

ORIGINAL

Decision No. 72984

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 amending)
and modifying those provisions of)
General Order No. 95 herein)
mentioned.)
(Electric))

Application No. 49527
(Filed July 7, 1967)

OPINION AND ORDER

Pacific Gas and Electric Company (Applicant) requests an order amending and modifying certain provisions of General Order No. 95.

The Commission has from time to time granted various utility companies deviations from specific provisions of the general order.

Exhibit A attached to the application proposes changes in the general order which have already been authorized by the Commission as deviations from the order for one or more utilities. As stated in the application, the reasons for which the deviations were originally granted apply equally to all companies. Amending the general order as proposed will (1) promote uniformity and safety in overhead line construction practices, (2) permit all companies to use the practices some are now permitted to use, (3) simplify the general order, and (4) eliminate duplicate requests for deviations from the general order.

The Commission finds that numerous deviations from the general order granted heretofore should be contained in the order to provide uniformity in the provisions applicable to all utilities

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thereby simplifying administration and compliance. The application should be granted. A public hearing is not necessary.

IT IS ORDERED that this Commission's General Order No. 95 "Rules for Overhead Electric Line Construction" is hereby modified to the extent set forth in Appendix A attached to this order, said modifications to become effective on the effective date of this order.

IT IS FURTHER ORDERED that the Secretary shall cause a copy of this order and its Appendix to be served upon each electric and telephone utility subject to the jurisdiction of this Commission and, further, to cause a suitable number of copies to be made available for distribution to such other utilities and the general public as may request the same.

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

Dated at San Francisco, California, this
29th day of AUGUST, 1967.

[Signature]
President

[Signature]

[Signature]

[Signature]

[Signature]
Commissioners

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The rules of General Order No. 95 are modified, amended or added to as set forth below:

1. Rule 12.3

This rule is amended by adding the following paragraph:

"Lines or portions of lines constructed or reconstructed before July 1, 1942, may conform to and be maintained in accordance with the requirements of this order, instead of the requirements in effect at the time of such construction or reconstruction."

2. Rule 22.2-B

This rule is amended by adding the following paragraph:

"Douglas Fir moulding ½-inch in thickness shall be considered as meeting the requirements of this rule for suitable protection of ground and bond wires."

3. Rule 37

This rule is amended as follows:

Add footnote (o) to Columns D and E of Table 1

Case No.	D			E		
	15 in.	(o)	(aa) (dd)	15 or 18 in.	(o) (dd)	(ee) (jj)
8						

Revise footnote (o) to read:

	Rule	Page
"(o) . . .		
1) Transformer Leads	58.3-B	147
2) Regulator or capacitor Leads	58.4-B	153"

4. Rule 38

This rule is amended as follows:

Revise Table 2, Case 19, Column C to read: "3 (bb)"

Revise footnote (bb) to read: "(bb) May be reduced for guys and communication conductors supported on the same pole:

	Rule	Page
"1. Supply	56.4-C	132
2. Communication	86.4-C	219"

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5. Rule 49.4-C(7)(a)

This rule is amended as follows:

Add to last sentence:

"... except for multiple conductor service drop cable with a bare neutral conductor provided that the attachment of such cable at the pole and building ends shall be by means of an insulator."

Delete:

"NOTE. -- Resolution No. 756 effective May 29, 1951 authorized the use of multiple conductor service drop cable with a bare neutral conductor for service drops of 0-750 volts provided that the attachment of such cable at the pole and building ends shall be by means of an insulator."

6. Rule 52.7-D

This rule is amended to read as follows:

"D. Separation from metal pins and dead-end hardware.

"Through bolts, metal signs, conduits, metal braces, mounting bolts and hardware for cutouts or other apparatus, metal street light fixtures, metal pole top extensions and metal arm extensions supported by or attached to the surface of wood poles and wood crossarms shall have a clearance of not less than $1\frac{1}{2}$ inches from metal pins and dead-end hardware. Bolts and hardware of line equipment and bolts and hardware of insulators, all of which are associated with the same circuit and on the same crossarm, may be metallicly interconnected provided a positive electric contact is made.

"This rule need not be applied to through bolts and dead-end hardware of a single circuit of more than 7,500 volts constructed at the top of a pole in any configuration. On a related buckarm portions of through bolts and dead-end hardware in the climbing space which do not conform with the rule must be covered with a suitable nonconducting material having an insulation value equal to the insulation value of the insulators on the associated circuit.

"Guys and space bolts shall have a clearance of not less than $1\frac{1}{2}$ inches from metal pins and dead-end hardware unless contact is intended, in which case a positive electrical contact shall be made. Any guy contacting or connected to a metal pin or part of dead-end hardware shall not be placed in the climbing space. No part of any guy may be nearer than $1\frac{1}{2}$ inches to any through bolt which is metallicly interconnected to dead-end hardware."

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7. Rule 53.4-A

This rule is amended as set forth below:

The first sentence of Rule 53.4-A(2) is amended to read:

"BELOW TOP OF POLE: Bond wires of any circuit below the top circuit position of the pole shall be covered by a suitable protective covering (see Rule 22.2) except where such bond wires are installed on the underside of crossarms or where bonds (wires or straps) are installed vertically between crossarms at different levels or between and approximately perpendicular to the individual arms of a double crossarm at a distance of not less than 30 inches from center line of pole."

The first sentence of Rule 53.4-A(3) is amended to read:

"Where conductors of more than one circuit are at the same level, bond wires shall be covered by a suitable protective covering (see Rule 22.2) except where such bond wires are installed on the under side of crossarms or where bonds (wire or straps) are installed vertically between crossarms or between and approximately perpendicular to the individual arms of a double crossarm at a distance of not less than 30 inches from center line of pole."

Rule 53.4-A(3)(a) is amended to read:

"(a) SEPARATELY BONDED CIRCUITS: Where conductors of not more than two circuits are at the same level and separately bonded, such bond wires shall be separated on crossarm and on surface of pole by not less than 6 inches. Neither circuit shall be worked on while de-energized unless the de-energized conductors are shorted and securely grounded and the bond wire of the de-energized circuit on which work is being performed is connected to the ground conductors on the pole where work is done.

"Where both circuits are de-energized, shorted and all conductors securely grounded, then bond wires of either circuit need not be connected to the de-energized and grounded conductors, provided that before work commences the bond wires are tested for and drained of any potential difference between themselves and the de-energized and securely grounded conductors."

8. Rule 54.4-D(7)(b)

This rule is amended by the addition of the following:

"The clearance between the center line of the pole and the energized portion of the middle conductor of a single three-wire circuit of more than 7,500 volts dead-ended in horizontal configuration need not be

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8. Rule 54.4-D(7)(b) (Continued)

more than the clearance specified in Table 1, Case 8, Column E, provided: there is no circuit on the pole above the circuit so constructed; no transformer or other apparatus shall be connected to such a circuit; all portions of the middle line conductor so dead-ended, and jumpers connected thereto, are at least 18 inches radially from all points on the boundaries of the climbing space at the level of the conductor concerned; none of the exceptions of Rule 38, Table 2, may be used for circuits so constructed."

9. Rule 54.6-F

This rule is amended by revising the second paragraph to read:

"At the upper end of vertical runs or risers on wood poles, any terminal or terminal fitting within distances from center line of pole less than as specified in Table 1, Case 8, shall be protected by a crossarm or wood block placed above it at a distance not exceeding 4 inches. The wood block may be omitted if the terminal or terminal fitting at the upper end of a vertical run or riser of 750 volts or less is on the same side of a pole as, and not more than 1 foot below a transformer or not more than 6 inches and not less than 3 inches below the lowest conductor of a rack, and such terminal fittings shall be approximately centered in the vertical plane under the rack, or where the conductors of a vertical run or riser are enclosed in plastic pipe (see Rule 22.2-C) and do not terminate in a grounded terminal or terminal fittings."

10. Rule 54.7-A

This rule is amended as set forth below:

Add to Rule 54.7-A(2):

"The climbing space required by this rule may be shifted laterally not more than 5 inches under the condition that (a) the mid-point of the side of the climbing space coinciding with the center line of the pole shall be not more than 5 inches from the center line of the pole, and (b) that full climbing space dimensions shall be maintained, but without the use of the 2% reduction where the shift is more than 2 inches."

Add to Rule 54.7-A(3)(b):

"Where a single circuit of more than 7,500 volts is in horizontal configuration at the top of the pole, climbing space has to be provided only up to and not through the top level and the No. 1 pin position need not be left vacant."

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10. Rule 54.7-A (Continued)

Following the third paragraph of Rule 54.7-A(4) add the following:

"Space bolts used for the attachment of dead-end hardware of a circuit of any voltage located below a circuit at the top of the pole may project into the climbing space provided they are protected with a suitable insulating cover, having an insulating value equal to the insulators on the associated circuit, and further that the area of the climbing space on a horizontal plane is not reduced by more than 10%."

11. Rule 54.8-B(4)(b)

This rule is amended to add the following sentence to the last paragraph:

"Service drops above a horizontal plane through the top extremity of an opening should maintain the maximum practical radial clearance, which in no event shall be less than 1 foot."

12. Rule 54.9-E(1)

This rule is amended to read as follows after the first paragraph:

"A wood guard arm not less than 48 inches long shall be installed directly above and approximately parallel to the top line conductor of such a rack group; or where the conductor of a rack group dead-ends, the guard arm may be placed above the rack at a right angle to the line conductor, provided that no service drop conductor attached to a rack so guarded makes a horizontal angle greater than 90 degrees with the vertical plane of the line conductors;

"conductors in such a rack group, which are so guarded shall not be attached to more than one side (there being four sides) of any pole; and

"no service drop conductors supported on a rack with the guard arm installed directly above and approximately parallel to the top line conductor of a rack group shall pass between the surface of pole and the vertical plane of the line conductors. Any service drop conductors attached to and supported by the line conductors shall have a clearance of not less than 15 inches from surface of pole (see App. G. Fig. 43).

"Each guard arm and its pole attachments are required by Rule 46 to withstand a vertical load of 200 pounds at either end."

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13. Rule 56.4-C(4)(b)

This rule is amended by adding the following:

"The clearance between anchor guys and communication conductors and/or cable attached directly to surface of pole, may be less than 3 inches as specified in Table 2, Case 19, Column C provided: the guy is not a 'guy in proximity' or all parts of the guy are not less than 6 feet below 0-750-volt supply conductors supported on same pole and a wood guard is placed on cable; also a guy attached to a pole which supports supply conductors at a distance of not less than 6 feet above communication messenger and/or cable shall (1) have an insulator placed in the guy at a distance of not less than 6 feet horizontally from the pole, or (2) have an insulator placed not less than 3 inches nor more than 6 inches above the messenger and/or cable, and a suitable wood guard placed on the messenger or cable."

14. Rule 58.3-B

This rule is amended as set forth below:

Add to Rule 58.3-B(5):

"The minimum clearance of $1\frac{1}{2}$ inches need not apply to through bolts in metallic contact with transformer cases or metal parts thereof nor to through bolts supporting heel arms, provided the portion of such through bolts extending into the climbing space is covered with a suitable protective covering, and provided that such coverings are made of seasoned Douglas Fir and are installed in a workmanlike manner, or, in the alternative, with a suitable nonconducting shield or covering having the insulating efficiency and mechanical strength of impregnated fiber 5/16 inches thick."

Add after first paragraph of Rule 58.3-B(7):

"The clearance specified in Table 1, Case 8, Columns D and E need not apply to apparatus installed on poles consisting of single pole structures or on crossarms attached thereto provided that terminals and lead wires are not less than 6 inches from surface of pole instead of 3 inches specified in Table 1, Case 9, Columns D and E, and have as much as possible of the clearances specified in Table 1, Case 8, Columns D and E. No reduction of the clearances specified in Table 1, Case 8, Columns D and E, is permitted for inter-connection wiring of polyphase installations nor to any lead wire passing between pole and apparatus."

15. Rule 58.4-B(6)

This rule is amended as set forth below:

Add the following after the second sentence:

"Vertical and lateral leads between cutouts or fuse holders and regulator bushings, or leads directly between line

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15. Rule 58.4-B(6) (Continued)

conductors and such bushings may have clearances less than those specified in Table 1, Case 8, Columns E and F, but not less than 6 inches from the surface of the pole; such leads shall not be over 12 inches in length."

Add following the first paragraph:

"The clearance specified in Table 1, Case 8, Columns D and E, need not apply to apparatus installed on poles consisting of single-pole structures or on crossarms attached thereto provided that terminals and lead wires are not less than 6 inches from surface of pole instead of 3 inches specified in Table 1, Case 9, Columns D and E, and have as much as possible of the clearances specified in Table 1, Case 8, Columns D and E. No reduction of the clearances specified in Table 1, Case 8, Columns D and E is permitted for interconnection wiring of polyphase installations nor to any lead wire passing between pole and apparatus."

16. Rule 58.5-D

This rule is revised to read as follows:

"Switches and cutouts shall be so located that, when in either the open or closed position, all energized parts thereof are not less than 15 or 18 inches from the center line of pole as required by Table 1, Case 8, and no part of such equipment shall be in the climbing space. Such apparatus is permitted to be wholly or in part within the working space. The clearances of 15 or 18 inches need not apply to nonfusible poletop switches connected to circuit of 7,500 volts or more, provided the switches are installed substantially in the same vertical plane as the conductors to which they are attached, and no climbing space has to be provided through and above the level of such switches."

17. Rule 86.4-C(4)(b)

This rule is amended to add the following:

"The clearance between anchor guys and communication conductors and/or cable attached directly to surface of pole, may be less than 3 inches as specified in Table 2, Case 19, Column D, provided: The guy is not a 'guy in proximity' or all parts of the guy are not less than 6 feet below 0-750-volt supply conductors supported on same pole and a wood guard is placed on cable; also, a guy attached to a pole which supports supply conductors at a distance of not less than 6 feet above communication messenger and/or cable shall (1) have an insulator placed in the guy at a distance of not less than 6 feet horizontally from the pole, or (2) have an insulator placed not less than 3 inches nor more than 6 inches above the messenger and/or cable, and a suitable wood guard placed on the messenger or cable."

18. Rule 92.2

The first sentence of this rule is revised to read as follows:

"Police and fire alarm circuits and governmental agency control circuits which are carried on crossarms"