

ORIGINAL

Decision No. 91186 JAN 8 - 1960

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of)
PACIFIC GAS AND ELECTRIC COMPANY for)
an order or orders amending General)
Order No. 95, "Rules for Overhead)
Electric Line Construction", to amend)
certain Rules with respect to radial)
clearances from overhead conductors)
to non-climbable street lighting or)
traffic signal poles or standards.)

Application No. 56468
(Filed May 6, 1976)

(Electric)

(Appearances are listed in Appendix A.)

O P I N I O N

By this application filed May 6, 1976, Pacific Gas and Electric Company (PG&E) seeks an order amending and revising certain paragraphs and parts of General Order No. 95 (G.O. 95), "Rules for Overhead Electric Line Construction".

The proposed amendment adds radial clearances from non-climbable poles for street lights and traffic signals. Presently, G.O. 95 does not show specific clearances for conductors passing and unattached. The proposal consists of additions, modifications, and deletions to Table 1, Rule 37, and related rules in G.O. 95 showing the clearances for different types of wires, conductors, or cables.

This application is the culmination of discussions between PG&E and the Commission staff (staff) that were staff-initiated in 1972 about what clearances should be applicable to undergrounded electroliers. Further, PG&E coordinated the proposal with the other major electric and communication line operators in the state.

PG&E submitted the proposed modification to G.O. 95 to Southern California Edison Company (Edison); San Diego Gas & Electric Company; Sacramento Municipal Utility District; Sierra Pacific Power Company; Pacific Power and Light Company; Department of Water and Power, City of Los Angeles (DWP); Hetch-Hetchy Water and Power, City and County of San Francisco; Continental Telephone of California; General Telephone Company of California; and the Pacific Telephone and Telegraph Company. These utilities have indicated concurrence in their written responses.

PG&E avers that the proposed modification to G.O. 95 will speed the resolution of conflicts over clearances from non-climbable poles while protecting the safety of persons engaged in the construction, maintenance, and operation of facilities in the vicinity of energized conductors.

PG&E, in its application, proposed to add Case 10 to Table 1 of Rule 37 in G.O. 95. Proposed Case 10 lists radial centerline clearance of conductor or cable passing unattached from nonclimbable street light and traffic signal poles or standards, including mastarms, brackets, and lighting fixtures by class of conductor as follows:

1. Communication conductors (including open wire, cables, and service drops) and supply service drops of 0 - 750 volts. A one-foot clearance except that the minimum clearance may be modified as follows:
 - (a) Communication cables passing non-climbable street light poles and the like. (Reference Rule 84.4-D4a to G.O. 95).
 - (b) May be reduced for grounded or multi-conductor cables. (Reference Rule 57.4-H for grounded cables and Rule 54.7-36 for multi-conductor cables.

- (c) May be reduced for supply service drops. (Reference Rule 54.8-D1).
 - (d) May be reduced for communications service drops. (Reference Rule 84.4-E1).
2. Trolley contact, feeder and span wires 0 - 5,000 volts. A 15-inch clearance except that the minimum clearance may be modified as follows:
 - (a) May be reduced for class T conductors of not more than 750 volts (See Rule 74.4-D).
 - (b) Not applicable to trolley span wires (Reference Rule 74.4-D).
 3. Supply conductors of 0-750 volts and supply cables treated as in Rule 57.8. A three-foot clearance except that the minimum clearance may be reduced for grounded or multi-conductor cables as indicated in 1(b) above.
 4. Supply conductors and supply cables 750-22,500 volts. A six-foot clearance except that the minimum clearance may be reduced to four feet for voltages below 7,500 volts. (Reference Rule 54.4-D3).
 5. Supply conductors and supply cables 22,500-300,000 volts. A ten-foot clearance except that the minimum clearance may be reduced to six feet for voltage below 75,000 volts.
 6. Supply conductors and supply cables 300,000-500,000 volts. A ten-foot clearance except the minimum clearance shall be increased by 0.04-foot per 1,000 volts in excess of 300,000 volts.

By letter dated March 29, 1977, the State Division of Industrial Safety (DIS) opposed the application, and, in particular, the four-foot and six-foot rules proposed under Nos. 4 and 5 above. DIS further states that such clearances would cause a workman employed by other than a utility company to be in violation of DIS Electrical Safety Order 2946 (8 Cal. Adm. Code 2946) and Penal Code Section 385. 8 Cal. Adm. Code 2946 provides minimum clearances of equipment and materials being used in proximity to overhead high voltage lines (HV lines) from HV lines, starting at 10 feet for 750 to 50,000 volts. However, 8 Cal. Adm. Code 2949 exempts work on HV lines by qualified electrical workers and work in proximity to HV lines by qualified persons using approved equipment and work procedures. P.C. Sec. 385 requires a six-foot clearance of tools, machinery, equipment, material, building, or structure from electric lines over 750 volts; it does not apply to work on overhead lines, the operation of trains or maintenance of overhead structures covered by the rules for overhead line construction prescribed by the Commission.

An Administrative Law Judge was assigned and by letter dated June 27, 1977, requested PG&E to respond to the DIS allegations. PG&E, in its response dated July 28, 1978, suggested an informal meeting of DIS, the utilities, and staff to identify concerns and issues. Such meeting was held on October 13, 1978, in San Francisco. DIS presented its position, by letter dated October 12, 1978, that line clearances are being reduced by the application. It is PG&E's position that the application provides for the establishment of clearances for underground-fed street light and traffic signal poles or standards that are presently not regulated by G.O. 95. PG&E further states that adopting such standards should result in increased safety for qualified workmen. PG&E continued to informally discuss the application with DIS in order to resolve issues.

After notice, public hearing was held before Administrative Law Judge J. J. Doran in San Francisco on July 12, 1979, and in Los Angeles on August 7, 1979. The matter was submitted on August 7, 1979.

Position of the Parties

During the July 12, 1979, hearing, PG&E's attorney offered a modification to its proposal for consideration as a compromise to the position of State Division of Occupational Safety and Health (DOSH) (formerly DIS). The modification relates to the clearance of supply conductors and supply cables operated at 750 to 7,500 volts from nonclimbable street light and traffic signal poles. The application proposed that the minimum clearance "may be reduced to four feet for voltages below 7,500 volts". The modification proposed a six-foot minimum clearance except that "existing clearances of not less than four feet for voltages below 7,500 volts shall be maintained." PG&E states that it has generally utilized the six-foot clearance for street light and traffic signal pole construction. PG&E also states the four-foot rule has been the historic standard on other systems in the State and is consistent with other provisions for overhead-fed street light and traffic signal poles. PG&E's modification is acceptable to DOSH's attorney.

The modification is not acceptable to Edison. Edison's counsel states that for years it has permitted four-foot clearances on electroliers that are owned or maintained by Edison, by qualified electrical workmen. He further states that it maintains six-foot clearances on electroliers that are owned and maintained by others.

PG&E's modification is not acceptable to the Bureau of Street Lighting, Department of Public Works, City of Los Angeles (LA Street Lighting). The LA Street Lighting appearance stated that it has utilized the four-foot clearance for many years. He

further stated that the continued use of the four-foot rule would not result in the extensive cost implications that would otherwise result and there would be no detrimental effect on the safety of its workmen.

The appearance for the International Brotherhood of Electrical Workers, Local No. 11, Los Angeles (IBEW 11) concurs with the position of DOSH.

The appearance for the city of San Diego is opposed to the original application but not to PG&E's modification.

An adjourned hearing was held to provide the parties opportunity to clarify their oral statements by counsel and to support their positions by expert testimony.

During the adjourned hearing DWP and Edison stated that they support PG&E's application in its original form.

The appearance for the State Department of Transportation (Caltrans) objects to the application basically because it has very few qualified linemen.

IBEW 11 (Los Angeles County District) stated its position is for a six-foot clearance as contained in PG&E's proposed modification because it is a construction local which installs poles rather than maintains lighting units.

DOSH objects to the original application. DOSH recommends the compromise that PG&E offered. Further, it states that six feet is a necessary safe clearance. If there has been a four-foot clearance concerning overhead-fed systems, any new rule adopted should apply to safe conditions for the workers. DOSH is concerned about contractors who have unqualified people.

PG&E states that it made a "proposed change in Table 1, Case 10, ...in an attempt to resolve differences with the Division

of Occupational Safety and Health," and that "the real parties in interest, in essence, the Southern California Edison Company and the City of Los Angeles, have made their position clear, and that position is also acceptable to us..."

The staff agrees with PG&E's position.

Discussion

A DWP senior line mechanic supervisor with 34 years experience in the electrical trade presented testimony supporting the original application. He testified that G.O. 95 currently establishes a four-foot/six-foot clearance between overhead-fed lighting units and overhead conductors energized at 0-7,500 volts/7,500-22,500 volts (Rule 38). Units fed from underground sources are exempt from these minimum clearance standards (Rule 58.2-G). He further testified that the clearances shown in the original application for underground-fed units are the same as that required for overhead-fed units.

The witness testified that while minimal clearance is necessary the single factor which contributes toward safety is training and not distances from the electrical conductor. Further, to increase this historic clearance to employ less qualified workers is hazardous. He also testified that there is no justification to have a stricter standard for underground as compared to overhead-fed units.

DWP historically and currently follows the four-foot/six-foot clearances contained in the original application. The DWP witness could not find a record of or recall in his 34 years of experience an injury caused by a person involved in street lighting maintenance or reconstruction coming in contact with an energized overhead line. The witness stated that increased clearance over the requirement in the application would require more street light

poles or raised electric lines resulting in millions of dollars of expenditure and impact the environment by obstructing views, disturbing sidewalk surfaces, and removing some forest products prior to the end of their useful lives.

DWP's superintendent of pole line specifications presented testimony reinforcing the economic and environmental impacts. He testified that prior to 1960 DWP embarked on an extensive beautification program to reduce the mass of clutter associated with poles line designs. Further, if clearance were increased over those in the application, DWP would be regressing rather than progressing.

Edison presented an exhibit proposing clearances identical to those contained in the application.

The superintendent of construction and repair of the electrolier lighting system of the city of Los Angeles testified that he could not recall any accident involving its personnel working in close proximity to overhead HV lines during his 32 years of experience. It has been its practice for many years to observe a four-foot clearance when repairing or maintaining street lights, and 10 feet from energized lines during installation of standards. It coordinates safe working distances with the DWP. The witness knows of no basis that would justify a different standard for underground as compared to overhead-fed street lights. Further, the witness recommends that the proposal in the original application be adopted.

Caltrans' electrical superintendent in District 7, with 33 years of experience in electrical work including five years in high voltage distribution, stated that he had a problem with the proposal because he understands it is to reduce clearances from six feet to four feet. He states it has very few qualified linemen

and is therefore operating at a 10-foot clearance. He believes that underground-fed distances should be greater than overhead-fed because of lack of training of personnel working on underground-fed lights.

The electrical maintenance supervisor of street lighting and traffic signals for the city of San Diego, with 18 years experience as an electrician, made a statement that the rules proposed in the application could prevent the city from maintaining plant because of Penal Code Sec. 385B and 8 Cal. Adm. Code 2946 which require six-foot and 10-foot clearances, respectively. He testified as supporting the modification offered by PG&E. He objects to the original application because it has some semi-skilled people not qualified as linemen, and he sees a problem with such persons coming within the four-foot area. The city has a training program for its employees. The city also contracts out some of the work on street light poles. The witness sees a difference between underground and overhead-fed street light standards because overhead primary lines must be close to overhead-fed but not to underground-fed street lights. He does not recall any electrical accidents related to street lights during the period he has worked for the city.

The IBEW 11 witness with 34 years experience in electrical work is in favor of the modification and opposed to the application. He favors a six-foot clearance for construction because members of his local "...don't play with the high voltage or anything like that." The witness would like 10 feet but will accept six feet. He states his members observe a 10-foot clearance during installation. In construction he does not see any difference between underground and overhead-fed lights.

A DOSH safety engineer with 33 years of electrical work testified that the training requirements for a qualified electrical worker to work on voltages above 600 volts were, for example, a minimum of two years with a utility. He further said that a

six-foot clearance is safer than four feet. The witness was not aware of any accident resulting in injury, involving a contact with overhead conductors while a workman was maintaining street lights, during his six years with DOSH.

A staff engineer with DOSH for six years testified that he reviews all accident reports that the division investigates. He testified that utilities are exempt from all of DOSH's High Voltage Electrical Safety Orders (HVESO) except for Article 85, Work Procedures-Operating Procedures, and Article 87, Power Transmission and Distribution, (a copy of the Federal Occupational Safety and Health Administration Standard Subpart V) dealing with the erection and construction of overhead high voltage conductors. Further, he said that utilities and some others are exempt from the basic 10-foot clearance in HVESO 2946 (Part of Article 86). HVESO 2949 exempts work on HV lines by qualified electrical workers and work in proximity to HV lines by qualified persons using approved equipment and work procedures.

A qualified electrical worker requires a minimum of two years experience on HV lines. The witness states that a qualified person is less experienced and less trained than a qualified electrical worker. Further, qualified persons must work under a DOSH-approved safety training program and have tools and methods which prevent persons from having accidental contact with HV lines.

The witness considered six feet safer than four feet because a person can reach four feet but cannot reach six feet as easily. He thinks distance is more important than training. He sees no difference in clearance between overhead-fed and underground-fed systems. Further, he does not argue that G.O. 95 covers overhead-fed systems. The witness agreed that overhead structures governed by the rules for overhead line construction of the Commission are exempt from Penal Code Section 385. The witness did not know of any contact with HV lines by employees maintaining street lights.

A staff engineer, who enforces the rules of G.O. 95, testified that there has been no injury or death to personnel performing street light pole or standard maintenance in the proximity of power lines in over 1,000 electric line contact accident reports he has reviewed over a period of years. The staff engineer testified that Rule 38, Table 2, in G.O. 95 sets forth the standard for distance that an overhead-fed street light standard must be kept from an overhead power line. Further, he does not know any reason for having a different distance standard for underground-fed as opposed to overhead-fed street lights in relation to overhead lines.

Minimum clearances of nonclimbable overhead-fed street lights and traffic signals from overhead electric and communications lines are included in G.O. 95. However, G.O. 95 does not include clearances for such underground-fed units. The proposed underground-fed standards are similar to those now effective for overhead-fed units and will fill a gap in the regulation of overhead electric line construction.

There have been no accidents involving personnel maintaining street lights and traffic signals in close proximity to overhead electric lines known to any of the witnesses during their extensive experience. Training and experience are important factors that promote public safety. Clearances are not more important than training.

There is no justification for a stricter underground-fed standard. Further, uniformity of standards should promote public safety.

The proposed rule changes are reasonable and should be adopted. Clearance requirements greater than those adopted would increase costs and impact the environment without offsetting benefits to public safety.

Findings of Fact

1. Minimum clearances of underground-fed nonclimbable street light and traffic signal units from overhead electric and communication lines are not governed in G.O. 95.
2. Minimum clearances of nonclimbable overhead-fed street light and traffic signal units from overhead electric and communication lines are regulated in G.O. 95 (Rule 38, Table 2).
3. The minimum clearances contained in the application for underground-fed nonclimbable street light and traffic signal units are similar to those regulated in G.O. 95 for overhead-fed systems.
4. Establishing standards for underground-fed nonclimbable units will fill a gap in the regulation of overhead electric line construction and should result in increased safety for qualified workmen and promote public safety.
5. The controversial part of the application relates to the minimum clearance from supply conductors, 750 to 7,500 volts, wherein a four-foot clearance is proposed to be established.
6. PG&E's modification at hearing proposed a six-foot minimum clearance, except that existing clearances of not less than four feet for voltages below 7,500 volts, shall be maintained.
7. PG&E's modification was offered as a compromise to DOSH, without amending the application and without the concurrence of other line operators, who had concurred in the application.
8. The four-foot clearance has been the historic standard in the State on systems other than PG&E which generally uses six feet.
9. No accidents involving personnel maintaining street light and traffic signal units in close proximity to overhead electric lines have been reported.
10. Training is a factor that promotes public safety.

11. There is no justification in having a stricter standard for underground-fed units than for overhead-fed units.

12. Uniformity of standards for overhead-fed and underground-fed street light and traffic signal units clearances should result in increased safety for qualified workmen and promote public safety.

13. The standard of minimum clearances and rule changes proposed in the application will establish reasonable rules for facilities that are presently not regulated in G.O. 95.

14. Clearance requirements greater than those adopted would increase costs and impact the environment without offsetting benefits to public safety.

15. Pursuant to Government Code Sections 11380, 11423(b), and 11445(b), the Executive Director of the Commission transmitted on November 27, 1979 five copies of the order amending G.O. 95 to the Speaker of the Assembly and five copies to the Chairman of the Senate Committee on Rules. No comments or objections to the adoption of the revised General Order have been received.

Conclusion of Law

We conclude that G.O. 95 should be amended to provide a standard of clearances from nonclimbable street light and traffic signal units as set forth in the following order.


O R D E R


IT IS ORDERED that:

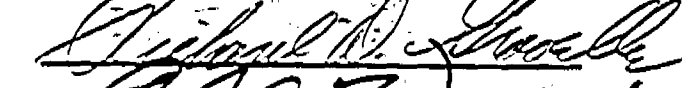
1. The Commission's General Order No. 95, Rules for Overhead Electric Line Construction, is hereby amended to read as set forth in Appendix B attached to this order.
2. The Executive Director shall cause a copy of this decision to be served upon each electric and telephone utility operating within the State of California and the State Division of Occupational Safety and Health.


The effective date of this order shall be thirty days after the date hereof.

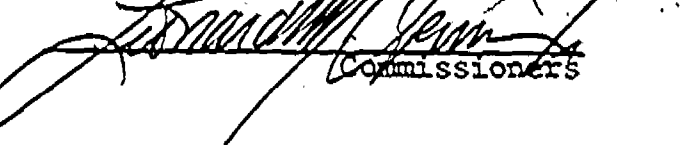
Dated JAN. 8 - 1988, at San Francisco, California.



President








Commissioners

APPENDIX A

LIST OF APPEARANCES

Applicant: Malcolm H. Furbush, Robert Ohlbach, and Kermit R. Kubitz by Kermit R. Kubitz, Attorney at Law, for Pacific Gas and Electric Company.

Interested Parties: W. H. Jones and Daniel H. McEntire, for Sacramento Municipal Utility District; Harold D. Adelman and Howard L. Collins, Attorneys at Law, for Southern California Edison Company; Genaro R. Sornoso, and David L. Nye, Attorney at Law, for Los Angeles Department of Water & Power; Paul M. Jurkoic, Attorney at Law, for San Diego Gas & Electric Company; George A. Eslinger, for City of Los Angeles Department of Public Works, Bureau of Street Lighting; Don F. Sokol, for International Brotherhood of Electrical Workers Local #11 - Los Angeles; Michael D. Mason, John W. Hawkes, Attorneys at Law, and Pamela White McCullum, for Division of Occupational Safety and Health; Herbert H. Chew, for Caltrans District 04; Ernest M. Shaffer, for the City of San Diego; Michael Waldorf, Attorney at Law, for the City of Los Angeles; and James E. Hicks, for Traffic Signal Lab, California Department of Transportation.

Commission Staff: Elmer Sjostrom, Attorney at Law, and V. A. Bevc.

APPENDIX B
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REVISIONS TO GENERAL ORDER NO. 95

1. Rule 22.0-D Page 28
(Modification)

Nonclimbable pole means a nonwood pole of smooth exterior surface (not latticed) that is not equipped with pole steps or other provisions for climbing, and upon which work is performed only from aerial lifts.

2. Rule 32.3 Page 38
(Addition)

Last paragraph, Line 3; add to the end of sentence:
. . . and the provisions of Table 1, Case 10.

3. Rule 37 Page 42
(Modification)

Second paragraph, Line 4; modify to read:

The clearance specified in Table 1, Cases 2 to 10,
inclusive - - -

4. Rule 54.4-D(3) Page 108
(Modification)

First paragraph, Line 5; add to end of sentence:

. . . or where the provisions of Table 1, Case 10,
Columns D, E, F, and G can be applied.

5. Rule 54.8-D(1) Page 130
(New Rule)

From Nonclimbable Street Lighting or Traffic Signal Poles
or Standards:

Supply service drops of 0 - 750 volts passing unattached shall clear nonclimbable street lighting and traffic signal poles or standards, including mastarms, brackets and lighting fixtures; a radial distance of 12 inches as specified in Table 1, Case 10, Column 3; except when the conductors are mechanically protected from abrasion by materials specified in Rule 22.2. Such mechanical protection shall extend 15 inches in each direction along the cable from center line of pole, standard, attaching mastarms, or fixtures; whether passing above, below or alongside. The conductors shall be installed in such a manner so as not to interfere with light distribution from lighting fixtures and shall not hamper workmen when changing lamps or maintaining equipment.

(cont.)

6. Rule 54.10-B(1) Page 135
(Modification)

Add new line to end of paragraph:

Modifications of these basic clearances for conductors passing unattached are specified in Rule 54.10-B(6).

7. Rule 54.10-B(6) Page 135
(New Rule)

From Nonclimbable Street Lighting or Traffic Signal Poles or Standards:

Multi-conductor cables passing unattached shall clear non-climbable street lighting and traffic signal poles, or standards, including mastarms, brackets, and lighting fixtures; a radial distance of 15 inches as specified in Table 1, Case 10, Column D; except when the conductors are mechanically protected from abrasion by materials specified in Rule 22.2. Such mechanical protection shall extend 15 inches in each direction along the cable from center line of pole, standard, attaching mastarms, or fixture; whether passing above, below or alongside. The conductors shall be installed in such a manner so as not to interfere with light distribution from lighting fixtures and shall not hamper workmen changing lamps or maintaining equipment.

8. Rule 57.4-H Page 153
(New Rule)

From Nonclimbable Street Lighting or Traffic Signal Poles or Standards:

Messengers and metal-sheathed cables passing unattached which are bonded and grounded as specified in Rule 57.8, shall clear nonclimbable street lighting and traffic signal poles or standards, including mastarms, brackets, and lighting fixtures; a radial distance of 15 inches as specified in Table 1, Case 10, Column D; except when the conductors are mechanically protected from abrasion by materials specified in Rule 22.2. Such mechanical protection shall extend 15 inches in each direction along the cable from centerline of pole, standard, attaching mastarms or fixtures; whether passing above, below or alongside. The conductors shall be installed in such a manner so as not to interfere with light distribution from lighting fixtures and shall not hamper workmen changing lamps or maintaining equipment.

(cont.)

9. Rule 74.4-D Page 186
(New Rule)

D. From Poles
(Third paragraph)

Class T conductors of not more than 750 volts passing unattached shall clear nonclimbable street lighting and traffic signal poles, or standards, including mastarms, brackets, and lighting fixtures; a radial distance of 15 inches as specified in Table 1, Case 10, Column C; except when the conductors are mechanically protected from abrasion by materials specified in Rule 22.2. Such mechanical protection shall extend 15 inches in each direction along the cable from centerline of pole, standard, attaching mastarms, or fixtures; whether passing above, below or alongside. The conductors shall be installed in such a manner so as not to interfere with light distribution from lighting fixtures and shall not hamper workmen changing lamps or maintaining equipment.

10. Rule 84.4-D(4) Page 210
(Deletion)

Resolution E-999 effective October 7, 1958, is hereby rescinded and replaced by new Rule 84.4-D(4)(a).

11. Rule 84.4-D(4)(a) Page 210
(New Rule)

From Nonclimbable Street Lighting or Traffic Signal Poles
or Standards:

Communications cables passing unattached to nonclimbable street lighting and traffic signal poles or standards including mastarms, brackets and lighting fixtures, shall clear a radial distance of 12 inches as specified in Table 1, Case 10, Column B; except when the cable sheath and messenger are suitably insulated for the highest voltage involved and mechanically protected from abrasion where necessary. Such mechanical protection shall extend 15 inches in each direction along the cable from centerline of pole, standard, attaching mastarms or fixtures; whether passing above, below or alongside. The cable shall be installed in such a manner so as not to interfere with light distribution from lighting fixtures and shall not hamper workmen changing lamps or maintaining equipment.

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(cont.)

12. Rule 84.8-E (1) Page 222
(New Rule)

From Nonclimbable Street Lighting or Traffic Signal Poles
or Standards:

Communications service drops passing unattached shall clear nonclimbable street lighting and traffic signal poles or standards, including mastarms, brackets, and lighting fixtures; a radial distance of 12 inches as specified in Table 1, Case 10, Column B; except when the service drops are suitably insulated for the voltage involved and mechanically protected from abrasion where necessary. Such mechanical protection shall extend 15 inches in each direction along the cable from centerline of pole, standard, attaching mastarms or fixtures; whether passing above, below or alongside. The conductors shall be installed in such a manner so as not to interfere with light distribution from lighting fixtures and shall not hamper workmen changing lamps or maintaining equipment.

13. Rule 87.4-D(5) Page 232
(New Rule)

Conductors passing Unattached From Nonclimbable Street
Lighting and Traffic Signal Poles or Standards (see Rule
84.4-D(4)(a)).

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fc/ec

| Case No. | Nature of Clearance | Wire or Conductor Concerned | | | | | | |
|----------|---|---|--|--|--|---|--|--|
| | | A Span wires (other than trolley span wires), overhead guys & messengers | B Communication conductors (including open wire, cables & service drops), supply service drops of 0-750 volts | C Trolley contact, feeder and span wires 0-5000 volts | D Supply conductors of 0-750 volts, & supply cables treated as in Rule 57.0 | E Supply conductors and supply cables 750-22,500 volts | F Supply conductors and supply cables 22,5-300 kv | G Supply conductors and supply cables 300-550 kv (mm) |
| 10 | Radial centerline clearance of conductor or cable (unattached) from non-climbable street lighting or traffic signal poles or standards, including mastarms, brackets and lighting fixtures. | - | 1 ft. (oo) (u) (rr) (ss) | 15 in. (bb) (cc) | 3 ft. (oo) | 6 ft. (pp) | 10 ft. (qq) | 10 ft. (ll) |

References to Rules Modifying Minimum Clearances in Table 1

| | Rule | Page |
|--|----------|------|
| (u) Communications cables passing nonclimbable streetlight poles, etc. | 04.4-D4a | 210 |
| (bb) May be reduced for class T conductors of not more than 750 volts. | 07.4-D5 | 232 |
| (cc) Not applicable to trolley span wires. | 74.4-D | 106 |
| (ll) Shall be increased by 0.04 foot per kv in excess of 300 kv. | 74.4-E | 109 |
| (oo) May be reduced for grounded or multi-conductor cables. | | |
| 1. Grounded cables | 57.4-II | 153 |
| 2. Multi-conductor cables. | 54.10-06 | 135 |
| (pp) May be reduced to 4 feet for voltages below 7,500 volts. | 54.4-D3 | 100 |
| (qq) May be reduced to 6 feet for voltages below 75 kv. | | |
| (rr) May be reduced for supply service drops. | 54.0-D1 | 130 |
| (ss) May be reduced to communications service drops. | 04.4-E1 | 222 |