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Decision No. 91537 APR 2 1980

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of CALIFORNIA WATER SERVICE COMPANY, a corporation, for an order authorizing it to increase rates charged for water service in the Livermore District.

Application No. 58781
(Filed April 5, 1979)

McCutchen, Doyle, Brown & Enersen, by A. Crawford Greene, Attorney at Law, and Donald L. Houck, for applicant.
Donald F. McLean, Jr., Attorney at Law, for City of San Carlos, protestant.
Elinore C. Morgan, Attorney at Law, and A. V. Garde, for the Commission staff.

INTERIM OPINION

Introduction

Applicant, California Water Service Company, seeks authority to increase rates for water service in its Livermore District. The annual step rates proposed through the year 1982 would increase annual revenues by $447,100 (23 percent) in 1980 and by additional amounts of $70,800 (3 percent) in 1981 and $148,600 (6 percent) in 1982. An additional proposed increase in pending Advice Letter No. 706, of which we take official notice, to offset increases in the costs of purchased water and purchased power would add $264,600 (12.4 percent) to annual revenues.

Pursuant to the "Regulatory Lag Plan" adopted by Commission Resolution No. M-4705 dated April 24, 1979, an informal public meeting was held by the Commission staff in Livermore on September 6, 1979. Notice of the meeting had been published in accordance with the staff's instructions. Additional notice was provided by a press release printed by the local newspaper. No customers attended the meeting. The Commission received one letter protesting the proposed increase.

Public hearings were held on a consolidated record with proceedings[1/] involving four other districts of applicant before Administrative Law Judge Banks in Los Angeles on October 16, 1979, and in San Francisco on October 18, 29, 30, 31, and November 1 and 2, 1979. Copies of the application had been served; notice of filing of the application published and mailed to customers; and notice of hearing published, mailed to customers, and posted, in accordance with the Commission's Rules of Practice and Procedure. No customers appeared at the hearing reserved for public witnesses in San Francisco. The matter was submitted as of November 2, 1979 subject to receipt of briefs from any of the parties by November 26, 1979. Briefs were filed by applicant and the staff on that date and by city of San Carlos (San Carlos) on November 28, 1979.

In support of the requests for rate relief in the five districts, applicant presented testimony of its vice president-treasurer, its vice president in charge of regulatory matters, and its regulatory advisor.

The Commission staff presentation in these proceedings was made through a research analyst and seven engineers. San Carlos introduced evidence through its city manager and a consultant economist.

Service Area and Water System

Applicant owns and operates water systems in 20 districts in California. Its Livermore District includes much of the

1/ The consolidated proceedings are Applications Nos. 58781, 58782, 58783, 58800, and 58826 involving, respectively, applicant's Livermore, Los Altos-Suburban, San Carlos, East Los Angeles, and Palos Verdes Districts.

incorporated city of Livermore and unincorporated portions of Alameda County adjacent to that community. Most of the terrain is relatively flat, but the service area also includes some low rolling hills with elevations ranging from approximately 425 to 670 feet above sea level. The population within the area served is estimated at 51,000.

Water for the Livermore District is obtained from two sources: imported surface water and local ground water. There are seven metered connections from the Alameda County Flood Control and Water Conservation District (Zone 7). That surface source is supplemented by water from 13 local wells, 12 of which are company-owned and one of which is leased. Water from all sources is delivered to the distribution system by a combination of direct delivery to the system and delivery into storage tanks with subsequent boosting. Seven separate pressure zones are required to serve the area due to the topography. There is one engine-driven booster for emergency use. Also, the principal electrically powered booster stations are equipped with connections which permit the use of portable gasoline-powered booster pumps, one of which is permanently stationed in the district, with others being available at other districts on relatively short notice.

The transmission and distribution system includes about 140 miles of mains, ranging in size up to 12 inches, and approximately 9.8 million gallons of storage capacity. There are about 12,600 metered services, 50 private fire protection services, and 1,080 public fire hydrants.

Service

There were only two informal complaints to the Commission from this district between July 1, 1978 and June 30, 1979. The staff investigation showed that, other than in those two instances, customer complaints received at applicant's district office were quickly resolved. The absence of any customer service complaints at the public meeting and hearing is a further indication that service is satisfactory.

Rates

Applicant's present tariffs for this district consist primarily of schedules for general metered service and public fire hydrant service.

Applicant proposes to increase its rate for general metered service. The following Table I presents a comparison of applicant's present and proposed general metered service rates along with those authorized herein.

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TABLE I

LIVERMORE DISTRICT

COMPARISON OF MONTHLY RATES

	Present* Rates	Proposed Rates# 1980	Proposed Rates# 1981	Proposed Rates# 1982	Authorized Rates# 1980	Authorized Rates# 1981	Authorized Rates# 1982
Service Charge:							
For 5/8 x 3/4-inch meter	$ 3.00	$ 3.42	$ 3.52	$ 3.70	$ 3.40	$ 3.48	$ 3.57
For 3/4-inch meter	4.12	6.50	6.85	7.75	5.85	6.10	6.40
For 1-inch meter	5.62	8.90	9.30	10.50	8.00	8.40	8.80
For 1-1/2-inch meter	7.88	12.50	13.00	15.00	11.25	11.80	12.40
For 2-inch meter	10.12	17.00	17.50	20.00	14.50	15.20	16.00
For 3-inch meter	18.75	30.00	31.00	35.00	26.00	27.00	28.00
For 4-inch meter	25.50	40.00	42.00	48.00	36.00	38.00	40.00
For 6-inch meter	42.38	66.00	70.00	80.00	60.00	63.00	66.00
For 8-inch meter	63.00	99.00	104.00	118.00	90.00	94.00	99.00
For 10-inch meter	78.00	123.00	130.00	146.00	111.00	116.00	122.00
Quantity Rates:							
For the first 300 cu.ft., per 100 cu.ft.	0.413	0.550	0.565	0.594	0.468	0.479	0.491
For the next 200 cu.ft., per 100 cu.ft.	.413	.723	.742	.780	.630	.645	.649
For the next 29,500 cu.ft., per 100 cu.ft.	.520	.723	.742	.780	.630	.645	.649
For all over 30,000 cu.ft., per 100 cu.ft.	.520	.656	.666	.693	.616	.627	.637

The Service Charge is a readiness-to-serve charge which is applicable to all metered service and to which is to be added the monthly charge computed at the Quantity Rates.

* From Tariff Sheet 2242-W, effective January 30, 1979.

Includes Applicant's requested increase in Advice Letter No. 706 filed November 28, 1979.

In this district, an average commercial (business and residential) customer will use about 23,000 cubic feet of water per year, or 19 Ccf (hundreds of cubic feet) per month. The corresponding use for an average public authority service in this district is 280,000 cubic feet of water per year, or 230 Ccf per month. The following Table II presents a comparison of monthly charges for an average commercial customer with a 5/8 x 3/4-inch meter under present rates, applicant's proposed rates and the rates authorized herein. The table also presents similar comparisons for an average public authority service with a 2-inch meter.

TABLE II

Comparison of Monthly Charges

Item	1980	1981	1982
Average Commercial Customer			
Present Rates, Monthly Charge	$ 12.35	$ 12.35	$ 12.35
Rates Proposed by Applicant:			
Monthly Charge	16.64	17.09	17.96
Increase Over Present Rates:			
Amount	4.29	4.74	5.61
Percent	34.7%	38.4%	45.4%
Authorized Rates:			
Monthly Charge	14.88	15.24	15.42
Increase Over Present Rates:			
Amount	2.53	2.89	3.07
Percent	20.5%	23.4%	24.1%
Average Public Authority Service			
Present Rates:			
Monthly Charge	$129.19	$129.19	$129.19
Rates Proposed by Applicant:			
Monthly Charge	182.77	187.63	198.84
Increase Over Present Rates:			
Amount	53.58	58.44	69.65
Percent	41.5%	45.2%	53.9%
Authorized Rates:			
Monthly Charge	158.91	163.06	164.79
Increase Over Present Rates:			
Amount	29.72	33.87	35.60
Percent	23.0%	26.2%	27.6%

Results of Operation

Witnesses for applicant and the Commission staff have analyzed and estimated applicant's operational results. Summarized in the following Table III, based on Pages 1 and 2 of Exhibit 10, the final reconciliation exhibit, modified by revisions shown in the staff's Exhibit 28-A, are the estimated results of operation for the test years 1980 and 1981, under present rates and under the step rates proposed by applicant for those years.

Applicant's original estimates were completed in March 1979. Between then and the completion date of the staff's exhibit, several changes took place in rates for such things as purchased power and ad valorem taxes, none of which have been reflected in offset changes in applicant's rates. Also, additional data became available as to actual numbers of customers, plant balances, and other recorded data.

Instead of amending the estimated summaries of earnings each time a change took place and each time later data became available, applicant kept the Commission staff advised of changes and new data so they could be reflected in the staff's estimates. When the staff exhibits were distributed, applicant checked and adopted as reasonable those portions of staff's estimates on which there were no issues and also some portions where the impact of the potential issue was insignificant. Applicant did not agree with some of the staff's adjustments and estimates of expense and rate base items but, for the purpose of expediting this proceeding, did not take issue with the staff in regard to those particular items. That left no issues to be resolved with respect to summary of earnings.

At the hearing, the staff revised upward its estimates of future consumption by commercial customers. Applicant accepted the staff's revised estimates stating they were still within a range considered reasonable by applicant for the purposes of this proceeding. The staff's estimates, as modified by the revised consumption estimates, are shown on Table III.

TABLE III

STAFF'S SUMMARY OF EARNINGS
LIVERMORE DISTRICT, TEST YEARS 1980 AND 1981

(Dollars in Thousands)

Item	Staff's Adjusted Estimates# 1980	1981
Present Rates		
Operating Revenues	$2,135.5	$2,151.0
Operating Expenses:		
Purchased Water	707.4	713.3
Purchased Power **	94.7	95.5
Payroll - District	203.3	217.5
Other Oper. & Maint.	102.0	104.8
Other A. & G. & Misc.	16.3	16.4
Ad Valorem Taxes - District	84.0	89.5
Payroll Taxes - District	13.9	15.9
Depreciation	165.2	168.7
Ad Valorem Taxes - G.O.	1.0	1.1
Payroll Taxes - G.O.	4.2	4.8
Other Prorates - G.O.	155.3	165.7
Balancing Account Adjust.	48.1	48.1
Subtotal *	1,595.4	1,641.3
Uncollectibles	3.1	3.1
Business License	20.9	21.1
Income Taxes Before ITC	101.1	72.6
Investment Tax Credit	(20.3)	(25.5)
Total Operating Expenses	1,700.2	1,712.6
Net Operating Revenues	435.3	438.4
Rate Base	5,136.9	5,378.2
Rate of Return	8.47%	8.15%
Proposed Rates		
Operating Revenues	$ 2,631.9	$2,728.8
Operating Expenses:		
Subtotal *	1,595.4	1,641.3
Uncollectibles	3.8	4.0
Business License	25.8	26.8
Income Taxes Before ITC	352.3	365.0
Investment Tax Credit	(20.3)	(25.5)
Total Operating Expenses	1,957.0	2,011.6
Net Operating Revenues	674.9	717.2
Rate Base	5,136.9	5,378.2
Rate of Return	13.14%	13.34%

\# Staff's adjusted estimates from Exhibit 10, Pages 1 and 2, Column (e), modified by revisions shown in staff Exhibit 28-A.

* Subtotal of expenses exclusive of uncollectibles, business license and income tax items.

** Purchased power is calculated at May 15, 1979 rates.

(red figure)

Future Sales Levels

During the 1977 severe drought in California, applicant's customers reduced their water consumption significantly. Applicant feels that some of the extreme drought-inspired measures taken by customers cannot reasonably be expected to continue fully after the drought.

Applicant expects that other drought-inspired actions will have a more permanent effect on conservation. These include such things as the installation of water closet displacement bottles and shower head restrictors provided by applicant, the conversion of conventional lawns and gardens to native shrubs or rock gardens, and the installation of water-recirculating systems by industrial customers. Applicant states it will continue to remind customers to avoid nonbeneficial use which should help keep actual waste of water to a minimum.

Estimating the amount of future residual conservation by all classes of users this soon after the end of the drought is not an exact science. After more post-drought experience, the trend of usage can be more readily estimated but at the time applicant's estimates were being prepared, consumption data were available only through December 1978. By the time the staff's estimates were being prepared, data for another six or seven months were available. The later information led the staff to conclude that applicant's estimates of consumption levels for the near future were significantly low. Applicant reviewed the staff's use of the later available data and concluded that the staff's estimates of future consumption set forth in Exhibit 28 are within the range of reasonableness.

Balancing Account Adjustment

Applicant maintains balancing accounts for each of its districts, pursuant to Section 792.5 of the Public Utilities Code.

Those accounts compare offsettable changes in expenses due to changes in unit costs for water production, composite ad valorem tax rates, and other items, with the corresponding revenue changes resulting from offset changes in applicant's rates authorized by the Commission. Section 792.5 provides, in part, that "the commission shall take into account by appropriate adjustment or other action any positive or negative balance remaining in any such reserve account at the time of any subsequent rate adjustment".

For this district, the offset revenues have been less than the offsettable net increase in expenses. The staff recommends that the accumulated $144,440 undercollection as of June 30, 1979 be removed from the balancing accounts and amortized for ratemaking purposes during 1980, 1981, and 1982. Applicant does not object to this procedure, inasmuch as the 1980 rates authorized in this proceeding will become effective essentially concurrently with the beginning of the amortization period. The amortization is shown as a separate item in Table III. The rates authorized in this proceeding include an increase on all sales of $0.0147 per Ccf for 1980 and $0.0146 per Ccf for 1981 and 1982, to achieve this amortization. These unit charges are based upon the staff's revised sales estimates.

Pump Efficiencies

Applicant had its pumps tested by the local electric utility in each of its districts as ordered by Decision No. 88466 dated February 7, 1978 in Case No. 10114. The test results, together with applicant's comments thereon, were submitted to the Commission staff.

The Commission staff reviewed the pump tests and adjusted operating expenses to reflect the savings in power costs which would result if all of the pumps which tested below "average-fair" in efficiency were brought up to that level. In this district, applicant does not take issue with the ratemaking adjustment because it had already determined that the overhaul of one of the less efficient pumps would be cost-effective. Applicant states that it completed the required work, and thus will actually realize operating cost savings in the future in the general magnitude of the staff adjustment.

In addition to the ratemaking adjustment, the staff stated (Exhibit 22, Page 11, Paragraph 13.5):

> "Those pumps found by calculations or pump tests to be operating at low plant efficiencies which result from mechanical and/or electrical causes should be overhauled as expeditiously as possible with priority given to those having the greatest potential of energy conservation."

Applicant contends that overhaul and/or replacement of pumps should not be carried out in those instances either where the test results are unreliable or where corrective measures would not be cost-effective (i.e., where the potential savings in electric energy costs would be less than the additional revenue requirement related to the corrective action). Any indiscriminate effort to bring all pumps up to some arbitrary efficiency level with complete disregard of cost would not be in the customers' interest. Applicant agrees with the qualification incorporated in the past by the Commission, such as in Decision No. 90425 dated June 16, 1979 in Application No. 58093:

> "We will expect applicant to continue to improve the efficiency of pumps with test results in the <u>low</u> range in as short a time span as possible, <u>consistent with economic feasibility</u>." (Emphasis added.)

The staff witness stated that the reason for the ratemaking adjustments for pump efficiencies was to ensure that applicant's customers would not be burdened with rates to pay for costs incurred by applicant due to operating inefficient plant.

The witness also testified that it was not the staff's intention to have the Commission order applicant to overhaul all the pumps on which expense adjustments had been made, since this was a matter better left to applicant's judgment. San Carlos indicated its concern that applicant might be required to overhaul pumps without regard to economic feasibility and, thereafter, pass these extra costs on to its San Carlos customers in some future rate proceeding.

We will reaffirm the statement contained in Decision No. 90425 concerning applicant's improving its pump efficiencies. We believe, however, it would be inconsistent with good management for applicant to overhaul pumps without giving full consideration to the economic benefit, or lack thereof, of such expenditures, or without a reliable indication that a given pump is indeed operating inefficiently.

We will expect applicant in future rate proceedings to present data confirming the economic benefit for not overhauling inefficient pumps.

Depreciation Rates

Applicant concurred in the depreciation rates used by the staff in this proceeding. Those rates should be used by applicant until such time as applicant submits a new detailed study and is authorized to change those rates.

Rate of Return

In the most recent series of applicant's rate proceedings[2/] involving other districts, the Commission found that a rate of return of 13.00 percent on common equity at that time was reasonable. The

2/ The subject of financial attrition is hereinafter discussed in more detail under the heading "Trend in Rate of Return".

related return on rate base was 10.08 percent for 1979, 10.27 percent for 1980, and 10.43 percent for 1981. The initial decision of that series, Decision No. 90425 dated June 19, 1979 in Application No. 58093 includes an extensive discussion of the reasons for setting a fixed return on equity and letting the return allowed on rate base vary in setting step rates into the future. There have been no basic changes in the facts which led the Commission to that general conclusion. Later data as to actual interest rates on applicant's long-term indebtedness have, of course, become available. Also the return to be considered reasonable on equity should be reviewed from time to time to see that interest coverage remains adequate and that common stockholders receive an adequate return compared with the returns required by bondholders.

In this series of rate proceedings, witnesses for applicant, staff, and San Carlos each presented studies in support of their respective recommendations as to a reasonable rate of return. The witnesses all recommended that the Commission continue its practice of allowing a fixed return on applicant's equity in setting step rates. The following Table IV is a comparative summary based upon applicant's Exhibit 1, the staff's Exhibit 27, and San Carlos' Exhibit 29. Included in Table IV are the corresponding weighted costs resulting from use of the staff's capital ratios and cost factors for debt and preferred stock, but allowing 13.2 percent return on common equity.

TABLE IV

RATE OF RETURN

Item	Applicant Capital Ratio	Applicant Cost Factor	Applicant Weighted Cost	Staff Capital Ratio	Staff Cost Factor	Staff Weighted Cost	San Carlos Capital Ratio	San Carlos Cost Factor	San Carlos Weighted Cost	Adopted Weighted Cost
YEAR 1980										
Long-term debt	53.9%	8.50%	4.58%	53.36%	8.31%	4.43%	53.36%	8.25%	4.402%	4.43%
Preferred stock	4.5	6.49	.29	4.62	6.48	.30	4.62	6.48	.299	.30
Common stock equity	41.6	14.75	6.14	42.02	13.00	5.46	42.02	12.00	5.042	5.55
Total	100.0		11.01	100.00		10.19	100.00		9.743	10.28
YEAR 1981										
Long-term debt	54.1	8.73	4.72	54.08	8.68	4.69	54.08	8.58	4.640	4.69
Preferred stock	4.2	6.50	.27	4.31	6.49	.28	4.31	6.49	.280	.28
Common stock equity	41.7	14.75	6.15	41.61	13.00	5.41	41.61	12.00	4.993	5.49
Total	100.0		11.14	100.00		10.38	100.00		9.913	10.46
YEAR 1982										
Long-term debt	54.2	8.79	4.76	53.93	8.84	4.77	53.93	8.69	4.687	4.77
Preferred stock	3.9	6.46	.25	4.04	6.47	.26	4.04	6.47	.261	.26
Common stock equity	41.9	14.75	6.18	42.03	13.00	5.46	42.03	12.00	5.044	5.55
Total	100.0		11.19	100.00		10.49	100.00		9.992	10.58

As indicated on Table IV, applicant requests returns of 11.01, 11.14, and 11.19 percent on rate base for, respectively, the years 1980, 1981, and 1982. This request is based, in part, upon the assumption of a 14-3/4 percent return on common equity for each of those three years. The table also shows that the corresponding recommendations of the Commission staff for the three-year period are 10.19, 10.38, and 10.49 percent which are based, in part, upon the assumption of a uniform 13 percent return on common equity during that period. Also shown are the corresponding recommendations of San Carlos of (rounded) 9.75, 9.9 and 10.0 percent on rate base, together with a 12.0 percent return on common equity.

As can be seen from the table, most of the differences in the recommendations of applicant, the staff, and San Carlos stem from the difference in return assumed on common equity. There are other differences due to the use by the staff of later known actual costs of debt capital, the use by the staff and San Carlos of average-year, rather than year-end capitalization, and the assumption by San Carlos of a significant reduction in interest rates on future new issues of applicant's bonds. Compared with the effect of differences in assumed return on common equity, the differences in the debt component do not result in a very significant difference in revenue requirement, because more than half of any difference in weighted cost of debt capital is offset by corresponding differences in income tax deductions.

Applicant, the staff, and San Carlos supported their proposed rates of return with comprehensive tables and testimony. Because the rate of return on common equity is the paramount issue involved, we will limit our discussion to that aspect of the overall rate of return.

Applicant emphasized the importance of maintaining the company's rate of return at a level sufficient to support the A rating presently assigned to its bonds, arguing that the ability to sell bonds in the future at competitive interest rates depends upon the company's retention of such rating. Applicant's rate of return witness testified that the granting of a 14.75 percent rate of return on common equity would provide the 2.4-times coverage which applicant considers is needed to hold its A bond rating, pointing out that interest coverage after income taxes for applicant's bonds was only 2.14 times for the year 1978 as compared with an average of 2.44 for eight other California utilities.[3/] He also referred to the increasing magnitude of capital requirements.

One of applicant's exhibits indicates that total net financing requirements during the 1974-78 period amounted to $29.0 million and that 62 percent of such sum was obtained from external sources through sale of first mortgage bonds and preferred stock and another $23.6 million was obtained from external sources for refinancing matured debt. Applicant stated that net financing requirements for the years 1979 through 1982 are expected to amount to $26.4 million and that 63 percent of these needs is to be provided through sales of additional securities. There will also be a requirement to refinance $10.0 million in the near-term future.

In Exhibit 15, the applicant pointed out that, over the years, the Commission has recognized the need for return on common equity to be increased as the cost of debt capital increased. Applicant states that it does not contend that there is, or should be, a precise mathematical relationship between return on equity and cost of debt capital, but that the difference in risk to the investor between the two types of utility investment dictates that changes in interest rates demanded by debt investors should result in somewhat commensurate changes in allowed earnings on common equity. Applicant considers that its requested 14-3/4 percent return on equity is justified on that basis, aside from the need to increase interest coverage.

3/ Applicant used the following California utilities: Pacific Gas and Electric Company (PG&E), Pacific Lighting Corporation, Pacific Telephone and Telegraph Company, San Diego Gas & Electric Company, San Jose Water Works, Southern California Edison Company, and Southern California Water Company.

San Carlos witness Neumer advocated in Exhibit 29 the use of the "discounted cash flow" (DCM) method in determining a reasonable rate of return and return on common equity. The DCM approach is a mathematical computation which measures investor expectations of future dividends by relating the market price of an asset to the present worth of its expected dividends. San Carlos states that the rate of return so determined measures the investor's required rate of return or the capitalization rate which will induce the commitment to invest capital.

Notwithstanding the arguments advanced by San Carlos as to the desirability of utilizing the DCM method, this Commission has not embraced it for determining rate of return or return on common equity and sees no justification to do so. As we stated in Decision No. 75876 dated July 8, 1969 in discussing rate of return in Southern California Water Company's Application No. 50570:

> "The cost of equity determination is a judgment decision and is influenced by a multitude of factors, as is often expressed in Commission decisions, among which in this case are mentioned the continued need for construction funds, increasing debt costs, and the capital structure of applicant."

We believe it is in the ratepayers' long-term interest for applicant to maintain its current favorable A bond rating. We also believe that as the cost of long-term debt increases, some recognition of this must be made in the return allowed on common equity or the common shareholders would not be compensated for the difference in risk involved in investments by bondholders and stockholders.

It is conceded that there is no precise methematical relationship between return on equity and cost of debt capital. We must consider many factors in arriving at a judgment determination of a reasonable return on common equity in each situation. Considering all of the evidence presented by the parties in this proceeding, we conclude that a 13.2 percent return on common equity is reasonable for applicant's operations at this time and balances the customers' long-term interests with their short-term interests in lowest reasonable rates for water service. As shown in Table II, a 13.2 percent return on common equity should produce an overall return on total capitalization of 10.28 percent, 10.46 percent, and 10.58 percent, respectively, for the years 1980, 1981, and 1982.

Trend in Rate of Return

Decision No. 90425, supra, included a comprehensive discussion of attrition in rate of return (mimeo. pages 16-26). There is no need to repeat that discussion in its entirety, but the following excerpts are appropriate:

> "Attrition, in the context of California utility rate proceedings, refers to a decline in utility earnings between two test periods. There are two principal types of attrition, financial and operational. Financial attrition is the decline in return on common equity which can occur even if the rate of return on rate base remains constant. It is caused by increases in the average interest rate paid by the utility on its outstanding debt and is also affected by changes in the utility's capital structure. Operational attrition, which generally is the largest cause of the overall decline in earnings, is the decrease in a utility's rate of return on rate base between periods. It is caused by reductions in sales and revenues, increases in expenses, and increases in rate base. . . ."

> "Until now extended period rates were designed to deal only with operational attrition. The step or averaged rates were uniformly designed to maintain a level rate of return on all investment, leaving shareholders to absorb the result of the increasing cost of imbedded debt. Thus, financial attrition was treated as part of the risk of rate regulation. In this proceeding, however, the Finance Division witness took the innovative step of recommending that we design rates to yield a predetermined rate of return on equity after the test [year]. To achieve this he recommended a year-by-year increase in rate of return on rate base which is just sufficient to offset the predicted increase in debt cost. By expressly providing for predictable financial changes during the rates' life span we can avoid making an implicit (and thus perhaps excessive) allowance for a 'risk' that is really a certainty. . . ."

"Therefore, in order to control the number and frequency of CWS general rate proceedings, without arbitrarily requiring it to accept what predictably will be a less than reasonable rate of return on overall company operations, we will make our first allowance for financial attrition in a water utility. . . ."

"In water rate proceedings, the Commission has for nearly a decade routinely allowed for operational attrition, setting rates to accommodate a predictable level of attrition during a specified number of years after the test year. The usual span is the test year plus two additional years. In some earlier proceedings several years' rates were kept level, generating a slightly excessive rate of return in the first year, offsetting slightly insufficient revenues in the last year. More recently the Commission has standardized a step rate system allowing a one-year base rate followed by two predetermined annual increases. The three levels are intended, in conjunction with offset proceedings, to maintain a fixed rate of return on rate base. . . ."

"In recapitulation, we have established rates which allow for all predictable attrition for a three-year period. We will not restrain applicant from filing during this three-year period; however, any premature filing may require us to defer step rate increases in any of applicant's districts. It would be preferable if applicant could retain its four-year cycle with or without modification. <u>We intend to extend this system gradually to all of its districts with such modifications as may seem appropriate in the light of future experience</u>. The system contains two mechanisms which allow for reductions in the step increases. First, we will substitute a lower but not a higher return on equity if found reasonable in any other district proceeding. The second allows for a feedback feature so that we can compare our projections with more recent actual data before a step increase is placed in effect. These features do not guarantee that applicant will earn its target rate of return. Changes which are unforeseen or underestimated can significantly reduce projected earnings. If they are not offsettable applicant is in effect compelled to absorb the results." (Emphasis added.)

In applicant's current series of rate proceedings, including the Livermore District application, applicant, the staff, and San Carlos all recommended that the Commission continue to recognize both financial and operational attrition in the manner established by Decision No. 90425, and confirmed in subsequent decisions involving other districts of applicant. The financial attrition recommendations are determined by the parties' recommendation for rate of return on rate base in 1982 as compared with 1981. The financial attrition allowance of 0.12 percent adopted in this proceeding is consistent with the rate of return derivation adopted by the Commission, shown on Table IV.

Absent any unusual conditions either in the 1980 or 1981 test-year estimates or in the 1982 projected year, the operational attrition allowance should be the amount indicated between the adopted test years 1980 and 1981, as recommended by the staff.

Applicant contended that a booster pumping station budgeted for 1981 constituted an abnormally large capital addition and recommended it be removed and treated separately when calculating operational attrition. Staff position is that such supplemental detailed refinements should not be used. Results from the attrition analysis, a "cruder" method than a results of operations study, are less accurate than results from test year 1980 and test year 1981 analyses. Minor revisions are not appropriate because of the approximate nature of the 1982 step increase. Also, the booster pump station represents less than two percent of the total rate base and one-third of the 1981 company budget. A reasonable estimate of the operational attrition in the rate of return should include the booster pump station as a normal plant addition for 1981. By this method the majority of the effects associated with the booster station would be incorporated in rates for the year 1982.

The indicated operational attrition between 1980 and 1981, when applying present rates to both test years, is 0.23 percent. The 1982 rates authorized herein reflect the normal attrition of 0.23 percent and the financial attrition of 0.12 percent discussed herein.

Adopted Summary of Earnings

The following Table V is derived from Table III and shows the adopted summary of earnings at present rates and at rates required to produce the rates of return recommended herein. The summaries include the increased costs set forth in applicant's Advice Letter No. 706.

Table V will provide a basis for applicant's preparation and the staff's review of future advice letter requests for rate increases or decreases to offset changes not reflected either in the test years 1980 and 1981 or in the operational attrition in rate of return on rate base adopted as the basis for the rates authorized herein. The purchased water rate used is the Zone 7 service charge and quantity blocks which became effective January 1, 1980. The leased well water rate is pursuant to the lease which became effective May 1, 1978. The purchased power rate utilized is the composite PG&E rate of 4.969 cents per kWh which became effective October 11, 1979. The composite effect of the assumed rates for purchased water and power and well lease is an average cost of $0.3255 per Ccf of water sold during 1980, 1981, and 1982. The district ad valorem tax rate is the assumed rate of 1.460 percent of estimated "market value" used for assessment purposes, which is the rate estimated to be applicable to the fiscal year 1978-79 and is equivalent to 1.321, 1.386, and 1.451 percent of beginning-of-year net plant plus materials.

and supplies for the fiscal years 1979-80, 1980-81, and 1981-82, respectively. The corresponding equivalent rates for prorated general office ad valorem taxes are 1.237 percent of "market value" and 1.163, 1.221, and 1.285 percent for the three fiscal years. The business license rate is the 1979 rate of 0.982 percent of gross revenues. The income tax rates are the current 9.6 percent state and 46 percent (with intermediate steps) federal rates.

Rate Spread

After the total revenue requirement is determined in a rate proceeding, there still remains the problem of an equitable distribution of that revenue requirement among the various components of the rate structure. Applicant's proposed rate design in all five districts before the Commission in these proceedings followed a "lifeline rate" policy of holding lifeline rates constant until such time as total revenues in a district have been increased 25 percent and, thereafter, to increase lifeline rates by the same percentage as total revenues are increased. Applicant has also proposed a three-block quantity rate consisting of a 300 cf lifeline block priced at the lowest quantity rate, a 29,700 cf second block priced at the highest quantity rate, and a tail block for all usage in excess of 30,000 cf per month priced at a rate between that charged for the first two blocks. Further, applicant has proposed increases in the monthly service charge rates, excluding the 5/8 x 3/4-inch meter rate, of amounts varying from 30 percent to 96 percent. The staff accepted applicant's rate design proposals with the exception of its requested service charge rates. The staff recommendation is that no service charge rate be increased by more than twice the percentage of the overall revenue increase authorized by the Commission.

TABLE V

ADOPTED SUMMARY OF EARNINGS
LIVERMORE DISTRICT, TEST YEARS 1980 AND 1981

(Dollars in Thousands)

Item	1980	1981
Present Rates		
Operating Revenues	$2,135.5	$2,151.0
Operating Expenses:		
Purchased Water #	963.7	971.8
Purchased Power #	99.4	100.1
Payroll - District	203.3	217.5
Other Oper. & Maint.	102.0	104.8
Other A. & G. & Misc.	16.3	16.4
Ad Valorem Taxes - District	84.0	89.5
Payroll Taxes - District	13.9	15.9
Depreciation	165.2	168.7
Ad Valorem Taxes - G.O.	1.0	1.1
Payroll Taxes - G.O.	4.2	4.8
Other Prorates - G.O.	155.3	165.7
Balancing Account Adjust.	48.1	48.1
Subtotal *	1,856.4	1,904.4
Uncollectibles	3.1	3.1
Business License	20.9	21.1
Income Taxes Before ITC	(32.5)	(62.1)
Investment Tax Credit	(20.3)	(25.5)
Total Operating Expenses	1,827.6	1,841.0
Net Operating Revenues	307.9	310.0
Rate Base	5,136.9	5,378.2
Rate of Return	5.99%	5.76%
Authorized Rates		
Operating Revenues #	$2,591.8	$2,674.4
Operating Expenses:		
Subtotal* #	1,856.4	1,904.4
Uncollectibles	3.8	3.9
Business License	25.5	26.3
Income Taxes Before ITC	198.3	202.7
Investment Tax Credit	(20.3)	(25.5)
Total Operating Expenses	2,063.7	2,111.8
Net Operating Revenues	528.1	562.6
Rate Base	5,136.9	5,378.2
Rate of Return	10.28%	10.46%
Average Services	12,669	12,715
Sales - KCcf	3,266.2	3,292.9

* Subtotal of expenses exclusive of uncollectibles, business license and income tax items.

\# Includes effects of Advice Letter No. 706 filed November 28, 1979.

Applicant's rate witness testified that the proposed service charge rates reflect the results of cost of service studies applicant made following the procedures set forth in the Commission's Standard Practice U-20. The witness also pointed out that a substantial part of applicant's revenue increases in recent years has been authorized through the advice letter offset procedure. In those instances, only the commodity rates were increased, resulting in service charges' producing an ever-decreasing proportion of total revenues.

Applicant suggested in its brief that limiting service charge increases to twice the total revenue percentage increase adopted will result in a lower than appropriate level of service charges. Applicant argues that the relationship between present and proposed level of service charges should be considered as well as their relationship to the magnitude of such charges authorized in other service areas. We agree with the staff that increases in service charges of 90 percent or more as requested, which far exceed the overall revenue increases in these proceedings, are excessive. We will, therefore, limit service charge increases other than the 5/8 x 3/4-inch meter to twice the increase authorized herein or about 38 percent for 1980 as recommended by the staff. For the 1981 and 1982 step increases, service charge increases will be limited to no more than 5 percent.

Appendix A to this decision sets forth the rates to be made effective for the year 1980 as authorized herein. Appendix B contains the step increases in rates that are authorized for future years. Because rates are frequently revised through the advice letter procedure, it is doubtful that a rate schedule for 1981 or 1982 predicated upon rates to be authorized for 1980 would be the correct rates at the time the step rate filing is to be made. Therefore, the increases in rates contained in Appendix B can be added to the rates that would otherwise be effective on the date the step increase is to go into effect, in order to develop the appropriate rates for filing.

Other Items

In an earlier series of rate proceedings, applicant presented comprehensive reviews of its efforts to effect water conservation. Decision No. 87333 dated May 17, 1977 in Application No. 56134 involved applicant's East Los Angeles District, which was the initial district of a previous series. That decision included a discussion of this subject and the finding that applicant's water quality, conservation program, and service were satisfactory. In the next two series of proceedings, applicant presented evidence that it was continuing actively to prevail upon its customers to avoid nonbeneficial consumption of water.

In the current proceeding, applicant presented similar evidence showing it has continued its conservation programs for water and power and continually urges its customers to maintain their awareness of the need to avoid waste of water.

Wage and Price Standards

By Resolution No. M-4704 dated January 30, 1979, the Commission ordered all utilities and regulated entities requesting general rate increases to submit an exhibit to accompany their applications to show whether the requested increase complies with the Voluntary Wage and Price Standards issued by the Council on Wage and Price Stability. Applicant's Exhibit 9 shows that (1) wage increases granted by applicant and (2) the requested rate increases, together with step increases in other districts, are within the established guidelines.

Advice Letter No. 706

On November 28, 1979, applicant filed Advice Letter No. 706 for an increase in revenues of $264,600 to offset (1) an increase in the cost of water purchased from Zone 7 to be effective January 1, 1980, and (2) an increase in the cost of purchased power from PG&E made effective on October 11, 1979. Neither of these cost increases had been considered by either the staff or the applicant in their respective presentations in this proceeding. Our staff has now reviewed applicant's advice letter filing and has no objection to the requested increase. Therefore, in order to eliminate the need to authorize separately the two pending rate increase requests, we have incorporated the subject cost increases into our adopted results. The 1980 rates authorized herein have been increased an additional 8.0 cents per Ccf for the first 3 Ccf per month and 8.1 cents per Ccf on all sales above 3 Ccf per month to produce the revenue increase granted as a result of the advice letter filing.

Findings of Fact

1. Applicant's water quality, conservation program, and service are satisfactory.

2. Applicant is in need of additional revenues, but the rates requested would produce an excessive rate of return.

3. The adopted estimates, previously discussed herein, of operating revenues, operating expenses, and rate base for the test years 1980 and 1981, an annual fixed-rate decline of 0.23 percent in rate of return into 1982 due to operational attrition.

4. Rates of return of 10.28, 10.46, and 10.58 percent, respectively, on applicant's rate base for 1980, 1981, and 1982 are reasonable. The related return on common equity each year is 13.2 percent. This will require an increase of $192,300 or 9.0 percent, in annual revenues for 1980; a further increase of $63,900, or 2.7 percent, for 1981; and a further increase of $37,700, or 1.4 percent, for 1982. An additional increase of $264,000, or 12.4 percent, for 1980 is also required to offset cost increases set forth in Advice Letter No. 706.

5. The type of rate spread hereinbefore discussed is reasonable.

6. The increases in rates and charges authorized herein are justified; the rates and charges authorized herein are reasonable; and the present rates and charges, insofar as they differ from those prescribed herein, are for the future unjust and unreasonable.

7. The offset increases authorized in Appendix B should be appropriately modified in the event the rate of return on rate base, adjusted to reflect the rates then in effect and normal ratemaking adjustments for the twelve months ended September 30, 1980, and/or September 30, 1981 exceeds the lower of (a) the rate of return found reasonable by the Commission for applicant during the corresponding period in the most recent rate decision or (b) 10.28 percent for 1980 and 10.46 percent for 1981.

Conclusions of Law

1. The application should be granted to the extent provided by the following order.

2. Because of the immediate need for the increased revenues, the effective date of this order should be the date hereof.

INTERIM ORDER

IT IS ORDERED that:

1. After the effective date of this order, applicant California Water Service Company is authorized to file for its Livermore District the revised rate schedule attached to this order as Appendix A. Such filing shall comply with General Order No. 96-A. The effective date of the revised schedule shall be four days after the date of filing. The revised schedule shall apply only to service rendered on and after the effective date thereof.

2. On or before November 15, 1980, applicant California Water Service Company is authorized to file an advice letter, with appropriate work papers, requesting the step rate increases attached to this order as Appendix B or to file a lesser increase which includes a uniform cents per hundred cubic feet of water adjustment

from Appendix B in the event that the Livermore District rate of return on rate base, adjusted to reflect the rates then in effect and normal ratemaking adjustments for the twelve months ended September 30, 1980, exceeds the lower of (a) the rate of return found reasonable by the Commission for applicant California Water Service Company during the corresponding period in the then most recent rate decision or (b) 10.28 percent. Such filing shall comply with General Order No. 96-A. The requested step rates shall be reviewed and, if appropriate, approved by the staff prior to becoming effective. The effective date of the revised schedule shall be no sooner than January 1, 1981, or thirty days after the filing of the step rates, whichever comes later. The revised schedule shall apply to service rendered on and after the effective date thereof.

3. On or after November 15, 1981, applicant California Water Service Company is authorized to file an advice letter with appropriate work papers, requesting the step rate increases attached to this order as Appendix B or to file a lesser increase which includes a uniform cents per hundred cubic feet of water adjustment from Appendix B in the event that the Livermore District rate of return on rate base, adjusted to reflect the rates then in effect and normal ratemaking adjustments for the twelve months ended September 30, 1981 exceeds the lower of (a) the rate of return found reasonable by the Commission for applicant California Water Service Company during the corresponding period in the then most recent rate decision or (b) 10.46 percent. Such filing shall comply with General Order No. 96-A. The requested step rates shall be reviewed and, if appropriate, approved by the staff prior to becoming effective. The effective date of the revised schedule

shall be no sooner than January 1, 1982, or thirty days after the filing of the step rates, whichever comes later. The revised schedule shall apply only to service rendered on and after the effective date thereof.

4. This proceeding will be held open in order to determine whether the rate designs for ~~1980~~ 1981 and 1982 adopted herein are appropriate or should be further modified in order to promote conservation.

The effective date of this order is the date hereof.

Dated APR 2 1980, at San Francisco, California.

President

Commissioners

Commissioner Claire T. Dedrick, being necessarily absent, did not participate in the disposition of this proceeding.

Schedule No. LV-1

Livermore Tariff Area

GENERAL METERED SERVICE

APPLICABILITY

Applicable to all metered water service.

TERRITORY

Livermore and vicinity, Alameda County.

RATES

	Per Meter Per Month	
Service Charge:		
For 5/8 x 3/4-inch meter	$ 3.40	
For 3/4-inch meter	5.85	(I)
For 1-inch meter	8.00	
For 1½-inch meter	11.25	
For 2-inch meter	14.50	
For 3-inch meter	26.00	
For 4-inch meter	36.00	
For 6-inch meter	60.00	
For 8-inch meter	90.00	
For 10-inch meter	111.00	(I)
Quantity Rates:		
For the first 300 cu.ft., per 100 cu.ft.	$ 0.468	(I)(T)
For the next 29,700 cu.ft., per 100 cu.ft.	.630	
For all over 30,000 cu.ft., per 100 cu.ft.	.616	(I)(T)

The Service Charge is a readiness-to-serve charge which is applicable to all metered service and to which is to be added the monthly charge computed at the Quantity Rates.

APPENDIX B

Livermore Tariff Area

AUTHORIZED INCREASE IN RATES

Each of the following increases in rates may be put into effect on the indicated date by filing a rate schedule which adds the appropriate increase to the rates which would otherwise be in effect on that date.

	Rates to be Effective 1-1-81	1-1-82
Service Charge:		
For 5/8 x 3/4-inch meter	$ .08	$ .09
For 3/4-inch meter	.25	.30
For 1-inch meter	.40	.40
For 1½-inch meter	.55	.60
For 2-inch meter	.70	.80
For 3-inch meter	1.00	1.00
For 4-inch meter	2.00	2.00
For 6-inch meter	3.00	3.00
For 8-inch meter	4.00	5.00
For 10-inch meter	5.00	6.00
Quantity Rates:		
For the first 300 cu.ft., per 100 cu.ft.	$ 0.011	$ 0.012
For the next 29,700 cu.ft., per 100 cu.ft.	.015	.004
For all over 30,000 cu.ft., per 100 cu.ft.	.011	.010