Decision No. 11457

BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA

In the matter of the application of PACIFIC GAS AND ELECTRIC COMPANY, a corporation, for an order of the Railroad Commission of the State of California, authorizing applicant to increase its rates and charges for electric energy.	Application No. 5567.
CITY OF SACRAMENTO, Complainant vs. PACIFIC GAS AND ELECTRIC COMPANY, Defendant.	Case No. 930.
CITY OF GRASS VALLEY, Complainant vs. PACIFIC GAS AND ELECTRIC COMPANY, Defendant.	Case No. 996.
CITY OF OAKLAND, Complainant vs. PACIFIC GAS AND ELECTRIC COMPANY, Defendant.	Case No. 1203.
CITY AND COUNTY OF SAN FRANCISCO, a municipal corporation, Complainant vs. PACIFIC GAS AND ELECTRIC COMPANY, a corp., CITY ELECTRIC COMPANY, a corporation, UNIVERSAL ELECTRIC AND GAS COMPANY, a corporation, and SIERRA AND SAN FRANCISCO POWER COMPANY, a corporation, Defendants.	Case No. 840.
In the matter of the application of SIERRA AND SAN FRANCISCO POWER COMPANY, a corporation, for an order fixing the rates to be charged by it for electricity and water.	Application No. 3602.

ORIGINAL

170

W. F. WHEELER, et al.,
Complainant,

vs. Case No. 748.

THE SIERRA & SAN FRANCISCO POWER COMPANY,
Defendant.

PETER KNOLLENBURG, et al.,
Complainants,

vs. Case No. 934.

THE SIERRA & SAN FRANCISCO POWER COMPANY,
Defendant.

C. E. MOEHRLE, et al.,
Complainants,

vs. Case No. 1669.

PACIFIC GAS AND ELECTRIC COMPANY,
Defendant.

C. P. Cutten, for Pacific Gas & Electric Co.
George Lull and John J. Dailey, for City of San Francisco.
Leon E. Gray and H. L. Hagan, for City of Oakland.
Frank V. Cornish, for City of Berkeley.
Archer Bowden, for City of San Jose.
D. T. Jenkins, for City of Los Gatos.
E. H. Armstrong, for City of Grass Valley.
F. T. Nilon, for Nevada City.
Archibald Yell, R. L. Shinn and C. J. Hasman, for City of Sacramento.
L. B. Leavitt, C. C. Isaacson & Wilson, for City of Vallejo.
H. P. Hatfield, for Chamber of Commerce of Vallejo.
J. Oscar Goldstein, for City of Chico.
T. C. Judkins, for Town of Emeryville.
A. F. Bray, for City of Martinez.
A. J. Carlson, for City of Modesto.
Wm. N. Graybeil, for City of Turlock.
C. H. Frey, and H. G. Butler, for California Metal & Mineral Producers' Association.
John T. York, for City of Napa.
Mrs. Lydia Wolf, for Calffornia Federation of Housewives' Leagues, Oakland.
Hector A. Dunn, for California Federation of Housewives' Leagues, Oakland.
Heller, Powers & Ehrman, for Patterson Water Co. and Sacramento Northern Railway.
Raymond A. Leonard, for City of Oroville.
J. F. Pollard, for Coast Valleys Gas & Electric Co.
L. F. Leurey, for Sperry Flour Co. and National

173

Carbon Co., San Francisco.
Robinson & Price, for California Manufacturers Assn., Alameda Sugar Co., et al.
Chickering & Gregory, for Western States Gas & Electric Company.
B. S. CRITTENDEN, for City of Tracy, West Side Irrigation District, Naglee Burk Irrigation Co. and Riverview Land & Water Company.
Wm. M. Abbott, for United Railroads of San Francisco.
A. A. De Ligne, for F. H. Harvey of Galt.
Geo. E. Springer and H. H. Hewitt, for Reclamation District No. 17.
H. C. Bell, for Town of Willows.
J. M. Inman, for Pacific Rice Growers Association.
W. D. Tillotson, for City of Redding.
Connick & Kehoe & A. K. Harford, for Universal Gas & Electric Co.
W. H. Kehoe, a consumer, in propria persona.
Geo. A. Work, for Town of Rio Vista.
Hankins & Hankins, for Glenn-Colusa Irrigation District.
A. H. Quatman, for Glenn County Rice Growers' Assn.
J. A. Bruner, for City of San Leandro.
E. H. Barber, Trustee, Reclamation District No. 348.
Chas. W. Slack & Edgar T. Zook, for Natomas Company of California and Yuba Consolidated Gold Fields.
Louis Oneal, for Peninsular Railway Co. and San Jose Railroads.
Morrison, Dunne & Brobeck, for Santa Cruz Portland Cement Co., Standard Portland Cement Co., Pacific Coast Portland Cement Co. Consolidated.
J. C. Brown, for Town of Cottonwood.
C. D. Salfield, for Haight & Ashbury Improvement Assn.
H. H. North, a consumer, in propria persona.
W. J. Eyand, for Dixon Alfalfa Growers' Assn.
Moody & Bell, for Princeton-Cordova-Glenn Irrigation District and Jacinto Irrigation District.
Geo. W. Ashley, for American Federation of Farmers.
Green & Sinclair, for Town of Antioch.
John Spellman, in propria persona.
F. Freytaz, for Town of Kentfield.
W. A. Sherman, for California Association of Ice Industries.
R. T. McKissick, for O. A. White and others.
N. C. Jessie, for Butte County Farmers Assn.
A. W. Morris, for Woodland District.
J. T. Butler, for Farm Bureau Centers of Glenn and Tehama Counties.
W. H. Walker, for California Farm Bureau Federation.
J. N. Watt, for Committee of the Federation of American Farmers, representing rice growers, also the rice growers of East Nicolaus.
E. K. Clendenning, for Orchard City Orange Organization.
Mrs. Theodore Verling, for Walnut Creek.
J. Meyer, for Avena District.
Geo. C. Edwards, in propria persona.
W. E. Ledieu, ~~for~~ Redwood City consumer, in propria persona.
E. A. Shumway, in propria persona.
F. J. Michael, in propria persona.
James Mills, for James Mills Orchards Corporation.
C. L. Firebaugh, for Alameda Sugar Co.

172

H. Lederer, in propria persona.
T. J. Henderson, for Federation of American Farmers of Santa Clara County.
B. E. Conway, for Rice growers on the Conway Ranch.
Luke W. Poart, in propria persona.
Wilber Walker, for Merchants Exchange of Oakland.
P. E. Landfield, for Yolanda Improvement Club.
Geo. H. Sawyer, for Stanislaus County Farm Bureau.
F. B. Glenn, for power users in Glenn County.
A. Marcus, in propria persona.
A. A. Oliver, for Oliver Salt Company.
R. N. Wolf, for City of Pittsburg.
Lovett K. Fraser, for City of Albany.
E. N. Randall, for City of Corning.
W. J. Locke, for City of Alameda.
R. L. Brock, for Shaw Ranch Company.
J. J. McDonald, for Federation of American Farmers.
Hugo Scheunert, in propria persona.
F. W. Larson, in propria persona.
R. A. Sarle, in propria persona.
R. V. Lammiman, for Federation of American Farmers Modesto.
W. J. Jamnyke, in propria persona.
S. P. Dingemore, in propria persona.
Geo. C. Ellis, for Ellis & Ayers.
W. W. Thornton, in propria persona.
J. E. Riddle, for Federation of American Farmers.
E. K. Ellsworth, for Paradise Farm Center.
Purcell Rowe, for Reclamation District No. 501.
Bacigalupi & Elkus, by Peter S. Sommer, for Provident Irrigation Dist.& Maxwell Irrigated Farms Co.
J. F. Butler, for Capay & North Capay Farm Centers.
John F. Davis, for Cities of San Bruno and Burlingame.
T.J. Mulvany, in propria persona.
F. S. Brittain, for California Farm Bureau Federation and Fred H. Harvey.
H. F. Chadbourne & John S. Partridge, for Cowell Portland Cement Co.
Mrs. W. T. Cleverdon, for California State Housewives' League.
Mrs. May Larkin Marston, for Alameda Housewives' Branch of the State Housewives' League.
L. B. Gurney, for Yuba-Sutter Irrigators and Brown Valley Irrigation Dist.
Wm. E. Harvent, for State Housewives' League.
H. W. Crozier, for James Mills Orchards Corporation and Esperanza Land Corporation.
John J. Dailey, Leon E. Gray, Frank V. Cornish and Archer Bowden, for Sunnyvale, Pacific Grove, Daly City, Morgan Hill, Petaluma, Colusa, Healdsburg, Marysville, Hamilton City Chamber of Commerce, Oakdale, Woodland, Pittsburg, Emeryville, Red Bluff, King City, Orland, Calistoga, Arbuckle Chamber of Commerce, Vacaville, Martinez, San Mateo, Redwood City, Santa Rosa, Corning, Placerville, Auburn, Rio Vista, Larkspur, Turlock, Watsonville, Burlingame Ross, Sonora, Walnut Creek, Antioch, Rocklin, Pinole, Town of El Cerrito.

W. R. Van Bokkelen, for Coast Counties Gas & Electric Company.
McCutchen, Olney, Willard & Green, by Allan P. Matthew, for Association of Reclamation Districts.
Cooley & Crowley, for Pacific Coast Steel Co. and Judson Manufacturing Co.
Chas. Hoehn, for Manufacturers' Association of South San Francisco.
Carl V. Reuter, for Clorox Chemical Co., Oakland.
John Hill & E. C. Webster, for Webster & Gruenhagen.
J. H. Platt, for Bake-Rite Consolidated.
H. L. Lincoln, for Union Ice Co.
J. B. Howell, for National Ice & Cold Storage Co.

ROWELL, Commissioner.

O P I N I O N

This proceeding brings before the Railroad Commission for the first time for full consideration the entire question of the value, operating expenses and rates of the combined electrical production, transmission and distribution system now operated by Pacific Gas and Electric Company. Previous decisions have dealt with rates in limited portions of the territory or have been of an emergency nature only. A brief description of the history and extent of the property and of the rate proceedings in connection with it is therefore pertinent.

History of the Property:

The present system of electric plants and lines had its inception in 1879 when electricity was first generated and distributed in San Francisco by one of the predecessors of Pacific Gas and Electric Company. In 1895 the first hydro-electric plant at Folsom commenced the delivery of energy to Sacramento over a twenty mile transmission line. Since then there has been rapid and continuous development in the size of plants, the distance of transmission and the extent of service.

Pacific Gas and Electric Company was incorporated in 1905 and for a time existed principally as a holding company,

174

owning the stock of corporations that had been brought under one ownership and management. The actual ownership of the property was assumed in 1911 and Pacific Gas and Electric Company has since been the active operating concern. A large number of smaller systems have been acquired, some with the elimination of competition and some with an extension of territory served. The last and most important of these acquisitions was that of the property of Northern California Power Company, Consolidated, acquired in 1919. On January 1, 1920, Pacific Gas and Electric Company assumed the operation, under a fifteen year lease, of the properties of Sierra and San Francisco Power Company, and while the last mentioned properties are separate in ownership they are operated as a part of the unified system. Through its subsidiary, Mt. Shasta Power Corporation, which is kept alive largely for purposes of financing, Pacific Gas and Electric Company has commenced extensive developments of new power resources upon the Pit River.

Extent of the Property:

The public utility operations of Pacific Gas and Electric Company include electricity, gas, water, steam heat and street railway service and in the year 1921 produced a total gross revenue of $37,507,980.76. Of this sum, the electric properties, to which consideration is now confined, produced $23,291,370.49 or 61.9%. Electricity is generated in twenty-three owned and five leased hydro-electric plants having a total installed capacity of 229,950 K.W., and in four steam plants, three owned and one leased, with an installed capacity of 129,500 K.W., making a total of 359,450 K.W. installed generating capacity as of December 31, 1921. In addition to the power generated in its own and leased plants, the Company purchases energy from The California Oregon Power Company, Great Western Power Company of California, San Joaquin Light and Power Cor-

poration, Snow Mountain Water and Power Company and other smaller sources. During the year 1921 approximately 15% of the total requirements were purchased, but with the development of additional plants on Pit River the purchase of power will be reduced although not eliminated.

During 1921 the combined power resources of the system carried a maximum peak load of 265,925 K.W. with an output of 1,489,088,657 K.W.H. from generating plants and points of delivery of purchased power. This energy is transmitted to 238 substations over 2774 miles of transmission lines, of voltages varying from 110,000 to 17,000. From these substations radiate over 7500 miles of distribution line, reaching on December 31, 1921 over 285,000 consumers, with a connected load of over 1,000,000 H.P. Electric service is supplied throughout an area approximately 270 miles long by 130 miles wide, including portions of twenty-seven counties, with a population exceeding a million and a half.

In San Francisco, Oakland, Sacramento and other towns and also to a limited extent in rural districts, electric service is supplied by Pacific Gas and Electric Company in competition with Great Western Power Company of California. The rates of the latter company are the subject of applications and complaints now pending before this Commission generally similar to the present proceedings involving the rates of Pacific Gas and Electric Company.

In addition to supplying electricity directly to its own consumers for lighting, power and the operation of electric railways, the Company sells a large amount of energy to other corporations for resale. That the growth of the system and the extension of the distribution lines have not been confined to the cities and towns within the area served, is shown by the

fact that at the present time approximately 20% of the Company's gross electric revenue is derived from business outside of the corporate limits of cities and towns.

Previous Proceedings:

The first important proceedings before this Commission affecting the rates of Pacific Gas and Electric Company were the result of complaints filed by certain cities shortly after the extension of the Commission's jurisdiction to electric utilities in 1912. These matters were decided largely upon consideration of the individual circumstances involved and attention was given to the operations of the Company as a whole only so far as the local matters involved in these cases were affected. It became apparent, however, that consideration would have to be given by the Commission to rates and service throughout the entire territory served and later cases initiated by other cities were therefore consolidated for the purpose of making a general valuation and giving consideration to the operations of the entire system. During the course of these proceedings, war conditions brought about marked increases in costs of operation and in 1918 the Company applied for a general and immediate increase in all rates on the ground that such action was necessary to enable it to continue to serve the public. In its Decision 5519, dated June 27, 1918 (15 C.R.C. 886) the Commission authorized horizontal increases in rates which were designed to off-set increased costs of operation rather than to constitute a final finding of just and reasonable rates.

The rates of Northern California Power Company, Consolidated, were first fixed by the Commission in 1916 as a result of complaints of consumers and an application on the part of the Company for the fixing of reasonable rates. (Decision 3624, September 1, 1916, 11 C.R.C. 37). Increases in costs during and

following the war had their effect upon this system as upon every other business in the country and in April 1919, by Decision 6285 (16 C.R.C. 684) the Commission authorized a 10% increase in the rates which it had previously fixed.

A number of cities served from the system of Sierra and San Francisco Power Company had filed complaints against the rates of that company and the utility itself had applied for an order of the Commission fixing just and reasonable rates throughout its entire territory. This proceeding, like others already mentioned, was overtaken by war time increases in costs and in October 1918 by its Decision 5867 (16 C.R.C. 160) the Commission, in passing upon an application of the Company for emergency relief, authorized such increases in rates as would off-set increased costs of operation. At this time the larger proceeding was continued for further hearing and the final fixing of proper rates for all classes of consumers.

Surcharge Cases:

This will indicate the conditions as regards rates existing on the system operated by Pacific Gas and Electric Company early in 1920 and after it had purchased the properties of Northern California Power Company and leased those of Sierra and San Francisco Power Company. Further increases in costs of operation and a serious shortage of hydro-electric power which made necessary the extended operation of steam plants, prompted the Company to file the present application asking not only for temporary relief from conditions then existing but also that the proceeding be continued so that the Commission might finally fix reasonable rates for the entire consolidated property. Decision 7823 (18 C.R.C. 47) covered the first portion of this application and authorized a tempo-

178

rary increase in rates or a surcharge of 15% for a period of nine months beginning July 10, 1920. Shortly before the expiration of this nine month period the Company filed a supplemental application requesting that the 15% surcharge be continued indefinitely pending a final decision fixing reasonable rates for the entire system. This supplemental application was denied, however, and by Decision 9017 (19 C.R.C. 925) the Commission reduced the surcharge from 15% to 6% effective April 10, 1921. The rates fixed by this and other decisions already referred to are now in effect in various parts of the territory served.

Various Complainants:

Not only have these conditions resulted in three separate and distinct groups of rates, one applying to the property originally owned by Pacific Gas and Electric Company, another applying to the system acquired from Northern California Power Company, Consolidated, and a third applying to the property operated under lease from Sierra and San Francisco Power Company, but the rates upon the systems of Pacific Gas and Electric Company and Sierra and San Francisco Power Company are the result of gradual growth and extension of territory and service. These factors, together with the effect of competition where it has been encountered, have not resulted in complete and uniform schedules of rates and, as would be expected, there developed naturally instances of inequality and discrimination between localities and classes of service. The problem before the Commission is, therefore, not only that of determining the level of rates generally reasonable both to the utility and to the consumers, but also the simplification and readjustment of rate schedules to remove inequalities between localities and classes of consumers.

179

The complaint in Case 1786, City of Sacramento vs. Pacific Gas and Electric Company, alleges that charges made for street lighting service in Sacramento are unreasonable and unjust and asks that the Commission fix just and reasonable rates for this service and award the City reparation based upon the difference between the sums collected and the sums that would have been collected under rates in effect in certain other cities. As far as this complaint concerns the fixing of reasonable rates for this service, it has been consolidated with the other applications and cases now being decided, but the matter of reparations involves questions of jurisdiction which the Company and City will doubtless desire to argue further. Decision on this question will therefore be deferred for further hearing.

In Case 1669, the complaint of C. E. Moehrle, et al., vs. Pacific Gas and Electric Company and Great Western Power Company, it is alleged that the rates charged by these two companies in the so-called Park Presidio district of San Francisco are higher than the rates charged by them in the down-town district and higher than the rates charged by Universal Electric and Gas Company; that the Universal Electric and Gas Company would extend its lines into the Park Presidio district were it not for the limitation upon the amount of power supplied to it by Pacific Gas and Electric Company as lessee of the system of Sierra and San Francisco Power Company.

The complainants ask that the Commission require the defendant companies to furnish service in the Park Presidio district at the same rates that they charge in the down-town district, or that Pacific Gas and Electric Company, lessee, be required to furnish sufficient power to Universal Electric and Gas Company to enable it to extend its lines.

As far as this complaint concerns the question of reasonable rates, it has been combined with the other proceedings now under consideration. Since these proceedings began, the property of the Universal Electric and Gas Company has been sold to, and is now operated by, Great Western Power Company of California.

Present Proceedings:

Hearings in the present application and consolidated cases, as they affect the fixing of reasonable and definite rates, have been held throughout the past year and have occupied a total of fifty hearing days. The record consists of 113 exhibits filed by various interested parties and of 5500 pages of reporter's transcript of oral evidence. Upon the Company has naturally fallen the burden of sustaining its claims and of furnishing a very large part of the basic information and statistics. It has introduced 66 written exhibits which contain an enormous amount of data regarding its system and operations and which vary from simple statements of one or two pages to a set of bound volumes summarizing the inventory and appraisal which it has made of its electric system and containing over 6900 typewritten pages.

In the interest of efficiency and economy the many cities and towns interested in the rates joined forces and through one organization have taken an active part in the conducting of the case. Their engineers have cooperated with those of the Railroad Commission in the check which has been made of the valuation and in studies of operating expenses. The cities have also given attention to the particular problem in which they were interested, have called witnesses, and have filed six exhibits showing the results of studies, in connection with various claims made by the Company. The California Farm

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Bureau Federation has taken an active interest in the entire proceeding. It has called no witnesses and presented no original exhibits, and did not participate in the joint investigations conducted by the Commission, the cities and the Company, but its attorney has conducted elaborate cross examinations of almost every witness called by any of the parties interested. Seventeen exhibits were introduced, two of them being newspaper articles, four being published crop reports and United States Census bulletins, and the remaining eleven being statements prepared by the Company at the request of the Farm Bureau representative.

The Association of Reclamation Districts and Yuba Consolidated Goldfields, Incorporated, were each represented by an attorney and an engineer and each submitted a very complete and enlightening engineering report on the cost of service and desired rates for reclamation pumping and the operation of gold dredges. While these reports are primarily in support of the claims of the respective parties, both are comprehensive presentations, and although the conclusions reached could not be accepted in toto they have been of considerable assistance in deciding many of the technical questions involved.

Many other consumers participated in portions of the case more directly affecting their interests and nine other exhibits cover studies of the cost of particular classes of service and embody recommendations and suggestions regarding changes or modifications in particular rates. With the aid of engineers representing the cities and other interested parties, the engineers and accountants of the Commission have made careful studies of the Company's operations, estimates and claims, the results of which are embodied in fourteen written exhibits submitted as part of the evidence. A large amount of engineer-

ing analysis has also been necessary on the evidence submitted and extensive studies have been made in an effort to build up a simpler and more equitable rate structure than that heretofore in existence.

Applicant's Claims:

Applicant cites a large number of court decisions in support of the principles on which its claims are based. It claims generally that it is legally entitled to rates which, in addition to enabling it to pay reasonable operating expenses and to set aside a proper allowance for depreciation, will also provide a fair return on a reasonable value of the property used and useful in the public service. It emphasizes especially that the "reasonable value" in question is something distinct from cost and insists that, under the court decisions cited, this Commission must find a "value" of the property, in this sense, as a basis for fixing rates, and that it can not legally base its conclusions, as it has in many cases in the past, largely on reasonable investment or reasonable historic cost.

Applicant's claims for value are based upon an inventory of the property taken as of December 31, 1919. This inventory of the property has been priced at the average prices in effect during the five year period immediately preceding. To the value of the property as of December 31, 1919, so obtained, have been added subsequent additions and betterments at actual cost. Applicant also presents estimates in which it seeks to show the value of the Company's water rights and the value that it claims attaches to it as a going concern.

These claims are summarized in Table 1:

TABLE I

Claimed Rate Base, Year 1922,
Electric Department, Pacific Gas and Electric Co.
Summarized from Applicant's Exhibit 62.

	Owned Property	Leased Property	Total
Physical Property (Including lands)	$114,507,108	$ 18,663,478	$133,170,586
Organization Expense	374,736	185,000	559,736
Water Rights	14,025,000	1,282,800	15,307,800
Going Value & Development Cost	15,000,000	2,411,485	17,411,485
Working Capital	3,641,061	620,603	4,261,664
Total Rate Base	147,547,905	23,163,366	170,711,271

No claim is made by applicant as to what it considers the fair rate of return to be earned upon the reasonable value of its property. It does not demand at this time the full return to which it claims itself legally entitled, but asks only rates sufficient to meet its financial requirements. The present basic rates, plus a surcharge, as formerly in force, will, it states, be sufficient for this purpose.

With this preliminary statement of applicant's claims of value and position in regard to rates, the evidence introduced in support of these claims may be taken up in detail.

Structural Property Other than Leased System:

Applicant's claim of value of its structural property is based upon the application of the average prices for the five year period 1915 to 1919, inclusive, to an inventory of the property taken as of December 31, 1919. To this value, determined as of December 31, 1919, subsequent additions and betterments have been added at actual cost. At the request of the Commission, applicant also presented an estimate of the cost of reproduction new of the property as of December 31, 1919, based upon historical prices. These estimates of reproduction cost were very carefully checked by representatives of the cities and of the Railroad Commission

both during and after preparation. Not only did this check involve a comparison of a very large part of the inventory with actual records of the Company and with the actual plant in the field but much of the work of calculating unit prices, etc., was done jointly by engineers representing the Company, the Cities and the Railroad Commission. As a result of this work, many errors were discovered and corrected and a number of the Company's claims were materially modified before the completion and submission of the appraisals. The engineers representing the Cities and the Railroad Commission presented a joint report substantiating the inventory and, except for reservations as to certain principles followed, accepting the results of the appraisals as finally submitted. The four important principles to which the report takes exception are:

1. The inclusion without correction in both the five year average and the historical appraisals of certain canals and structures that would not have been reproduced at the time that they were first devoted to public use or during the assumed five year construction period but which are in use because they were already in existence when actual construction was begun or because they were built under unusual conditions at favorable prices not reflected in the appraisal.
2. The inclusion in the Historical Appraisal of certain old canals at estimated costs of construction for mining purposes between 1850 and 1860 instead of at estimated costs of construction when devoted to the production of hydro-electric power about 1900.
3. The method of allocation between departments of

the value of certain canals which carry water used for both the production of electric power and for irrigation purposes.

4. The inclusion in the five year average appraisal of the cost of paving over mains and around poles which was in existence at the time of the inventory but which was not actually laid at the expense of the Company.

A third valuation of the structural properties exclusive of the leased system was placed in evidence by Mr. L. S. Ready, Assistant Chief Engineer of the Commission, in which he has revised both the historical and five year average reproduction costs on account of the reservations just referred to. A comparison of these four sets of figures is shown in Table 2 in summary form.

TABLE NO. 2

Operative Structural Property
Electric Department, Pacific Gas and Electric Co.
as of December 31, 1919.

	Estimated Reproduction Cost New			
	Average prices, 1915-1919		Historical Prices	
	Presented	Revised	Presented	Revised
Production, Hydro	$35,917,083	$33,595,432	$26,877,985	$24,987,287
Production, Steam	7,584,416	7,584,416	5,497,440	5,497,440
Transmission	10,777,957	10,777,957	8,322,741	8,322,741
Distribution	37,991,824	37,723,425	30,629,188	30,629,188
Electric Dept. Gen'l	1,094,645	1,094,645	792,383	792,383
Prorata of all Dept.	1,413,931	1,413,931	1,052,423	1,052,423
Total	94,779,856	92,189,806	73,172,160	71,281,462
Lands (See Table #3)	3,185,092	2,644,657	3,185,092	2,644,657
Total	97,964,948	94,834,463	76,357,252	73,926,119

Three other interesting figures have been derived from the complete appraisal by a consideration of relative prices during various years. One of these figures is the approximate reproduction cost new of the property of December 31, 1919, at prices of December 31, 1921, which was estimated by Mr. Piatt of Pacific Gas and Electric Company at $111,612,280 for non-landed property. Mr. N. R. Ellis, Engineer for the Cities, estimated the reproduction cost new of the property of December 31, 1919, at the average prices of the ten year period 1910 - 1919, inclusive, to be $83,761,297 and at the average prices of the ten year period 1912 - 1921 to be $94,358,806. All three of these figures are comparable in amount, although not in accuracy, with the estimate of cost of reproduction new at five year average prices of $94,779,856 and with the reproduction cost new at historical prices of $73,172,160, set forth in the table above. Passing for the time being the question of the reservations above referred to and confining our attention to the fundamental basis upon which the property is to be valued, we have the following comparison of price levels and resulting figures, all referring to the structural property of December 31, 1919.

Historical prices- - - - - - - - - - - -	$73,172,160
Average prices, 10 years - 1910 - 1919	83,761,297
Average prices, 10 years - 1912 - 1921	94,358,806
Average prices, 5 years - 1915 - 1919	94,779,856
Prices of December 31, 1921- - - - - -	111,612,280

To all of these figures must be added an allowance for additions and betterments since December 31, 1919, as to the cost of which there is little question, and from all of them must be subtracted any deductions that should be made on account of the depreciated condition of the property.

Basis of Valuation.

The Company takes the position that the appraisal upon the average prices of the five year period 1915 to 1919, with subsequent additions and betterments at cost, is a conservative estimate of the reasonable present value upon which it is entitled to ask for a fair return and its attorney supported this position by extensive argument and reference to court decisions. Mr. Dailey, on behalf of the Cities, holds that the present value upon which a fair return should be allowed is not fairly represented by the appraisal upon five year average prices and urges that the appraisal upon historical prices is much nearer to the reasonable present value of the property for rate fixing purposes. He supports his position by many citations of court and Commission Decisions, and brings out the fact that the appraisal on five year average prices gives no consideration to the element of usefulness which he contends is an essential part of value. Judge F. S. Brittain, representing the California Farm Bureau Federation, is even more positive in the expression of his opinion that "in no event should a valuation be placed on the property upon the Company's theory of the cost of reproduction new."

These arguments again bring before this Commission the question of the basis of valuation to be followed in the determination of a rate base. The provisions of the law with reference to this subject are not explicit, and discussion has therefore largely

turned upon the decisions of the courts through which the law is interpreted. Such questions have usually come before the Federal Courts under the Constitutional Amendment forbidding the taking of private property without due process of law. The difficulty in making direct application of the decisions of courts to the problems of the Commission is that the higher courts usually only affirm or reverse the findings of lower tribunals, and the decisions therefore deal more with the problem of what is or is not confiscation than with the soundness as a whole of the various principles of rate regulation which have been under review. A basis upon which to judge the question of confiscation has gradually been developed until the courts now generally recognize that a utility is entitled to receive a fair return upon the reasonable value of its property at the time of the inquiry. This rule, it must be remembered, has been developed and is used as a test of confiscation and is not the result of an inquiry seeking the basis of rates that will establish the soundest and most advantageous economic relation between consumers, utility and investors.

With its extensive hydro-electric and limited fuel resources and the widespread use of electrical power in all of its basic industries, the prosperity of California, depends, as does that of perhaps but few other states, upon the extensive development and reasonable price of hydro-electric energy. Rates that are so low as to stifle future development would be as dangerous as rates that are so high as to prevent the full utilization of natural resources. The welfare of the state demands that rates for electricity must be as high as but no higher than is necessary to enable development to keep pace with demand. If this requirement be met, a return that is sufficiently liberal to encourage the investment of new money can hardly be held confiscatory toward the present investment. The problem is one of economics and must be solved chiefly by the application of economic laws, within the

limits set by constitutional and statutory law. The law so far as enacted in constitutions and statutes must of course be followed, and the decisions of judicial tribunals are of immense help in the light they throw on economic laws, as well as in their authoritative determinations of the statutory law, but care must be taken that attention to abstract analysis does not too much obscure consideration of the concrete problem.

The interest or return which must be paid for the use of the large sums of money required for the development of hydro-electric power is one of the most important elements in the cost of operation regardless of whether that development is carried on under private or public ownership. The greatest economy will, therefore, follow the choice of that basis of return which makes possible the securing of money at the lowest rate of interest. That safety of investment and low rates of interest go hand in hand is seen from a mere glance at the securities now before the public, ranging as they do, from the obligations of the United States Government with great security and relatively low rate of interest, on the one hand, to speculative stocks with their comparative insecurity and unsupported promises of large returns, on the other. If by increasing the security we reduce the rate of return, no hardship will be worked upon the investor. What he loses in return is made up by gain in security. A stable basis of valuation for rate making purposes, which will tend to greater security of investment, is therefore in the interest of present and future consumers as well as of investors.

If a fluctuating reproduction cost is allowed to control the rate base, a large return will be earned during periods of high prices and a comparatively low return during periods of low prices. On the other hand, assurance and uniformity of return will follow the choice of a rate base controlled largely by the

amount of money which has been honestly and wisely spent in the construction of the property. Security of investment and of return will benefit the investor, while the resulting lower cost of money will benefit the consumer.

It must also be remembered that in many ways a public utility under the regulation and control of the people is not on a par with a private enterprise in a competitive field. A public utility under regulation is, to a large extent, protected against competition and therefore against the source of many of the losses sustained by the usual competitive business. But such a utility is obliged to serve the public and must make expensive additions to its plant under price conditions and at times when business judgment might otherwise dictate that expansion be avoided. The increase or decrease of present value as compared with cost, is therefore largely fortuitous and not the result of the exercise of judgment or foresight. Public regulation having to this extent limited the free exercise of business discretion, ought not in justice to consumers and to the utility, award to the utility the benefits nor subject it to the penalties of these circumstances.

The very fact that the company in this case does not ask for the rates to which on its theories it would be legally entitled shows that the theories will not stand the test of practical application. Without denying to the officers of the company their share of public spirit, it must be presumed that they also realize that such high rates would be injurious to the company itself. Their problem in managing the company involves, in its practical aspect, chiefly the same problem that confronts the Commission in regulating it - to keep the company solvent and growing, to maintain the property and render service, to make new investment possible at a reasonable cost of money, for the rendering

of additional service, and to do all this at rates which will be reasonable to the consumers and will encourage consumption. Judgment as to what rates will best do this will naturally differ, according to the point of view, but the principle is plain, and its fair application is in the practical interest of both company and consumers. The service which the great utility corporations, of which this Company is typical, are supplying is essential to the prosperity of the people. As long as these companies under state regulation provide adequate service upon a reasonable basis of valuation and rates, they may hope to prosper, but if development were to be stifled by rates so low as to prevent investment, or if the rates and the valuation on which they are based were to become unreasonably high, the whole present system of supplying this essential commodity by private investment under public regulation would have become a demonstrated failure, and the public would take over the responsibility. The laws would protect the actual property against confiscation, but the business, which is essential to the value and usefulness of that property, could not be protected against destruction. It is therefore as essential to the investor that rates be not unreasonably high as it is to the consumer that they be not unreasonably low.

Besides these fundamental considerations, we cannot escape the conclusion that there are certain inherent weaknesses in the Company's position in this case. The evidence shows that engineers representing the Cities and the Railroad Commission, agreed that upon the whole the condition of the property is but 83% as good as new. This depreciation must certainly have some effect upon value, but the Company has entirely omitted it from consideration, in this particular contention. It presents a mixture of so-called value of property construct-

ed before December 31, 1919 and of cost of property since. The explanation given of the inconsistency is that the estimate is sought to be "conservative", but it seems also to imply a recognition of the weakness of the present value theory, if it were carried out to its extreme logical conclusion.

The general trend of prices is downward and but few words would be needed to picture the position of a company inviting the investment of new money for the construction of property at present costs upon which a return will be earned only upon the basis of a lower future value. Further, as Mr. Dailey has pointed out, the Company's claim for value on the basis of present reproduction cost inventory gives no consideration to the element of usefulness or worth. We have but to consider the Folsom hydro-electric plant to realize the inconsistencies of this claim. In spite of the fact that this plant was built by convict labor, the inventoried quantities of masonry and excavation have been priced at the average prices of the five year period, resulting in an appraisal of $2,548,000. In proportion to size, this is more than twice the cost of any plant built in this state in recent years, and if a return at 8% on this sum were to be included, the cost of energy from this plant would be more than 50% in excess of the cost of steam power. In this instance the attorney for the Company admitted that the plant is not now worth the estimated reproduction cost, but the illustration might be multiplied almost indefinitely.

Miles of parallel canals that were taken over from extinct mining enterprises have been included at five year average prices when as a matter of fact the same

results in the production of electric power could be more cheaply and efficiently obtained by the construction of shorter canals. Wooden pole transmission lines have been appraised at the prices of 1915 to 1919, when the same purpose could be filled by less expensive additions to the capacity of substantially parallel and more recently built steel tower lines.

In the power plants many small generating units have been appraised at reproduction prices, although the same energy would be more efficiently and economically generated by fewer large units which would cost considerably less. Considering the history of the Company and its past development, the use of such property is not subject to criticism, but it indicates very plainly that the value of antiquated equipment is not the same as its present reproduction cost. The claim that the decisions of the courts require that it be so valued, is a distortion of the meaning and justice, if not of the language, of those decisions.

Estimated reasonable historical cost is not the only factor that should be considered in arriving at a proper basis of rates, but we believe it must be the controlling factor, provided the resulting rates are within the constitutional limitations. For ten years this Commission has followed such a policy and under that policy utility companies have prospered and are now on a sounder financial basis than they were ten years ago. At the same time many of the rates they charge are lower today than ten years ago, and considering the State as a whole, but few commodities are as close to pre-war prices as electricity. Careful consideration and reconsideration of the question by succeeding members of the Commission has uniformly resulted in the conclusion that

this policy is sound, and, what is perhaps more convincing, it has satisfactorily stood the test of time and the extreme conditions of the past few years.

We do not believe that the arguments advanced in this case justify the reversal of such a policy. The test of confiscation applied by the Courts must be met by any return which is found reasonable, but under the conditions with which we are confronted, it cannot be used as the basis for determining what is a reasonable return. We must answer the question as to what is a reasonable return for this utility to earn, while the Courts, if appealed to, must decide whether that return does or does not result in the taking of private property for public use without just compensation.

Reservations:

Having settled upon the fundamental basis to be used in the determination of a rate base, we may take up the reservations with which the appraisal as presented was approved by the engineers of the Cities and the Commission. The first of these reservations, which have already been described, refers to the Folsom Power plant and to certain canals now used in the development of power - some of which were constructed for irrigation and some for mining purposes. The Folsom plant was constructed under a contract in accordance with which the State furnished convict labor in return for certain lands, a short railroad track, and certain other rights. The Company's estimate of historical cost is based upon a value of the labor received under this contract instead of upon the cost of property and rights surrendered. Such an

estimate is clearly not the cost to the original owner of the plant.

The actual money cost of this plant is difficult to determine from the records of its construction which are now available, but it appears to have been not far from one million dollars. Mr. Ready has found that upon the basis of the cost of the most expensive plant recently constructed in the State, the Folsom plant would not be worth over one million dollars as a maximum. It is apparent that if any sum in excess of one million dollars was spent in the construction of this plant, it can hardly be said to have been a wise or judicious expenditure. This appears to be the greatest allowance for the cost of this plant that can fairly be made, and results in a deduction from the Company's claim of historical cost of $713,693.

The evidence shows that what are known as the Dewey, Miners, Inskip and Hendricks canals were already in existence at the time of construction of the DeSabla and Centerville power plants. It is also shown that a shorter canal and tunnel would more efficiently divert the same water from the same stream and deliver it to the same forebay, and that at the time of construction of these plants the cost of such a canal, including the right of way at its present value, would have been $80,722 less than the estimated original cost of the canals in actual use. Any part of this $80,722 that was spent in the acquisition of the original canals could not have been wisely spent, and the corresponding deduction should therefore be made from the estimate of original cost. Of this deduction, $76,386 applies to structural property and $4,336 to lands.

The same reasoning may be applied to other canals and reservoirs covered by the second reservation, and which, are estimated to have cost at the time of their original construction

for other purposes $595,145 more than it would have cost to reproduce them at the time they were made a part of the electric production system. Two other canals inherited from the early mining days parallel and practically duplicate certain of the main canals. While these smaller canals are occasionally used to carry water for use in power plants, they do not appear to be a necessary part of the system and should therefore be excluded from the valuation. This results in a further deduction of $44,103 from structural property and $1,125 from lands.

Other canals are used to carry water which is used both for the production of power and for irrigation purposes, and some arbitrary allocation of their cost must be made between the irrigation use and the electric power use. In presenting its valuation the Company made such an allocation but it has not been considered entirely satisfactory by the Commission's Engineering Department. After consideration of the evidence, we believe that the allocation suggested by the Commission's engineers is more nearly fair than that suggested by the Company, and it will therefore be accepted. This results in a total deduction of $588,682. Removing the duplication caused by the previous consideration of one of these canals under one of the other reservations, leaves a net deduction of $480,685 of which $461,371 applies to structural property and $19,314 to land.

The fourth reservation described referred to only the five year average valuation, and while the soundness of the contentions of the joint report of the Engineers has been admitted by the Company's representatives, it need not now be considered in detail.

After giving effect to these deductions, we have the figures submitted by Mr. Ready and set forth in the last column of Table #2 above, as a fair estimate of the reasonable cost as and when constructed, of the property of Pacific Gas and Electric Company as of December 31, 1919, a total for structural property of $71,281,462.

197

Lands.

The basis upon which the value of land is to be determined in proceedings such as this is generally agreed upon and as a result the values presented by the Company and by the Engineering Department of the Commission, as shown in Table No. 3 do not differ widely.

TABLE NO. 3

Value of Operative Lands - Electric Department
Pacific Gas and Electric Company
Property as of Dec. 31,1919 - Value as of June 30,1921

	Company (Exh. 31a)	Commission (Exh. 3 a)	Difference
Production,Hydro-Electric	$ 745,841	$ 584,032	$161,809
Production,Steam-Electric	339,149	338,453	696
Transmission	1,157,068	808,321	348,747
Distribution	276,174	272,424	3,750
Joint Electric	180,096	179,474	622
Prorata of All Dept. Lands	486,764	486,728	36
Total	3,185,092	2,669,432	515,660

The difference of $515,660 is practically accounted for in two items, one being the value of certain timber lands, claimed to be $126,053, which the Commission's engineers have not included, and the other being a difference of $390,332 between the Company's estimate of the cost to secure certain pole line easements under present conditions, and the Commission's engineers' figures of the actual cost of the same easements as secured.

The timber lands in question are not now used by the Company but it claims that by its ability to cut its own lumber for the maintenance of certain flumes, it is able to control the price which it must pay for such lumber, while if it did not have this source of supply, the inaccessible location of these flumes might enable local mills to exact excessive prices. The question is by no means one sided, but such reasoning as this would support a utility in the holding of not only timber lands,

but of idle steel mills, machine shops and oil wells or lands. Applicant may consider itself justified in holding these timber lands as non-operative property but as no actual use has been made of them in electric operations for several years it can hardly be concluded that they are operative property.

The estimate of the present cost of securing right of way easements was presented by the Company as a basis for determining the present value of the rights of way in question However, the Company's witness admitted that it is very difficult to make an accurate estimate of the present cost of securing the easements now owned by the Company. The principlesused in the valuation of land are difficult of application in valuing easements of the kind here under consideration where there is but little interference with the use of the land itself. The reason for the use of the present value of lands in determining a Rate Base is to a certain extent at least the fact that land has a definite market value which may be established with fair accuracy by evidence and that if a utility abandoned the use of any parcel of land it could, without great difficulty, secure a reasonable price from some purchaser. This logic, it will be noticed, does not apply in the case of easements for electric pole or tower lines. Should a utility desire to abandon any such line, it could find a purchaser for the right of way easements only in some other concern that desired to operate such a line in the same location. As there is evidently no general use for such easements they can hardly be said to have a market value in the sense that land has such a value. The statement of the actual cost of these easements, as presented by the Commission's engineers, furnishes the best evidence of value that was presented and will be accepted as the base for the purpose of calculating the reasonable return to be earned by the utility on this part of its property.

Organization Expense.

The Company's claim for organization expense is based upon a study of all available records now in its possession and upon an estimate of items not shown in these records. The total organization expense of the thirty-three companies whose property is now owned by Pacific Gas and Electric Company is given at $686,634 of which $398,533 is the actual cost of organization of Pacific Gas and Electric Company as shown by its books, and the remaining $288,101 is the cost, partly actual and partly estimated, of organization of other companies whose property is now owned by Pacific Gas and Electric Company. Of this total $374,736 has been allocated to the electric department.

The allowance for organization expense which the Commission has made in past cases has averaged from approximately one-half of one per cent. of the total cost of operative property for larger companies, to approximately one per cent. for smaller companies. The total figure claimed in this case is close to one-third of one per cent., and appears entirely reasonable.

Water Rights.

The value of $14,025,000, claimed by Pacific Gas and Electric Company for its water rights, is based on an extensive study and report prepared by Mr. F. Emerson Hoar, Consulting Engineer. Mr. Hoar's valuation is based on the assumption that the price at which electric power may be sold depends not upon its cost but upon the cost of power from a competitive source, and that the difference between the actual cost of hydro-electric power and the cost of substitutional power is the net earning on the value of water rights. The capitalization of this net earning would, on this theory, give a capital value of the water rights involved.

As one step in his valuation Mr.Hoar makes a study of the available supplies of fuel on the Pacific Coast and determines the future economic price of fuel oil to be $1.75 per barrel. A comparison of the cost of hydro-electric power delivered from the plants and transmission lines of Pacific Gas and Electric Company with the calculated cost of steam power produced in large and efficient substitutional steam plants burning oil at $1.75 per barrel gives a value of water rights of $26,140,000 which Mr. Hoar identifies as their "economic value."

A second comparison of the cost of production on Pacific Gas and Electric Company's system and in hydro-electric plants constructed during the war period gives a value of water rights of $17,570,000 which Mr. Hoar identifies as "present market value."

A third comparison, and the one upon which the Company's claim is based, is between the cost of power from the existing plants and transmission lines of Pacific Gas and Electric Company and the estimated cost of power from proposed plants of Southern California Edison Company on Big Creek, which gives what Mr. Hoar refers to as a "normal or commercial value" of $14,025,000. To quote from Mr. Hoar's report, "this conclusion is based upon the cost of reproducing an equivalent deliverable output from officially recognized hydro-electric sources and indicates the limiting effect of potential competition in creating a temporary market value for the service which is considerably lower than its economic value."

Mr. Chas. H. Lee, formerly executive member of the California State Water Commission, was retained by the Cities to prepare figures upon the value of the water rights under consideration, with results that are in striking contrast to those of Mr. Hoar. Mr. Lee's report shows the effect upon the economic value of water rights as determined by Mr. Hoar of changes in the price of fuel oil upon which the figures are based. This

calculation indicates that the value of water rights would vanish entirely should the permanent price of oil fall as low as 92¢ per barrel. In this connection it is interesting to note that since the presentation of Mr. Hoar's report the price which the Company pays for oil has fallen to 93¢ per barrel.

This would point to a present, even if temporary, water right value of practically nothing, and in almost the identical language in which Mr. Hoar described his finding of commercial value we may well say that this conclusion is based upon the cost of reproducing an equivalent deliverable output and indicates the limiting effect of potential competition in creating a temporary market value for the service which is considerably lower than its economic value. The same reasoning which limits the value established by competition with power produced from oil at $1.75 per barrel/or to a lower figure established by competition with power from distant hydro-electric sources will also limit that value to the still lower figure established by competition with oil fuel at 93¢ per barrel.

Mr. Lee made an analysis of the estimates of cost of future production from the proposed Big Creek plants and has compared the figures used by Mr. Hoar with other figures published by Southern California Edison Company, by which he shows a value of Pacific Gas and Electric Company's water rights far below that calculated by Mr. Hoar and in some cases equal to, or less than nothing.

This phase of Mr. Lee's report precipitated an answering report from Mr. Hoar which was in turn answered by Mr. Lee and during the hearings the ensuing battle of reports threatened to reduce the engineers' calculations from testimony to comedy. Considering the question in all seriousness, however, it is plainly apparent that the variety of figures given to the public

in connection with the proposed development and the natural scarcity of definite information as to many of the important details, have enabled two reputable engineers so to choose and manipulate their figures as to arrive at radically different conclusions.

Aside from the question raised by Mr. Lee as to the reliability of Mr. Hoar's figures, we cannot accept the theory upon which he has used them. The inclusion in the return allowed Pacific Gas and Electric Company of an earning on a value of its water rights fixed on the suggested basis would make the cost of power delivered at transmission substations the same as the cost to Southern California Edison Company of power delivered at its transmission substations. The application of the same principle to other companies would have the same result, and instead of valuing property and examining operating expenses for each company, we should in the future fix rates by the simple application of an estimate of future costs on some proposed system. Hydro-electric projects more favorably situated by reason of physical characteristics, accessibility, or even rates of wages of operating forces, would profit accordingly, and those less favorably situated in the same respects would be at a disadvantage or would fail entirely.

The choice of the project to be used as a yardstick in this scheme would seem to be a matter of importance but the qualifications proposed by Mr. Hoar are that it be large and unable to capitalize its water-right values. He points out that the proposed Big Creek development meets both these conditions.

Mr. Lee also made a study of the prices which have recently been paid by Mt. Shasta Power Corporation for water rights on the Pit River which have recently been acquired in connection with the developments which are now being carried forward for the use of Pacific Gas and Electric Company. While these

figures involve a number of estimates, they indicate that on the basis of prices which have recently been paid for these rights upon the Pit River, the rights necessary to produce the amount of power that is now being produced from the rights, the value of which is in question, would cost something less than $750,000. In spite of its evident limitations, this figure is developed on a far sounder theory than that used by Mr.Hoar. We are endeavoring to fix a value to be used as a basis of earnings and the attempt to use the earnings and expenses of this Company or any other as a basis for that value is unsound. On the other hand, Mr. Lee uses the cost of acquiring similar rights, which is in the nature of a trading or market value.

From a careful consideration of all of the evidence presented in this case we come to the conclusion that the reasonable figure to be applied in this proceeding to the operative water rights owned by Pacific Gas and Electric Company on December 31, 1919, is $1,500,000.00.

Going Value

The claim of $15,000,000 of going value urged by applicant is based directly upon the testimony of its Vice President and General Manager, Mr. John A. Britton. Mr. Britton testified to fifty years experience in the utility business in the territory now served by Pacific Gas and Electric Company and described at length the growth of that Company, with whose property he has been connected almost since the beginning of service by its first predecessor, many years before the incorporation of the present Company. After giving careful consideration to all of the factors involved, Mr. Britton expressed it as his opinion that the Going Concern Value of Pacific Gas and Electric Company was not less than $15,000,000. The Company undertakes to support this figure by an analysis of past earnings of the

Company showing that in its electric department the accumulated deficit below a uniform return of 8% upon historical cost of the properties amounted to $15,559,312. on December 31, 1919. We do not believe a utility should be allowed to capitalize its early losses on the basis of an 8% return compounded over the whole period of its history. A similar computation shows that about $7,000,000 would have been accumulated in excess of a 6% return, which is the highest rate that could be given any consideration in this case. We therefore cannot accept this claim of accumulated deficits in support of Going Value.- Legitimate Development Expense when satisfactorily proven to have been incurred may properly be included in the Rate Base, but in view of the above calculations it cannot be said that any such legitimate expense was proved to have been made.

It cannot be denied that some element of value attaches to a business because of the existence of a trained and efficient organization and of the customers necessary to make it a going concern, but we cannot agree with the Company's Attorney in his description of the nature of this value. In carrying out his idea of reproduction cost as representing value, he described a system such as that of Pacific Gas and Electric Company, complete as to physical property, but with neither operating organization nor consumers, and claimed it to be worth the cost of reproduction of the physical property. He then dwelt upon the undebatable fact that the value of such a property would be increased by a smoothly running operating organization and several hundred thousand consumers attached to its lines and contributing to its financial support. The fallacy in this line of reasoning is in the assumption that such a system without consumers or operating organization is worth the cost of reproducing the physical property. As mere

material, it is worth only its salvage value, and as a part of a public utility it is worth its ultimate value as an operating concern, less the cost of building up the organization and securing the consumers. As we are concerned with the difference between the value of the bare property and the ultimate value of the system and business, this leads us into one of the circles of reasoning that are so difficult to avoid when we attempt to apply the usual ideas of value, which are largely based upon earning capacity, to a situation where earnings are to be based upon value.

A little further analysis we believe shows that the Going Value of a property is due to its ability to earn a return and is not the kind of value upon which a return should be allowed. In this it is somewhat similar to the premium which is very frequently paid when bonds are called before their maturity. The fact that his money is invested at a satisfactory rate of interest for several years to come is of value to an investor. If his principal is to be paid back and the interest stopped he demands some compensation for relinquishing this advantage he enjoys of having his money satisfactorily invested, but as long as he enjoys that advantage he does not expect interest upon the value of the advantage as well as upon the money invested. In the same way the ownership of a property, whether utility or non-utility, that is earning a reasonable return, has a value to the owner, but we do not believe that he is necessarily entitled to an earning upon this value as well as upon the value of the property.

No other treatment of this kind of value appears to lead to any definite result. If the right or the ability of a given property to earn a certain return is of value the right or ability to earn a larger return is certainly of greater

value. The inclusion of this going value in the rate base increases the amount of return, which must increase the going value, which will still further increase the return, again increasing the going value, and we thus find ourselves in an ascending spiral approaching infinity as a limit. No allowance for going value will be made in this proceeding in the rate base upon which a reasonable return is to be calculated.

Sierra Property:

In connection with the property of Sierra and San Francisco Power Company, operated under lease (hereafter referred to as the Sierra property) the question arises whether Pacific Gas and Electric Company is entitled to a fair return upon the value of the property or whether the rental payments under the lease should be considered as an item of operating expense. This question has arisen before, notably in connection with the rental paid by The Southern Sierras Power Company for properties leased from Nevada-California Power Company. In that case the value of the property was used as a basis for determining the fair amount of the rental. (Decision 8119, 18 C.R.C. 818). Were the actual rental payments to be considered in the present case, they would necessarily be checked against a return on the property leased. It will therefore be in the interest of fairness and simplicity to accept applicant's suggestion and consider only the return on the value of the property of the Sierra Company.

The claims for the value of the Sierra property are based on evidence introduced by the Sierra Company in Application 3602, which, since the execution of the lease, has been consolidated with the present proceeding. These claims may well be considered in detail under the same headings as the claims made by applicant as to its own property.

Sierra Structural Property:

An inventory and appraisal prepared by Mr. C. J. Rhodin, Consulting Engineer for the Sierra Company, included an estimate of historical reproduction cost which has been used by Pacific Gas and Electric Company in showing the historical cost of these properties in connection with the historical appraisal of its own properties. To reach a figure for the Sierra properties comparable with the estimated reproduction cost of its own properties on the five year average prices, the Company has taken Mr. Rhodin's historical valuation as a basis and by correcting for differences between historical prices and five year average prices has derived a new figure to represent the cost of reproduction of the Sierra properties at the five year average prices. These two sets of figures are summarized in Table 4.

TABLE NO. 4

Operative Structural Property
Electric Department, Sierra and San Francisco Power Co., Dec. 31, 1919.

	Estimated Reproduction Cost	
	Historical Prices	Five Year Average Prices
Production - Hydro	$ 5,740,078	$ 7,109,434
Production - Steam	1,372,814	1,958,905
Transmission	1,994,430	2,799,861
Distribution	2,684,173	3,417,905
Electric Dept. General	194,900	257,569
Total	11,986,395	15,543,674

An analysis of the figures for historical cost of structural property submitted by Pacific Gas and Electric Company in this case, shows that they correspond within very close limits with an inventory and appraisal prepared by the Commission's engineers in connection with Application 3602 and they will therefore be used as presented.

208

Sierra Lands:

A similar analysis of the present value of Sierra Company lands, as submitted by Pacific Gas and Electric Company, indicates that estimated increases in the value of right-of-way easements have been included in this claim, as they were in the claim relating to property of Pacific Gas and Electric Company itself. Consideration has already been given to this question and in following the principle established certain modifications will be made in the figures submitted, as shown in Table 5.

TABLE NO. 5

Value of Operative Lands
Electric Department, Sierra and San Francisco Power Company
Property of Dec. 31, 1919; Value of June 30,1921.

	As Claimed, Exh. 31-a	As Found Reasonable.
Production - Hydro	$ 67,108	$ 67,108
Production - Steam	138,962	138,962
Transmission	301,279	159,639
Distribution	54,579	35,202
Electric Dept.-General	4,493	4,493
Total	$566,421	$405,404

Organization Expense:

The claim of organization expense is based upon Mr. C. J. Rhodin's estimate of the reproduction cost new of the organization of the Sierra Company. The evidence in Application 3602 also includes a statement of the historical cost of organization presented by Mr. Rhodin. A comparison of these two figures is shown in Table 6.

TABLE NO. 6

Organization Expense, Electric Department, Sierra and San Francisco Power Company
Property as of December 31, 1917

	Estimated Cost to Reproduce Dec. 31, 1919	Historical Cost
Legal expense incidental to incorporation		$ 68,759.29
Promotion expense		30,000.00
Total organization expense	$100,000	$ 98,759.29
Franchises		386.00
Cost of acquisition		3,800.00
Total franchises	10,000	4,186.00
Other intangible capital	75,000	
Engineering reports, Market studies, Preparation work, etc.		63,500.00
Total	185,000	166,445.29

While the second column of this table purports to show historical cost, there is some question as to the propriety of the amounts shown for promotion expense and for engineering reports, market studies and preparation work. These items total $93,500, which is more than one-half of the total claimed cost of organization. As before pointed out, the amounts found by the Commission to have been judiciously expended for organization expenses have ranged from one-half of one per cent. to one per cent. of the rate base. In this case it appears that considering the size of the Company and other factors affecting the cost of its organization, an allowance of $100,000, or approximately two-thirds of one percent. will be reasonable. This sum does not include the cost of franchises, which will be considered separately.

Sierra Water Rights:

The value of $1,282,800 for the water rights of the Sierra properties was also presented by Mr. Rhodin on behalf of that Company. The principal item of this figure is an estimate of $1,250,000 for the cost of the Company's principal

water rights, which are located on the Stanislaus River in connection with the Stanislaus Power House. To this amount has been added $32,800 for water rights on the South Fork of the Stanislaus River, which are tributary to the Phoenix Power Plant and which have been valued by applying to the figure for the water rights of the Stanislaus plant the ratio of installed capacities of the two power houses. The figure of $1,250,000 is, therefore, fundamental to the estimates of the cost of all of the rights and consideration may be limited to it. This figure is an estimate of the cost of the water rights in question, based upon an appraisal of securities issued to the original locator of the rights at the time a Company was first formed for the purpose of development and of securities issued some years later when the original company was reorganized and the present Sierra and San Francisco Power Company formed. It is assumed that securities which did not represent an equity in constructed or acquired physical property were issued for intangible property and that water rights constituted the only intangible value. The details of the calculations involved have been carefully analyzed and while it is not necessary to discuss them at length, certain outstanding facts are of importance.

The securities upon which the appraisal is based were not generally traded in by the public at the time they were issued and Mr. Rhodin has therefore been compelled to resort to prices established in a few transfers which were to a large extent between the parties interested in the organization or reorganization proceedings. In the instance of the securities first issued, the development was entirely in the future, while in the second instance the development was in the hands of a bankrupt corporation and all hope of profitable operation

was in the future in this instance as well as in the other. In neither case did the rights in question have any proved value upon which the security issues could have been based, nor is there any proof that water rights were the only basis upon which the securities appraised were issued. The price that a more or less optimistic speculator is willing to pay for the hope of a future profit certainly bears no relation to the cost of the water rights which could have been but one of many elements contributing to the possibility of that profit and such speculative payments, even if satisfactorily established, would have even less connection with present value.

The evidence presented by Mr. Rhodin indicates that approximately $225,000 of actual money was spent in connection with the original location of these rights and the sum of $250,000 appears to be a liberal allowance for water rights in this proceeding.

Sierra Development Cost:

In support of his claim for development cost, Mr. Rhodin presented an analysis showing the cost of bond money of the Sierra Company to have been approximately 6.4 per cent. and that the accumulated deficit below a return of 6.4 per cent. on the historical cost of property from year to year would total $2,335,347 up to December 31, 1917. To this he adds $76,138 on account of expenses in connection with the negotiation of a contract for the sale of power by the Sierra Company to United Railroads of San Francisco, and arrives at a total of $2,411,485, which is the amount that was claimed by the Sierra Company in its application and which Pacific Gas and Electric Company now claims. Mr. Rhodin's testimony in connection with the water rights of the Sierra Company and other records before the Commission give some facts in connection with the history of this

development which throw some light on this claim for development cost.

Sierra and San Francisco Power Company was incorporated to take over the assets of two defunct companies which had commenced the development of a water power project on the Stanislaus River. All of its common stock was placed in the hands of United Railroads Investment Company, which also controlled United Railroads of San Francisco, and the project was completed and for several years operated primarily to supply hydro-electric power for the operation of the street railway system of San Francisco. Of late years a general electric business has been added to the lines but even for the year 1921 almost 50 per cent. of the revenue of the Sierra System was from the railway business.

While the record does not support any supposition that part of the deficit which Mr. Rhodin has calculated was due to an improper rate for the power sold to a closely allied consumer, the fact that the Company's existence during its early years was largely for the benefit of this one large and closely allied consumer is important in connection with the consideration of a development cost to be allowed as a basis for the rates to be charged the general public. The justification usually advanced for the capitalization of a development cost in this way is that during its early years a utility operates at a loss while extending its system and placing itself in a position to serve the public; that this loss is just as much a part of the cost of the property as is the cost of the constructed plant, and that therefore a return should be allowed upon the aggregate loss upon the same basis as upon the plant. In the present case, however, the loss was not incurred while the Company was placing itself in a position to serve the public, but was the result of operations carried on for the indirect benefit of the stockholders of the Company. The claim

that the public should be burdened with the return on these losses therefore appears rather far-fetched. Neither are we satisfied with the reasons presented for an expenditure of $76,138 in the negotiation of a power contract between the right hand and the left hand, nor with the implied contention that the existence of that contract has benefitted the public served from the Sierra System. No allowance will be made for the item of development cost.

Franchises:

In the revised figures no allowance has yet been made for the cost of acquisition of franchises. The franchises of Pacific Gas and Electric Company were apparently considered as constituting a part of the Going Value, an item which has been largely eliminated herein, and we have excluded franchise costs from the organization expense of the Sierra Company. The annual reports of Pacific Gas and Electric Company, filed with the Commission and stipulated into the record, show a complete list of that company's franchises, and after due consideration we find $25,000 to be a fair estimate of the amount to be allowed in this case. In the case of the franchises of Sierra Company, Mr. Rhodin shows the payments made directly for franchises to be $386 and gives a figure for the expense of acquisition of $3,800. We believe that $4,000 will be a reasonable allowance for these franchises, making a total allowance for all franchises in connection with the property operated by Pacific Gas and Electric Company of $29,000.

Working Capital:

In giving consideration to the allowance which should be made for working capital, it seems that attention should be directed to the amount of business which Pacific Gas and Electric Company transacts as a whole rather than to operating expenses or

other factors affecting either part of its system. In making its estimate of the amount of working capital required, applicant has taken one-sixth of the annual operating expenses exclusive of taxes, which amounts to $1,485,000 and has added the inventory of materials and supplies actually on hand in its warehouses, excluding, however, those which are held for use by the construction department. These materials and supplies are valued at $3,165,000, making a total of $4,650,000 from which has been deducted $388,336 advanced by consumers in order to secure the construction of line extensions and now held by the Company subject to refund in accordance with agreement. This leaves a net figure of $4,261,664 which is the Company's claim for working capital. In estimating the amount of cash necessary to be carried on hand at one-sixth of the annual operating expenses, applicant has followed a rule which has often been used by this Commission in the case of smaller utilities. As a concern grows, however, the amount of cash which must be carried on hand to meet incoming invoices, etc., does not increase in proportion. This Company is now firmly established and receives remittances from consumers and pays bills for supplies practically every day in the month. It must carry a safe balance in bank but the amount of this balance does not bear the same relation to the period that elapses between the date of service rendered and the receipt of consumer's payment, as it does in smaller and weaker companies. In view of these conditions, the sum of $1,250,000 will be considered adequate for this item.

Another factor to be considered in connection with the matter of working capital is that under the method of accruing taxes used as a basis for estimates elsewhere in this Decision, taxes are accrued before payment rather than after. The Company is therefore accruing money which is paid out at

six months intervals instead of monthly as in the case of other operating expenses. The total amount of state taxes, as estimated elsewhere in this Decision, is, roughly, $1,700,000 per year. Under the method of monthly accrual and semi-annual payment, the Company will evidently have an average of one-quarter of this sum on hand at all times, and $425,000 may therefore be deducted from the amount of cash necessary to be considered as a part of the working capital.

The evidence shows that the sum taken for the value of material and supplies includes all material on hand in the Company's local warehouses but none of the material destined to be used by the department of the Company which handles the heavy construction work such as new transmission lines, substations, etc. A great deal of the material in local warehouses, however, finds its way into the smaller extensions to plant and is not kept on hand for operating or maintenance purposes. Careful consideration has been given to this factor in other cases before the Commission and in this instance we believe that an allowance for materials and supplies of $1,500,000 will be entirely adequate.

The total allowance to be made for Working Capital will be:

Working Cash	$1,250,000	
Materials & Supplies	1,500,000	
Total		$2,750,000
Deduct Av. tax accruals on hand		425,000

Net allowance for working capital $2,325,000.

For the sake of clarity the deduction on account of consumers' advance payments on account of line extensions will be shown separately instead of including it with the consideration of working capital.

Additions and Betterments:

In the foregoing, consideration has been directed

entirely to the estimate of the reasonable historical reproduction cost of the physical property as of December 31, 1919 and the figures already discussed must therefore be increased by a proper allowance for additions and betterments to the system since that date. The cost of these additions and betterments is reflected in the books of the Company, which are kept in accordance with the requirements of the Commission, and there has been but little question in regard to the correctness of the figures presented. One correction that is worthy of mention is the addition to the figures presented of $119,834 spent in the acquisition of certain water rights. Because its claim for water rights was based upon their value as estimated by the Company, the Company deducted this figure from the cost of additions and betterments. Upon the basis used by the Commission this item should be included with the allowances for water rights previously discussed. Summarizing the findings as to reasonable historical cost and adding the additions and betterments to June 30, 1921, we have the physical capital for that date as shown in Table No. 7.

TABLE NO. 7.

Estimated Reasonable Historical Reproduction Cost, Electric Department Property, Pacific Gas and Electric Company, Including Land at Present Value.

	December 31, 1919			
	Owned System	Leased System	Total	Total June 30, 1921.
Production-Hydro	$25,546,544	$ 5,807,186	$31,353,730	$32,134,964
Production-Steam	5,835,893	1,511,776	7,347,669	7,407,954
Transmission	9,131,062	2,154,069	11,285,131	12,527,756
Distribution	30,901,612	2,719,375	33,620,987	36,383,285
Electric Dept. General	971,857	199,393	1,171,250	1,323,409
Pro rata of all depts.	1,539,151		1,539,151	1,747,601
Total	$73,926,119	$12,391,799	$86,317,918	$91,524,969

The addition to the total shown in this table of the additions and betterments for the last six months of 1921 and a proportion of estimated additions and betterments for 1922 corres-

ponding to the part of the year the property will be in operation results in a figure for average physical capital for the year 1922 of $105,413,461. This includes the new Spring Gap power plant on the Sierra System and the Hat Creek plants of Mt. Shasta Power Corporation, all of which were placed in operation in 1921. There is also included a proportion of the cost of the Pit No. 1 plant and transmission line of Mt. Shasta Power Corporation which were placed in active operation October 15, 1922. A question as to the extent to which the full capacity of this transmission line can be utilized under present conditions of load and plant development will be taken up at a later point. The combination of physical capital with the allowances for other elements of the Rate Base previously discussed, is shown in the second column of Table 8 and gives a total of $109,723,695 as the sum upon which a reasonable return should be earned.

TABLE NO. 8

Reasonable Rate Base, 1922
Electric Department, Pacific Gas and Electric Co.
Including system of S. & S. F. P. Co. operated
Under Lease

	Company's Claim	Commission's Finding
Physical Property, including land	$133,170,586	$105,413,461
Organization Expense	559,736	474,736
Water Rights	15,307,800	1,869,834
Going Value & Development Cost	17,411,485	
Franchises	-	29,000
Working Capital	4,650,000	2,325,000
Deduct consumers' advances on line extensions	388,336	388,336
Total Rate Base	$170,711,271	$109,723,695

Rate of Return:

In its early decisions dealing with the rates of electric utilities, the Commission gave careful consideration to the rate of return that should be allowed upon the reasonable investment and in a number of cases held that 8 per cent. per annum would be a fair return. In later cases this figure was frequently adopted, although where special considerations were involved or where such return would appear to be unreasonable to the consumer it was not always adhered to. With the increase of interest rates at the time of the war and immediately thereafter, even the strongest utilities found that they could not borrow money without paying more than 8 per cent. interest and in a number of recent decisions recognition has been given to this fact by the consideration of a return of 8 per cent. on money invested before the war and a slightly higher return on money invested during the period of high interest rates. In the case now before us, however, we find that Pacific Gas and Electric Company has made only a comparatively small investment during the years in which interest rates were above normal.

Under such circumstances, we see no reason for allowing a return materially greater than that which would otherwise be found reasonable. It is true, however, that some investment was made during the period of high interest rates and that the average cost of the money invested is slightly greater now than before the war.

An Income Tax has been imposed by the Federal Government since this Commission first acquired jurisdiction over power utilities and established what it considered a fair rate of return. This tax is now 12½ per cent. of net revenue after bond interest, depreciation and certain other smaller deductions, which in this case is equivalent to approximately four-tenths of one per cent. on the reasonable rate base found herein. If this tax were allowed as a part of the return to the company, a return of 8.4 per cent. at the present time would be approximately equivalent to the 8 per cent. allowed in 1913.

On the other hand, the Company is larger, has a more diversified business and has, by absorption, eliminated the prospect of no small amount of competition. More than ever before the production and distribution of electrical energy is recognized as an essential and basic industry and the confidence of the investing public in the soundness of state regulation is becoming more firmly established. The benefits to the investor of supervision of financial operations and the encouragement by large utilities of "customer ownership" have contributed to a wider distribution of securities and a broader market for new issues. Under such conditions a utility should be able to finance itself much more cheaply than before and we believe that this factor may fairly and safely be considered as off-setting the effect of Federal Income Tax and of the increase in interest rates during the period of high price in so far as such interest rates have affected the operations of this Company. A return

of 8 per cent. upon the estimated reasonable investment will therefore be allowed in the present proceeding.

Depreciation:

In its Exhibit No. 40, applicant presents an estimate of reasonable depreciation annuities to be allowed upon the property of June 30, 1921. This set-up is calculated upon the 6 per cent. sinking fund basis which has been used by the Commission during recent years, and the lives used are in line with those used in recent decisions of the Commission. The suggested annuities have therefore not been subject to serious question. A summary of the exhibit is shown in Table No. 9.

TABLE NO. 9

Depreciation Annuities, Six per cent. Sinking Fund Basis, Operative Electric Properties of June 30, 1921, Pacific Gas and Electric Company and Sierra and San Francisco Power Company. (Summarized from Applicant's Exhibit 40.)

Pacific Gas and Electric Company:

	Historical Cost, Non-Landed Property	Av. Rate (Approx.)	Annuity
Production - Hydro	$27,591,325	0.64%	$175,482
Production - Steam	5,537,344	2.13	117,641
Transmission	9,472,239	1.13	107,364
Distribution	33,264,856	2.67	888,252
Electric Dept. General	897,652	4.24	38,034
Pro rata of all Departments	1,260,873	3.25	40,931
Total	$78,024,289		$1,367,704

Sierra and San Francisco Power Company:

Production - Hydro	$ 5,740,504	0.71	$ 40,740
Production - Steam	1,393,195	2.15	29,886
Transmission	1,994,806	.63	12,679
Distribution	2,788,744	2.28	63,448
General	216,699	4.94	10,648
Total	$12,133,948		$157,401

Total Depreciation Annuity - Owned and Leased Property $1,525,105

It has been our position in recent cases that an income allowed a utility for specific purposes, such as depreciation of its plant, should be used only for that purpose, and utilities have therefore been required to account strictly for depreciation annuities which they have been permitted to earn. This also applies to interest upon the accumulated reserve which is expected to supplement these annuities and at the end of the useful life of the property provide a sum sufficient to retire it. In contemplation of such an order in this case, Mr. L. S. Ready, the Commission's Assistant Chief Engineer, introduced in evidence a calculation of the proper amount of the depreciation reserve for Pacific Gas and Electric Company's property as of January 1, 1922. Mr. Ready's calculation was based upon the assumption of the earning of annuities in the past comparable to those suggested by the Company in the present proceeding and he followed the history of the reserve from 1906 to the present time, finally arriving at the conclusion that the reserve should now amount to approximately $10,000,000. The Company denied the correctness of this estimate and presented another calculation, based upon the condition of the property as determined by the engineers during the valuation made for this proceeding. It found that upon the 6 per cent. sinking fund basis the reserve for the depreciation found by the engineers from an inspection in the field should amount to approximately $7,000,000. Consideration of the two methods followed shows a number of reasons for the differential in final result, chief among which may be mentioned the fact that depreciation annuities as proposed by the Company and as usually allowed are intended to cover inadequacy and obsolescence as well as deterioration, while an estimate of the present condition of the property based upon inspection, would rest almost entirely upon

the factor of deterioration. It is doubtful, however, if this consideration would account for the entire difference between the figures arrived at by the different methods of calculation. The attorneys for the Company and for the Cities agreed that probably neither calculation was strictly correct and urged that consideration be given to both of them. We are inclined to agree that this is the proper procedure, and after full consideration have concluded that the reserve for the property of Pacific Gas and Electric Company, exclusive of Sierra properties, as of January 1, 1922 should amount to $8,000,000. As Mr. Ready's calculation was based almost entirely upon the annuities suggested by the Company in its Exhibit it seems clear that if the reserve which he has calculated is too large, the suggested annuities upon which he has based his calculations are also too large and should be somewhat reduced. Further revision in the sums to be earned on account of depreciation will be necessary on account of revisions which have been made in the estimates of reasonable cost of the property in question and on account of additional property placed in operation since the effective date of applicant's calculations.

The Sierra property did not come under the control of Pacific Gas and Electric Company until January 1, 1920 and that Company cannot be considered responsible for the accretions which should have reached the reserve before that date. In the present proceeding, however, a return is being allowed upon the full estimated original cost of the Sierra properties and Pacific Gas and Electric Company may reasonably be required to add to the reserve each year interest at 6 per cent. upon the accrued depreciation, and may also be held responsible for the sums which should have been added to the reserve since January 1, 1920, when it assumed control of the Sierra properties. The

Order accompanying this decision will provide for the setting up of a depreciation reserve for the Sierra property and for the setting aside each year, in addition to the annuities herein allowed, of interest at 6 per cent. on not less than $1,500,000 as of January 1, 1922. In suggesting the depreciation annuity to be earned upon the Sierra property, applicant used the same lives as in calculating annuities upon its own property, and the reduction in the annuities for Pacific Gas and Electric Company property will also be applied to the annuities for the Sierra properties. The annuities which we find to be reasonable for the year 1922 are $1,279,100 for Pacific Gas and Electric Company property and $152,700 for Sierra and San Francisco Power Company property, a total of $1,431,800 for the system.

Operating Expenses:

Actual operating expenses for the calendar years 1920 and 1921 are shown by exhibits filed by the Company, and early in the year an estimate of expenses for 1922 was presented. Near the close of the case this figure was somewhat revised in the light of the actual experience of the first eight months of the year. Operating revenue and expenses for the years 1920, 1921 and 1922, covering the period during which the properties have been under unified operation are shown in Table No. 10.

TABLE NO. 10.

Operating Revenues and Expenses, Electric Department, Pacific Gas and Electric Company. Including Leased Property.

	1920	1921	8 mos. actual 4 " estimated 1922
Gross Revenue			
From consumers	$21,553,632	$22,480,029	$23,475,266
Inter-departmental	387,849	418,018	481,080
Total	$21,941,481	$22,898,047	$23,956,346
Operating Expenses			
Maintenance	1,885,695	2,196,558	1,950,254
Operation			
Fuel Oil	4,550,335	2,168,107	1,448,583
Purchased Power	693,642	1,357,943	1,445,804
Other Operating Exp.	945,658	967,631	989,533
Transmission	262,566	290,294	333,189
Distribution	1,981,792	2,277,046	2,380,876
General & Administrative	660,929	784,250	791,280
Taxes	1,697,879	2,095,027	2,239,245
Insurance & Bad Debt Res.	196,776	314,818	340,900
Total	$12,875,272	$12,451,674	$11,919,664
Net Revenue Available for Depreciation & Return	$ 9,066,209	$10,446,373	$12,036,682

These figures for 1922 are largely the result of actual operations and may be accepted as fairly showing the charges that will be made upon the books for the year. Their reasonableness as a basis for future rates is subject to some consideration.

During the war and immediately following, great difficulty was experienced in securing labor and material for maintenance work, and as a result many repairs necessary to keep the system in efficient operating condition but not immediately required, were postponed. During the past three years, it has been necessary to catch up with this work, and there was much argument as to how much of the recent maintenance expenses were due to normal maintenance and how much due to this deferred maintenance. Engineers representing cities and the Railroad Commission made a study of maintenance and operating expenses for the past seven years, analyzing unit costs and the effect of changes

in the levels of material prices and wages. From a consideration of this study and of the testimony of the Company's witnesses, we believe that part of the maintenance reported for the year 1922 is due to the deferring of work from previous years. A reduction of $100,000 in the figure for maintenance will be made before considering it as a basis for future rates.

Taxes:

In setting up its figures for taxes, the Company has calculated State taxes upon the basis adopted by this Commission in recent decisions - that is, the figure used is the amount of the tax that is levied and becomes a lien upon the property during March of the calendar year. One-half of this sum is payable in July and the other half early in the following year. The inclusion of taxes in operating expenses upon this basis, therefore, results in the accrual of each installment of taxes during the six months preceding its payment. In connection with the allowance for Working Capital, consideration is given to the use which the Company has made of the money so accrued. The legality of this method of treatment of State taxes is now before the Supreme Court of this State in the case of Saunby vs. Railroad Commission. The contention is made in that case that the taxes to be included in operating expenses are those actually paid during a given calendar year instead of those levied and becoming a lien. The result of such a policy would be that installments due in January and July would be accrued after payment rather than before and tax requirements would have to be added to instead of deducted from Working Capital as calculated upon the basis of Operating Expenses exclusive of taxes. We believe the method we have adopted will more nearly result in the inclusion of taxes in the operating expenses of the property against which they are levied and that it is therefore

the more logical of the two.

Owing to the disposition of Federal Income Tax in the discussion above, this tax therefore is not allowed here as an operating expense.

The allowance for taxes which we consider reasonable for the year 1922 is $1,749,000.

Some question was raised regarding the reasonableness of the sums which the company desires to set aside to reserves for uncollectible accounts, fire and casualty insurance. The actual write-offs, on account of bad debts, are shown by the evidence to have averaged during the past seven years approximately four-tenths of one per cent of gross revenue and this appears to be a proper basis for the allowance to be made on this account. The application of this percentage to the gross revenue estimated herein to be reasonable results in an allowance for the electric department of $86,000.00 as compared with the Company's claim of $104,423.00. The report of the Commission's Auditing Department shows that the fire and casualty insurance reserve for all properties totaled $172,704.00 on December 31, 1921. In view of the fact that this Company is now operating property costing in excess of $125,000,000.00, with a large number of employees for whom casualty insurance must be carried, it can hardly be urged that $172,000 is an unreasonable reserve to hold for protection against loss from fire or accident. The amount of this reserve has considerably increased during the past two years, however, even with smaller accruals than those now proposed and we believe that the sum of $236,477.00 suggested may safely be reduced to $200,000.00. Adding the allowance for bad debt reserve already discussed gives a total for these reserves of $286,000.00.

Considering the sums already found reasonable for depreciation and return and adding the modified operating expenses,

we may build up the total gross revenue reasonably necessary for the year 1922, as in Table 11. Our audit of the Company's books shows an item of $11,000. of pole rentals received in excess of pole rentals paid, which has been credited to non-operating revenue, but which is earned through the use of property included in the rate base and which should, therefore be credited to the earning upon that property. This amount has been added to the Company's estimate of gross revenue for 1922 in bringing it forward for comparison with the revenue found to be reasonable for 1922.

TABLE NO. 11

Reasonable Gross Operating Revenue - 1922
Electric Department - Pacific Gas and Electric Co.
Including Leased Property of Sierra and San Francisco Power Company.

Return			
Rate Base	109,723,695		
Return at 8%		$8,777,900	
Depreciation		1,431,800	
Total Reasonable Net Revenue			$10,209,700
Maintenance		1,850,000	
Operation			
Fuel Oil		1,448,000	
Purchased Power		1,446,000	
Other Production		990,000	
Total Production		3,884,000	
Transmission		333,000	
Distribution		2,381,000	
General		791,000	
Taxes		1,749,000	
Insurance and Bad Debt Reserves		286,000	
Total Operating Expenses			11,274,000
Total Reasonable Gross Revenue			21,483,700
Revenue from Present Rates			23,967,300
Total Possible Reduction			2,483,600

No attempt will be made to set up detailed estimates of revenues and expenses for 1923, but as rates are to be fixed for the future rather than for the past, consideration will be given to some of the important respects in which operating conditions will be changed. Perhaps the most important of these changes will be the operation of the new Pit River hydro-electric plant

and transmission line for the entire year instead of for but two and one-half months, as in 1922. The result of this operation will be that a large amount of new hydro-electric power will be available and the cost of fuel oil and purchased energy will correspondingly be reduced. This reduction in operating expenses is offset by increased expenses due to the operation of the new plant and transmission line and by an important increase in fixed charges through the inclusion of a large amount of capital for a full year instead of for a fraction of the year. In anticipation of the readiness of the new plant during the fall, the Company was able to make more extensive use of its stored water during the summer of 1922 than would otherwise have been possible, and operations for 1922 show a greater proportion of the benefits of the new development than they do of its cost. It is urged by the representative of the Farm Bureau that this development has a capacity largely in excess of that which will be useful at the present time and that no part of its cost should be included in the rate base for 1922. However, the operating expenses and fixed charges for 1922 as calculated in the brief for the Farm Bureau are evidently based upon the use of energy from this plant and advantage is taken of a corresponding reduction in the cost of fuel oil and purchased power. This may be taken as an admission that the output of the plant could be advantageously used. The development of this plant and the transmission facilities necessary to bring its output to the center of load is one of those initial steps that must be taken from time to time in almost every business, and which involve an expenditure out of proportion to the immediate benefit to be derived, but fully justified if the future be considered. A careful consideration of the Company's past and prospective operations

leads us to believe that the reduction in operating expenses through the operation of this plant will no more than equal the additional fixed charges until the load has increased somewhat beyond that to be expected for 1923. A large development such as this can hardly be expected to earn a full return from the date of completion of its first unit, and it will have to be carried by the Company at a partial return until such time as a full return can be realized. It does not appear however, that any deduction in operating costs ought to be made on account of economies to be effected by the plant during the coming year.

Up to July 1, 1922, the price of fuel oil to Pacific Gas and Electric Company was $ 1.43 per barrel. Shortly after July 1st, 1922, two reductions in close succession brought this price down to ninety-three cents per barrel, at which it now stands. In applying a correction to the cost of fuel oil for the coming year on account of this reduction in price, consideration must be given to the decreased requirements on account of the availability of additional water power. Giving due consideration to this factor a reasonable correction in operating expenses for the coming year appears to be a reduction of $125,000.00. This indicates a total reasonable reduction in rates below the present level of approximately $ 2,600,000.00

There are on file with the Commission at the present time, and effective on applicant's system, fifty-eight (58) different rate schedules, in addition to special contracts including those for street railway service, street lighting service and other special service not covered by the regular schedules. Thirty-three (33) of these schedules apply on the Pacific Gas and Electric Company's system as it existed prior to the purchase of the Northern California Power Company, seventeen (17) on the system of the former Northern California Power Company and eight (8) on the system leased from Sierra & San Francisco Power Company. It was the consensus of opinion of all parties represented that the schedules should be simplified and reduced in number in so far as possible and still maintain flexibility. The present rates include some that were made to meet competitive conditions, some inherited from consolidated companies, and others occasioned by the retention of certain schedules now obsolete, but which were not possible of elimination except in a main rate proceeding such as this. An adjustment of rates to apportion more equitably the charges between groups of consumers and classes of service in connection with reduction of rates is advisable.

Much evidence was introduced relative to the division of the charges for electric service among the various classes of consumers. A detailed analysis was submitted by Mr. B. B. Beckett for Yuba Consolidated Gold Fields, Inc. and by Mr. H. G. Butler, engineer representing the California Metal and Mineral Producers Assn., setting forth estimates of the cost of service to the mining and gold dredging industries as compared with others, and the conditions surrounding the service tending to justify special consideration from the cost and value of service standpoints. An extensive study was also submitted by the reclamation interests thru their engineer, Mr. R. C. Clifford relative to the conditions affecting the cost, value, and quality of service rendered to this class of industry, and to a certain extent to agricultural service in general. Considerable evidence was submitted by Messrs. Vincent, Piatt, and Shaw

for the applicant, setting forth data relative to the matters of cost of service and suggestions as to rates. Recommendations were presented by the steel manufacturing industry urging modification in standard schedules to meet special conditions existing in its business. Evidence was introduced by the Commission's engineers relative to modification of the agricultural schedules and general changes in rates.

The fixing of rates and the equitable division of charges on a system as extensive as that of applicant is a problem in the solution of which no exact rule or formula can be used. The approximate cost of rendering the several classes of service; the economic value of the service to the individuals and groups of consumers; the rates heretofore in effect and their results upon the operations of the consumers; the elimination of discriminatory conditions amongst classes and districts and the general effect on future development of business of new rates must be considered in the division among the various classes and groups of consumers of the total revenue which the company is entitled to receive. Forms of rates must be relatively simple, yet must meet the widely varying conditions of retail and wholesale service. It is impossible and uneconomical to attempt to fix rates such that each district or each class of consumer will return to the Company an equalrate of compensation for the average proportion of the plant necessary for their service. The system is so extensive and receives power from so many points that the service to the different classes of consumers is largely interdependent as to costs.

It is the conclusion of practically all witnesses and of the various representatives before the Commission, that service to certain basic industries may reasonably be rendered at a less net profit on the average investment than must be obtained from the average of all classes. Also that within reasonable limits developing business and service in developing territory should not be expected to return to the utility as great a net as business in the more congested districts. Evidence in this proceeding indicates as has been many times stated, that

the profit or return upon capital invested in the congested incorporated territories is greater than in the developing rural territories served. If this is not to be continued the extension and development of the rural and unincorporated territory will be stifled and such policy must ultimately work to the detriment of the more congested districts. In the rates fixed herein consideration is given both to the justification on the one hand, for a lower lighting rate in the incorporated territory than in the unincorporated territory, and also to the justification and fairness of fixing a reduced rate for power sold for redistribution in unincorporated territory still in the development stage.

The rates in some instances upon the former Northern California system are lower than are herein fixed. However, the rates as they existed on that system were not such as made for healthy development and good service. It appears fair to fix at this time generally uniform schedules over the entire system including this district. The rates on the Sierra and San Francisco Power Company's system leased to the Pacific Gas and Electric Company are in many instances higher than those on the Pacific Company's system. Although complete corporate ownership does not exist, we can see no reasonable justification for fixing higher rates in the territory served from the leased system, than the rates fixed for territory adjacent thereto, operated by the same Company.

Three general lighting rates are fixed herein for the entire system, one for the congested metropolitan area of the bay district, one for other municipalities and incorporated territory on the system, and one for rural territory.

The conditions complained of in Case 1669 relative to discrimination in rates in the City of San Francisco are removed by the elimination of the zones heretofore in effect and the fixing of schedules applicable to the entire city.

Street lighting rates heretofore in effect have varied con-

siderably between communities and it appears at this time proper that a uniform schedule for street lighting be fixed, which shall be the standard for existing service, and future service to be supplied. In view of the fact that the schedule proposed, if made effective to all consumers to which it is applicable will result in material increases in certain instances, this schedule will be made applicable at this time to such service where rates will be reduced, and existing rates will be continued where they are lower than the proposed schedule until the end of the present contract period for the separate communities served, before the uniform standard is applied.

Special consideration has been given to the various recommendations made in the fixing of the cooking and heating schedules.

A general power schedule has been fixed applicable to commercial and industrial power service throughout the entire system. This schedule applies to service rendered at standard voltages.

The rates for agricultural service were considered by all those who have submitted any evidence in the case relative to charges to various classes of service and it is conceded by them that at the present time this class of service does not, and should not bear its ratable share of the costs.

Due to the nature of the industry the evidence shows that the present rates for agricultural service need revision for many reasons - the principal one of which is the number of optional schedules from which the consumers must choose the rate which they hope will be the most advantageous. The evidence also shows without contradiction, except in argument, that small installations operating at a low load factor are under present rates receiving an undue advantage in comparison with large and higher load factor consumers, and there is some indication that the small low load factor consumer is being served at less than the "out of pocket" cost. There appears to be a tendency in many instances for agricultural consumers to install large plants which will handle their irrigation quickly, thus saving

labor charges. Unless a proper differential is maintained between low and high load factor users, the proportion of short use will steadily increase with the resultant increase in average cost of agricultural service. It therefore seems advisable to modify the distribution of charges between various classes of agricultural consumers and at the present time to combine the optional schedules into one rate for increased consumption and eliminate the necessity of speculative choice before the commencement of the pumping season.

The evidence submitted by the reclamation interests indicates the advisability of a rate which will take into consideration the apparent low cost of service to reclamation consumers and at the same time be jointly applicable to both reclamation and irrigation, as plants are often used for both services. The present rates for reclamation service provide for the ownership of transformers by consumers. This requirement has been found by the Commission to be unsatisfactory. The transformers are a part of the necessary equipment for rendering service to the consumer, and should be owned by the Company, and service metered at the voltage at which the consumer receives the same. The rates herein fixed contemplate ownership of transformers by the Company and the metering of service on the secondary side of the transformers, but are also designed to give credit to the consumer where transformers are retained. The Company will be directed to submit to the Commission a plan for the taking over of transformers where the consumers elect.

The Reclamation districts point out that in several instances under the present rules of Pacific Gas & Electric Company they have been required to construct transmission and distribution lines across private property to their plants at their own expense; that due to the conditions existing, it is impossible for the transmission and distribution lines to follow the public highways, and that in view of this fact, the Company should be required to construct lines across private property in the general reclamation territory at its own expense. It does not

appear that the conditions in the territory where reclamation service is rendered are comparable with those where the territory is well divided up with public highways that can be reasonably used by the utility. Under these conditions at least the utility should extend wherever rights of way can be reasonably obtained, and not require consumers to construct and own parts of the general transmission and distribution system. The Company should take over existing lines coming under this classification.

Careful consideration has been given to the various claims and to the evidence submitted on behalf of the mining, dredging, and industrial interests. The wholesale power rate herein fixed is designed to give credit for the lower cost of service where high load factor exists, as in the dredging service, and it does not appear necessary to continue a special dredging rate at this time. The mining rates of the Pacific Gas and Electric Company are the inheritance of early attempts at rate fixing. The exclusive mining rates consist of flat energy rates per kilowatt hour regardless of load factor. The rates other than in the Mother Lode, are approximately twenty percent higher than rates in the Mother Lode district in Calaveras, Tuolumne and El Dorado Counties for similar service. A further disadvantage exists due to requiring ownership of transformers by consumers. We cannot conclude from the evidence that there is justification for a special reduction below the general power schedule for mining service. It does not appear on the other hand, that the Commission is justified at this time in requiring existing consumers on schedule P-5 and S.P.-2 to be placed on the general power schedules, although it does appear reasonable that as to all future mining consumers, this be required. With certain modification, the existing mining schedules P-5 and S.P.2 will be continued, but closed as to future consumers.

It is very apparent that some assistance should be given to resale utilities in the development of territory along the same lines that undeveloped territory is aided on the applicants system. In fixing the resale rate herein, a special discount has therefore been

applied to the standard resale schedule to be made applicable in proportion as the utility extends its system and renders service in the rural, as distinguished from incorporated territory.

Applicant is engaged in supplying a considerable portion of its energy for the operation of electric street and interurban railways. This service is rendered in some instances at 600 volts direct current, and in other cases, alternating current at 2200 and 11000 volts delivery, Railway Company operating the converting apparatus. The rates at present in effect have been based on special contracts with the different railway companies, but in general are fairly uniform. The rate for service to the Market Street Railway Company is provided under a special contract between the Sierra & San Francisco Power Company, and that railway company as successor to the original party to the contract, and provides for a number of services to be rendered by the Power Company in the form of installation of converting equipment and certain distribution lines which are normally not a part of the rendering of service to the railway company substations. Certain adjustments for the special conditions are included which it does not appear should be made the part of a rate for service to a railway company. It is our conclusion that a general rate for street railway service should be fixed, applicable to delivery of alternating current power at standard distribution voltage at substations or to the interconnecting net work of the railway company, and that additional services given should be covered by special agreement between the parties; this to apply to the delivery of alternating current service. In the case of the agreement of the power company to deliver direct current service, a standard rate should be fixed for this service based upon the metering as now generally in effect. It does not appear that as to street railway and general interurban railway service, the rate need be made on a load factor basis as the requirements for power are fixed largely by the demand of the public for transportation and are not within the control of the street railway company. Some limitation should however be

made where the load factor of the railway system is relatively low. A standard railway service rate is therefore fixed for all railway service on the combined systems.

The Company presented a proposed system of discounts and penalties to apply to large power consumers to give partial recognition to the effects of power factor on the cost of service. A system of discounts to apply on power service where improved power factor is obtained is advisable and such a plan should be adopted where practicable. The evidence and analysis does not appear such as to justify the acceptance of the proposal as submitted and it is suggested that this be the subject of further study and conference between the Company's and Commission's Engineers.

O R D E R

Pacific Gas and Electric Company having applied to the Railroad Commission for an order fixing just and reasonable rates, various complaints having been filed and consolidated therewith as herein (set forth) public hearings having been held, the matter being submitted and now ready for decision,

The Railroad Commission of the State of California hereby finds as a fact that the rates of Pacific Gas and Electric Company are unjust, unreasonable and discriminatory insofar as they differ from the rates herein provided.

Basing this order on the foregoing finding of fact and on the findings of fact in the opinion preceding this order.

IT IS HEREBY ORDERED as follows:

1. That Pacific Gas and Electric Company charge and collect for electric service now supplied under filed schedules the rates set forth in Exhibit "A" which is attached hereto and made a part hereof.

Such rates to be filed with this Commission on or before February 1, 1923, and to become effective for metered service with bills rendered based upon regular monthly meter readings taken on and after February 20, 1923, and for flat service delivered after February 1, 1923.

2. That Pacific Gas and Electric Company charge and collect for electric service now supplied under special contracts, the rates and charges set forth in said Exhibit "A" except where such schedules are not applicable to the conditions under which such service is supplied, provided that service for street lighting may at the option of the consumer be supplied at the rates provided in existing contracts exclusive of the 6% surcharge now in effect for service delivered after February 1, 1923, until the expiration of the term of such contracts.

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3. That Pacific Gas and Electric Company charge and collect for electric service now supplied under special contracts and under conditions to which the rates set forth in said Exhibit "A" are not applicable, the rates and charges provided in such special contract exclusive of the 6% surcharge now in effect, effective for metered and flat rate service as provided in "(1)" above.

4. That until July 1st, 1923, Pacific Gas and Electric Company charge and collect for electric service now supplied under schedule No. NC-3 CRC sheet 2041E the rates and charges therein provided including the 6% surcharge now in effect.

5. That Pacific Gas and Electric Company at the option of the consumers continue to charge and collect for service supplied to existing consumers under its schedule P-5 CRC sheet No. 1103-E and SP-2 CRC sheet 3029-E the rates and charges therein provided including the 6% surcharge now in effect provided that these schedules shall be closed to future consumers.

6. That Pacific Gas and Electric Company submit to this Commission for its approval, by July 1st, 1923, schedule of street lighting rates for service other than that covered in Schedule L-4 of Exhibit "A" attached hereto.

7. That in territory where public highways are not generally available for the construction of its lines, Pacific Gas and Electric Company shall hereafter construct necessary transmission or distribution lines on private property where right of way easements can be reasonably obtained under the same company rules that apply to the construction of lines upon public highways.

8. That on or before April 1st, 1923, Pacific Gas and Electric Company file for the approval of this Commission a statement of uniform conditions under which it will purchase transmission or distribution lines and transformers as required by section 7 of this

Order, or by provisions of rate schedules fixed in this Order to be hereafter provided by Pacific Gas and Electric Company, but now owned by consumers.

9. That on or before February 1st, 1923, Pacific Gas and Electric Company file for the approval of this Commission a statement of the entries which it proposes to make upon its books in adjusting depreciation reserves to comply with the principle laid down in the opinion preceding this Order.

10. That Case No. 930, City of Sacramento vs. Pacific Gas and Electric Company, Case No. 996, City of Grass Valley vs. Pacific Gas and Electric Company, Case No. 1203, City of Oakland vs Pacific Gas and Electric Company, Case No. 748, W.F. Wheeler, et al vs Sierra and San Francisco Power Company and Case No. 934, Peter Knollenburg, et al vs Sierra and San Francisco Power Company be, and the same are hereby dismissed.

11. That Case No. 840, City of San Francisco vs Pacific Gas and Electric Company and Case No. 1669, C.E. Moerhle, et al vs Pacific Gas and Electric Company et al, be and the same are hereby dismissed insofar as they concern Pacific Gas and Electric Company.

12. That Case No. 1786, City of Sacramento vs Pacific Gas and Electric Company be and the same is hereby dismissed insofar as it affects the future rates and charges of Pacific Gas and Electric Company, but that it be set down upon the calendar of this Commission for further hearing regarding petition of City of Sacramento for reparations on account of alleged past overcharges.

13. That the effective date of this order be January 20th, 1923.

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 30th day of December, 1922.

Commissioners

EXHIBIT "A"

SCHEDULE L-1

(Cancelling L-3, L-4, L-5 and L-13)

GENERAL LIGHTING SERVICE:

Applicable to general domestic and commercial lighting service, including household appliances and small power service.

TERRITORY:

Applicable to service within the incorporated limits of San Francisco, Oakland, Berkeley, Piedmont, Emeryville, San Leandro and Albany.

RATE:

First	10 KWH or less per meter per month	90¢	per month
Next	40 " per meter per month	6 ¢	" KWH
"	150 " " " " "	5 ¢	" "
"	800 " " " " "	4 ¢	" "
"	2000 " " " " "	3 ¢	" "
All Over	3000 " " " " "	2½¢	" "

SPECIAL CONDITIONS:

(a) Single phase motors of a capacity of 5 H.P. or less may receive service or may be combined with general lighting service under this schedule of rates at the option of the consumer, provided in case of combination service the total energy is supplied thru one meter.

The minimum charge applicable to this combination service is the minimum charge as set forth above.

(b) Motors of a capacity in excess of 5 H.P. may receive service or be combined with general lighting service under this schedule of rates at the option of the consumer, provided in case of combination service the total energy ~~is~~ may be supplied thru one meter, in which case the total minimum charge will be 90¢ per H.P. per month of motor load.

Combination will not be made between A.C. and D.C. service. Single phase and polyphase will not be combined unless obtainable from the same service wires.

(c) The Company has the option of refusing D.C. service where both A.C. and D.C. service are available.

SCHEDULE L-2

(Cancelling L-1, L-12, L-13, NL-1, SL-1 and SL-2.)

GENERAL LIGHTING SERVICE:

Applicable to general domestic and commercial lighting service, including household appliances and single phase service to motor loads not to exceed 5 H.P. capacity.

TERRITORY:

Applicable to service within all incorporated limits served by Company except San Francisco, Oakland, Berkeley, Piedmont, Emeryville, San Leandro and Albany.

RATE:

First	10 KWH	or less per meter per month	$1.00
Next	40 "	per meter per month	6¢ per KWH
"	150 "	" " " "	5 " "
"	800 "	" " " "	4 " "
"	2000 "	" " " "	3 " "
All Over	3000 "	" " " "	2½ " "

SPECIAL CONDITIONS:

(a) Single phase motors of a capacity of 5 H.P. or less may receive service or may be combined with general lighting service under this schedule of rates at the option of the consumer, provided in case of combination service the total energy is supplied thru one meter.

The minimum charge applicable to this combination service is only that minimum charge as set forth above.

SCHEDULE L-3

(Cancelling L-2, L-13, NL-1 and SL-1)

GENERAL LIGHTING SERVICE:

Applicable to general domestic and commercial lighting service, including household appliances and single phase service to motor loads not to exceed 5 H.P. capacity.

TERRITORY:

Applicable to service in entire territory served, outside of incorporated limits.

RATE:

First	10	KWH	or	less	per	meter	per	month	$1.25	per month
Next	40	"	per	meter	per	month	.....	7¢	"	KWH
"	150	"	"	"	"	"	.....	6	"	"
"	800	"	"	"	"	"	.....	5	"	"
"	2000	"	"	"	"	"	.....	4	"	"
All Over	3000	"	"	"	"	"	.....	3½	"	"

MINIMUM CHARGE:

(a) Where lighting service is supplied from a power bank of transformers or from distribution lines of 5000 volts or less the minimum is $1.25 per consumer per month.

(b) Where a separate transformer is required to be installed on distribution lines in excess of 5000 volts the minimum charge will be $2.50 per month for one consumer and $1.25/per month per consumer for two or more consumers.

SPECIAL CONDITIONS:

(a) Single phase motors of a capacity of 5 H.P. or less may receive service or may be combined with general lighting service under this schedule of rates at the option of the consumer; provided that, in case of combination service the total energy is supplied thru one meter.

The minimum charge applicable to this combination service is only that minimum charge as set forth above.

SCHEDULE L-4

(Cancelling Schedules L-6, L-7, L-8, L-9, L-10, L-11, NL-2 and SL-5)

STREET AND HIGHWAY LIGHTING:

Applicable to service to street, highway and other public outdoor lighting installations, using bracket, mast arm, or center suspension construction, and supplied from overhead lines, where the Company owns and maintains the entire equipment.

TERRITORY:

Applicable to the entire territory except the City of San Francisco.

RATE: (A) Incandescent Lamp Service.

	Lamp Rating	Monthly Charge per Lamp: Midnight Service	Monthly Charge per Lamp: All Night Service
Multiple Lamps			
	25 Watts	$ .90	$ .95
	40 "	1.15	1.25
	50 "	1.30	1.45
	60 "	1.55	1.70
	75* "	1.80	2.00
	100* "	2.20	2.50
	150* "	2.80	3.20
	200* "	3.10	3.75
	300* "	3.70	4.40
	500* "	4.30	5.40
Series Lamps	Candle Power		
	60	$ 1.20	$1.30
	80	1.50	1.65
	100*	1.65	1.85
	250*	2.80	3.20
	400*	3.40	4.05
	600*	3.90	4.80

* Includes a refractor. A diffusing globe, special highway reflector, or equivalent special reflector will be supplied on request. A deduction of $2.00 per year will be made for each lamp not equipped with refractor, diffusing globe or special reflector.

RATE (B): Arc lamps - Luminous (Magnetite)

Pendent Type	Monthly Charge: Midnight Service	Monthly Charge: All Night Service
4 ampere arcs	$3.80	$4.60
6.6 " "	4.20	5.00

SPECIAL CONDITIONS:

(a) In case where consumer desires incandescent lamp service beyond midnight, but not all night, the additional charge for the service after midnight will be on the basis of $.40 per month per rated kilowatt of lamp load connected for each hour burned after midnight.

(b) Rate (A) applies to installations of 10 or more lamps.

Where service to any consumer involves an installation of less than 10 lamps, the charges applicable will be those of Rate (A) increased by 10 percent.

(c) The terms "All Night", "Moonlight" and "Midnight" service have the following meaning:

All Night Service	-	4000	hours	per	year
Moonlight "	-	2240	"	"	"
Midnight "	-	2000	"	"	"

SCHEDULE C-1

(Cancelling Schedule No. C-1, NC-1, NC-2, SC-2)

GENERAL HEATING, COOKING AND COMBINATION SERVICE:

Applicable to general domestic and commercial heating, cooking and/or water heating service, and to combination lighting with heating, cooking and/or water heating service.

TERRITORY:

Entire territory served.

RATE:

(A) Heating, Cooking and/or water heating service

First	150 KWH per meter per month	3.5¢ per KWH
All Over	150 " " " " "	2.0 " "

(B) Combination lighting, with heating, cooking and/or water heating service

(1) Applicable to Residence, Flats or Apartments of 8 rooms or less.

First	30 KWH per meter per month	(x)
Next	150 " " " " "	3.5¢ per KWH
All Over	180 " " " " "	2.0 " "

(2) Applicable to Residence, Flats, or Apartments of 9 rooms or more.

First	50 KWH per meter per month	(xx)
Next	150 " " " " "	3.5¢ per KWH
All Over	200 " " " " "	2.0 " "

(x) Charge for first 30 KWH of the effective lighting schedule
(xx) " " " 50 " " " " " " "

MINIMUM CHARGE:

First 7 KW or less of heating, cooking and/or water heating capacity $3.00 per month
Over 7 " of heating, cooking and/or water heating capacity $.50 per KW per month

When the consumer signs a contract for service for a period of one year the minimum charges will be made accumulative for the service/year. The minimum charges are payable in monthly installments until such time as the accumulative energy charges equal the annual minimum charge.

SPECIAL CONDITIONS:

(a) Service will normally be 220 volt three wire A.C.

(b) Minimum charges are based on the total active connected load of heating, cooking and water heating capacity which may be connected at any one time.

No additional minimum charge will be made for lighting service in case of combination service.

(c) Rate (B) applies only where the consumer installs and uses cooking, heating and/or water heating appliances other than lamp socket devices of at least 2 KW capacity for residences, flats or apartments of 8 rooms or less and 5 KW for residences, flats and apartments of 9 rooms or more.

(d) Bath rooms, halls and cellars are not classified as rooms.

(e) Connected load will be taken as the name plate rating of all heating and cooking apparatus permanently connected and which may be connected at any one time computed to the nearest one-tenth of a kilowatt and in no case less than 2 KW. All equipment assumed as operating at 100% power factor.

(f) Single phase power service (5 H.P. or less) may be combined under this schedule in which case each horsepower of connected load shall be considered equivalent to one kilowatt of connected load in determining the minimum charge.

SCHEDULE C-2

(Cancels C-2, NC-2 and SC-3)

COMMERCIAL HEATING AND COOKING:

Applicable to Commercial Heating, Cooking and/or Water Heating. This rate is optional with Schedule C-1.

TERRITORY:

Entire territory served.

RATE:

The rate will be that provided in Schedule (P-1). In determining the size of blocks and minimum charges One Kilowatt of active connected load will be considered as one horsepower.

SPECIAL CONDITIONS:

(1) Service will normally be 3 wire, alternating current 220 volt.

(2) Connected load will be taken as the name plate rating of all heating and cooking apparatus permanently connected and which may be connected at any one time computed to nearest one-tenth of a kilowatt and in no case less than 2 KW. All equipment assumed as operating at 100% power factor.

(3) Single phase power service (5 H.P. or less) may be combined under this schedule in which case each horsepower of connected load shall be considered equivalent to one kilowatt of connected load in determining the rate and minimum charge.

SCHEDULE NO. C-3

(Cancels Schedule C-3, C-4, P-14 and P-15)

COMBINATION LIGHTING & POWER SERVICE:

Applicable to combination lighting with cooking and/or power service where the connected load or use of power and/or cooking load is at least 25% of the total load or use.

TERRITORY:

Applicable within the City and County of San Francisco.

RATE:

Demand Charge

First	25 KW of monthly maximum demand	$1.60 per KW
Next	50 " " " " "	1.30 " "
All over	75 " " " " "	1.00 " "

Energy Charge (To be added to Demand Charge)

First	1000 KWH per month	2.60¢ per KWH
Next	1500 " " "	2.10 " "
"	3500 " " "	1.80 " "
All over	6000 " " "	1.60 " "

MINIMUM CHARGE:

The Minimum Maximum Demand Charge will be not less than that based on 50% of the maximum demand created during the preceding eleven months and in no case less than $16.00 per month.

SPECIAL CONDITIONS:

(a) This schedule is exclusively a meter-rate, the maximum demand being measured by demand meters or indicators to be furnished and installed by the company upon the consumer's premises adjacent to or combined with watt-hour meter or meters which measure the monthly energy consumption.

The Maximum Demand in any month will be the average number of kilowatts indicated or recorded by the above meters in that 15-minute interval in which the consumption of electric energy hereunder is greater than in any other 15-minute interval in the month; provided, that in the case of hoists, elevators, welding machines, furnaces and other installations where the energy demand is intermittent, or subject to violent fluctuation, the company may

SPECIAL CONDITIONS: Cont'd.

base the consumer's maximum demand upon a 3-minute instead of a 15-minute interval.

Where the power installation does not exceed 50 horsepower the demand may be determined by instruments or test, as above, or at the option of the Company, the demand may be assumed to be 100 per cent. of the rated capacity of the largest motor installed plus 60 per cent. of the rated capacity of all additional motors and other energy consuming devices installed.

SCHEDULE P-1

(Cancelling P-1, P-6, P-11, P-12, NP-1, NP-2, NP-3, NP-4, SP-1, SP-3, C-2, C-3, NC-2, NC-3, SC-3.)

GENERAL POWER SERVICE:

Applicable to general commercial and industrial power service and to commercial heating and cooking service and rectifier service. Alternating current service will be supplied at any standard voltage from 110 to 2200 volts as may be requested by the consumer. D.C. service may be obtained when available at the voltage as available.

TERRITORY:

Entire territory served.

RATE - A.C. Service

H.p. of Connected Load	Rate per Kwh. for Monthly Consumptions of: 1st 50 kwh. per h.p.	Next 50 kwh. per h.p.	Next 150 kwh. per h.p.	All over 250 kwh. per h.p.
2 - 9 H. P.	4.0¢	2.1¢	1.3¢	.9¢
10 - 24 " "	3.6	2.0	1.2	.9
25 - 49 " "	3.1	1.9	1.1	.8
50 - 99 " "	2.6	1.7	1.1	.7½
100 - 249 " "	2.3	1.5	1.0	.7
250 - 499 " "	2.1	1.3	.9	.65
500 - 999 " "	2.0	1.2	.9	.6
1000 - 2499 " "	1.9	1.1	.9	.6
2500 and over "	1.8	1.0	.9	.6

MINIMUM CHARGE:

First 50 H.P. of connected load $1.00 per h.p., but in no case less than $2.00 per month.
All over 50 H.P. of " load 65¢ per h.p.per month

When the primary use of power is seasonal, the minimum charge may at the option of the consumer be made accumulative over a 12 month period.

DIRECT CURRENT SERVICE:

D.C. Service when furnished will be rendered under the above rates and minimum charges increased by 10%. D.C. service may only be obtained when available.

SPECIAL CONDITIONS:

(a) Voltage: This schedule of rates will apply to service rendered at any standard voltage at the option of the consumer. All necessary transformers to obtain such voltage will be supplied, owned and maintained by the company.

SPECIAL CONDITIONS - Cont'd.

(b) Maximum Demand. The above rates and minimum charges may at the option of the consumer be based on the h.p. of measured maximum demand instead of h.p. of connected load, providing the installation has a total connected capacity of at least 50 h.p., in which case the h.p. of demand on which the rates and minimum charges will be based will not be less than 20% of the connected load, but in no case shall the minimum be less than $50.00. per month.

The maximum demand in any month will be the average h.p. input (746 watts equivalent) indicated or recorded by instruments to be supplied, owned and maintained by the Company and at the Company's expense upon the consumer's premises adjacent to the watt hour meters, in the fifteen minute interval in which the consumption of electric energy is more than in any other fifteen minute interval in the month, for installation of less than 750 h.p. and a 30 minute interval for larger size installation or at the option of the Company the maximum demand may be determined by test.

In the case of hoists, elevators, welding machines, furnaces and other installations where the energy demand is intermittent or subject to violent fluctuations, the Company may base the consumer's maximum demand upon a five minute interval instead of a fifteen or thirty minute interval.

Demands for installations in excess of 250 h.p. of connected load occuring between the hours of 11:00 P.M. and 6:00 A.M. of the following day will not be considered in computing charges under this schedule.

(c) Optional rates for Larger Installations. Any consumer may obtain the rates for a larger installation by guaranteeing the rates and minimum charges applicable to the larger installation.

SPECIAL CONDITIONS: Cont'd.

(d) Rectifier, Heating and Cooking Service: Mercury arc rectifiers and commercial heating and cooking installations may obtain service under this schedule. For the purpose of determining rates and minimum charges, each kilowatt of connected load will be considered as equivalent to one horsepower.

SCHEDULE P-2

INTERMITTENT SERVICE:

Applicable to industrial service required intermittently throughout the year.

TERRITORY:

Entire territory served.

RATE:

Demand Charge

First 10 h.p. of connected load $5.00 per h.p. per year.
All over 10 h.p. " " " 3.50 " " " "

Energy Charge

The energy charges are the rates without the minimum charges as set forth under Schedule P-1.

SPECIAL CONDITIONS:

(A) Total Charge

The total charge is the sum of the demand and energy charges stated above.

(B) Payment of Demand Charge

The demand charge is payable in five equal installments during the first five months after the date service is first rendered. The consumers may select, if satisfactory to the Company, other months in which to pay the demand charges.

(C) Adjustment of Bills

At the end of each year's service period a consumer operating under this schedule and whose total charges for service amounted to for the past year would have ~~exxx~~ less under Schedule P-1 will have the charges for this service adjusted to the lower charges.

SCHEDULE P-3

(Cancelling P-2, P-9, P-10, NP-5, NP-6, NR-7, SP-3)

AGRICULTURAL POWER SERVICE:

Applicable to general agricultural and reclamation service, including pumping, feed choppers, milking machines, heating for incubators, brooders, poultry house lighting and general farm use excluding domestic cooking and lighting service.

TERRITORY

Entire territory served.

RATE A

Size of Installation	Annual demand charge Per H.P.	Energy Charge In Addition to the Demand Charge Rate per KWH for Consumptions per HP. per year of First 1000 KWH.	Next 1000 KWH.	Next 1000 KWH.	All over 3000 KWH.
2-4 H.P.	$ 6.60*	1.6¢	1.2¢	.9¢	.7¢
5-14 "	6.00	1.4	1.1	.8	.7
15-49 "	5.40	1.2	1.0	.8	.7
50-99 "	4.50	1.1	.9	.75	.7
100-249 "	3.90	1.1	.9	.75	.7
250-499 "	3.75	1.05	.85	.75	.7
500-999 "	3.60	1.00	.85	.75	.7
1000-2499"	3.30	1.00	.85	.75	.7
2500 HP & over	3.00	1.00	.85	.75	.7

* In no case will the total annual demand be less than $13.20

RATE B - OPTIONAL RATE:

Any consumer may select at his option the following rate instead of the demand and energy rate set forth above:

H.P. of Connected Load	Annual Min. Chg. per h.p.	Rate per KWH. for Consumptions of First 300 kwh per h.p. per yr.	Next 700 kwh. per h.p. per yr.	Next 1000kwh. per h.p. per yr.	Next 1000kwh. per h.p. per yr.	All Over 3000
2-4 H.P	$9.00*	3.8¢	1.6¢	1.2¢	.9¢	.7¢
5-14 "	8.00	3.4	1.4	1.1	.8	.7
15-49 "	7.50	3.0	1.2	1.0	.8	.7
50-99 "	7.00	2.6	1.1	.9	.75	.7
100-249 "	6.75	2.4	1.1	.9	.75	.7
250-499 "	6.50	2.3	1.05	.85	.75	.7
500-999 "	6.25	2.2	1.00	.85	.75	.7
1000-2499 "	6.00	2.1	1.00	.85	.75	.7
2500 H.P & over	6.00	2.0	1.00	.85	.75	.7

*In no case will the total minimum charge be less than $27.00 per yr.

SPECIAL CONDITIONS:

(a) Demand and Minimum Charges

The annual demand charges (or minimum charges) of the rates set forth above are due and payable in six equal monthly installments with bills for energy used during the months of May to October, inclusive.

(b) Energy Charges

The energy charges of the rates set forth above shall apply to service rendered based on all regular meter readings taken on and after May 1st of any year and before May 1st of the succeeding year.

(c) Service Commencing (or Discontinued) after April 1st.

Any consumer whose service begins (or is discontinued) at a later date than April 1st of any year will be billed in accordance with the above rates modified as follows:

(1) Service commencing (or Discontinued) on and after April 1st, but on or before September 30th

(a) The demand charge (or minimum charge) is to be applicable only during that period from date service is first taken to September 30th at the rate of one-sixth of the annual demand charge (or minimum charge) per month.

(b) The sizes of the energy blocks of the rates are to be determined by multiplying the sizes of the blocks given in the rates by the following factor according to the month in which service commences (or is discontinued).

Month in which Service Commences or is discontinued.	Factor	
	New Service	Discontinued Service
April	1.0	.1
May	.9	.2
June	.8	.3
July	.7	.4
August	.6	.5
September	.5	.6

SPECIAL CONDITIONS - Cont'd

(2) Service Commencing (or discontinued) on and after October 1st, but prior to April 1st of the following year.

The optional rate (B) only (but with no minimum charge) will apply to such service up to April 1st of the following year, however, on April 1st the consumer then will have the option of selecting either rate (A) or of continuing with the optional rate (B). The charges for this service will be determined as follows:

(a) No minimum charge to apply.

(b) The sizes of the energy blocks of the optional rate (B) are to be determined by the sizes as given in the optional rate (B) by the following factors according to the month in which service commences (or is discontinued).

Month in which Service Commences or is Discontinued	Factor	
	New Service	Discontinued Service
October	.4	.7
November	.3	.8
December	.2	.9
January	.1	1.0
February	.1	1.0
March	.1	1.0

(d) Agricultural Season

Meters on all agricultural services will be read by the Company between April 1st and April 10th of each year beginning with 1924 and the above rates will apply for that year for service rendered after that date on which the meters are so read during the ten day period.

(e) Date of First Demand or Minimum Payment

The first payment of the annual demand charge (or annual minimum charge) will be due and payable upon presentation of the bill for service rendered based on regular meter readings taken on and after May 1st.

SPECIAL CONDITIONS: Cont'd

(f) Increase or Decrease of Load

Consumers permanently increasing or decreasing their connected load will have their rates for the increased or decreased load adjusted in accordance with Special Condition (c). Discontinued service is limited to installations permanently quitting and does not apply to installations shutting down for a few months or for the balance of the season at the end of which time service will again be desired.

(g) Guaranteeing Rates for Larger Size Installation

Any consumer may obtain the rate for a larger installation by guaranteeing the rates and demand charge (or minimum charge) of that larger installation.

(h) Voltage

When the Company installs, owns and maintains the transformers the above rates apply to service rendered at 110, 220, or 440 volts under provisions of Rules and Regulations No. 2, at the option of the consumer and the energy will be metered on the secondary (low) side of the transformer.

When the consumer owns the transformers, service will be rendered at the distribution line voltage available and the service will be measured on the primary (high) side of the transformer.

(i) Adjustment of Bills

Consumers operating on either Rate (A) or Rate (B) whose use in any one year is less than 300 kilowatt hours per horsepower and who are receiving service under the higher rate, will have their bills adjusted at the end of the agricultural season to the lower of the two rates.

(j) Credit for Ownership of Transformer by Consumer

Consumers operating installations having a connected load of 50 H.P. or over and owning the transformers supplying such installations will be allowed the following credits:

SPECIAL CONDITIONS: Cont'd

Size of Installation	Annual Credit per H.P. of Connected Load
50-99 H.P	$1.00 per H.P.
100-249 "	.90 " "
250-499 "	.80 " "
500-999 "	.70 " "
1000-2499 "	.60 " "
2500 h.p. and over	.50 " "

(k) Selection of Schedule

The Company will normally render agricultural service under Rate (A) unless the consumer advises the Company to apply the optional rate (B).

(l) Contracts

The company may require a contract for service under this schedule for a period not to exceed three years when service is first rendered and thereafter from year to year.

(m) Rates Effective From February 20, to May 1, 1923

Service rendered based on regular meter readings taken on or after February 20, 1923 and prior to May 1, 1923 will be billed for in accordance with the energy charges (but with no minimum or demand charges) of the above rates and will be included in the 1923 season.

SCHEDULE P-4

(Cancelling P-2 and P-8)

RECLAMATION POWER SERVICE:

Applicable to general reclamation service. This rate for reclamation service is optional with Schedule P-3.

TERRITORY:

Entire territory served.

RATE (A):

Rates applicable to that portion of the connected load operated

Size of Total Installation	Annual Demand Charge per H.P. Company Owns Transformers	Annual Demand Charge per H.P. Consumer Owns Transformers	Energy Charge in Addition to the Demand Charge Rate per KWH for Consumptions per H.P. per yr. of First 1000 KWH	Next 1000 KWH	Next 1000 KWH	All Over 3000 KWH
50 - 99 H.P.	$4.50	$3.50	1.1¢	.9¢	.75 ¢	.7¢
100 - 249	3.90	3.00	1.1	.9	.75	.7
250 - 499	3.75	2.95	1.05	.85	.75	.7
500 - 999	3.60	2.90	1.00	.85	.75	.7
1000 - 2499	3.30	2.70	1.00	.85	.75	.7
2500 & Over	3.00	2.50	1.00	.85	.75	.7

RATE (B):

Rates applicable to that portion of the connected load held only as a standby but not actually operated.

Size of Total Installation	Annual Demand Chg. per H.P. Company Owns Transformers	Annual Demand Chg. per H.P. Consumer Owns Transformers
50 - 99 H.P.	$1.80	$.80
100 - 249 "	1.70	.80
250 - 499 "	1.60	.80
500 - 999 "	1.50	.80
1000 - 2499 "	1.40	.80
2500 & Over "	1.30	.80

If this additional installation is operated and any energy used, then the full demand and energy rates of Rate (A) will apply to this load for the 12 months period ending on the following December 31st.

SPECIAL CONDITIONS:

(a) Demand Charges

The demand charges of Rates (A) and (B) are due and payable in 12 equal monthly installments during the year from January 1st to December 31st of the same year.

SPECIAL CONDITIONS: Cont'd.

(b) Energy Charges

The energy rates of Rate (A) shall apply to service rendered on and after January 1st of any year and before December 31st of the same year.

(c) Service Commencing (or Discontinued) after January 1st

Any consumer whose service begins (or is discontinued) at a later date than January 1st of any year will be billed in accordance with the above rates modified as follows:

(1) Demand Charge

The demand charges of Rates (A) and (B) are applicable only during that period from date service is first taken to December 31st of the same year at the rate of one-twelfth of the annual demand charge per month.

(2) The sizes of the energy blocks of the Rate (A) are to be determined by multiplying the sizes of the blocks given in the Rate (A) by the following factor according to the month in which service commences or is discontinued.

Month in Which Service Commences or is Discontinued	Factor	
	New Service	Discontinued Service
January	1.0	.1
February	.9	.2
March	.8	.3
April	.7	.4
May	.6	.5
June	.5	.6
July	.4	.7
August	.3	.8
September	.2	.9
October	.1	1.0
November	.1	1.0
December	.1	1.0

SPECIAL CONDITIONS: Cont'd.

(d) Season

Meters on agricultural and reclamation service operating under this schedule will be read by the Company between January 1st and January 10th of each year, beginning with 1924, and the above rates will apply for the year for service rendered after that date.

(e) Date of First Payment of Demand Charge

The first payment of the annual demand charge will be due and payable upon presentation of the bill for service rendered based on regular meter readings taken on and after February 1st.

(f) Increase or Decrease of Load

Consumers permanently increasing or decreasing their connected load will have their rates for the increased or decreased load adjusted in accordance with Special Condition (c). Discontinued service is limited to installations permanently quitting and does not apply to installations shutting down for a few months or for the balance of the season at the end of which time service will again be desired.

(g) Guaranteeing Rates for Larger Size Installations

Any consumer may obtain the rate for a larger installation by guaranteeing the rate and demand charge of that larger installation.

(h) Voltage

When the Company installs, owns and maintains the transformers, the above rates apply to service rendered at 110, 220 or 440 volts under the provisions of Rule and Regulation No. 2 at the option of the consumer.

When the consumer owns the transformers, service will be rendered at the distribution line voltage available.

SPECIAL CONDITIONS: Cont'd.

(i) Measurement of Service

When the Company owns the transformers the energy will be measured on the secondary (low) side of the transformers.

When the consumer owns the transformer the energy will be measured on the primary (high) side of the transformers.

The unit energy rates as given above in Rate (A) apply whether the Company or consumer owns the transformers.

(j) Disconnecting Switch

The above rates contemplate that the serive will be disconnected from the main line by the consumer during periods when the installation is not in operation provided the Company installs a suitable disconnecting switch on the primary (high) side of the transformer for such purpose.

Such a disconnecting switch will be owned, maintained and properly installed by the Company together with necessary means and protection for its operation.

(k) Contracts

The Company may require a contract for service under this schedule for a period not to exceed three years when service is first rendered and there after from year to year.

SCHEDULE P-5

(Cancelling P-3, P-6, NP-8, NP-9, NP-10, NP-11)

WHOLESALE POWER SERVICE:

Applicable to general power service supplied at a standard voltage of 2200 volts or over.

TERRITORY:

Entire territory served.

RATE (A):

Service at 2200 volts up to and including 25,000 volts

Demand Charge

First	200 KW	or less of maximum demand	$300. per month
Next	300 "	of maximum demand	$1.00 per KW per month
"	500 "	" " "	.75 " " " "
All over	1000 "	" " "	.60 " " " "

Energy Charge

First	150 KWH	per KW per month	.8¢ per KWH
Next	250 "	" " " "	.6 " "
All over	400 "	" " " "	.55 " "

RATE (B):

Service at line voltages in excess of 25,000 volts.

The rate is the same as that set forth under Rate (A) above decreased by 10 percent.

SPECIAL CONDITIONS:

(a) Total Charge

The total charge is the sum of the demand and energy charges given above.

(b) Voltage

Service under Rate (A) will be supplied by the company at standard voltages of 2200 volts or more up to and including 25000 volts as requested by consumer.

Service under Rate (B) will be supplied by the company from standard line voltages as available above 25,000 volts.

SPECIAL CONDITIONS: Cont'd.

(c) Demand

The maximum demand in any month will be the average kilowatt delivery of the thirty minute interval in which the consumption of electric energy is greater than in any other thirty minute interval in the month. The maximum demand on which the demand charge and energy block will be based will not be less than 50 percent of the demand occurring during the eleven preceding months.

Any demand occurring between the hours of 11:00 P.M. and 6:00 A.M. of the following day will not be considered in determining the above demand charge.

(d) All voltages referred to in this schedule are nominal voltages.

SCHEDULE P-6

(Cancelling P-7, NP-8, and NP-9)

RESALE POWER SERVICE:

Applicable to electric service to other electric utilities and to municipalities for distribution and resale. Service to be supplied at standard voltages of 2200 volts or over.

TERRITORY:

Entire territory served.

RATE (A):

Service at 2200 volts up to and including lines of 25000 volts.

(1) Demand Charge

First	50 KW or less of maximum demand	$90. per month
Next	150 " of maximum demand	1.50 per KW
"	300 " " " "	1.00 " "
"	500 " " " "	.75 " "
All Over	1000 " " " "	.60 " "

plus

(2) Energy Charge

First	150 KWH per KW per month	.80¢ per KWH
Next	250 " " " " "	.60 " "
All Over	400 " " " " "	.55 " "

RATE (B):

Service at line voltages in excess of 25000 volts.

(1) The rate is the same as that set forth under (A) above decreased by 10 percent.

DISCOUNTS:

The above rates (A) and (B) are subject to a special discount allowed to assist in developing rural territory equal to 10% times the ratio of the purchasing companies KWH sales for service rendered in rural (unincorporated) territory to the total KWH sales. The discount to be applied for any calendar year will be based on the previous years sales of the resale utility.

SPECIAL CONDITIONS:

(a) Total Charge

The total charge is the sum of the demand and energy charges given above.

(b) Voltage

Service under Rate (A) will be supplied by the Company at standard ~~xxxx~~ voltages of 2200 volts or more up to and including 25 KV lines at the consumers option.

Service under Rate (B) will be supplied by the Company at its standard line voltages as available above 25 KV.

(c) Demand

The maximum demand in any month will be the average kilowatt delivery of the thirty minute interval in which the consumption of electric energy is greater than in any other thirty minute interval in the month. The maximum demand on which the demand charge and energy block will be based will not be less than 50 per cent of the demand occurring during the eleven preceding months.

Any demand occurring during the hours of 11:00 P.M. and 6:00 A.M. of the following day will not be considered in determining the above demand charge.

(d) Combination of Points of Delivery

Where service is rendered to a system at two or more points acceptable to the company the maximum demand on which the charges will be based will be taken as the maximum simultaneous demand. The blocks of the demand charges will be multiplied by the number of points at which service is taken.

(e) Optional Rate

Service of less than 50 KW demand, consumer may take service under P-1.

SCHEDULE P-7

(Cancels Schedule P-16)

STAND-BY AUXILIARY SERVICE:

Applicable to stand-by or breakdown service supplied to consumers whose premises are regularly supplied with light or power from a privately owned source of supply; to auxiliary service supplied to consumers who at times take service (by means of a double-throw switch) from another public service company; and to other electric service where the Company must stand ready at all times to supply electricity for light or power, but where the use of electric service is not of a usual, regular or continuous character. The maximum load served under this schedule is 1,000 Kilowatts.

TERRITORY:

Applicable to the entire territory.

MINIMUM CHARGE:

For stand-by or auxiliary service rendered under this schedule the minimum charge per kilowatt of maximum load, either light or power, which the Company agrees to stand ready to supply to the consumer will be:

First	20 KW of maximum load	$2.00 per KW	per month
Next	80 " " " "	1.50 " " "	"
All Over	100 " " " "	1.25 " " "	"

In no case, however, will the minimum charge be less than $20.00 per month per service.

In case the consumer desires the Company to stand ready to supply the entire connected load of the consumer's plant, or an isolated part thereof then such maximum load will be estimated by the Company, based on tests and other information available. In case the consumer desires the Company to stand ready to supply a number of kilowatts less than the maximum demand of the entire consumer's plant, or an isolated part thereof, then the consumer

MINIMUM CHARGE: Cont'd.

shall at his own expense furnish and install a suitable circuit breaker enclosed in a steel box equipped with lock, all to be approved by and under the sole control of the Company and the adjustment and operation of said circuit breaker to be in no way interfered with by the consumer. This circuit breaker shall be set to break the connection with the Company's service in case the consumer's maximum demand shall at any time materially exceed the number of kilowatts which the Company is obligated to s stand ready to supply. If said circuit breaker should open, due to excess of consumer's demand above the number of kilowatts agreed on, the Company will renew the connection upon due notice.

This schedule will be used in connection with such other rate schedule, applicable to the class of business if continuously supplied, as the consumer may select. The rate specified herein will, except as provided below, replace the minimum charge specified in such appropriate schedule, but the Kilowatt-hour Charge, Demand Charge, and all other conditions specified in said rate schedule (except non-applicability to stand-by service) will remain unchanged.

Where the rate schedule applicable carries a higher minimum charge than the minimum specified herein, the former will be substituted for that provided herein.

Metering and billing for stand-by service will be kept separate and distinct from the metering and billing for regular exclusive service applied at the same location.

SPECIAL CONDITIONS:

(1) This schedule will only apply where the consumer will sign a contract for at least one year.

SCHEDULE P-8

(Cancels Schedule P-13)

SERVICE TO X-RAY APPARATUS

TERRITORY:

Applicable to entire territory served.

RATE:

Where X-Ray apparatus is separately served it shall be classed as power equipment and service will be rendered in accordance with the rates for general power service applying in the various territories; except that the horsepower (or Kilowatt) minimum provision of any such rate shall be modified as provided below.

At the consumer's option, service to X-Ray apparatus may be rendered at the lighting rate, in which case it may be combined (where physically practicable) on the same meter with regular lighting service; provided that the minimum provisions specified below will apply in all cases.

MINIMUM CHARGE:

Where the Company finds it necessary to install any special equipment, other than the customary meter and service, in order to render service to an X-Ray apparatus, the minimum monthly charge shall be $.50 per Kilowatt of X-Ray capacity, or $.50 per Kilowatt of special transformer capacity required to serve same.

Where service to an X-Ray apparatus does not require the installation of any special equipment, no horsepower (or Kilowatt) minimum shall apply, and only the meter minimum specified in the rate used need be considered; provided that in no case shall the minimum be less than $.90 per month per meter.

SCHEDULE P-9

RAILWAY SERVICE:

Applicable to service to electric railways.

TERRITORY:

Applies to entire territory served.

RATE:

A.C. Service	.85¢ per KWH
D.C. Service	1.15¢ " "

MINIMUM CHARGE:

The above rates assume an average monthly load factor of at least 35%. If the average monthly load factor is less than 35% then the minimum charge for that month will be an amount equal to that resulting from applying the above rate to the number of kilowatt hours necessary to give a 35% load factor based on the system simultaneous demand for the service rendered.

SPECIAL CONDITIONS:

(a) The maximum demand in any month will be the average kilowatt delivery of the 30 minute interval in which the consumption of electric energy is greater than in any other 30 minute interval in the month.

(b) If service is rendered at more than 1 point the demands will be combined, except that D.C. and A.C. service will not be combined.

(c) D.C. service may be obtained by the consumer only when available or covered by contract.