

**ORIGINAL**

In the Matter of the Application of EAST SIDE CANAL COMPANY, a corpora- tion, for authority to increase its rates for water service.	)	
	)	Application No. 16610
In the Matter of the Application of BUENA VISTA CANAL, INC., a corpora- tion, for authority to increase its rates for water service.	)	
	)	Application No. 16611
In the Matter of the Application of STINE CANAL, INC., a corporation, for authority to increase its rates for water service.	)	
	)	Application No. 16612
In the Matter of the Application of THE FARMERS CANAL COMPANY, a cor- poration, for authority to increase its rates for water service.	)	
	)	Application No. 16613
In the Matter of the Application of CENTRAL CANAL COMPANY, a corporation, for authority to increase its rates for water service.	)	
	)	Application No. 16614
In the Matter of the Application of KERN RIVER CANAL AND IRRIGATING COMPANY, a corporation, for authority to increase its rates for water service.	)	
	)	Application No. 16615
In the Matter of the Application of PIONEER CANAL, INC., a corporation, for authority to increase its rates for water service.	)	
	)	Application No. 16616
In the Matter of the Application of KERN ISLAND CANAL COMPANY, a cor- poration, for authority to increase its rates for water service.	)	
	)	Application No. 16617

1.

Houghton & Houghton, by Edward T. Houghton,  
for protestants Tehachapi Cattle Company  
and the Estate of R.E. Houghton, deceased.  
Siemon & Garber, by Alfred Siemon, for pro-  
testant East Side Water Users Association.  
Harris, Willey, Griffith & Harris, by Ronald B.  
Harris, for Farmers Protective Association.  
J.J. Deuel and L.S. Wing, for California Farm  
Bureau Federation.  
Jackson Mahon, in lieu of Siemon & Garber, for  
East Side Water Users Association.  
T.N. Harvey, for Peacock Dairies, Incorporated,  
and Bloomfield Land Association.  
F.A. Chamberlain, for Farmers Protective Associa-  
tion.

CARR, Commissioner:

## O P I N I O N

### Proceedings.

On June 11, 1930, East Side Canal Company, Buena Vista Canal, Inc., Stine Canal, Inc., The Farmers Canal Company, Central Canal Company, Kern River Canal and Irrigating Company, Pioneer Canal, Inc., and Kern Island Canal Company filed their separate applications requesting the Commission to authorize them to establish and charge increased rates of such volume as to yield operating expenses and a fair return on the value of their tangible and intangible property devoted to the public service.

On February 2, 1931, the Commission issued its Order establishing interim rates for these utilities calculated to yield them on the average their out-of-pocket expenses, with some yield for current depreciation. (Re East Side Canal Company, 35 C.R.C. 779.) The interim rate there established was eighty-five cents (85¢) per acre foot for water delivered, representing a very substantial increase over the previously generally prevailing rate of thirty-seven and one-half cents (37½¢) per acre foot which had

been in effect for many years.

Hearings in these several applications continued at intervals until September 14, 1932, when the evidence was closed. The parties were permitted to file briefs, the last of which was received on December 15, 1932. The applications were consolidated for hearing. In all, twenty-one days were occupied in public hearings, the evidence presented covering an extremely wide range.

Prior to the filing of these applications, the Tehachapi Cattle Company and other consumers under the Kern Island Canal Company filed their complaint (Case No. 2711) complaining of certain practices of the Kern Island Canal Company and particularly of certain claimed extensions of the utility's service area. Shortly thereafter, the Commission instituted a general investigation into the rules and practices and service areas of the various utilities named in the heading (Case No. 2755), thus broadening the issues raised by the Tehachapi Cattle Company case to include all of the several utilities. These two cases were consolidated for hearing. On December 31, 1929, the Commission, as the result of hearings devoted primarily to the matter of the practices of these utilities, issued its order establishing rules and regulations for the delivery of water. (34 C.R.C. 148.) Thereafter, the so-called Tehachapi case and Case No. 2755 proceeded upon the issue of service areas. They were finally submitted on January 26, 1933, when the final and concluding brief was filed. These two cases are being disposed of concurrently with the instant applications, thus bringing to a close perhaps one of the most involved and difficult situations which has been presented to the Commission.

### Conflicting Claims.

The claims of the applicants respecting the value of their several properties and the rates to which they think they are entitled are summarized and expressed in Table No. I set out on the following page. The rates sought, it will be observed, average more than 245 per cent in excess of the interim rate and are more than 560 per cent in excess of the rate generally charged by the utilities for many years prior to the interim rate becoming effective.

Consumers, accustomed over the years to paying the very moderate rate of thirty-seven and one-half cents ( $37\frac{1}{2}\%$ ) per acre foot and now in grave distress under the cataclysmic decline in the value of farm products, are not only shocked and astounded at the claims of these utilities but complain bitterly at even paying to them rates sufficient to cover actual out-of-pocket costs and expenses for the service of water - such rates as were fixed in the interim order referred to.

### Terminology.

"Land Company," when used in this Opinion and unless otherwise indicated by the context, means Kern County Land Company, which now and for many years past has owned all of the stock of Kern County Canal & Water Company, which in turn owns all, or approximately all, of the stock of the several applicant corporations. The Land Company also owns large areas of the irrigated lands served by the several applicants.<sup>(1)</sup>

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(1) Kern County Canal & Water Company owns 4,997 shares of the 5,000 total shares outstanding of East Side Canal Company; 2,497 shares of the total 2,500 shares outstanding of Buena Vista Canal, Inc.; 2,809 shares of the total 2,850 shares outstanding of Stine Canal, Inc.; 136 $\frac{1}{2}$  shares of the total 144 shares outstanding of

TABLE NO. I

## SUMMARIZATION OF APPLICANTS' CLAIMS

Canal	Tangible Properties	Intangible Properties	Total	Operating Expenses Including Depreciation	*** Revenue Producing Water	Rate	Rate
	Reproduction Cost New Less Depreciation	Going Concern Water Rights Etc.	Tangible & Intangible Properties	Mean of 5Yr. & 11Yr. Period	Mean of 5Yr. & 11Yr. Period	Mean of 32Yr. & 5Yr. Period	Mean of 32Yr. & 11Yr. Period
East Side Canal Company	\$ 165,395	\$ 9,520	\$ 174,915	\$ 18,666	\$ 32,660	15,365	\$2.13
Buena Vista Canal, Inc.	72,346	94,987	167,343	10,719	24,107	12,518	1.93
Stine Canal, Inc.	94,531	63,742	158,273	15,701 )	52,535	20,842	2.52
Farmers Canal Company	74,343	78,357	152,700	11,956 )			
Kern River Canal & Irr. Co.	295,491	113,213	408,704	19,871	52,567	25,723	2.05
Pioneer Canal Company	172,866	144,899	317,765	12,381	37,802	12,970	2.94
Kern Island Canal Company	602,815	714,772	1,317,587	62,578*	167,985	65,200	2.59
Sub-Total**	\$1,477,787	\$1,219,500	\$2,697,287	\$151,872	\$367,656	152,618	\$2.41
Central Canal Company	1,461,105	408,718	1,869,823	72,901	222,487	48,942	4.57
TOTAL	\$2,938,892	\$1,628,218	\$4,567,110	\$224,773	\$590,143	201,560	\$2.93

## NOTATIONS:

- \* After deducting \$9,390 as receipts from East Side Canal Company and Special Contracts.  
 \*\* Interpolated.  
 \*\*\* No interest computed on Water Rights.

Since the Central Canal Company, operating the so-called Calloway Canal, calls for special treatment while the remaining applicants are treated as a group, the term "utilities," unless otherwise indicated by the context, should be deemed to refer to all of the applicant utilities except the Central Canal Company.

Water Entitlement.

In addition to the general description of the utilities here involved, as set forth in the Opinion in the interim rate order (35 C.R.C. 779), it should be pointed out that by virtue of old underlying contracts and court decrees there have been established and are generally recognized what are termed entitlements in respect to the waters flowing in the Kern River. The Kern Island Canal Company has the first or prior entitlement to 300 cubic feet of water per second flowing in the river. It also has a subsequent and subordinate entitlement. Others of the applicants have

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The Farmers Canal Company; 29,997 shares of the total 30,000 shares outstanding of Central Canal Company; 2,425 shares of the total 2,500 shares outstanding of Kern River Canal and Irrigating Company; 2,397 shares of the total 2,400 shares outstanding of Pioneer Canal, Inc.; 2,997 shares of the total 3,000 shares outstanding of Kern Island Canal Company. The Land Company owns none of the irrigated land under East Side Canal Company; 47 per cent of the irrigated land under Buena Vista Canal, Inc.; one per cent of the irrigated land under Stine Canal, Inc.; 20 per cent of the irrigated land under The Farmers Canal Company; 87 per cent of the irrigated land under Central Canal Company; 50 per cent of the irrigated land under Kern River Canal and Irrigating Company; 80 per cent of the irrigated land under Pioneer Canal, Inc.; and 44 per cent of the irrigated land under Kern Island Canal Company.

subordinate entitlements of varying amounts and priority.(2)

History of Applicants.

The history and status of the respective applicants, so far as here pertinent, may be summarized briefly as follows:

(2) The following is a list of these entitlements with their amounts and order of priority, some of which, it will be observed, run to interests other than the applicants:

	<u>Diversion Right in Cu. Ft. Sec.</u>
Kern Island	300.
Miller & Lux	Miller & Lux receive 1/3 of flow measured at First Point, March 1 - August 31, after 300 cu. ft. sec. to Kern Island, de- livered at Second Point.
Castro	20.
O.S.F. Shaw Decree	10.50
Buena Vista	80.
James	120.
Anderson	20.
Stine	150.
Meacham	30.
Farmers	150.
Plunket	40.
Joyce	40.
Johnson	40.
Pioneer	130.
Beardsley	60.
Anderson	10.
James & Dixon	40.
Wilson	10.
McCaffrey	26.
Edwards	5.
McCord	100.
Calloway	850.
Railroad	200.
Buena Vista	90.
James	180.
Pioneer	170.
Beardsley	240.
Kern Island	56.

East Side Canal Company was incorporated on February 17, 1892. It possesses no separate entitlement to water from the Kern River but secures its water under two contracts with the Kern Island Canal Company, the contract price for water being four thousand five hundred dollars (\$4,500) per year. These contracts were referred to in Hancock vs. East Side Canal Co., 20 C.R.C. 205. Water right contracts were sold to the landowners at ten dollars (\$10.00) per acre, the total sold as of December, 1897, amounting to seventy-two thousand six hundred forty dollars (\$72,640). Certain refunds were made and some amounts were never paid. Apparently the net amount actually received from the sale of these contracts was forty-three thousand seven hundred and seventy dollars (\$43,770). Annual reports of this company to the Commission show a fixed capital as of December 31, 1929, of sixty-one thousand three hundred nineteen dollars and eighty-four cents (\$61,319.84). The company operates approximately nineteen miles of canal.

Buena Vista Canal, Inc., was incorporated in 1928 and was the successor of Buena Vista Canal Company which was incorporated in 1878 and was itself the successor of Buena Vista Irrigating Company, incorporated in 1872. This utility has a water right of eighty (80) cubic feet per second, second in priority among the applicant utilities. It also owns a second right on the river which, because of its subordinate position, is of little or no consequence. The original company was owned by farmers who constructed a canal for irrigation purposes. The construction work was largely performed by the farmers themselves. Some funds were raised by assessments. Fixed capital installed prior to 1912,



as disclosed by reports on file with the Commission, was thirty-two thousand five hundred sixty-seven dollars (\$32,567). Fixed capital as of December 31, 1929, was reported to the Commission at thirty-two thousand five hundred sixty-seven dollars (\$32,567). The utility operates approximately twenty-two miles of canal.

Stine Canal, Inc., was formed in 1928, succeeding The Stine Canal Company, incorporated in 1878, which itself succeeded The Stine Irrigating Company, incorporated in 1872. The utility has an entitlement of one hundred fifty (150) cubic feet per second on the river, which is third in priority amongst the various applicants and is eighth in priority among the entitlement holders. The canal of the original company was constructed by farmers in the area served by it. At the time the Haggin interests, through land purchases, acquired control of the company in 1878, apparently about thirty-nine thousand dollars (\$39,000) had been expended. As of December 31, 1929, its fixed capital was reported as eighty-one thousand four hundred thirty-three dollars and five cents (\$81,433.05). The company operates approximately twenty-two miles of canal.

The Farmers Canal Company in 1880 succeeded The Farmers Irrigating Canal Company, an early mutual association. It has an entitlement of one hundred fifty (150) cubic feet per second, being fourth in priority amongst the applicants but tenth in priority among all the water rights on the river. The early settlers forming the predecessor company constructed a portion of the canal system. Certain memoranda indicate that in 1879 expenditures of approximately eighteen thousand dollars (\$18,000) had been made at that time for construction purposes. Fixed capital of fourteen thousand four hundred dollars (\$14,400) was reported

as of December 31, 1929. The utility operates approximately twenty-two miles of canal.

Central Canal Company, operating the so-called Calloway Canal, was incorporated in 1890, taking over the property of the Kern River Land and Canal Company which had been incorporated in 1875. The water right of the company is eight hundred fifty (850) cubic feet per second but it is seventh in priority among the water rights of the applicants and is twenty-second in priority among the water rights on the river. In the early nineties, service or so-called water rights were sold at ten dollars (\$10.00) per acre for lands not owned by the Haggin interests. The net amount realized from these was approximately eleven thousand six hundred forty-one dollars (\$11,641). The total fixed capital of the applicant as set up in its annual report was on December 31, 1929, five hundred fifteen thousand three hundred fifty-three dollars and ninety-five cents (\$515,353.95). The utility operates approximately four hundred nine miles of canal.

Kern River Canal and Irrigating Company was incorporated in 1892, taking over the properties of Kern River Water and Irrigating Company, incorporated in 1874. The water right of this corporation is in the amount of sixty (60) cubic feet per second. It is sixth in priority among the water rights of the applicants and fifteenth in priority among the water rights on the Kern River. It also has a water right in the amount of two hundred forty (240) cubic feet per second of much later priority which is of little consequence. The canal operated by this company was constructed largely by the early farmer stockholders. Fixed capital expendi-

tures as reported to the Commission are in the amount of seventy-six thousand five hundred eighty-seven dollars and eighty-five cents (\$76,587.85) as of December 31, 1929. The utility operates approximately forty-four miles of canal.

Pioneer Canal, Inc., was formed in 1928 and succeeded the Pioneer Canal Company, which had been incorporated in 1878, which in turn was the successor to the Pioneer Ditch and Irrigating Company, which had commenced work on the canal system as early as May, 1873. The water right of the corporation is in the amount of one hundred thirty (130) cubic feet per second, being fifth in priority among the water rights of the applicants but fourteenth in priority among all the water rights on the river. The company also owns a second appropriative water right in the amount of one hundred seventy (170) cubic feet per second, which is twenty-sixth in priority among the water rights on the river. The original canal was constructed by the farmers who owned the original mutual organization. When the Pioneer Canal Company was organized in 1878, it set up a construction account of forty-one thousand five hundred twenty-nine dollars (\$41,529) on its books which purported to represent the expenditure of its predecessor for construction purposes. The total fixed capital as reported to the Commission is forty-one thousand six hundred dollars (\$41,600) as of December 31, 1912, with no fixed capital installed since that date. The utility operates approximately fifty-four miles of canal.

Kern Island Canal Company was incorporated in 1920 and is the successor of Kern Island Irrigating Canal Company, formed

in 1870. It has three hundred (300) cubic feet per second, its water right on the Kern River being first in priority of all the water rights on the river, and a second right of fifty-six (56) cubic feet per second, which is twenty-eighth in priority. It reported fixed capital of two hundred forty-six thousand one hundred seventy-eight dollars and nine cents (\$246,178.09) as of December 31, 1929. The utility operates approximately seventy-two miles of canal.

#### History of Rates.

The first public fixation of rates of these utilities was by the Board of Supervisors of Kern County. Such fixation occurred at least as early as 1885. With the exception of Kern River Canal and Irrigating Company, the rate thus established was the same for many years, being seventy-five cents (75¢) per cubic foot for twenty-four (24) hours, being approximately thirty-seven and one-half cents (37½¢) per acre foot. During much of this time at least, H.A. Jastro was general manager of the Land Company and active in the control of its affairs and was a member of the Board of Supervisors. This gives rise to the implication that the Supervisor-fixed rate prevailing for so many years was not out of harmony with the general policy of the Land Company and its controlled utility canal companies. About 1912, there was conceived an ambitious scheme of turning the property of the various applicants here, together with that of certain non-utility canal companies, over to a public water storage district which, by storage on the Kern River and the development and use of certain underground water, should serve the lands under the applicants' canals and considerable areas not under the utility canals. About this project

there was waged for many years a bitter struggle, the Land Company and its affiliated interests generally favoring the project and many of the utility consumer groups being opposed to it. The project was finally abandoned in 1929. The position of the applicants is that they were well aware of the gross inadequacy of the rates they were charging to meet out-of-pocket expenses and yield a return on the value of their property, yet, during the continuance of the movement to form the public water storage district, it was deemed inadvisable to make application for increases in rates.

#### Operating Expenses.

In the case of these utilities, unlike the rapidly changing gas, electric and telephone utilities, operating expenses are not subject to constant change. Indeed, the Company takes the position that the measure of the general operating expense for the future is the experience of the past, modified somewhat by the general economic situation and special factors. Large expenses have been incurred by the Company in connection with these proceedings, but, in view of the infrequent occurrence of proceedings like these, it is appropriate to spread such expenditures over a period of not less than ten years. Since the interim rate order, the various applicants have made substantial reductions in their prevailing salary and wage scales. Prices of supplies are less than they were a few years ago. Administration of rules and regulations prescribed by the Commission involves some added expense. Giving due weight to the experience of the Company and to the factors referred to affecting the past experience as a guide to future time, it is concluded that the reasonably to be antici-

pated operating expenses of the "utilities," including depreciation, ought not to exceed one hundred thirty thousand dollars (\$130,000) per annum.<sup>(4)</sup> (Central Canal Company, because of the peculiar conditions surrounding its operations, is treated separately at a subsequent point in this Opinion.) Actually, these expenses will vary somewhat year by year, but the above amount may be taken to represent a reasonable average for the future.

#### Revenue-Producing Water.

The revenue-producing water of the "utilities" varies widely from year to year, depending on rainfall and runoff. Obviously, in looking into the future the experience of the past is the best guide in determining what may be anticipated normally and on the average. The longer the record of experience the more nearly may average or normal conditions be approximated. It is concluded from the wealth of data in the record that the revenue-producing water should be taken as 156,000 acre feet per annum. Related to expense, this means that each acre foot of water delivered should on the average produce eighty-three and one-half cents (83½¢) to return to the "utilities" their out-of-pocket costs

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(4) These expenses include taxes and insurance, representing approximately eleven per cent of the total of \$130,000; depreciation, 10 per cent; engineering department payroll and expense, 5 per cent; administration payroll and office rent, 7 per cent; legal, consulting engineer and Railroad Commission expense, 8 per cent; cleaning canals, 20 per cent; repairs to buildings, services, etc., 4 per cent; superintendence, zanjeros payroll and miscellaneous expense, 19 per cent; Buena Vista Lake Reservoir, Carrier Canal, headquarters expense, 6 per cent; weir expense and water measurement, 7 per cent; general and miscellaneous expense, 3 per cent. The sum of \$4,500, being the contract price of water furnished by Kern Island Canal Company to East Side Canal Company, is not included in the overall expense figure, since its inclusion would involve a duplication in view of the treatment of the "utilities" as a group.

of operating and maintaining their systems and a moderate provision for current depreciation in their depreciable property.

Rate Base and Value:

A large amount of testimony was adduced upon the cost and value of the applicants' properties. Since the applications were filed profound changes have been taking place in our economic structure. Old concepts of value have been shaken. Intangibles, which a few years ago were esteemed and given weight, have fallen from their place and the claims respecting them, common a few years ago, now seem entirely out of harmony with an era of hard actuality. Values of land are ever changing and there is no existent standard by which they may now be measured with any confidence in the correctness of the result obtained. Costs to reproduce likewise have been undergoing changes which make this method of measuring value shifting and unsatisfactory.

The capital accounts of the companies, because of their age and because of loose methods of accounting, are unsatisfactory as a guide to determining the amount of money actually invested in the properties. Various canals were constructed by the irrigators. Contributions were made through water right contracts. Some land and rights of way represent actual outlays but in the main these rights of way represent no actual outlay and in many instances the right to use the same rests merely in long usage, not being supported by any record title.

There were presented estimates of what it should have cost historically to construct the properties and canal systems, as well as of present values of fee lands and of rights of way. Sharp disputes arose as to the width of the prescriptive rights

of way and as to the land values which should be ascribed to them and to other rights of way and lands.

Indeed, any conclusion here expressed as to the value of these properties in the present disturbed era or as to rate bases upon which the utilities should presently be permitted to earn a return would necessarily be advanced hesitantly and with no conviction as to their correctness or soundness.(5)

#### Ability of Consumers to Pay.

With irrigation generally necessary in the raising of crops in the territory served by these applicants, the cost of water has come to be regarded in much the same light as taxes. Like taxes, the irrigation bill requires an immediate cash outlay. Prices of crops raised in the territory have dropped abruptly and are now at such a low level that farmers are fortunate to be able to meet their actual out-of-pocket expenses. Costs calling for immediate outlay may easily reach a point where it is beyond the ability of the farmer to meet them.

#### Special Contracts.

Certain of the consumers here urge that the Commission

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(5) The following estimated historical cost of the structural properties and estimated present day land value represent the highest value or base which could reasonably be considered were rates to be fixed under the usual or stereotyped formulas customarily employed in rate fixation of independent utilities:

East Side Canal Company-----	\$ 146,784
Buena Vista Canal, Inc.-----	59,257
Stine Canal, Inc.-----	80,277
The Farmers Canal Company-----	63,112
Central Canal Company-----	1,129,058
Kern River Canal and Irrigating Company---	247,424
Pioneer Canal, Inc.-----	131,128
Kern Island Canal Company-----	540,256



should by affirmative order require water delivered under the so-called Bloomfield Land Association, Balfour Investment Company, Jewett and Castro Contracts to be paid for at the rates here established, contending that the delivery of water thereunder represents a public utility service and that adherence to the contract terms works a discrimination between consumers. The Farmers' Protective Association, an organization of consumers, with equal vigor urges that the contract arrangements should be left alone, although by doing so the volume of the rate fixed for the regular utility consumers must be somewhat higher than if they were set aside. The applicant utilities are non-committal, refusing to take any position in the matter.

These same contracts were before the Commission many years ago, being under attack as preferential and discriminatory. (Re Hancock vs. East Side Canal Company, 20 C.R.C. 205, 216.) Speaking of these contracts, it was said:

"It appears from the text of these contracts and the evidence with relation thereto, that these four contracts were given in exchange for independent diversion rights from the river, and that this exchange is in effect a mere transfer of the point of use from the river to a point upon the Kern Island system, which benefits both the user and the Kern Island Company. The holders of these contracts pay a lesser rate for this service than other water users of the system. In a case of this kind where agreements are entered into such as these, we are of the opinion that no unjust discrimination occurs and that these agreements should not be disturbed."

There is nothing in the record here justifying a different result than that reached in this carefully considered opinion and order.

Usual Formulas Do Not Fit Situation.

In effect, these applicant utilities, subsidiaries of

the Land Company, conducted for many years on a level of water rates not productive of ordinary out-of-pocket expenses, at the beginning of one of the most severe depressions in the Nation's history suddenly decided that henceforth they should assert their full legal rights and demand rates very much higher than those long charged without objection by them or the Land Company and sufficient to yield not only their operative expenses but a full and liberal return on the claimed value of their properties. Even in normal times the transition from the status of water utilities operating at an out-of-pocket loss as a minor feature of an extensive land and farming enterprise to the status of independent and profitable utility enterprises would involve such a shock to long-existing and accepted conditions as to be fraught with serious difficulties. When, however, such a transition is attempted in a period of general distress like the present, with consumers experiencing very real difficulty in making ends meet, it is obvious that some plan or device other than the use of the stereotyped and usual formulas employed in utility rate fixation must be hit upon if unjust and unfortunate results are not to flow from a situation created by these applicants and the Land Company which controls and directs their policy and operation. For these utilities under existing conditions and with the situation they and the controlling Land Company have created to expect a full return upon the property is no less unreasonable than for the consumers to expect the utilities to serve them water at an out-of-pocket expense. Rather would it seem just and reasonable that the utilities operate on a basis assuring them of the expenses of operation and with the earning

or return on their property dependent upon the ability of their consumers to pay rates yielding such a return. Such a basis involves a scheme of graduated rates varying from year to year with the level of prices for the principal crops produced in the territory. A formula or plan to accomplish such a result is not easy to develop and necessarily is subject to some imperfections. It must be one under which the result sought will, over a period of years, be accomplished with substantial justice. Too great refinement in detail would result in confusion and misunderstanding.

At the request of the various consumer representatives, certain data as to prices of crops raised in the territory were adduced at the hearings by the Commission's staff. A careful consideration of this evidence leads to the conclusion that a formula or plan may be developed which in the future will result in a basis of water charges to which neither consumers nor utilities can in equity and fairness object and which, had it been in effect for the past ten years with average water conditions and expenses, would have resulted in the utilities earning over the period a reasonable return on rate bases such as indicated in footnote (5).

#### Formula or Plan for Future Rates.

The following principles should control:

1. The annual rate to be charged should, in general, vary in accordance with the variation of the prices of the principal crops produced, which are wheat, barley, alfalfa and cotton, aggregating 86 per cent of the irrigated acreage.
2. The minimum rate to be charged should be such as to produce, on the average, operating expenses. This minimum rate should be eighty-five cents (85¢) per acre foot of water delivered.

3. Rates should be filed annually by the utilities based upon a definite formula with opportunity by the consumers to have a summary review by the Commission of the application of the formula.
4. The rate to be charged during each irrigating year should be based upon the average of the monthly prices received by producers for wheat, barley, alfalfa and cotton in the State of California for the immediately preceding calendar year, which should be those prices determined and published monthly by the United States Department of Agriculture in its publication entitled "Crops and Markets."

A formula consistent with the foregoing to determine a composite index of prices of agricultural crops would be:

$$9.83w + 13.27b + 2.03a + 1.67c = I.$$

Where

"w" is the average monthly price of wheat in dollars per 100 pounds.

"b" is the average monthly price of barley in dollars per 100 pounds.

"a" is the average monthly price of alfalfa in dollars per ton.

"c" is the average monthly price of cotton in cents per pound.

"I" is the resultant composite index number.

And the annual rate per acre foot of water for any year corresponding to the composite index number so determined for the preceding year would be as follows:

<u>Composite Index Number</u>		<u>Rate per Acre Foot</u>
	65 and below-----	\$0.85
Over	65 to and including 75-----	1.00
Over	75 to and including 85-----	1.20
Over	85 to and including 95-----	1.40
Over	95 to and including 105-----	1.60
Over	105 to and including 115-----	1.80
Over	115 to and including 125-----	2.00
Over	125 to and including 135-----	2.20
Over	135-----	2.40

Attached to this Opinion and Order as Exhibit "A" is a statement (a) showing the technical derivation of the formula and (b) illustrating the application of the formula to various prices running over a period of years (these follow closely the historical record of prices) with the water rate which would result therefrom. The formula assumes the principal crops mentioned will continue to represent 86 per cent of the acreage cropped. It also assumes a continuance of the existing relative acreage of these crops. The result, however, would not in any substantial degree be affected if a more complicated formula were devised taking into account changes in the relative acreages of these principal crops, as will more fully appear from illustrative cases in Exhibit "A".

This exhibit has been prepared by Mr. P.E. Harroun of the Commission's staff who has made an exhaustive check of the working of the formula here prescribed.

The applicants, other than Central Canal Company, are sufficiently comparable in their operations to have justified their being considered as a group and the same form and volume of rate applied to each, as has been done in the past.

Central Canal Company.

The Central Canal Company, operating the Calloway Canal north of the river, possesses characteristics somewhat different from those of the other applicants. It has an inferior water right. Some years it has no water to sell. Deliveries are not relied upon for irrigation. Its system of canals is of great length. The use of the customary formulas for fixing rates because of the extensive canal system would

result in a higher level of rates for this utility than for the other applicants. In reality, the chief usefulness of the long canal it operates is to replenish underground waters rather than to supply water for irrigation.

Substantially, all of the land under the canal is owned or controlled by the Land Company. There are but few independent consumers.

The company, itself, as appears from Table I, recognizes that it is not reasonable to seek to impose rates as high as its claims lead to.

There seems to be no good reason why the same plan of graduated rates should not be applied to this company as to the other applicants. The fixation of a graduated scale of rates somewhat higher than that for the other utilities has some justification. However, the resultant confusion from a departure from the long-existent status of uniform rates over the area and the slight practical effect such course would have (the Land Company would pay more than 85 per cent of the water revenue) leads to the conclusion that the same rate scheme should be applied to this utility.

The plan of rates here found reasonable and authorized and directed obviously would not generally be appropriate in the fixation of utility rates. It is here adopted because of the peculiar conditions present, being particularly the status quo long created and acquiesced in by the applicants and the controlling Land Company, the impossibility of fixing rates which would be reasonable each year because of fluctuating water supplies and the consequent necessity of viewing these utilities'

earning position over a longer period than one year or one irrigating season, the intimate relationship between the level of agricultural prices and the ability of irrigators to pay and other circumstances heretofore adverted to.

The plan of rates here approved is not advanced as perfect but it is believed that, if it be accepted by the utilities and their consumers in good faith as representing the best solution of an extremely difficult problem, its use will in the future work no hardship to consumers and over a period of years will yield to the utilities a reasonable return on the properties used in the public service.

The following form of Order is recommended.

#### O R D E R

Public hearings having been had on the above entitled applications and they having been submitted for decision,

It is hereby found that, under the peculiar circumstances here present, rates fixed under the plan or formula set out in the Opinion preceding this Order are and will be fair and reasonable alike to applicants and consumers, and

IT IS HEREBY ORDERED that the applicant utilities each, on or before February 15th of each year, file with the Commission a schedule of rates for the irrigating season March first to and including the last day of February of the ensuing year, based upon and conformable to the following formula for determining a composite index number for crop levels for the preceding calendar year and table of water rates corresponding to the composite index number so determined:

(a) Formula for Determining Composite Index Number:

$$9.83w + 13.27b + 2.03a + 1.67c = I.$$

Where

"w" is the average monthly price of wheat  
in dollars per 100 pounds.

"b" is the average monthly price of barley  
in dollars per 100 pounds.

"a" is the average monthly price of alfalfa  
in dollars per ton.

"c" is the average monthly price of cotton  
in cents per pound.

"I" is the resultant composite index number.

(b) Table of Rates to Apply to Composite Index Numbers:

<u>Composite Index Number</u>		<u>Rate per Acre Foot</u>
	65 and below-----	\$0.85
Over	65 to and including 75-----	1.00
Over	75 to and including 85-----	1.20
Over	85 to and including 95-----	1.40
Over	95 to and including 105-----	1.60
Over	105 to and including 115-----	1.80
Over	115 to and including 125-----	2.00
Over	125 to and including 135-----	2.20
Over	135-----	2.40

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Supporting data as to average prices upon which the formula is applied shall at the same time be filed with the Commission and copies of the schedules and of such supporting data shall be open to public inspection at the office of the utilities, notice of which fact to be given by the utilities by publication in a newspaper of general circulation at Bakersfield. If within ten (10) days after filing of schedules any objections are filed by consumers to the application of the formula and table, a prompt hearing on such objections will be accorded and, thereafter and as promptly as may be, the rates proper under the formula and



table will be approved and authorized:

The effective date of this Order shall be thirty (30) days from and after the date hereof.

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 13<sup>th</sup> day of November, 1933.

C. S. Leary  
Leon A. Whitely  
W. P. Carr  
William H. Harris  
Commissioners.

Commissioner Harris, having represented one of the parties to this proceeding prior to becoming a member of the Railroad Commission, feels himself disqualified and therefore has not participated in this decision.

EXHIBIT "A"

EXHIBIT "A"

The equation for determining the composite index number reflecting the prices of wheat, barley, alfalfa and cotton, referred to in the Opinion and Order, is based upon the average monthly prices of these crops during a calendar year weighted into their respective acreage, as follows:

$$100 \left( \frac{mw}{w'} + \frac{nb}{b'} + \frac{pa}{a'} + \frac{qc}{c'} \right) \frac{1}{(m + n + p + q)} = I \dots \dots \dots (1)$$

In this equation:

w, b, a, c are the respective average monthly prices of wheat, barley, alfalfa and cotton.

w', b', a', c' are the respective base prices of wheat, barley, alfalfa and cotton.

m, n, p, q are the respective ratios or per cents of the acreage devoted to wheat, barley, alfalfa and cotton.

I. is the resultant composite index number.

Assuming the percentage of acreage devoted to each particular crop is a constant, the following are the base prices and acreage per cents for a composite index number of 100.

<u>Crop</u>	<u>Base Price</u>	<u>Acreage Per Cent</u>
Wheat	\$ 2.01 per 100 pounds	17
Barley	1.49 per 100 pounds	17
Alfalfa	14.90 per ton	26
Cotton	18.1 cents per pound	26

Substituting base prices and acreage per cents in equation (1) and reducing, there results:

$$9.83w + 13.27b + 2.03a + 1.67c = I \dots \dots \dots (2)$$

which is the equation set out in the Opinion and Order.

The water rate, determined from the composite index number, is as follows:

<u>Composite Index Number</u>		<u>Rate per Acre Foot</u>
65 and below-----		\$0.85
Over 65 to and including 75-----		1.00
Over 75 to and including 85-----		1.20
Over 85 to and including 95-----		1.40
Over 95 to and including 105-----		1.60
Over 105 to and including 115-----		1.80
Over 115 to and including 125-----		2.00
Over 125 to and including 135-----		2.20
Over 135-----		2.40

This rate is applicable during the twelve months commencing March first immediately succeeding that year for which the average monthly prices of wheat, barley, alfalfa and cotton have been taken.

The following tabulation, Table I, presents the application of the equation to various prices extending over a consecutive series of years, the determination of the composite index number and the water rate. The prices for the first nine years approximate the historical prices prevailing, the remainder being hypothetical.

TABLE I

Year	Crop and Average Monthly Price				Composite Index No.	Water Rate per Ac. Ft.
	Wheat per 100 lbs.	Barley per 100 lbs.	Alfalfa per ton	Cotton per lb.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	\$2.13	\$1.96	\$19.40	29.3¢	135.3	\$ -
2	2.67	1.83	16.20	23.4¢	122.5	2.40
3	2.28	1.23	13.10	16.6¢	93.0	2.00
4	2.13	1.62	13.30	16.7¢	97.3	1.40
5	2.08	1.73	15.30	18.7¢	105.7	1.60
6	1.98	1.52	17.80	18.5¢	106.7	1.80
7	1.68	1.10	14.10	13.3¢	81.9	1.80
8	1.10	0.96	10.30	8.1¢	58.0	1.20
9	0.98	0.71	8.40	6.1¢	46.3	.85
10	0.72	0.68	6.00	7.0¢	40.0	.85
11	1.14	0.99	10.60	8.6¢	60.2	.85
12	1.61	1.32	12.70	12.9¢	80.7	.85
13	1.92	1.45	14.60	16.7¢	95.6	1.20
14						1.60

In case the percentage of acreage devoted to each particular crop is considered as variable, the above equation (2) would not be true and a different composite index number would result.

In order to show the effect of variable percentages of acreage for each particular crop and for the system as a whole, Table II is presented below.

TABLE II

Crop, Average Monthly Price and Variable Acreage Per Cent										Composite	
										Composite:	Index Number
										Index	Based on
										Number	Constant Ac'ge
										Based	Wheat 17%
										on	Barley 17%
										Variable	Alfalfa 26%
										Crop-	Cotton 28%
										Shown	Total 88%
Year:	100Lbs:	Cropped:	100Lbs:	Cropped:	Ton	Cropped:	Pound:	Cropped:	per		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	\$2.13	18	\$1.96	20	\$19.40	24	29.3¢	28	90	135.5	135.3
2	2.67	22	1.83	22	16.20	22	23.4¢	22	88	123.4	122.5
3	2.28	18	1.23	18	13.10	24	16.6¢	24	84	93.3	93.0
4	2.13	18	1.62	15	13.30	26	16.7¢	28	87	97.0	97.3
5	2.08	16	1.73	20	15.30	28	18.7¢	28	92	105.9	105.7
6	1.98	20	1.52	15	17.80	20	18.5¢	30	85	105.4	106.7
7	1.68	15	1.10	19	14.10	22	13.3¢	26	82	81.1	81.9
8	1.10	15	.96	15	10.30	28	8.1¢	22	90	58.9	58.0
9	.98	16	.71	17	8.40	30	6.1¢	20	83	47.6	46.3
10	.72	17	.68	16	6.00	20	7.0¢	30	83	39.8	40.0

The crops and prices assumed in Table II have been taken from Table I and present the first ten consecutive years, with a range from maximum to minimum in price, and composite index numbers. The per cent of acreage cropped of the four crops and of the total acreage cropped has been arbitrarily assumed and is shown as varying for each particular crop and to range from 80 to 92 per cent for the system as a whole. Column (11) shows the

composite index number for the variable per cent of acreage cropped. In Column (12) is placed, for comparison, the corresponding composite index number based upon constant per cent of acreage as calculated by the equation (2) above given and which is shown in Column (6) of Table I.

The difference between the composite index numbers obtained through considering the per cent of acreage as variable or constant is shown to be a maximum of 1.3 in years 6 and 9 and a minimum of 0.2 in years 1 and 10 for the assumptions made. It is also evident that in no case in the ten consecutive years set out would these differences have caused a change in the determined water rate as given in Column (7) of Table I.

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