

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Copy for:

RESOLUTION NO. E-953

Orig. and Copy
to Secretary

UTILITIES DIVISION

SECTION: Electric

DATE: April 9, 1957

R E S O L U T I O N

- ____ Director
- Numerical File
- ____ Alphabetical File
- ____ Accounting Officer

SUBJECT: Permission to Deviate from Rules of General Order No. 95 with Respect to Low-Voltage (0-750) Multiconductor Cable with a Bare Neutral

WHEREAS: CALIFORNIA ELECTRIC POWER COMPANY has, by letters dated October 15, 1953 and March 19, 1957, requested permission to use multiconductor cable with a bare neutral for low-voltage distribution, and

WHEREAS: General Order No. 95 does not provide for such use of cable, and

WHEREAS: It appears that safety to workmen and the public will not be lessened by use of such multiconductor cable and that the requested permission should be granted, and good cause appearing,

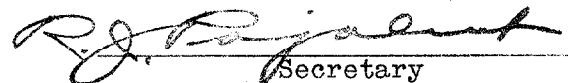
IT IS ORDERED that under the provisions set forth in Appendix A attached hereto, permission be and hereby is granted to California Electric Power Company for the use of multiconductor cable with a bare neutral.

IT IS HEREBY FURTHER ORDERED that said Appendix A be marked to show that it was authorized under Resolution No. E-953 of the Public Utilities Commission of the State of California.

The Secretary is directed to cause appropriate notice to be given said utility of the granting of this permission.

I hereby certify that the foregoing Resolution was duly introduced, passed and adopted at a regular session of the Public Utilities Commission of the State of California, held on the 9th day of April, 1957, the following Commissioners voting favorably thereon:

- PETER E. MITCHELL
- RAY E. UNTEREINER
- MATTHEW J. DOOLEY
- REX HARDY
- C. LYN FOX


Secretary

UTILITY UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

REGISTRATION NO. 1000000000

UTILITY UTILITIES COMMISSION
SECTION: 1000000000
DATE: 10/10/2000

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Orig. and Copy
to Secretary

Director
Assistant
Administrative
Accounting Officer

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I hereby certify that the foregoing is a true and correct copy of the original as the same appears in the files of the Commission of the State of California, and that the same is a true and correct copy of the original as the same appears in the files of the Commission of the State of California.

Secretary

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APPENDIX A

LOW VOLTAGE MULTICONDUCTOR CABLE WITH BARE NEUTRAL, 0-750 VOLTS

The following rules shall apply where multiconductor cable with bare neutral for circuits of not more than 750 volts is attached to poles at clearances less than those specified in Table 1, Column D, Cases 8 and 9, and are supplemental to the rules of General Order No. 95, which shall be followed in all respects except as modified herein.

The term messenger, when used in the following rules, in addition to the definition set forth in Rule 21.9 of G.O. No. 95, also includes the bare neutral conductor when used as a principal supporting member of the cable.

I. Material and Strength

A. MESSENGER:

The conditions specified in Rule 57.3 of G.O. No. 95 shall apply except that for cables not maintained from a cable chair, the addition of 200 pounds vertical load specified in Rule 49.7B and 49.7C may be reduced to 50 pounds to allow for the load imposed by workmen on ladders.

B. INSULATION:

The phase conductors shall be covered with an insulation suitable for the voltage involved and shall conform with the insulated Power Cable Engineers' Association's current "Specification for Neutral Supported Secondary and Service Drop Cable."

C. JUMPERS:

Phase conductors shall be insulated as per Rule I-B above.

II. Clearances and Climbing Space

A. POLE ARRANGEMENT AND CLEARANCES:

(1) Between Conductors in Cables: The conditions specified in Rule 57.4 shall apply and, in addition, no specified clearance is required between the insulated phase conductors and the bare neutral of such 0-750 volt multiconductor cables.

(2) Clearance from Poles: 0-750 volt multiconductor cable with bare neutral shall be supported on an insulator and shall have a clearance of not less than $2\frac{1}{2}$ inches from the surface of the pole.

- (3) Vertical Clearance: When attached to poles or wood crossarms at less than 15 inches from center line of pole, such multiconductor cable shall be not less than 4 feet vertically above or 6 feet vertically below the unprotected supply conductor except that where a crossarm (or arms) is placed above a cable, the clearance of 6 feet may be reduced to not less than 4 feet below unprotected conductors of 0-750 volts.
- (4) Conductor Arrangement: In tangent construction, cables shall not be attached to more than one side of a pole (there being four sides). Climbing space in conjunction with these attachments shall be maintained as specified in Rule II-B.
- (5) At Cable Terminations: The clearances required in Rule II-A(3) between a cable and unprotected conductors shall not be held to apply between a cable (and its grounded messenger) and unprotected conductors of the same circuit on poles where unprotected conductors enter (or leave) a cable. On such poles no grounded messenger shall be less than 15 inches from surface of the pole.
- (6) Conductor Spacing: A vertical separation between individual phase conductors when supported in individual clevises or a multiconductor rack shall be not less than 6 inches.
- (7) Dead-end Construction: On poles with the messenger dead-ended in more than one direction, the grounded messenger or insulated phase conductors of the cable shall not be attached to more than two sides of the pole and shall be not less than $2\frac{1}{2}$ inches from the surface of the pole. Service drops shall not be supported within 15 inches of the surface of the pole. The climbing space shall be as in Rule II-B(2), following.

B. CLIMBING SPACE IN MULTICONDUCTOR CABLE CONSTRUCTION:

A climbing space shall be maintained through the level of conductors supported in cable construction and for a vertical distance of not less than 4 feet above and below the cable. The position of the climbing space through the levels of conductors in cable construction shall be related to climbing space to conductor levels above and below the cable in accordance with requirements of Rule 54.7-A of G.O. No. 95.

- (1) Climbing Space in Tangent Construction on the Surface of the Pole: The dimensions of the climbing space

shall be 30 inches square, and shall be provided on one side of the pole with the extremities of such width equidistance to the center line of pole.

- (2) Climbing Space in Corner Dead-end Construction: On corner dead-end poles, a 30-inch square climbing space shall be provided in one quadrant or on one side of the pole.
- (3) Suitably protected vertical conductors attached to the surface of poles, and guys, are allowed in climbing spaces provided that not more than one guy or one vertical riser, run or ground wire are installed in any 4-foot vertical section of climbing space. The terminals or terminal fittings of risers or runs shall not be installed within climbing spaces.

III. Service Drops

Phase conductors of service drops taken from multiconductor cables shall have insulation equivalent to that specified in Rule I-B. Where service drops are supported on ACSR or aluminum messenger, the messenger shall be protected against abrasion. Services supported on the messenger shall not be attached less than 15 inches from the center line of pole.

IV. Fastenings

The provision of Rule 57.5 of G.O. No. 95 shall apply except that for cables not maintained from a cable chair, in the addition of 200 pounds vertical load specified in Rule 49.7C of G.O. No. 95 may be reduced to 50 pounds to allow for the load imposed by workmen on ladders.

V. Extended Messenger

Extended messengers in 0-750 volt multiconductor cable construction may be less than one span in length, provided a sectionalizing insulator is placed 6 feet to 9 feet from the dead-end pole.

VI. Sags

The provisions of Rule 57.9 of G.O. No. 95 shall apply, except that the specified 200-pound additional vertical loading for a man and cable chair may be reduced to 50 pounds where the cable is not maintained from a cable chair.

