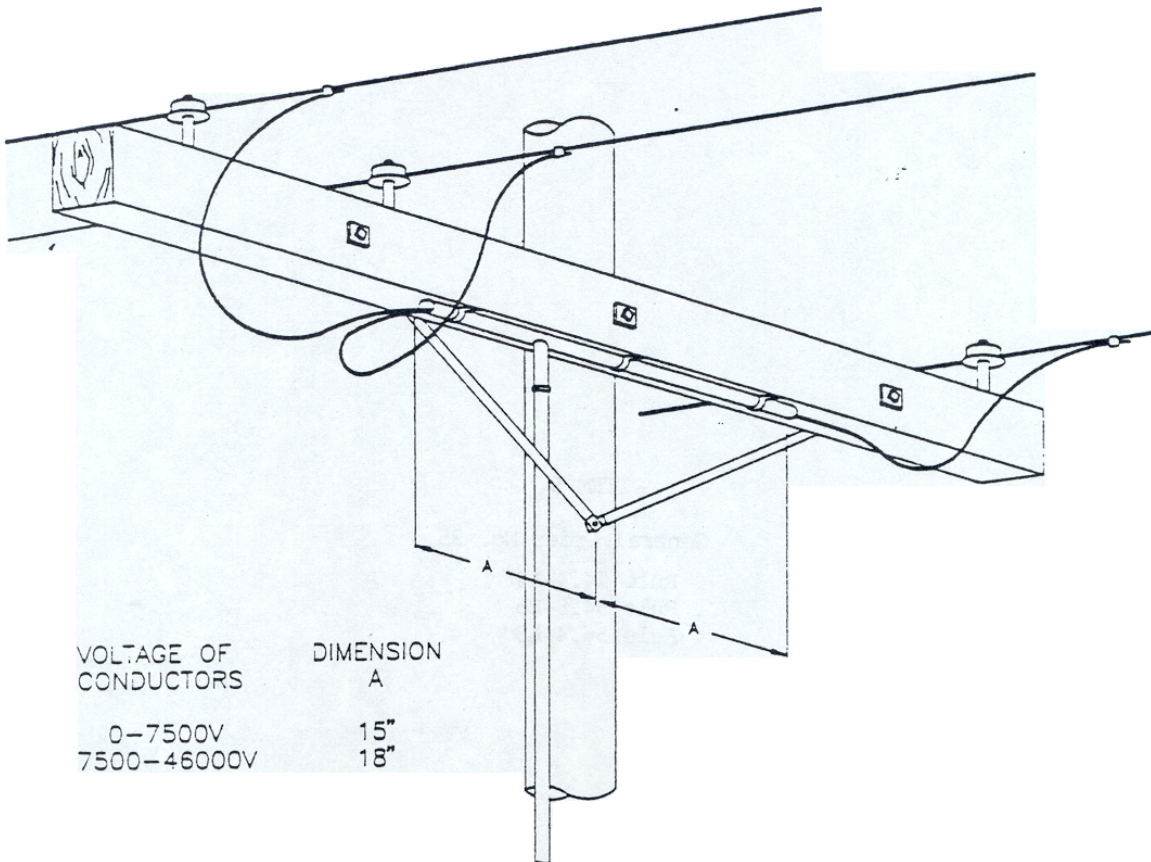
(4) EXTENT OF RUN: The wood moulding, fiber conduit, or plastic pipe required for protection by this Rule 54.6C shall extend on the bottom surface of crossarm to within three inches the outer position of any conductor in the run and in no case shall the covering be terminated from center line of pole less than specified for conductors in Table 1, Case 8.

PROPOSED Rule 54.6-C4 Extent of Run

(4) EXTENT OF RUN: The Suitable Protective covering (see Rule 22.2) ~~The wood moulding, fiber conduit, or plastic pipe~~ required for protection by this Rule 54.6C shall extend on the bottom surface of crossarm ~~to within three inches the outer position of any conductor in the run~~ and in no case shall the covering be terminated from center line of pole less than specified for conductors in Table 1, Case 8.

Final PROPOSED Rule 54.S-C4 Extent of Run (*)

(4) EXTENT OF RUN: The Suitable Protective covering (see Rule 22.2) required for protection by this Rule 54.6C shall extend on the bottom surface of crossarm and in no case shall the covering be terminated from center line of pole less than specified for conductors in Table 1, Case 8.



VOLTAGE OF
CONDUCTORS

DIMENSION
A

0-7500V
7500-46000V

15"
18"

RULE 54.6-C4
EXTENT OF RUN
INFORMATION ONLY

ITEM 5

General Order 95

Rule 54.4-A4

Rule 54.8-B5

Rule 56.4-A3

RATIONALE

RULES 54.4-A4, 54.8-B5 AND 56.4-A3

Supply Conductor, Service Drop and Guy Clearances Over Swimming Pools

These proposed rule changes reformat the text to simplify obtaining (and clarification of) the vertical and radial clearances above swimming pools. A sketch and table (Fig. 54-8) have been added for clarification of the text.

The text of Rules 54.8-B5 and 56.4-AJ have been reformatted and moved to Rule 54.4-A4 to simplify obtaining all supply clearance requirements above swimming pools by requiring reference to only one rule.

EXISTING RULE

Rule 54.4 Clearances

A. ABOVE GROUND

(4)Above swimming Pools: crossings of conductors above swimming pools shall be avoided where practicable. Unprotect-ed line conductors shall have radial clearances from the top edge of the swimming pool walls and vertical clearances above the highest water level of the pool surface not less than the clearances specified in Table 1, Case 3, Columns D, E and F.

NOTE: Added January 2, 1962 by resolution No. E-1109.

Rule 54.4 Clearances

A. ABOVE GROUND

(4) Above Over swimming Pools: (see Fig. 54-8) Crossing of Conductors above Installations of conductors. service drops and guys over swimming pools shall be avoided where practicable. Unprotected line conductors shall have radial clearances from the top edge of the swimming pool walls and vertical clearances above the highest water level of the pool surface not less than the clearances specified in Table 1, Case 3, Columns D, E and F. Where line conductors. service drop conductors or guys are installed over swimming pools the following rules apply:

(a) Line Conductors: Where unprotected line conductors are installed over a swimming pool they shall have radial clearances from the top edge of the swimming pool walls and vertical clearances above the highest water level of the pool surface not less than the following:

1) 0 - 750 Volts 20 feet

2) 750 - 22,500
Volts 25 feet

3) 22.5 - 300 kV 30 feet

(See Table 1, Case 3, Columns D, E and F.)

(b) Service Drops 0 - 750 Volts: Where service drop conductors are installed over a swimming pool:

1) Phase conductors shall be suitably insulated (see Rule 20.8–G).

2) Vertical clearances above the highest water level of the pool surface and radial clearances from the top edge of the pool wall shall be:

a) 16 feet for public and commercially operated pools.

b) 12 feet for residential pools.

3) No service drop may be installed less than 16 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 8 feet radially of the diving board or platform that is over the water surface of the pool.

4) No service drop may be installed less than 12 feet vertically above the horizontal plane through a diving board or platform, such

plane being the area within 3 feet radially of the diving board or platform that is not over the water surface of the pool.

(c) Ungrounded Portions of Guys:

1) Shall have radial clearances from the top edge of the swimming pool wall of not less than 18 feet.

2) Shall have vertical clearances above the highest water level of the pool surface of not less than 18 feet.

3) Shall not be installed less than 18 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 8 feet radially of the diving board or platform that is over the water surface of the pool.

4) Shall not be installed less than 12 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 6 feet radially of the diving board or platform that is not over the water surface of the pool.

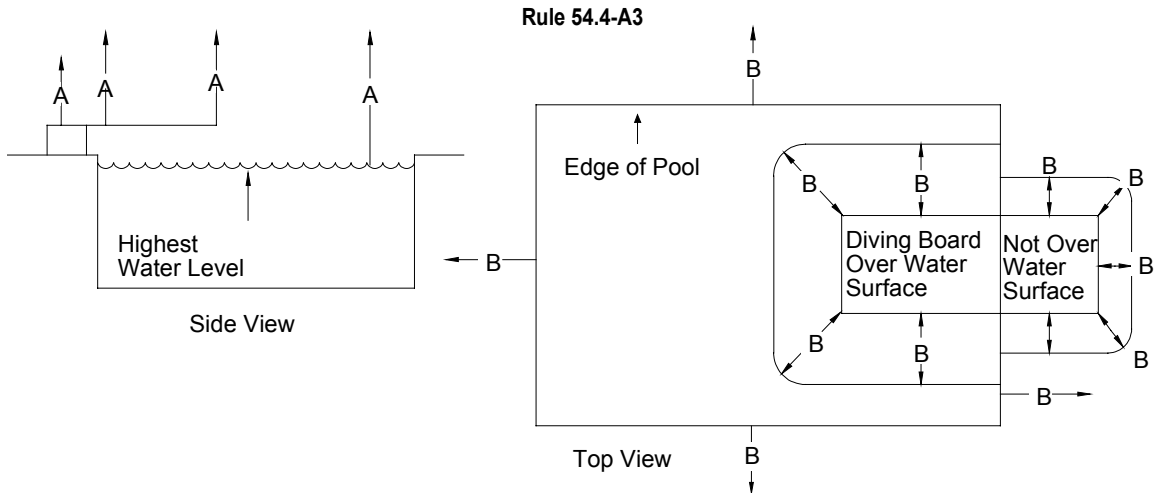
(d) Grounded Portions of Guys:

1) Shall have vertical clearances above the highest water level of the pool surface of not less than 16 feet.

2) Shall not be installed less than 16 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 8 feet radially of the diving board or platform that is over the water surface of the pool.

3) Shall not be installed less than 8 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 3 feet radially of the diving board or platform that is not over the water surface of the pool.

NOTE: Added January 2, 1962 by Resolution E-1109.



Minimum Vertical and Radial Clearances over Swimming Pools	A Minimum Vertical	B Minimum Radial
Unprotected Line Conductors (Vertical Over Highest Water Level and Radial from Top Edge of Pool Walls) <ol style="list-style-type: none"> 1. 0 - 750 Volts 2. 750 - 22,500 Volts 3. 22.5 - 300 kV 	20 Feet 25 Feet 30 Feet	20 Feet 25 Feet 30 Feet
Service Drops (Vertical Over Highest Water Level and Radial from Top Edge of Pool Walls) <ol style="list-style-type: none"> 4. Pools Public and Commercial 5. Pools Residential Service Drops (Over Diving Boards or Platforms) <ol style="list-style-type: none"> 6. Portion of Board or Platform That is Over Water Surface 7. Portion of Board or Platform That is not Over Water Surface 	16 Feet 12 Feet 16 Feet 12 Feet	16 Feet 12 Feet 8 Feet 3 Feet
Guys (Ungrounded Portions) <ol style="list-style-type: none"> 8. Over Highest Water Level and from Top Edge of Pool Walls 9. Over Diving Board or Platform (The Portion that is Over the Water Surface) 10. Over Diving Board or Platform (The Portion that is not Over the Water Surface) 	18 Feet 18 Feet 12 Feet	18 Feet 8 Feet 6 Feet
Guys (Grounded Portions) <ol style="list-style-type: none"> 11. Over the Highest Water Level 12. Over Diving Board or Platform (The Portion that is Over the Water Surface) 13. Over Diving Board or Platform (The Portion that is not Over the Water Surface) 	16 Feet 16 Feet 8 Feet	— 8 Feet 3 Feet

Clearance Over Swimming Pools
Figure 54-8

Rule 54.4 Clearances

A. ABOVE GROUND

(4) Over swimming Pools: (see Fig. 54-8) Installations of conductors, service drops and guys over swimming pools shall be avoided where practicable. Where line conductors, service drop conductors or guys are installed over swimming pools the following rules apply:

(a) Line Conductors: Where unprotected line conductors are installed over a swimming pool they shall have radial clearances from the top edge of the swimming pool walls and vertical clearances above the highest water level of the pool surface not less than the following:

1) 0 - 750 Volts 20 feet

2) 750 - 22,500
Volts 25 feet

3) 22.5 - 300 kV 30 feet

(See Table 1, Case 3, Columns D, E and F)

(b) Service Drops 0 - 750 Volts: Where service drop conductors are installed over a swimming pool:

1) Phase conductors shall be suitably insulated (see Rule 20.8–G).

2) Vertical clearances above the highest water level of the pool surface and radial clearances from the top edge of the pool wall shall be:

a) 16 feet for public and commercially operated pools.

b) 12 feet for residential pools.

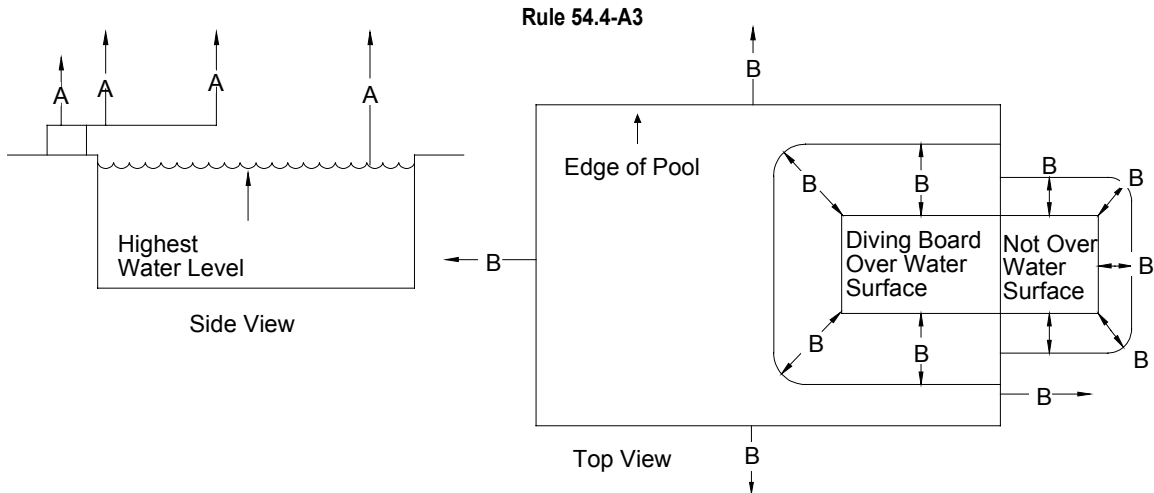
3) No service drop may be installed less than 16 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 8 feet radially of the diving board or platform that is over the water surface of the pool.

4) No service drop may be installed less than 12 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 3 feet radially of the diving board or platform that is not over the water surface of the pool.

(c) Ungrounded Portions of Guys:

- 1) Shall have radial clearances from the top edge of the swimming pool wall of not less than 18 feet.
 - 2) Shall have vertical clearances above the highest water level of the pool surface of not less than 18 feet.
 - 3) Shall not be installed less than 18 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 8 feet radially of the diving board or platform that is over the water surface of the pool.
 - 4) Shall not be installed less than 12 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 6 feet radially of the diving board or platform that is not over the water surface of the pool.
- (d) Grounded Portions of Guys:
- 1) Shall have vertical clearances above the highest water level of the pool surface of not less than 16 feet.
 - 2) Shall not be installed less than 16 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 8 feet radially of the diving board or platform that is over the water surface of the pool.
 - 3) Shall not be installed less than 8 feet vertically above the horizontal plane through a diving board or platform, such plane being the area within 3 feet radially of the diving board or platform that is not over the water surface of the pool.

NOTE: Added January 2, 1962 by Resolution E-1109.



Minimum Vertical and Radial Clearances over Swimming Pools	A Minimum Vertical	B Minimum Radial
Unprotected Line Conductors (Vertical Over Highest Water Level and Radial from Top Edge of Pool Walls) <ol style="list-style-type: none"> 1. 0 - 750 Volts 2. 750 - 22,500 Volts 3. 22.5 - 300 kV 	20 Feet 25 Feet 30 Feet	20 Feet 25 Feet 30 Feet
Service Drops (Vertical Over Highest Water Level and Radial from Top Edge of Pool Walls) <ol style="list-style-type: none"> 4. Pools Public and Commercial 5. Pools Residential Service Drops (Over Diving Boards or Platforms) <ol style="list-style-type: none"> 6. Portion of Board or Platform That is Over Water Surface 7. Portion of Board or Platform That is not Over Water Surface 	16 Feet 12 Feet 16 Feet 12 Feet	16 Feet 12 Feet 8 Feet 3 Feet
Guys (Ungrounded Portions) <ol style="list-style-type: none"> 8. Over Highest Water Level and from Top Edge of Pool Walls 9. Over Diving Board or Platform (The Portion that is Over the Water Surface) 10. Over Diving Board or Platform (The Portion that is not Over the Water Surface) 	18 Feet 18 Feet 12 Feet	18 Feet 8 Feet 6 Feet
Guys (Grounded Portions) <ol style="list-style-type: none"> 11. Over the Highest Water Level 12. Over Diving Board or Platform (The Portion that is Over the Water Surface) 13. Over Diving Board or Platform (The Portion that is not Over the Water Surface) 	16 Feet 16 Feet 8 Feet	— 8 Feet 3 Feet

Clearance Over Swimming Pools
Figure 54-8

EXISTING RULE

B. CLEARANCE ABOVE GROUND, BUILDINGS, ETC.

(5) ABOVE SWIMMING POOLS: Installations of service drops above public and private swimming pools shall be avoided where practicable. Where service drop conductors are installed above a swimming pool, the conductors shall have a radial clearance of not less than 20 feet from the top edge of the pool walls and shall have a vertical clearance of not less than 18 feet above the highest water level of the pool surface. Service drops having coverings of materials specially approved by the commission for installation above swimming pools may have vertical clearances above the pool and radial clearances from the top edge of the pool wall of not less than 16 feet for public and commercially operated pools and not less than 12 feet for residential pools.

No service drop may be installed less than 16 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.

No service drop may be installed less than 12 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface of the pool.

NOTE: Added January 2, 1962 by Resolution No. E-1109.

PROPOSED RULE CHANGE
(STRIKE OUT AND UNDERLINE)

B. CLEARANCE ABOVE GROUND, BUILDINGS, ETC.

(5) ~~ABOVE~~ OVER SWIMMING POOLS: (See Rule 54.4-A4 and Fig 54-8)

~~Installations of service drops above public and private swimming pools shall be avoided where practicable. Where service drop conductors are installed above a swimming pool, the conductors shall have a radial clearance of not less than 20 feet from the top edge of the pool walls and shall have a vertical clearance of not less than 18 feet above the highest water level of the pool surface. Service drops having coverings of materials specially approved by the commission for installation above swimming pools may have vertical clearances above the pool and radial clearances from the top edge of the pool wall of not less than 16 feet for public and commercially operated pools and not less than 12 feet for residential pools.~~

~~No service drop may be installed less than 16 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.~~

~~No service drop may be installed less than 12 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface of the pool.~~

NOTE: Added January 2, 1962 by Resolution No. E-1109.

NOTE: PORTIONS OF THIS RULE HAVE BEEN REVISED AND MOVED TO RULE 54.4-A4.

FINAL PROPOSED RULE CHANGE (*)

B. CLEARANCE ABOVE GROUND, BUILDINGS, ETC.

(5) OVER SWIMMING POOLS: (See Rule 54.4-A4 and Fig 54-8)

NOTE: Added January 2, 1962 by Resolution No. E-1109.

NOTE: PORTIONS OF THIS RULE HAVE BEEN REVISED AND MOVED TO
RULE 54.4-A4.

EXISTING RULE

Rule 56.4 Clearances

A Above Ground

(3) ABOVE SWIMMING POOLS:

a) Ungrounded portions of guys shall have radial clearances from the top edge of the swimming pool wall and vertical clearances above the highest water level of the pool of not less than 18 feet.

No ungrounded portion of guys may be installed less than 18 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.

No ungrounded portion of guys may be installed less than 12 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being the area within 6 feet radially of the diving board or platform and not over the water surface of the pool.

b) Grounded portions of guys shall have vertical clearances above the highest water level of the pool of not less than 16 feet.

No grounded portion of guys may be installed less than 16 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.

No grounded portion of guys may be installed less than 8 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface of the pool.

NOTE: Added January 2, 1962 by Resolution No. E-1109.

PROPOSED RULE CHANGE
(STRIKE OUT AND UNDERLINE)

Rule 56.4 Clearances

A Above Ground

(3) ~~ABOVE OVER SWIMMING POOLS:~~ (See Rule 54.4-A4 and Fig 54-8)

~~a)——Ungrounded portions of guys shall have radial clearances from the top edge of the swimming pool wall and vertical clearances above the highest water level of the pool of not less than 18 feet.~~

~~No ungrounded portion of guys may be installed less than 18 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.~~

~~No ungrounded portion of guys may be installed less than 12 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being the area within 6 feet radially of the diving board or platform and not over the water surface of the pool.~~

~~b)——Grounded portions of guys shall have vertical clearances above the highest water level of the pool of not less than 16 feet.~~

~~No grounded portion of guys may be installed less than 16 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.~~

~~No grounded portion of guys may be installed less than 8 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface of the pool.~~

NOTE: Added January 2, 1962 by Resolution No. E-1109.

NOTE: PORTIONS OF THIS RULE HAVE BEEN REVISED AND MOVED TO RULE 54.4-A4.

FINAL PROPOSED RULE CHANGE (*)

Rule 56.4 Clearances

A Above Ground

(3) OVER (See Rule 54.4-A4 and Fig 54-8)

NOTE: Added January 2, 1962 by Resolution No. E-1109.

NOTE: PORTIONS OF THIS RULE HAVE BEEN REVISED AND MOVED TO
RULE 54.4-A4.

ITEM 6

General Order 95

Rule 56.9

RATIONALE FOR CHANGE TO G.O. 95 RULE

RULE 56.9 GUY MARKER (GUY GUARD)

This proposed rule change uses the term guy make rather than guy guard to properly clarify it's purpose. The present title "Protection" and reference to "guard" in the rule has led to misinterpretations that the markers protect the public from hitting the marker or protect the guy in case of collision.

The 1987 National Electrical Safety Code (rule 282E page 296) has .an equivalent section which is entitled Guy Markers (Guy Guards). This title correctly identifies the intent of the rule. The parenthetical "Guy Guards" was left in place to show that this commonly used term actually refers to guy markers.

References to wood markers (guards) were removed since this type of markers is not commonly used in new plant construction. "Suitable material" provides for the use of materials developed in today's technology. Metal and plastic markers are the common types in use today.

The exception for 1 ¼ inch anchor rods was deleted

EXISTING G.O. 95 RULE
RULE 56.9 (PAGE 160)

56.9 PROTECTION

A substantial wood guard (preferably painted white), or metal guard, or a plastic guard of suitable materials, not less than 6 feet in length, shall be securely attached to each anchor guy which is exposed to traffic. Such a guard will not be required where the anchor rod is 1 1/4 inches or greater in diameter, has an overall length above ground of not less than 8 feet and extends to a height of not less than 6 feet vertically above ground.

RULE 66.7 (PAGE 191)

Rule 66.7 Protection (See Rule 56.9)

PROPOSED RULE CHANGE
(STRIKE OUT AND UNDERLINE)

RULE 56.9 (PAGE 160)

56.9 ~~PROTECTION~~ GUY MARKER (GUY GUARD)

A substantial wood guard (preferably painted white), or metal guard, or a plastic guard of suitable materials, marker of suitable material, including but not limited to metal or plastic not less than 6 feet in length, shall be securely attached to each anchor guy which is exposed to traffic. Such a guard will not be required where the anchor rod is 1 ¼ inches or greater in diameter, has an overall length above ground of not less than 8 feet and extends to a height of not less than 6 feet vertically above ground.

RULE 66.7 (PAGE 191)

Rule 66.7 ~~PROTECTION~~ GUY MARKER (GUY GUARD) (See Rule 56.9)

FINAL PROPOSED RULE CHANGE (*)

RULE 56.9 (PAGE 160)

56.9 GUY MARKER (GUY GUARD)

A substantial, marker of suitable material, including but not limited to metal or plastic not less than e feet in length, shall be securely attached to each anchor guy which is exposed to traffic

RULE 66.7 (PAGE 191)

Rule 66.7 GUY MARKER (GUY GUARD) (See Rule 56.9)

ITEM 7

General Order 95

Rule 84.4-A4

RATIONALE

CLEARANCES

RULE 8 A6

This proposed new rule provides a clearer descriptive detail for communication conductor along or across thoroughfare, and reduces clearances to 16 feet when such conductors are not crossing over thoroughfares, or where they are located behind a curb, ditch or berm and protected from encroachment by vehicle traffic.

This 16 foot clearance for communication conductors along thoroughfares includes crossings over commercial, industrial or residential driveways and shall not be reduced because of temperature or wind loading as specified in Rule 43.

This clearance reduction, with its restriction against any allowance for sag, is equal to the present clearance specified for communication guys & service drops crossing commercial or industrial driveways.

This proposed new rule will add Note "aa" to Table 1, Case 3, Column B and add new number 12 to Note "aa" to reflect title and rule number as follows:

12. Communication Conductors Across and Along Public Thoroughfares...84.4A6

PROPOSED CHANGE TO G.O. 95 RULE (UNDERLINE)
CLEARANCES

RULE 84..4-A6

(6) Across or. Along Public Thoroughfares:

Communication conductor over or across public thoroughfares shall have a clearance of 18 feet above ground (Table 1, Case 3 Column B). A reduced clearance to 16 feet is permitted for portions of communication conductors where no part of the overhang any part of the thoroughfare which is ordinarily traveled, or where the line is behind an established curb, ditch or berm that serves to protect such communication conductors from encroachment by vehicular traffic.

NOTE: This 16 foot clearance shall not be reduced because of temperature or wind loading as specified in Rule 43.

FINAL PROPOSED RULE CHANGE TO G.O. 95 RULE (*)
CLEARANCES

RULE 84..4-A6

(6) Across or. Along Public Thoroughfares:

Communication conductor over or across public thoroughfares shall have a clearance of 18 feet above ground (Table 1, Case 3 Column B). A reduced clearance to 16 feet is permitted for portions of communication conductors where no part of the overhang any part of the thoroughfare which is ordinarily traveled, or where the line is behind an established curb, ditch or berm that serves to protect such communication conductors from encroachment by vehicular traffic.

NOTE: This 16 foot clearance shall not be reduced because of temperature or wind loading as specified in Rule 43.

ITEM 8

General Order 95

Rule 84.4-A5

Rule 84.8-C5

Rule 86.4-A3

RATIONALE

CLEARANCES

RULES 84.4-A5, 84.8-C5 AND 86.4-A3

These proposed rule changes reformat the text for communication conductors, service drops and guy~ to give clarification and descriptive detail to vertical, horizontal and radial measurements and include the addition of a sketch (Figure 84.-1) which consists of a top and side view of a typical pool with a diving board.

Additionally, the proposed rule change eliminates reference to the material composition of communication service drops. Resolution No. E-1109

E-1109 approved material for use in supply service drops in Rule 54.8-B5 and was not intended to be placed in the communication section (Section VIII).

The above changes are consistent with the National Electrical Safety Code, Rule 234-E, Fig. 234-2 and Table 234-3.

EXISTING G.O. 95 RULE
(LINE BY LINE)

RULE 84.4-A5 (Page 221)

(5) ABOVE SWIMMING POOLS: Crossings of communication line conductors above swimming pools shall be avoided where practicable. Line conductors shall have radial clearances from the top edge of the pool wall and vertical clearances above the highest water level of the pool of not less than 18 feet. Grounded metallic sheathed cables, plastic-jacketed cables with an inner grounded metallic sheath, and grounded messengers and grounded span wires which support cable may have minimum radial and vertical clearances as hereinabove stated of not less than 16 feet.

Service drops having coverings of materials specially approved by the Commission for installation above swimming pools and used in line cable construction may have minimum radial and vertical clearances as hereinabove stated of not less than 14 feet.

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

RULE 84.4-A5 (Page 221)

(5) ~~ABOVE~~ OVER SWIMMING POOLS: (See Figure 84-1)

(a) ~~Line conductors, cables, messengers and span wires:~~ Crossings of communication line conductors above swimming pools shall be avoided where practicable. Line conductors shall have radial clearances from the top edge of the pool wall and vertical clearances above the highest water level of the pool of not less than 18 feet. Grounded metallic sheathed cables, plastic-jacketed cables with an inner grounded metallic sheath, and grounded messengers and grounded span wires which support cable may have minimum radial and vertical clearances as hereinabove stated of not less than 16 feet.

~~Service drops having coverings of materials specially approved by the Commission for installation~~ above swimming pools and used in line cable construction may have minimum radial and vertical clearances as hereinabove stated of not less than 14 feet.

(b) Installation over swimming pools shall be avoided where practicable. Service drops above swimming pools shall have vertical clearances over the pool and radial clearances from the edge of the pool wall of not less than 14 feet for public and commercially operated pools and not less than 10 feet for residential pools.

No service drop may be installed less than 14 feet vertically over the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.

No service drop may be installed less than 10 feet vertically over the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface of the pool.

(c) Communication Guys: Guys shall have vertical clearances above the highest water level of the pool of not less than 16 feet.

No communications guy may be installed less than 16 feet vertically over the horizontal plane through a diving board or platform, the area of such plane being

within 8 feet radially of the diving board or platform and not over the water surface of the pool.

No communications guy may be installed less than 8 feet vertically over the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface of the pool.

FINAL PROPOSED RULE CHANGE TO G.O. 95 RULE (*)

RULE 84.4-A5 (Page 221)

(5) OVER SWIMMING POOLS: (See Figure 84-1)

(a) Line conductors, cables, messengers and span wires: Crossings of communication line conductors above swimming pools shall be avoided where practicable. Line conductors shall have radial clearances from the top edge of the pool wall and vertical clearances above the highest water level of the pool of not less than 18 feet. Grounded metallic sheathed cables, plastic-jacketed cables with an inner grounded metallic sheath, and grounded messengers and grounded span wires which support cable may have minimum radial and vertical clearances as hereinabove stated of not less than 16 feet.

Service drops installed above swimming pools and used in line cable construction may have minimum radial and vertical clearances as hereinabove stated of not less than 14 feet.

(b) Installation over swimming pools shall be avoided where practicable. Service drops above swimming pools shall have vertical clearances over the pool and radial clearances from the edge of the pool wall of not less than 14 feet for public and commercially operated pools and not less than 10 feet for residential pools.

No service drop may be installed less than 14 feet vertically over the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.

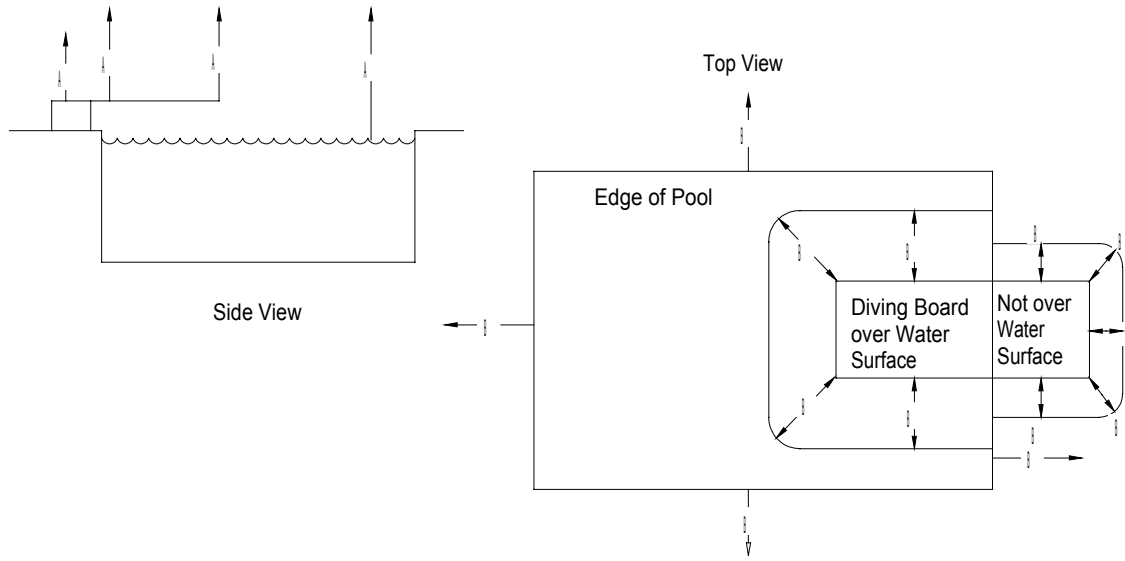
No service drop may be installed less than 10 feet vertically over the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface of the pool.

(c) Communication Guys: Guys shall have vertical clearances above the highest water level of the pool of not less than 16 feet.

No communications guy may be installed less than 16 feet vertically over the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and not over the water surface of the pool.

No communications guy may be installed less than 8 feet vertically over the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface of the pool.

Rule 84.4 - A5



Minimum Vertical and Radial Clearances over Swimming Pools	Minimum Vertical	Minimum Radial
Line Construction over Highest Water Level		
1. Line Ungrounded	18 Feet	18 Feet
2. Line Grounded	16 Feet	16 Feet
3. Line Service Drop	14 Feet	14 Feet
Service Drops over Highest Water Level		
4. Pools Public & Commercial	14 Feet	14 Feet
5. Pools Residential	10 Feet	10 Feet
Service Drops over Diving Boards Or Platforms		
6. over Water Surface	14 Feet	8 Feet
7. Not over Water Surface	8 Feet	3 Feet
Communication Guy over Diving Boards Or Platforms		
8. Over Water Surface	16 Feet	8 Feet
9. Not over Water Surface	8 Feet	3 Feet

Figure 84-1
Clearances over Swimming Pools

EXISTING G.O. 95 RULE
(LINE BY LINE)

SERVICE DROPS

Rule 84.8-C5 (Page 235)

(5) ABOVE SWINNING POOLS: Service drop installations above swimming pools shall be avoided where practicable, where service drop conductors are installed above a swimming pool, the conductors shall have radial clearances from the top edge of the pool walls of not less than 18 feet and shall have vertical clearances of not less than 18 feet above the highest water level of the pool. Service drops having coverings or materials specially approved by the Commission for installation above swimming pools may have vertical clearances above the pool and radial clearances from the top edge or the pool wall or not less than 14 feet for public and commercially operated pools and not less than 10 feet for residential pools.

No service drop may be installed less than 14 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially or the diving board or platform and over the water surface of the pool.

No service drop may be installed less than 10 feet vertically above the horizontal plane through a diving board or platform, the area or such plane being the area within 3 feet radially of the diving board or platform and not over the water surface or the pool.

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

SERVICE DROPS

Rule 84.8-C5 (Page 235)

(5) ABOVE OVER SWINNING POOLS: (See Rule 84.4-A5b and Figure 84-1)

~~Service drop installations above swimming pools shall be avoided where practicable, where service drop conductors are installed above a swimming pool, the conductors shall have radial clearances from the top edge of the pool walls of not less than 18 feet and shall have vertical clearances of not less than 18 feet above the highest water level of the pool. Service drops having coverings or materials specially approved by the Commission for installation above swimming pools may have vertical clearances above the pool and radial clearances from the top edge or the pool wall or not less than 14 feet for public and commercially operated pools and not less than 10 feet for residential pools.~~

~~No service drop may be installed less than 14 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.~~

~~No service drop may be installed less than 10 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface or the pool.~~

FINAL PROPOSED RULE CHANGE TO G.O. 95 RULE (*)

SERVICE DROPS

Rule 84.8-C5 (Page 235)

(5) OVER SWINNING POOLS: (See Rule 84.4-A5b and Figure 84-1)

EXISTING G.O. 95 RULE
(LINE BY LINE)

CLEARANCES

RULE 86.4-A(3) (Page 239)

(3) ABOVE SWIMMING POOLS: Guys shall have vertical clearances above the highest water level of the pool of not less than 16 feet.

No communications guy may be installed less than 16 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.

No communications guy may be installed less than 8 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface of the pool.

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

CLEARANCES

RULE 86.4-A(3) (Page 239)

(3) ~~ABOVE~~ OVER SWIMMING POOLS: (See Rule 84.4-A5b and Figure 84-1)

~~Guys shall have vertical clearances above the highest water level of the pool of not less than 16 feet.~~

~~No communications guy may be installed less than 16 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being within 8 feet radially of the diving board or platform and over the water surface of the pool.~~

~~No communications guy may be installed less than 8 feet vertically above the horizontal plane through a diving board or platform, the area of such plane being the area within 3 feet radially of the diving board or platform and not over the water surface of the pool.~~

FINAL PROPOSED RULE CHANGE TO G.O. 95 RULE (*)

RULE 86.4-A(3) (Page 239)

(3) OVER SWIMMING POOLS: (See Rule 84.4-A5b and Figure 84-1)

ITEM 9

General Order 95

Rule 84.4-E
Rule 84.8-C4

RATIONALE

RULES 84.4E, AND 84.8-C4.

CLEARANCES

These rule changes are proposed to clarify and simplify the language of the rules. Additionally the change~ eliminate references to voltages and wattages which no longer apply in todays communications environment.

EXISTING G.O. 95 RULE
(LINE BY LINE)

CLEARANCES

RULE 84.4-E (Page 226)

E Above Or Beside Buildings, Bridges And Other Similar Structures

Conductors (including cables) shall be so arranged as to hamper and endanger firemen and workmen as little as possible in the performance of their duties. The basic clearances of conductors from buildings are specified in Table 1, Cases 6 and 7. The requirements of Table], Case 7, also apply at fire escapes, exits, windows, etc., at which human contact may be expected.

Communication cables are not required to be any specified distance from the sides of buildings, but they shall be installed so that they do not interfere with the free use of fire escapes, exits, etc.

The vertical clearance of communication conductor com- (including cables) above buildings as specified in Table 1, Case 6, may be reduced to not less than 2 feet under the following conditions:

Over roofs of 3/8 pitch (37 degrees from the horizontal) or greater,

Over roofs where the conductor does not overhang the building by more than 6 feet.

See Rule 84.8-C4 for service drop clearance requirements

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

CLEARANCES

RULE 84.4-E (Page 226)

E Above Or Beside Buildings, Bridges And Other Similar Structures

Conductors ~~(including cables) shall~~ should be so arranged so as not to hamper ~~and or~~ endanger firemen firefighters and workmen workers ~~as little as possible in the performanceing of~~ their duties. The basic clearances of communication conductors from buildings are specified in Table 1, Cases 6 and 7, Column B. The requirements of Table 1, Case 7, Column B also apply to at fire escapes, exits, windows, etc., and any other points of entrance or exit where human contact might be expected. ~~at which human contact may be expected.~~

Communication cables are not required to be any specified distance from the sides of buildings, bridges and other similar structures, but they shall be installed so that they do not interfere with the free use of fire escapes, exits, etc., and any other points of entrance or exit where human contact might be expected.

The vertical clearance of communication conductor com- (including cables) above buildings as specified in Table 1, Case 6, Column B may be reduced to not less than 2 feet under the following conditions:

1. Over roofs of 3/8 pitch (37 degrees from the horizontal) or greater, or
2. Over roofs where the conductor does not overhang the building by more than 6 feet.

See Rule 84.8-C4 for service drop clearance requirements

FINAL PROPOSED RULE CHANGE TO G.O. 95 RULE (*)

CLEARANCES

RULE 84.4-E (Page 226)

E Above Or Beside Buildings, Bridges And Other Similar Structures

Conductors should be so arranged so as not to hamper or endanger firefighters and workers in performing their duties. The basic clearances of communication conductors from buildings are specified in Table 1, Cases 6 and 7, Column B. The requirements of Table 1, Case 7, Column B also apply to at fire escapes, windows, and any other points of entrance or exit where human contact might be expected.

Communication cables are not required to be any specified distance from the sides of buildings, bridges and other similar structures, but they shall be installed so that they do not interfere with the free use of fire escapes, exits, and any other points of entrance or exit where human contact might be expected.

The vertical clearance of communication conductor com- (including cables) above buildings as specified in Table 1, Case 6, Column B may be reduced to not less than 2 feet under the following conditions:

1. Over roofs of 3/8 pitch (37 degrees from the horizontal) or greater, or
2. Over roofs where the conductor does not overhang the building by more than 6 feet.

See Rule 84.8-C4 for service drop clearance requirements

EXISTING G.O. 95 RULE
(LINE BY LINE)

SERVICE DROPS

RULE 84.8-C4 (Page 235)

(4) From Buildings And Structures: Service drops shall be so arranged as to hamper and endanger firemen and workmen as little as possible in the performance of their duties.

Service drops are not required to clear buildings any specified horizontal distance but shall be so installed that they do not interfere with the free use of fire escapes, exits, windows, doors and other points at which ingress or egress might be expected.

Service drops of less than 160 volts and 50' watts are not required to clear the roofs of buildings on the premises served any specified vertical distance. The vertical clearance above buildings on premises other than the one being served shall be not less than 8 feet, except that a reduction to not less than 2 feet is permitted for service drops of less than 160 volts and 50 watts under the following conditions:

Over roofs of 3/8 pitch (37 degrees from the horizontal) or greater;

Over roofs where the conductor do not overhang the building by more than 6 feet.

Service drops of other communication lines (greater than 160 volts and 50 watts) shall have vertical clearances above buildings as specified for supply service drops in Table 10 (Rule 54.8-B4b).

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

SERVICE DROPS

RULE 84.8-C4 (Page 235)

(4) From Buildings And Structures: Service drops ~~shall~~ should be so arranged so as not to hamper ~~and~~ or endanger ~~firemen~~ firefighters and ~~workmen~~ workers ~~as little as possible in the performanceing~~ of their duties.

Service drops are not required to clear buildings any specified horizontal distance but shall be so installed that they do not interfere with the free use of fire escapes, exits, windows, doors and other points at which ~~ingress~~ entrance or ~~egress~~ exits might be expected.

Service drops ~~of less than 160 volts and 50' watts~~ are not required to clear the roofs of buildings on the premises served any specified vertical distance. The vertical clearance above buildings on premises other than the one being served shall not be ~~not~~ less than 8 feet, except that a reduction to not less than 2 feet is permitted ~~for service drops of less than 160 volts and 50 watts~~ under either of the following conditions:

1. Over roofs of 3/8 pitch (37 degrees from the horizontal) or greater; or
2. Over roofs where the conductor do not overhang the building by more than 6 feet.

~~Service drops of other communication lines (greater than 160 volts and 50 watts) shall have vertical clearances above buildings as specified for supply service drops in Table 10 (Rule 54.8-B4b).~~

FINAL PROPOSED RULE CHANGE TO G.O. 95 RULE (*)

SERVICE DROPS

RULE 84.8-C4 (Page 235)

(4) From Buildings And Structures: Service drops should be so arranged so as not to hamper or endanger firefighters and workers in performing of their duties.

Service drops are not required to clear buildings any specified horizontal distance but shall be so installed that they do not interfere with the free use of fire escapes, exits, windows, doors and other points at which entrance or exits might be expected.

Service drops are not required to clear the roofs of buildings on the premises served any specified vertical distance. The vertical clearance above buildings on premises other than the one being served shall not be less than 8 feet, except that a reduction to not less than 2 feet is permitted under either of the following conditions:

1. Over roofs of 3/8 pitch (37 degrees from the horizontal) or greater; or
2. Over roofs where the conductor do not overhang the building by more than 6 feet.

ITEM 10

General Order 95

Rule 81.3

Rule 84.4-C1b

Rule 84.4-D1

Rule 84.4-D3

Rule 84.7-A

Rule 87.4-C3

RATIONALE

RULES 81.3, 84.4-C1b, 84.4-D1, 84.4-D3, 84.7-A & 87.4-C3

Modern technology has made obsolete the use of toll circuitry on open wire conductors. These rule changes are proposed to clarify and simplify the language of the rules. Additionally the changes eliminate references to 160 volt, 50 watt lower voltage & power, plus the distinction between toll and exchange open wire conductors. These changed rules will refer to only communication or open wire conductor~ with one minimum horizontal distance instead of two.

The associated figures of Appendix G, Figures 34 & 85 have been moved into these subsections.

EXISTING G.O. 95 RULE
(LINE BY LINE)

POLES, TOWERS AND STRUCTURES

81.3 Material and Strength

Communication poles shall meet the material and strength requirements specified in Section IV.

A Replacement In Grade F Construction

Wood poles in Grade F construction shall be replaced or reinforced before the safety factor has been reduced to less than one-half, except that the circumference of sound solid wood within 18 inches above and below the ground line on such poles before replacement or reinforcement shall in no case be less than as follows:

Poles supporting 10 wires or less of open-wire local exchange
conductors-----9inches

Poles supporting cable, interexchange conductors, or more than 10
wires of open-wire local exchange conductors -----12 inches

Examples of replacement circumferences which meet these requirements are given in Tables 26 and 27 of Appendix D.

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

POLES, TOWERS AND STRUCTURES

81.3 Material and Strength

Communication poles shall meet the material and strength requirements specified in Section IV.

A Replacement of Wood Poles In Grade F Construction

Wood poles in Grade F construction shall be replaced or reinforced before the safety factor has been reduced to less than one-half, except that the circumference of sound solid wood within 18 inches above and below the ground line on such poles before replacement or reinforcement shall not ~~in no case~~ be less than as follows:

Poles supporting 10 ~~wires~~ or less of open-wire local exchange conductors-----9inches

Poles supporting cable, interexchange ~~conductors~~, or more than 10 ~~wires of open-wire local exchange conductors~~ -----12 inches

Examples of replacement circumferences which meet these requirements are given in Tables 26 and 27 of Appendix D.

FINAL PROPOSED RULE CHANGE TO G.O. 95 RULE (*)

POLES, TOWERS AND STRUCTURES

81.3 Material and Strength

Communication poles shall meet the material and strength requirements specified in Section IV.

A Replacement of Wood Poles In Grade F Construction

Wood poles in Grade F construction shall be replaced or reinforced before the safety factor has been reduced to less than one-half, except that the circumference of sound solid wood within 18 inches above and below the ground line on such poles before replacement or reinforcement shall not be less than as follows:

Poles supporting 10 or less of open conductors-----9inches

Poles supporting cable, or more than 10 open-wire -----12 inches

Examples of replacement circumferences which meet these requirements are given in Tables 26 and 27 of Appendix D.

EXISTING G.O. 95 RULE
(LINE BY LINE)

CLEARANCES

RULE 84.4-C1b (Page 222)

b) On Brackets Attached to Crossarms: Line conductors supported on brackets or extensions attached to cross- arms shall be maintained at, or outside of, the outer pin or dead-end positions on the crossarm with a radial separation not less than the minimum pin spacing specified in Table 2, Case 15 (3 inches) from any other line conductors supported by the same crossarm, except that not more than two conductors on the same side of pole on any crossarm may be supported on brackets within the outer pin position and below conductors normally supported on pins on the crossarm provided that all conductors concerned do not carry more than 160 volts and the power transmitted does not exceed 50 watts and the vertical separation between conductors so supported on brackets and those attached on pins or dead ends on crossarms not supporting the bracket shall be not less than 12 inches. The vertical clearances specified in Table 2, Cases 1 to 14 shall be provided between the conductor on the bracket and the conductor level of any other conductors not supported on the crossarm to which the bracket is attached.

This rule shall not be held to apply to clearances between conductors of the same or similar circuits at or points of transposition.

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

CLEARANCES

RULE 84.4-C1b (Page 222)

b) On Brackets Attached to Crossarms: The radial clearance for communication Line conductors supported on brackets or extensions attached to crossarms shall be maintained at, or outside of, the outer pin or dead-end positions on the crossarm with a radial separation not less than the minimum pin spacing shall not be less than 3 inches from any other communication line conductor supported by the same crossarm as specified in Table 2, Case 15, Column C (3 inches) from any other line conductors supported by the same crossarm, except that. Not more than two conductors on the same side of pole on any crossarm may be supported on brackets within the outer pin. ~~position and below conductors normally supported on pins on the crossarm provided that all conductors concerned do not carry more than 160 volts and the power transmitted does not exceed 50 watts and the vertical separation between conductors so supported on brackets and those attached on pins or dead ends on crossarms not supporting the bracket shall be not less than 12 inches.~~ There shall not be less than a 12 inches vertical separation between communication conductors supported on brackets within the outer pin positions on one crossarm and the communication conductors on another crossarm. The vertical clearances specified in Table 2, Cases 1 to 14, Column C shall be provided between the conductor on ~~the~~ a bracket and the conductor level of any other conductors not supported on the crossarm to which the bracket is attached.

This rule shall not ~~be held to~~ apply to clearances between conductors of the same or similar circuits at or points of transposition.

FINAL PROPOSED RULE CHANGE TO G.O. 95 RULE (*)

CLEARANCES

RULE 84.4-C1b (Page 222)

(b) On Brackets Attached to Crossarms: The radial clearance for communication line conductors supported on brackets or extensions attached to crossarms at, or outside of, the outer pin or dead-end positions shall not be less than 3 inches from any other communication line conductor supported by the same crossarm as specified in Table 2, Case 15, Column C. Not more than two conductors on the same side of the pole on any crossarm may be supported on brackets within the outer pin position and below conductors normally supported on pins.

There shall not be less than a 12 inches vertical separation between communication conductors supported on brackets within the outer pin positions on one crossarm and the communication conductors on another crossarm. The vertical clearances specified in Table 2, Cases 1 to 14, Column C shall be provided between the conductor on a bracket and the conductor level of any other conductors not supported on the crossarm to which the bracket is attached.

EXCEPTION: This rule shall not apply to clearances between conductors of the same or similar circuits at points of transposition.

EXISTING G.O. 95 RULE
(LINE BY LINE)

CLEARANCES

RULE 84.4-D1 (PAGE 224)

(1) Conductors Supported On Crossarms: The 15-inch minimum clearance from center line of pole specified for communication conductors supported on crossarms may be reduced under the following conditions:

For open wire toll and other open wire line conductors not used for exchange or local distribution, a clearance of not less than 9 inches from center line of pole may be used;

For open wire exchange or local distribution conductors which were originally installed as toll line conductors, a clearance of not less than 9 inches may be used provided such exchange conductors do not carry more than 160 volts and 50 watts and a clearance of not less than 15 inches from center line of pole shall be obtained when appreciable reconstruction of such lines is undertaken;

For open wire and local exchange and local distribution conductors in rural districts, the conductor clearance from center line of pole maybe not less than 9 inches provide voltage of such conductors is not more than 160 volts, power transmitted does not exceed 50 watts, the clearance of not less than 9 inches shall apply only to conductors supported on a crossarm in the pole top position and no conductors are supported below such crossarms except supply service drops of clearance crossarms. This provision for lines in rural districts is intended to permit the use of a related buck arm, in which the climbing space shall conform to the requirements of Rule 84.7 -B ;

Cables or messengers may be attached to opposite sides of pole and have clearances less than 15 inches from center line of pole where placed 2 feet or more below the level of the lowest communication conductors supported on crossarms;

Cables or messengers may have clearances less than 15 inches from center line of pole where placed between crossarms or less than 2 feet below the level of the lowest commumcation conductor supported on crossarms provided, for climbing space purposes, such cables are placed on one side of pole only and any conductor (supported by a crossarm and on the opposite side of pole) which is within 36 inches vertical may from the level of the cable or messenger is not less than 24 inches (if an exchange conductor) or 18 inch (if a toll conductor)

horizontally from the vertical plane of such cable or messenger. (See App. G, 84.)

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

CLEARANCES

RULE 84.4-D1 (PAGE 224)

(1) Conductors Supported On Crossarms: The 15-inch minimum clearance from the center line of the pole specified for communication conductors supported on crossarms may be reduced under the following conditions:

~~For open wire toll and other open wire line conductors not used for exchange or local distribution, a clearance of not less than 9 inches from center line of pole may be used;~~

~~For open wire exchange or local distribution conductors which were originally installed as toll line conductors, a clearance of not less than 9 inches may be used provided such exchange conductors do not carry more than 160 volts and 50 watts and a clearance of not less than 15 inches from center line of pole shall be obtained when appreciable reconstruction of such lines is undertaken;~~

~~For open wire and local exchange and local distribution communication conductors in rural districts, the conductor clearance from center line of pole shall not be maybe not less than 9 inches provide voltage of such conductors is not more than 160 volts, power transmitted does not exceed 50 watts, the clearance of not less than 9 inches shall apply only to conductors supported on a crossarm in the pole top position and no conductors are supported below such crossarms except supply service drops of clearance crossarms.~~

This clearance shall apply only to communication conductors under the following conditions:

1. When supported on a crossarm in the pole top position, and

2. When no conductors are supported below such crossarms except supply service drops on clearances crossarms.

~~This provision for lines in rural districts is intended to permit the use of a related buck arm, in which the climbing space shall conform to the requirements of Rule 84.7 -B ;~~

~~Cables or messengers may be attached to opposite sides of pole and have clearances less than 15 inches from center line of pole where placed 2 feet or more below the level of the lowest communication conductors supported on crossarms;~~

To maintain climbing space, cables or messengers may have clearances less than 15 inches from center line of pole under the following conditions:

- 1) When placed between crossarms, or
- 2) When placed less than 2 feet below the level of the lowest communication conductor supported on crossarms.

~~where placed between crossarms or less than 2 feet below the level of the lowest communication conductor supported on crossarms provided, for climbing space purposes, such~~ These cables or messengers are to be placed on one side of the pole only and. Any conductor (supported by on a crossarm and on the opposite side of the pole) which that is within 36 inches vertical may from the level of the cable or messenger shall be at least is not less than 24 inches (if an exchange conductor) or 18 inch (if a toll conductor) horizontally from the vertical plane of such cable or messenger. (See App. G, 84: Fig 84.2)

FINA: PROPOSED G.O. 95 RULE (*)

CLEARANCES

RULE 84.4-D1 (PAGE 224)

(1) Conductors Supported On Crossarms: The 15-inch minimum clearance from the center line of the pole specified for communication conductors supported on crossarms may be reduced under the following conditions:

For communication conductors, the clearance from center line of pole shall not be less than 9

This clearance shall apply only to communication conductors under the following conditions:

1. When supported on a crossarm in the pole top position, and
2. When no conductors are supported below such crossarms except supply service drops on clearances crossarms.

This provision is intended to permit the use of a related buck arm, in which the climbing space shall conform to the requirements of Rule 84.7 -B;

To maintain climbing space, cables or messengers may have clearances less than 15 inches from center line of pole under the following conditions:

- 1) When placed between crossarms, or
- 2) When placed less than 2 feet below the level of the lowest communication conductor supported on crossarms.

These cables or messengers are to be placed on one side of the pole only and. Any conductor on a crossarm on the opposite side of the pole that is within 36 inches vertical may of the cable or messenger shall be at least 18 inch horizontally from the vertical plane of such cable or messenger. (Fig 84.2)

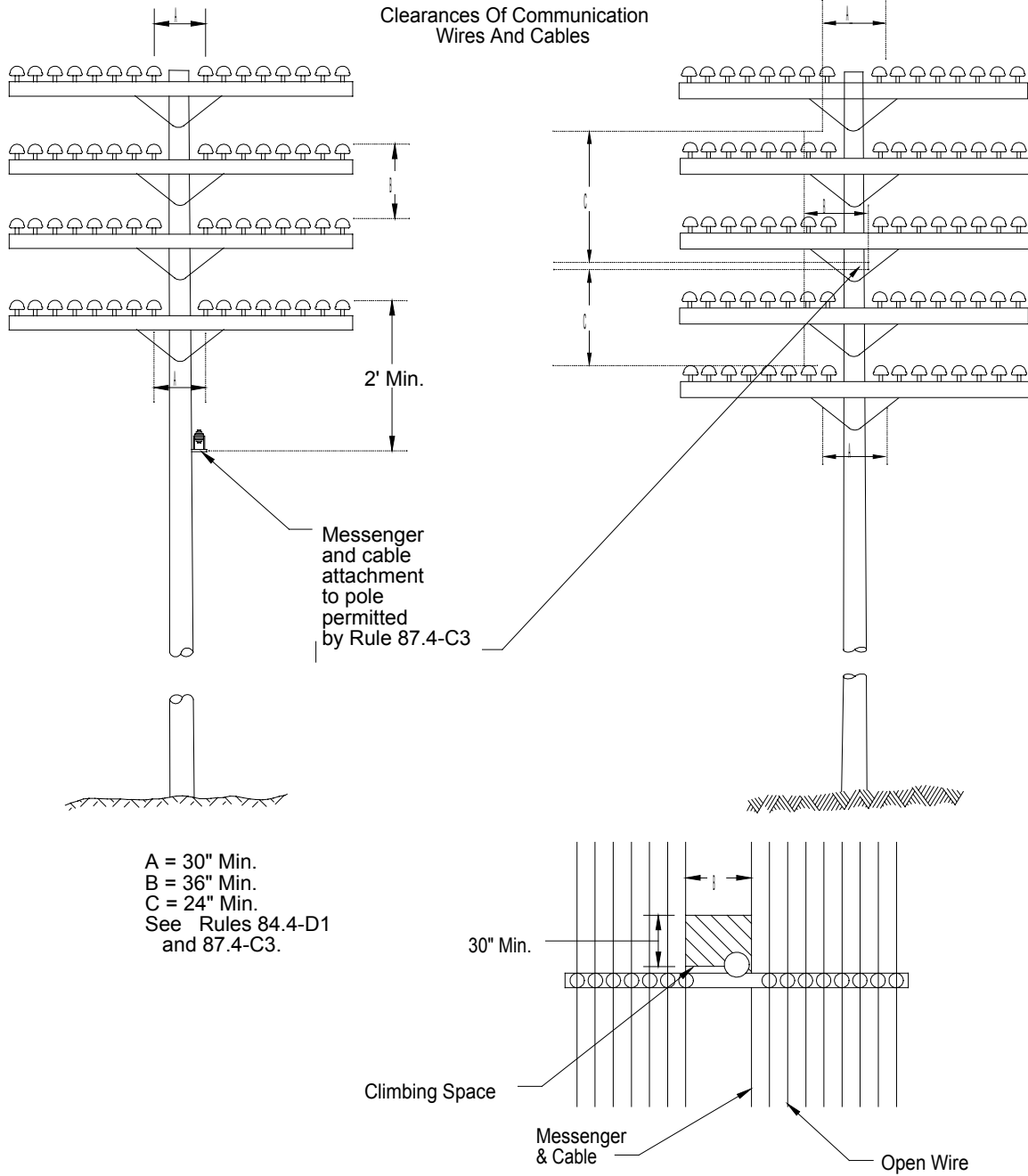


Figure 84-2

EXISTING G.O. 95 RULE
(LINE BY LINE)

CLEARANCES

RULE 84.4-D3 (PAGE 225)

(3) Colinear, Conflicting Or Crossing Lines (See Rule 32.3): Where two communication lines are colinear or otherwise in conflict or where a pole of one line is intersert in another line at crossings, the clearances of Rule 32.3 and Table 1, Case 8, Column B may be modified as follows:

In applying any of the provisions of this Rule 84.4-D3 an unobstructed climbing space on each pole concerned shall be maintained with horizontal dimensions of not less than 30 inches square for conductors carrying more than 160 volts and 50 watts, and not less than 18 inches in width and 30 inches in depth for conductors carrying lower voltage and power.

a) Where Clearance Arms Are Used: Where clearance arms are used, on poles which support only Communication conductors, to support the conductors, to support the conductors of a colliener or conflicting communication line the clearance of such conductors from the center line of pole shall be not less than 15 inches for conductors carrying more than 160 volts and 50 watts and shall be not less than 9 inches for conductors carrying lower voltage and power.

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

CLEARANCES

RULE 84.4-D3 (PAGE 225)

(3) Colinear, Conflicting Or Crossing Lines (See Rule 32.3): Where two communication lines are colinear or otherwise in conflict or where a pole of one line is interset in another line at crossings, the clearances of Rule 32.3 and Table 1, Case 8, Column B may be modified as follows:

In applying any of the provisions of this Rule 84.4-D3 an unobstructed climbing space on each pole concerned shall be maintained with horizontal dimensions of ~~not less than 30 inches square for conductors carrying more than 160 volts and 50 watts, and not less than 18 inches~~ wide in width and 30 deep inches in depth ~~for conductors carrying lower voltage and power.~~

a) ~~Where Clearance Arms Are Used: Where clearance arms are used, on poles which support only Communication conductors, to support the conductors, to support the conductors of a colliener or conflicting communication line the clearance of such conductors from the center line of pole shall be not less than 15 inches for conductors carrying more than 160 volts and 50 watts and shall be not less than 9 inches for conductors carrying lower voltage and power. Where clearance arms are used to support the conductors of a colinear or conflicting communication line on poles which support only communication conductors, the clearance of such conductors from the center line of pole shall not be less than 15 inches.~~

FINAL PROPOSED G.O. 95 RULE (*)

CLEARANCES

RULE 84.4-D3 (PAGE 225)

(3) Colinear, Conflicting Or Crossing Lines (See Rule 32.3): Where two communication lines are colinear or otherwise in conflict or where a pole of one line is intersected in another line at crossings, the clearances of Rule 32.3 and Table 1, Case 8, Column B may be modified as follows:

In applying any of the provisions of this Rule 84.4-D3 an unobstructed climbing space on each pole concerned shall be maintained with horizontal dimensions of not less than 18 inches wide and 30 deep

a) Where Clearance Arms Are Used: Where clearance arms are used to support the conductors of a colinear or conflicting communication line on poles which support only communication conductors, the clearance of such conductors from the center line of pole shall not be less than 15 inches.

EXISTING G.O. 95 RULE
(LINE BY LINE)

CLIMBING SPACE

RULE 84.7-A (Page 230)

A Where Line Arms Only Are Involved (see App. G, Fig. 34)

The climbing space through the levels of conductors supported on line arms only should be so located that the center line of pole is approximately midway on the side of the climbing space parallel to the crossarms. The horizontal dimensions of such climbing spaces, with widths measured perpendicularly to the conductors, and with depths measured from center line of pole and parallel to the conductors, shall be not less than those specified in Rules 84.7 -A1 and 84.7 -A2, except at angles in lines in which cases the widths of 18 and 30 inches may be reduced to not less than 16 ½ and 27 ½ inches respectively provided the horizontal separation of pole pin conductors measured parallel to the crossarm shall be not less than 18 and 30 inches respectively.

(1) On Poles Which Support Communication Conductors Only: The climbing space for toll, trunk and other conductors not used for local distribution shall be not less than 18 inches in width and not less than 30 inches in depth.

The climbing space for exchange or local distribution conductors shall be not less than 30 inches in depth and not less than 30 inches in width, except that for conductors of 160 volts or less, which are used for exchange or local distribution service but which were originally used and placed as toll conductors of like voltage, the climbing space shall be not less than 18 inches wide.

In rural districts, the climbing space for exchange or local distribution circuits of 160 volts or less which are supported on crossarms at the top positions of poles which support no other crossarms shall be not less than 18 inches wide and not less than 30 inches deep.

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

CLIMBING SPACE

RULE 84.7-A (Page 230)

A Where Line Arms Only Are Involved (see ~~App. G, Fig. 84~~ Fig 84-4)

The climbing space through the levels of conductors supported on line arms only ~~should~~ shall be so located so that the center line of the pole is approximately midway on the side of the climbing space and parallel to the crossarms. The horizontal dimensions of ~~such the~~ climbing spaces, with widths measured perpendicularly to the conductors, and with depths measured from center line of pole and parallel to the conductors, shall not be ~~not~~ less than those specified in Rules 84.7 -A1 and 84.7 -A2,

Exception At angles in lines ~~in which cases the~~ with widths of 18 and 30 inches may be reduced to not less than 16 ½ and 27 ½ inches respectively provided the horizontal separation of pole pin conductors measured parallel to the crossarm shall be not less than 18 and 30 inches respectively.

(1) On Poles Which Support Communication Conductors Only: The climbing space for ~~toll, trunk and other~~ communication conductors ~~not used for local distribution~~ shall not be not less than 18 inches wide and 30 inches deep ~~in width and not less than 30 inches in depth.~~

~~The climbing space for exchange or local distribution conductors shall be not less than 30 inches in depth and not less than 30 inches in width, except that for conductors of 160 volts or less, which are used for exchange or local distribution service but which were originally used and placed as toll conductors of like voltage, the climbing space shall be not less than 18 inches wide.~~

~~In rural districts, the climbing space for exchange or local distribution circuits of 160 volts or less which are supported on crossarms at the top positions of poles which support no other crossarms shall be not less than 18 inches wide and not less than 30 inches deep.~~

FINAL PROPOSED G.O. 95 RULE (*)

CLIMBING SPACE

RULE 84.7-A (Page 230)

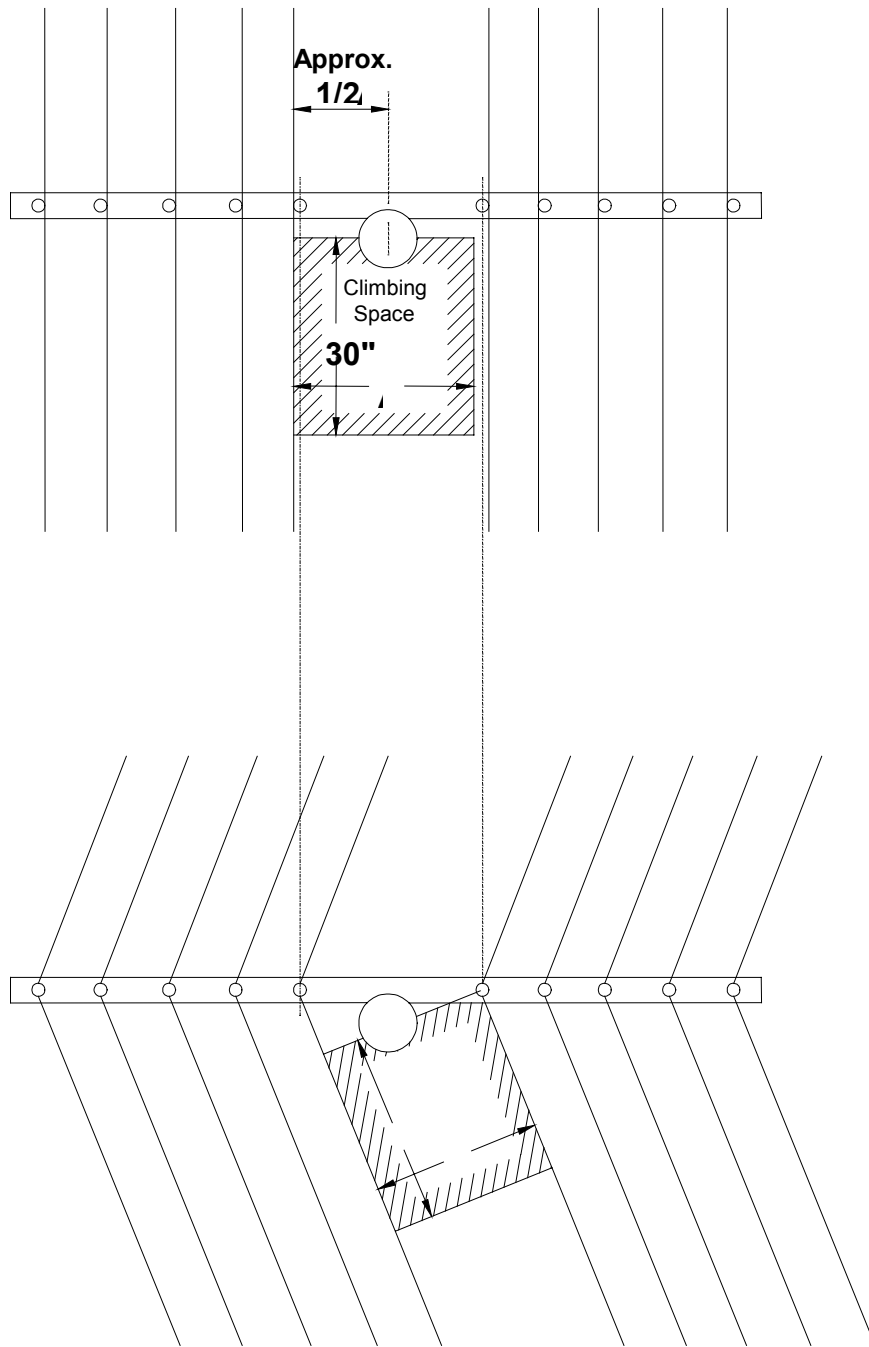
A Where Line Arms Only Are Involved (see Fig 84-4)

The climbing space through the levels of conductors supported on line arms only shall be located so that the center line of the pole is approximately midway on the side of the climbing space and parallel to the crossarms. The horizontal dimensions of the climbing spaces, with widths measured perpendicularly to the conductors, and with depths measured from center line of pole and parallel to the conductors, shall not be less than those specified in Rules 84.7 -A1 and 84.7 -A2,

Exception At angles in lines with widths of 18 and 30 inches may be reduced to not less than 16 ½ and 27 ½ inches respectively provided the horizontal separation of pole pin conductors measured parallel to the crossarm shall be not less than 18 and 30 inches respectively.

(1) On Poles Which Support Communication Conductors Only: The climbing space for communication conductors shall not be not less than 18 inches wide and 30 inches deep

**Climbing Space
Communication Conductors on Linearms
Rules 84.4-D5 AND 84.7-A**



**A = 30" Min. or 18" Min.
B = 27.5" Min. or 16.5" Min.
Figure 84-4**

EXISTING G.O. 95 RULE
(LINE BY LINE)

CABLES AND MESSENGERS

RULE 87.4-C3 (PAGE 248)

(3) Attached To Poles: On poles which carry no supply conductors and no crossarms, communication cables or messengers attached to the sides of poles may be placed in any position within 3 feet of the top of the pole provided metal-sheathed cables or messengers are separated from open wire conductors in this section of the pole by a vertical distance of not less than 12 inches.

On poles which carry no supply conductors (except supply service drop clearance attachments) and which support communication conductors on crossarms, messengers and cables may be attached to surface of pole between crossarms or less than 2 feet below the conductors on the lowest crossarms, provided such messengers or cables are placed on one side of pole only and any conductor on the opposite side of the pole, less than 36 inches vertically from such messenger and cable, shall be not less than 24 inches (if an exchange conductor) or not less than 18 inches (if a toll conductor) horizontally from such messenger or cable (see .App. G, Fig. 84).

On poles which carry no supply conductors (except supply service drop clearance attachments) and which support communication conductors on crossarms, messengers and cables may be attached directly to opposite sides of pole provided such attachments are not less than 2 feet below the lowest level of communication conductors supported on a crossarm and provided that the vertical separation between such messengers or cables and open wire conductors in the same configuration shall be not less than 12 inches.

Cables or messengers where attached to the surface of poles which support supply conductors, shall be not less than 6 feet vertically below the level of supply conductors, except that this minimum clearance of 6 feet may be reduced to not less than 4 feet below supply conductors of 0-750 volts provided a guard arm is placed above the messenger and cable (or self-supporting cable) in accordance with the provision of Rule 87.7-B (see Rule 20.9-D for guard arm definition). No cable or messenger, where attached to surface of such a pole, shall be less than 2 feet below the lowest level of communication conductors on crossarms unless a horizontal separation of not less than 30 inches is maintained between the messenger or cable and the communication conductors on the opposite side of pole.

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

CABLES AND MESSENGERS

RULE 87.4-C3 (PAGE 248)

(3) Attached To Poles: On poles which carry no supply conductors and no crossarms, communication cables or messengers may be attached to the sides of poles ~~may be placed~~ in any position within 3 feet of the top of the pole provided metal-sheathed cables or messengers are separated from open wire conductors in this section of the pole by a vertical distance of not less than 12 inches.

~~On poles which carry where communication conductors are supported on crossarms no supply conductors (except supply service drop clearance attachments) are attached and which support communication conductors on crossarms, apply the provisions of Rule 84.4-D1 messengers and cables may be attached to surface of pole between crossarms or less than 2 feet below the conductors on the lowest crossarms, provided such messengers or cables are placed on one side of pole only and any conductor on the opposite side of the pole, less than 36 inches vertically from such messenger and cable, shall be not less than 24 inches (if an exchange conductor) or not less than 18 inches (if a toll conductor) horizontally from such messenger or cable (see .App. G, Fig. 84-2).~~

~~On poles which carry no supply conductors (except supply service drop clearance attachments) and which support communication conductors on crossarms, messengers and cables may be attached directly to opposite sides of pole provided such attachments are not less than 2 feet below the lowest level of communication conductors supported on a crossarm and provided that the vertical separation between such messengers or cables and open wire conductors in the same configuration shall be not less than 12 inches.~~

Cables or messengers where attached to the surface of poles which support supply conductors, shall be not less than 6 feet vertically below the level of supply conductors. ~~except that~~

Exception: That this minimum clearance of 6 feet may be reduced to not less than 4 feet below supply conductors of 0-750 volts provided a guard arm is placed above the messenger and cable (or self-supporting cable) in accordance with the provision of Rule 87.7-B (see Rule 20.9-D for guard arm definition). No cable or messenger shall be, where attached to the surface of such a pole, ~~shall~~ be less than 2 feet below the lowest level of communication conductors on

crossarms unless a minimum horizontal separation of ~~not less than~~ 30 inches is maintained between the messenger or cable and the communication conductors on the opposite side of pole.

FINAL PROPOSED G.O. 95 RULE (*)

CABLES AND MESSENGERS

RULE 87.4-C3 (PAGE 248)

(3) Attached To Poles: On poles which carry no supply conductors and no crossarms, communication cables or messengers may be attached to the sides of poles in any position within 3 feet of the top of the pole provided metal-sheathed cables or messengers are separated from open wire conductors in this section of the pole by a vertical distance of not less than 12 inches.

On poles where communication conductors are supported on crossarms no supply conductors (except supply service drop clearance attachments) are attached apply the provisions of Rule 84.4-D1 and Fig. 84-2-

Cables or messengers where attached to the surface of poles which support supply conductors, shall be not less than 6 feet vertically below the level of supply conductors.

Exception: That this minimum clearance of 6 feet may be reduced to not less than 4 feet below supply conductors of 0-750 volts provided a guard arm is placed above the messenger and cable (or self-supporting cable) in accordance with the provision of Rule 87.7-B (see Rule 20.9-D for guard arm definition). No cable or messenger shall be, attached to the surface of such a pole, less than 2 feet below the lowest level of communication conductors on crossarms unless a minimum horizontal separation of 30 inches is maintained between the messenger or cable and the communication conductors on the opposite side of pole.

ITEM 11

General Order 95

Rule 86.9

RATIONALE FOR CHANGE TO G. O. 95 RULE

RULE 86. 9 - GUY MARKER (GUY GUARD)

This proposed rule change uses the term guy marker rather than guy guard to properly clarify its purpose. The present title "Protection" and reference to "guard" in the rule has led to misinterpretations that the markers protect the public from hitting the marker or protect the guy in case of collision.

The 1987 National Electrical Safety Code (rule 282E page 296) has an equivalent section which is entitled "Guy Markers (Guy Guards). This title correctly identifies the intent of the rule. The parenthetical "Guy Guards" was left in place- to show that this commonly used term actually refers to guy markers.

References to wood markers (guards) were removed since this type of marker is not commonly used in new plant construction. "Suitable material" provides for the use of materials developed in today's technology. Metal and plastic markers are the common types in use today.

The exception for 1 ¼ inch anchor rods was deleted.

EXISTING G.O. 95 RULE

Rule 86.9 (Page 247)

86.9 Protection

A substantial wood guard (preferably painted white), or metal guard, or a plastic guard of suitable materials, not less than 8, feet in length, shall be securely attached to each anchor guy which is exposed to traffic. Such a guard will not be required where the, anchor rod is $1 \frac{1}{4}$ inches or greater in diameter, has an overall length above the ground of not less than 8 feet, and extends to a height of not less than 6 feet vertically above ground.

PROPOSED CHANGE TO G.O. 95 RULE
(STRIKE OUT AND UNDERLINE)

Rule 86.9 (Page 247)

86.9 ~~Protection~~ Guy Marker (Guy Guard)

A substantial wood guard (preferably painted white), or metal guard, or a plastic guard of suitable materials, marker of suitable material, including but not limited to metal or plastic, not less than 8, feet in length, shall be securely attached to each an anchor guy which is exposed to traffic. ~~Such a guard will not be required where the, anchor rod is 1 1/4 inches or greater in diameter, has an overall length above the ground of not less than 8 feet, and extends to a height of not less than 6 feet vertically above ground.~~

FINAL PROPOSED G.O. 95 RULE (*)

Rule 86.9 (Page 247)

86.9 Guy Marker (Guy Guard)

A substantial, marker of suitable material, including but not limited to metal or plastic, not less than 8, feet in length, shall be securely attached to an anchor guy which is exposed to traffic.