

Decision No. 39564

BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application
of Sierra Pacific Power Company
for authority to deviate from
"Heavy Loading" requirement of
General Order No. 95, in certain
areas.

Application No. 27743

ORIGINALO P I N I O N

The construction, operation, and maintenance of overhead electric supply and communication lines by utilities within the State of California are governed by the provisions of General Order No. 95, which order was adopted by the Commission on December 23, 1941 (Decision No. 34884, Case No. 4324) and became effective on July 1, 1942. The purpose of the rules in General Order No. 95 is to formulate uniform requirements for overhead electric lines, the application of which will insure adequate service to the utilities' customers and secure safety to persons engaged in the construction, maintenance, operation, or use of overhead electric lines and to the public in general.

Sierra Pacific Power Company requests authority to deviate from the requirements of Rule 43 of General Order No. 95, which rule in its several parts states the conditions of temperature and loading which shall be used for the purposes of determining the strength required of poles, towers, structures, and all parts thereof and in determining the strength and clearances of conductors. This Rule 43 uses an elevation of 3,000 feet above sea level as the dividing line between "light loading" and "heavy loading" conditions. Modification of said rule has been made by the Commission in particular cases where adequate and authenticated meteorological data or data from United States weather records have supported or justified such modification.

In the present application, Sierra Pacific Power Company states that it proposes to build electric lines into certain areas within Alpine and Mono Counties where weather records or other pertinent meteorological data are meager, and that its experience with lines in adjacent areas which have been designed with modified loading conditions has shown no line failures because of loading when properly maintained. It is expected that the proposed lines will be similarly trouble-free, if adequately maintained.

Applicant estimates that construction of the proposed lines in accordance with its requested modified loading conditions will cost some \$10,000 less than would construction of the same lines under present heavy loading requirements. The Commission is in sympathy with changes, either by deviation or modification, in the standards for overhead electric lines when such changes can be accomplished to the advantage of the industry and its customers, provided that hazards to workmen and to the general public are not increased and reliability of service not lessened. Every effort should be made to build and maintain electric lines at minimum costs consistent with the high service standards required in this state. The Commission desires, however, to emphasize the close relationship between the standards of performance to be obtained by compliance with the provisions of General Order No. 95 and the high standard of service reliability enjoyed by utility customers in California. Avoidance of accidents to workmen and the public likewise depends upon the close relationship between the provisions of the order and the securing of adequate safety by complying with such provisions. These relationships can seldom, if ever, be evaluated in terms of the original construction costs.

Since filing its application, Applicant has supplied additional details as to its proposed construction which, in the Commission's opinion, justify the granting of Applicant's request to deviate from the provisions of Rule 43 of General Order No. 95 to the extent defined in the following order. Such permission to deviate will be subject to revocation, however,

if subsequent records of failure of the lines or any portions thereof indicate to the Commission that heavy loading conditions actually exist and are the cause of such failure. This will mean, in effect, that the proposed lines, or any portions of them, may be required to be rebuilt to meet design specifications determined by the loading conditions as presently stated in Rule 43 of General Order No. 95, if future experience indicates that adequate reliability of service or adequate safety is not realized.

O R D E R

The Commission having considered the above application, and being of the opinion that a public hearing thereon is not necessary, it is found that Applicant's request is justified, and good cause appearing

IT IS ORDERED that Sierra Pacific Power Company be and it is hereby authorized, to deviate from the provisions of General Order No. 95 in the following particulars and under the conditions hereinafter specified:

- I. For overhead lines at elevations between 3,000 feet and 6,000 feet above sea level within the geographical areas described in paragraph II, following, intermediate loading shall apply. This loading shall be taken as the resultant stress due to wind, ice, and dead weight under the following conditions:
 - A. Wind - A horizontal wind pressure of 4 pounds per square foot of projected area on cylindrical surfaces and 7 pounds per square foot on flat surfaces shall be assumed.
 - B. Ice - A radial thickness of one-quarter inch of ice, weighing 57 pounds per cubic foot, on all conductors shall be assumed in computing vertical and wind loadings.
 - C. Temperature - Temperature shall be considered to be 15 degrees Fahrenheit at the time of maximum loading. The normal temperature for computing erection conditions is 60 degrees. Maximum temperature shall be assumed as 130 degrees in computing sag under this condition.
 - D. Resultant Conductor Load - The loading on conductors shall be assumed to be the resultant of the vertical load of ice-covered conductor and the transverse loading due to wind, to which resultant loading in pounds per foot shall be added 0.22 as a constant for aluminum conductors and 0.19 for copper or copper-composite conductors.
- II. The above modified loading conditions and districts shall apply only within Alpine County and within that portion of Mono County lying within T 10 N - R 22 E, T 9 N - R 22 E, T 8 N - R 22 E, T 9 N - R 23 E, T 8 N - R 24 E, and T 8 N - R 23 E of the Mount Diablo Base and Meridian.

III. Commencing with the date of starting physical construction of lines within the above modified districts and continuing until further notice from the Secretary of the Commission, complete and accurate records of the following items shall be kept by the company and copies thereof submitted to the Commission on or before January 15 and July 15 of each year:

- (1) Date, time, duration, and number of customers affected for each interruption of service of duration longer than five minutes, together with a determination as to the cause or causes of such interruption. Interruptions from any causes other than those attributable solely to customers' appliances, equipment or premises shall be included.
- (2) All accidents, of whatever nature, involving persons or property and the lines, equipment, services or electrical facilities of the company. The cause of any such accident shall be determined and recorded except those accidents involving only customers' appliances or equipment. Data recorded for this item shall be in addition to that now required to be reported to the Commission by telephone or telegram when serious personal injuries or fatalities result.

This Order shall be come effective on the twentieth day after the date hereof.

Dated at San Francisco, California, this 29th day of October, 1946.

Harold Kula
Justus F. Casper
Francis O. Clark
Isaac Powell