

Decision No. 81872, Application No. 54191 (Filed July 20, 1973)

In the Matter of the Application of PACIFIC GAS AND ELECTRIC COMPANY for an order amending General Order 95, " Rule for Overhead Electric Line Construction," to permit the use of plastic molding to encase risers from underground cables. (Electric)

### O P I N I O N

Pacific Gas and Electric Company seeks a change in existing General Order No. 95, Rules 22.2-D and 54.6-E to permit the use of U-shaped unplasticized Polyvinyl Chloride (PVC) moulding, installed with a PVC backing plate, to encase risers from underground cables. The changes requested by applicant are indicated in Appendix A attached hereto. The change to Rule 54.6-E would add the use of unplasticized PVC U-shaped molding to encase risers. The change to Rule 22.2-D would permit the use of the specified molding in heavy loading districts as defined by General Order No. 95, Rules 21.0 and 43.

On March 16, 1971, the Commission adopted Resolution No. E-1279 granting Pacific Gas and Electric Company and Southern California Edison Company authority to deviate from Rule 54.6-E for a period of two years to the extent that risers could be encased in rigid U-shaped PVC molding installed with the back-up plate. This molding was to be used in both light and heavy loading districts. Molding designated as Schedule 80 was used in nominal pipe sizes of 2 to 3 inches and Schedule 40 in nominal pipe sizes of 4-inch or larger. Pacific Gas and Electric Company's drawing number 021924, sheet 3, illustrates the way in which the molding has been installed. On March 6, 1973, by Resolution E-1356, the Commission extended the previous deviation until September 16, 1973, in order to allow time to prepare an application for a change in General Order No. 95. During the period January 1, 1972, through December 31, 1972, approximately 14,000 PVC U-shaped risers of various sizes were installed in the applicant's service territory. Applicant states that material and labor savings of approximately \$100,000 resulted from the use of this molding, cable damage was reduced below expected levels and the appearance of poles on which moldings were installed full length was noticeably improved.

Applicant states that during the 28 months of experience with the U-shaped PVC molding, only two car pole accidents occurred which required replacement of molding and in both cases, the poles and risers were severed at the ground line. Applicant knows of no other cases in which the molding had to be replaced because of vandalism, car pole contacts or other causes.

Applicant conducted a special survey of heavy loading districts which revealed no known cases of molding failure.

Applicant states that safety to workmen has been improved through the use of U-shaped molding because feeding or pulling in of underground cables could be done at the ground line rather than above the 8-foot level.

Applicant forwarded copies of its application to Southern California Edison Company, San Diego Gas & Electric Company and the IBEW Union Local 1245. By letters dated August 3 and August 22, applicant transmitted copies of letters from the above parties concurring with the use of this molding. Copies of the letters from applicant are marked exhibit 1 and 2 and are made a part of this record. Since it appears that the reliability of service and safety to the public and to those who construct, install, maintain, and operate applicant's electrical system will not be adversely affected, and will be enhanced, by the use of PVC U-shaped molding as specified in the proposed revised Rules 22.2 and 54.6E, the Commission finds that the application should be granted and that a public hearing is not necessary.

### O R D E R

IT IS ORDERED that the Commission's General Order No. 95, "Rules for Overhead Electric Line Construction," is hereby amended to the extent set forth in Appendix A, attached to this order.

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

The effective date of this order is the date hereof.

Dated at San Francisco, California, this 12<sup>th</sup> day of September, 1973.

## Appendix A

Rules 22.2-D and 54.6-E of General Order No. 95 are amended to read as indicated below.

Rule 22.2-D. RIGID U-SHAPED MOULDING made of unplasticized polyvinyl chloride having the properties and dimensions specified as Type II, High Impact Normal Chemical Resistance in United States Department of Commerce Commercial Standards No. CS 207-60. The plastic Moulding herein specified shall be installed only outside the climbing space on poles or structures.

Rule 54.6-E. RISERS, Paragraph 2.

Risers from underground cables may be encased in plastic pipes or in plastic U-shaped moulding, as provided in this rule, in lieu of the grounded iron or steel pipe required by this rule, provided that risers of circuits in excess of 750 volts shall have an effectively grounded metallic shield. Such plastic pipe shall be of material as specified in Rule 22.2-D, designated as Schedule 80 with a minimum nominal pipe size of 2 ½ inches, or Schedule 120 with a minimum nominal pipe size of 2 inches. Such plastic moulding shall be of material specified in Rule 22.2-D, designated as Schedule 80 in nominal pipe sizes of 2 through 3 inches, and Schedule 40 in nominal pipe sizes of 4 inches or larger, installed with a backup plate of polyvinyl chloride material.

Strikeout and Underline Section Added on July 26, 2002 by Raymond G Fugere.

**Original Version**

Rule 22.2-D

22.2-D RIGID U-SHAPED MOULDING made of unplasticized polyvinyl chloride having the properties and dimensions specified as Type II, High impact Normal Chemical Resistance in United States Department of Commerce Commercial Standards No. CS 207-60. The plastic moulding herein specified shall be installed only outside the climbing space on poles or structures within the light loading districts as defined in Rule 21.0-C and Rule 43.

**Strikeout and Underline Version**

Rule 22.2-D

22.2-D RIGID U-SHAPED MOULDING made of unplasticized polyvinyl chloride having the properties and dimensions specified as Type II, High impact Normal Chemical Resistance in United States Department of Commerce Commercial Standards No. CS 207-60. The plastic moulding herein specified shall be installed only outside the climbing space on poles or structures ~~within the light loading districts as defined in Rule 21.0-C and Rule 43.~~

**Final Version**

Rule 22.2-D

22.2-D RIGID U-SHAPED MOULDING made of unplasticized polyvinyl chloride having the properties and dimensions specified as Type II, High impact Normal Chemical Resistance in United States Department of Commerce Commercial Standards No. CS 207-60. The plastic moulding herein specified shall be installed only outside the climbing space on poles or structures.

**Original Version**  
Rule 54.6-D

54.6 Vertical and Lateral Conductors

D Vertical Runs

Conductors installed in the form of vertical runs on the surface of poles or not more than 18 inches from the center line of a pole shall be suitably insulated and covered throughout by a suitable protective covering. (See Rule 22.2 for the definition of suitable protective covering) The plastic pipe specified in Rule 22.2-C shall have a minimum wall thickness of 0.15 inches. This protective covering is not required over vertical runs in metal conduit attached to metal poles, towers or other structures provided pipe and structure are metallically connected and effectively grounded.

Conductors in the form of vertical runs more than 18 inches from the center line of any pole shall be suitably insulated and covered by a suitable protective covering or by securely supported impregnated fiber conduit without metal pipe. The suitable protective covering specified in Rule 22.2-C shall have a minimum wall thickness of 0.15 inches. Such runs shall be located outside of the climbing and working spaces and shall not pass between conductors of different ownership except between the pole pair and at a clearance therefrom of not less than 6 inches.

Vertical runs, where encased in grounded non-climbable metal poles, grounded metal conduit, sheath, or shield, shall be treated as risers.

Conductors installed in the form of vertical runs which extend within 8 feet of the ground shall be treated as risers. Runs which terminate in the top of enclosures which afford ample mechanical protection to the runs may extend within 8 feet of the ground but not less than 6 feet of the ground without being treated as risers.

The radial clearances between conductors, specified in Table 2, Cases 16 and 17, are not required between suitably insulated conductors in the same vertical run.

## Strikeout and Underline Version

### Rule 54.6-D

#### 54.6 Vertical and Lateral Conductors

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**Final Version**  
Rule 54.6-D

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