

BEFORE THE RAILROAD COMMISSION
OF THE STATE OF CALIFORNIA.

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CITY AND COUNTY OF SAN FRANCISCO,)

Complainant,)

vs.)

Case No. 839.

PACIFIC GAS AND ELECTRIC COMPANY,)

Defendant.)

ORIGINAL

Decision No. 4736

Percy V. Long, City Attorney, and
Robert M. Searls, Assistant City Attorney,
for City and County of San Francisco.
C. P. Cutten for Pacific Gas and Electric Com-
pany;
Garrett W. McEnerney, of Counsel.
L. P. Lowe for Palo Alto Gas Company.

THELEN and DEVLIN, Commissioners.

O P I N I O N.

The issue in this proceeding is the establishment of just and reasonable rates to be charged by Pacific Gas and Electric Company, hereinafter at times referred to as the Company, for artificial gas sold by it to the inhabitants of the City and County of San Francisco, hereinafter at times referred to as the City.

The complaint herein alleges, in effect, that complainant is a municipal corporation; that defendant is a California Corporation engaged in the business of supplying gas and electricity for lighting, heating and power purposes to the City and County of San Francisco and the inhabitants thereof and elsewhere within the State of California; that for more than thirty years past the Company and its predecessors have been^{so} engaged and that at the present time the defendant is the only corporation which supplies gas for lighting and heating purposes within the City and County of San Francisco; and that the defendant charges to the inhabitants of the City and County of San Francisco the

sum of 85 cents per 1000 cubic feet of gas, with a minimum of 85 cents per service per month and that said rates are excessive. The petition asks that the Railroad Commission establish just and reasonable rates to be charged by the defendant to the inhabitants of the City and County of San Francisco for the supply of gas for heating and lighting purposes.

The answer alleges that since July 1, 1915, defendant has been supplying gas to the inhabitants of the City and County of San Francisco at the following rates:

" Gas Rates

On the Basis of Monthly Consumption Per Meter.

85 cents	per	1000	cubic	feet	for	the	first	16,500	cubic	feet.
70 cents	"	"	"	"	"	"	next	33,500	"	"
65 cents	"	"	"	"	"	"	next	100,000	"	"
60 cents	"	"	"	"	"	"	next	200,000	"	"
55 cents	"	"	"	"	"	"	all	over	350,000	"

A minimum monthly charge of 85 cents for each meter installed must be paid each month during which the flow of gas at the above schedule is less than such minimum."

Defendant alleges that the above rates are just and reasonable and requests that the complaint be dismissed.

Public hearings in this proceeding were held in San Francisco on October 30th and November 20th, 1915, January 8th, March 4th, April 22nd, May 13th, June 12th and 14th, July 10th, 11th, 12th, 20th, September 5th, 6th, 8th, 26th, 27th and 28th, October 9th and 10th, 1916, and January 30th and 31st, March 26th and 27th, and April 13th and 14th, 1917.

The parties asked and were granted permission to file briefs. The Complainant's closing brief was filed On August 1, 1917. The proceeding has been submitted and is now ready for decision.

The case has been ably and exhaustively presented by both parties. The City introduced 58 exhibits: the Company 46;

Palo Alto Gas Company 3; and the Railroad Commission 25, prepared by the Commission's own experts.

During the progress of the hearings, the presiding Commissioners made an inspection, accompanied by representatives of both parties, of the Company's entire gas generating properties in San Francisco.

The subject matter of this opinion will now be considered under the following heads:

- I. Historical.
- II. Gas statistics.
- III. Rates - past and present.
- IV. Rate base.
- V. Rate of return.
- VI. Maintenance and operating expenses.
- VII. Depreciation annuity.
- VIII. Service.
- IX. Rates herein established.

1.

HISTORICAL

The gas business in San Francisco dates back for a period in excess of sixty years. During this time, nine separate companies engaged in the gas business, all of which companies were gradually merged and consolidated.

The first gas utility in San Francisco was known as the San Francisco Gas Company, and commenced the supply of artificial gas in February, 1854. The company was organized by James and Peter Donahue and their associates. This company, through successive changes of name, consolidations and mergers, has continued to the present time.

In 1866, the first competitor, called the Citizens Gas Company, commenced operations. Two years later, this company

was absorbed by the San Francisco Gas Company.

In 1870, the City Gas Company entered the field, and in 1871, the Metropolitan Gas Company. These companies were both absorbed by the San Francisco Gas Company in April, 1873, at which time the name was changed to San Francisco Gas Light Company. This company enjoyed a monopoly for about ten years, until the Central Gas Light Company commenced operations in 1882. The latter company operated as competitor of San Francisco Gas Light Company until September, 1903, undergoing in the meantime several changes of name and ownership, finally terminating in its acquisition by Pacific Gas Improvement Company. The latter company developed considerable outside territory under a pooling arrangement with San Francisco Gas Light Company.

A new competitor, called the Equitable Gas Light Company, commenced operations in 1900, but this company was absorbed in 1903, after a rate war.

In 1901, Independent Gas and Power Company entered the field and constructed an extensive system and business. This competitor was eliminated by purchase in 1903.

In January, 1897, San Francisco Gas Light Company was merged with Edison Electric Company to form the San Francisco Gas and Electric Company. Between September 1, 1903, and November 15, 1903, San Francisco Gas and Electric Company absorbed the Equitable Gas Light Company, the Pacific Gas Improvement Company and the Independent Gas and Power Company, leaving it in complete control of the gas business until 1905, in which year San Francisco Gas and Coke Company, which company had been selling gas at wholesale to the San Francisco Gas and Electric Company, installed its own gas distributing system and initiated another period of competition.

In November, 1906, San Francisco Gas and Electric Com-

pany was consolidated with the newly incorporated Pacific Gas and Electric Company, which latter company first controlled the former company's capital stock and thereafter, in December, 1911, acquired its properties. The San Francisco Coke and Gas Company's plant and business were entirely destroyed in the catastrophe of April, 1906, but the company immediately rebuilt its plant under the name of Metropolitan Light and Power Company and developed a considerable business in the congested portions of San Francisco. This last remaining competitor was acquired by Pacific Gas and Electric Company in December, 1911.

Subsequent to December, 1911, Pacific Gas and Electric Company has enjoyed a monopoly of the gas business in San Francisco.

San Francisco has witnessed the development and use of three general processes of gas manufacture, two of which have now passed out of existence. Coal gas was manufactured exclusively prior to 1888. During the latter year, Pacific Gas Improvement Company installed its water gas sets. Later, San Francisco Gas Light Company installed water gas apparatus. The water gas was produced by the action of steam on incandescent carbon and enriched by the addition of oil. Up to 1901, coal gas and water gas, as well as a mixture of the two, were distributed.

Coal gas became obsolete in 1901 and water gas was distributed ~~until~~ exclusively until 1905, when the oil gas process was developed. From 1905 to July, 1915, a mixture of oil and water gas was sold.

In July 1915, with the installation of the new oil gas generators at the Potrero station, the manufacture of water gas in San Francisco ceased. Subsequent to July, 1915, the gas distributed in San Francisco has been solely oil gas, having an average content of 550 B.T.U. per cubic foot.

II.

GAS STATISTICS.

Table I, appearing in Railroad Commission's Exhibit No. 8, gives a historical summary of gas operations in San Francisco from 1907 to 1916, inclusive.

TABLE I.

GAS STATISTICS

1907 TO 1916, INCLUSIVE

Part A

		1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
Total Gas Generated	M.cu.ft.	3 551 789	3 447 351	3 569 881	3 628 840	3 700 320	4 460 320	4 966 128	5 287 356	6 165 045	6 560 300
Gas sent to Redwood	M.cu.ft.	—	—	81 656	75 419	88 253	104 326	114 314	165 893	210 013	363 161
Gas available for San Francisco		3 551 789	3 447 351	3 488 226	3 553 421	3 612 067	4 355 992	4 824 814	5 121 463	5 955 032	6 198 109
Gas Sold San Francisco, exclusive of St. Lighting & P.P.I.E.	M.cu.ft.	2 461 338	2 705 195	2 883 936	2 955 086	3 013 932	3 734 536	4 179 621	4 208 469	4 633 936	4 451 706
Gas Sold Street Lighting, (Est.) San Francisco,	M.cu.ft.	64 901	76 657	78 629	80 989	102 452	122 716	126 390	130 794	134 861	138 231
Gas Sold P.P.I.E. San Francisco,	M.cu.ft.	—	—	—	—	—	—	478	4 979	137 407	5 291
Total Gas Sales, San Francisco,	M.cu.ft.	2 526 239	2 781 852	2 962 565	3 036 075	3 116 384	3 857 252	4 306 489	4 344 242	4 906 204	4 595 228
Gas used by Company, San Francisco,	M.cu.ft.	2 528	2 387	3 198	3 966	7 620	4 499	4 949	5 818	5 353	6 167
Total Gas Accounted for, San Francisco,	M.cu.ft.	2 528 467	2 784 239	2 965 763	3 040 041	3 124 004	3 861 751	4 311 438	4 350 060	4 911 557	4 601 415
Gas Unaccounted for, San Francisco,	M.cu.ft.	1 023 022	663 112	622 463	613 380	488 063	494 241	613 376	771 403	1 043 475	696 694
Gas Unaccounted for, San Francisco,	%	28.8	19.2	15.0	14.4	13.5	11.3	10.6	15.1	17.5	11.5
Oil used for Gas Manufacture,	Barrels					749 953	890 141	1 019 866	1 034 035	1 090 927	949 505
Oil used for Gas Manufacture per M.cu.ft.mfgd.	Gallons					8.51	8.38	8.62	8.21	7.43	7.17
Average Number of Consumers		52 174	59 856	63 204	68 184	74 372	91 152	100 213	106 009	111 925	112 001
Daily Average Gas Manufactured	M.cu.ft.	9 731 000	9 419 000	9 780 000	9 942 000	10 138 000	12 187 000	13 606 000	14 486 000	16 890 000	15 192 000
Maximum Day's Send-out	M.cu.ft.							18 797 000	20 122 000	22 233 000	20 071 000
Sales per Consumer - Commercial Only	M.cu.ft.	47 176	45 195	45 629	43 340	40 525	40 970	41 707	39 699	41 402	39 747
Sales per Consumer - Total	M.cu.ft.	48 419	46 476	46 873	44 628	41 903	42 317	42 973	40 980	43 835	41 028

CORRECTION

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**THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY**

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Sales per Consumer - Total	M.cu.ft.	48 419	46 476	46 873	44 528	41 903	42 317	42 973	40 980	43 835	41 028

TABLE I.
GAS STATISTICS
1907 TO 1916, INCLUSIVE

Part B.

	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
Revenue from Sale of Gas, San Francisco only, Total	\$ 2 065 172	\$ 2 561 652	\$ 2 647 817	\$ 2 790 167	\$ 2 793 602	\$ 3 108 249	\$ 3 478 760	\$ 3 745 567	\$ 4 175 811	\$ 3 909 590
Revenue per Consumer per Annum	39.58	39.45	41.89	40.92	37.56	34.10	34.71	35.33	37.31	34.91
Revenue M. cu.ft. Sold	.818	.849	.893	.920	.883	.807	.808	.864	.849	.851
*Operating Expenses - Maintenance of Generating Capital						56 222	65 202	57 600	55 088	67 766
Transmission Capital						2 444	3 099	7 752	1 612	2 615
Distribution Capital						164 753	201 906	143 452	121 981	149 118
Total Maintenance						223 419	270 207	208 804	178 631	219 499
Expense - Generating Expense, Oil						606 456	674 135	703 208	750 037	756 750
Generating Expense, Exclusive of Oil						248 185	321 673	290 934	304 474	238 833
Total Generating Expense,						854 641	995 808	994 142	1 054 511	995 583
Transmission Expense						15 069	17 378	14 558	15 261	16 503
Distribution Expense						560 778	575 081	566 325	591 093	613 570
Total Expense						1 430 488	1 588 267	1 575 025	1 660 865	1 625 656
Total Operating Expenses and Maintenance						1 653 907	1 868 474	1 783 829	1 839 496	1 845 155
Generating Expense, Oil - Per M.						13.60	13.57	13.30	12.16	13.61
Generating Expense, Exclusive of Oil - Per M.						5.56	6.48	5.50	4.94	4.29
Generating Expense, Total per M.						19.16	20.05	18.80	17.10	17.90
Distribution Expense per Consumer						6.15	5.74	5.39	5.28	5.48
Operating Ratio						53.24	53.42	47.63	44.05	47.19

NOTE: Revenue does not include that for gas for Company use nor for gas sold to Redwood District, nor is any deduction made from Generating and Transmission Maintenance and Expense for these items.

* Operating Expenses as reported by Company on books.

The operating expenses shown in Table I are as reported on the Company's books, without any alteration or modification thereof.

III.

RATES - PAST AND PRESENT.

Table II shows the top or base rate charged per 1000 cubic feet of gas in non-competitive territory in San Francisco from February, 1854 to date.

Table II.

GAS RATES IN SAN FRANCISCO - TOP OR BASE RATE- 1854 to 1917.

<u>Period of time</u>		<u>Top or base rate per</u> <u>1000 cubic feet.</u>
February, 1854	- February, 1856	\$15.00
February, 1856	- March, 1857	12.50
March, 1857	- November, 1857	10.00
November, 1857	- December, 1861	8.00
December, 1861	- 1864	6.50
1864	- 1867	6.00
1867	- 1868	5.00
1868	- 1870	no record
1870	- 1873	4.50
April, 1873	- December, 1874	4.00
December, 1874	- November, 1878	3.75
November, 1878	- August, 1880	3.00
August, 1880	- August, 1882	2.70
August, 1882	- August, 1884	2.00
August, 1884	- June, 1885	2.25
June, 1885	- June, 1895	2.00 for tax lighting and \$1.75 for fuel during 1889, 1890 and 1892.
June, 1895	- June, 1899	1.75 for lighting and \$1.60 for fuel.
June, 1899	- June, 1900	1.50
June, 1900	- June, 1902	1.40
June, 1902	- June, 1903	1.30
June, 1903	- June, 1904	1.20
June, 1904	- June, 1906	1.00
June, 1906	- July, 1908	.85

(Table II Continued)

<u>Period of time</u>				<u>Top or base rate per 1000 cubic feet.</u>	
July,	1908	-	July,	1911 -	\$1.00
July,	1911	-	July,	1912 -	.85
January,	1912	-	June,	1912 -	.80
July,	1912	-	July,	1913 -	.75
July,	1913	-	to date	-----	.85

The rates shown in Table II are the top or base rates charged in non-competitive territory. During times of competition the rates actually charged in competitive territory were frequently considerably lower than the rates shown in this table. During the competitive period between 1870 and 1873, while the top or base rate was \$4.50 per 1000 cubic feet, the rate in competitive territory was as low as \$1.60 per 1000 cubic feet. Between June, 1899 and June, 1900, while the top or base rate was \$1.50 per 1000 cubic feet, gas was sold in Chinatown and other competitive territory for as low as 25 cents per 1000 cubic feet. Between June, 1903 and June 1904, while the top or base rate was \$1.20 per 1000 cubic feet, the rate in competitive territory was \$1.00 per 1000 cubic feet or less.

The first rate established by public authority was the rate of \$3.75 per 1000 cubic feet, which was fixed by the City under the Act of March 4, 1878, granting to municipalities having a population in excess of 100,000, the power to fix gas rates. The rate of 85 cents per 1000 cubic feet was established by the City for the year commencing July 1, 1908, but this rate was enjoined and a rate of \$1.00 per 1000 cubic feet was collected by the Company. The dispute was later adjusted when the Company rebated to its consumers one half the amounts in dispute.

A rate of 75 cents per 1000 cubic feet, effective July 1, 1912, was fixed by the City and accepted by the Company for one year. When a similar rate was fixed by the City, effective

July 1, 1913, the Company secured a restraining order from the Federal Court. Under this restraining order and similar restraining orders annually secured thereafter, the Company has been and is collecting a top base rate of 85 cents per 1000 cubic feet for gas sold to the inhabitants of San Francisco.

Ordinance No. 3338, New Series, of the City and County of San Francisco, effective July 1, 1915, undertook to fix the maximum rate to be charged for gas sold in San Francisco for the year commencing July 1, 1915 and ending June 30, 1916, or until rates should have been fixed by the Railroad Commission. The maximum rate was established at 75 cents per 1000 cubic feet, with a minimum of 50 cents per meter per month. The Company secured a restraining order from the Federal Courts against the enforcement of this rate.

On August 8, 1915, the Railroad Commission secured jurisdiction over gas rates in San Francisco. The Railroad Commission thereupon directed Pacific Gas and Electric Company to file its rates for gas sold in San Francisco. The rates as thus filed provided for a minimum monthly charge of 85 cents per meter. The Commission thereupon drew the attention of Pacific Gas and Electric Company to the fact that this minimum was in excess of the 50 cent minimum which was in effect at the time the constitutional amendment providing for the exercise by the Railroad Commission of jurisdiction over public utility rates within all the cities of the State became effective. The Company thereupon filed a new rate schedule containing the reduced minimum, which schedule contains the rates which are actually being charged by the Company for gas sold to the inhabitants of the City and County of San Francisco. This schedule constitutes Pacific Gas and Electric Company's Schedule No. 30 for light, heat and power service, is applicable in the City of San Francisco

and reads as follows:

Gas Rates.

On the basis of the monthly consumption per meter.

85	cents	per	1000	cubic	feet	for	the	first	16,500	cubic	feet.
70	"	"	"	"	"	"	"	next	33,500	"	"
65	"	"	"	"	"	"	"	next	100,000	"	"
60	"	"	"	"	"	"	"	next	200,000	"	"
55	"	"	"	"	"	"	"	all over	350,000	"	"

Rule Concerning Meter Rent.

A rental charge of 50 cents per month will be made for each gas meter of 10-light size and under, and \$1.00 per month for each meter larger than 10-light size. These charges will cover any usage of gas that figures an equal or less amount than the respective meter rental. No rental will be charged when the charge for gas used exceeds the rental amount.

IV.

RATE BASE.

This subject will be considered under the following heads:

1. Original cost.
2. Jones' valuation.
3. Reproduction cost less depreciation.
4. Working capital.
5. Franchises.
6. Going concern value.
7. Rate base herein used.

1. Original cost.

The testimony herein does not show the investment in the properties of Pacific Gas and Electric Company now used and useful in the supply of gas to the City of San Francisco and to its inhabitants. The parties report that this investment cannot be ascertained.

2. Jones valuation.

Mr. E. C. Jones, appearing in behalf of the Company, presented herein what is known as the Jones valuation, being an inventory and appraisal of gas properties of the Company as of June 30, 1914. The unit prices used by Mr. Jones represent, with a few minor exceptions, the estimated reproduction cost of the property as of June 30, 1914, based on average prices during the five years prior thereto. To these unit costs, Mr. Jones applied a uniform overhead percentage of 10 per cent to cover certain items of overhead expenses hereinafter referred to. The Jones valuation does not include real estate or any so-called intangible items.

The City, through Mr. N. Randall Ellis, its valuation engineer, agreed to the unit prices shown in the Jones valuation. The City, however, claimed that certain property items shown in the valuation are not at the present time used and useful in the gas business and also disagreed with the final overhead percentage claimed by the Company.

We shall now consider the various items which one or the other of the parties herein claims should be added to or deducted from the Jones valuation.

(a) Duplicated mains.

The City claims that a deduction for duplicated gas mains should be made as follows:

Pipe.	\$121,942.78
Paving.	<u>46,539.67</u>

Total deduction \$168,482.45

The Company claims that only those gas mains which were actually "dead" on June 30, 1914, should be deducted.

An exhaustive study of the situation with reference to duplication of gas mains was made by Mr. E. S. Bryant, one of the Railroad Commission's assistant engineers, and was introduced

in evidence herein as Railroad Commission's Exhibit No. 3. Mr. Bryant reported that the deductions claimed by the City are proper and should be allowed and suggested certain additional minor deductions.

The deductions claimed by the City for duplicated mains are proper and will be allowed.

(b) Pavement over mains and service connections.

✓ ^{The} Mr. Jones' appraisal includes the cost of cutting and replacing all pavement which lay over the Company's mains and services on June 30, 1914, irrespective of whether such mains and services were laid prior to or subsequent to the laying of the pavement.

The City claims that the cost of cutting and replacing pavement which the Company did not cut or replace and as to which the Company incurred no expenditure should not be included in the rate base. The City's total claim for deductions under this head, as summarized in Table V of the City's opening brief herein is the sum of \$566,824.57, which sum excludes pavement over duplicated mains.

✓ That the cost of cutting and replacing pavement over mains in cases in which the utility incurred no expense in connection therewith, should not be included in the rate base is clear both on reason and authority. Des Moines Gas Company vs. City of Des Moines, 238 U.S. 153; In re Marin Municipal Water District, Vol. 6, Opinions and Orders of the Railroad Commission of California, p. 507, 518, affirmed by the Supreme Court of California in Marin Water and Power Company vs. Railroad Commission, 171 Cal. 706.

The same logic, of course, applies equally to pavement over services as to pavement over mains.

The Company's brief does not question the proposition of law established by these authorities but takes strong objection to the amount of the deduction which should be made. The Company claims that a proper credit should be made for the expense incurred by the Company in cutting through and replacing pavement which existed prior to the present pavement. While this claim appears to us to be reasonable, there is no evidence to show the exact amount of such expenditures and it has been necessary to make an estimate of the amount proper to be allowed.

After careful consideration of all the evidence which bears on this question, we have reached the conclusion that a deduction of \$443,840.00 from the Jones appraisal should be made to cover the item of cutting and replacing pavement over mains in those cases in which the mains were installed prior to the pavement.

Deduction should properly also be made of the cost of cutting and replacing pavement over services in those cases in which the services were laid prior to the pavement and in which such services have not been replaced by the Company at a time when it was necessary for the Company to cut through and replace the existing pavement. The evidence, however, is not sufficiently definite on this point to enable us to form a satisfactory conclusion, and for that reason, no deduction for this item will be made herein.

While referring to the subject of services, we may also say that the average cost per service connection claimed by the Company amounting to \$27.00 without overhead and apparently accepted by the City, is considerably in excess of the costs determined by the Railroad Commission's engineers in other similar proceedings. The results of these investigations, however, are not a part of the evidence in this proceeding and for this reason

it will be necessary for us to allow herein the full sum of \$27.00 without overhead per service connection claimed by the Company and apparently conceded by the City.

(c) Service connections paid for by consumers.

The Jones inventory includes all service connections to the property line. The testimony shows that prior to 1912 it was the custom of the Company and to some extent of its predecessors, to charge their customers, except in districts of actual or potential competition, the sum of \$10.00 for each new service connection.

The City claims that the amounts thus paid should be deducted from the Jones appraisal. The City claims deductions as follows:

Amounts paid, 1906-1912.	\$120,796.91
Amount paid prior to 1906, as estimated by Ellis.	<u>100,000.00</u>
Total claimed deduction	\$220,796.91

The Company urges that these service connections are its property and that it is entitled to a return thereon just as would be the case if it had acquired the property by gift.

The practice of making such charges would not be countenanced by the Railroad Commission at the present time. The Commission has expressly ruled that it is the duty of gas utilities to install at their own expense, to consumers desiring to purchase gas, a service connection of normal size to the property line or curb line of property abutting upon the public street in which a main is laid. In the matter of the practice of water, gas, electric and telephone utilities requiring deposits before rendering service, Vol. 7 Opinions and Orders of the Railroad Commission of California, p. 830, 851-854; Vol. 8 Opinions and Orders of the Railroad Commission of California, p. 372, 380.

However, these payments were made to the Company and its predecessors before the Railroad Commission acquired jurisdiction over gas utilities in California and there is nothing in the record herein to negative the Company's claim that these service connections are its property.

The City's claim to a deduction for this item will be denied.

(d) Martin Station.

This plant was at one time used in part to supply artificial gas to San Francisco. For a number of years, this plant has been non-operative and it is at the present time almost completely dismantled.

The City and the Company agree that this item shall not be included in the rate base. With this conclusion we agree.

(e) Independent works.

The generating plant of Independent Gas and Power Company was heretofore used to manufacture water gas. The manufacture of water gas was discontinued by Pacific Gas and Electric Company in July, 1915 and this property subsequent thereto has been and now is non-operative. The property should not be included in the rate base with the exception of the 1,000,000 cubic feet storage holder and connections, which are used as a part of the Potrero Station.

(f) North Beach plant.

The small relief holder and boosting equipment at this plant are being deducted for the reason that they are clearly non-operative.

(g) Commercial arc lamps.

Several years ago, the Company installed commercial arc lamps largely in districts of electric competition, for the purpose of increasing gas sales. These lamps are appliances, the title to which is in the Company, and for the use of which a rental is

paid by the user in addition to the scheduled rates for gas consumed.

The City contends that these appliances are separate and apart from the capital investment necessary or used to serve gas to the City and County of San Francisco and to its inhabitants and that if it should appear that the rental for the use of these appliances is not sufficient, such rental should be increased instead of burdening the Company's remaining consumers. The City claims a deduction of \$142,982.60 for this item.

The Company claims that the item should be retained.

In our opinion, the City's position is correct. In fixing the rates to be paid for gas, this item will be excluded, as will also be the rentals and maintenance of these lamps.

(h) Lamp black and briquettes.

The City claims that the lamp black and briquettes on hand which were included in the Jones inventory should be deducted on the ground that they represent an investment which has already been paid for by the consumer in operating expenses. The total amount at issue is \$12,733.68.

The Company claims that it is entitled to the value of any by-product which may be derived from its operations and urges that this item should be retained.

The lamp black and briquettes under consideration are by-products which are manufactured by the Company from fuel oil, the total payments for which have heretofore been included by the Company in its operating expenses. If these items are now included as part of the capital on which a return is allowed, the consumers would be compelled to pay for these items twice, once under the head of operating expenses and again under the head of capital on which a return is allowed.

These items should be excluded from the rate base.

(i) Intermediate overhead on street lamps.

The Jones appraisal includes an item of \$14,247.09, being an addition of 10 per cent to the estimated cost of labor in installing the posts and services in connection with street lamps. The item is assumed to cover the expense involved in the location of street lamps and the negotiations with the City in regard thereto. These matters are passed upon by the Lighting Committee of the Board of Supervisors and negotiations are necessary prior to making installations.

The City contends that the Company's employees who appeared before the Board of Supervisors in connection with the installation of street lamps are on the Company's regular pay-roll, that their salaries are always carried as an operating expense and that it would be improper to charge this expense to capital account.

The Company contends that the item should be included in the rate base on the ground that it actually enters into the cost of installing the street lamps.

We have excluded the item for the reason that, in our judgment, it is properly a commercial expense and has always been so regarded. A segregation of this expense to capital would be a refinement which never has been made and which would not be justified.

(j) Brick and steel work.

A difference of \$9,366.45 exists between the City and the Company in the appraisal of brick and steel work.. The difference results principally from different unit prices adopted for steel. The item will be allowed.

(k) Miscellaneous.

In a few cases, the Jones appraisal shows values which Mr. Jones represents are less than the estimated cost to reproduce

the property new. In those instances in which the appraised value as reported is less than the estimated cost to reproduce the property new, as for instance the ^{old} new oxide shed at the Potrero works, the necessary restorations are herein made. The items of dredging in front of the wharf at the Potrero works and leveling the site of the Potrero works have not been ^{included} ~~increased~~ because already covered in the agreed market value of the land.

The briquetting plant at the Potrero works and the tar pipe and fittings have been excluded because no longer operative.

A proper pro rata of the high pressure main from the Potrero works to the San Francisco-San Mateo county line and of the compressor room and equipment at the Potrero works has been deducted as properly chargeable to the Company's Redwood District and not to the San Francisco District.

A number of minor adjustments to which it is not necessary to refer ^{have} ~~has~~ also been made.

(1) Overhead percentages.

The City and the Company agreed that to the unit prices in the Jones appraisal, in so far as overhead percentages are properly applicable, there should be added an overhead percentage of 10 per cent, consisting of 6 per cent ^{for} ~~to~~ engineering and superintendence, and 4 per cent for the cost of organizing a construction force, delays in shipments of material, excess freight, inclement weather, casualty insurance and piece-meal construction.

The City conceded that to this overhead should be added 2 per cent for general administration and 3 per cent compounded on 112 per cent for interest during construction. The Company claimed an allowance of 4 per cent for general administrative expenses, compounded on 110 per cent, and an additional 3 per cent for interest during construction, compounded on 114.4 per cent.

We are satisfied that 3 per cent for interest during construction is excessive, especially as applied to property other than the production and transmission system.

After careful consideration, we are using the following overhead percentages, which we find to be just and reasonable:

Production and transmission.....	16	per cent
Distribution	15	" "
Services and meters	13	" "
Street lighting	12	" "
Commercial ares.....	12	" "
Miscellaneous distribution equipment.....	12	" "

(m) Real estate.

The parties agreed on the allowance to be made in the rate base for real estate and we have included the agreed amounts on all operative real estate.

(n) Additions and betterments.

To the corrected Jones appraisal as of June 30, 1914, have been added the additions and betterments to December 31, 1916, as follows:

Net additions and betterments, July 1, 1914,	
to December 31, 1916,	\$361,205.00
Net additions and betterments, Jan. 1, 1911,	
to December 31, 1916,	<u>531,290.00</u>
Total, - - - - -	892,495.00

We have also added an item of \$200,000.00 for construction capital and miscellaneous, which we are satisfied, under the conditions now existing, will be sufficient to include the cost of new construction to keep pace with the business during the first six months of 1917. In reaching this conclusion, we have in mind that the number of the Company's consumers is practically stationary and that it is not reasonable to assume an additional consumption of gas in excess of $1\frac{1}{2}$ per cent during the ensuing year. Under these circumstances, large additional expenditures of capital would not be justified unless resulting in corresponding reductions in the operating expenses herein allowed.

3. Reproduction cost less depreciation.

The City estimated the cost to reproduce the Company's physical structures less accrued depreciation, as follows:

As of December 31, 1914 - - - - - \$9,084,307.11
As of December 31, 1915 - - - - - 8,630,897.59

The Company presented no detailed estimate of cost to reproduce less accrued depreciation, but its witness, Mr. W. G. Vincent, Jr., testified that the physical condition of the Company's San Francisco gas property, taking a general overhead estimate and not considering each individual structure, is between 80 and 85 per cent of its condition new.

4. Working capital.

The City contends that an allowance of \$150,000.00 for working capital is sufficient.

The Company suggests that an allowance of between \$400,000.00 and \$500,000.00 be made, including contingencies and construction capital, but admits that it is difficult to reach a satisfactory conclusion.

Mr. G. S. Jacobs, one of the Railroad Commission's assistant engineers, presented as Railroad Commission's Exhibit No. 6, a detailed study of the proper method to be employed in ascertaining a just and reasonable working capital for the Company in this case.

After careful consideration, we see no reason to depart herein from the method frequently employed by this Commission and other commissions of allowing as working capital, two months' operating expenses, except only that a ten days' supply of fuel oil is being allowed under the head of materials and supplies and that the purchase price thereof should not also be included under the head of working capital.

We find that the sum of \$300,000.00 is a reasonable amount to be allowed herein for working capital.

5. Franchises.

The Company operates its gas properties in San Francisco under a so-called "constitutional franchise", secured by predecessors under the provisions of Section 19, Article XI, of the Constitution of California prior to the amendment of October 10, 1911.

This franchise was granted by the State without any money payment by the grantees.

The Company does not claim any separate allowance herein for franchise value.

6. Going concern value.

The Company urges that the rate base herein should consist of the estimated cost to reproduce its physical properties new, with appropriate allowances for materials, supplies and working capital and that there should be added thereto an item of \$3,000,000.00 to represent the "going concern value" of the property.

The authorities cited in the Company's brief in support of this contention, in so far as they are rate cases, are practically all cases in which an addition for "going concern value" was made to an estimate of reproduction cost less accrued depreciation. In other words, having reduced the rate base below the investment and below the estimated reproduction cost on the historical or some other basis, the court or commission then filled the gap which had thus been created by replacing all or most of what had been taken out, the amount thus being replaced being called "going concern value". Such procedure is, in our opinion, entirely unsatisfactory. It seems to result from a subconscious realization that without such addition, the rate base would not be just and reasonable to the public utility and that such base must be

made right by restoring under some other name, what had been taken away.

Where, however, the base used is the investment or the estimated cost to reproduce new, adjusted if necessary, it is generally unfair and unjust to the consumer to add thereto any so-called "going concern value", except at times in connection with an item which is sometimes called "going concern value", but which is really unpaid development expense.

In the present case, the testimony shows that the cost of developing the gas business in San Francisco has long since been repaid to the companies engaged therein and that no additional allowance therefor should be made herein. The claim that an allowance for development expense should be made on the basis of conditions which arose long after the business was developed and resulted from the expensive competition of rival gas companies, each seeking to take business away from the other, does not commend itself to us.

The Company's property herein is being valued as a property in successful operation by a going and successful public utility. Under the facts as shown by the testimony herein, the additional allowance claimed by the Company under the head of "going concern value", over and above the value of the property as a going concern in successful operation by a going and successful public utility should not be made. Des Moines Gas Company vs. Des Moines, 238 U.S. 153; In re San Joaquin Light and Power Corporation, Vol. 9 Opinions and Orders of the Railroad Commission of California, p. 542, 576-586, affirmed by the Supreme Court of California in San Joaquin Light and Power Corporation vs. Railroad Commission, 53 Cal. Dec. 572.

7. Rate base herein used.

The rate base herein used, which we find to be just and reasonable to all parties, in connection with the service by the Company of gas to the inhabitants of the City and County of San Francisco is the sum of \$14,042,050. This sum is just to the consumers of gas only on the assumption that the depreciation annuity herein is estimated on the 6 per cent sinking fund basis, as hereinafter pointed out.

Table ^{III}~~II~~ shows the rate base herein used.

Table III

R A T E B A S E

San Francisco Gas District

Pacific Gas & Electric Co.

	<u>E. C. Jones Appraisal as of June 30-14 with adjustments and overhead</u>	<u>Net Ad- ditions & Better- ments Ju- ly 1, 1914 to Dec. 31, 1916 incl.</u>	<u>Total Rate Base</u>
Non Landed Capital			
Production and Transmission	\$ 2 288 788	\$368 836	\$ 2 657 624
Distribution	9 224 314	523 659	9 747 973
Total Non Landed Capital	11 513 102	892 495	12 405 597
Real Estate			831 434
General Capital			215 781
Materials and Supplies			150 000
Working Capital			300 000
Construction Capital and Miscellaneous			200 000
Total Capital			\$14 102 782
Less Capital used exclusively for Redwood District			60 732
Net Capital San Francisco Operations			\$14 042 050

Segregation of Capital

Chargeable to San Francisco Gas Operations

Production and Transmission	\$ 3 533 459
Distribution	9 984 626
Street Lighting	295 868
Commercial Area	128 097
Total Capital San Francisco Gas Operations	\$14 042 050

V.

RATE OF RETURN.

An exhaustive report on the cost of money to Pacific Gas and Electric Company and its predecessors was prepared by Mr. Paul A. Sinsheimer, Stock and Bond Expert of the Railroad Commission, and introduced in evidence herein as Railroad Commission's Exhibit No. 11. In this report, Mr. Sinsheimer not merely analyzes in all appropriate detail the cost of money to Pacific Gas and Electric Company and its predecessors in connection with each issue of securities by them, but also presents data to show the cost of money to other enterprises, both public utility and otherwise, and to public authorities in connection with public works in California and elsewhere.

The following conclusions, among others, are reached by Mr. Sinsheimer:

1. That up to 1911, Pacific Gas and Electric Company and its predecessors issued bonds of the face value of \$57,408,975 at an average cost of money of 5.15 per cent;
2. That subsequent to 1911, Pacific Gas and Electric Company has issued bonds of the face value of \$50,000,000 at costs of money ranging from 6.07 to 6.548 per cent;
3. That the cost of money on \$87,408,975, face value of said bonds, has been 5.60 per cent;
4. That the cost of money based on the bonds, preferred stock, common stock and notes sold by Pacific Gas and Electric Company during the 6 years period from 1910 to 1917, has been an average cost of 6.97 per cent;
5. That the cost of the money now in the property of Pacific Gas and Electric Company has been 6.32 per cent;
6. That in order to enable Pacific Gas and Electric Company to secure its money at a cost of 6.32 per cent, it will

be necessary for the Company to have such earnings as will be secured from a return of 6.65 per cent upon the fair value of the Company's properties.

Mr. Sinsheimer draws attention to the fact that the effect of the recent issue of preferred stock in the amount of over thirteen million dollars at a cost of money of 7.22 per cent will have the result of ultimately reducing the ^{total} cost of bond and other moneys by considerably ^{increasing} ~~reducing~~ the margin against which bonds may reasonably be issued.

Mr. Sinsheimer concludes that a return in excess of 8 per cent on the fair value of the Company's property would be an unnecessary burden upon consumers unless accompanied by decreases in rates or improvement in service.

Mr. Sinsheimer's report clearly shows that the average cost of money to Pacific Gas and Electric Company has been 6.32 per cent and that in the absence of extraordinary conditions, the Company can continue to secure its funds at this cost if it secures a return of 6.65 per cent on the fair value of its property.

In City of Palo Alto vs. Palo Alto Gas Company, Vol. 2 Opinions and Orders of the Railroad Commission of California, p. 300, this Commission, at page 317, said:

"The Commission in fixing a rate of return must be liberal, lest too strict a policy result in turning capital to other fields of enterprise. California needs development by public utilities, and this Commission's policy should be a broad and liberal one, so as to encourage capital to develop the state by legitimate public utility enterprises where needed. The Commission should be careful not to permit an inflation of prices in ascertaining the value of the property of a public utility used and useful for the public purpose, but should be liberal in establishing the rate of return on that value."

In this case, we shall recommend rates which, to the best of our judgment, will yield to the Company a return of 8 per cent on the fair value of the property used and useful, being a margin of 1.68 per cent over the average cost of money to the Company, and of 1.35 per cent over the rate of return necessary to insure the possibility of continuing to secure funds at this average cost of money.

In permitting this return, we do so with a frank realization that it allows a liberal margin over the cost of money. We are animated in doing so, not merely by a desire to be fair to the Company, but also in part by the uncertainty as to whether the price of fuel oil will not further advance and by the desire to create a margin of profit which will take care, at least for a time, of such further advance, if it occurs.

VI.

MAINTENANCE AND OPERATING EXPENSES.

The item of maintenance and operating expenses is of outstanding importance in this case because of the increased cost of fuel oil and wages. If it were not for the increased cost of these two items, the consumers of gas in San Francisco might reasonably have expected rates for gas materially lower than those now in effect.

The cost of fuel oil is by far the largest single operating expense in connection with the manufacture of gas by Pacific Gas and Electric Company. Fuel oil is purchased by the Company from Associated Oil Company under a contract which is dated September 30.

1911, and expires on September 30, 1921. Under this contract, Pacific Gas and Electric Company, during the period from 1912 until October 1, 1916, paid for fuel oil delivered in its tanks in San Francisco, the sum of 68½ cents per barrel. The contract provides that subsequent to October 1, 1916, Pacific Gas and Electric Company must pay for oil delivered in its tanks in San Francisco, a sum consisting of the average field price paid by Associated Oil Company plus a collection charge amounting to approximately 1½ cents per barrel, plus a commission of 10 per cent, plus a transportation charge of 25 cents per barrel. Under this arrangement, the Company is now paying \$1.35 per barrel for its oil delivered in San Francisco as contrasted with 68½ cents per barrel paid prior to October 1, 1916.

The cost of oil to Pacific Gas and Electric Company has thus practically doubled. While the Company's payment for oil in 1916 was \$688,538, a year's payment based on the present price with only a very slight assumed increase in the amount of gas manufactured would be \$1,324,192, an increase of \$635,000. This increase in the cost of fuel oil means an increased cost of 11.35 cents in the manufacture of each 1000 cubic feet of gas. It means that the average gas bill paid by all consumers in San Francisco, both large and small, over what they otherwise would have been required to pay, will be increased \$5.00 per year.

We have no means of knowing whether the cost of fuel oil will mount still higher, and, if so, to what extent. On the other hand, is the well known fact that the consumption of California fuel oil is outrunning production at an average of over one million barrels each month, notwithstanding largely augmented drilling. At

the present excess of consumption over production, California's fuel oil storage will be exhausted by June 1, 1919. On the other hand, if through compromise of the existing litigation or through stipulation therein, undrilled proven lands now in litigation between the Federal Government and the claimants should be thrown open to any considerable extent to intensive drilling, such action would undoubtedly have a tendency to hold the price of fuel oil at its present figure. Furthermore, if the Federal Government should fix the price of petroleum, such action would also tend to prevent further increases in price. We can not speculate herein as to what the future cost of fuel oil will be. Under the circumstances, we shall allow as the cost of fuel oil in this proceeding the present cost thereof to Pacific Gas and Electric Company, being \$1.35 per barrel delivered into the Company's tanks at San Francisco. This cost will be applied to the entire year's business.

The wages paid by Pacific Gas and Electric Company to all employees engaged in its gas works and in the physical maintenance and operation of its gas properties in San Francisco have recently been increased. On recent advice from the Gas Workers that they had made application to Pacific Gas and Electric Company for an increase in their wages and asking whether such increase, if granted, could not be taken care of in the rates to be established in this proceeding, the Commission transmitted the communication to Pacific Gas and Electric Company with a request for a statement of the Company's attitude. The Commission was thereafter advised that the Company had decided to increase the wages of these employees, effective July 1, 1917. This increase in wages affects 363 employees of the Company in its San Francisco Gas ^{District} ~~Division~~ and will result in an annual increase in the Company's pay roll amounting to \$28,970.75. This increase will be included in the maintenance and

operating expenses herein allowed.

The evidence herein concerning maintenance and operating expenses is largely directed to the years ending June 30, 1914 and June 30, 1915, these being two of the years involved in the litigation between the parties hereto in the Federal courts. Considerable testimony herein relates to the propriety of operating expenses of the San Francisco gas business claimed by the Company during these two years and challenged by the City. Some of these items are for accounts which have now been completely paid and others the Company itself concedes will not recur. The maintenance and operating expenses of these two years are of value herein only in so far as they throw light on reasonable maintenance and operating expenses for the future to be allowed herein.

We have decided to use as a basis for just and reasonable maintenance and operating expenses the expenses incurred by the Company during the calendar year 1916, using, however, a full year's allowance for the cost of fuel oil at the price of \$1.35 per barrel and including the annual increase in wages recently granted. While the maintenance and operating expenses for 1916 were substantially greater than those of 1915, we are satisfied by reason of the increase of cost of materials and other factors that the maintenance and operating expenses for 1916 form a reasonable basis for maintenance and operating expenses to be herein allowed. General administrative expenses will be pro rated to the San Francisco gas business on the basis of gross revenue.

We find that a reasonable annual allowance for maintenance and operating expenses herein, not including the maintenance and operating expenses directly chargeable to street lamps and commercial arc lamps, is the sum of \$2,472,966.

Table IV shows the Company's direct maintenance and operating expenses, as shown on its books, for 1915 and 1916, together with the amount herein allowed.

Table IV

MAINTENANCE AND OPERATING EXPENSES - 1915-1916

AND AS HEREIN ALLOWED

San Francisco Gas District

Pacific Gas and Electric Co.

	As reported on company's books		As herein allowed
	<u>1915</u>	<u>1916</u>	
<u>Production</u>			
Maintenance	\$ 55 088	\$ 67 766	\$ 69 283
Operating Expense	304 474	238 833	272 432
Fuel Oil	<u>750 037</u>	<u>688 538*</u>	<u>1 324 192</u>
Total Production	\$1 109 599	\$995 137	\$1 665 907
<u>Distribution (incl. Trans- mission)</u>			
Maintenance	123 543	151 733	150 426
Operating Expense	<u>606 354</u>	<u>630 073</u>	<u>656 533</u>
Total Distribution	\$729 897	\$781 806	\$807 059
TOTAL Production and Distribution	\$1 839 496	\$1 776 943	\$2 472 966

NOTE:

* Corrected figure for oil, year 1916

The company's figures for 1915 and 1916 for transmission, maintenance and expense are included in distribution in this table, in total, no segregation being made to Redwood

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VII.

DEPRECIATION ANNUITY.

Both parties agreed that the rates herein established should yield a revenue sufficient to enable the Company to set aside a reasonable depreciation annuity. The parties, however, disagree with reference to the amount of the annuity to be thus set aside.

The City urges that the depreciation annuity should be estimated on the straight line basis while the Company urges the 4 per cent sinking fund basis.

We find that the just basis to be adopted herein, bearing in mind the rate base and the rate of return herein established, is the 6 per cent sinking fund basis.

Mr. N. Randall Ellis, representing the City, and Mr. W. G. Vincent, Jr., representing the Company, agreed during the early hearings herein on the remaining lives of the various items of the physical property. In reaching their conclusion, they gave consideration to wear and tear, obsolescence and inadequacy. Later, after the Company had presented testimony showing that it anticipates only a slight increase in its sales of gas, Mr. Ellis testified that in the light of this situation, he could not adhere to the lives theretofore agreed upon. Mr. Ellis testified that in the light of the new testimony he had given too much consideration to the elements of obsolescence and inadequacy and that it would be necessary to lengthen the remaining lives of the property as estimated by him. In this respect, Mr. Ellis is undoubtedly correct.

The matter of depreciation annuity was carefully presented by Mr. F. Emerson Hoar, the Railroad Commission's Gas and Electrical Engineer, in a report which was introduced in evidence as Railroad Commission's Exhibit No. 23. The depreciation annuity herein used

will be based on the average percentages applicable to each class of property as determined by Mr. Hoar, which percentages we find to be reasonable.

Consideration must now be given to the question whether the rate payers shall pay increased rates in order to amortize part or all of the investment in Martin Station and in the Independent Gas Works, both of which properties have become non-operative. Basing his conclusion on the hypothesis that the Railroad Commission might find it proper to provide for the amortization in future rates of part of the investment in Martin Station, Mr. A. F. Bridge, one of the Railroad Commission's Assistant Engineers, reported in Railroad Commission's Exhibit No. 5, that on the 6 per cent sinking fund basis the remaining investment in the Station, assuming that there was such remaining investment, might be amortized at the rate of \$22,632 yearly, if amortized in five years, and \$18,289 yearly, if amortized in six years. The Independent Gas Works were constructed in 1901, and sold to San Francisco Gas and Electric Company, the predecessor of Pacific Gas and Electric Company, in November, 1903, and became non-operative in July, 1915. Their estimated reproduction cost new as of June 30, 1914, as reported in the Jones appraisal, was \$492,476.36.

Whenever any part of a public utility's property becomes non-operative by reason of wear, tear, obsolescence, or inadequacy, or otherwise, it is normally charged against the depreciation reserve. Very careful consideration must be given to a demand by a public utility that the public shall continue to pay in rates for property which has ceased to be of any use in the service rendered by the utility. Particularly unjust would be such a procedure if the rates which the utility and its predecessors have charged have been high enough so that a proper depreciation reserve has been created or reasonably could have been created. Such reserve must, of course,

take into consideration the elements of obsolescence and inadequacy, as well as wear and tear, so that property which becomes obsolete or inadequate because of advances in the art or otherwise, prior to the expiration of its normal life, may be charged off against the depreciation reserve.

A utility which demands that the rate payers shall pay rates sufficient to amortize over a series of years property which has become non-operative, has upon it the burden of proof to show that the depreciation reserves which this Company and its predecessors have set up or could reasonably have set up have not been or would not have been sufficient to take care of the abandoned property. In the absence of such proof, the presumption is that the revenues of the past have been sufficient to take care of the obligations of the past and that the rate payer of the present and the future will not be called upon to pay the obligations of the past, whether incurred through wear, tear, obsolescence or inadequacy, the absorption of rival companies, or otherwise.

In the present instance, the Company has entirely failed to sustain this burden of proof. On the contrary, on November 27, 1911 on which day San Francisco Gas and Electric Company was merged with Pacific Gas and Electric Company, the San Francisco Gas and Electric Company had a balance of \$2,543,492.69 in its depreciation reserve. This sum was taken out of the depreciation reserve and was transferred to an account termed "consolidated surplus" and thus made available for the declaration of dividends by Pacific Gas and Electric Company. The entire remaining portion of Martin Station properly chargeable to the gas business and the entire ^{un}amortized portion of the Independent Gas Works could be charged off against this depreciation reserve and still leave in excess of \$2,000,000 in this reserve available to charge off against the same gas and electric properties of San Francisco Gas and Electric Company which might become non-operative.

There is nothing in the testimony herein to show that the past revenues of Pacific Gas and Electric Company and its predecessors have been insufficient to take care of both Martin Station and the Independent Gas Works. No allowance will be made herein for the amortization of any part of either of these properties.

We find that the sum of \$259,550.00 is a reasonable depreciation annuity to be allowed herein. The general items which make up the total appear in Table 5.

Table V

DEPRECIATION ANNUITY

San Francisco Gas District

Pacific Gas & Electric Co.

Production Capital	\$ 29 598
Distribution Capital	<u>229 952</u>
TOTAL for Depreciable Capital	\$259 550

NOTE: Production and Distribution
Capital above include prorata
of general capital, construction
capital, etc.

VIII.

S E R V I C E

Considerable testimony herein bears on the heating value and the pressure conditions of the gas sold by the Company to the inhabitants of San Francisco.

The rates of Pacific Gas and Electric Company for gas on file with the Railroad Commission, provide in part as follows:

"The rates specified in these schedules apply only to the use of such gas as is regularly furnished by the Company in the locality in which the premises to be served are situated, the gas supplied having an average heating value of 600 British Thermal Units per cubic foot, and a pressure used at the meter, of not less than three inches of water."

The testimony shows that while the average heat content per cubic feet of gas prior to the introduction of the improved Jones oil gas process was 600 B. T. U., the gas actually served since July, 1915 has had an average heating value of only 550 B. T. U. The present heat content of the gas was testified to by Mr. E. C. Jones, appearing for the Company, and demonstrated by a large number of tests taken by the Railroad Commission's Gas and Electrical Division in the Commission's laboratory in San Francisco.

The reduction in the heat content of the gas was accompanied by a corresponding reduction in the quantity of oil required in gas manufacture. Mr. E. C. Jones testified that at the then prevailing price of oil the manufacture of 600 B.T.U. gas from fuel oil would cost at least 4.92 cents per 1000 cubic feet in excess of the cost of manufacturing 550 B.T.U. gas.

The testimony shows that, due to peculiar topographical conditions existing in San Francisco, and covering wide ranges of elevation within comparatively small areas, and due also to peculiar

conditions of distribution resulting from a consolidation of former competitive systems, a wide variation of pressure under which gas is supplied to the consumers' premises exists in San Francisco.

The heat content of the gas and the pressure under which it is delivered are matters which go to the quality of the service. Accordingly, they are subject to the jurisdiction of the City and County of San Francisco under the provisions of Article II, Chapter 2, Section 1, Subdivision 14 of the Freeholders' Charter of San Francisco, providing in part that the Board of Supervisors of the City and County of San Francisco shall have power to "prescribe the quality of the service" for all water, heat, light, power and telephonic service.

The Railroad Commission not having the power to prescribe the quality of the service of gas within the City and County of San Francisco, the Commission must confine itself herein to the establishment of rates to be charged for the particular kind of service which the Company is at the present time giving in San Francisco. If the Board of Supervisors should hereafter establish a different quality of service, as to either the number of heat units or the uniformity of pressure, or otherwise, the Commission could at that time make such modifications in the rates herein established as might then appear just and reasonable.

XI.

RATES HEREIN ESTABLISHED.

The rates which are actually being charged by the Company to the inhabitants of the City and County of San Francisco have hereinbefore been set forth.

The Company also sells gas to the City and County of San Francisco for use by the municipality for its public purposes. The

rates for this service are as follows:

Single burner gas lamps, per night, each.06 $\frac{1}{2}$
Double inverted gas lamps, " " "10
Triple top gas lights, " " "15
Double globe gasoliers, " " "15
Single globe gasoliers, " " "10
" " " , one mantle, per night, each12
All gas used by the City in all public buildings, offices, yards and public places upon a meter basis,60 per 1000 cubic feet

The rates charged by the Company to the City and County of San Francisco for public purposes are not at issue in this proceeding and the present rates for this service will be permitted to remain effective. Under this Commission's decision made on January 24, 1913 in Case No. 293 (Vol. 2 Opinions and Orders of the Railroad Commission of California, p. 73, 87), public utilities may grant free or reduced rates to the Federal and state governments and to the political subdivisions thereof, which political subdivisions include municipalities.

The rentals charged by the Company for commercial arc lamps have not been placed at issue herein and no rentals will be established herein to be charged by the Company for the use of its commercial arc lamps.

The consumers of gas in San Francisco may be divided into two classes, namely, the ordinary domestic consumers who use gas largely for fuel purposes with a small amount for lighting, and the industrial consumers who use large quantities for fuel purposes. Generally speaking, 75 per cent of the consumers use less than 3000 cubic feet of gas per month. The amount of their consumption is about 40 per cent of the total gas consumed. The remaining 25 per cent of the consumers use the remaining 60 per cent of the gas. *The* large proportion of heavy consumers is reflected in the high average consumption per consumer, which is in the neighborhood of 40,000 cubic feet of gas per consumer per annum.

By reason of the steadily increasing prices of crude oil and other fuels, we are of the opinion that some increase in the use of gas for fuel purposes on a fairly large scale may be expected. On the other hand, the increased cost of manufacturing gas, due to the higher cost of oil and labor, will not be sufficient ^{in this case,} to curtail the excessive use of gas. The rates herein fixed are of such a form that they will not materially affect the cost of service to the various existing classes of the Company's consumers.

The testimony shows that discrimination with reference to the minimum charge exists against many of the Company's smaller consumers who live in apartment houses and are served as a group from one service through a bank of meters. The reasonable apportionment of the cost of service to these two classes of consumers requires that the apartment house consumer should bear a smaller amount of the so-called consumer charge than should the ordinary single domestic consumer. We have removed the discrimination by establishing a minimum monthly bill of 35 cents per meter for domestic service for flats and apartments where four or more meters are continuously served in one location and on one service, while the minimum monthly bill per meter for all other domestic and commercial service will be 50 cents per meter per month.

Table No. ^{VI} 6 shows the cost of service of gas to the inhabitants of the City and County of San Francisco.

Table VI

COST OF SERVICE TO INHABITANTS OF SAN FRANCISCO

Rate Base	\$14 042 050
Return on Rate Base at 6.32%, being the average Cost of money	887 458
Depreciation Amnuty on Depreciable Capital	259 550
Maintenance	219 709
Operating Expenses	928 965
Fuel Oil	1 324 192
General Administrative Expense	119 693
Insurance and Miscellaneous	17 500
Uncollectible Accounts	39 020
Taxes	<u>243 454</u>
Net Cost of Service	4 039 541
Profit to bring return to 8%	<u>235 906</u>
Total Cost of Service with 8% return	4 275 447
Deduct Cost of Gas to Redwood District	<u>153 356</u>
Cost of Service to San Francisco District with 8% return	\$4 122 091

Segregation of Cost of Service to San Francisco
District. Based on 8% Return

	<u>Total</u>	<u>Average per M cu.ft. sold</u>
Production	\$1 934 931	42.31¢
Distribution	<u>1 912 916</u>	<u>41.83¢</u>
Total to Consumers	3 847 847	84.14¢
Street Lighting - incl. cost of gas used	208 001	
Commercial Arcs	<u>66 243</u>	
GRAND TOTAL	\$4 122 091	

After careful consideration, we find that the following rates are just and reasonable rates to be charged by Pacific Gas and Electric Company to the inhabitants of the City and County of San Francisco for gas supplied to them having an average heating value of 550 B.T.U.

Table VII

RATES HEREIN ESTABLISHED

Applicable to all classes of consumers in the
City and County of San Francisco.

For the first 10,000 cu.ft. per meter per month,	85¢ per 1000 cu.ft.
For the next 20,000 cu.ft. per meter per month,	80¢ per 1000 cu.ft.
For the next 40,000 cu.ft. per meter per month,	75¢ per 1000 cu.ft.
For the next 80,000 cu.ft. per meter per month,	70¢ per 1000 cu.ft.
For the next 150,000 cu.ft. per meter per month,	65¢ per 1000 cu.ft.
For all over 300,000 cu.ft. per meter per month,	60¢ per 1000 cu.ft.

Minimum Monthly Bill per meter for domestic
service for flats and apartments where
four (4) or more meters are continuous-
ly served in one location and on one
service-----35¢

Minimum Monthly Bill per meter for domestic
and commercial service other than the
above-----50¢

Table VIII shows the anticipated revenue which will be derived from the rates herein established, together with comparative figures of revenue at the rates charged for the years 1915 and 1916.

Table VIII

REVENUE TO BE DERIVED FROM RATES HEREIN ESTABLISHED.

	<u>At Rates Charged</u>		<u>From Rates herein established.</u>	<u>Comparative Cost of Ser- vice from Table VI</u>
	<u>1915</u>	<u>1916</u>		
Revenue from Sales of Gas	\$ 3 953 927	\$ 3 684 056	\$ 3 851 492	\$ 3 847 847
Municipal Street- Lighting Revenue	183 001	193 281	* 193 281	208 001
Revenue from Com- mercial Arc Rentals	<u>38 883</u>	<u>32 253</u>	* <u>32 253</u>	<u>66 243</u>
TOTAL REVENUE	\$4 175 811	\$3 909 590	\$4 077 026	\$4 122 091

* Actual revenues for year 1916 from
company's records, no rates having
been established herein for muni-
cipal street lighting or for rental
of commercial arcs.

In our opinion, the revenue shown in Table VIII will yield to the Company a return of 8 per cent on the rate base herein used, which rate base is the fair value of the property now used and useful in supplying gas to the inhabitants of the City and County of San Francisco.

We submit the following form of order:

O R D E R.

Public hearings having been held in the above entitled proceeding, briefs having been filed, the proceeding having been submitted and being now ready for decision,

THE RAILROAD COMMISSION HEREBY FINDS AS A FACT that the rates charged by Pacific Gas and Electric Company for gas sold to the inhabitants of the City and County of San Francisco are unjust and unreasonable in so far as they differ from the rates herein established and that the rates herein established are just and reasonable rates.

Basing its order on the foregoing finding of fact and on the other findings of fact contained in the opinion which precedes this order,

IT IS HEREBY ORDERED that Pacific Gas and Electric Company shall, within twenty (20) days from the date of this order, file with the Railroad Commission, and thereafter charge the following rates for gas sold by it to the inhabitants of the City and County of San Francisco:

Applicable to All Classes of Consumers in the
City and County of San Francisco.

For the first 10,000 cu.-ft. per meter per month,	85¢ per 1000 cu.-ft.
For the next 20,000 cu.-ft. per meter per month,	80¢ per 1000 cu.-ft.
For the next 40,000 cu.-ft. per meter per month,	75¢ per 1000 cu.-ft.
For the next 80,000 cu.-ft. per meter per month,	70¢ per 1000 cu.-ft.
For the next 150,000 cu.-ft. per meter per month,	65¢ per 1000 cu.-ft.
For all over 300,000 cu.-ft. per meter per month,	60¢ per 1000 cu.-ft.

Minimum Monthly Bill per meter for domestic
service for flats and apartments where
four (4) or more meters are continuous-
ly served in one location and on one
service-----35¢

Minimum Monthly Bill per meter for domestic
and commercial service other than the
above-----50¢

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 8th day of October, 1917.

Max Thelen

H. H. Howard

Alex Gordon

Edwin C. Edgerton

Wm. R. Dyer

Commissioners.