

Decision No. 4272.

ORIGINAL

Decision No. 4272

BEFORE THE RAILROAD COMMISSION OF THE
STATE OF CALIFORNIA.

Fresno Traction Company,
Complainant,

v.

San Joaquin Light and
Power Corporation,

Defendant.

Case No. 1038.

Everts and Ewing for Fresno Traction
Company.
Short and Sutherland and E. B. Wal-
thall for San Joaquin Light
and Power Corporation.

THELEN, COMMISSIONER.

O P I N I O N

The issue in this proceeding is the rate to
be paid for electric energy by Fresno Traction Com-
pany, hereinafter referred to as the Traction Company,
to San Joaquin Light and Power Corporation, hereinaf-
ter referred to as the Power Corporation.

The complaint herein alleges, in effect, that the Traction Company is engaged in the transportation of passengers on its electric railway system in and about Fresno; that the Traction Company purchases electric energy from the Power Corporation at two substations, known as the Fresno substation, located in Fresno, and the Bullard substation, located on one of the Traction Company's lines of railway about eight miles north of Fresno; that during the month of May, 1916, the Power Corporation charged the Traction Company certain amounts for electric energy which amounts were in excess of the amounts which would have been payable under a certain contract between the parties theretofore in effect; that during certain days subsequent to May, 1916, during one or more 15 minute periods, the Traction Company's maximum demand has greatly increased, with resultant increased charges for electric energy; and that the charges claimed by the Power Corporation were assessed under Schedules 9 and 10 fixed by the Railroad Commission by Decision No. 3241, made and filed on April 6, 1916, in the so-called San Joaquin Rate Cases (Vol. 9, Opinions and Orders of the Railroad Commission of California, p. 542) and that said charges as applied to the Traction Company, are unreasonably high. Complainant asks the Railroad Commission to make its order authorizing the Traction Company to receive electric energy from the Power Corporation at the rate specified in said contract and in effect prior to said Decision No. 3241.

The answer denies that the rates established by the Railroad Commission to be charged by the Power Corporation to the Traction Company are unjust or unreasonable and alleges that the rates charged by the Power Corporation are in accordance with the rates established by the Railroad Commission. The defendant asks that the complaint be dismissed.

A public hearing was held in San Francisco on March 8, 1917. Additional information requested at the hearing has now been filed by the parties and the case is ready for decision.

The Ballard substation supplies energy for the operation of a car-line of the Traction Company about nine and one-half miles long, from Fresno north to a bathing place on the San Joaquin River known as Fresno Beach. Two 200 kilowatt motor-generator sets are installed in this substation. This car-line is operated only during the summer months and nearly all the traffic is confined to Sundays and holidays.

The Fresno substation is located in a building owned by the Power Corporation at "O" and Fresno Streets, in the City of Fresno. This building houses the conversion equipment, and the boilers, steam driven generators and transformers, owned by the Power Corporation and used by it partly to provide a reserve source of power in connection with service supplied to the Traction Company and partly in connection with the supply of electric energy to the Power Corporation's Fresno distribution system. Attendants employed by the Power Corporation operate all the equipment in the

substation, including the equipment owned by the Traction Company. This substation supplies the Traction Company's urban system and also certain lines radiating from the city, including a line to a recreation park owned and operated by the Traction Company.

The transportation of large crowds from these various places of amusement causes a large increase in the peak load of the Traction Company's railroad system as compared with its normal maximum demand. Accordingly, the Traction Company's maximum demand is largely increased during those months in which these holiday crowds are carried, and its monthly load factor is correspondingly reduced. These abnormal peaks usually occur on general or local holidays and are not frequent.

Prior to the effective date of said Decision No. 3241, this service was supplied by the Power Corporation in accordance with the terms of a contract dated November 1st, 1914, between the Power Corporation and the Traction Company. The provisions of this contract, in so far as material herein, are as follows:

Term - Five years from November 1, 1914, with option of renewal.

Conversion equipment - To be owned by the Traction Company and to be installed by it in the Power Corporation's Fresno substation and to be operated by employees of the Power Corporation.

Other points of delivery - In the supply of energy to other points served by the Power Corporation's lines, the Traction Company to furnish both building and conversion equipment.

Character of service - 3 phase, 60 cycle alternating current, requiring not more than one transformation from the transmission line voltage.

Rate - 8-1/2 mills per kilowatt hour of metered consumption. No minimum charge.

Utilization - Electric energy to be used for the operation of the railway system and car-barn machinery, lighting of offices, car-barns, sub-stations and amusement parks of the Traction Company.

On April 6th, 1916, this Commission issued its said Decision Number 3241, entirely revising the rates, rules and regulations of the Power Corporation. The decision became effective on May 1, 1916. In this decision, rates were fixed applicable to the service received by the Traction Company, being Schedules Number 9C and 10, applying to service supplied respectively to the Bullard substation and to the Fresno substation. The Traction Company made no appearance at the public hearings which were held in Fresno and elsewhere in the San Joaquin Rate Cases and did not in any way draw the Commission's attention to the very unusual conditions under which it receives service from the Power Corporation.

The rates applicable to service supplied by the Power Corporation to the Traction Company appear in Schedule 9-C and 10, as follows:

SCHEDULE NO. 9-C
INDUSTRIAL POWER RATES
METERED SERVICE

Applicable to all classes of power installations not otherwise provided for in separate schedules.

INSTALLATIONS IN EXCESS OF 50 H.P.

\$1.00 per month per kilowatt of measured maximum demand to which charge shall be added an energy charge of one cent (\$.01) per kilowatt hour for all energy supplied.

Minimum monthly charge \$20.00 if the installation remains connected to the Company's system throughout the entire year.

The monthly measured maximum demand shall be the greatest average kilowatt demand delivered and registered during any fifteen (15) minute interval during the month.

SCHEDULE NO. 10
PRIMARY VOLTAGE SERVICE RATE
METERED SERVICE

Applicable to consumer's installations having a monthly measured maximum demand of at least 125 kilowatts and receiving service directly from the Company's substation or directly from the Company's primary distributing main at the voltage of such substation or distributing main.

\$2.70 per month per kilowatt of measured maximum demand, to which charge shall be added an energy charge of one-quarter (1/4) cent per kilowatt hour for all electric energy supplied.

Annual minimum charge \$12.00 per kilowatt of substation capacity used.

The monthly measured maximum demand shall be the greatest average kilowatt demand delivered and registered during any fifteen (15) minute interval during the month.

As a result of said Decision No. 3241 the rate to the Traction Company was changed from one in which the entire charge was based on the energy consumed, to separate two-part rates based both on the energy consumed and on the monthly income demand.

The demand element in this form of rate, when applied to the abnormal peaks heretofore mentioned, effected a considerable increase in the bills of the Traction Company for the months in which these peaks occurred.

A comparative statement showing the Traction Company's consumption of electric energy from May, 1916, to February, 1917, inclusive, computed both in accordance with Schedule No. 9-C and Schedule No. 10, and under the former contract rate, follows:

1916	Maximum Demands K.W.		Consumption K.W.H.		Monthly Bills Under Commission Schedules			Monthly Bills Under Contract Rate (2.0085 per kWh)		
	Fresno	Bullard	Fresno	Bullard	Fresno	Bullard	Total	Fresno	Bullard	Total
May	595.2	165.1	254860	26320	\$2244.24	\$448.30	\$2692.54	\$2166.48	\$240.72	\$2407.20
June	595.2	176.6	262560	25920	2263.44	435.80	2699.24	2231.76	220.32	2450.08
July	758.4	176.6	266400	27840	2713.68	455.00	3168.68	2264.00	236.64	2501.04
August	547.2	119.04	260400	27840	2128.44	397.44	2525.88	2213.40	236.64	2450.04
September	960.0	126.7	286800	13440	3309.00	261.10	3570.10	2437.60	114.24	2552.04
October	816.0		269200		2926.20		2926.20	2458.20		2458.20
November	696.0		276000		2569.20		2569.20	2346.00		2346.00
December	624.0		277200		2377.80		2377.80	2356.00		2356.00
<u>1917</u>										
January	624.0		277200		2377.80		2377.80	2356.20		2356.20
February	564.0		246000		2137.80		2137.80	2091.00		2091.00

* Total on Basis of Present Schedule; May 1916, to February 1917, inclusive.

* 25047.60 * 1997.64 * 27045.24 /22921.44 /1048.56 /23970.00

/ Total on basis of Contract Rate; May, 1916 to February 1917, inclusive.

The effect of the new rate has been to increase the cost of electric service to complainant approximately 13 per cent, due largely to the abnormal short peaks hereinbefore referred to.

Evidence was presented herein to show the time relation between the Traction Company's maximum demand and the maximum demand on the Power Corporation's generating system. An analysis of this evidence shows that a diversity peculiar to this consumer has existed in the past with respect to its abnormal demands and the power system peaks. In addition to the effect of the inverse relation which usually exists between load factor and diversity, the excessive demands of the Traction Company have occurred on days when a large part of the industrial load has been absent. The evidence shows further that an absolute diversity exists between a portion of the demands of the Fresno and Bullard Substations.

In determining the cost of service as a basis for the rate fixed in

Decision 3241, this Commission gave consideration to the average diversity and other characteristics of the various classes of load on this system. It now appears that the load of this consumer differs in these features from the class average, in a manner and degree which are apparently sufficient to warrant a separate classification. The service supplied to the Traction Company at Fresno is also different, as compared with other customers in the same rate classes, in that the Power Corporation provides, at its own expense, housing and attendance for the utilization equipment.

The Traction Company reports estimated reproduction cost new of its substation buildings and equipment to be as follows:

Fresno substation - Equipment only - \$22003.00

Bullard substation

Building	\$ 927.22
Equipment	<u>12170.00</u>

Sub-total	<u>13417.22</u>
Total	\$35020.22

The property of the Power Corporation devoted exclusively to the service of the Traction Company is reported by the Power Corporation to have an estimated reproduction cost new as follows:

Fresno substation

2/3 of substation building	\$1777.85
Equipment	<u>525.71</u>
Sub-total	\$2303.56

Bullard substation

Pole line to substation	649.76
Equipment	<u>3647.52</u>
Sub-total	\$4297.28

TOTAL	\$6600.84
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Testimony was presented by the Traction Company to show that the duration of the excessive maximum demands is approximately one-half hour. In view of this testimony, it appears that the 15 minute demand period has operated adversely on this consumer. By increasing this demand period to say, one hour, the effect would be to reduce these demands to a greater extent than the demands of other consumers of the same general classes. The criteria for establishing the proper interval over which the demand of a consumer should be integrated is quite difficult to determine. A very important related factor is the overload capacity of generators and transformers and the effect upon the same of intermittent, varying and constant loads. Another important point to be considered is the increased diversity which usually accompanies a variable load as compared with a constant one or an intermittent load recurring at short intervals. In recent years the best practise has shown a tendency to increase the demand interval in cases such as this one.

It appears from testimony of Mr. E. E. Walthall, representing the Power Corporation, that the factors referred to materially affected the Power Corporation's judgment in entering into the contract heretofore mentioned at the rate of \$.0085 per kilowatt hour. Mr. Walthall further stated that the attitude of the Power Corporation is to interpose no objection to the restoration of the original rate.

As hereinbefore indicated, certain characteristics of the load and service of the Traction Company apparently distinguish this customer from other large consumers supplied by the Power Corporation. These features tend to reduce the cost of the service to a point below the average, except for the cost of furnishing building space and operators in the Fresno substation, which cost operates in the opposite direction. It

appears proper that these points be recognized and given due weight in establishing the rate for this consumer. For example, it appears probable that the time interval upon which the demand charge is based should be increased, although the evidence is not sufficiently clear on this or the several other points to permit the construction at this time of a new rate which would be predicated upon all of the individual characteristics of this particular business.

While it is by no means ^{clear} that the rate heretofore established by the Commission for large consumers of the Power Corporation is in excess of the value or worth of the service to the Traction Company, it must be apparent that there may arise conditions which would warrant the - continuance of a rate less profitable than the average. - Such rates become objectionable from the public's standpoint when discrimination results between consumers of the same class, or when by reason of their existence an undue burden is placed on consumers in other classes.

I believe it proper, in view of all the circumstances, to recommend the restoration of the contract rate of \$.0085 per kilowatt hour for all the electric energy consumed by the Traction Company. In recommending this procedure, I appreciate the fact that a form of rate in which the charge is proportionate to only one element of the cost of service is liable to diverge widely from said cost, if the consumer's load conditions change. Accordingly, this rate should be fixed subject to reconsideration upon application of either party or upon action by this Commission on its own motion, should load or service conditions of either the power system or the consumer change materially.

The parties stipulated that the order herein

should apply to all electric energy sold by the Power Corporation to the Traction Company from May 1, 1916, to date.

I submit the following form of order:

O R D E R

The above entitled proceeding having been submitted and being ready for decision,

IT IS HEREBY ORDERED AS FOLLOWS:

1. Within 10 days from date of this order, San Joaquin Light and Power Corporation shall file with the Railroad Commission a rate \$.0085 per kilowatt hour for all electric energy sold by it to Fresno Traction Company and used by the latter for or in connection with its electric railway business.
2. Said rate shall be applicable to all other consumers of San Joaquin Light and Power Corporation receiving service under conditions substantially similar to the conditions under which electric energy is delivered to and utilized by Fresno Traction Company.
3. The rate herein established shall apply to all electric energy delivered by San Joaquin Light and Power Corporation to Fresno Traction Company on and after May 1, 1916.

The foregoing opinion and order are hereby approved and ordered filed as the opinion and order of the Railroad Commission of the State of California.

Dated at San Francisco, California, this
26th day of April, 1917.

Max Shelden
Max A. ...
Edwin A. ...
Frank ...
COMMISSIONERS