SL

Decision No. ✓

Decision No. 36241

BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA

ORIGINAL

CITY OF REDDING, Complainant, vs. NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED, Defendant.	Case No. 675 (Electricity Rates)
CITY OF REDDING, Complainant, vs. NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED. Defendant.	Case No. 676 (Gas Rates)
CITY OF REDDING, Complainant, vs. NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED, Defendant.	Case No. 677 (Water Rates)
In the Matter of the value of the property of NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED.	Case No. 711
In the Matter of the application of NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED, for a general determination and adjustment of rates to be charged by it and for a consolidation with this application of Cases Nos. 675, 676, 677 and 711.	Application No. 1625

Braynard and Kimball for the City of Redding.
Jared How for Northern California Power Company, Consolidated.
W. D. Tillotson for Zeis & Sons.

EDGERTON, Commissioner.

O P I N I O N

This proceeding was initiated by complaints filed by the City of Redding against the rates charged by the Northern

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California Power Company, Consolidated, for electricity, gas and water supplied by that company to the said City of Redding and its inhabitants. Thereafter, the Commission, on its own initiative, instituted an investigation to determine the value of the property of Northern California Power Company, Consolidated, and subsequently the Northern California Power Compa ny, Consolidated, filed with the Commission its application for a general determination and adjustment of all of the rates charged by it for electricity, gas and water. The three complaints by the City of Redding, the Commission's investigation and the application of the company were consolidated for hearing.

The effect of these proceedings is to lay before the Commission the elements or factors constituting the value of the property of the company and to call upon the Commission to fix the rates of the company for the service of electricity, gas and water.

Northern California Power Company, Consolidated, owns and operates six hydro-electric plants, located in Shasta and Tehama Counties, having an aggregate rated capacity of approximately 48,440 horsepower, and transmission lines and distribution lines in the Counties of Shasta, Trinity, Tehama, Glenn, Butte and Colusa. Electricity is supplied for lighting, power and other purposes in the counties named. Gas is supplied in Redding, Red Bluff and Willows, and water is furnished in Redding and Willows. The following tabulation shows the cities and towns now supplied with electricity, gas and water.

TABLE I.

CITIES AND TOWNS WITH POPULATIONS OF 500 OR OVER
SUPPLIED WITH
ELECTRIC, GAS OR WATER SERVICE BY
NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

City or Town	County	Estimated Population	Class of Service
Chico	Butte	5 750	Electricity
Red Bluff	Tehama	5 072	Electricity and Gas
Redding	Shasta	4 500	Electricity, Gas and Water
Corning	Tehama	2 300	Electricity
Keswick	Shasta	1 800	Electricity
Willows	Glenn	1 500	Electricity, Gas and Water
Kennett	Shasta	1 500	Electricity
Orland	Glenn	1 200	Electricity
Arbuckle	Colusa	800	Electricity
Anderson	Tehama	700	Electricity
Williams	Colusa	650	Electricity
Maxwell	Colusa	500	Electricity

In addition to the communities listed above, the Northern California Company supplies electric service to about twenty other towns ranging in population from 50 to 500, and to large areas in the mining districts of Shasta, Trinity and Tehama Counties, and to the agricultural districts in the counties named and in Butte, Glenn and Colusa Counties.

The present rates charged for electric energy are as follows:

TABLE II.

PRESENT ELECTRIC RATES OF THE NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

ELECTRIC LIGHTING:

First	20 k.w.h. per month	7¢ per k.w.h.
Next	80 k.w.h. per month	6¢ per k.w.h.
Next	400 k.w.h. per month	5¢ per k.w.h.
Next	4 500 k.w.h. per month	4¢ per k.w.h.
Over	5 000 k.w.h. per month	3¢ per k.w.h.

Minimum Bill $1.00 per month per meter.

ELECTRIC COOKING AND HEATING:

First	100 k.w.h. per month	3¢ per k.w.h.
Next	100 k.w.h. per month	2-1/2¢ per k.w.h.
Next	100 k.w.h. per month	2¢ per k.w.h.
Over	300 k.w.h. per month	1-1/2¢ per k.w.h.

Minimum Bill $1.00 per month per meter.

INDUSTRIAL AND COMMERCIAL POWER:
(Based on the Maximum Demand.)

Class 1. Demand Charge $1.00 per h.p. per month plus an Energy Charge of 1-1/2¢ per k.w.h.

Class 2. Demand Charge $1.00 per h.p. per month plus an Energy Charge of 1¢ per k.w.h.

Class 3. Demand Charge $1.00 per h.p. per month plus an Energy Charge of 3/4¢ per k.w.h.

Class 4. Demand Charge $1.00 per k.w. per month plus an Energy Charge of 3/4¢ per k.w.h.

Minimum Monthly Demand Charges:

Class 1.	$ 1.00
Class 2.	10.00
Class 3.	100.00
Class 4.	240.00

SEASONAL POWER: (Based on the Connected Load.)

Class "A" Demand Charge $1.00 per h.p. per month for six consecutive months plus an Energy Charge of 1¢ per k.w.h.

Class "B" Demand Charge $1.50 per h.p. per month for three consecutive months plus an Energy Charge of 1¢ per k.w.h.

TABLE II. (Cont'd.)

PRESENT ELECTRIC RATES OF THE
NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

SEASONAL POWER: (Cont'd.)
(Based on the Connected Load.)

Minimum Monthly Demand Charges:

Class "A"	$ 2.50
Class "B"	5.00

In addition to the above rates the Northern California Company has, due to competitive conditions, adopted as optional rates applicable in the Chico District the general power rates and the agricultural power rates of the Pacific Gas and Electric Company.

Gas is sold by the Northern California Company in Redding, Red Bluff and Willows at the uniform rate of $1.50 per one thousand cubic feet, with a minimum bill of 50 cents per month per meter.

The rates charged for water in Redding and Willows are those rates and charges which have been established from time to time by the municipalities themselves.

HISTORICAL

The first predecessor of the Northern California Power Company, Consolidated to engage in generation, transmission and distribution of electrical energy was the Keswick Electrical Power Company, organized in the fall of 1900. A sash and door factory operated by water power on Millseat Creek, Shasta County together with several ranches and irrigating ditches taking their water from Battle Creek and tributary streams were purchased, and construction was started on a generating station now known as Volta Power House. This development was made possible by a contract with the Mountain Copper Company for 2,000 horsepower to be delivered at its Keswick smelter, then in course of construction, and to its Iron Mountain Mine. Water for the operation of Volta Power House was obtained through the purchase of a sash and door factory operated by water power on Millseat Creek, and the water supply obtained through this purchase was further augmented by the purchase of certain riparian land tributary to Millseat and Berry Creeks, some of which land was receiving water from the Dailey-Cunningham Ditch taking water from North Battle Creek and extending westerly from Section 30, Township 31 North, Range 2 East, across Berry Creek, Millseat Creek and intervening streams. By these purchases an accumulated flow of approximately 1,200 miners inches of

water was secured and the Keswick Electric Power Company immediately commenced work on the Keswick Ditch extending from a diversion in Berry Creek westerly to Millseat Creek and from Millseat Creek to the forebay reservoir now known as Lake Nora at the head of the pressure pipe line to the power house.

Two 750 kilowatt generators were installed with provision for a third generator of similar size and the plant was put in operation in November 1901. To transmit the energy generated at the Volta Power House, a double circuit, 20,000 volt line was constructed to Keswick by way of Redding and a single circuit line was continued some four and a half miles to the Iron Mountain Copper Mine.

In 1901 the Redding Electric Light Company and the Redding Water Company were purchased and a substation was erected, whereby the City of Redding and the pumping plant of the water distributing system received electric energy from Volta Power House. Shortly after the purchase of these properties the local electric distributing system was practically rebuilt and the system changed from two phase to three phase.

In February 1902, the steam generating plant of the Tehama Electric Company, located in Red Bluff, was destroyed by fire and an urgent demand was made upon the Keswick Electric Power Company to supply the needs of the Tehama Company in Red Bluff, Corning, Tehama and vicinity. About this time it became apparent that a re-

organization of the Keswick Electric Power Company would be necessary in order to secure the additional capital needed to take care of its rapidly increasing business, and the Northern California Power Company was incorporated in March 1902. Shortly after the reorganization, the properties of the Tehama Electric Company were acquired, and during May 1902, the Northern California Company completed its 20,000 volt line from Palo Cedro to Red Bluff by way of Anderson and Cottonwood and connection was made with the Tehama County system. During the summer and fall the old Tehama Electric Company's transmission lines were rebuilt and extended from Corning through Orland and Germantown to Willows in Glenn County, at which latter place electric energy was wholesaled to the Willows Water and Light Company. Distribution lines in the various towns were constructed as rapidly as possible and efforts were made to encourage the use of electric power for irrigation pumping. Considerable development was also apparent in the mining districts of Shasta County, and this development required the extension of transmission lines to Delamar and to a gold dredger at Horsetown, and made it necessary to install a third 750 kilowatt unit in the Volta Power House.

In 1903, due to an increased activity in the mining districts, it was decided to further increase the generating capacity, and work was commenced on what is now known as Kilarc Power House. This power

development, having a rated capacity of 3,000 kilowatts, is located on Old Cow Creek about sixteen miles north of Volta Power House, and here, as at Volta, all the water was acquired by purchase of prior rights and riparian lands. A 20,000 volt transmission line was built from Delamar to the site of the Kilarc Power House to serve the double purpose of furnishing the power during the construction period and to connect the new power plant to the system as soon as the plant was placed in operation. The transmission system was further extended during 1903 from Keswick to the Balaklala Copper Mine and from the Kilarc-Delamar line to Ingot. During the same year the properties of the Red Bluff Electric Light and Gas Company were acquired and a gas generating plant and distribution system were placed in operation in Redding.

In an effort to educate irrigators in the use of electric power, the canals and properties of the Belle Vue Irrigation Company at Anderson were purchased in 1904, and an electrically driven pumping plant was installed on the Sacramento River. During the same

year extensive water rights were obtained on the Pitt River, and a number of important transmission line extensions were made to supply mines in Shasta County. In October 1904, Kilarc Power House was placed in operation and, having a temporary surplus of power, it was planned to extend a transmission line down the east side of the Sacramento River through Chico to the gold dredging territory along the Feather River between Oroville and Marysville. Contracts were signed for power to be supplied to certain gold dredgers in the vicinity of Oroville and Marysville, and active preparations were being made to proceed with the construction of the necessary lines to serve the business contracted for, when the Valley Counties Power Company, in order to prevent competition in this field, contracted for 5,000 horsepower to be supplied by the Northern California Company at Chico.

A 20,000 volt line was constructed in 1905 from Orland to Hamilton City to supply a sugar refinery at that point and to provide means for irrigating the lands to be planted to sugar beets. The Kilarc-Delamar line was also extended to Kennett to secure better service and a greater degree of flexibility in handling the large and increasing smelting and mining load in that vicinity. However, litigation involving the damage caused by smelter fumes resulted in a serious

depression in mining activity and had an immediate effect upon the revenues of the power company, which revenues were further decreased by the failure of the gold mining dredge at Horsetown.

About this time the development of irrigation in Tehama and Glenn Counties received a considerable impetus following the securing of an option by the Central Canal Company on the Central Canal and a large tract of land in eastern Glenn County. Contracts were signed for electric power to be supplied for this project and for power for the operation of an alfalfa meal mill, which was erected between Proberta and Tehama, and the Northern California Company began to realize the first fruits of its campaign to encourage the use of electricity in the rural districts. A second contract for electric energy amounting to 5,000 horsepower to be delivered at Chico was entered into with the Valley Counties Power Company, and the Battle Creek Power Company was organized as a subsidiary company to carry out this contract and to develop important water rights which had been acquired on Battle Creek in Shasta and Tehama Counties. The generating capacity of the Volta Power House was increased by the addition of a 2,000 kilowatt unit, and construction work on a single circuit, 60,000 volt transmission line from Volta to Chico was started. This line was completed the following year.

In 1907 the Willows Water and Light Company was purchased by the Battle Creek Power Company and a fifth unit, having a capacity of 2,400 kilowatts, was installed in the Volta Power House making the total installation at this plant 6,650 kilowatts. During the same year a 60,000 volt line was constructed from Volta through Palo Cedro to Kennett, a 20,000 volt tie line was extended from Volta Power House to Kilarc Power House thus completing the transmission loop and a 60,000 volt tie line constructed from Chico to Hamilton City. In December 1907, work was started on a third power development located about five miles south of Volta Power House on South Battle Creek, and now known as South Power House.

As the necessity for further financing had, by 1908, become rather urgent, the present Northern California Power Company, Consolidated, hereinafter called the Consolidated Company, was organized, and shortly thereafter absorbed the properties of the Northern California Power Company and its subsidiary, the Battle Creek Power Company. About this time, too, the competition, actual and potential, arising from the activities of the Shasta Power Company, organized in 1904, and the Northern Light and Power Company, organized in 1907, had begun to assume serious proportions. During the year following the or-

ganization of the Consolidated Company, construction work was started on the Inskip power development located on South Battle Creek about four miles west of the South Power House then in course of construction. Work was also commenced on a storage reservoir designed to impound 14,800 acre feet of water at the head of North Battle Creek. In 1909 the Shasta Power Company and the Northern Light and Power Company were consolidated under the name of Sacramento Valley Power Company and competitive conditions became more acute.

In June 1910, the construction of the Inskip Power House with a capacity of 6,000 kilowatts was completed and in October of that year South Power House, with a capacity of 4,000 kilowatts, was placed in operation. These power developments were connected to the 60,000 volt transmission system at Volta. Active construction work was also started this year on a new 12,000 kilowatt power development on Battle Creek about eight miles west of Inskip Power House. During 1910, competition between the Consolidated Company and the Sacramento Valley Power Company had assumed a most intense character which, due to its financial effect on the Sacramento Valley Power Company, made it necessary for that Company to devise means for a reorganization, and as a result The Sacramento Valley Power Company was formed and the year following the reorganization, was

completed. About this time powerful financial interests became associated with The Sacramento Valley Power Company and competition was indulged in, which for aggressiveness and utter recklessness has probably never been paralleled in the history of the State.

Consumers were permitted to make their own terms and in one instance, at least, an entire community received free service because the revenue to the Company did not warrant the employment of meter readers or collectors.

Due partially to the loss of revenue in the competitive zone and because the territory to the south of that then being served by the Consolidated Company was just entering a new stage of development, it was decided in 1911 to extend the 60,000 volt transmission lines into Colusa County, and accordingly a line was constructed from Hamilton City to College City by way of Jacinto, Princeton, Maxwell, Williams and Arbuckle. At Butte City a line was extended to rich agricultural territory lying on the east side of the Sacramento River and the local electric distributing plant and system at Williams was purchased. In 1911 a gas plant was constructed and a gas distributing system installed in Willows and the new Coleman Power House was placed in operation early the following year.

The ruinous rate war, which had been actively engaged in for several years, resulted early in 1912 in the absorption of The Sacramento Valley Power Company by the Northern California Power Company, Consolidated, and steps were immediately taken to recoup, in so far as would be possible, the losses which had accrued during the competition period. On March 23, 1912, the Public Utilities Act became effective and in order to rectify the chaotic condition which prevailed, in connection with the rates charged by the Consolidated Company, application was made to the Commission for permission to establish certain uniform rates for electric service throughout the territory served. This matter was finally passed upon by the Commission on December 30, 1912, (Vol. 1, Opinions and Orders of the Railroad Commission of California, page 315) at which time rates were established for all classes of electric service.

At this point it may be well to refer briefly to the history of The Sacramento Valley Power Company and its predecessors prior to the consolidation heretofore referred to.

In 1907 the Shasta Power Company installed a hydro-electric plant on Snow Creek in Shasta County. This plant had a rated capacity of 1,200 kilowatts and it received the water necessary for its operation from Hat Creek east of Mt. Lassen and from various streams

between that point and the location of the power house. A 22,000 volt transmission line was constructed from the Snow Creek Power House to Redding, where the energy produced was sold in competition with that distributed by the Northern California Power Company, Consolidated

In 1909 a 1,500 kilowatt plant was constructed on South Cow Creek in Shasta County by the Northern Light and Power Company and a 33,000 volt transmission line was constructed from the power house to Redding. Shortly after the completion of the South Cow Creek plant, the Shasta Power Company and the Northern Light and Power Company were consolidated as Sacramento Valley Power Company. After the consolidation the Shasta Power Company's 22,000 volt line to Redding was changed to 33,000 volts and the lines were connected near the South Cow Creek Power House. During 1910, after a second reorganization under the name of The Sacramento Valley Power Company, a 60,000 volt transmission line was constructed parallel to the 20,000 volt line of the Northern California Company from Redding to Chico by way of Anderson, Cottonwood, Red Bluff and Corning. In Chico, The Sacramento Valley Power Company entered into active competition with the Pacific Gas and Electric Company.

In 1911 the transmission lines of the Company were extended from Chico to the dredging territory on Butte Creek and from a point northeast of Orland through Orland to Willows.

PROPERTY OF

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

The electric production system of the Northern California Power Company, Consolidated, on January 1st, 1916, is summarized in the following tabulation:

TABLE III.

GENERATING PLANTS OF NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

Power House	Present Installed Capacity	Character of Building
1. Volta	6 650 k.w.	Rubble Masonry
2. Kilarc	3 000 k.w.	Rubble Masonry
3. South	4 000 k.w.	Rubble Masonry
4. Inskip	6 000 k.w.	Rubble Masonry
5. Coleman	12 000 k.w.	Concrete and Steel
6. South Cow Creek	1 500 k.w.	Rubble Masonry
	33 150 k.w.	

In addition to the 33,150 kilowatts in generating capacity above referred to, the Company can, under its contract with the Pacific Gas and Electric Company,

call upon that company at any time for 3,760 kilowatts at a very low rate. This makes the total present production capacity immediately available 36,810 kilowatts, and in addition to this capacity the Company has on hand, but not yet installed, a new 3,000 kilowatt generator and hydraulic equipment for installation in the Kilarc Power House.

The Snow Creek plant of the Shasta Power Company, having a capacity of 1,200 kilowatts, has been abandoned due to the fact that the capacity of the plant is not now required, and also because the water required to operate this plant can be used more advantageously by passing it through Volta, South, Inskip and Coleman power houses.

The present canal system supplying the Battle Creek power developments, including Volta, begins about two miles east of Mt. Lassen where the waters of Hat Creek are diverted through the Hat Creek Ditch to Lost Creek. About four miles north of Mt. Lassen this water is again diverted through the main Hat Creek Ditch to Bridge Creek following the natural channel to Lake McCumber Reservoir on North Battle Creek. From a point below Lake McCumber Reservoir the water is diverted into the Upper Mill Creek Ditch and is here augmented by water diverted from Deer Creek and Manzanita Creek by the Deer Creek, Manzanita and Armstrong Ditches

No. 1 and No. 2. After entering the Upper Mill Creek Ditch the water is conveyed to Millseat Creek near which point the supply of water is increased by the water from Glass Springs which is conveyed through the Schooling Ditch. This water then follows the natural channel of Millseat Creek for approximately two miles, when it is again diverted through a canal into the upper forebay reservoir of the Volta Power plant known as Lake Grace. An additional and auxiliary supply of water is diverted from North Battle Creek and is carried in the Daily-Cunningham Ditch to the Baldwin Reservoir from whence it is conveyed to Lake Grace. The supply can be further augmented, when necessary, by water diverted from North Battle Creek through the Smith Ditch. Lake Nora, the second forebay reservoir supplying Volta, receives its water either through the canal system above described or through the original Keswick Ditch with diversions in North Battle, Berry and Millseat Creeks. From the forebay reservoirs above named, the water flows through two separate pressure lines to the Volta Power House where the heads of 1,196 feet and 1,250 feet are utilized to generate over 8,900 horsepower in electric energy.

The water discharged from the Volta plant is conveyed almost due south in the Volta-South Ditch to

the forebay of South Power House, being added to, enroute by water diverted from North Battle Creek below Volta, from Bailey Creek through the Childs and Fuller Ditches and from South Battle Creek and other streams through the South Battle Creek Ditch. At South Power House the available head of 515 feet is utilized to generate 6,700 horsepower.

Water passing through South Power House is discharged into South Battle Creek only to be again diverted a short distance below, from which diversion it flows about four miles west through the Inskip Ditch to the head of the Inskip penstock. At this point the Inskip Ditch joins the Eagle Canon Ditch taking water from North Battle Creek. The water is dropped to Inskip Power House through 3,162 feet of wood and steel pressure pipe, utilizing a static head of 370 feet. At the Inskip plant the generating capacity is 8,040 horsepower.

From Inskip Power House the water is again discharged into South Battle Creek and almost immediately diverted again into the Coleman Canal, through which it flows in a westerly direction to the forebay reservoir of the Coleman Power House. Additional water is picked up enroute, the principal excess being derived from a canal carrying the waters of Darrah Creek and Baldwin Creek. From Coleman forebay the water

passes through two pressure lines to Coleman Power House where the fall of 487 feet is utilized to generate 16,080 horsepower in electric energy.

The Old Cow Creek water-shed, from which is derived the water necessary to operate the Kilarc and South Cow Creek plants, lies to the north of the Battle Creek water-shed above referred to. The canal system supplying the Kilarc plant consists of a canal into which the waters of Clover Creek are diverted. This water is then conveyed to Old Cow Creek at which point the flow of this stream is added to that of other streams conveyed by the Clover Creek Ditch, and from the Old Cow Creek diversion the water is carried by canal about three miles in a westerly direction to the forebay reservoir of Kilarc Power House. The 1,200 foot head at this point is utilized to generate 4,020 horsepower and the water is discharged back into Old Cow Creek. At the point of confluence of Glendenning Creek and Old Cow Creek the water is again diverted and is conveyed about four miles and discharged into Mill Creek. About one half mile north of the point where Mill Creek empties into South Cow Creek the water is diverted into South Cow Creek and again diverted by a flow line approximately two miles long and discharged into the forebay reservoir of the South Cow Creek Power House. The head of 715 feet at this point is used to generate

2,010 horsepower, the water being finally discharged into Houton Gulch.

The production system herein above referred to, capable of producing not less than 44,421 horsepower, is unique in that practically the entire supply of water has been purchased outright, only a small portion having been acquired by appropriation for power purposes.

The transmission system consists of 227 miles of 20 kilovolt lines and 370.5 miles of 60 kilovolt lines through the Counties of Shasta, Tehama, Trinity, Butte, Glenn and Colusa. The 20 kilovolt system connects the Volta and Kilarc Power Houses extending from Kilarc to Heroult via Bully Hill, with a tie line south from Bully Hill to Palo Cedro, the main switching station. From Palo Cedro a double circuit line extends westerly to Keswick via Redding, thence north to a point between Keswick and Coram, and from this point a single circuit is continued north to Kennett. Branch lines are extended from the main 20 kilovolt system to various points in the mining districts of Shasta and Trinity Counties. From Palo Cedro a single circuit 20 kilovolt line extends south through Anderson, Cottonwood, Red Bluff, Tehama and Corning to Orland in Glenn County, from which point a 20 kilovolt line extends south to Willows and a second line extends east to Hamilton City.

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Coleman, Inskip, South and Volta Power Houses are connected by a 60 kilovolt line. From Volta Power House a double circuit 60 kilovolt line extends westerly to Palo Cedro, from which point a single circuit line extends in a northwesterly direction to Kennett and thence east to Heroult. From South Cow Creek Power House a single circuit 60 kilovolt line extends westerly to Redding, being tied in at Palo Cedro with the Main transmission system, and from Redding the line is continued in a general northerly direction to Kennett, thus completing the 60 kilovolt loop connecting Kennett, Keswick and Redding with the supply point at Palo Cedro. From Volta Power House a single circuit 60 kilovolt line extends southward, tapping Inskip Power House enroute, thence along the east side of the Sacramento River to Chico, where connection is made with the system of the Pacific Gas and Electric Company, and from Chico a tap line extends east to the Butte Creek dredging grounds and a second line extends westerly to the Hamilton City switching station. From Redding a second main 60 kilovolt line extends south along the west side of the Sacramento to Willows by way of Anderson, Cottonwood, Red Bluff, Corning and Orland, near which latter place a tie line extends easterly to Hamilton City. From Hamilton City a line extends in a southerly direction along the west

side of the Sacramento River to Arbuckle in Colusa County by way of Jacinto, Princeton, Maxwell and Williams.

TERRITORY SERVED WITH ELECTRICITY, GAS AND WATER.

The electrical distribution system covers, in a general way, the territory traversed by the Company's transmission lines, and electric service is supplied in and adjacent to all of the cities and towns referred to in Table I.

Gas manufacturing plants and gas distribution systems are maintained in Redding, Red Bluff and Willows.

Domestic water service is supplied in Redding and Willows.

CONSUMERS' CONNECTED LOAD, ETC.

The following tabulations contain summaries of the number of consumers by departments and classes of service, the connected load and other operating data for the years 1914 and 1915.

TABLE IV.

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

CONSUMERS' CONNECTED LOAD AND K.W.H. SOLD

DURING THE YEARS 1914 AND 1915

ELECTRIC DEPARTMENT

Class of Service	Number of Consumers Served During Year		Connected Load K.w.h.		Sales in K.W.H.	
	1914	1915	1914	1915	1914	1915
Residence Lighting	5 406	5 543	3 895	5 298	932 602	969 057
Commercial Lighting	1 338	1 263	1 622	1 539	1 058 395	1 038 844
Municipal Lighting	11	23	193	287	492 287	686 169
Other Lighting	8	68	7	61	87 388	18 922
Sub-Total	6 763	6 897	5 717	7 185	2 571 172	2 712 992
Industrial Power	527	568	3 497	3 452	2 229 551	4 479 417
Agricultural Power	475	531	5 293	5 936	4 672 168	5 059 072
Mining Power	23	30	13 522	13 441	29 369 958	30 696 161
Other Power	143	114	9 196	8 164	69 609 852	69 729 174
Sub-Total	1 168	1 243	31 508	30 993	106 881 529	109 963 824
GRAND TOTAL	7 931	8 140	37 225	38 178	108 452 701	112 676 815

NOTE: Total Production:

1914 130 417 864 k.w.h.
1915 137 080 847 k.w.h.

Maximum Simultaneous System Peak:

1914 21 340 k.w.
1915 22 700 k.w.

TABLE V.

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

NUMBER OF CONSUMERS AND GAS SOLD

DURING YEARS 1914 AND 1915

GAS DEPARTMENT

Plant	Production in Cu.Ft. 1914	Production in Cu.Ft. 1915	Consumers 1914	Consumers 1915	Gas Sold in Cu.Ft. 1914	Gas Sold in Cu.Ft. 1915
Redding	10 154 000	8 981 700	432	468	6 769 000	6 805 300
Red Bluff	8 335 000	7 947 200	487	495	6 406 000	6 280 600
Willows	8 594 000	8 073 700	466	349	7 926 000	7 451 100
Total	27 083 000	25 002 600	1 385	1 312	21 101 000	20 537 000

TABLE VI.-a

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

NUMBER OF CONSUMERS AND WATER DELIVERED

DURING YEARS 1914 AND 1915

WATER DEPARTMENT

Location	Consumers 1914	Consumers 1915	Water Delivered In Gallons 1914	Water Delivered In Gallons 1915
Redding		751	862 239 161	851 108 951
Willows	—	472	209 314 200	220 121 530
Total		1 223	1 072 553 361	1 071 230 481

CAPITAL STOCK AND FUNDED DEBT

The authorized capital stock of the Northern California Power Company, Consolidated, is $12,000,000.00, of which $10,000,000.00 par value in common stock has been issued and is now outstanding. $2,000,000.00 in preferred stock has been authorized but has never been issued.

On December 31st, 1915, the total outstanding funded debt of the Consolidated Company was $6,941,351.92, including the underlying bonds and debenture issues.

FINANCIAL STATEMENT

The book assets of the Northern California Power Company, Consolidated, as of December 31st, 1915, as reported to the Commission are as follows:

TABLE VI.

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

STATEMENT OF ASSETS AND LIABILITIES

DECEMBER 31ST, 1915

ASSETS

Fixed Assets:		
Electric	$ 9 547 244.13	
Gas	200 258.20	
Water	247 724.38	
Total Fixed Assets		$ 9 995 226.71
Intangible Assets:		
Rights and Franchises, (Included above.)		
Stock Discount	$ 8 000 000.00	
Bond Discount (Debentures)	1 697.54	
Total Intangible Assets		$ 8 001 697.54
Current Assets:		
Cash	$ 96 803.97	
Notes Receivable	12 994.91	
Accounts Receivable	103 659.55	
Investments	250.00	
Materials and Supplies	95 800.10	
Sinking Funds	15 611.86	
Prepayments	601.17	
Construction Work in Progress	64 861.90	
Suspense	51 933.10	
Total Current Assets		$ 442 516.56
TOTAL ASSETS		$ 18 439 440.81

TABLE VI. (Cont'd.)

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

STATEMENT OF ASSETS AND LIABILITIES

DECEMBER 31ST, 1915

LIABILITIES

Capital Liabilities:		
Common Stock	$ 10 000 000.00	
Assessment No. 1	200 000.00	
Assessment No. 2	200 000.00	
Assessment No. 3	200 000.00	
Bonds (Including Debentures)	6 941 351.92	
Total Capital Liabilities		$ 17 541 351.92
Current Liabilities:		
Accounts Payable	$ 57 034.35	
Interest	60 623.70	
Rents	9.94	
Prepayments	1 119.82	
Total Current Liabilities		$ 118 787.81
Reserve Accounts:		
Depreciation	$ 122 892.12	
Reserves increased on Sinking Fund	326 762.71	
Other Reserves	89 931.46	
Total Reserve Accounts		$ 539 586.29
Suspense	$ 111.64	
Corporate Surplus	239 603.15	
		$ 239 714.79
TOTAL LIABILITIES		$ 18 439 440.81

The income account of the Northern California Power Company, Consolidated, is reported as shown in the following table for the year ending December 31st, 1915:

TABLE VII.

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

INCOME ACCOUNT

1915

Net Electric Revenues	$ 407 069.71	
Net Gas Revenues	7 442.83	
Net Water Revenues	10 648.23	
		$ 425 160.77
Add:		
Rents	$ 1 146.69	
Interest	1 162.01	
Miscellaneous	1 029.52	
		$ 3 338.22
Total Gross Corporate Income		$ 428 498.99
Deduct:		
Uncollectible Bills	$ 2 693.17	
Interest accrued on Funded Debt	359 188.47	
Other Interest Deductions	3 708.09	
Miscellaneous	1 156.29	
Total Deductions		$ 366 746.02
NET EARNINGS YEAR 1915		$ 61 752.97

The revenues and expenses for the Consolidated Company for the year 1915 are reported as follows:

TABLE VIII.

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

REVENUES AND EXPENSES

YEAR 1915

ELECTRIC DEPARTMENT

Revenues:		
Municipal Lighting	$ 19 594.76	
Municipal Power	6 227.37	
Commercial Lighting	132 974.77	
Commercial Power	332 780.67	
Other Electrical Corp'ns.	212 667.22	
Breakdown Service	361.80	
Miscellaneous	26.45	
Sub-Total		$ 704 633.04
Other Revenues		5 624.17
Total		$ 710 257.21
Expenses:		
Production	$ 73 566.78	
Transmission	46 610.97	
Distribution	53 810.97	
Commercial	16 367.85	
General and Miscellaneous	54 021.78	
Taxes	41 132.45	
Depreciation	17 676.70	
Total		$ 303 187.50
NET OPERATING REVENUE (Electric)		$ 407 069.71

GAS DEPARTMENT

Revenues:

Municipal	$ 534.80	
Commercial	26 318.01	
Prepaid	4 404.00	
Total		$ 31 256.81

Expenses:

Production	$18 101.98	
Transmission	71.92	
Distribution	2 785.09	
Commercial	2 854.99	
General and Miscellaneous	Included with Electric	
Taxes		
Depreciation		
Total		23 813.98

NET OPERATING REVENUE (Gas) $ 7 442.83

WATER DEPARTMENT

Revenues:

Commercial-Flat	$33 780.80	
Commercial-Meters	768.23	
Industrial-Flat	816.00	
Industrial-Meters	348.27	
Municipal Hydrant Rentals	3 656.00	
Street Sprinkling	612.23	
Municipal Departments	1 101.55	
Total		$ 41 083.08

Expenses:

Pumping	$25 395.54	
Distribution	3 857.93	
Commercial	1 181.38	
General and Miscellaneous	Included with Electric	
Taxes		
Depreciation		
Total		$ 30 434.85

NET OPERATION REVENUE (Water) $ 10 648.23

XXXXXXXXXXXXXXXXX

The book cost of fixed capital installed in all departments on September 30th, 1915 is reported by the Northern California Power Company Consolidated in its Exhibit No. 24 to be $9,999,823.36, but this figure, due to the fact that all the records of the Company were destroyed by the fire in April, 1906, must be accepted with considerable question.

Northern California Power Company Consolidated Exhibit No. 9 in this proceeding contains the following summary of fixed capital installed year by year from March 1, 1902 to September 30th, 1915, inclusive.

TABLE IX

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

COMPANY'S CLAIMS AS TO

INVESTMENT VALUE OF PROPERTY

		Fixed Capital Installed	Material and Supplies	°Working Capital	Investment Value Of Property
March	1, 1902	495,627.02			495,627.02
	1, 1903	799,025.21		5,514.00	804,539.21
	1, 1904	1,231,904.74	11,360.70	7,316.00	1,250,581.44
	1, 1905	1,319,403.51	13,621.92	8,797.00	1,341,822.43
	1, 1906	1,488,801.06	14,696.84	9,391.00	1,512,888.90
	1, 1907	1,843,606.05	23,426.18	10,846.00	1,877,878.23
	1, 1908	2,243,990.94	30,030.69	15,556.00	2,289,577.63
Oct.	31, 1908	2,448,046.14	26,361.76	21,858.00	2,496,265.90
	31, 1909	3,521,736.39	33,044.62	18,824.00	3,573,605.01

TABLE IX

(Continued)

		Capital Installed	and Supplies	°Working Capital	Investment Value Of Property
Oct.	31,1910	4,503,893.67	34,274.12	22,643.00	4,560,810.79
	31,1911	5,889,614.03	39,886.60	28,240.00	5,957,740.63
	31,1912	+7,599,141.66	74,284.76	45,410.00	7,718,836.42
	31,1913	7,752,948.54	108,563.85	41,922.00	7,903,434.39
	31,1914	7,875,006.15	95,202.85	47,058.00	8,017,267.00
Dec.	31,1914	7,895,155.83	78,874.15	47,979.85	8,022,009.83
Sep.	30,1915	7,949,808.67	80,607.63	55,817.46	8,086,233.76

+ Includes investment of The Sacramento Valley Power Company property purchased March 1, 1912.

° Based on two months' average operating expenses 3/31/02 to 10/31/14. Balace for two months period 1914 actual working capital used 1/1/15 to 9/30/15 average of 9 months.

The figures in the above tabulation are developed through an analysis of transactions by the Consolidated Company and its predecessors in stocks and bonds each year as shown in the Company's Exhibits No. 2, No. 3 and No. 4. A summary of this process of developing the final figure of $7,949,808.67 is set forth in the Company's Exhibit No. 5 and is given in the following table:

TABLE X

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

COMPANY'S STATEMENT OF CASH INVESTMENT

AS OF SEPTEMBER 30, 1915

STOCK:		
Proceeds from stock sold by Keswick Electric Power Co.	$ 200,000.00	
Assessment No. 1 - Northern California Power Co. Cons., 100,000 shares at $2.00 per share	200,000.00	
Assessment No. 2 - Northern California Power Co. Cons., 100,000 shares at $2.00 per share	200,000.00	$ 600,000.00
BONDS:		
Keswick Electric Power Co., 1st Mortgage 5's	200,000.00	
Battle Creek Power Co. " " 5's	324,600.00	
The Redding Water Co. " " 5's	57,500.00	
Northern California Power Co." " 5's	777,760.00	
Northern California Power Co. Cons., Cons. & Refund. Mortgage	3,082,462.50	
Northern California Power Co. Cons., Series "B" Debentures	480,000.00	4,992,322.50
Value of assets acquired from The Sacramento Valley Power Company as shown by schedule of their investment:		
Land, water rights, etc.	360,439.00	
Plant	994,670.74	
Material & Supplies	25,124.26	1,380,234.00
Floating and accrued debt		202,982.68
Depreciation reserve, invested in property instead of funded		125,086.58
Surplus, reinvested		376,332.49
Cash on hand		34,061.95
Forward		$ 7,711,020.20

TABLE X

(Continued)

		Forward	$ 7,711,020.20
Adjustments of capitalized items:			
As charged:			
General Expense	$ 59,072.53		
Interest during Const.	304,568.37	$ 363,640.90	
As revised			
General Expense	386,495.18		
Interest during Const.	250,573.93	637,069.11	273,428.21
		Total Cash Investment	$ 7,984,448.41

Since the above statement was prepared another $200,000.00 stock assessment has been levied and collected by the Company.

Up to September 30, 1915, and excluding the purchase of the properties of The Sacramento Valley Power Company, it is reasonable to assume that the actual cash investment in fixed capital was not far from $5,500,152.00. Unfortunately, however, it it is not possible to proceed with the same degree of assurance with regard to the properties formerly owned by The Sacramento Valley Company. The transactions of the Shasta Power Company in stocks and bonds from 1906 to 1908 are fairly clear and we may reasonably admit that the cash investment by this Company was probably in the neighborhood of $315,350.00 at the time of its consolidation with the Northern Light & Power Company when Sacramento Valley Power Company was organized.

It is also fairly reasonable to assume that the $ 153,500.00 cash realized from the sale of $279,000.00 par value of the stock of the Northern Light & Power Company prior to December 31, 1908 was invested in the properties of that Company. However, there is grave question as to whether or not the $249,000.00 par value pf the stock of this Company issued for the ostensible purpose of securing water rights, rights of way and a power house site represent any corresponding value in properties acquired. Certainly no

value in excess of that corresponding to that for which the stock had been selling for cash could be attributed to the property so acquired. The average stock discount when sales were made for cash was approximately 45% and on this basis the cash value of properties acquired in exchange for stock would be $136,950.00, making the total investment of this Company $290,450.00. If it be admitted that the sum of $315,350.00 and $290,450.00, or a total of $605,800.00 was the value of the combined properties at the time of the consolidation, the difference between this amount and the sum of $599,986.00 par value in stock of Sacramento Valley Power Company and $160,000.00 in bonds and the value of the properties acquired in exchange therefor would represent the discount at which the securities were sold. This discount, amounting to $154,186.00, may be assumed to have been divided between stock and bonds on the basis of $146,186.00 fpr the former and $8,000.00 for the latter.

Prior to 1910 Sacramento Valley Power Company sold $100,000.00 face value in bonds for $95,000.00, which sale carried a bonus of $35,716.00 par value in stock. The discount on this transaction may be taken as $40,716.00. Subsequently $3,200.00 par value in stock was exchanged for water rights which, for the purpose of this computation, may be assumed to have been valued at $3,200.00. The following year $190,000.00 face value in bonds were sold at approximately 90% and this transaction included bonus stock having a par value of $40,000.00. Approximately $108,000.00 was realized. Shortly after the first bond sales in 1910 additional bonds to the amount of $20,000.00 were sold

at 95 and included $7,140,00 par value in bonus stock and $8,400.00 par value in stock for "commission on bond sales." About $19,000.00 in cash was realized from this transaction. Later stock transactions indicate that $13,700.00 par value of stock was sold for cash, $670.00 par value of stock was issued in payment of indebtedness and $56,800.00 par value of stock was issued "in partial payment for bonds and water rights". The amount of cash and the value in properties which the Company received as a result of this last transaction is not apparent, but could scarcely have amounted to more than 50% of the par value of the stock issued, or $35,585.00. Basing an estimate on the assumptions herein contained Sacramento Valley Power Company's investment at the time of the reorganization into The Sacramento Valley Power Company, was approximately $866,585.00, which sum may be taken as representing the amount received by The Sacramento Company for the $400,000.00 face value in bonds and the $914,000.00 par value in stock issued by the new company for the properties of Sacramento Valley Power Company as qualifying shares to its directors. In 1911 The Sacramento Company sold an additional $400,000.00 face value in bonds for approximately $360,000.00. If we assume that all of the cash realized by The Sacramento Company and its predecessors prior to the purchase of the properties by Northern California Power Company Consolidated, was invested in plant the total investment at the time of this transfer would be approximately $1,138,649.00,

Early in 1912, as has heretofore been related, the properties of The Sacramento Company were acquired by Northern California Power Company, Consolidated, which latter issued therefor $860,500.00 in three year debentures and in addition thereto assumed $900,000.00 in bonds of Sacramento Valley Power Company and The Sacramento Valley Power Company. In addition the Consolidated Company assumed the floating indebtedness of The Sacramento Company.

Assuming that the investment of the Consolidated Company in fixed capital and exclusive of The Sacramento Valley Power Company's properties was $6,500,152.00 and that The Sacramento Company's cash investment was $1,226,585.00, the combined investment not including materials and supplies, or working cash capital, would be $7,726,737.00. Adding $80,608.00, being the approximate value of the materials and supplies on hand on September 30, 1915, we find the probable total original investment to be $7,807,345.00. The actual investment of the Consolidated Company was some $573,415.00 in excess of the total combined total original investment above referred to due to the fact that, as hereinbefore indicated, the Consolidated Company paid approximately $1,800,000.00 for the properties of The Sacramento Valley Power Company, which properties had actually cost the latter Company not to exceed $1,226,585.00.

There can be no doubt but that in this case not less than $500,000.00 was the price paid for relief from a ruinous competition, and it is an excellent example of conditions prevailing prior to the effective date of the Public Utilities Act, when a relatively weak company could enter the territory being served by another and much stronger corporation, and by the process of well directed and ruthless competition, force the company already in the field to choose between financial loss or even financial ruin, and the purchase of the properties of the newcomer at a price far above its normal value.

Mr. R. M. Vaughan, an engineer of the Commission, prepared an inventory and appraisal of the electric properties and lands of the Consolidated Company based on the estimated cost to reproduce the properties new as of September 30, 1915. Mr. W. J. Hammond, an engineer of the Commission, prepared an inventory and appraisal of the Company's gas properties in Redding, Red Bluff and Willows, and Mr. M. H. Brinkley, an engineer of the Commission, prepared a similar estimate covering the water properties of the Company in Redding and Willows. These appraisals, including in separate tabulations deductions for assumed accrued depreciation, were introduced in evidence in this proceeding and are summarized in the following tabulations;

TABLE XI

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED FIXED CAPITAL INSTALLED ON SEPTEMBER30, 1915 BASED ON ESTIMATED COST TO REPRODUCE NEW TOGETHER WITH ESTIMATED REPRODUCTION COST LESS ACCRUED DEPRECIATION.

ELECTRIC DEPARTMENT
(Mr. R.M. Vaughan)

	Reproduction New	Reproduction New Less Depreciation
Production	$ 4,481,067.00	$ 3,779,310.00
Transmission	981,986.00	685,202.00
Distribution	1,100,479.00	870,195.00
Total Electric Capital	$ 6,563,532.00	$ 5,334,707.00

GAS DEPARTMENT
(Mr. W. J. Hammond)

Production	$ 87,648.00	$ 66,218.00
Transmission	9,291.00	7,722.00
Distribution	68,500.00	49,226.00
Total Gas Capital	$ 165,439.00	$ 123,166.00

WATER DEPARTMENT
(Mr. M.H.Brinkley)

Pumping	$ 57,162.00	$ 43,704.00
Distribution	127,476.00	80,623.00
Total Water Capital	$ 184,638.00	$ 124,327.00

GENERAL CAPITAL
(Mr. R.M. Vaughan)

General Structures	$ 12,976.00	$ 8,962.00
General Equipment	172,963.00	148,477.00
Total	$ 185,939.00	$ 157,439.00

LANDS, ETC.
(Mr. R.M. Vaughan)

Lands and Water Rights	$ 522,348.00	522,348.00
TOTALS	$ 7,621,896.00	$ 6,261,987.00

No appraisal of its properties was presented in evidence by the Consolidated Company, although an inventory of its properties was prepared, submitted to the Commission's engineers, and every facility at hand was offered to the Commission's experts during the progress of their investigations.

Mr. F. Emerson Hoar, an engineer of the Commission, prepared and submitted a summary of the valuation reports above referred to, together with an estimate of the cost to reproduce the franchises and business of the Company, and the total reproduction cost thus obtained was $7,915,953.00, exclusive of working cash capital, but including materials and supplies on hand to the amount of $78,875.00. Mr. Hoar's conclusion was that the "condition per cent" of the entire property, including lands, was 82.65% on September 30, 1915, which reduced to terms of money would be equivalent to $6,542,535.52. The report of Mr. Hoar shows the following tabulations summarizing the Company's non-operative properties.

TABLE XII

NON-OPERATIVE PROPERTIES
NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED
SEPTEMBER 30, 1915.

	Item	Cost to Reproduce
1.	Mountain Lands	$ 281,304
2.	Substation Sites, Etc.	3,000
3.	Burney Reservoir	38,196
4.	Pitt River Project	60,872
5.	Edwards Reservoir (Volta)	2,354
6.	Snow Creek Power Plant	26,305
7.	No. 3 Unit for Kilarc Power Plant	19,181
8.	Substation Buildings, Etc.	5,695
9.	Transmission and Telephone Lines, Etc.	2,655
	Total	$ 439,562

Mr. Hoar further concludes that inasmuch as the Consolidated Company had an excess plant capacity of some 16,150 K.W. over and above its simultaneous system peak of 20,000 K.W. in 1915 that 11,150 K.W. of this excess capacity, representing an investment of $1,336,773.50 is inoperative at the present time.

The Company presented a statement showing that the actual return earned by it from March 31, 1902 to September 30, 1915, inclusive was as shown in the following table:

TABLE XIII

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

ACTUAL RETURN TO COMPANY

	Interest	Dividends	Appropriations To Sinking Funds	Total
March 31, 1902				
1, 1903	8,357.60		5,000.00	3,357.60
1, 1904	12,124.77		5,000.00	17,124.77
1, 1905	42,390.80	60,000.00	5,000.00	107,390.80
1, 1906	42,881.28	60,000.00	5,000.00	107,881.28
1, 1907	47,980.42	60,000.00	5,000.00	112,980.42
1, 1908	60 800.20	40,000.00		100,800.20
Oct. 31, 1908	70,969.57		8,000.00	78,969.57
31, 1909	73,995.50	110,000.00		183,995.50
31, 1910	124,961.57	210,000.00	25,000.00	359,961.57
31, 1911	167,341.84	100,000.00		267,341.84
31, 1912	321,743.94		93,000.00	414,886.97
31, 1913	383,172.44			383,172.44
31, 1914	386,339.84		83,709.84	470,049.68
Dec. 31, 1914	63,719.86		20,000.00	83,719.86
Sept. 30, 1915	280,446.75		89,409.84	369,856.59
Totals	$2,070,511.18	$ 640,000.00	$344,262.71	$ 3,054,773.89

Following the statement of actual return earned by the Company, figures were submitted to show that the deficit, below an 8 per cent return which the Company claims that it is entitled to, from March 30, 1903 to September 30, 1915, amounted to $811,868.93. It was in connection with this matter and for the purpose showing what, in his judgment, a reasonable amount for development cost and the cost of obtaining the present business of the Consolidated Company should be, that Mr. Hoar presented the estimate hereinbefore referred to. This estimate allowed $136,899.00 over and above the estimated reproduction cost new of the entire properties, including lands and water rights, to "reproduce the business".

On the basis set forth in the Company's Exhibit No. 11 the actual average return earned from March 31, 1905 to and including September 30, 1915 was 6.32 per cent on the claimed investment value of the property. This return is slightly in excess of the Company's cost of money and on the basis of actual sacrifice it is not clear what claim can reasonably be made to a development cost. While it is true that since 1902 the Consolidated Company and its predecessors have paid out in dividends only $640,000.00 and that stock assessments to the amount of $600,000.00 have been levied, it may be well to call attention to the fact that failure to earn an expected profit does not necessarily establish a utility's right to a later increased earning based on a valuation which includes the profits which it has been unable to earn during the earlier years of its operations. An allowance for the cost of developing a business,

where it is proper or equitable that such an allowance should be made, must be measured by the reasonableness of the expenditures, and although an actual accrued deficit may indicate what the cost has been, such a method cannot be accepted as conclusive evidence, either that the actual expenditures were reasonable, or that the expenditures so made have added any value to the properties. It is also apparent that the Consolidated Company is still in the development period and that any attempt at this time to reimburse the Company for any deficit in return below what might now be considered a reasonable rate on the properties used and useful, would undoubtedly result in rates higher than the service is reasonably worth.

As has heretofore been stated, practically all of the water utilized by the Consolidated Company in connection with the generation of electric energy has been acquired by purchase, and in connection with these purchases it has usually been necessary to acquire the riparian lands together with their prior rights to the water. This condition has resulted in the purchase of large tracts of land, which lands are not now used or useful, in connection with the production of electric energy. However, these purchases were necessary in order to provide the water necessary to operate the Company's generating plants and the water so acquired represents the only value realized by the Company from any of the transactions involving both land and water. Because of the condition here stated, it is extremely difficult to segregate the cost of the water, which is the property used and useful, from the cost of the land, which is almost entirely inoperative, insofar at least

as the Company's utility operations are concerned. Mr. Hoar has attampted to obtain this segregation by deducting from the total price actually paid in each instance for both water and land the assumed present value of the land as such. This method assumes that if the Company were to dispose of its inoperative lands without water at the estimated present market value thereof the difference between the amount realized from such sale and the amount actually paid by the Company would represent the investment value of the water. While Mr. Hoar's theory may be subject to considerable criticism, it at least gives a basis for pro-rating between the inoperative lands and the necessary water which has been acquired by the Consolidated Company. Mr. Hoar in the manner indicated finds the reproduction cost of the Company's water rights to be $129,888.00 and the reproduction cost of the lands $392,460.00.

Obviously in determining what rates are proper and reasonable under the conditions existing at the present time, it will be necessary to exclude the non-operative property and the excess plant capacity over and above that which is necessary at this time to provide proper and adequate service to the present consumers of the Consolidated Company after making adequate provision for reserve facilities to take care of operating contingencies and prospective increases in business.

Considering the present operating conditions of the Company and the characteristics of the territory served, it appears that a fair value of the entire electric, gas and water properties of the Northern California Power Company, Consolidated, upon which the company is entitled to earn at the present time, under the rates herein established, is as shown in the following table.

This table also contains a statement of the proper allowance for depreciation annuity for each of the three departments.

TABLE XIV

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

FAIR VALUE OF NECESSARY OPERATIVE PROPERTY

TOGETHER WITH REASONABLE DEPRECIATION ANNUITY

Department	Operative Property As of Sept. 30, 1915	Working Cash Capital	Construction Capital	Totals	Depreciation Annuity
Electric	$ 5,752,939.00	$ 40,730.00	$ 264,480.00	$ 6,058,149.00	$ 81,539.00
Gas	182,042.00	3,969.00	5,119.00	191,130.00	4,565.00
Water	194,838.00			194,838.00	3,416.00
Totals	$ 6,129,819.00	$ 44,699.00	$ 269,599.00	$ 6,444,117.00	$ 89,520.00

OPERATING EXPENSES

The operating and maintenance expenses of the Consolidated Company for the years 1914 and 1915, and these expenses as allowed in connection with the determination of the rates herein established are shown in Table XV , segregated between departments. In allowing the operating expenses used as one element of the cost of service careful consideration has been given to the fact that the increased business assumed will necessitate corresponding increases in expense. In order to obtain the new business which should be available in the territory served by the Consolidated Company, it will undoubtedly be necessary to materially increase the commercial expenses and ample provision has been made for such increase. Maintenance expenses, as reported for 1914 and 1915, indicate that a considerable proportion of the renewals and replacements, properly chargeable to depreciation, have been included under the head of maintenance. Provision which is herein made for a depreciation annuity should adequately provide for depreciation of plant and hence the maintenance expense need only reflect those expenditures which are properly chargeable to this account.

TABLE XV

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

OPERATING EXPENSES AND MAINTENANCE
FOR YEARS 1914 AND 1915 AND AS USED IN
RATE DETERMINATION

	1914	1915	Used in Rate Determination
ELECTRIC DEPARTMENT OPERATING EXPENSE:			
Production	$ 49 271.68	$ 49 205.58	$ 50 405.00
Transmission	14 669.02	16 067.64	16 970.00
Distribution	26 661.07	24 693.68	28 245.00
Commercial	13 117.70	16 367.85	32 736.00
General	51 597.09	52 918.47	53 658.00
Sub-Total	$155 316.56	$159 253.22	$182 014.00
ELECTRIC DEPARTMENT MAINTENANCE:			
Production	$ 12 210.69	$ 24 361.20	$ 22 405.00
Transmission	4 266.84	30 543.33	14 730.00
Distribution	63 074.40	29 117.29	30 263.00
General	3 668.61	3 427.48	3 600.00
Sub-Total	$ 83 220.54	$ 87 449.30	$ 70 998.00
Total Electric	$238 537.10	$246 702.52	$253 012.00
GAS DEPARTMENT OPERATING EXPENSE:			
Production	$ 18 412.07	$ 16 707.57	$18 412.00
Distribution	1 280.12	1 683.82	1 800.00
Commercial	1 952.59	1 854.99	3 200.00
General	(No Charge)	(No Charge)	1 549.00
Sub-Total	$ 21 644.78	$ 20 246.38	$24 961.00
GAS DEPARTMENT MAINTENANCE:			
Production	$ 1 797.32	$ 1 394.41	$ 1 800.00
Transmission	22.46	71.92	100.00
Distribution	1 211.04	1 101.27	1 200.00
Sub-Total	$ 3 030.82	$ 2 567.60	$ 3 100.00
Total Gas	$ 24 675.60	$ 22 813.98	$28 061.00

TABLE XV (CONT'D.)

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

OPERATING EXPENSES AND MAINTENANCE
FOR YEARS 1914 AND 1915 AND AS USED IN
RATE DETERMINATION

	1914	1915	Used in Rate Determination
WATER DEPARTMENT OPERATING EXPENSE:			
Pumping	$ 22 409.82	$ 23 428.51	$ 11 724.00
Distribution	550.01	586.87	987.00
Commercial	1 261.78	1 181.38	1 182.00
General	30.30	(No Charge)	3 374.00
Sub-Total	$ 24 251.91	$ 25 196.76	$ 17 267.00
WATER DEPARTMENT MAINTENANCE:			
Pumping	$ 1 708.21	$ 1 967.03	$ 1 967.00
Distribution	3 003.01	3 271.06	2 610.00
Sub-Total	$ 4 711.22	$ 5 238.09	$ 4 577.00
Total Water	$ 28 963.13	$ 30 434.85	$ 21 844.00
TOTAL ALL DEPARTMENTS	$292 175.85	$299 951.35	$302 917.00

ELECTRIC RATES

The present electric rates of the Northern California Power Company, Consolidated were established by the Commission in 1912 in order to grant the Company relief from the chaotic condition following the rate war heretofore referred to. At the time the present rates were established there was no information before the Commission as to either the actual investment of the Company or the value of its properties, nor was adequate statistical information available upon which to predicate the probable result of a general application of these rates. The Company itself was unable to determine what its costs of operation would be under normal conditions, but agreed to give the rates referred to a fair trial during the period which it was to devote to the re-establishment of its business. The rates referred to have now been in effect for more than three years and with the information at hand it is now possible to correctly analyze the Company's business and to determine what modification in the present rates are desirable to provide the necessary amount of revenue and to meet the requirements of the territory served.

The cost of service used for the determination of the electric rates herein established is shown in the following table:

TABLE XVI

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

COST OF SERVICE

ELECTRIC DEPARTMENT

Capital		$ 6,058,149.00
Interest at 6½%	$	378,634.00
Depreciation Annuity		81,531.00
Maintenance		70,998.00
Total Fixed Costs	$	531,163.00
Operating Expenses	$	182,014.00
Uncollectible Bills		3,551.00
[illegible]	$	185,565.00
Sub-total	$	716,728.00
Taxes		39,713.00
Total Cost	$	756,441.00
Profit (Based on 8% Return)	$	106,018.00
Adjustment for Uncollectible Bills		530.00
Adjustment for Taxes		5,594.00
Sub-Total	$	112,142.00
Total Cost Plus Profit	$	868,583.00

In connection with the cost of service given above, it may be well to draw attention to the fact again that the Consolidated Company is still in its development stage, and due to the vitiating effect of its late competitive period, is practically starting in again to develop its territory on a sane basis and to stabilize its securities. The growth of business during a time of keen competition is seldom a healthy development because of the fact that at such times many

consumers are influenced to take service who can ill afford to pay rates which will yield a reasonable return to the serving utility or such as would permit the extension of facilities to serve undeveloped territory. While this is the usual result of that class of competition which has for its object only the ultimate sale of properties at figures in excess of their actual value, the consumers who remain with the surviving utility, or who are acquired as a result of disposing of a competitor, are not to be blamed for having taken advantage of rates which, under other conditions, would never have been offered. This is a condition, which to some extent, still faces the Consolidated Company and which it must meet in the usual process of development.

ELECTRIC LIGHTING, HEATING AND COOKING.

The existing rates charged by the Consolidated Company for electric lighting, while advantageous to the small consumer, are now found to work a hardship upon the heavier user of the commercial class. The rates herein established will correct the inequalities of existing lighting rates. It is also apparent that the changes herein provided for heating and cooking rates are necessary to take care of this business which gives promise of becoming a material factor in the development of the territory now receiving electric service from the Consolidated Company.

It may be possible that in a few isolated cases it would work a hardship upon the company to be required to install metering facilities in certain sparsely settled portions

of the territory served by it. If any such condition exists the Consolidated Company may draw the matter to the attention of the Commission, whereupon the Commission will make such further order herein as appears to be proper under the circumstances.

STREET LIGHTING.

No evidence was presented bearing specifically upon the subject of street lighting, but in order to obtain uniformity and to provide the revenue necessary to properly justify the maintenance of street lighting facilities by the Consolidated Company the rates herein established are deemed to be proper.

INDUSTRIAL AND GENERAL POWER

The only complaint, aside from the general complaint of the City of Redding, directed against the existing industrial power rates of the Consolidated Company, was made by Zeis & Sons of Redding, and this complaint was largely directed against the discriminatory conditions existing rather than against the rates themselves. In this connection it may be well to point out the fact that a considerable number of special contracts entered into during the competitive period herein referred to or contracts antedating that period are still in effect. All such special rates will, of course, be eliminated when the rates herein established become effective.

It has been deemed advisable to provide a necessary flexibility in the rates for industrial power service and this flexibility has been obtained by providing three separate types of rates. The simple block schedule will meet the requirements of the average consumer, while the demand plus energy and flat rate schedules will permit the use of electric service by consumers whose requirements are fairly constant.

SPECIAL SERVICE TO WOODWORKING ESTABLISHMENTS.

Inasmuch as the Consolidated Company is now supplying electric service to certain woodworking establishments in various portions of the territory served, and because there is nothing before the Commission at this time to indicate the conditions under which the rate was voluntarily established by the Company, it should be continued in effect until such time as the Commission, after being fully advised, may order its discontinuance.

AGRICULTURAL POWER

In 1915 the Consolidated Company furnished service to 531 agricultural consumers having an aggregate connected load in motors used for irrigation pumping of 7,020 horsepower, and constituting about 16.8% of the entire load connected to the Company's system. The average use of energy by agricultural power users in 1915 was 720.66 kilowatt hours per horsepower connected, being equivalent to approximately 11% apparent annual load factor, or about 26.4% seasonal load factor based on five months' use.

Due to the fact that pumping for rice irrigation is rapidly developing into what will undoubtedly be the most important class of agricultural service supplied by the Consolidated Company in a large portion of the territory served by it, and because, with the more intensive development of other agricultural sections in this territory, the use of electric energy is becoming more and more constant each year, the present agricultural rates based on conditions which had prevailed heretofore have proven unsatisfactory. The present rates, based on a low demand charge and a relatively high energy charge, are almost prohibitive under conditions of the high load factor, although these rates were particularly advantageous to consumers during the early development period. Inasmuch as the present rates contemplated service to pumping installations having a particularly low load factor, the few consumers having more or less constant use for power during the irrigating season were required to bear an undue burden in order that service to other consumers making lesser use of

the service might be benefitted. Under the conditions now existing it is necessary, in order that the development of the entire territory may not be retarded, that each consumer bear the cost of service to him in proportion to the extent to which he utilizes that service. The rates herein established entirely revise the present system of charging for agricultural power service, and their application will in all probability, unless means are adopted to change particular installations, prove somewhat of a hardship in certain cases. In order, however, that all consumers may be able to make proper and profitable use of electric service under the exceedingly flexible system of rates herein provided, it is urgently recommended that the Company take immediate steps to advise each agricultural consumer concerning the new rates, and assist him in selecting that type of rate best suited to his individual requirements. It is expected that the Company will give its particular and immediate attention to those cases where consumers have been permitted to install motors and pumps larger than are reasonably necessary for the particular irrigating requirements of the consumer's lands to the end that the consumer may be enabled to use the service furnished to the best advantage.

Ample provision has been made in the capital amount upon which the Company may expect to earn, for the Company itself to undertake to assist its consumers in obtaining the proper equipment by exchange or otherwise, and the rates herein established contemplate that such assistance will be given by the Company in cases where such assistance may be required and justified. If proper application of these rates is made as is intended, the result will prove

gratifying to both the Company and its patrons, and development of the entire agricultural territory will be materially enhanced. If proper application of the rates is not made, it may be necessary for the Commission to again take action in the matter to the end that proper protection may be given to those patrons of the Consolidated Company who, in good faith, have to the best of their ability, and at relatively large expense, installed equipment, the operation of which, in certain cases, is profitable neither to the Company or its consumers. For the consumer operating his plant under average conditions, the new rates will not prove burdensome; however, the full benefit from the rates herein provided can be realized by the Company and its consumers only when proper use is made of the service supplied.

In order to provide a rate under which the development of land may be profitably prosecuted during the period when little or no revenue is derived from its cultivation, the regular block schedule of meter rates has been subdivided into three parts:

The "Primary Development Rate" being applicable to the first year of the development period; the "Intermediate Development Rate" being applicable to the second year, and the regular or "General Rate" to apply the third year and thereafter. The actual application of this schedule [redacted] will result in the consumer having the choice of either the primary, intermediate or general rates for the first year, and having the option of taking either the "Intermediate" or the "General" rate the second year with the further option at any time of selecting either the de-

mand and energy rate or the flat rate.

All present agricultural power consumers should have the option of selecting any rate herein provided for the first year, and the further privilege of obtaining service under the "Intermediate Development Rate" during the second year after the rate herein established became effective. It is expected that after the second year all present consumers of the company will have arranged to take service under one of the regular agricultural schedules.

Contracts for a period of three years may be required in the first instance for service to be furnished under any of the regular agricultural power schedules, provided that where a development rate is selected, the development period may be added to the initial contract term of three years. Contracts from year to year will also be required when a contract demand and energy or flat rate is selected.

While both demand and energy rates and flat rates are provided for periods of from one month to twelve months' service each year, the Company will be permitted to make and submit to the Commission such restrictions as it may deem proper regarding the use of its service for periods of less than three months.

MINING AND OTHER LARGE POWER

Electric service supplied to the mining districts of Shasta, Trinity, Tehama and Butte Counties constitutes 43.36% of the entire connected power load served by the Consolidated Company and amounts to 27.9% of the kilowatt hours sold for power purposes in 1915. Due to the fact that this service is supplied over a wide territory and because the installations of the thirty consumers constituting this class of business are relatively large,

most of the service is delivered directly either from transmission lines or from individual substations.

Other large power of the industrial class is supplied under conditions approximating those existing in the mining territory.

Due to the variation in the investment which must be made by the Company to serve large consumers and to the more or less hazardous nature of a large portion of this business, it is proper that the Company should only be required to supply service of this class under contracts for five years or more depending upon the circumstances of each particular case.

SPECIAL ELECTROLYTIC SERVICE

At the present time a large amount of money is being expended in Shasta County in developing electrolytic processes for the production of zinc and other commodities. Electro-chemical and electro-metallurgical processes for the refining and reduction of metals requires constant and reliable service and cannot be supplied by the serving utility under the usual conditions surrounding the delivery of excess power. The development of industries of this nature requires the expenditure of large amounts of capital and should be encouraged. All new processes involving the refining or reduction of metals by means of electric energy must pass through a certain experimental or development period and it has been necessary to provide special rates both for the development period and for regular operation thereafter. These rates should only be applicable to contract business and the term of the contracts must depend upon the particular circumstances of each case, subject to cancellation under reasonable conditions in the event that any particular process proves a failure.

GAS RATES

The Consolidated Company, as has been indicated herein before, owns and operates gas manufacturing plants and gas distributing systems in Redding, Red Bluff and Willows. These combined properties appear to be operated as economically as possible but in 1915 returned the Company, over and above operating expenses and with no allowance for general expense, depreciation or taxes, only $7,442.83. The cost of service as assumed for 1916 is shown in the following table.

TABLE XVII

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED

COST OF SERVICE - GAS DEPARTMENT

Capital	$ 191,130
Interest at 6¼%	11,946
Depreciation Annuity	4,565
Maintenance	3,100
Total fixed costs	19,611
Operating Expenses	24,961
Uncollectible Bills	223
Sub-Total	44,795
Taxes	2,532
Total Cost	47,327
Profit (based on 8% return)	3,345
Adjustment for Uncollectible bills	16
Adjustment for Taxes	186
Sub-Total	3,547
Total Cost plus profit	$50,874

It is extremely unfortunate that the three gas properties of the Consolidated Company have been unable to earn more than practically the actual operating expenses and depreciation. The situation is particularly serious in view of the increasing price of fuel oil and the fact that the Company's present oil contract will shortly expire. The condition here related would seem to

indicate that there exists no material demand for gas in the communities served and that other forms of fuel are still preferred, probably because of the relative cost, by the inhabitants of these communities. The fact that there is no merit in the complaint of the City of Redding against the rates charged for gas is at once obvious as the only question of reasonableness which can be involved is as to whether or not the present rates are unreasonably low.

Owing to the fact that $1.50 per 1000 Cubic feet appears to be all that the service is worth to the consumer, any increase, however justified, would result only in further reducing the revenue. The present minimum charge of 50 cents per month per meter is, however, entirely too low under the circumstances existing in this particular case and the rates herein established contemplate an increase in this charge to $1.00 per month per meter.

A discussion with officials of the Consolidated Company, relative to the difficulties involved in the gas situation in Redding, Red Bluff and Willows has led to a suggestion by the Company that a block schedule of gas rates be established reducing the price where the monthly consumption exceeds 5000 Cubic Feet, and that an attempt be made under lower rates to increase the use of gas. This suggestion appears to offer the most practical solution of the problem and under the circumstances should be adopted.

WATER RATES

The combined cost of service used as a basis in the establishment of water rates is shown hereafter.

TABLE XVIII

Northern California Power Company's
Cost of Service
Water Department

Capital	$ 196,838		
Interest @ 6½% on capital		$12,177	
Interest @ 6½% on cost of meters ($15,000)		938	
Depreciation Annuity on present plant		3,416	
Depreciation Annuity on meters		454	
Maintenance		4,577	
Total Fixed Costs			$ 21,562
Operating Expense		17,467	
Taxes		1,772	
Sub-Total			19,239
Total Cost			40,801
Profit based on 8% return Capital		3,410	
Profit based on 8% return meters		262	
Total Profit			3,672
TOTAL COST PLUS PROFIT			$ 44,473

REDDING WATER PLANT

This plant obtains its supply from the Sacramento River by pumping into a reservoir of three million gallons capacity from which the water is distributed through the pipe system. The reservoir is located at such an elevation above the present town that the pressure should be adequate for its needs as long as the distribution system is kept up with the requirements.

Complaints were made of low pressure at some of the hydrants on the outskirts of town. It is believed that if meters are installed, and, in consequence, water waste is reduced, better pressure will result.

An additional argument for the installation of meters is the probable reduction in operating expenses. The power bill for pumping now amounts to 60% of the total operating expenses of the plant. The water use in 1915 totalled 591 gallons per capita per day. This is found to be an excessive use in comparison with towns of similar population and location where metering has been resorted to. If a reduction in the use of water is brought about there should be a corresponding reduction in the power bill and operating expenses. With rates based on cost of service, it is evident that the interest of the consumer lies in the installation of meters. A provision governing the installation of meters should be embodied in rules and regulations to be filed with the Commission.

From an inspection of the tabulation of operating expenses and revenue, it is found that the company has not been earning sufficient net revenue for annual depreciation and interest on the investment. Meter rates have been fixed in the order accompanying this opinion, so that with all services metered except the municipal hydrants for which a flat rate has

been fixed, adequate revenue should be collected for annual charges and profit. It is recognized, however, that some time may elapse before the services are fully metered, and for that reason changes have been made in the flat rates now obtaining, such that adequate revenue may be obtained immediately. In the amount showing the investment, $500 has been included for the chlorination plant which is being erected at the Redding Water Plant. The figures for operating expenses have also been increased to provide for the cost of cleaning and reading meters.

WILLOWS WATER PLANT.

This plant obtains its supply from wells. The water is pumped into tanks from which it is distributed through the pipe system, a small amount being pumped directly through the distribution system from an auxiliary plant.

To some extent the same condition exists as at Redding with respect to large water consumption and a correspondingly large power bill. It is expected that the installation of meters will reduce the power bill by curtailing water waste and the amount pumped.

Meter rates have been fixed in the Order accompanying this Opinion such that with services fully metered the total revenue should be sufficient for annual charges, the same as at Redding. No change has been made in the flat rates, however, as they appear to be satisfactory, with the exception of fire service for which a new rate has been fixed.

This is a developing company, and it is impossible that a full or adequate earning can be made at present on the value of the property. This is recognized by the Company and the Commission is not asked to fix rates based upon an assumption that a full earning should be made. The rates set out in the following order have been submitted to the company and it is agreed that they will be put in effect without contest.

I submit the following form of order:

O R D E R

Public hearings having been held in the above-entitled proceedings and said proceedings having been regularly submitted and being now ready for decision, the Railroad Commission of the State of California hereby makes the following findings of fact:

1- The Railroad Commission finds that the rates, charges, rules, regulations, contracts and practices in the service of gas, electricity and water of Northern California Power Company, Consolidated, are unjust and unreasonable in so far as they differ from the rates, charges, rules, regulations, contracts and practices herein established.

2- The Railroad Commission hereby finds that the rates, charges, rules, regulations, contracts and practices herein established are just and reasonable rates, charges, rules, regulations, contracts and practices.

Basing its order on the foregoing findings of fact, and in each statement of fact contained in the opinion preceding this order,

IT IS HEREBY ORDERED AS FOLLOWS:

1- Northern California Power Company, Consolidated, is hereby ordered to establish and file with the Railroad Commission on or before September 15, 1916, the following rates for all classes of electric service, which rates are found to be just and reasonable rates:

SCHEDULE 1.

General Lighting Service

Applicable to all lighting service not otherwise specifically provided for in separate schedules and including heating, cooking and single phase power installations of less than five kilowatts capacity.

First 20 kilowatt hours per month per meter 7¢ per kilowatt hour

Next 200 kilowatt hours per month per meter 5¢ per kilowatt hour

Next 2,000 kilowatt hours per month per meter 3¢ per kilowatt hour

Over 2,220 kilowatt hours per month per meter 2¢ per kilowatt hour

Minimum Monthly Charge $1.00 per meter.

SCHEDULE 2.

Combination Lighting, Cooking and Heating Service.

Metered Service.

Applicable to lighting, cooking and heating where the rated capacity of cooking and heating equipment equals or exceeds 3 kilowatts.

First 20 kilowatt hours per month per meter 7¢ per kilowatt hour

Next 150 kilowatt hours per month per meter 3¢ per kilowatt hour

Over 170 kilowatt hours per month per meter 1¢ per kilowatt hour

Where lighting serviceis not required under the schedule, the first block at 7cents per kilowatt hour will be eliminated and the 3 cent rate will apply to the first 150 kilowatt hours with 1 cent per kilowatt hour for all energy consumer in any month in excess of 150 kilowatt hours. This latter schodule will also apply where heating service only is furnished in case the rated capacity of such equipment is not less than 3 kilowatts.

Minimum monthly charge $2.00 per meter.

SCHEDULE 3.

Public Outdoor Lighting Service

This schedule of rates is applicable to all street, highway and other public outdoor lighting and includes installation, maintenance, operation and lamp renewals necessary for such service.

6.6 Ampere Luminous Arc Lamps:
$36.40 per lamp per year plus 50 cents per 100 lamp hours.

4 Ampere Luminous Arc Lamps:
$33.00 per lamp per year plus 45 cents per 100 lamp hours.

600 Candle Power Series and 400 Watt Multiple Incandescent Lamps:
$29.50 per lamp per year plus 60 cents per 100 lamp hours.

400 Candle Power Series and 200 Watt Multiple Incandescent Lamps:
$27.00 per lamp per year plus 40 cents per 100 lamp hours

250 Candle Power Series and 150 Watt Multiple Incandescent Lamps:
$23.00 per lamp per year plus 30 cents per 100 lamp hours.

100 Candle Power Series and 80 Watt Multiple Incandescent Lamps:
$16.20 per lamp per year plus 15 cents per 100 lamp hours.

80 Candle Power Series and 60 Watt Multiple Incandescent Lamps:
$13.40 per lamp per year plus 10 cents per 100 lamp hours.

60 Candle Power Series and 40 Watt Multiple Incandescent Lamps:
$11.50 per lamp per year plus 8 cents per 100 lamp hours.

All night lamps will be considered as burning 4,000 hours per year.

Where the Company is required to provide ornamental lighting posts or standards an additional charge will be made.

SCHEDULE 4.

Special Rate Applicable to Services

Supplied to the City of Redding

For Street Lighting Purposes

First 100 kilowatt hours per month per kilowatt,
3 cents per kilowatt hour

Next 100kilowatt hours per month per kilowatt,
1½ cents per kilowatt hour

Over 300 kilowatt hours per month per kilowatt,
3/4 cents per kilowatt hour

Minimum: $16.00 per year per kilowatt.

SCHEDULE 5.

GENERAL POWER RATE

METERED SERVICE

Applicable to all industrial, commercial and other power installations receiving energy at the phase and frequency of adjacent street mains. Standard voltage of delivered energy 110 or 220 volts for installations of five horsepower or less, and 220 volts for installations in excess of five horsepower.

First 50 kilowatt hours per month per horsepower connected 4 cents per kilowatt hour.

Next 100 kilowatt hours per month per horsepower connected 2 cents per kilowatt hour.

Over 150 kilowatt hours per month per horsepower connected 1 cent per kilowatt hour.

Minimum charge for installations of 25 horsepower or less $1.00 per month per horsepower for the load which can be connected simultaneously to the service facilities of the Company. Where the installation which can be connected simultaneously equals or exceeds 25 horsepower the minimum monthly charge shall be $1.00 per horsepower based on the last ascertained maximum demand.

Minimum Bill - $2.00 per month per meter.

Discounts applicable to energy rates;

5 horsepower and less Net

5 horsepower to and including 25 horsepower
1% per horsepower

26 horsepower to and including 50 horsepower
1% for each 5 horsepower.

51 horsepower to and including 100 horsepower
1% for each 10 horsepower.

Over 100 horsepower to and including a maximum discount of 50%, 1% for each 100 horsepower.

SCHEDULE 6

Industrial Power Rates

Metered Service

Applicable to all classes of industrial, commercial and other power installations not otherwise specifically provided for in separate schedules.

Demand charge for	1 month's	continuous service	$ 4.00 per horsepower
Demand charge for	2 months'	continuous service	6.20 per horsepower
Demand charge for	3 months'	continuous service	8.05 per horsepower
Demand charge for	4 months'	continuous service	9,70 per horsepower
Demand charge for	5 months'	continuous service	11.25 per horsepower
Demand charge for	6 months'	continuous service	12.70 per horsepower
Demand charge for	7 months'	continuous service	14.10 per horsepower
Demand charge for	8 months'	continuous service	15.45 per horsepower
Demand charge for	9 months'	continuous service	16.75 per horsepower
Demand charge for	10 months'	continuous service	18.00 per horsepower
Demand charge for	11 months'	continuous service	19.20 per horsepower
Demand charge for	12 months'	continuous service	20.35 per horsepower

To the demand charge, which is payable in equal monthly installments, shall be added the following energy charges:

Energy charge 5 mills per kilowatt hour.

The demand charges under this schedule are based on the connected load in motors or other utilization equipment which can be connected at any one time to the Company's supply system, and the meters regularly supplied are of the recording watt-hour type. At the consumer's request, however, the Company will furnish and install demand indicating instruments at a rate of $3.00 per year or fraction thereof, under which conditions the demand charges will be based on the monthly maximum demand and will be equivalent to the demand charges set forth in the above schedule multiplied by the factor 1.265

The demand charge under these rates for an installation less than one horsepower will be the demand charge for one horsepower.

SCHEDULE 7.

Industrial Power Rate

Flat Rate Service

Applicable to all classes of industrial, commercial and other power installations not otherwise provided for in separate schedules.

One month's continuous service	$ 6.75 per horsepower
Two months' continuous service	11.20 per horsepower
Three months' continuous service	14.90 per horsepower
Four months' continuous service	18.30 per horsepower
Five months' continuous service	21.45 per horsepower
Six Months' continuous service	24.40 per horsepower
Seven months continuous service	27.20 per horsepower
Eight months' continuous service	29.90 per horsepower
Nine months continuous service	32.50 per horsepower
Ten months' continuous service	35.05 per horsepower
Eleven months'continuous service	37.55 per horsepower
Twelve months' continuous service	40.00 per horsepower

The above flat rates are based upon the connected load in motors or other utilization equipment which can be connected at any one time to the Company's supply system. Under normal conditions meters will not be installed by the Company on strictly flat rate business, but at the consumer's request demand indicating meters will be supplied at a charge of $7.50 per year or fraction thereof, under which conditions the flat rate charges per horsepower will be based on consumer's monthly maximum demand and will be equivalent to the rates in the above schedule, multiplied by the factor 1.265.

The Company may at its option furnish and install demand indicating meters without any charge therefor, and the rates will in such case be based on the consumers' monthly maximum demand.

The minimum bill under these rates for an installation less than one horsepower will be the flat rate for one horsepower.

SCHEDULE 8.

Special Power Service

Meter Rate

Applicable to all woodworking establishments and similar manufacturing processes, where the installation equals or exceeds 100 horsepower.

1 cent per kilowatt hour

Minimum charge: $12.00 per horsepower per year.

SCHEDULE 9

Agricultural Power

Applicable to all agricultural and rural power service.

General

First 60 kilowatt hours per month per horsepower 3 ¢ per kilowatt hour
Next 120 kilowatt hours per month per horsepower 1½ ¢ per kilowatt hour
Over 180 kilowatt hours per month per horsepower 3/4¢ per kilowatt hour

Minimum Charge $12.00 per horsepower per year.

Applicable to all agricultural and rural power service during the first two years of the development period.

Intermediate Development Rate

First 60 kilowatt hours per month per horsepower 3 ½ ¢ per kilowatt hour
Next 120 kilowatt hours per month per horsepower 1 3/4¢ per kilowatt hour
Over 180 kilowatt hours per month per horsepower 9/10¢ per kilowatt hour

Minimum Charge $9.00 per horsepower per year

Primary Development Rate

Applicable to all agricultural and rural power service during the first year of the development period.

First 60 kilowatt hours per month per horsepower 4¢ per kilowatt hour
Next 120 kilowatt hours per month per horsepower 2¢ per kilowatt hour
Over 180 kilowatt hours per month per horsepower 1¢ per kilowatt hour

Minimum Charge $6.00 per horsepower per year.

Discounts:

5 horsepower to 20 horsepower inclusive 1% per horsepower
21 horsepower to 70 horsepower inclusive 1% per 5 horsepower

Discounts do not apply to minimum charges.

SCHEDULE 10

Agrucultural Service

Meter Rates.

Applicable to all agricultural or rural power service. Service will normally be supplied at 110 or 220 volts.

Contract Basis

Demand Charge for 1 month's continuous service	$ 4.25	per horsepower
Demand Charge for 2 months' continuous service	$ 6.40	per horsepower
Demand Charge for 3 months' continuous service	$ 8.15	per horsepower
Demand Charge for 4 months' continuous service	$ 9.70	per horsepower
Demand Charge for 5 months' continuous service	$ 11.10	per horsepower
Demand Charge for 6 months' continuous service	$ 12.35	per horsepower
Demand Charge for 7 months' continuous service	$ 13.50	per horsepower
Demand Charge for 8 months' continuous service	$ 14.55	per horsepower
Demand Charge for 9 months' continuous service	$ 15.55	per horsepower
Demand Charge for 10 months' continuous service	$ 16.50	per horsepower
Demand Charge for 11 months' continuous service	$ 17.40	per horsepower
Demand Charge for 12 months' continuous service	$ 18.25	per horsepower

To the demand charge, which is payable in equal monthly installments, shall be added the following energy charges:

Energy Charge 5 mills per kilowatt hour.

Non Contract Basis

Demand Charge for 1st month's service	$4.25	per horsepower
Demand Charge for 2nd month's service	2.15	per horsepower
Demand Charge for 3rd month's service	1.75	per horsepower
Demand Charge for 4th month's service	1.55	per horsepower
Demand Charge for 5th month's service	1.40	per horsepower
Demand Charge for 6th month's service	1.25	per horsepower
Demand Charge for 7th month's service	1.15	per horsepower
Demand Charge for 8th month's service	1.05	per horsepower
Demand Charge for 9th month's service	1.00	per horsepower
Demand Charge for 10th month's service	.95	per horsepower
Demand Charge for 11th month's service	.90	per horsepower
Demand Charge for 12th month's service	.85	per horsepower

To the demand charge shall be added the following energy charge.

Energy Charge 5 mills per kilowatt hour

The consumer taking service under non-contract rates will be required to pay for the cost of the initial service connection and also the cost of any subsequent disconnections or reconnections made at his request.

The demand charges under this schedule are based on the connected load in motors or other utilization equipment which can be connected at any one time to the Company's supply system, and the meters regularly supplied are of the recording watt-hour type. At the consumer's request, however, the Company will furnish and install demand indicating instruments at a rate of $3.00 per year or fraction thereof, under which conditions the demand charges will be based on the monthly maximum demand and will be equivalent to the demand charges set forth in the above schedule multiplied by the factor 1.065. If a demand indicating instrument is installed by the company at its own option, no charge for the special metering facilities so provided shall be made.

The demand charge under these rates for an installation less than one horsepower will be the demand charge for one horsepower.

SCHEDULE 11

Agricultural Service

Applicable to all agricultural or rural power service including domestic uses.

Flat Rates

Contract Basis

One	month's continuous service	$ 7.00	per horsepower
Two	months' continuous service	11.80	per horsepower
Three	months' continuous service	15.60	per horsepower
Four	months' continuous service	18.85	per horsepower
Five	months' continuous service	21.70	per horsepower
Six	months' continuous service	24.30	per horsepower
Seven	months' continuous service	26.70	per horsepower
Eight	months' continuous service	28.95	per horsepower
Nine	months' continuous service	31.05	per horsepower
Ten	months' continuous service	33.05	per horsepower
Eleven	months' continuous service	34.95	per horsepower
Twelve	months' continuous service	36.75	per horsepower

Agricultural Service

Non-Contract Basis

1st	month's service	$ 7.00	per horsepower
2nd	month's service	4.80	per horsepower
3rd	month's service	3.80	per horsepower
4th	month's service	3.25	per horsepower
5th	month's Service	2.85	per horsepower
6th	month's service	2.60	per horsepower
7th	month's service	2.40	per horsepower
8th	month's service	2.25	per horsepower
9th	month's service	2.10	per horsepower
10th	month's service	2.00	per horsepower
11th	month's service	1.90	per horsepower
12th	month's service	1.80	perhorsepower

The consumer taking service under the non-contract rates will be required to pay for the cost of the initial service connection and also the cost of any subsequent disconnections or reconnections made at his request.

The above flat rates are based upon the connected load in motors or other utilization equipment which can be connected at any one time to the Company's supply system. Under normal conditions meters will not be installed by the Company on strictly flat rate business, but at the Consumer's request demand indicating meters will be supplied at a charge of $7.50 per year or fraction thereof, and the flat rate charges per horsepower will be based on Consumer's monthly maximum demand and will be equivalent to the rates in the above schedule multiplied by the factor 1.065. If a demand indicating instrument is installed by the Company at its own option, no charge for the special metering facilities so provided shall be made.

The minimum bill under these rates for installations of less than one horsepower shall be the rate for one horsepower.

SCHEDULE 12

Wholesale Power

Contract Meter Rates

(Block System)

Applicable to installations of 50 horsepower or over receiving service under contract direct from the company's substations or transmission lines.

Substation Rate

First 100 kilowatt hours per month per kilowatt of maximum demand 2¢ per kilowatt hour

Next 200 kilowatt hours per month per kilowatt of maximum demand 1¢ per kilowatt hour

Over 300 kilowatt hours per month per kilowatt of maximum demand ½¢ per kilowatt hour

Discounts

Discounts from the above rate shall be allowed as follows, based on the rated capacity of operating utilization equipment connected to each substation.

First 75 horsepower or less NET

Next 50 horsepower 1% for each 10 horsepower

Next 125 horsepower 1% for each 25 horsepower

Next 250 horsepower 1% for each 50 horsepower

Next 500 horsepower 1% for each 100 horsepower

Over 1000 horsepower, to and including a maximum discount of 30%, 1% for each 1000 horsepower.

SCHEDULE 12 (Cont'd)

TRANSMISSION RATE

When Service under the schedule is received by the consumer direct from the Company's transmission lines at normal potential, phase and frequency thereof, the rates applicable to substation delivery, but subject to the foregoing discounts shall apply.

Installations of 670 horsepower or less	10%
Installations from 671 to 1340 horsepower	7½%
Installations of over 1340 horsepower	5 %

MINIMUM CHARGES

The minimum charge applicable to both substation and transmission delivery under this schedule shall be $12.00 per year per horsepower based on the total rated capacity of utilization equipment connected to the Company's system.

SCHEDULE 13

Wholesale Power

Contract Meter Rates

(Demand and Energy System)

Applicable to installations of 100 horsepower or over receiving service under contract direct from the Company's substations or transmission lines

SUBSTATION RATE

$2.50 per month per kilowatt of measured maximum demand, to which charge shall be added an energy charge of 25/100 cents per kilowatt hour for all electric energy supplied.

DISCOUNTS

Discounts from the above rate applicable to the Demand Dharge only shall be allowed as follows, based on the rated capacity of operating utilization equipment connected to each substation:

First 500 kilowatts or less NET

Next 500 kilowatts, 1% for each 50 kilowatts

Over 100 kilowatts, 1% for each 100 kilowatts up to and including a maximum discount of 20%

TRANSMISSION RATE

Where service under this schedule is received by the consumer direct from the Company's transmission lines at the normal potential phase and frequency thereof, the rate applicable to substation delivery, but subject to the following additional discounts, shall apply:

SCHEDULE 13 (Cont'd)

Installations of 500 kilowatt or less	10%
Installations from 501 to 1000 kilowatts	7½%
Installations of over 1000 kilowatts	5%

MINIMUM CHARGES

The minimum monthly charge applicable to both substation and transmission rates shall be equal to one-half the demand charge and shall be based on the total rated capacity of utilization equipment connected to the Company's system.

SCHEDULE 14

SPECIAL POWER RATE

Applicable to electro-chemical and electro-metallurgical processes where the installation is in excess of 500 kilowatt and where the power factor is approximately 100%.

Service to be delivered at the phase, frequency and normal operating potential of the transmission system.

$33.50 per year per kilowatt of maximum demand, based on the highest thirty minute peak.

SCHEDULE 15

SPECIAL EXPERIMENTAL RATE

Applicable to electro-chemical and electro-metallurgical processes during the experimental or development period, where the installation for this purpose is in excess of 500 kilowatt and where the total power installation is not less than 1000 kilowatt.

Service to be delivered at the phase, frequency and normal operating potential of the transmission system, and received at approximately 100% power factor.

$2.9375 per month per kilowatt of Maximum Demand, based on the highest thirty minute peak.

RULES AND REGULATIONS

By reason of the rates herein established, which rates modify the conditions under which all classes of electric service will be supplied by the Company, Northern California Power Company, Consolidated shall submit to the Commission revised rules and regulations to conform with the findings herein and with the rules laid down by the Commission in its Decision No. 2879. (Vol. 8, Opinions and Orders of the Railroad Commission of California, page 372.)

The following rules and regulations have been considered in connection with the establishment of the rates herein prescribed are found to be just and reasonable and shall be incorporated by Northern California Power Company, Consolidated in its filing covering the terms and conditions under which electric service will be supplied and shall be submitted to the Commission as herein provided:

(a) Application for Service. The company will require each prospective consumer to sign an application in writing for service desired, such application setting forth the location of the premises to be served, the purposes for which the service is to be used, the schedule number under which applicant desires service, a description of the electrical equipment installed or to be installed, the name and address of the person responsible for the payment of the bills and the name and address of the owner of the premises.

(b) Contracts. Contracts will be required in the first instance for all agricultural and mining power service and for municipal street lighting. If a consumer selects a contract rate, he will be required to sign a contract for the period covered by the schedule. All contracts will contain the following sentence:

"It is understood by and between the parties hereto that this agreement is subject at all times, after proceedings duly had, to change or abolition by the Railroad Commission of the State of California."

(c) Rates. The rates to be charged by and paid to the company for electric energy and service shall be the rates legally in effect and on file with the Railroad Commission. Complete schedules of all rates legally in effect will be kept at all times in each of the company's local offices where they will be available for public inspection. Where there are two or more rates or schedules applicable to any class of noncontract service, the consumer, at the time he makes application to the company for service, must designate which rate or schedule he desires, and the rate or schedule so designated shall remain in effect until changed by thirty days' written notice by the consumer specifying which new rate or schedule is desired. The rates and minimum charges set forth in the effective rate schedules are based upon the load connected to the company's supply system through one meter. Where submeters or secondary meters are desired by the consumer, such meters will be charged for separately on the monthly rental basis.

(d) Payment. All rates are payable monthly.

(e) Limitation of Demand. Double throw switches or other approved demand limiting devices will be permitted to limit the demand which can be created at any one time on the company's supply system through the operation of the consumer's electrical equipment.

(f) Meters. All meters will be furnished and installed by the company at its own expense without any additional charge from the rates set forth in its effective rate schedules, except in cases where special metering facilities are desired by the consumer. All meters will be tested at the time of their installation and no meter will be placed in service or allowed to remain in service which has an error of registration in excess of 2 per cent under the conditions of normal operation. Upon giving the company at least five days notice, the consumer shall have the right at any time to require the company to test his service meter in his presence, or, if he so desires, in the presence of an expert or other representative appointed by him; provided, however, that if special tests are required by the consumer oftener than once in six months, a reasonable charge shall be made for each such additional test.

2.- Northern California Power Company, Consolidated, is hereby ordered to establish and file with the Railroad Commission on or before September 15, 1916, the following rates for artificial gas furnished, or to be furnished, in the cities of Redding, Red Bluff and Willows, which rates are found to be just and reasonable:

SCHEDULE 16

Rate for Artificial Gas Applicable to All Classes of Consumers.

First 5,000 cubic feet of gas consumed per month	$1.50 per M. Cu. ft.
Next 10,000 cubic feet of gas consumed per month	1.25 " " "
All over 15,000 cubic feet of gas consumed per month	1.00 " " "

Minimum Charge $1.00 per month per meter.

RULES AND REGULATIONS

Northern California Power Company, Consolidated, shall submit to the Commission revised rules and regulations under which artificial gas will be supplied in Redding, Red Bluff and Willows, which rules and regulations shall be in conformity with the findings herein and with the rules laid down by the Commission in its Decision No. 2879.

3- Northern California Power Company, Consolidated, is hereby ordered to establish and file with the Railroad Commission on or before September 15, 1916, the rates set forth in schedules No. 17 and No. 18 for water furnished, or to be furnished, in the cities of Redding and Willows, respectively, which rates are found to be just and reasonable; and Northern California Power Company, Consolidated is hereby authorized to continue in effect its present flat rates for water furnished or to be furnished in the City of Willows except in so far as such flat rates may be in conflict with other flat rates hereby established.

SCHEDULE 17

Redding Water Plant

Monthly Flat Rates

1.	Hotels:	
	a- Dining rooms	$2.00
	b- Bedrooms, per room	.20
2.	Auto repair shops, blacksmith shops, printing offices, ~~xxxx xxxxx~~ plumbing shops, undertaking parlors, drug stores, railroad stations, dental offices and theatres	2.00
3.	Bakeries, bottling works, butcher shops, photographic galleries, public garages, slaughter houses, creameries and warehouses	3.00
4.	Bank offices, billiard parlors, fraternal halls, shoe shops, professional offices, stores and shops not otherwise listed.	1.25
5.	Saloons, breweries and laundries.	5.00
6.	Barber shops, per chair.	1.00
7.	Chop houses, cafes and restaurants, per unit of seating capacity.	.15
8.	Livery stables and feed yards, per average number of stock fed, each	.25
	Per average number of vehicles, each	.25
9.	Fire Service:	
	a- General Charge	140.00
	b- Additional for each hydrant owned by Co.	.50
	c- Private fire hydrant	.50
10.	Residences, apartments, lodging houses, tenements and flats of four rooms and less	1.25
	For each additional room	.15
11.	Private garages provided with water tap	.50
12.	Private barns with not more than two horses or cows	.50
	Additional animals, each	.20
13.	Railroad Locomotive Service- general charge	30.00
14.	Auxiliary uses:	
	a- Steam engine, per horsepower	.15
	b- Soda fountains and ice cream parlors	1.50
	c- Public bath tubs (barber shops, hotels, etc.)	2.00
	d- Public toilets	1.00
	e- Public urinals	.25
	f- Private bath tubs	.25
	g- Private toilets	.25
	h- Irrigation of lawns, shrubbery and gardens, private or public, per 100 square feet nearest measure	.05

i- Public drinking fountains	$1.50
j- Public watering troughs	2.50
k- Slacking lime and mixing cement, per bbl.	.20
l- Mixing mortar and dampening bricks per M bricks	.20

Meter Rates:

Minimum	$1.00 monthly
First 1,000 cubic feet	.20 per 100 cubic feet
Next 4,000 cubic feet	.15 " " " "
For use above 5,000 cubic feet	.10 " " " "

Bassett Plant:

Irrigation Rate	$ .02 per 100 cubic feet

SCHEDULE 18.

Willows Water Plant

Monthly Flat Rates:

Fire Service:

a- General Charge	$90.00
b- Additional for each hydrant owned by company	.50

Meter Rates:

Minimum	$ 1.00 Monthly
First 1000 cu. ft.	.20 per 100 cu.ft.
Next 4000 cu. ft.	.15 " " "
For use above 5,000 cu.ft.	.10 " " "

4- Northern California Power Company, Consolidated, is hereby directed to prepare and file with the Railroad Commission on or before September 15, 1916, revised application forms and revised forms of contracts applicable to each class of service in connection with which contracts are specifically permitted in this Order.

5- Northern California Power Company, Consolidated, is hereby ordered to establish and file with the Railroad Commission

on or before September 15,1916, rules and regulations in accordance with the findings contained in the opinion which precedes this order.

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 1st day of September, 1916.

Max Thelen

H. Harris

Edwin O. Edgerton

Frank R. Devlin

Commissioners