

Decision No. 47122

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Matter of suspension and investigation)
on the Commission's own motion of)
certain tariff sheets containing)
portions of Rule and Regulation No. 2,)
Character of Service, filed by)
Southern California Edison Company.)

Case No. 5355

Bruce Renwick & Rollin E. Woodbury, by
Rollin E. Woodbury, for applicant; Schauer,
Ryon & McMahon, by George A. Cavalletto, in
propria persona and for numerous client growers
in Goleta, protestant; California Electric Power
Company, by John R. Lautz, interested party;
California Farm Bureau Federation, by J. J. Deuel,
interested party.

O P I N I O N

Southern California Edison Company on January 2, 1952, filed under its Advice Letter No. 233 tariff sheets which contain a new section (B)-14 of Rule and Regulation No. 2, Character of Service, relating to agricultural wind machines, together with appropriate revised Table of Contents, being Revised Cal. P.U.C. Sheets Nos. 2552-E to 2555-E, inclusive, (cancelling Revised Cal. P.U.C. Sheets Nos. 2496-E, 2498-E and 2551-E) and the Commission was of the opinion that the effective date of each of said tariff sheets should be postponed, so far as they affect service to wind machines, pending an investigation and hearing in order to afford interested parties an opportunity to present their views. Therefore it was ordered that an investigation be instituted into the propriety and reasonableness of said portion of Rule and Regulation No. 2, and that the operation of each of the tariff sheets

hereinafter mentioned be suspended, as provided by statute, until the 120th day after the date such tariff sheets would become effective, if not suspended, unless otherwise ordered.

A public hearing in this proceeding was held in Santa Barbara on February 27, 1952, before Commissioner Craemer and Examiner Crenshaw.

From the evidence and testimony presented at the hearing it appears that there are three primary issues involved, as follows:

1. The effect of the abnormal peak created by the starting load characteristics of thermostatically controlled electric motor-driven wind machines on the circuits of the Southern California Edison Company when the automatic switches close after an interruption of service.
2. Whether the effect of this abnormal starting peak of electric driven wind machines would require the sectionalizing of the circuit before service could be re-established after an interruption of service had been experienced.
3. If it were found that the automatic reclosing switches on the wind machines interfered with the re-establishment of service on the circuit, who should bear the cost of correcting this condition.

During the presentation of evidence by the Southern California Edison Company, hereinafter referred to as Edison Company, Mr. George A. Cavalletto raised an objection to the introduction of evidence by the Edison Company of Parts III and IV of Exhibit 2, in that he claimed a portion of these sections should be classed as argument.

Counsel for Edison Company took the position that the information set forth in Parts III and IV of Exhibit 2 was an attempt to set forth chronologically what the company did. Mr. Cavalletto stated that in so far as these sections set forth chronologically what the company did, he certainly had no objection,

but that he did object to allowing the company to put into evidence conclusions that its method was the only acceptable or best method of handling the wind machine problem and therefore should be adopted. It was his contention that to this extent the matter was strictly argumentative.

The presiding commissioner accepted Parts III and IV of Exhibit 2 in evidence subject to the objection of Mr. Cavalletto that certain portions called for conclusions of the witness. Mr. Cavalletto's objection to portions of Parts III and IV of Exhibit 2 is hereby sustained in so far as they refer to conclusions that the Edison Company's method is the only acceptable method there is, or is the best method, and should therefore be adopted.

According to Exhibit 2, presented by the Edison Company, only a few electric wind machines were being served up to 1934, when the number increased from 9 to 27 in 1935, and to 51 in 1936. From 1936 to 1947 the number of electric wind machines varied yearly from 35 to 53. The connected load varied from 3,410 to 4,725 horsepower during this same period. The load began to expand quite rapidly from 82 in 1948, to an estimated 1,577 wind machines in 1952, with a connected load of about 51,363 horsepower.

The wind machines involved in this proceeding are those equipped with thermostatically controlled switches. According to the record these thermostatically controlled switches are set to close automatically at predetermined temperatures when the weather becomes extremely cold, placing the machines in operation.

It is applicant's contention that there has been a tremendous increase in this type of load, and it has been found necessary in several instances after service interruptions to

sectionalize the circuit to pick up the load. This condition was claimed by applicant to be due to the relay equipment on the wind machines being so connected that when a circuit is re-energized after an interruption, the starting currents of all the wind machine motors on that particular circuit are imposed simultaneously on the line. Since the starting currents of the motors are five to seven times the full load running currents, the surge of the heavy overload condition thus created does not allow the circuit breaker at the substation to close and remain closed.

In order to relieve this condition applicant filed with this Commission a revision of its Rule and Regulation No. 2 (Character of Service), which provided that each wind machine installation must be equipped with control equipment which would disconnect the installation from the line upon failure of the normal supply voltage and which would not automatically reconnect the installation upon restoration of the normal supply voltage except after a time-delay interval specified by applicant. The cost of such control equipment was to be borne by the owner of the wind machine. The average cost was testified to be approximately \$60 to \$75 in the event the owner desired this preferential service.

Under the proposed application of the revised rule and regulation, if the owner of the wind machine did not wish to go to the expense of installing a time-delay device or relay,^{1/} he could have the equipment modified so that it would be necessary to reclose the switch manually in order to start the wind machine following an interruption. The cost of this change-over was estimated to be approximately \$12.

^{1/} The time-delay device is a relay or other type of equipment that can be preset at various time intervals to delay the reclosing of the automatic switches and stagger the reconnection of the load.

It appears from the evidence that, in general, other types of motor load such as used for pumping plants and industrial installations are equipped with low voltage protective devices which disconnect the loads from the line in the event of an interruption in service. In order to reconnect such loads it is necessary to reclose the switches manually. The manual reclosing of the switch would therefore stagger the reconnection of the load to the line, thereby accomplishing, in effect, the result produced by the setting of a time-delay release.

It was the contention of the protestants at the hearing, who were owners of wind machines, that applicant had accepted the wind machine load with the knowledge of the existence of the thermostatically controlled switches and had not required the installation of a time-delay relay; therefore, if the time-delay relays were to be installed, it would be the responsibility of the applicant and not of the owners of the wind machines.

The record shows that up to the present time there have been three instances involving wind machine loads in which it was necessary to sectionalize the circuit in order to re-establish service. Two of these were in the Santa Paula District and one in the Ventura District. It was brought out by the testimony of witnesses for applicant that when there were a comparatively small number of wind machines connected on the circuits the peak overload condition was not sufficient to prevent the circuit breakers at the substation from reclosing. However, with the present overload condition created by wind machines, and with the estimated rapid growth of wind machines in the future, this starting overload condition becomes more critical.

When the circuit cannot be re-energized without the sectionalizing of the line sufficiently to reduce the load so that

the starting load current can be handled by the circuit breakers, considerable time is consumed in re-establishing service throughout the circuit which serves loads other than wind machines, such as residences, commercial establishments, and in some instances, industries. When outages of long duration occur this also jeopardizes the frost protection effectiveness of wind machines and the usefulness of such appliances as deep freezers, refrigerators, and other similar equipment.

If the Edison Company were required to install automatic sectionalizing equipment the switches would cost approximately \$3,300 each, or, for about 90 circuits in areas serving wind machines, the over-all cost for the system would amount to approximately \$900,000.

Thus, to follow the procedures suggested by protestants would provide the preferential service of automatic operation of wind machines with resulting undue burden on the other customers and other loads supplied by the Edison Company. Therefore, it is the opinion of this Commission that the owners of the wind machines should bear the cost of installing the time-delay relays if they desire this preferential service. On the other hand, if they do not wish to have the convenience of the automatic reclosing switch, the Edison Company should, at its expense, either adjust or modify the switches now installed so as to eliminate the automatic reclosing feature, or make an allowance to the wind machine owner of an amount equivalent to Edison's estimated cost for this cutover. These changes should be made on or before November 1, 1952, and if they are not made by that time the Edison Company may disconnect the service until the proper changes have been made.

As to the tariff filing under Advice Letter No. 233, which was suspended pending hearing on this matter, it appears

from the evidence that Section (B)-14 of Rule and Regulation No. 2, Character of Service, relating to wind machines, was not sufficiently clear as to specifications of the time-delay relay so that a customer could determine whether or not he was complying with the rule. Therefore, the said filing will be rejected in the order and the Edison Company may submit a new filing in conformity with the order herein.

O R D E R

Southern California Edison Company having submitted a modification of its Rule and Regulation No. 2 by its Advice Letter No. 233, a Commission investigation having been instituted with respect thereto, a public hearing having been held, the matter having been submitted and now being ready for decision,

IT IS HEREBY FOUND AS A FACT that the provisions of said revision of its Rule and Regulation No. 2, Character of Service, new Section (B)-14, are ambiguous and not sufficiently specific and clear as to its requirements, and that the conditions precedent to supply of service that may result from such modification are not justified;

IT IS HEREBY FURTHER FOUND AS A FACT, that alteration of Southern California Edison Company's Rule and Regulation No. 2, as it pertains to control devices for wind machines, in conformity with the order herein is justified; therefore,

IT IS HEREBY ORDERED that the suspension of Rule and Regulation No. 2, as filed by Advice Letter No. 233 of the Southern California Edison Company on January 2, 1952, be and it is hereby made permanent and the filing is hereby rejected.

IT IS HEREBY FURTHER ORDERED that Southern California Edison Company may file within sixty (60) days after the effective

date hereof, a modification of its Rule and Regulation No. 2, Character of Service, relating to wind machines, which should incorporate the conditions as discussed in the foregoing opinion, including the following:

1. Thermostatically controlled, automatically reclosed, wind machines must be equipped with a suitable time-delay device at the customer's expense to permit adjustment of the time of reclosure after interruption of service.
2. That an adequate description of the specifications of the time-delay device of sufficient range shall be set forth in the rule so that the customer or his electrician can determine whether or not such device complies with the requirements.
3. Customers having wind machines now installed with thermostatically controlled switches will be required to install time-delay devices at their own expense on or before November 1, 1952, if they desire to retain the automatic reclosing feature of the control equipment.
4. Customers who now have thermostatically controlled wind machines installed may be relieved of equipping the wind machines with time-delay devices if they adjust or modify the control so as to eliminate the automatic closing features of the control, leaving only the low voltage release relay operative, which change would be made by the Edison Company at its expense on or before November 1, 1952, or, if the customer desires, he may assume responsibility for the switch change-over and the Edison Company will be required to reimburse him to the extent of the estimated cost which Edison would incur if it had made the change-over.

The effective date of this order shall be twenty (20) days after the date hereof.

Dated at San Francisco, California, this 5th day of May, 1952.

R. F. [Signature]
President.

Justus F. [Signature]

Harold P. [Signature]

[Signature]

[Signature]
Commissioners.