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Decision 89 02 067 FEB 24 1989

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of CALIFORNIA-AMERICAN WATER COMPANY for an order authorizing it to increase its rates for water service in its MONTEREY PENINSULA DISTRICT. (U-210-W)	Application 88-03-047 (Filed March 23, 1988)

Steefel, Levitt & Weiss, by Lenard G. Weiss, Attorney at Law, for California-American Water Company, applicant.
David C. Laredo, Attorney at Law, and Bruce Buel, for Monterey Peninsula Water Management District, and Randal C. Benthin, for California Department of Fish and Game, interested parties.
Lawrence O. Garcia, Attorney at Law, and Arthur Jarrett, for Water Utilities Branch.

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O P I N I O N

Summary of Decision

California-American Water Company (Cal-Am) is authorized to increase rates in its Monterey Peninsula District by amounts which are designed to increase revenues by $1,233,200, or 9.25%, in 1989, and by an additional $303,300, or 2.01%, in 1990. For 1991 an adjustment of $230,500, or 1.50%, reflecting operational and financial attrition is authorized. A rate of return on rate base of 10.82% for 1989 and 1990 is found to be reasonable. For 1991, the authorized rate of return is 10.83%. The authorized return on common equity is 12.25%.

Table 1 shows the adopted summary of earnings at present and authorized rates for test years 1989 and 1990.

Table 1

California American Water Company
Monterey Peninsula District
Adopted Summary of Earnings

	Test Year 1989	Test Year 1990
	(Dollars in Thousands)	
At Present Rates		
Operating Revenues	$ 13,335.7	$ 13,820.7
Deferred Rev.CIAC	47.2	61.6
Operating Expenses		
Purchase Power	1,334.4	1,381.0
Purchased Chemical	247.3	280.0
Payroll District	2,385.2	2,468.6
Other O & M	1,125.7	1,181.7
Other A & G	1,380.6	1,439.7
Ad Valorem Taxes	380.6	411.3
Payroll Taxes	202.6	217.7
Depreciation	1,563.5	1,713.9
General Office Allocation	799.2	836.5
Subtotal	9,419.1	9,930.4
Uncollectibles	50.9	52.8
Local Franchise Tax	29.2	30.3
State Corporation Tax	205.4	167.3
Federal Income Tax	644.8	516.6
Total Operating Expense	10,349.4	10,697.4
Net Operating Revenue	3,033.5	3,184.9
Rate Base	34,818.3	38,103.8
Rate of Return	8.71%	8.36%
At Adopted Rates		
Operating Revenue	14,568.9	15,396.9
Deferred Rev. CIAC	47.2	61.6
Operating Expense		
Subtotal	9,419.1	9,930.4
Uncollectibles	55.6	58.8
Local Franchise Tax	31.9	33.7
State Corporation Tax	319.4	313.0
Federal Income Tax	1,022.8	999.8
Total Operating Expense	10,848.8	11,335.7
Net Operating Revenues	3,767.3	4,122.8
Rate Base	34,818.3	38,103.8
Rate of Return	10.82%	10.82%

We adopt the rate design guidelines substantially as proposed by staff, including a lifeline consumption block of 800 cubic feet (cf) per month, higher rates for consumption above the lifeline threshold, and a 38% limit on the amount of fixed costs that may be recovered through service charges. Applicant's request for approval of a sales adjustment mechanism in conjunction with this rate design is denied. Staff's proposal that the second consumption block rate be significantly higher than the lifeline rate is rejected in favor of a more moderate increment, consistent with our policy of moving to a flatter rate design for water utilities.

For 1989, rate increases for a 5/8 x 3/4-inch meter residential customer using 900 cf per month will be as follows:

	Present Rates	Adopted Rates	Amount Increase	Percent Increase
Gravity Zone	$18.64	$19.48	$0.84	4.51%
1st Elevation Zone	20.37	21.54	1.17	5.74%
2nd Elevation Zone	21.50	22.93	1.43	6.65%

On February 14, 1989 applicant filed comments on the proposed decision of the administrative law judge, noting certain computational errors and omissions that occurred in the preparation of the appendices. Corrections have been incorporated in this decision. No other comments were filed.

Summary of Application

Cal-Am seeks rate increases for its Monterey Peninsula District in order to realize revenue increases of $2,040,500 (15.30%), $1,051,100 (8.11%), and $693,200 ((5.07%) for the test years 1989, 1990, and 1991, respectively. The cumulative effect of the three yearly increases, if authorized, would be a revenue increase of $3,784,800, or 28.48% of current revenues. The company's estimated revenue requirement is based on a requested constant return on equity of 13.50% for each of the three test years and overall rates of return of 11.52% for 1989, 11.55% for 1990, and 11.58% for 1991.

Cal-Am states in the application that the increases are necessary due to increases in expenses and in the costs of capital expenditures that have occurred with the passage of time and to conform to regulations enacted by the Monterey Peninsula Water Management District (MPWMD) and other regulatory agencies.

The application states that the proposed service charges for general metered service are "designed to provide for the recovery of 1/2 of the estimated fixed charges of the District, with the balance of the revenue requirement increase being recovered from the quantity charge, and to the other tariff schedules." Elimination of the lifeline commodity block for consumption up to 300 cf per month is also reflected in proposed rates. For a residential customer in the gravity system using 888 cf per month (the system average), the proposed rate increases would be $3.79 (20.55%) in 1989, $1.51 (8.17%) in 1990, and $.99 (5.38%) in 1991.

Company and System Description

Cal-Am is a wholly owned subsidiary of American Water Works Company, Inc. Cal-Am, whose corporate offices are located in National City, California, provides water service to six separate operating districts in the counties of San Diego, Los Angeles, Monterey, and Ventura. Its recorded operating revenues for the 12 months ended September 30, 1987 were $38,858,700.

The General Office is divided into three operating units which serve all of Cal-Am's districts as well as operations in other states: service company operations (Office L), data processing operations (Office F), and laboratory operations (Office R). Office L functions include management, budgeting, accounting, engineering, water quality, public relations, risk and materials, and rates and evaluations. Its 23 employees are located in National City. Office F consists of 6 employees, also located in National City, who handle customer accounting and billing. Office R consists of the company's Monterey laboratory as well as its water quality compliance testing laboratory. The Monterey laboratory has 3 employees.

As of December 31, 1987 Cal-Am had a total of 210 full-time employees. Of these, 73 were assigned to the Monterey Peninsula District, 34 were assigned to the general office, and the remainder were assigned to the other operating districts.

The Monterey Peninsula District of Cal-Am provides service to approximately 34,000 general metered connections in the cities of Monterey, Pacific Grove, Carmel-By-The-Sea, Del Rey Oaks, Sand City, and portions of the city of Seaside. The service area also includes the unincorporated areas of Monterey County known as Carmel Valley, Carmel Highlands, Pebble Beach, and Robles Del Rio.

For the 12 months ended September 30, 1987, operating revenues for the Monterey Peninsula District were $14,484,200. Of this amount, residential service accounted for $7,450,700, or slightly more than 50% of total revenues. Commercial service

($4,648,900), golf course ($919,600), and public authority service ($1,239,300) accounted for most of the remainder.

Water supply for the Monterey Peninsula District is obtained by diverting the surface flow of the Carmel River at the company's Los Padres and San Clemente Dams, and by pumping underground water from wells in the Carmel Valley and Seaside. The San Clemente Dam is located approximately 20 miles upstream from the City of Carmel, and the Los Padres Dam is located 6-1/2 miles further upstream from the San Clemente Dam.

Over the past ten years the company obtained an average of 51% of its total water requirements from the diversion, impounding, and treatment of runoff of the Carmel River watershed. However, in 1984, the MPWMD enacted Ordinance 19, which, among other provisions, has the effect of limiting diversion at the San Clemente Reservoir to 35% of total requirements. The remaining 65% of supply is to be produced at the company's wells. The company has been increasing the production capacity of its system of wells by constructing new wells and refurbishing existing wells.

Public Participation and Evidentiary Hearings

Cal-Am served copies and provided notice of the application in accordance with the Commission's Rules of Practice and Procedure. Shortly after the application was filed, the Water Utilities Branch (Branch or staff) of the Commission Advisory and Compliance Division scheduled an informal public meeting in Seaside to give customers an opportunity to discuss the proposed rate increase and related issues with utility and staff representatives. Notice of the meeting was included with a summary of the application which Cal-Am mailed to each customer. Approximately 65 people attended the meeting. Branch reported that the meeting was dominated by complaints about the applicant's proposed distribution of the rate increase among customer classes whereby residential

customers would be assigned a disproportionate share of the increase.[1]

Approximately 80 customers wrote letters to the Commission after the notice was sent. Additionally, a number of elected officials, including the mayors of Monterey, Pacific Grove, Carmel-By-The-Sea, and Seaside, and members of the Monterey County Board of Supervisors, responded on behalf of their constituencies. As was the case at the Seaside meeting, the dominant theme of this customer and community input was negative reaction to the proposal for a higher allocation of increases to residential compared to commercial customers, especially golf courses. Other issues frequently raised in these letters were preservation of lifeline rates and maintenance of conservation incentives in the rate structure.

Duly noticed hearings which included a public participation hearing in Monterey, as well as four days of evidentiary hearings in San Francisco, were held before Administrative Law Judge Wetzell. Applicant presented its evidence through testimony and exhibits introduced by L. D. Foy, Vice President and Manager of Cal-Am's Monterey Peninsula District; Gerald P. Haas, Operations Manager of Cal-Am's Monterey Peninsula District; David P. Stephenson, Director of Rates and Revenues for the Western Region of American Water Works Service Company, Inc. (AWWSC); David V. Modeer, Manager of Operations for the Western Region of AWWSC and Vice President of Cal-Am; Thomas G. Mckitrick, Director of Special Engineering Projects with AWWSC; and John S. Barker, Finance Manager with AWWSC and Secretary and Treasurer of

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1 Under Cal-Am's proposal for an overall revenue increase of 15.30% in 1989, revenues from residential service would be increased by 20.05%. By comparison, revenues from business, industrial, golf course, and public authority services would increase by 10.64%, 6.84%, 5.65%, and 8.95%, respectively.

Cal-Am. Branch presented its case through the testimony and exhibits of Utilities Engineers Ali Miremadi and Scott L. Sanders, Regulatory Analyst Phebe A. Greenwood, and Project Manager Arthur B. Jarrett. Evidence was also presented by Bruce Buel, General Manager of MPWMD, and by Randal C. Benthin, Associate Fisheries Biologist with the California Department of Fish and Game (DFG) on behalf of their respective organizations.

At the Monterey hearing, 18 customers and representatives of civic organizations offered statements on rate design issues, preservation of surface flow on the Carmel River, the need for a rate increase at this time, and questions about service and billing. Many participants expressed strong support for the staff's rate design guidelines (discussed below) as an alternative to applicant's proposal. There was marked support for maintaining lifeline rates, raising commodity rates instead of service charges, and achieving a more balanced distribution of any authorized rate increase among customer classes. Several participants supported steps to decrease Cal-Am's diversion of water from the Carmel River even if the alternative means higher costs to the company and higher rates.

Customer Service and Conservation

As part of its investigations, Branch made an evaluation of the company's water quality and overall level of service. Four customers complained of poor water quality at the informal meeting Branch conducted in Seaside. Of the 77 letters received by Branch as of the time it issued its report, three involved complaints of poor water quality. These complaints were referred to company officials for investigation.

Cal-Am's Monterey Peninsula District Manager subsequently testified that the company was able to contact six of these customers, and that none of them accepted the company's offer to take a water sample for analysis. He believes they were satisfied with the company's response. He testified further that an

investigation would be made of a complaint of discoloration and debris made at the public participation hearing. He noted that most often such problems turn out to be the result of customers' interior plumbing problems, although they sometimes occur in the utility system as a result of high flows caused by main breaks or fire department use, and where older cast iron mains are involved.

Branch determined from a representative of the California Department of Health Services (DHS) that the water furnished by Cal-Am meets all current state drinking water standards and is safe to drink.

Branch personnel reviewed the company's complaint files and found no serious service problems over the last three years. They also reviewed the complaint records of the Commission's Consumer Affairs Branch over the same time period, and found very few service complaints, an indication that serious service problems do not exist. Branch concluded that the utility resolves complaints within a reasonable time period and in a satisfactory manner, and that the overall service provided is satisfactory.

By Decision (D.) 85-12-062 in the last general rate case involving the Monterey Peninsula District, we ordered Cal-Am to include its conservation plan as part of the application in the next proceeding. The plan was to include an evaluation of water reclamation options and of the effectiveness of the company's conservation programs. The company's results of operations study included the required plan and evaluation. Cal-Am conducts several programs ranging from public relations and promotional literature to leak detection. The evaluation noted that MPWMD plays a leading role in promoting conservation in Cal-Am's service territory through a number of voluntary and mandatory programs.

Branch reviewed the plan and concurs that Cal-Am has complied with our directive in D.85-12-062. Branch's evaluation of the effects of conservation efforts is reflected in its estimates of consumption per customer.

At the public participation hearing one customer suggested that Cal-Am's bills should include a statement of water usage expressed in average gallons per day, since most people are accustomed to dealing with gallons, not cubic feet. He believes this would promote conservation. Cal-Am announced that this suggestion was being implemented. This is enabled through the company's conversion to a new billing format which allows more company information and third-party notices to be included with bill mailings.

Overview of Results of Operation

Branch and Cal-Am agree on several results of operations estimates, including various operations and maintenance, administrative and general, depreciation, and utility plant accounts. They also agree on several general office accounts and the allocations thereof. The results of operations amounts agreed upon are reasonable and will be adopted. It is not necessary to discuss them in detail.

The discussion which follows focuses on the remaining areas of disagreement between Cal-Am and Branch, and MPWMD's proposals on these issues. Tables 2 and 3 show, for test years 1989 and 1990, Cal-Am's and Branch's estimated summaries of earnings at present rates, including their original estimates, their revisions, and comparisons of these estimates.

TABLE 2

CALIFORNIA-AMERICAN WATER COMPANY-MONTEREY

Summary of Earnings
Year 1989 Estimated at Present Rates
(Dollars in Thousands)

Item	Branch Orig.	Branch Revised	Branch Diff.	Utility Orig.	Utility Revised	Utility Diff.	Utility Exceeds Branch	Pct.
Operating Revenues	$14,035.0	$13,932.1	$102.9	$13,336.4	$12,923.8	$412.6	$(1,008.3)	(7.237)%
Deferred Rev. CIAC	73.6	47.2	26.4	51.3	47.2	4.1		
Operating Expenses								
O&M Expenses	4,449.5	4,515.2	(65.7)	4,629.3	4,428.9	200.4	(86.3)	(1.911)%
A&G Expenses	1,953.2	2,007.7	(54.5)	2,040.9	2,051.9	(11.0)	44.2	2.202%
G.O. Expenses	748.7	775.4	(26.7)	797.4	915.4	(118.0)	140.0	18.055%
Subtotal	7,151.4	7,298.3	(146.9)	7,467.6	7,396.2	71.4	97.9	1.341%
Depreciation Expense	1,402.4	1,402.4	0.0	1,605.2	1,605.2	0.0	202.8	14.461%
Taxes Other Than Income	577.9	577.3	0.6	591.1	595.6	(4.5)	18.3	3.170%
State Corp. Fran. Tax	279.8	267.8	12.0	187.0	154.8	32.2	(113.0)	(42.196)%
Federal Income Tax	891.6	851.9	39.7	583.8	477.2	106.6	(374.7)	(43.984)%
Total Oper. Exp.	10,303.1	10,397.7	(94.6)	10,434.7	10,229.0	205.7	(168.7)	(1.622)%
Net Operating Revenue	3,805.5	3,581.6	223.9	2,953.0	2,742.0	211.0	(839.6)	(23.442)%
Rate Base	33,682.2	34,073.2	(391.0)	36,176.6	36,120.5	56.1	2,047.3	6.009%
Rate of Return	11.30%	10.51%	(0.79)%	8.16%	7.59%	(0.57)%	(2.92)%	(27.781)%

(Red Figure)

TABLE 3

CALIFORNIA-AMERICAN WATER COMPANY-MONTEREY

Summary of Earnings
Year 1990 Estimated at Present Rates
(Dollars in Thousands)

Item	Branch Orig.	Branch Revised	Branch Diff.	Utility Orig.	Utility Revised	Utility Diff.	Utility Exceeds Branch	Pct.
Operating Revenues	$14,252.5	$14,149.0	$103.5	$13,207.4	$13,040.1	$167.3	$(1,108.9)	(7.837)%
Deferred Rev. CIAC	100.4	61.6	38.8	68.9	61.6	7.3		
Operating Expenses								
O&M Expenses	4,597.8	4,669.9	(72.1)	4,750.3	4,567.9	182.4	(102.0)	(2.184)%
A&G Expenses	2,028.0	2,085.5	(57.5)	2,138.1	2,131.9	6.2	46.4	2.225%
G.O. Expenses	783.6	811.0	(27.4)	846.5	960.9	(114.4)	149.9	18.483%
Subtotal	7,409.4	7,566.4	(157.0)	7,734.9	7,660.7	74.2	94.3	1.246%
Depreciation Expense	1,500.5	1,500.5	0.0	1,755.8	1,755.8	0.0	255.3	17.014%
Taxes Other Than Income	615.5	615.8	(0.3)	636.4	639.5	(3.1)	23.7	3.849%
State Corp. Fran. Tax	238.8	227.1	11.7	104.6	95.7	8.9	(131.4)	(57.860)%
Federal Income Tax	754.0	715.0	39.0	308.9	279.2	29.7	(435.8)	(60.951)%
Total Oper. Exp.	10,518.2	10,624.8	(106.6)	10,540.6	10,430.9	109.7	(193.9)	(1.825)%
Net Operating Revenue	3,834.7	3,585.8	248.9	2,735.7	2,670.8	64.9	(915.0)	(25.517)%
Rate Base	35,510.6	36,082.9	(572.3)	39,618.7	39,301.9	316.8	3,219.0	8.921%
Rate of Return	10.80%	9.94%	(0.86)%	6.91%	6.80%	(0.11)%	(3.14)%	(31.618)%

(Red Figure)

The general manager of the MPWMD testified that with respect to this proceeding the District has concerns in the areas of rate design, utility plant, and the DFG proposal to limit diversion of the Carmel River. He described various measures being pursued by MPWMD to respond to current and long-term water supply problems in the Monterey Peninsula area. While MPWMD has no specific interest in purely economic rate case issues such as the cost of various plant improvement projects, it does, for example, support the use of various rate design techniques to promote conservation. It also supports the allowance of various plant improvement projects to promote conservation and other MPWMD goals.[2]

We will also discuss a proposal by DFG that we allow Cal-Am to recover costs of conducting engineering studies related to diversion of water at San Clemente Dam, and costs associated with making further reductions in the amount of water diverted.

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2 MPWMD was created by the legislature in 1977 to achieve an integrated management of water supplies on the Monterey Peninsula. (California Water Code, Appendix, Chapter 118.) Its boundaries encompass all of the service territory of Cal-Am's Monterey Peninsula District as well as those of 22 other water suppliers, most of them small mutual companies.

Included among MPWMD's functions are development of new water supply, management of water supply and quality, and management of demand. The latter function includes mandatory conservation programs and regulation of sales. A major water supply project currently being pursued by the district is the construction of a new and larger San Clemente Dam downstream from the current dam.

MPWMD perceives that its legislative mandate is to insure that adequate water is provided to the community, that water is of adequate quality, and that the development of that water supply results in minimal environmental disruption.

Following is a list of the disputed issues:

Disputed Issues

1. Operating Revenues and Water consumption

   a. Average number of customers
   b. Average consumption per customer

2. General Office Expenses

   a. Payroll expense increases
   b. Vehicle expense
   c. Monterey laboratory

3. District Administrative and General Expense

   a. Additional accounting clerk
   b. Additional meter repair employee
   c. Maintenance of office and related equipment

4. Operations and Maintenance Expense

   a. Road grading
   b. Water treatment
   c. Reservoir and tank maintenance
   d. Lead paint removal

5. Depreciation

   a. Salvage factor for dams
   b. Average service life of meters

6. Utility Plant

   a. Methodology
   b. Forest Lake and San Clemente Dam projects

7. Rate of Return

   a. Debt
   b. Return on Equity

8. Rate Design and Sales Adjustment Mechanism

9. Department of Fish and Game Proposal

Operating Revenues and Water Consumption

As we stated in the last rate case involving Cal-Am's Monterey Peninsula District, estimating revenues for future test years is often the most controversial element of a water utility rate proceeding. The issue is made more pronounced in this proceeding because of community and MPWMD efforts to address current water supply problems in the Monterey Peninsula area, and because of locally imposed growth limits. The parties agree that consumption will be reduced by these actions, but they disagree on the magnitude of reductions. As shown by Tables 2 and 3, Cal-Am's operating revenue estimates under the present rates are $1,008,300 lower (7.237%) than Branch's for 1989 and $1,108,900 lower (7.837%) for 1990. These differences are mostly explained by differences in estimated water consumption which are shown below:

Total Water Consumption
(100,000 cubic feet)

	Branch	Utility	Utility Exceeds Branch	Percent
1989	6,994.7	6,368.8	-625.9	-8.948%
1990	7,080.4	6,407.3	-673.1	-9.506%

Cal-Am and Branch disagree on both major components of total consumption estimates: the average number of customers and the average water consumption per customer.

Average Number of Customers

As shown below, there are significant differences on the number of residential customers and minor differences on the number of normal-use business customers. There is agreement on the number of large-use business, industrial, public authority, and golf course customers.

Average Number of Customers

	Branch	Utility	Utility Exceeds Branch	Percent
1989				
Residential	29,499	29,201	-298	-1.010%
Business-Normal	4,814	4,811	-3	-0.062%
1990				
Residential	30,131	29,676	-455	-1.510%
Business-Normal	4,876	4,858	-18	-0.369%

Branch's and applicant's estimates are consistent with a steady pattern of growth in the number of residential customers since 1970, as shown in applicant's results of operations study.[3] They both incorporate information about future growth restrictions resulting from actions by MPWMD and the county of Monterey. Their differences are in the magnitude of future growth estimates.

Branch's witness estimated residential customer growth to be 632 per year by using the average growth of 571 per year for the last three recorded years, 1985 through 1987, reducing this by 5% to reflect local government growth restrictions, and adding 90 customers per year for 1989 and 1990. He made the latter adjustment to reflect the conversion of a condominium complex from master metering to individual customer meters, under the assumption that such conversions would continue to occur throughout the test period at the rate of 90 customers per year. He estimated business customer growth of 62 per year by reducing the three-year recorded average of 65 by 5% to reflect growth curtailment.

3 The recorded average number of active residential customers increased from 23,660 in 1970 to 28,327 in 1987. There was a decrease in only two years, 1977 and 1978.

Applicant believes that historical growth should be measured over a longer period, particularly since the three years used by staff coincide with a period of unusually high growth. The manager of Cal-Am's Monterey Peninsula District testified that the growth of that period was nearly double the prior pattern of growth. He estimated that from 1976 through 1987 the average increase was 250 customers per year. He attributed the rapid growth of 1985-87 to concerns about pending building moratoriums and meter permit restrictions, which spurred property owners to "build now rather than later".

Cal-Am considered the effects of a final Monterey County moratorium prohibiting new subdivisions, as well as information about approved subdivisions, when it determined that a growth pattern of 250 per year would resume. The witness believes that the estimate of reduced growth is substantiated by MPWMD estimates that its revenues from permit fees and new hook-up fees will decline to 50% of the 1985-87 levels.

To further test its growth estimates, Cal-Am reviewed two studies of population and housing growth made in connection with an environmental impact report for MPWMD's new water supply project. The first was the Association of Monterey Bay Area Governments' "1987 System Capacity and Population Analysis" (AMBAG study). The second was a July, 1988 study of housing entitled "Estimates of Housing and Employment at Buildout Within The Monterey Peninsula Water Management District, Final Report", prepared for MPWMD by EIP Associates (EIP report). Applying population growth rates which he measured from the information in those reports (1.7% from the AMBAG study and .861% from the EIP report) to the 1987 recorded number of customers, and averaging the result, Cal-Am's witness Foy estimated there would be 29,056 customers in 1989, which is less than the company's estimate of 29,201. The general manager of MPWMD testified that Cal-Am's analysis of customer growth is consistent with MPWMD's analyses for water supply planning purposes to the

extent it relates to the EIP report. Following are the residential customer projections that have been put before us:

Residential Customer Estimates

			By Population Growth		
	Branch	Utility	AMBAG Study	EIP Report	AMBAG/EIP Average
1989	29,499	29,201	29,927	28,816	29,056
1990	30,131	29,676	29,795	29,064	29,430

Branch believes that population growth may not be the same as growth in the number of customers, and points out that the EIP report contains information on the projected number of dwelling units at buildout (the maximum land use density that can be achieved) within the District. Using these projections, and assuming buildout occurs in 27 years, the staff witness estimates that approximately 568 dwelling units, and therefore customers, could be added to the service area each year. He acknowledges, however, that the number would be smaller if full buildout takes longer than 27 years.

Notwithstanding the problem noted by staff in using forecasted population growth trends as a proxy for customer growth, Cal-Am's analysis using the two recent population studies does substantiate its estimates of slower growth. In the absence of evidence that population and households will grow at significantly different rates, we conclude that it is reasonable to use population growth to test customer growth estimates for the test years.

We are persuaded that the three-year period of growth which underlies Branch's estimates is not representative of long-term patterns which have occurred in the past and which are likely to resume during the test period. The staff witness acknowledges that the period 1985-87 had the highest rate of growth of the previous ten years. There is further testimony which shows not

only that recent growth may have temporarily accelerated during that period to beat building moratoriums, but also that new restrictions are now in place, which will tend to reduce growth.

Information that one condominium development has converted from master to individual metering does not provide us with a basis for increasing the estimated number of customers each year in the absence of evidence that this is clearly the beginning of a new trend which can be quantified. Staff is correct in observing that such conversions would add to Cal-Am's service charge revenue even if overall water consumption remains the same. However, we cannot reject the possibility that such conversions are already reflected in historical data, nor can we reliably estimate a future trend on the basis of one occurrence. The staff witness stated he had no knowledge of how many master-metered residential units might be converted in the future, nor did he know whether previous conversions had taken place. MPWMD provided testimony that the District requires individual meters in all new multi-family dwelling units, but does not require retrofitting of existing housing, even when resold.

For the foregoing reasons, we conclude that Cal-Am's estimates of the average number of residential customers are reasonable, and will therefore adopt them. We reach the same conclusion for business customers since the same three-year period of growth was used by staff in making its estimates.

Average Consumption Per Customer

Both Cal-Am and staff used the "Modified Bean Method" (MBM) to determine weather-normalized, long-term average consumption rates for all classes of customers. The calculations were based on 30 years of weather data and 15 years of consumption data. They both reduced (by different amounts) the residential MBM calculation of 120.4 hundred cubic feet (Ccf) per customer per year to reflect their estimates of conservation effects during the test

period.[4] Cal-Am initially reduced the MBM estimate for golf course consumption due to the expected completion of a waste water reclamation project, but later agreed to a staff recommendation to allow Cal-Am to file an advice letter rate increase to offset reduced golf course revenues when the project comes on line. Staff agrees with the consumption rate estimates submitted with the application for each of the remaining customer classes, but Cal-Am revised its original estimates for all but industrial customers.

Three MPWMD conservation actions that were the focus of analysis are described below:

1. MPWMD Ordinance 30, adopted in 1987, requires installation of low water-use plumbing fixtures in all new construction, and, with certain exceptions, in existing structures upon resale or alteration. Installation was required in all non-residential structures by March, 1988. The required fixtures are toilets using 1.5 gallons per flush or less, and showerheads and faucet aerators which restrict flow to 2.5 gallons per minute (gpm) or less (the faucet aerators are required "wherever feasible"). Commercial enterprises not resold or altered were allowed to use toilet dams instead of new toilets. Misdemeanor penalties for violations are provided.

2. MPWMD is also distributing conservation kits free of charge to 42,000 residences on the Monterey Peninsula. Approximately 30,000 had been delivered at the time of the hearings, and complete distribution was expected by September, 1988. As many as three follow-up visits are made to confirm installation of the fixtures. Each kit contains two low-flow showerheads and two low-flow faucet aerators. The testimony shows that these devices have flows of 2.5 gpm. The kits also include two toilet

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4 Consumption rates per customer are expressed in units of Ccf.

dams, leak detection dye tablets, and information on installation and use of the devices. The general manager of MPWMD stated that the low-flow aerators are recently available devices, and that many aerators now in use allow a flow of 4 to 6 gpm.

In a pilot program, MPWMD delivered 2,400 kits in Pacific Grove and Seaside in October, 1987. Over the next four months it observed an average reduction in metered sales of 19.3% compared to the prior three-year average in these areas. MPWMD's goal for the kit installation program is an overall reduction of 10% of residential consumption, a goal which its general manager believes will be met or exceeded. He noted that the 19.3% reduction occurred in fall and winter when less outside watering takes place, and that the kits affect inside use. He therefore reduced his estimate of overall reduction to a range of 12-15%.

3. MPWMD Ordinance 35 declares a water supply emergency on the Monterey Peninsula and institutes various mandatory actions to restrict water waste depending on the severity of supply conditions as determined by the board of MPWMD. According to the MPWMD witness, Phase 1 restrictions were expected to become effective on September 8, 1988. They include, for example, restrictions on most outside watering between 9 a.m. and 5 p.m. and on the use of water to wash sidewalks.

   Water availability and other criteria are established to determine whether the more severe Phase II, III, and IV restrictions might be invoked. Established goals for these phases are 10%, 25%, and 40% reductions in consumption (a comparable goal for Phase I is not specified). In addition to enforcement provisions, the ordinance includes a sunset provision which cancels the restrictions and the emergency declaration December 31, 1988 unless the

MPWMD Board of Directors takes further action to extend them.

Cal-Am submitted new, reduced consumption estimates at the hearing to reflect information about consumption and conservation which was not available at the time the application was filed. Foy testified that the revisions are based on the following:

1. An analysis considered by MPWMD at its June 13, 1988 meeting which, according to Foy, concluded that Cal-Am's consumption projections could be greatly overstated with continued dry weather and the possibility of mandatory rationing. The analysis also states that "recent demand was lower than expected, despite the occurrence of below normal or dry years during the past four years." He believes this analysis indicates that residual conservation effects will be experienced with the installation of water-saving devices and the continued practice of conservation habits.

2. An analysis of the American Water Works Association publication, Water Conservation, by William Maddaus (Maddaus report) used by staff to estimate inside residential water savings from the installation of conservation kits. Cal-Am's initial adjustments to the residential MBM calculation were based on MPWMD's goal of reducing residential consumption in the company's service area by 768 acre feet per year. After reviewing staff's analysis, and based on its reading of the Maddaus report (along with other corrections to the staff's analysis), Cal-Am calculated lower residential consumption estimates than those of staff and lower than its own earlier estimate based on the MPWMD goal.

3. A reduction of 10% in outside watering (for residential consumption) based on MPWMD Ordinance 35.

4. A comparison of June 1988 to June 1987 consumption in the City of Carmel-By-The-Sea showing a reduction of 13.1%. Foy noted that MPWMD's distribution of conservation kits had been completed in the city.

5. An analysis of commercial, industrial, public authority, and multi-residential consumption in the first six months of 1988 compared to the same period of 1987. Although consumption for all but multi-residential increased slightly in the four-month period, comparing May and June consumption only reveals declines of 3.1%, 12.9%, and 11.4% for commercial, public authority, and multi-residential, respectively, and an increase of 11.1% in industrial. Foy attributes the turnaround in the last two months to MPWMD's conservation programs.

6. An analysis of 12 commercial, 4 public authority, and 3 multi-residential accounts' consumption in April, May, and June of 1988 compared to the same period in 1987. This analysis of selected accounts shows average reductions of 25.4%, 27.25%, and 25.9%, respectively.

7. An analysis of golf course consumption billed in May, June, and July of 1988 compared to 1987. This shows an average reduction of 18% for 12 golf courses. Cal-Am surveyed the golf course operators and concluded that they will have permanent cutbacks even after current shortages have passed. One course, Spyglass, has reportedly changed its philosophy of play and uses harder surfaces which require less watering. Foy believes that there will be a continued 10% reduction in the future.

The revised consumption estimates by customer class are shown below:

Average Consumption Per Year Per Customer
(Ccf per customer)

	Branch	Utility	Utility Exceeds Branch	Percent
Residential (1989)	109.6	102.2	-7.4	-6.752%
Residential (1990)	109.6	101.2	-8.4	-7.664%
Business-Normal	374.7	335.7	-39.0	-10.408%
Business-Large	10,787.9	9,665.4	-1,122.5	-10.405%
Industrial	4,945.6	4,945.6	-0.0	0.000%
Public Authority-Normal	536.4	482.8	-53.6	-9.993%
Public Authority-Large	30,580.0	27,522.0	-3,058.0	-10.000%
Golf Courses	30,731.8	27,658.7	-3,073.1	-10.000%

Branch does not accept the company's revisions. Its witness noted that the company's original estimates (with which Branch agrees except for residential and golf course customers) already reflect conservation effects. He testified further that Cal-Am's revised showing is based partly on evidence of cutbacks in 1988, which is not a normal year. Finally, staff noted that much of the analysis presented by Cal-Am to justify its revised savings estimates was submitted at the last minute, providing it with insufficient opportunity to independently analyze and prepare for cross-examination. Branch did revise its estimate of residential savings to reflect agreement with Cal-Am on the number of residents per household, use of water-saving faucets in new construction, and the savings from low-flow showerheads, and to reflect certain other technical changes.

Discussion of Consumption Rates

The various indications of consumption cutbacks during the current dry period are impressive. However, our interest for ratemaking purposes is to obtain the best estimates of consumption patterns which will occur in the test period. The MBM of determining normalized consumption, taking into account historical data, serves this purpose. Future rainfall patterns cannot be reliably predicted, and it is inappropriate to adjust MBM estimates

downward to incorporate transitory declines in demand which would only be realized if unusually dry years occur in the test period.

Such is the case here. Whether current water supply conditions on the Monterey Peninsula, and responses to them, will continue into part or all of the test period depends in large measure on future rainfall, yet Cal-Am's adjustments are grounded in part on the assumption that current conditions will prevail. We cannot, for example, reliably predict whether or for how long MPWMD Ordinance 35 will remain in effect (and even if it does, which phase(s) of the ordinance will be invoked). MPWMD's general manager testified that he has no good estimate of the impact of Ordinance 35 except to observe that in 1976, in response to a form of outdoor water use restrictions, there was a reduction in demand. To the extent that the estimates are based on current "emergency" conditions, they miss the point of using MBM normalized estimates and should not be adopted.

On the other hand, it is reasonable to make adjustments which reflect more permanent changes in consumption patterns that are likely to endure even if rainfall is within normal bounds. Demand reductions resulting from installation of water-saving plumbing fixtures and devices fall into this category. Changes in habits and attitudes about water use may also fall into this category, but the record shows that considerable judgment is required in assessing whether these are indeed permanent or transitory. Based on our review of the record, we conclude that there will be, in the test period, some residual effects of the current conditions and responses to them, regardless of future weather patterns and how long various conservation measures remain in effect. With this discussion in mind, we address specific areas of disagreement.

Staff relies on the Maddaus report's conclusion that faucet aerators probably save less than 0.5 gallon per capita per day (gpcd). It uses that figure for its estimate of the savings

which will result from installation of the devices in the MPWMD kit. Cal-Am's witness reduced "the national accepted faucet flow" of 5 gpm to the stated maximum flow of 2.5 gpm, observing that Maddaus found a 55% reduction for faucet aerators with 2.75 gpm maximum flows. He then reduced this estimate by 50%, based on his anticipation that even with slower flow rates people will sometimes fill basins to a certain level. The result of his analysis was a savings estimate of 2.3 gpcd.

We find problems with both estimates. The record shows that the aerators in MPWMD's kit are new products, and are not the same as those considered by Maddaus in his conclusion that aerators probably save less than 0.5 gpcd. On the other hand it is apparent that Cal-Am misread the Maddaus report in relying on the 55% estimate to support its own methodology, since the referenced passage in the report involves "advanced" water-saving fixtures which are not at issue here. We also remain unconvinced that the national average of 5 gpm is applicable in the service area where, as the record shows, water conservation has been an ongoing concern. MPWMD's witness testified that many faucets use between 4 and 6 gpm, not all faucets.

Maddaus found that faucet flow restrictors which limit the maximum flow rate to a range of 0.5 to 3.5 gpm will probably result in savings of less than 1.0 gpcd. Since the MPWMD aerators fall within this range, and in view of the problems with the conflicting estimates of staff and Cal-Am, we adopt 1.0 gpcd as a reasonable estimate of the savings from these devices for residential customers.

Applicant believes that more residential customers will install the water-saving devices found in MPWMD's kit than does staff. Staff used installation rates of 80% for faucets and showers and 85% for toilets. Applicant estimates 90% installation for all three. Staff's estimates are taken from findings in the Maddaus report, which analyzed the success of similar conservation

kit programs in California and elsewhere. Cal-Am's estimates are based on MPWMD's pilot study in Seaside and Pacific Grove, which showed installation rates in excess of 90%. Staff discounts the MPWMD study since the residents were made aware that it was a pilot study and therefore knew they were being watched.

In reviewing the portions of the Maddaus study relied on by staff, we find that the experience with kit installation rates varies considerably.[5] Rates for toilet tank devices ranged from 58% in Aurora, Colorado to 93% in Phoenix, Arizona. In California, they ranged from 60% in North Marin to 89% in San Jose. Wider ranges are shown for showers. The table from which staff estimates were taken shows that the installation rates are approximate. The Maddaus report states that the rate of installation depends on the perceived need by the public to install the devices, and the record is clear that public awareness of water supply conditions is high in the Monterey Peninsula area. With this degree of variability, we conclude that it is reasonable to use a specific study conducted in the District. We find no reason to reject the results of the pilot study merely because the recipients of the kits may have been aware that their decision whether to install any or all of the devices was of interest to MPWMD. The 90% installation rates for faucets, showers, and toilets are adopted.

Staff and Cal-Am disagree on the percentage of water-saving devices installed in faucets and showers in 1976-77 that are still in use. The staff witness used what he considered to be a very conservative figure of 5%. Cal-Am's witness recommends half of that percentage because the devices recently distributed in the MPWMD kits restrict flow to a greater extent than those in the kits

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5 Maddaus also noted that installation rates and costs per kit vary significantly. The report therefore recommended that water utilities considering kit distribution first conduct pilot programs to test the kits and distribution methods.

distributed in 1977. Cal-Am argued that staff's testimony does not support the 5% figure, but we find no empirical support for 2.5% either. Both estimates are based on judgment. We concur with staff's estimate.

Cal-Am estimates there will be a 10% reduction of outside residential water use, while staff projects no reduction in normalized test years. Foy testified as follows:

> "[W]e develop a reduction of 10% in outside watering based on the projections of the Monterey Peninsula Water Management District under the Emergency Water Waste Ordinance which prohibits outside watering between the hours of 9 a.m. and 5 p.m. and has an established goal of 10% reduction."

The record shows that 10% is a reasonable estimate of the reduction of outside use likely to be experienced in 1988 with the enactment of MPWMD Ordinance 35, and the heightened awareness of water supply conditions in the community. Assuming as we do for ratemaking purposes that rainfall will be normal in the test period and that the sunset provision of Ordinance 35 will become effective, it is unlikely that the current experience will continue throughout the test period. In our judgment, a 5% reduction in test year 1989 only is reasonable to reflect the residual effect of current conservation.

Staff agrees in principle with Cal-Am that measurements of the effects of Ordinance 30 retrofit requirements on residential consumption should incorporate the number of houses resold. It relied on information received from the utility that the number of houses sold in the service area in the last five years is unknown since such statistics are not kept by anyone. This information was given to staff prior to the hearings in response to a data request. Cal-Am introduced a study of home sales at the hearings and used the results in its revised residential consumption estimates to account for retrofitting.

Staff argues that the company has engaged in a straw man exercise by criticizing the omission of the data in staff's analysis after telling it the information was unavailable. While staff's description of the practice appears to be accurate, we note that it was not prevented from obtaining data for making its own estimate through independent sources. The required information was not internal utility data that only the company could provide. We adopt Cal-Am's estimate that 4.1% of homes in the Monterey Peninsula area are sold annually in lieu of staff's presumption that none are.

With respect to commercial, public authority, and multi-residential customer consumption, we agree with Cal-Am that there will be continued conservation practice in the test period, but not to the same degree or for the same duration. The company's original estimates, with which staff agrees, reflected the existence of various conservation programs. The revised estimates are based on more recent MPWMD actions and on the very significant cutbacks measured in the company's various analyses of sales in the middle of 1988 compared to 1987.[6] As pointed out by staff, 1988 does not provide a good basis for projecting estimates into a normal test year. We find insufficient basis for projecting permanent reductions of 10% (or more) below estimates which already have some conservation effects built in. We do believe, as with the case of outside residential watering, there will be a residual effect from current reductions and will adopt a 5% reduction below the company's original estimates for 1989 only.

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6 Staff did not independently review these analyses since they were first presented at the hearings. The three-month analysis of 12 commercial, 4 public authority, and 3 multi-residential accounts does not show how these customers were sampled, or whether the sampling rates are adequate.

We find the company's case for golf course consumption cutbacks to be more persuasive than that for the other commercial classes. Its survey of operators disclosed such actions as installation of a new irrigation system with built in water-saving devices and, as noted, the development of a new style of play with harder surfaces requiring less watering. It also disclosed the current intent of some of them to continue reduced consumption levels in the future, even in normal years. The planned cutbacks are apparently more institutionalized than, for example, anticipated reductions in outside water use by residential customers.

Offsetting these indicators is the fact that these cutbacks by golf course operators are voluntary. The current actions could be reversed if water again becomes more readily available. We adopt a 10% reduction for 1989 and a 5% reduction for 1990.

Appendix D shows the development of adopted residential consumption estimates based on the preceding discussion. Following is a summary of adopted consumption estimates:

Adopted
Average Consumption Per Year Per Customer
(Ccf per customer)

Class	1989	1990
Residential	105.3	106.2
Business-Normal	356.0	374.7
Business-Large	10,248.5	10,787.9
Industrial	4,945.6	4,945.6
Public Authority-Normal	509.6	536.4
Public Authority-Large	29,051.0	30,580.0
Golf Courses	27,658.6	29,195.2

General Office Expenses

Three remaining areas of disagreement on the subject of general office expenses are salary increases and related payroll expenses, personal use of company vehicles by management employees, and allocation of expenses of the Monterey laboratory. A fourth

issue, addition of a data processing employee, was withdrawn by applicant.

Payroll Expense Increases

Cal-Am used actual July 1, 1988 payroll and related expenses and adjusted them for the test years by using 1989 and 1990 inflation factors recommended by and used by staff. Staff started with actual payroll costs for 1987 and adjusted them using an inflation factor of 3.8% for 1988 as the basis for its test year projections, resulting in lower estimates. Branch's position is that while the utility can provide its employees with any level of pay increase it chooses, whether 6% or even 20%, no more than the general inflation levels should be allowed for ratemaking purposes.

Cal-Am's witness, who is the Director of Rates and Revenues for the Western Region of AWWSC, testified that the compensation of its general office employees is determined in accordance with a nationwide salary survey conducted to determine appropriate ranges of compensation for each classification in the water utility industry. This testimony also shows that many general office employees are relatively new and therefore receive merit adjustments within their salary range in addition to general salary increases.

Staff is correct in recommending that we not rubber-stamp pay raises actually granted by utilities to their employees. Certainly, the possibility raised by staff of a 20% pay raise in one year would give us pause, and in many cases 6% would. On the other hand, we will not automatically apply a generalized inflation factor when there is evidence that wages actually paid reflect reasonable compensation practices and when there is no evidence apart from the inflation measure itself that the wages paid are excessive. The company's general office payroll expense estimates are adopted.

Vehicle Expense

Branch recommends disallowance of certain leased car expenses because they are incurred for the personal use of management employees. At the hearings, in response to the recommendation, Cal-Am introduced an analysis of the use of three vehicles showing that 74%, 87.51%, and 93.9%, respectively, of total miles operated by these vehicles was for business use. The company's witness pointed out that in each case the 50% standard required for income tax purposes (so that the expenses can be taken as a deduction by the company) is exceeded by a wide margin. Also, the value of employee use of vehicles is included in the reported gross income of employees. He also testified that the vehicles are taken home at night at the company's request because otherwise they would be left in an unguarded and unfenced lot in a high crime area.

We conclude that the vehicle expenses projected by the company are reasonable. The preponderance of use is for business purposes, and there are controls to prevent excessive personal use. To some extent the incidental personal use constitutes compensation to the managers and is taxed as such. The record lacks information which might lead us to conclude that the value of this use results in excessive compensation when combined with other elements of salary and benefits.

Monterey Laboratory

The Monterey laboratory has historically been considered part of Cal-Am's general office because it provides water quality analyses for all of the company's operating districts. After the hearings commenced, the company introduced new information that it was constructing another laboratory in the company's Los Angeles Division. Scheduled to be operative in the fourth quarter of 1988, the Los Angeles laboratory will be capable of performing microbiological analyses for all districts other than Monterey.

The operations manager for the Western Region of AWWSC testified that the decision to build a new laboratory stemmed from new requirements of the Safe Drinking Water Act and new developments in analytical techniques that allow testing for more compounds and at lower detection levels. The new facility is required to provide better service for the Southern California districts than the Monterey laboratory is capable of providing. He estimated that when the Los Angeles facility is in operation, approximately 92% of the Monterey laboratory expenses will be allocated to the Monterey Peninsula District, compared to approximately 40% currently. The Monterey laboratory will still perform compliance monitoring for volatile organics, trihalomethanes, inorganic materials, pesticides, and herbicides for the other districts.

According to the witness, the Monterey Peninsula District will benefit by the elimination of significant workload which the laboratory now performs for other districts. This will free up staff time to be devoted to increased water quality monitoring in the Monterey Peninsula District. He stated that the Environmental Protection Agency (EPA) and the DHS are constantly adopting new regulations affecting water quality monitoring, and maintaining the current level of operations in Monterey will allow it to respond to new regulations as they arise.

He stated that Cal-Am originally intended to reduce the Monterey laboratory staffing level from three to two upon completion of the Los Angeles laboratory. However, new EPA regulations established "in the first part of 1988" requiring monitoring of additional volatile organic chemicals, and new and expanded DHS regulations regarding groundwater monitoring, have led him to believe it is prudent to maintain a staff of three employees. The alternative of using outside laboratories for compliance testing is, he believes, economically unsound.

Staff believes the laboratory expense and allocation factors it originally recommended should be adopted. It points out in testimony and argument that it was not provided with timely information on the new laboratory, nor was it furnished with work papers supporting the company's showing. It was provided no opportunity to audit or investigate the new information. We share staff's concerns on this issue. It appears that the decision to construct a new laboratory in Los Angeles, and to reduce Monterey laboratory staffing, was known to company officials for some time, since it was the promulgation of certain EPA regulations in the first part of 1988 that led to changing the decision by restoring the third position.

Cal-Am's testimony indicates that the increased laboratory needs of Cal-Am's Monterey Peninsula District result from new regulatory requirements, but does not refer to specific regulations. It refers generally and somewhat vaguely to constant adoption of new regulations, "ever increasing monitoring and treatment requirements," and "soon to be promulgated standards." There is little doubt that from time to time EPA and DHS have been imposing new requirements affecting water utilities and their need to monitor water quality. The staff witness conceded this point, but went on to state that there is not much concrete information on the subject. We agree that there is considerable uncertainty concerning the precise impact of this trend of regulation on the company's need for laboratory services.

Branch estimated that 95% of the Monterey laboratory's expense can be explained by weekly bacteriological tests done for the various districts. In the future, the Los Angeles laboratory will perform these tests for all but the Monterey Peninsula District. This indicates a significant reduction in the Monterey laboratory workload, and, as noted, the company agrees that certain workload items will be reduced significantly. According to Cal-Am's witness, a third person is required, at least in part,

because of new EPA requirements for compliance monitoring of volatile organics, a function which the Monterey laboratory will continue to perform for all districts. Even if a third person is required, which is not established in this record, it does not appear that the requirement is due to the needs of the Monterey Peninsula District alone.

Given these facts, and the general uncertainty surrounding the issue on this record, the estimated allocation of 92% of the expenses associated with historical staffing levels to the Monterey Peninsula District appears to be excessive. Staff's recommended expenses and allocations will therefore be adopted. However, we currently have before us three applications (Application 88-09-040, et al.) of Cal-Am for general rate increases in its Baldwin Hills, San Marino, and Duarte Districts. Those matters are scheduled to be heard in January, 1989. We intend to consider the expenses of the Los Angeles and Monterey laboratories and the allocation of those expenses in those applications. The Los Angeles laboratory should be operative at that time, and there will be an opportunity in those hearings to examine the actual operations of both facilities and the services they provide to the various districts. While we adopt the staff recommendation at this time, we will also provide for an updating of laboratory expenses and allocations, as they apply to the Monterey Peninsula District, upon issuance of a decision in those proceedings. We will authorize Cal-Am to file an advice letter at that time requesting rate adjustments which incorporate changes consistent with our findings and conclusions in those proceedings.

District Administrative and General Expense

Disagreements on administrative and general expenses involve the company's proposal to include expenses for two additional employees in the District, and estimated costs of maintaining personal computers and other office equipment.

Additional Accounting Clerk

The Monterey Peninsula District's accounting department has two nonunion supervisory employees and three accounting clerks who are union employees. Applicant proposes inclusion of the costs of a fourth accounting clerk due to an increase in workload and due to the company's desire to cut back on the excessive number of overtime hours worked in the department. Branch concluded that an additional full-time employee is not required.

The company detailed several new reports that are now or soon will be handled by the accounting department and the estimated number of hours per month required to complete the reports. These reports were formerly handled by Cal-Am's general office. Cal-Am's Monterey Peninsula District Manager believes these reports are more efficiently prepared by accounting clerks rather than by supervisory employees. He estimated that the new reports will impose an additional 144 hours per month of workload on the department.

Information was initially given to staff during its field studies that the department was incurring a total of 43.25 overtime hours per week. This figure, with which staff disagrees, was based on a one-year study. In addition to reviewing that study, staff also reviewed the actual overtime reports for the three union employees. This analysis of payroll records shows that two clerks have been working less than half an hour overtime per week and the third has been averaging about two hours per week.

Cal-Am's witness testified that the analysis of actual overtime hours may have led to a possible misunderstanding by the staff, since much of the overtime work was actually done by supervisory employees who are not paid extra for their overtime. Their hours would not have been picked up in the staff's analysis of pay records. He presented a summary of overtime hours worked by the accounting department showing that in the first six months of 1988, the two supervisory personnel worked 208.5 overtime hours,

while the clerks worked just 78.75 hours, or a departmental total of 287.25 hours of overtime for six months.[7] He explained that overtime for union employees was limited by management due to budget constraints. Most of the overtime work was therefore performed by the supervisors.

Based on an analysis of overtime hours and a finding that the accounting department does not require assistance except at the end of each quarter, staff believes it would be more prudent to keep current staffing levels at this time. It noted that the accounting department is currently in a state of flux due to the assumption of new duties. In staff's opinion, the department has not yet settled into a routine, and the accounting clerks still need to become more familiar with new procedures. Addressing the company's position (which he did not dispute) that the supervisory employees have been working too many hours, staff believes that it would be cheaper for the union employees to work more overtime than to incur the costs of hiring a new employee. It acknowledged that this determination did not take into account the fact that the union employees are paid double time after the first four hours of overtime.

Since the accounting department's workload has been and is still increasing, we will adopt this proposed expense. The record shows that historical and current levels of overtime worked, combined with new reporting requirements, justify one new accounting clerk. The department may be in a state of flux with

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7 Assuming there are 26 weeks in the six-month period, this would indicate there was an average of approximately 11 overtime hours per week for the department, compared to 43.25 hours per week measured in the earlier one-year study. However, the company projects there will be a greater amount of overtime in the remaining six months of 1988. In addition to the current recorded figure of 287.25 hours for six months, the company is projecting new workload of 144 hours monthly.

the assumption of new duties, but we find no basis to assume the associated workload will be assimilated by existing departmental staff, once they learn new procedures. We recognize that there are costs associated with hiring new employees, but there are also additional costs for overtime (including double time pay under some circumstances) which would be required under the staff alternative. Given the amount of new workload, we accept management's judgment that a new employee would be more cost-effective than paying for additional overtime.

Additional Meter Repair Employee

Cal-Am proposes to add a permanent meter repair employee instead of continuing the current practice of hiring temporary employees or outside contractors. The company's exhibits and testimony show there will be no net change, but merely a shifting, in its costs. This should improve control of the work and reduce the time it takes for training, according to Foy. His analysis shows that the cost of replacing 5/8" and 1" meters could be reduced from $16.50 to $15.91. The employee will also be used instead of a temporary employee for field testing of larger meters.

Staff's recommended disallowance is based on the merits of applicant's meter testing and changeout programs and not on the cost differences of temporary compared to permanent employees. Staff believes that meter testing is excessive. Also, testing of new meters is thought to be redundant since they are tested by manufacturers.

Since the record shows that there is little or no net effect on expenses, the company's proposal will be adopted. We do not find it unreasonable for the company to have a quality control program for its supplies.

Maintenance of Office and Related Equipment

Cal-Am takes issue with the methodological approach which it understands staff to have taken to estimate test year expenses,

as well as the results it produces.[8] Its estimate of $65,300 for this account (Account 805) includes the actual costs of maintenance contracts that the company has entered into. Staff's estimate of $48,800 is based on inflation adjustments to the three-year historical average for the account. The company believes that by using this method, staff disregarded specific new expenses incurred in 1988 or projected for the future. These include maintenance contracts for new personal computers and related equipment ($12,000), telephone equipment ($5,800), typewriters ($700), and hand-held computers for meter reading ($4,500). The total cost of these contracts is $23,000. All of this equipment has been put into use in the last four years.

We generally agree with the position that historical averaging techniques can result in inaccurate projections if current conditions are not considered. However, since the equipment covered by the maintenance contracts was acquired over the last four years, it is possible, if not likely, that some maintenance expense for this equipment is included in the three-year average of expenses used by staff. It is also possible that some expense for maintaining now-retired equipment, which newer acquisitions replaced, is included.

On the other hand, the staff witness testified that he did take into account changes in the company's operations, including the new expenses for maintaining personal computers, in arriving at his estimate. We will adopt the staff estimate, but with a further adjustment. Staff estimated that maintenance costs for the personal computers and related equipment would be $4,000, but Foy's testimony shows the actual cost of the maintenance

8 This criticism of staff's methodology was made in reference to various operations and maintenance accounts as well, as discussed in following sections.

contracts is $12,000. We adopt the company's actual cost for this item and add the $8,000 difference as an adjustment to staff's estimate of $48,800 to arrive at a 1989 test year estimate of $56,800 for this account.

Operations and Maintenance Expenses

After the application was filed Cal-Am submitted supplemental requests for approval of operations and maintenance expenses in three categories: maps and records, miscellaneous programmed maintenance, and lead-based primer removal. Staff took issue with these supplemental requests, and applicant has since withdrawn those for the first two categories. Expenses for the removal of lead-based primers from storage tanks remain at issue, as do expenses for road grading, water treatment, and reservoir and tank maintenance.

The parties indicate that their disagreements on these expenses result in part from the same methodological differences discussed above in connection with administrative expenses. While the company takes historical expenses into consideration, its basic method is a zero-based budgeting approach which considers current year budgeted expenses and known and expected changes in expenses, then projects to the test period using an escalation factor of 5%. For most accounts, Branch used three to five years of historical expenses, and made adjustments using inflation factors recommended by the Advisory Branch of the Commission Advisory and Compliance Division. Staff indicated that it too incorporated known changes in expenses which it considered to be reasonable, but the company's witness believes that staff simply disregarded work papers which supported many of the changes.

Road Grading

Account 708 is a maintenance account under the general heading of "Source of Supply." Cal-Am estimates the total expense will be $22,300 for 1989, and staff estimates $18,500, a difference of $3,800. The dominant expense for this account is for road

grading to maintain access roads to dams and wells. Cal-Am has budgeted $16,000 for road grading in 1988. Other expenses include weed control and certain building expenses.

Staff believes that because of rainfall variations it is difficult to project the amount of road grading which will be needed in any one year. Heavier rain will produce erosion, which will in turn necessitate more road repairs. The witness testified that since rainfall has been fairly light in the past several years, historically budgeted road grading expenses should provide a solid estimate for 1988. The company budgeted $9,000 for road grading in 1984 and $10,500 for 1985, and staff observed that less was actually expended in those years.

Cal-Am showed that actual 1986 and 1987 expenditures for the account were $20,700 and $26,900, respectively. The average of these two years is $23,800. The budgeted amount for 1988 is $21,300.

Even assuming staff's conclusion that heavier rainfall increases road grading expenses is valid, we nevertheless find insufficient basis for using five years in which rain has been "fairly light" to project into test years which, for the purpose of estimating consumption, we assume will be normal. We are not persuaded by the fact that less was spent than budgeted in 1984 and 1985 in the absence of a similar comparison for the other years. We find that the company's estimate is based on an assessment of more current conditions, and is more likely to be reflective of future conditions.

Water Treatment

Cal-Am and Branch have a difference of $4,400 for Account 748, which includes expenses related to water treatment equipment. The company projects an expense of $24,600 for 1989, while staff's estimate is $20,200. For this account, staff used an average of three years of historical expenses as the basis for its projections. Staff noted that this account has been increasing

rapidly. The 1987 expense of $22,013 represents an increase of 22.5% over the 1986 expense and 114% over that of 1984. The 1988 budgeted amount is $23,420.

The company explains that expenses have been increasing because the company now uses caustic soda and zinc phosphate at the company's production facilities. These chemicals are corrosive and consequently the treatment equipment requires more maintenance.

Staff acknowledged that the recent use of these corrosive chemicals has resulted in increased maintenance requirements. However, it projected a reduction in the use of these chemicals due to the company's reduced production of surface water supply and due to reduced caustic soda expense in 1988.

Based on the Cal-Am's showing that these chemicals are used for all water production and not just surface water, we adopt the company's estimates. A reduction in the expense for caustic soda for part of 1988 (and not for zinc phosphate) does not cause us to conclude otherwise.

Reservoir and Tank Maintenance

Differences in estimates for reservoir and tank maintenance, other than those arising from the issue of expenses for lead paint removal, are summarized below:

	Account 760	
	Branch	Utility
1989	$57,500	$81,700
1990	$60,400	$88,100

Expenses in this account include tank painting, fence repairs, valve repairs, and various other maintenance costs. Branch used five years of historical expenses for this account. After inflation adjustments, it arrived at an estimate of $36,540 for 1989. To this amount it added the utility's estimated cost for fence repairs, formerly capital costs now shown as expenses, to arrive at its estimate of $57,500.

Staff is concerned that the company's requested amount for 1989 is 58% greater than 1987 expenses in this account, and 122% greater than the 1986 level. It believes the company has initiated an aggressive new tank painting program, but has not furnished staff with evidence that this program is prudent.

Cal-Am's witness testified that the company has added 13 new reservoirs since 1979 and they are now reaching the point where painting and maintenance are required. These are being added to the company's tank painting schedule. In addition, according to the witness, staff's estimate does not include $5,000 per year for amortization of the company's depreciation study. He also noted that, unlike other maintenance expenses, painting costs are amortized over the life of the paint for each tank. In his opinion, this makes the five-year averaging method particularly inappropriate.

We find that the company's measured increases in this account are adequately explained by the increase in the number of tanks and by the fact that the painting expenses are amortized instead being shown as expenses in the year the work is performed. Moreover, there is no independent evidence pointing to a conclusion that the company is imprudently painting tanks too frequently. Cal-Am's estimates as shown above are adopted for this account.

Lead Paint Removal

This disagreement also involves tank painting expenses and Account 760. It arises from a supplemental request, which is made, Cal-Am argues, "to remedy a very significant new environmental and health concern relating to lead-based paints on the tanks which has only recently come to light and could not have been anticipated when this case was filed."

An operations manager for AWWSC's Western Region, who is also a vice president of Cal-Am, explained the decision to remove lead primer from tank exteriors. The company has become aware of current scientific research which establishes that lead is very

detrimental to human health, even at very low exposure levels. Although the use of lead-based paints for tanks has been banned for several years, it was once common practice. Engineers with a company affiliate, the American Water Works System (AWWS), have reached the consensus that all lead-based paint should be removed from steel structures as soon as possible. AWWS believes there is little likelihood that technology for removing the paint will improve in the forseeable future, and there is a further indication that the work should proceed at this time:

> "[I]t is known that new and more stringent regulations related to the removal and disposal of lead based paint are being promulgated. Thus, the removal of lead based paint in the future will be even more costly."

AWWS has decided that when a tank or other structure in the system comes in line for recoating, any lead-based paint will be removed and disposed of. In the witness's opinion, application of this policy to Cal-Am's Monterey Peninsula District is a matter of prudence "in insuring the safety of the community and the environment." He explained that this issue was not included in the original application because it was then still under study by AWWS engineers. They had been studying this problem, and "stringent new requirements" proposed by the EPA, for the past year, and have now concluded that removal is "the most cost-advantageous way" of dealing with it.

Cal-Am included with its written testimony a copy of an internal memorandum announcing the new policy to its district managers. It was dated May 18, 1988 and states in part:

> "Current environmental regulations place stringent regulations upon the methods for removal of lead-based paint from above ground storage tanks. These requirements make it imperative that removal procedures are conducted with utmost concern for the environment, particularly as it relates to air quality. As stringent as those requirements are, they are only expected to increase over

the next several years, making the removals of such paint even more difficult."

In the past, Cal-Am's normal procedure for tank painting has been to add a top coating, and not to remove paint unless necessary to make the tank structurally sound. Removal is more costly, and is now even more so because of extra precautions now required to ensure safety of the environment and of the workers. Cal-Am's district manager obtained cost estimates for implementing the new policy from a Salinas painting contractor. Where normal repainting of one typical tank would cost $2,000, the new procedure would cost $17,490. As of July 7, 1988, the contractor estimated that the total annual cost for all scheduled work would be $583,937 in 1989, $620,966 in 1990, and $852,708 in 1991. Cal-Am recommends that because these expenses are both unusual and costly, they be amortized over the life of each tank that is stripped and repainted. It requests further that the unamortized portion of the expenses be included in operational working cash.

A Branch engineer testified that he first became aware of this supplemental request in a meeting with utility personnel the week prior to the hearings. This did not allow time for a full investigation by staff. He did contact EPA offices in California and in Washington, D.C. and determined that no specific mandate exists to remove lead-based primers from existing structures. EPA is concerned with lead as a waste by-product and its disposal. Staff believes that lead-based primers, as they exist on tank exteriors in the utility's system, present a very small hazard to humans in the surrounding area. Lead becomes a danger when it is allowed to readily enter the environment, as would be the case if the primer were to be stripped from the tanks. Staff concludes from this lack of current danger that expenses of the magnitude of $600,000 per year, even when amortized over tank life, are not reasonable. At a minimum, staff believes, an opportunity for more

analysis than it was able to conduct would be required before it could recommend such expenses.

We concur with staff. The issue here is not whether lead is a hazard. Staff stated that the problem of human interaction with lead has been established for some time. Nor is there an issue that the utility carries an obligation to conduct safe operations, not only in the delivery of water, but also, as here, with respect to the environmental setting of its facilities. We consider such safety to be of paramount importance. In this case, we are faced with determining whether the proposed actions are reasonable and necessary to improve safety, and, accordingly, whether the related expenses are prudent.

We conclude that such prudence has not been shown. Cal-Am and its affiliates have based their decision to accelerate and expand (and dramatically raise the cost of) tank painting programs in anticipation of new environmental regulations which, if adopted, they believe will eventually result in still higher costs. There is no showing of immediate danger associated with the existence of lead-based primers on tank exteriors which are coated by top layers of paint, and staff provided testimony that the very act of removing the lead paint could create a danger that would not otherwise exist.[9]

The company's belief that future environmental regulations will raise the cost of stripping and disposing of lead

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9 The company argues that staff's showing is based on "absolutely no expertise whatsoever." We disagree. We are weighing testimony of an engineer with degrees in nuclear and chemical engineering, who made what inquiries were possible in the limited time available to him, in relation to that of an operations manager who relied on analyses of AWWS engineers who did not testify in this proceeding. We note also that due to the timing of how this issue arose, staff was presented with little opportunity to acquire access to a greater level of expertise.

primer is undoubtedly well-founded. However, in emphasizing the high cost of "stringent new requirements," it has attributed little or no value to them. We will not do likewise. To do so would be to act on a presumption that regulations adopted by EPA or other agencies will be frivolous and without value. We are more troubled by the prospect of an accelerated program which addresses no immediate danger, and which is designed to avoid implementation of new and presumably worthwhile environmental protection rules. If and when such rules are enacted, expenses reasonably incurred in compliance with them will be prudent. The same cannot be said for expenses incurred as a result of avoiding them.

Our concern with the proposal also goes to its cost. The painting contractor's July 7, 1988 estimate included a list of tanks scheduled to be repainted in each of the next four years. For each tank the designation "exterior" or "interior" appears. Since the lead removal proposal pertains only to exteriors, the costs appear to have been overstated to the extent they include the costs of repainting tank interiors. However, since we are not allowing expenses for lead paint removal at this time, there is no need to resolve the apparent discrepancy or to address the proposal for amortizing the expenses.

Depreciation

Cal-Am included the results of a new depreciation study in its showing. The December, 1987 study was performed by the Director of Special Engineering Projects for AWWSC, who testified for Cal-Am. Staff analyzed the study on an account-by-account basis as part of its investigation. It initially had differences with respect to three plant accounts: Reservoirs and Dams (Account 312), Source of Supply Structures (Account 311), and Meters (Account 346). For account 311, the company recommended rounding the average service life from 37 to 35 years, while staff had recommended retaining 37 years. Staff later agreed to 35 years, determining that this would be in the interest of ratepayers.

Differences on the other two plant accounts remain at issue. A summary of the depreciation schedule, including adopted modifications as discussed below, is shown in Appendix E.

Salvage Factor for Dams

The depreciation study shows a negative net salvage value of 50% for both San Clemente Dam and Los Padres Dam, while staff recommends salvage values of zero. The company takes the position that when a dam reaches the end of its useful service life, it must be breached, demolished, or maintained in a safe condition with no water supply benefit. Retirement costs associated with these alternatives can be significant, as shown by recent experience with reservoir and dam retirements by an AWWS affiliate in Pennsylvania. The company believes it is appropriate that customers who benefit from a dam pay a proportionate share of the future costs of its retirement. This would be achieved by adoption of the recommended negative salvage value.

Staff found in its investigations that the utility anticipates inundation of its San Clemente Dam by MPWMD's proposed new San Clemente dam.[10] The company also informed staff that it determined that the earthen Los Padres Dam will have to be raised or removed at a cost exceeding 50% of that dam's original cost. Upon further investigation, staff determined that even with the likelihood of inundation of the old San Clemente Dam site, removal of the dam is quite unlikely. This view was confirmed by staff of the Safety of Dams Division of the Department of Water Resources. Staff's investigation did not confirm the need to raise or remove Los Padres Dam either.

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10 MPWMD's general manager testified that a range of sizes for a new dam and reservoir are currently being considered, along with alternatives to a new dam. Construction of a new dam is considered likely, but not before 1994. MPWMD should know by the end of 1990 whether the project is going to proceed.

Our concern with the company's proposal for costing the retirement of these dams, and the reason we will not adopt it, is the uncertainty over what, if anything, will done with the structures when they are no longer useful for water supply purposes. In the case of the existing San Clemente Dam, it is not certain that any significant level of retirement costs will be incurred when (and if) the site is inundated, let alone 50% of the original cost. Even though Los Padres Dam will not be affected by the new San Clemente project, it is by no means certain that significant retirement costs will be incurred in this case either. The company's witness acknowledged differences in climate, geology, and regulations that diminish the value of comparisons to retirements in Pennsylvania. Since one possible retirement alternative mentioned by the witness is to maintain a facility in a safe condition, it is possible that no significant retirement costs will be required, but only maintenance costs, which could be modest. Branch's estimates for this account are adopted.

Average Service Life of Meters

Disagreement on Plant Account 346 stems from different estimates of the service life of water meters. As a result of the new depreciation study, the company is proposing to revise the average service life from 40 to 13 years, which would raise the annual accrual from $37,867 to $192,873. Pursuant to Commission Standard Practice U-4, Branch recommends adoption of its estimate of 25 years, which results in an annual accrual of $71,645. Staff does not believe 13 years is indicative of the utility's current operating practices. Cal-Am estimates a remaining service life of 7.84 years and a depreciation rate of 13.30%. Staff recommends adoption of its estimates of 21.1 years and 4.94%.

Applicant explains that 40 years was appropriate when it used older style bronze case meters, which were periodically rebuilt. With the units that have been used in recent years, the company has determined that meters will be replaced at 15-year

intervals. Continued application of the 40-year service life has been a problem since approximately 1979, resulting in a deficit in the depreciation reserve account. Cal-Am believes that staff's recommended 25-year service life would perpetuate the deficit, pointing out that even under its proposal, it could take almost 7 years to reach what it considers to be a reasonable reserve of 35% of 1986 plant balance.

The company's 15-year meter changeout policy is not justified in staff's view. Staff points out that several years ago the company decided to replace its old metal meters with plastic "throwaway" models. These were installed for a period of about eight years, up until two or three years ago, when the company determined there were too many problems with plastic meters. The company is now using more durable meters which are guaranteed for 15 years. Staff believes the depreciation study incorrectly focuses on the period when the plastic meters were used, and does not reflect the current operations.

Staff concludes that with this proposal, the utility is trying to recover expenses incurred in retiring the plastic meters at a higher rate than anticipated. It characterizes the decision to use plastic meters in the first place as a poor one, resulting in the depreciation reserve deficit which ratepayers should not be obliged to correct through increased rates.

We disagree, finding no support for the proposition that the decision was a poor one at the time it was made more than ten years ago. The fact that meters now being installed are guaranteed for 15 years, and the likelihood they will prove to be more reliable than the plastic meters now being removed, do not provide sufficient justification for a service life of 25 years, in view of applicant's experience in this District and given the current mix of types of meters. For these reasons, and since the record shows that current account deficits would be perpetuated or exacerbated under the longer service life, we adopt applicant's recommendations

for this account. As the newer-style meters continue to be installed, the average service life could possibly increase in the future. Concurrently, more experience will be gained with these meters, so that more reliable estimates of the average service life will be possible. Accordingly, we expect to give further consideration to this issue in future rate cases for the Monterey Peninsula District of Cal-Am.

Utility Plant

Exhibit 56 shows the following differences between applicant and Branch concerning estimated average utility plant-in-service for the two test years:

Weighted Average Utility Plant In Service
(Thousands of Dollars)

	Branch	Utility	Utility Exceeds Branch	Percent
1989	$54,676.9	$56,326.5	$1,649.6	3.02%
1990	$58,623.0	$61,820.6	$3,197.6	5.45%

These differences are largely explained by different estimates of utility funded additions to plant for 1988 and, as shown below, for test years 1989 and 1990.

Utility Funded Additions
(Thousands of Dollars)

	Branch	Utility	Utility Exceeds Branch	Percent
1989	$3,407.1	$5,465.7	$2,058.6	60.42%
1990	$3,577.4	$4,542.1	$ 964.7	26.97%

Methodology

Cal-Am's estimates are based on its investment budget, while Branch's are based on recorded plant additions for 1987, adjusted for inflation. Staff found that the company's estimates for 1988 and test years 1989 and 1990 are significantly above the expenditure levels of recent years. Average utility plant additions have been running at approximately $3 million per year for the past seven years. The only exception was 1982, when the company added a new treatment plant at a cost of approximately $5 million.

Staff reviewed the utility's budgeted plant additions for the next five years, but found no special circumstances (such as the 1982 project) which, in its view, would account for the company's higher estimates for 1988 through 1990. Nor did company officials interviewed by staff during its field investigation provide an explanation satisfactory to the staff.

During its field investigation, staff learned that many of the company's individual project cost estimates were made long ago and adjusted for inflation over the years. It believes the company inconsistently applied different inflation factors to the various projects. From this inconsistency, the age of the estimates, and lack of supporting detail, it concludes that Cal-Am's estimates are unreliable, and that its method should therefore be used. It noted, however, that it does not question the necessity for or prudence of any of the budgeted additions. Staff questions only the reliability of the company's cost estimates and, in some cases, the estimated completion dates.[11]

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11 MPWMD's general manager testified that the District generally supports each of Cal-Am's proposed plant additions, and, in particular, those involving the Begonia Filter Plant, upgrades of

(Footnote continues on next page)

Staff argues that it was compelled to use historical expenditure levels because it was provided with no concrete proof of how Cal-Am's cost estimates were developed, and because the work papers showed "contrariety, discrepancy and insufficient proof." As an example of the kinds of problems it finds in the company's estimates, the staff's witness pointed to a project to replace 2,200 feet of steel pipeline at an estimated cost of $458,300. According to the company's explanation, the estimate was made in 1987, based on then-current labor and material costs, and adjusted for inflation. Staff found in its review of work papers, however, that the company was using the same estimate for this project in August of 1984.

Cal-Am argues that the staff's approach of using historical average expenditures instead of a project-by-project analysis is both unprecedented and inappropriate. The company presented support for its estimates through the testimony and exhibits of its Monterey Peninsula District Operations Manager. In response to the staff's conclusion that there are no special circumstances which would justify higher estimates, he described projects which are "above and beyond the normal replacement and betterment projects." He testified that when the estimated costs of these projects are subtracted from the company's estimated totals for each year, the results (approximately $3.2 million to $3.5 million) are within the range of normal expenditures as measured by staff.

(Footnote continued from previous page)
well facilities, distribution main replacements, river bank erosion control, and several other distribution system facilities. MPWMD does not encourage proceeding with seismic safety improvements to San Clemente Dam unless it is made clear that the new dam will not be built.

	1988	
1.	Forest Lake Reservoir, seismic safety improvements	$900,600
	1989	
2.	Begonia Treatment Plant projects	755,000
3.	Crest Reservoir	988,000
4.	New Well	230,000
	1990	
5.	Replace 7,000' of transmission line	825,000
6.	San Clemente Dam, seismic safety improvements	300,000

The remaining projects, which include replacement of distribution mains, wells and storage tanks, are considered normal replacements and additions to compensate for system deterioration and normal system growth. The witness provided detailed testimony on the need for each of the above projects as well as each of the "normal" projects. He also described the company's budget process, including standards and guidelines used and levels of management review. The investment budget is consistent with and incorporates the recommendations of a recently completed planning study prepared by AWWSC's engineering staff. Each scheduled project is considered by the company to be necessary to maintain and improve the system.

We adopt the company's estimates, with the adjustments discussed below for two projects which are affected by potential Division of Safety of Dams' (DSD) actions. We conclude from analyzing all of the record that deficiencies in applicant's estimates are outweighed by those in staff's. Staff's primary objections to Cal-Am's estimates are that they are old, rely on varied inflation factors, and lack detailed support. There is some validity to these criticisms, but we note that staff did not show

that any one project estimate is wrong (apart from an arithmetic error), and the staff's witness acknowledged that the company's estimates could be too low as well as too high. The different inflation factors can be explained in part by different mixes of materials and labor associated with individual projects as well as the time elapsed since the original estimate.[12] The age of the estimates can be attributed in part to the fact that some projects have been identified and scheduled for a number of years.

Staff maintains that it had to rely on its method because the company furnished it with no concrete proof supporting individual project costs during the field visits. Although individual company representatives may not have been able to explain all of the factors underlying the estimates at the time of the field trips, the record does not show that staff was denied access to information it considered necessary for its analysis.

Staff's investigation uncovered imprecision in the company's estimates. It also showed that a great deal of judgment is applied in arriving at estimated project costs years in advance of their commencement before they are let out for bid. However, it does not follow that those estimates are wrong. Cal-Am has shown that it plans to embark on a number of projects which it considers to be above and beyond normal plant additions. These additional projects, all of which staff agrees are needed, account for practically all of the the differences between the two parties.

Were we to accept staff's estimates for 1989 and 1990, we would be deciding, in effect, that the company's approach systematically overstated project cost estimates by 60.42% for 1989 and by 26.97% for 1990. We do not believe that any imprecision or

12 Staff did not explicitly indicate what inflation factors it believes should have been used in place of applicant's, nor did it recompute the company's estimates using its own factors.

inaccuracy inherent in applicant's methods can, alone, explain differences of that magnitude. Any initial representations which the company may have made to the staff notwithstanding, we are persuaded that the company's plans call for a greater level of plant additions in 1988, 1989, and 1990 than in the previous seven years, and that this explains its higher estimates. Staff's reliance on 1987 expenditures does not make any allowance for expanded levels of plant additions.

Forest Lake Reservoir and
San Clemente Dam Safety Projects

Cal-Am acknowledges that the scheduled timing of two projects which are required by actions of the DSD will be affected by future actions of that agency. The company therefore requested in its brief that the proposed plant additions not be included at this time, but that it be authorized to include the expenses at a later date through application or advice letter filings.

Forest Lake Reservoir, located in the Pebble Beach area, provides storage for peak days and emergency supplies. It is considered a vital link in the distribution system. Several years ago it was identified as a potential seismic safety hazard. Cal-Am has commissioned several studies to recommend solutions, and has put the most recent study before DSD for its approval. Although it has budgeted more than $900,000 for repair work in 1988, it cannot proceed to restore or replace the facility until DSD acts. Also, the company cannot forego use of the facility in order to accomplish the work until it is clear that the current drought has ended, and then it must be done between November 1 and April 30.

Under these circumstances it is difficult to determine when repair work will begin. The cost of the work is also considered highly variable since DSD could order more corrective work to be done than applicant's consultant has recommended. The company's witness testified that the estimate could change by a factor of 3 or 4.

DSD has also identified seismic safety hazards that exist at the old San Clemente Dam. Faced with the likelihood that the dam will eventually be replaced by MPWMD's larger dam, Cal-Am is reluctant to perform the repair work, which is estimated to cost $300,000. At the same time it recognizes that DSD may at any time compel completion of the work, which the company now has scheduled for 1990 in its budgeting process.

Staff expressed concern that allowing future filings for any plant addition that might come on line would not be feasible. We share that concern, but at the same time we find that there are unique circumstances with respect to these two projects. It is entirely possible that DSD will require that remedial work be done in the test period. Whether, when, and how to proceed is to a large extent beyond the company's control. In the case of Forest Lake Reservoir, the costs, and even the ability to estimate costs at this time, may be partly if not entirely beyond its control.

We adopt the company's estimates of utility plant with adjustments to reflect the removal of the Forest Lake Reservoir Project from its 1988 estimate and the removal of the San Clemente Dam Project from its 1990 estimate. Because of the uncertainty of and potential magnitude of costs, we will require the filing for Forest Lake Reservoir to be a formal application. An advice letter is permissible for the San Clemente Dam repairs, since the timing, but not the cost, is of concern.

Rate of Return

Cal-Am requests rates of return on rate base of 11.52% in 1989, 11.55% in 1990, and 11.58% in 1991 in order to earn a return on common equity (ROE) of 13.50%. Staff recommends that the adopted ROE be within a range from 11.75% to 12.25%. Within this range, it believes the most weight should be placed on the lower end. The resulting recommendations for rates of return on rate base are 10.59% to 10.81% for 1989, 10.60% to 10.81% for 1990, and

10.62% to 10.83% for 1991. Staff has estimated that financial attrition is a negligible .01 for both 1990 and 1991.

In D.87-03-030 (March 6, 1987), involving Cal-Am's Village and Coronado Districts, we authorized a constant ROE of 13.00%. The corresponding rates of return were 10.89% for 1987, and 10.94% for both 1988 and 1989.

Cal-Am and staff proposals differ in two main areas. First, staff has estimated lower costs for short-term debt and new mortgage bond issues. Second, staff has determined a lower ROE requirement. These are discussed in following sections.

There are minor differences of less than 1 percentage point in the capital ratios for debt and equity resulting from staff's use of 1987 year-end recorded figures. These were not available to applicant at the time of the original filing. Cal-Am's recommended debt ratios for 1989 through 1991 are 55.74%, 57.41%, and 57.79%, while those of staff are 56.25%, 58.00%, and 58.75%. Staff recommends, and we concur, that its capital structure estimates be adopted, since they are more recent, and therefore more accurate.

The recommended long-term debt levels of both staff and applicant exceed 50% of capitalization. By D.86249 dated August 17, 1976, we imposed a restriction which limits Cal-Am's long-term debt from nonaffiliates to no more than 50% of its total capital structure. Both parties agree that the conditions which led us to impose that restriction no longer apply, and urge us to remove it. The company has proven its ability to raise capital and is in excellent, stable financial condition. Our requirements that the company commence construction on two projects as a condition of removing the cap have been fulfilled. The parties agree that removal of the restriction will lower the overall cost of capital, which will benefit ratepayers. Staff notes that debt financing is economically efficient because it is both cheaper and tax-deductible. We adopt this recommendation.

Debt

The estimates of debt costs are shown below. Differences stem from different estimates of interest cost of new debt issues. The embedded cost of current debt is contractual and readily available, and therefore, the subject of little dispute.

	Branch	Utility
1989	9.69%	9.95%
1990	9.77%	10.10%
1991	9.82%	10.18%

Cal-Am estimated the costs of long-term debt financing by adding 130 basis points to short-term interest rates. This spread is based on the company's experience. Currently, it is paying prime rate less 25 basis points for its short-term borrowing. The company's witness explained on cross-examination that projections of short-term interest rates were made after consulting the Kiplinger Report, the UCLA Business Forecast, the company's bankers, and financial executives of the parent company.

Staff assumed that Cal-Am will pay interest rates equivalent to AA utility mortgage interest rates on new bond issues during the test period. This assumption is based on the following:

1. Cal-Am's most recent bond issue in October 1985, for $6 million, holds an interest rate of 11.125%, which was the equivalent of an AAA utility bond yield at that time. The company's financial performance and its risk has not changed significantly since that issue. Although the company is increasing its leverage, staff does not believe this will impact the ability to attract favorable returns during the test period.

2. Since Cal-Am is a wholly owned subsidiary of American Water Works, Inc., financial investors perceive Cal-Am as having the resources and expertise of a larger company backing the smaller enterprise. It is considered far less risky than an independent company of similar size and operation, and can

therefore be expected to receive favorable interest rates reflecting its perceived reduced risk.

3. Cal-Am's before-tax interest coverage, net cash flow to total capital, and debt leverage were evaluated under Standard and Poor's guidelines for bond ratings. Based on Cal-Am's good performance under these guidelines, staff expects its new bond issues will cost no more, and in all probability less, than the equivalent of an AA rated utility bond.

Cal-Am plans new bond issues of $8 million in 1988, $6 million in 1989, and $5 million in 1991. Staff used forecasts from Data Resources Inc. (DRI) and from Blue Chip Financial Forecasts (Blue Chip) to arrive at its estimated bond financing rates of 10.005% for 1988 and 10.365% for 1989. It used DRI's short-term 1990 forecast of 10.58% for the 1991 issue since DRI does not include 1991 in its monthly short-term forecasts, Blue Chip includes neither 1990 nor 1991, and in both cases their long-term forecasts were outdated at the time of staff's report. Staff notes that the 1991 issue will take place in an attrition year, allowing further evaluation in the future if recommended financing costs prove to have been too far afield.

To estimate future costs of short-term debt, staff made similar use of DRI and Blue Chip forecasts of bank prime rates. Cal-Am's short-term rate is tied to the prime rate, and for the past two years it has been a constant 25 basis points below the prime rate. Staff projects short-term debt costs of 9.23% for 1989 and 9.16% for 1990 and 1991.

We believe from the weight of staff's showing that it is reasonable and appropriate to use its forecasted costs of AA utility bond issues to estimate the cost of long-term debt. Testimony of the company's cost-of-capital witness that Cal-Am's obligations are not guaranteed by the parent company does not cause us to change our view. Staff's position is based on the perception

of financial investors that the larger parent company provides resources and expertise, not financial guarantees. Moreover, staff's observation is made in connection with just one of three indicators that a rating of AA is an appropriate indicator for measuring debt costs. Finally, the company's witness acknowledged that a sophisticated investor would not ignore the parent company relationship.

In determining the cost of short-term debt, we attach more weight to staff's use of DRI and Blue Chip forecasts than we do to the company's estimates. However, Cal-Am's witness showed that the prime rate had increased since the staff's report was prepared. As noted in Cal-Am's brief, staff's witness agreed that the prime rate had been rising, and urged that we should use the most currently available information at the time we reach a decision in this matter. Accordingly, based on the DRI and Blue Chip forecasts dated November 1988, of which we take official notice, we adopt the updated bank prime rate estimates shown below:

	1988	1989	1990	1991
Blue Chip				
Staff	8.95%	9.45%		
Updated	9.30%	10.05%		
DRI				
Staff	8.55%	9.16%	9.41%	
Updated	9.27%	10.29%	9.58%	
Average				
Staff	8.75%	9.31%	9.41%	9.41%
Updated	9.29%	10.17%	9.58%	9.58%

This adjustment has the effect of changing staff's short-term debt cost estimates from 9.23% (1989) and 9.16% (1990-91) to 9.92% (1989) and 9.33% (1990-91), and of changing total debt cost estimates from 9.69%, 9.77%, and 9.82% to our adopted estimates of 9.71%, 9.78%, and 9.83% for 1989, 1990, and 1991, respectively.

Return on Equity

Unlike debt costs, which, with the exception of future interest costs, involve relatively straightforward measurements, determining equity costs is more difficult. It is usually the source of greater differences of opinion. As noted by Cal-Am's financial witness, it requires evaluation of many factors, both tangible and intangible, and is of necessity a judgment determination which considers the requirements of the individual utility. Financial models are useful, but there are no definitive formulas for measuring common equity costs. As stated by the witness, any determination of the cost of equity capital represents an approximation. Cal-Am and staff both indicate they used the guidelines established by two landmark cases in arriving at their respective determinations of equity returns: Bluefield Waterworks and Improvement Company v West Virginia Public Service Commission (1923) 262 US 679; 67 L ed 1176, 43 S.Ct. 675 and Federal Power Commission v Hope Natural Gas Company (1944) 320 US 591; 88 L ed 333, 64 S. Ct. 281. As explained by staff, these guidelines provide that returns for public utilities should be commensurate with returns for comparable investments, should allow a utility to earn a return sufficient to attract capital through the debt market, and should be appropriate for the financial condition of the company.

Both Cal-Am and staff used the discounted cash flow (DCF) model as part of their analyses. This model recognizes that the current market price of a share of common stock equals the present value of the expected future stream of dividends and the future sale price of the share. The model can be solved to show that an investor's total rate of return, and thus a utility's cost of equity capital, is equal to the sum of the expected dividend yield at the time of purchase divided by the current market price, plus the expected growth in the future stream of dividends and in the value of the stock. The DCF model is used to establish a

comparable return for a utility by analysis of a group of similar utilities.

Cal-Am indicates it used the DCF model because of its widespread use in regulatory proceedings. As criteria for a comparable group, the witness used water companies listed in C.A. Turner Utility Reports which (1) are operating water utilities only, not holding companies, (2) derive at least 85% of their revenue from water sales, (3) have actively traded common stock, and (4) have a stock rating by S&P of at least A-. The following companies met these criteria:

1. California Water Service Co.
2. E'Town Corporation
3. Middlesex Water Co.
4. SJW Corporation
5. Southern California Water Co.

Cal-Am's witness explained that for each of the five companies he computed market prices per share using both the 52-week average high and low price for the period ending May 31, 1988 and the average high and low for the month of May, 1988. Because the DCF model is concerned with current and future equity capital costs, current stock prices are normally used. However, he also used the longer period because of recent stock market volatility. Expected dividends for each of the five companies were calculated by increasing the 1987 dividend by an amount equal to the firm's compound growth rate for 1982-87 in dividends per share. The resulting dividend yields were computed for each company. The group averages were 6.51% based on the 52-week price measure and 6.57% based on the May 1988 measure. To these yields he added the group average compounded growth rate of 6.77% to arrive at total DCF estimates in a range from 13.28% to 13.34%. The midpoint of this range is 13.31%.

In addition to this DCF analysis, he evaluated the company's historical earnings performance and other factors in arriving at his final recommendation of a 13.50% ROE. He believes

the performance has been inconsistent and erratic, ranging from a low equity return of 2.87% in 1979 to a high of 16.05% in 1987. This will influence investors as they evaluate the company's risk. He testified that the high return in 1987 is explained by higher water sales caused by unusually dry and warm weather that year, and by the effect of the Tax Reform Act of 1986 (TRA) on earnings. Lower income taxes which were not reflected in water rates until May of this year had the effect of "artificially" increasing earnings in 1986 and 1987.

In the future, TRA will have the effect of increasing the company's perceived risk, according to Cal-Am. Cash flow will be reduced by such TRA provisions as elimination of the investment tax credit, inclusion of customer advances as taxable income, and recognition of unbilled revenue as taxable income. At the same time, new construction expenditures are increasing, from $30.4 million in the past five years to a projected $61.4 million in the next five years. Funding this investment with fewer internally generated funds results in a more leveraged, and therefore a higher risk capital structure.

Cal-Am notes that by D.87-12-043 we authorized an ROE of 12.50% for Southern California Water Company (SCWC). SCWC had a common equity ratio of 51% over the test period compared to Cal-Am's projected 44.26% to 42.21%. Also, the prime rate was 8.75% at the time of our decision in that matter. It had risen to 9.5% at the time of the hearings. The witness believes that Cal-Am's more highly leveraged position, inability to earn on full book common equity due to an acquisition adjustment, continued uncertainty in the stock market, inflation, potentially high expenditures in complying with the 1986 extension of the Safe Drinking Water Act, and the increase in the prime rate are all indicative of a more risky investment requiring a higher ROE.

Staff's recommended range is derived in part from its application of the DCF and risk premium (RP) models. Where

Cal-Am's DCF analysis showed an expected return of 13.31%, staff's analysis showed 12.06%, a difference of 1.25 percentage points. Staff's comparable group of companies was based on broader selection criteria, which allowed a larger sample size of 12 compared to Cal-Am's group of 5 utilities.

1. American Water Works
2. California Water Service
3. Connecticut Water Service
4. Consumers Water
5. E'Town Corporation
6. IWC Resources Corporation
7. The Hydraulic Co.
8. Middlesex Water
9. Philadelphia Suburban Co.
10. SJW Corporation
11. Southern California Water
12. United Water Resources

Staff did not exclude holding companies, and it used a threshold of 70% of revenue from water sales compared to Cal-Am's criteria of 85%. It used the average of high and low stock prices for May of 1988 after also analyzing prices over the most recent three-month and six-month periods, and finding substantially the same results.

The RP model recognizes that different risks exist between common stocks and debt instruments. Its premise is that common stock investors will earn a higher return than those holding debt issues. Staff compared the spreads between average water company earnings/price ratios from 1978 to 1987 to returns on 10-year and 30-year Treasury bonds. It determined average historical premiums for equity returns of 2.17% for 10-year bonds and 2.21% for 30-year bonds. Adding these premiums to forecasted rates for Treasury bonds results in an estimated ROE range of 11.33% to 11.76% using this model.

In addition to the DCF and RP models, the staff witness analyzed Cal-Am's financial history in order to evaluate its financial risk. Since 1983, both dividends per share and earnings

per share have more than doubled, and its earned ROE has been well above the currently authorized rate of 13.00%. Staff notes that in the past five years, Cal-Am earned an average ROE of 13.56% and an average return to total capital of 11.25%. During the same period, the group of 12 comparable companies earned an average ROE of 13.25% and an average total return of 10.51%. Staff concludes that a lower ROE, more in line with that of the other water utilities, is appropriate. Based on the DCF and RP analysis, the historical financial performance of the company, and indications of declining yields on different kinds of investments since 1981, staff recommends placing the greatest weight on the lower end of its recommended ROE range of 11.75% to 12.25%.

The most significant single source of disagreement between applicant and staff is the 1.25 percentage point difference in their DCF estimates. This is in turn largely attributable to the different criteria used to select comparable water utilities. Both staff's and Cal-Am's selection criteria have validity, yet both have faults. Staff's criteria result in the inclusion of companies which are less purely water utilities. Cal-Am's, on the other hand, results in the exclusion of all but five utilities, a very small sample.

We assign more weight to staff's DCF analysis. Its standard that 70% of revenue be earned from water sales is not substantially less than applicant's 85% standard. Both appear to rely on a premise that while a 100% standard is not feasible, the major portion of a selected company's revenue should be from water sales. The difference of 15% is a matter of degree, not one of principle. On the other hand, with a sample size of five, any one company's results of operations can skew the group average. We find that for reliability of the analysis, the net benefits of using the larger sample exceed those of using Cal-Am's more selective criteria.

Although we accept staff's DCF determination of 12.06% for our analysis, we do not fully agree with its rationale for recommending the lower end of its ROE range. First, we give less weight than staff appears to have given to its RP model analysis, which shows an ROE range as low as 11.33%. Staff's use of that model relied on forecasts of 10-year and 30-year Treasury Bonds. In view of our finding that bank prime rate forecasts have risen since staff prepared its report, indicating some volatility in financial markets, we place somewhat less reliance on the value of Treasury bond forecasts than we would if there were more indications of rate stability. Second, staff relied in part on indications of a climate of lower financing costs, based on a decline in yields on different kinds of investments since 1981. The record shows that such declines may not continue, and at the same time it does not show that 1981 is the appropriate year from which to measure. Third, we note that with Cal-Am's planned debt issues, it will become a more leveraged and therefore higher-risk company. Equity ratios will change from the recent average of approximately 55% to an anticipated 43.75% in 1989, 42.00% in 1990, and 41.25% in 1991. Finally, we attribute less importance to the company's favorable earnings of recent years, since during part of that time water sales were higher on a company-wide basis and the company received a benefit from the reduced income tax rates under TRA.

Based on the foregoing analysis, we will adopt an ROE of 12.25%, which is the upper end of staff's recommended range. We reject the company's higher recommendation, in part, because we find its DCF analysis to be less reliable than staff's. Also, in reviewing the company's financial performance, we are more influenced by the most recent five-year period than by the five years before that. The doubling of dividends and earnings per share since 1983 does not substantiate a claim of inconsistent and erratic earnings in recent years.

In arriving at our judgment, we have fully considered the effects of the various factors that Cal-Am believes lead to investor perceptions of increased risk, including the future impact of TRA and the Safe Drinking Water Act, the increased debt ratio, and the inability to earn on the unamortized portion of the acquisition adjustment. These factors, collectively, support our decision to adopt staff's highest recommendation, but not an ROE above that range. Although Cal-Am urges that we consider our December, 1987 order in which we authorized an ROE of 12.50% for SCWC (D.87-12-043), we find that the circumstances in that proceeding are not fully applicable in this case.

The following table sets forth our adopted capital structure, debt costs, and ROE:

Adopted Rate of Return

Component	Capital Ratios	Cost	Weighted Cost
1989			
Long- and Short-Term Debt	56.25%	9.71%	5.46%
Common Equity	43.75%	12.25%	5.36%
Total	100.00%		10.82%
1990			
Long- and Short-Term Debt	58.00%	9.78%	5.67%
Common Equity	42.00%	12.25%	5.15%
Total	100.00%		10.82%
1991			
Long- and Short-Term Debt	58.75%	9.83%	5.78%
Common Equity	41.25%	12.25%	5.05%
Total	100.00%		10.83%

Rate Design and Sales Adjustment Mechanism

Cal-Am's original proposal, while in accordance with the general water rate design guidelines we adopted in D.86-05-064,

generated substantial ratepayer opposition. Under the proposal, the average first-year revenue increase would be 15.30% for all customers, while revenues from residential customers would increase by more than 20%. The various classes of commercial and public authority customers would receive increases of approximately 10% or less. This disparity results because the proposal would eliminate the lower lifeline rates for the first 300 cf of consumption per month, and would adjust service charges consistent with our guideline that up to 50% of fixed costs may be recovered through service charges.

Public input from Monterey Peninsula ratepayers shows overwhelming support for preserving the lifeline concept and for a more even allocation of rate increases among customer classes. Many of them perceive they would in essence be "punished" for their individual conservation efforts if service charges are increased by more than or instead of commodity charges. These ratepayers believe there should be a strong relationship between the amount of water used and the rates paid.

Following a public meeting in Seaside which was dominated by complaints related to rate design, representatives of staff, applicant, and MPWMD met to discuss rate design alternatives. Observing the public reaction to the rate proposal and the fact that conservation is of paramount concern on the Monterey Peninsula, staff then developed the following recommended guidelines for Cal-Am's Monterey Peninsula District, which it understood to be representative of agreement reached with Cal-Am and MPWMD.

1. The residential customer class receive a percentage increase no larger than the other four customer classes on the General Metered Rate Schedule.

2. Service charges be set to recover no more than 38% of adopted fixed costs in the test years. (Fixed costs are gross revenue at adopted rates less purchased power,

chemicals, income taxes, uncollectibles, and any other costs which obviously vary with usage.)

3. Retain the lifeline consumption block but increase it from 300 to 800 cf.

4. Set a rate for water consumption above 800 cf that is significantly higher than the 0 - 800 cf block.

5. Final rates should not cause any customer bill to go up by more than twice the adopted system average increase.

Staff notes that its rate design proposal is at variance with the general guidelines we established in D.86-05-064, which we developed in order to provide water utilities with a greater opportunity to recover fixed costs, thereby bringing more stability to revenues. However, staff goes on to point out that in adopting the general guidelines, we recognized that conservation and revenue stabilization are conflicting goals, both of which ought to be addressed in rate case proceedings. We indicated that we would consider conservation issues in individual rate cases and encourage conservation through rate design where necessary and appropriate. When staff presented its proposal at the public participation hearing, several participants endorsed it, and representatives of MPWMD and of Cal-Am likewise indicated their support.

At the following evidentiary hearings, Cal-Am clarified its support. It indicated its position that there should also be a risk protection mechanism, since such a rate structure, especially a significantly higher rate for the second consumption block, could lead to a loss of consumption and revenue shortfall. Absent such a mechanism, the company does not favor staff's proposal.

Cal-Am proposed through the testimony of AWWSC's Western Region Director of Rates and Revenues that a sales adjustment mechanism be adopted. By this mechanism, lost or overcollected revenues due to consumption variations would be accrued in a

balancing account. The balancing account would be implemented with an "up front" surcharge on all billed consumption. The company believes the normal balancing account procedure of writing off balances at some later date could send the negative signal to consumers that reducing consumption means having to pay more. With the "up front" surcharge, he believes there is a possibility that customers will be rewarded with a surcredit, which might further enhance conservation.

Cal-Am provided further testimony, through AWWSC's Director of Special Engineering Projects, on the subject of rate design effects on conservation and revenues. Referring to a review of price-elasticity studies by Professor Patrick C. Mann in a paper for the National Regulatory Research Institute, entitled "Water Service: Regulations and Rate Reform," he is of the opinion that price signals intended to induce conservation do not conclusively result in reduced residential water demand. On the other hand, based on the Mann paper, he believes that the commercial and industrial response to price incentives will likely be greater than residential responses. His written testimony states:

> "The projections of revenue made by both the Company and the Staff are based on normalized consumption which is anticipated absent any outside influence. Assuming one of these consumption levels is accepted for rate making purposes, allowed Company revenues will be realized only if that level of consumption occurs.
>
> "If the price signals embodied in an inverted tariff are effective, consumption levels will be below those used for rate making purposes. Further, the majority of commercial and industrial response to price incentives will likely be greater than residential. Therefore, the decrease in consumption will likely produce a disproportionate decrease in revenues."

MPWMD, whose interest is conservation, takes the position that the adopted rate design "should encourage water conservation

and certainly not discourage water conservation." Additionally, according to MPWMD's general manager, it should be equitable and should consider the interests of small consumers with limited ability to pay. He believes that water consumption is sensitive to prices, but noted that he does not have a definitive study to support his view.

MPWMD strongly supports staff's proposal, anticipating that it will encourage small users to stay within a lifeline block by moving the limit from 300 to 800 cf per month, and will provide greater incentives for larger users to make improvements to reduce consumption. The witness believes it would be desirable for the second consumption block rate to be roughly one and a half times greater than the rate for the first block. MPWMD is not opposed to a risk protection mechanism.

Noting that protection such as Cal-Am's proposed supply adjustment mechanism has been requested by water utilities in the past, and that the Commission has denied such requests, staff opposes the proposal. Staff argues that such mechanisms have been rejected because they represent a significant departure from current rate design policy, reduce risk, and tend to guarantee rate of return, citing In the Matter of California Water Service Company (March 20, 1985), D.85-03-054. Although such mechanisms are common for the power industry, none are currently authorized for water utilities.

Staff indicates that for utilities with approved rationing plans, the alternative of filing an application requesting rate relief is available if they face a revenue shortfall due to rationing. Utilities without rationing plans in their tariffs may submit such plans for our approval through advice letter filings.

Estimating future consumption based on normalized, historical levels involved a considerable amount of judgment about conservation effects, and factoring in the consumption effects of

rate design proposals is no different. Generalized studies such as the Mann paper referred to by Cal-Am's witness are of some assistance, but their applicability is limited in evaluating the effects in an area such as the Monterey Peninsula. The record shows that conservation efforts and general community awareness of water supply problems are well-established there, as reflected in our adopted consumption estimates. The particular mix of residential, commercial, and industrial customers in the District makes general conclusions about commercial and industrial consumption less reliable.

We find the rate design guidelines proposed by staff are reasonable and appropriate for the Monterey Peninsula District of Cal-Am, with an exception concerning higher rates for the second commodity block as discussed below. They are responsive to public concerns about equity and ability of small users to pay, responsive to the conservation goals of the community in general and of MPWMD in particular, and they are consistent with our decision (D.86-05-064) adopting a flatter rate design policy wherein we recognized there will be difficult trade-offs between conservation and revenue stabilization goals. The authorized rates are in conformance with these guidelines.

We believe that a better balancing of equity, conservation, and revenue stabilization goals can be achieved with a more moderate rate increment for the second consumption block. Under Cal-Am's present tariffs, the gravity zone lifeline rate is $1.048 per cf, and the second block rate is $1.482 per cf. Where staff proposes a "significantly higher" increment, which MPWMD interprets to be on the order of 50% above the first block rate, we will adopt an increment of approximately 25%. Narrowing the spread will not unduly impact intended conservation signals, and doing so is compatible with MPWMD's objective to "not discourage water conservation." It will be more in keeping with our flatter rate design policy, and will lessen any possibility of a revenue

shortfall (or overcollection), particularly with respect to large users.

We will not adopt Cal-Am's proposal for a sales adjustment mechanism. The proposal is based on the company's concern that there could be a serious underrecovery of revenues if conservation signals are heeded. Staff argues that the remedy is disproportionate to the showing made on this record, and we agree. In view of (1) the level of conservation efforts that already exist, as reflected in our adopted consumption estimates, (2) the testimony of Cal-Am's rate design witness that water demand may not be as sensitive to price as generally assumed, and (3) the ameliorative effect of our decision to narrow the spread between the two consumption blocks, we believe the risk of a revenue shortfall is minimized. The adopted rate design should allow Cal-Am a reasonable opportunity to earn its authorized rate of return. Moreover, as indicated by staff, if it becomes apparent in the future that such a shortfall will occur, the possibility of an application for rate relief does exist.

As we indicated in adopting a flatter water rate design policy in D.86-05-064, we intended to retain an element of flexibility in applying the guidelines. The parties have urged us to exercise that flexibility in this case. In considering whether and to what extent we should, we are mindful of a somewhat similar circumstance involving ratepayer reaction to imposition of $4.80 customer charge on electric customers of San Diego Gas & Electric Company. Consistent with our objective of unbundling electric rates into fixed and variable components, we had imposed the charge by D.87-12-069. Ratepayer reaction in opposition to the charge was quick and strong, and when we later had occasion to reconsider the issue, we stated:

> "[U]nbundling is not our only objective in rate design. Customer acceptance and understandability are also important. Obviously, if both are not achieved, it is unlikely that the price signals intended

through rate design will be received."
(D.88-07-023, at pp. 3-4.)

We determined that considerable weight should be given to the ability of residential customers to understand the principles behind the rates they are charged and to accept those principles as reasonable. The charge was repealed. Although the underlying rate design objectives in that case were not the same as we consider here, the importance of understandability and acceptance in rate design remains applicable.

By D.85-12-062 in the last general rate case involving the Monterey Peninsula District, we ordered Cal-Am to conduct two special studies: an analysis of the effects of implementing one set of service charges and an analysis of implementing a monthly billing cycle. The company has complied with these directives. Neither Cal-Am nor staff proposes adoption of the changes contemplated in these studies, and none will be adopted. A single set of service charges instead of the current three, which are based on pressure zones, would result in rate increases of 3 to 5% for "gravity" customers. Conversion to a monthly billing cycle would increase revenue requirements by $34,000 in 1988, $22,400 in 1989, $21,300 in 1990, and $12,000 in 1991.

Department of Fish and Game Proposals

The California Department of Fish and Game (DFG) has an objective of maximizing surface flows in the Carmel River from San Clemente Dam to an area nearly 9 miles downstream called the "narrows" for the benefit of steelhead trout, riparian vegetation, and other aquatic resources. This area provides virtually the only summer nursery habitat for juvenile steelhead in the Carmel River downstream from the dam. A consultant for MPWMD has found that as flows increase, particularly in the range from 0 to 10 cubic feet per second (cfs), the nursery habitat rapidly expands, and the rearing capacity increases dramatically. According to an April 1988 economic analysis prepared for the California Advisory

Committee on Salmon and Steelhead, increasing the sport fishing catch of steelhead by 2,000 fish would have an economic value of $1,110,000 annually.

Cal-Am's diversion of water at San Clemente Dam reduces the availability of surface water, and DFG therefore wishes to minimize diversion during the summer months. Most of the water thus released can be recovered for domestic use by Cal-Am's well fields downstream from the narrows. However, additional pumping and water treatment costs would be incurred. DFG requests that we authorize recovery of such costs. Support for increasing the flow below San Clemente Dam was expressed at the public participation hearing.

Since 1983 DFG, Cal-Am, and MPWMD have entered into oral agreements and memoranda of understanding on the amount of water to be released. Agreed-upon releases into the stream have varied from 3 to 5 cfs. A memorandum of understanding for 1988 stipulated that Cal-Am would release 4 cfs at the dam, divert no more than 4 cfs to its Carmel Valley Filter Plant, and make only minimum use of its wells which are upstream from the narrows. DFG notes that it was given jurisdiction concerning the release of water from dams for the benefit of wildlife pursuant to Fish and Game Code Section 5937. The agency recommends the following course of action, beginning April 1, 1989:

1. Cal-AM should undertake immediate engineering studies to determine measures needed to reduce the diversion from April 1 through November 30 in every year from San Clemente Dam to the Carmel Valley Filter Plant to the minimum flow necessary to provide adequate water pressure and volume to the Carmel Village so that public safety is not jeopardized and pumping of wells upstream of the narrows is not required. Cal-Am should be prepared to implement these measures no later than April 1, 1989.

2. From April 1 through November 30, Cal-Am could make unlimited diversion to the

Carmel Valley Filter Plant if all three of the following conditions exist simultaneously:

a. Both Los Padres and San Clemente dams are full and spilling.

b. There is a minimum flow of 10 cfs at the flow measuring weir to be built this summer approximately one mile downstream of San Clemente Dam.

c. Cal-Am is not operating any of its wells upstream of the narrows.

3. From April 1 through November 30, all inflow to Los Padres, plus whatever water is in storage in both reservoirs in excess of that required to maintain the minimum pool in each reservoir, should be released by Cal-Am below San Clemente Dam at a rate to be recommended by the Department and the District.

Under MPWMD Ordinance 19, Cal-Am has already reduced its diversion at San Clemente Dam from approximately one half of total supply requirements to 35% in normal years. (In the past two years it was an even lower 25% due to below-normal rainfall.) The DFG proposal would have the effect of lowering normal-year diversion even further. In late-filed Exhibit 55, Cal-Am submitted estimates of the increased power, chemical and maintenance costs which would be incurred with a reduction to 29% of total requirements. Based on the company's estimated costs for the test period, well production expenses would increase by $53,954 in 1989 and by $55,204 in 1990.

MPWMD takes the position that the proposed engineering study should be broadened to address other aspects of the diversion proposal as well. It could cost between $100,000 and $150,000. Although MPWMD perceives its role as one of balancing competing interests related to water supply, and believes it could manage such a study, it does not presently have the resources to do so

unless it increases taxes or user fees. MPWMD believes it would be prudent management for the company to fund such a study and recover the costs through its rates.

Cal-Am does not oppose the study proposal if a procedure is established to allow rate base treatment of study expenses. Staff objects to the notion of having Cal-Am's ratepayers absorb the entire burden of the DFG proposal, since the benefits of an increased sport fishing catch extend beyond Cal-Am's Monterey Peninsula District. Staff would not oppose an equitable allocation of costs spread throughout MPWMD's boundaries, which are somewhat larger than those of Cal-Am's service territory, but points out that the record contains no basis for such a plan.

We concur with staff's position concerning funding of engineering studies. MPWMD, with its statutory role of managing water resources and balancing a variety of competing interests, is clearly an appropriate agency to conduct such a study. Its territory, as well as its role, is more encompassing than Cal-Am's. Its current lack of resources does not justify transferring the burden of such a study to Cal-Am's ratepayers alone.

MPWMD's general manager testified that the proposal for a further reduction in diversion at San Clemente Dam (Items 2 and 3 of the DFG proposal) is premature. We concur, and will not allow such expenses at this time. The current Memorandum of Understanding is already reflected in estimated power costs, and staff does not object to inclusion of these costs in rates. After necessary studies have been completed, if by new agreement among Cal-Am, MPWMD, and DFG, or by ordinance, further reductions are to be accomplished, it will be appropriate for the company to request recovery of increased costs, as shown in Exhibit 55, through an advice letter filing.

Attrition Allowance

Branch recommends that an attrition adjustment to revenue be authorized for 1991. The proposed revenue adjustment is calculated by multiplying operational attrition plus financial attrition times the adopted 1990 rate base and the net-to-gross multiplier. The adopted adjustment is computed as follows:

1991 Attrition Adjustment =

= [(Oper. Attr.) + (Fin. Attr.)] [1990 Rate Base] [net-to-gross mult.]

= [(.0035) + (.0001)] [38,103,800] [1.6806]

= $230,500

Findings of Fact

1. Service provided by Cal-Am in its Monterey Peninsula District is satisfactory, and the water furnished meets current state drinking water standards.

2. Applicant has complied with our directives in D.85-12-062 to include its conservation plan in this application and to include the results of its analyses of implementing one set of service charges and a monthly billing cycle.

3. The MPWMD was created by the legislature to manage water supplies and water quality on the Monterey Peninsula. Its responsibilities include development of new supplies, regulation of existing supplies, and regulation of water consumption. Its territory includes Cal-Am's Monterey Peninsula District as well as 22 other water suppliers, most of which are small.

4. Cal-Am's diversion of water from the Carmel River is subject to regulation by MPWMD.

5. Customer growth of 571 per year during the period from 1985 to 1987 was unusually high compared to the average of 250 per year measured from 1976 to 1987.

6. Pending building moratoriums and meter permit restrictions created an incentive to build during 1985-87.

7. Population growth on the Monterey Peninsula has been estimated to be 1.7%, based on the AMBAG study, and .861%, based on the EIP report.

8. Current water supply problems on the Monterey Peninsula have led to voluntary and mandatory MPWMD actions to promote conservation. These actions include distribution of conservation kits to residences; Ordinance 30, which requires installation of low water-use plumbing fixtures in new construction and in existing structures upon resale or alteration; and Ordinance 35, which declares a water supply emergency through December 31, 1988 and restricts water use.

9. The low-flow faucet aerators distributed by MPWMD restrict flows to 2.5 gpm.

10. The Maddaus report shows that faucet flow restrictors which limit the maximum flow rate to a range of 0.5 to 3.5 gpm will probably result in consumption savings of less than 1.0 gpcd.

11. The Maddaus report shows that installation rates of water savings devices range considerably, from 58% to 93% for toilet tank devices. Rates of installation of the MPWMD kits exceeded 90% in Seaside and Pacific Grove.

12. Cal-Am estimates that outside residential water use will be cut 10% as a result of water waste restrictions imposed by MPWMD.

13. An estimated 4.1% of homes are sold annually in the Monterey Peninsula area.

14. Current consumption reductions by commercial, public authority, and multi-residential customers are expected to continue into test year 1989 even if normal rainfall occurs.

15. Golf course customers have taken a variety of measures, including installation of new irrigation systems with built-in

water saving devices and the use of harder playing surfaces, to save on water use.

16. Future use of reclaimed waste water will substantially reduce Cal-Am's sales to golf courses.

17. Salaries of Cal-Am's general office employees are determined in accordance with a nationwide salary survey.

18. Many of Cal-Am's general office employees are relatively new and therefore receive merit salary adjustments.

19. The preponderance of vehicle use by general office management employees is for business purposes, and the company benefits by having the vehicles taken home instead of left unattended at night.

20. Branch estimated that 95% of the expense of the Monterey laboratory is explained by weekly bacteriological tests done for the various operating districts of Cal-Am. In the future, the Los Angeles Laboratory will perform these tests for all but the Monterey Peninsula District.

21. Newly adopted state and federal regulations governing water quality are imposing new requirements on Cal-Am to expand water testing on a company-wide basis. The cost impacts of these requirements on the Monterey Peninsula District can be better quantified after the Los Angeles Laboratory has commenced operations.

22. Cal-Am projects that there will be additional workload of 144 hours per month in the Monterey Peninsula District accounting department. There was already an average overtime of 11 hours per week in the first six months of 1988.

23. The workload of the district accounting department has been increasing to the point where a new employee is justified.

24. Cal-Am proposes to add a permanent meter repair employee instead of continuing the use of temporary employees and contractors for meter testing and replacement. It has estimated a

reduction in the average cost of replacing 5/8" and 1" meters from $16.50 to $15.91.

25. Staff's estimates of the costs of maintaining office and related equipment reflect changes in the company's operations, but should be adjusted to reflect the actual $12,000 cost of maintenance contracts for personal computers and related equipment.

26. Cal-Am's estimates of road grading expenses are based on more current conditions than those of staff.

27. Use of corrosive chemicals at all of the Monterey Peninsula District's production facilities has resulted in increased maintenance expenses for water treatment equipment.

28. Estimated reservoir and tank maintenance expenses have increased in part due to the addition, since 1979, of 13 new reservoirs which are now being added to the company's maintenance schedule.

29. Cal-Am has determined, pursuant to policies developed by its parent company, that lead-based primer paint will be removed from tank exteriors as soon as possible in anticipation of the adoption of new EPA regulations which would make such removal more costly in the future.

30. There are no current regulations requiring the removal of lead-based primers coated by top layers of paint from tank exteriors, and there is no showing of immediate danger associated with the existence of such primers.

31. The act of removing lead-based primers could create a danger that would not otherwise exist.

32. There is no certainty that significant costs for retiring either San Clemente Dam or Los Padres Dam will be incurred.

33. Plastic water meters installed for a period of approximately eight years, until two to three years ago, resulted in too many problems, and the company is now installing more durable meters which are guaranteed for 15 years.

34. A service life of 13 years reflects the mix of types of meters in service, and will allow a reduction of the depreciation reserve deficits in Plant Account 346.

35. The results of a new depreciation study completed by Cal-Am for its Monterey Peninsula District are reasonable for ratemaking purposes when adjustments are made as noted in the opinion and in Appendix E.

36. Cal-Am and staff agree on the prudence of proposed utility-funded additions to plant.

37. Utility plant additions have been averaging approximately $3 million per year for the past seven years, except for 1982, when a new treatment plant costing approximately $5 million was added.

38. Cal-Am's estimates of the costs of plant additions for 1988, 1989, and 1990 are significantly above the levels of recent years.

39. Cal-Am's higher estimates of plant addition costs are largely explained by considering the following projects as being above and beyond normal replacement and betterment projects.

	<u>1988</u>	
1.	Forest Lake Reservoir, seismic safety improvements	$900,600
	<u>1989</u>	
2.	Begonia Treatment Plant projects	$755,000
3.	Crest Reservoir	$988,000
4.	New Well	$230,000
	<u>1990</u>	
5.	Replace 7,000' of transmission line	$825,000
6.	San Clemente Dam, seismic safety improvements,	$300,000

40. Cal-Am plans to make more plant additions in 1988, 1989, and 1990 than it did in the previous seven years, except 1982.

41. The DSD has identified seismic safety hazards at Forest Lake Reservoir, but has not approved Cal-Am's remedial plans;

however, DSD may require that such work be performed by Cal-Am during the test period.

42. Cal-Am's estimates of the cost of repairs to Forest Lake Reservoir could change by a factor of three or four if DSD requires more work to be done than applicants's consultant has recommended.

43. Although construction of a new San Clemente Dam by MPWMD would result in the inundation of Cal-Am's San Clemente Dam, DSD may require repairs to the old dam during the test period at an estimated cost of $300,000.

44. Cal-Am and staff agree that the factors which led to imposition of the 50% long-term debt limit by D.86249 are no longer applicable, and that the limit should be removed.

45. For the years 1989, 1990, and 1991, the capital ratios set forth in the table showing the development of the adopted rate of return are adopted for Cal-Am as reasonable.

46. As of November 1988, forecasted bank prime rates were 9.29% for 1988, 10.17% for 1989, and 9.58% for 1990 and 1991, using the average of available Blue Chip and DRI forecast data.

47. The staff's estimates of new short-term debt costs, updated in accordance with Finding 46, are reasonable.

48. Cal-Am estimated long-term debt costs by adding 130 basis points to short-term interest rates.

49. Staff assumed Cal-Am will pay interest rates equivalent to AA-rated utility mortgage interest rates.

50. Cal-Am's most recent bond issue had an interest rate equivalent to the AAA-rated yield at the time it was issued.

51. Financial investors perceive Cal-Am as having resources and expertise of a larger company backing the smaller subsidiary enterprise.

52. Evaluation of Cal-Am's before-tax interest coverage, net cash flow to total capital, and debt leverage under Standard and Poor's bond rating guidelines shows that new issues will cost no

more, and probably less than the equivalent of AA-rated utility bonds.

53. Cal-Am's bond costs are comparable to those of AA-rated water utilities. The staff's estimates of new long-term bond costs are reasonable.

54. Cal-Am's DCF analysis based on a comparable group of five water utilities yielded a range of ROE estimates of 13.28% to 13.34%, with a midpoint of 13.31%.

55. Staff's DCF analysis based on a comparable group of twelve water utilities, including holding companies, yielded an estimated ROE of 12.06%, 1.25 percentage points less than Cal-Am's estimate.

56. A sample size of five comparable companies for DCF analysis allows any one company to skew the average, making the resulting ROE estimate less reliable than would a larger sample.

57. Cal-Am will become more highly leveraged in the test period, moving from an average equity ratio of approximately 55% in recent years to an anticipated 43.75% in 1989, 42.00% in 1990, and and 41.25% in 1991.

58. Since 1983, Cal-Am's dividends per share and earnings per share have more than doubled.

59. Cal-Am's favorable earnings in recent years are in part attributable to higher-than-normal sales on a company-wide basis and reduced income tax rates under TRA.

60. The future impact of TRA and the Safe Drinking Water Act, the increased debt ratio, and the inability to earn on the unamortized portion of the acquisition adjustment collectively lead to investor perceptions of increased risk.

61. Cal-Am's authorized return on common equity should be 12.25%, which is reasonable.

62. Rates of return of 10.82% for test years 1989 and 1990 and 10.83% for 1991 are reasonable, based on the adopted capital structure, debt costs, and return on equity.

63. Cal-Am requires additional revenues for its Monterey Peninsula District, but the rates proposed would produce an excessive rate of return.

64. The amounts of operating revenues, operating expenses, and rate base, as well as each element thereof, shown on Table 1, "At Authorized Rates," represent a fair and reasonable determination of the revenue requirement for test years 1989 and 1990.

65. The increases in annual revenue authorized by this decision in order to produce the adopted rates of return are $1,233,200 in 1989, and $303,300 in 1990.

66. Revenue increases of $230,500 for 1991 to reflect estimates of operational and financial attrition are reasonable.

67. Public input in this proceeding shows that Cal-Am's Monterey Peninsula District ratepayers favor retention of the lifeline concept and an even allocation of rate increases among customer classes.

68. Branch proposed rate design guidelines for Cal-Am's Monterey Peninsula District which include a limit on residential customer bill increases to a percentage no greater than those for other classes; a 38% limit on the amount of fixed costs that may be recovered through service charges; retention of two consumption blocks along with an increase of the first block from 300 to 800 cf; significantly higher rates for the second block; and a limit of twice the adopted system average increase on any customer bill increase.

69. Community awareness of water supply problems on the Monterey Peninsula, and the mix of residential, commercial and industrial customers there, reduce the value of studies such as the Mann paper referred to by Cal-Am's rate design witness when applied in this case, but in general, the commercial and industrial response to price incentives will likely be greater than the residential response.

70. A rate differential on the order of 50% for the second consumption block could affect commercial and industrial consumption to a greater degree than residential consumption.

71. The narrower rate differentials that we adopt, combined with the level of conservation efforts that already exist and the fact that price sensitivity of consumption is limited, minimize the risk of a revenue shortfall.

72. A rate differential of 25% for the second consumption block reasonably balances rate design goals of conservation, equity, and revenue stabilization.

73. Branch's proposed rate design guidelines, modified as provided in Finding 72, are consistent with D.86-05-064 by which we adopted a flatter rate design policy, and are reasonable.

74. A sales adjustment mechanism is not necessary to provide adequate revenue stability under the adopted consumption estimates and rate design.

75. The economic value of increasing the sport fishing catch on the Carmel River through increased stream flows is estimated to be $1,110,000 per year.

76. MPWMD is an appropriate agency to conduct or oversee engineering studies to determine measures needed to reduce diversion of water from San Clemente Dam.

77. MPWMD proposes that the diversion study requested by DFG be expanded, and estimates the study could cost between $100,000 and $150,000.

78. MPWMD regulations and agreements among MPWMD, DFG, and Cal-Am concerning diversion of water at San Clemente Dam may affect Cal-Am's costs related to increased pumping of water from its wells.

79. Further reductions in the amount of water diverted at San Clemente Dam to 29% of requirements will result in an increase of well production costs of approximately $53,954 in 1989 and $55,204 in 1990, based on normal rainfall.

80. MPWMD's boundaries are somewhat greater than those of Cal-Am's service territory, and its functions include balancing a variety of interests related to water supply issues.

81. DFG's proposal to allow expenses related to further reductions in the amount of water diverted by Cal-Am is premature.

82. The increases in rates and charges authorized in this decision are justified; the rates and charges authorized in this decision are just and reasonable; and the present rates and charges, insofar as they are different from those prescribed in this decision, are for the future unjust and unreasonable.

Conclusions of Law

1. Cal-Am should be authorized to file the rates set forth in Appendixes A and B, as specified in the following order.

2. The depreciation rates shown in the depreciation accrual analysis in Appendix E are reasonable for the test period and should be applied until further order of the Commission

3. Ordering Paragraph of D.86249 should be rescinded since the conditions that led to the need for a limitation on long-term debt no longer apply.

4. Cal-Am should be authorized to file advice letters requesting rate relief as specified in the following order.

5. Cal-Am should be authorized to file an application requesting rate increases to offset the cost of seismic safety improvements at Forest Lake Reservoir, in the event such improvements are required by the DSD.

6. Cal-Am's request for authority to implement a sales adjustment mechanism should be denied.

7. The DFG proposal that Cal-Am conduct an engineering study of water diversion to the Carmel Valley Filter Plant solely at its own expense should not be adopted for ratemaking purposes.

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

9. Because there is an immediate need for rate relief, and the revenue projections were made for rates to be in effect for the beginning of January, 1989, the order should be effective today.

O R D E R

IT IS ORDERED that:

1. California-American Water Company (Cal-Am) is authorized to file the revised schedules attached as Appendix A for its Monterey Peninsula District. This filing shall comply with General Order (GO) Series 96. The effective date of the revised schedules shall be 5 days after the date of filing. The revised schedules shall apply only to service rendered on and after their effective date.

2. On or after November 5, 1989, Cal-Am is authorized to file an advice letter, with appropriate supporting workpapers, requesting the step rate increases for 1990 included in Appendix B, or to file a lesser increase in the event that the rate of return on rate base for its Monterey Peninsula District, adjusted to reflect the rates then in effect and normal ratemaking adjustments for the 12 months ending September 30, 1989, exceeds the later of (a) the rate of return found reasonable by the Commission for applicant for the corresponding period in the then most recent rate decision, or (b) 10.82%. This filing shall comply with GO 96. The requested rates shall be reviewed by the staff to determine their conformity with this order and shall go into effect upon the staff's determination of conformity. Staff shall inform the Commission if it finds that the proposed rates are not in accord with this decision, and the Commission may then modify the increase. The effective date of the revised schedules shall be no earlier than January 1, 1990, or 40 days after filing, whichever is later. The revised schedules shall apply only to service rendered on and after their effective date.

3. On or after November 5, 1990, Cal-Am is authorized to file an advice letter, with appropriate supporting workpapers, requesting the step rate increases for 1991 included in Appendix B, or to file a lesser increase in the event that the rate of return on rate base for its Monterey Peninsula District, adjusted to reflect the rates then in effect and normal ratemaking adjustments for the 12 months ending September 30, 1990, exceeds the later of (a) the rate of return found reasonable by the Commission for applicant for the corresponding period in the then most recent rate decision, or (b) 10.83%. This filing shall comply with GO 96. The requested rates shall be reviewed by the staff to determine their conformity with this order and shall go into effect upon the staff's determination of conformity. Staff shall inform the Commission if it finds that the proposed rates are not in accord with this decision, and the Commission may then modify the increase. The effective date of the revised schedules shall be no earlier than January 1, 1991, or 40 days after filing, whichever is later. The revised schedules shall apply only to service rendered on and after their effective date.

4. The depreciation rates in Appendix E shall be applied until further order of the Commission.

5. Ordering paragraph 4 of Decision 86249 is rescinded.

6. Cal-Am is authorized to file advice letters, with appropriate supporting workpapers, requesting recovery in rates of the following:

a. Any loss of revenue that may result when the use of reclaimed water by the Del Monte Forest golf courses occurs, after such use has commenced.

b. Any additional amount of general office expenses, related to the allocation of expenses of the Monterey Laboratory to the Monterey Peninsula District, as may be consistent with the Commission's findings upon issuance of a decision in Application

(A.) 88-09-040, A.88-09-041, and A.88-09-042.

c. The cost of utility plant additions related to seismic safety improvements at San Clemente Dam, if such improvements are required by order of the Division of Safety of Dams.

d. Additional power, chemical, and maintenance costs resulting from reductions in diversion of surface water at San Clemente Dam and increased pumping from well fields downstream which are required to comply with agreements or regulations with or by the Monterey Peninsula Water Management District and/or the the California Department of Fish and Game.

7. Cal-Am is authorized to file an application requesting recovery in rates the cost of utility plant additions related to seismic safety improvements at Forest Lake Reservoir, if such improvements are required by order of the Division of Safety of Dams.

8. Cal-Am's request for authority to implement a sales adjustment mechanism is denied.

This order is effective today.

Dated FEB 24 1989, at San Francisco, California.

G. MITCHELL WILK
President
FREDERICK R. DUDA
STANLEY W. HULETT
JOHN B. OHANIAN
Commissioners

I CERTIFY THAT THIS DECISION WAS APPROVED BY THE ABOVE COMMISSIONERS TODAY.

Victor Weisser, Executive Director

APPENDIX A

Page 1

SCHEDULE NO. MO-1

MONTEREY PENINSULA TARIFF AREA

GENERAL METERED SERVICE

APPLICABILITY

Applicable to all water furnished on a metered basis.

TERRITORY

Monterey, Pacific Grove, Carmel-by-the Sea, Del Ray Oaks, Sand City, and a portion of Seaside, and vicinity, Monterey County.

RATES

	Per Meter Per Month			
Service Charge:	Gravity Zone	1st Elev. Zone	2nd Elev. Zone	
For 5/8 x 3/4-inch meter.....	7.55	8.00	8.35	(I)
For 3/4-inch meter.....	10.80	11.65	12.40	
For 1-inch meter.....	15.55	17.45	18.50	
For 1-1/2-inch meter.....	26.45	28.15	28.80	
For 2-inch meter.....	44.35	47.35	52.50	
For 3-inch meter.....	80.05	85.75	93.20	
For 4-inch meter.....	120.05	130.35	141.75	
For 6-inch meter.....	187.50	213.80	243.55	
For 8-inch meter.....	297.30	332.70	371.60	(I)
Quantity Rates:				
For the first 800 cu.ft.,per 100 cu.ft.	1.289	1.464	1.576	(C)
For all over 800 cu. ft.,per 100 cu.ft.	1.613	1.828	1.968	(C)

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

SPECIAL CONDITION

The boundaries of the three zones in which the above rates apply are as set forth in the Preliminary Statement and delineated on the Tariff Service Area Maps filed as part of these tariff schedules.

SCHEDULE NO. MO-4

MONTEREY PENINSULA TARIFF AREA

PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY

Applicable to all water service furnished for privately owned fire protection systems.

TERRITORY

The incorporated cities of Monterey, Pacific Grove, Carmel-bythe-Sea, Del Rey Oaks, and a portion of Seaside; and certain unincorporated areas in the County of Monterey, all as set forth on Service Area Maps on file with the California Public Utilities Commission.

RATES	PER MONTH	
For each 4-inch connection	$ 16.40	(I)
For each 6-inch connection	32.55	(I)
For each 8-inch connection	48.95	(I)

The rates for private fire service are based upon the size of the service and no additional charges will be made for fire hydrants, sprinklers, hose connections or standpipe connected to and supplied by such private fire service.

SPECIAL CONDITIONS

1. The fire protection service and connection shall be installed by the utility or under the utility's direction. Cost of the entire fire protection installation excluding the connection at the main shall be paid for by the aplicant. Such payment shall not be subject to refund.

2. The installation housing the detector type check valve and meter and appurtenances thereto shall be in a location mutually agreeable to the applicant and the utility. Normally such installation shall be located on the premises of applicant, adjacent to the property line. The expense of maintaining the fire protection facilities on the applicant's premises (including vault, meter, detector type check valves, backflow devise and apputenances) shall be paid for by the applicant.

SCHEDULE NO. MO-4-H

MONTEREY PENINSULA TARIFF AREA

PRIVATE FIRE HYDRANT SERVICE

APPLICABILITY

Applicable to all water service furnished for private fire hydrant service.

TERRITORY

The incorporated cities of Monterey, Pacific Grove, Carmel-by-the-Sea, Del Rey Oaks, and a portion of Seaside; and certain unicorporated areas in the County of Monterey, all as set forth on Service Area Maps on file with the California Public Utilities Commission.

RATES	PER MONTH
Private Fire Hydrant Service Installed at Cost of Applicant:	
For each Fire Hydrant Installed	$ 7.30 (I)

SPECIAL CONDITIONS

1. The fire protection service and connection shall be installed by the utiltiy or under the utility's direction. Cost of the entire fire protection installation excluding the connection at the main shall be paid for by the applicant. Such payment shall not be subject to refund.

2. The installation housing the detector type check valve and meter and appurtenances thereto shall be in a location mutually agreeable to the applicant and the utility. Normally such installation shall be located on the premises of applicant, adjacent to the property line. The expense of maintaining the fire protection facilities on the applicant's premises (including vault, meter, detector type check valve, backflow devise and appurtenances) shall be paid for by the applicant.

3. All facilities paid for by the applicant shall br the sole property of the applicant. The utility and its duly authorized agents shall have the right to ingress to and egress from the premises for all purposes relating to said facilities.

4. The minimum diameter will be 6 inches, and the maximum diameter will be the diameter of the main to which the service is connected.

SCHEDULE NO. MO-7

MONTEREY PENINSULA TARIFF AREA

STREET SPRINKLING SERVICE

APPLICABILITY

Applicable to water service furnished to municipalities on a metered basis for street sprinkling.

TERRITORY

The incorporated cities of Monterey, Pacific Grove, Carmel-by-the-Sea, Del Rey Oaks, and a portion of Seaside, and vicinity, Monterey County.

RATE	PER MONTH
For all water used, per 100 cu. ft.	$ 1.583 (I)

(END OF APPENDIX A)

APPENDIX B

Page 1

Each of the following increases in rates may be put into effect on or after January 1, 1990 by the following rate schedules which add the appropriate increase to the rate effective on that date.

SCHEDULE NO. MO-1

	PER METER PER MONTH		
	Gravity Zone	1st Elevation Zone	2nd Elevation Zone
Service Charge:			
For 5/8 x 3/4-inch meter	0.15	0.15	0.15
For 3/4-inch meter	0.20	0.20	0.20
For 1-inch meter	0.25	0.30	0.30
For 1-1/2-inch meter	0.45	0.50	0.50
For 2-inch meter	0.75	0.80	0.90
For 3-inch meter	1.40	1.50	1.60
For 4-inch meter	2.10	2.25	2.45
For 6-inch meter	3.25	3.70	4.20
For 8-inch meter	5.15	5.75	6.45
Quantity rates:			
For the first 800 cu. ft., per 100 cu. ft.	0.032	0.030	0.030
For all over 800 cu. ft., per 100 cu. ft.	0.032	0.039	0.040

RATES	SCHEDULE NO. MO-4	PER MONTH
For each 4-inch connection		0.35
For each 6-inch connection		0.65
For each 8-inch connection		1.00

RATES	SCHEDULE NO. MO-4H	PER MONTH
Private Fire Hydrant Service Installed at Cost of Applicant for each Fire Hydrant Installed:		0.15

RATE	SCHEDULE NO. MO-7	PER MONTH
For all water used, per 100 cu. ft.		0.032

APPENDIX B

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Each of the following increases in rates may be put into effect on or after January 1, 1991 by the following rate schedules which add the appropriate increase to the rate effective on that date.

SCHEDULE NO. MO-1

	PER METER PER MONTH		
	Gravity Zone	1st Elevation Zone	2nd Elevation Zone
Service Charge:			
For 5/8 x 3/4-inch meter	0.10	0.10	0.15
For 3/4-inch meter	0.15	0.20	0.20
For 1-inch meter	0.25	0.25	0.30
For 1-1/2-inch meter	0.40	0.45	0.45
For 2-inch meter	0.70	0.70	0.80
For 3-inch meter	1.20	1.30	1.40
For 4-inch meter	1.85	2.00	2.15
For 6-inch meter	2.85	3.25	3.70
For 8-inch meter	4.55	5.10	5.65
Quantity rates:			
For the first 800 cu. ft., per 100 cu. ft.	0.020	0.022	0.024
For all over 800 cu. ft., per 100 cu. ft.	0.025	0.028	0.030

RATES	SCHEDULE NO. MO-4	PER MONTH
For each 4-inch connection		0.25
For each 6-inch connection		0.50
For each 8-inch connection		0.75

RATES	SCHEDULE NO. MO-4H	PER MONTH
Private Fire Hydrant Service Installed at Cost of Applicant for each Fire Hydrant Installed:		0.10

RATE	SCHEDULE NO. MO-7	PER MONTH
For all water used, per 100 cu. ft.		0.025

(END OF APPENDIX B)

APPENDIX C

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ADOPTED QUANTITIES

Name of Company: California American Water Company

District: Monterey

1. Net-to-Gross Mulitplier: 1.6806
2. Federal Tax Rate: 34%
3. State Tax Rate: 9.3%
4. Local Franchise Tax Rate: 0.219%
5. Uncollectibles Rate: 0.382%

Offset Items	Test Years 1989	1990
6. Purchased Power		
A. KWh/KCcf		
A1	297.5	297.5
A10	814.3	814.3
A1P	1537.3	1537.3
B. Authorized Production (KCcf)		
A1	33.6	35.0
A10	16,163.5	16,856.8
A1P	872.9	897.7
C. KWhrs		
A1,A1P Summer (65%)	878,757	897,012
Winter (35%)	473,177	483,005
A10 Summer (65%)	8,555,111	8,920,884
Winter (35%)	4,606,598	4,803,553
D. Energy Usage Charges ($/KWh)		
A1,A1P Summer	$0.10096	
Winter	$0.08297	
A10 Summer	$0.08403	
Winter	$0.06630	

APPENDIX C

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Offset Items (Cont'd)		Test Years 1989	Test Years 1990
E. Energy Expense			
A1, A1P	Summer	$88,719.3	$90,562.3
	Winter	$39,259.5	$40,074.9
A10	Summer	$718,886.0	$749,621.9
	Winter	$305,417.7	$318,475.6

F. Monthly Service Charges and Expense

Charges (per pump)	No. of Pumps	Expense
A1 - $5	1	$60
A10 - $50	34	$20,400
A1P - $6.25	35	$2,625

G. Demand (on A10 schedule pumps only)
A10 - 4406 KW

H. Demand Charges
$2.77/Month/demand (KW)

I. Demand Expense	$146,455.5	$146,455.5
J. Authorized City Tax Expense (on PG&E bill)	$12,597	$12,752
K. Total Auth. Purch. Power	$1,334,420	$1,381,027
L. Average Cost/KWh	$0.092	$0.091
7. Ad Valorem taxes	$380,600	$411,300
Effective Tax Rate:	1.04%	1.04%

APPENDIX C

8. Number of Services:

	No. of Services		Usage-KCcf		Avg. Usage-Ccf/Yr	
	1989	1990	1989	1990	1989	1990
Residential-Metered	29,201	29,676	3,075	3,152	105.3	106.2
Business-Normal	4,811	4,858	1,713	1,820	356	375
Business-Large	66	66	676	712	10,249	10,788
Golf Courses	16	16	443	467	27,659	29,195
Industrial	8	8	40	40	4,946	4,946
Public Auth.-Normal	423	431	216	231	510	536
Public Auth.-Large	15	15	436	459	29,051	30,580
Subtotal	34,540	35,070	6,598	6,881		
Private Fire Protection	498	538				
Other	27	27	32	32		
Total	35,065	35,635	6,630	6,913		
Water Loss at 6.10%			431	449		
Irrigation			85	85		
Total Water Produced			7,146	7,447		

Surface Supply @ 65%
Pumped Water @ 35%

APPENDIX C

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ADOPTED SERVICE BY METER SIZE

9. Adopted Service by Meter Size

Meter Size	1989 Gravity	1989 1st Elev.	1989 2nd Elev.	1990 Gravity	1990 1st Elev.	1990 2nd Elev
5/8 x 3/4	19,459	8,306	1,994	19,758	8,438	2,026
3/4	0	0	0	0	0	0
1	2,090	1,022	351	2,119	1,037	357
1-1/2	505	193	42	511	196	43
2	360	106	19	364	107	20
3	21	9	0	21	9	0
4	38	12	8	39	12	8
6	4	1	0	4	1	0
8	0	0	0	0	0	0
10	0	0	0	0	0	0
Total	22,477	9,649	2,414	22,816	9,800	2,454

10. Metered Water Sales Used to Design Rates

Usage - KCcf

Range-KCcf	1989 Gravity	1989 1st Elev.	1989 2nd Elev.	1990 Gravity	1990 1st Elev.	1990 2nd Elev.
Block 1 0-8	1,522.9	687.8	172.1	1,571.2	707.6	176.7
Block 2 8-	2,979.3	1,031.3	204.1	3,131.9	1,080.2	212.9
Total Usage	4,502.2	1,719.1	376.2	4,703.1	1,787.8	389.6

APPENDIX C

11. Revenue by Customer Classification and Zone

Classification	Gravity	1st Elevation	2nd Elevation	Total
		(Dollars in Thousands)		
		1989		
Residential	$4,399.9	$2,498.5	$731.5	$7,629.9
Business (incls glf crs)	3,864.1	1,392.0	237.4	5,493.5
Industrial	66.8	0	0	66.8
Public Authority	1,025.3	169.9	21.4	1,216.6
All Other				162.1
		1990		
Residential	$4,586.1	$2,602.2	$761.3	$7,949.6
Business (incls glf crs)	4,141.9	1,496.4	255.1	5,893.4
Industrial	68.2	0	0	68.2
Public Authority	1,103.1	182.1	22.7	1,307.9
All Other				177.8

APPENDIX C

Page 6

ADOPTED TAX CALCULATIONS

		1989		1990	
		CCFT	FIT	CCFT	FIT
		(Dollars in Thousands)			
1	Operations Revenues	14568.9	14568.9	15396.9	15396.9
2	O&M Expenses	7325.5	7325.5	7643.8	7643.8
3	Taxes Other than Income	615.1	615.1	662.7	662.7
4	CCFT	.0	319.4	.0	313.0
5	Subtotal	7940.6	8260.0	8306.5	8619.5
6	Deductions from Taxable Income				
7	Tax Depreciation	1562.3	1535.7	1731.6	1710.3
8	Interest Expense	1631.9	1631.9	1993.6	1993.6
9	Subtotal Deductions	3194.2	3167.6	3725.2	3703.9
10	Net Taxable Inc. for CCFT	3434.1		3365.2	
11	CCFT	319.4		313.0	
12	Total CCFT	319.4		313.0	
13	Net Taxable Income for FIT		3141.3		3073.5
14	Federal Income Tax		1068.0		1045.0
15	Investment Tax Credit		45.2		45.2
16	Total FIT		1022.8		999.8

APPENDIX C

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Adopted Average Depreciated Rate Base
(Dollars in Thousands)

Item	1989	1990
Utility Plant	$55,425.8	$60,811.6
Working Capital		
Materials & Supplies	164.3	176.2
Working Cash-Operational	293.1	307.6
Working Cash-Lead Lag	732.9	761.3
Total Working Capital	1,190.3	1,245.1
Adjustments		
Advances	-893.9	-798.5
Contributions	-5,355.1	-5,944.9
G.O. Allocation	156.0	148.1
Deferred Taxes-Cont.	308.6	455.1
Reserve for Deferred Fit	-2,504.3	-2,908.7
Total Adjustments	-8,288.7	-9,048.9
Subtotal Before Deducting	48,327.4	53,007.8
Deductions		
Depreciation Reserve	-13,509.1	-14,904.0
Avg. Depreciated Rate Base	34,818.3	38,103.8

(END OF APPENDIX C)

APPENDIX D

TABLE - 1.0
1989 & 1990
RETROFIT SAVINGS

	A	B	C	D		E	
	NON CONSERVING	INSTLLTN OF KITS		GPCD REDUCT.		CONSERVE	
CONSUMPTION PER METER	120.4					120.4	
NUMBER OF PEOPLE PER HOUSEHOLD	2.299					2.299	
(CCF)/(PERSON)(YEAR)	52.37					52.37	
(GALLONS)/(PERSON)(YEAR)	39176		% RESIDENTS			39176	
(GALLONS)/(PERSON)(DAY)	107.33		INSTLLD KITS DROUGHT		% INSTLLTN	107.33	
INSIDE WATER USE							
TOILETS (GPCD)	22.0	90.0%	5.0%	4.0	85.50%	18.6	
SHOWERS (GPCD)	16.3	90.0%	5.0%	7.2	85.50%	10.1	
TOILET LEAKAGE (GPCD)	4.1	50.0%	5.0%	0.0	47.50%	4.1	
FAUCETS (GPCD)	9.0	90.0%	5.0%	1.0	85.50%	8.1	
DISHWASHERS (GPCD)	2.4	100.0%	5.0%	0.0	95.00%	2.4	
WASHING MACHINES (GPCD)	16.5	100.0%	5.0%	0.0	95.00%	16.5	
BATHS (GPCD)	7.0	100.0%	5.0%	0.0	95.00%	7.0	
TOTAL INSIDE WATER USE (GPCD)	77.30					66.87	13.49%
OUTSIDE WATER USE 1989	30.03				95.00%	28.53	5.00%
OUTSIDE WATER USE 1990	30.03				100.00%	30.03	0.00%
TOTAL INSIDE AND OUTSIDE WATER 1989	107.33					95.40	11.12%
TOTAL INSIDE AND OUTSIDE WATER 1990	107.33					96.90	9.72%

TABLE - 2.0
1989 & 1990
NEW CONSTRUCTION SAVINGS

	A	B	D	E	
	NON CONSERVING	INSTLLTN OF KITS	GPCD REDUCT.	CONSERVE	
CONSUMPTION PER METER	120.4			120.4	
NUMBER OF PEOPLE PER HOUSEHOLD	2.299			2.299	
(CCF)/(PERSON)(YEAR)	52.37			52.37	
(GALLONS)/(PERSON)(YEAR)	39176			39176	
(GALLONS)/(PERSON)(DAY)	107.33			107.33	
INSIDE WATER USE					
TOILETS (GPCD)	22.0	100.0%	16.0	6.0	
SHOWERS (GPCD)	16.3	100.0%	7.2	9.1	
TOILET LEAKAGE (GPCD)	4.1	100.0%	0.0	4.1	
FAUCETS (GPCD)	9.0	100.0%	1.0	8.0	
DISHWASHERS (GPCD)	2.4	100.0%	0.0	2.4	
WASHING MACHINES (GPCD)	16.5	100.0%	0.0	16.5	
BATHS (GPCD)	7.0	100.0%	0.0	7.0	
TOTAL INSIDE WATER USE (GPCD)	77.30			53.10	31.31%
OUTSIDE WATER USE 1989	30.03		95.00%	28.53	5.00%
OUTSIDE WATER USE 1990	30.03		100.00%	30.03	0.00%
TOTAL INSIDE AND OUTSIDE WATER 1989	107.33			81.63	23.95%
TOTAL INSIDE AND OUTSIDE WATER 1990	107.33			83.13	22.55%

APPENDIX D

Page 3 .

TABLE - 3.0

WEIGHTED AVERAGE RESIDENTIAL CCF/CUST

	1988	1989	1990
CUSTOMERS ADDED EVERY YEAR	344	530	475
RESALE HOUSES	1176	1127	1081
TOTAL CUSTOMERS	28671	29201	29676
NEW CUST AS A % OF TOTAL	1.20%	2.99%	4.55%
RESALE CUSTOMERS AS A % OF TOTAL	4.10%	7.89%	11.40%
TOTAL CUSTOMERS	94.70%	89.12%	84.05%

1989	% OF TOTAL	CCF/CUST SAVING	CCF/	WEIGHTED CCF/CUST
NEW CONSTRUCTION	2.99%	23.95%	91.56	2.7
RESALE HOUSES	7.89%	23.95%	91.56	7.2
RETROFITTED/KIT HOUSES	89.12%	11.12%	107.01	95.4
TOTAL				105.3

1990	% OF TOTAL	CCF/CUST SAVING	CCF/	WEIGHTED CCF/CUST
NEW CONSTRUCTION	4.55%	22.55%	93.25	4.2
RESALE HOUSES	11.40%	22.55%	93.25	10.6
RETROFITTED/KIT HOUSES	84.05%	9.72%	108.7	91.4
TOTAL				106.2

(END OF APPENDIX D)

DEPRECIATION SCHEDULE

ACCT NO.	DESCRIPTION	(1) GROSS PLANT (BEG. YEAR)	(A) (2) EST. FUT. NET SALVAGE (EST. GROSS SALVAGE LESS COST OF REMOVAL) %	(2) AMOUNT	(3) DEPR. RESERVE (BEG. YEAR)	(4) NET BALANCE (1)-(2)-(3)	(B) AVG. SVC. LIFE (YRS.)	(C) AVG. AGE (YRS.)	(5) REMAIN-ING LIFE (YRS)	(6) ANNUAL ACCRUAL (4)/(5) $	(D) % OF GROSS PLT (6)/(1) x100
311	S/S STRUCTURES	167776			86964	80812	35	21.85	20	4041	2.41
312	RESERVOIRS & DAMS	2265157			634101	1631056	100	37.88	74	22041	0.97
313	INTAKES										
315	WELLS	1132918		-90633	381156	842395	25	8.25	19.53	43133	3.81
316	SUPPLY MAINS										
317	OTHER S/S PLANT	14992			4596	10396	20	7.17	17	612	4.08
321	PUMPING STRUCTURES	140420			58789	83631	35	16.48	18	4646	3.31
324	PUMPING EQUIPMENT	3214325		-803581	767938	3249968	26	8.35	20.36	159625	4.97
325	OTHER PUMPING PLANT										
331	W/T STRUCTURES	501950			162387	339563	30	9.67	22	15435	3.07
332	W/T EQUIPMENT	5079740		507974	783596	3788170	20	6.1	15.63	242365	4.77
341	T&D STRUCTURES										
342	RESERVOIRS & TANKS	3349968		-167498	795284	2722182	55	18	40.76	66786	1.99
343	MAINS	21715597		-6514679	5173555	23056721	68	16.1	54.26	424930	1.96
345	SERVICES	4162631		-2081316	1680294	4563653	46	14.38	31.02	147120	3.55
346	METERS	1450660			-61057	1511717	13	7.66	7.84	192821	13.29
348	HYDRANTS	1524226		-228634	369904	1382956	52	12.22	36.36	38035	2.50
349	OTHER T&D PLANT										
371	GENERAL STRUCTURES	141064			66751	74313	30	14.89	17	4371	3.10
372	OFFICE FURN. & EQUIP.	204799		20480	62959	121360	25	7.73	21.53	5637	2.75
0	EL.OFC.FURN. & EQUIP	8036		804	472	6760	5	1.5	5	1352	16.82
373	TRANSPORTATION EQUIP	199290		47830	35875	115585	4	0.82	3	38528	19.33
374	STORES EQUIPMENT										
375	LABORATORY EQUIPMENT	173457			17677	155780	20	4.95	20	7789	4.49
376	COMMUNICATION EQUIP										
377	POWER OPERATED EQUIP										
378	TOOLS,SHOP,GARAGE EQ	149615			78210	71405	20	12.92	12.04	5931	3.96
379	OTHER GENERAL PLANT	6462			6462		10	9.75	1	0	0.00
	TOTAL	45603083		-9309253	11103913	43808423				1425198	3.13

(END OF APPENDIX E)

OPINION

Summary of Decision

California-American Water Company (Cal-Am) is authorized to increase rates in its Monterey Peninsula District by amounts which are designed to increase revenues by $1,109,400, or 8.29%, in 1989, and by an additional $269,900, or 1.80%, in 1990. For 1991 an adjustment of $189,400, or 1.24%, reflecting operational and financial attrition is authorized. A rate of return on rate base of 10.82% for 1989 and 1990 is found to be reasonable. For 1991, the authorized rate of return is 10.83%. The authorized return on common equity is 12.25%.

Table 1 shows the adopted summary of earnings at present and authorized rates for test years 1989 and 1990.

Table 1

California American Water Company
Monterey Peninsula District
Adopted Summary of Earnings

	Test Year 1989	Test Year 1990
	(Dollars in Thousands)	
At Present Rates		
Operating Revenues	$ 13,382.7	$ 13,904.9
Deferred Rev.CIAC	47.2	61.6
Operating Expenses		
Purchase Power	1,339.2	1,388.6
Purchased Chemical	248.2	281.8
Payroll District	2,385.2	2,468.6
Other O & M	1,125.7	1,181.7
Other A & S	1,380.6	1,439.7
Ad Valorem Taxes	370.0	406.1
Payroll Taxes	202.6	217.7
Depreciation	1,563.5	1,713.9
General Office Allocation	798.2	836.5
Subtotal	9,414.2	9,934.6
Uncollectibles	51.1	53.1
Local Franchise Tax	29.3	30.4
State Corporation Tax	210.2	174.7
Federal Income Tax	660.8	541.2
Total Operating Expense	10,365.5	10,734.0
Net Operating Revenue	3,064.4	3,232.6
Rate Base	34,437.8	37,561.7
Rate of Return	8.90%	8.61%
At Adopted Rates		
Operating Revenue	14,492.1	15,299.5
Deferred Rev. CIAC	47.2	61.6
Operating Expense		
Subtotal	9,414.2	9,934.6
Uncollectibles	55.4	58.4
Local Franchise Tax	31.7	33.4
State Corporation Tax	312.7	303.6
Federal Income Tax	1,000.8	968.7
Total Operating Expense	10,814.8	11,298.7
Net Operating Revenues	3,724.5	4,062.3
Rate Base	34,437.8	37,561.7
Rate of Return	10.82%	10.82%

We adopt the rate design guidelines substantially as proposed by staff, including a lifeline consumption block of 800 cubic feet (cf) per month, higher rates for consumption above the lifeline threshold, and a 38% limit on the amount of fixed costs that may be recovered through service charges. Applicant's request for approval of a sales adjustment mechanism in conjunction with this rate design is denied. Staff's proposal that the second consumption block rate be significantly higher than the lifeline rate is rejected in favor of a more moderate increment, consistent with our policy of moving to a flatter rate design for water utilities.

For 1989, rate increases for a 5/8 x 3/4-inch meter residential customer using 9 cf per month will be as follows:

	Present Rates	Adopted Rates	Amount Increase	Percent Increase
Gravity Zone	$18.64	$19.30	$0.66	3.56%
1st Elevation Zone	20.37	21.37	1.00	4.91%
2nd Elevation Zone	21.50	22.74	1.24	5.77%

We find the company's case for golf course consumption cutbacks to be more persuasive than that for the other commercial classes. Its survey of operators disclosed such actions as installation of a new irrigation system with built in water-saving devices and, as noted, the development of a new style of play with harder surfaces requiring less watering. It also disclosed the current intent of some of them to continue reduced consumption levels in the future, even in normal years. The planned cutbacks are apparently more institutionalized than, for example, anticipated reductions in outside water use by residential customers.

Offsetting these indicators is the fact that these cutbacks by golf course operators are voluntary. The current actions could be reversed if water again becomes more readily available. We adopt a 10% reduction for 1989 and a 5% reduction for 1990.

Appendix D shows the development of adopted residential consumption estimates based on the preceding discussion. Following is a summary of adopted consumption estimates:

Adopted
Average Consumption Per Year Per Customer
(Ccf per customer)

Class	1989	1990
Residential	106.2	107.7
Business-Normal	356.0	374.7
Business-Large	10,248.5	10,787.9
Industrial	4,945.6	4,945.6
Public Authority-Normal	509.6	536.4
Public Authority-Large	29,051.0	30,580.0
Golf Courses	27,658.6	29,195.2

General Office Expenses

Three remaining areas of disagreement on the subject of general office expenses are salary increases and related payroll expenses, personal use of company vehicles by management employees, and allocation of expenses of the Monterey laboratory. A fourth

Our concern with the company's proposal for costing the retirement of these dams, and the reason we will not adopt it, is the uncertainty over what, if anything, will done with the structures when they are no longer useful for water supply purposes. In the case of the existing San Clemente Dam, it is not certain that any significant level of retirement costs will be incurred when (and if) the site is inundated, let alone 50% of the original cost. Even though Los Padres Dam will not be affected by the new San Clemente project, it is by no means certain that significant retirement costs will incurred in this case either. The company's witness acknowledged differences in climate, geology, and regulations that diminish the value of comparisons to retirements in Pennsylvania. Since one possible retirement alternative mentioned by the witness is to maintain a facility in a safe condition, it is possible that no significant retirement costs will be required, but only maintenance costs, which could be modest. Branch's estimates for this account are adopted.

Average Service Life of Meters

Disagreement on Plant Account 346 stems from different estimates of the service life of water meters. As a result of the new depreciation study, the company is proposing to revise the average service life from 40 to 13 years, which would raise the annual accrual from $37,867 to $192,873. Pursuant to Commission Standard Practice U-4, Branch recommends adoption of its estimate of 25 years, which results in an annual accrual of $71,645. Staff does not believe 13 years is indicative of the utility's current operating practices. Cal-Am estimates a remaining service life of 7.84 years and a depreciation rate of 13.30%. Staff recommends adoption of its estimates of 21.1 years and 4.94%.

Applicant explains that 40 years was appropriate when it used older style bronze case meters, which were periodically rebuilt. With the units that have been used in recent years, the company has determined that meters will be replaced at 15-year

Attrition Allowance

Branch recommends that an attrition adjustment to revenue be authorized for 1991. The proposed revenue adjustment is calculated by multiplying operational attrition plus financial attrition times the adopted 1990 rate base and the net-to-gross multiplier. The adopted adjustment is computed as follows:

1991 Attrition Adjustment =

= [(Oper. Attr.) + (Fin. Attr.)] [1990 Rate Base] [net-to-gross mult.]

= [(.0029) + (.0001)] [37,561,700] [1.6806]

= $189,400

Findings of Fact

1. Service provided by Cal-Am in its Monterey Peninsula District is satisfactory, and the water furnished meets current state drinking water standards.

2. Applicant has complied with our directives in D.85-12-062 to include its conservation plan in this application and to include the results of its analyses of implementing one set of service charges and a monthly billing cycle.

3. The MPWMD was created by the legislature to manage water supplies and water quality on the Monterey Peninsula. Its responsibilities include development of new supplies, regulation of existing supplies, and regulation of water consumption. Its territory includes Cal-Am's Monterey Peninsula District as well as 22 other water suppliers, most of which are small.

4. Cal-Am's diversion of water from the Carmel River is subject to regulation by MPWMD.

5. Customer growth of 571 per year during the period from 1985 to 1987 was unusually high compared to the average of 250 per year measured from 1976 to 1987.

water saving devices and the use of harder playing surfaces, to save on water use.

16. Future use of reclaimed waste water will substantially reduce Cal-Am's sales to golf courses.

17. Salaries of Cal-Am's general office employees are determined in accordance with a nationwide salary survey.

18. Many of Cal-Am's general office employees are relatively new and therefore receive merit salary adjustments.

19. The preponderance of vehicle use by general office management employees is for business purposes, and the company benefits by having the vehicles taken home instead of left unattended at night.

20. Branch estimated that 95% of the expense of the Monterey laboratory is explained by weekly bacteriological tests done for the various operating districts of Cal-Am. In the future, the Los Angeles Laboratory will perform these tests for all but the Monterey Peninsula District.

21. Newly adopted state and federal regulations governing water quality are imposing new requirements on Cal-Am to expand water testing on a company-wide basis. The cost impacts of these requirements on the Monterey Peninsula District can be better quantified after the Los Angeles Laboratory has commenced operations.

22. Cal-Am projects that there will be additional workload of 144 hours per month in the Monterey Peninsula District accounting department. There was already an average overtime of of 11 hours per week in the first six months of 1988.

23. The workload of the district accounting department has been increasing to the point where a new employee is justified.

24. Cal-Am proposes to add a permanent meter repair employee instead of continuing the use of temporary employees and contractors for meter testing and replacement. It has estimated a

63. Cal-Am requires additional revenues for its Monterey Peninsula District, but the rates proposed would produce an excessive rate of return.

64. The amounts of operating revenues, operating expenses, and rate base, as well as each element thereof, shown on Table 1, "At Authorized Rates," represent a fair and reasonable determination of the revenue requirement for test years 1989 and 1990.

65. The increases in annual revenue authorized by this decision in order to produce the adopted rates of return are $1,109,400 in 1989, and $269,900 in 1990.

66. Revenue increases of $189,400 for 1991 to reflect estimates of operational and financial attrition are reasonable.

67. Public input in this proceeding shows that Cal-Am's Monterey Peninsula District ratepayers favor retention of the lifeline concept and an even allocation of rate increases among customer classes.

68. Branch proposed rate design guidelines for Cal-Am's Monterey Peninsula District which include a limit on residential customer bill increases to a percentage no greater than those for other classes; a 38% limit on the amount of fixed costs that may be recovered through service charges; retention of two consumption blocks along with an increase of the first block from 300 to 800 cf; significantly higher rates for the second block; and a limit of twice the adopted system average increase on any customer bill increase.

69. Community awareness of water supply problems on the Monterey Peninsula, and the mix of residential, commercial and industrial customers there, reduce the value of studies such as the Mann paper referred to by Cal-Am's rate design witness when applied in this case, but in general, the commercial and industrial response to price incentives will likely be greater than the residential response.

APPENDIX A

SCHEDULE NO. MO-1

MONTEREY PENINSULA TARIFF AREA

GENERAL METERED SERVICE

APPLICABILITY

Applicable to all water furnished on a metered basis.

TERRITORY

Monterey, Pacific Grove, Carmel-by-the Sea, Del Ray Oaks, Sand City, and a portion of Seaside, and vicinity, Monterey County.

RATES

	Per Meter Per Month			
	Gravity Zone	1st Elev. Zone	2nd Elev. Zone	
Service Charge:				
For 5/8 x 3/4-inch meter.....	7.55	8.00	8.35	(I)
For 3/4-inch meter.....	10.80	11.65	12.40	|
For 1-inch meter.....	15.55	17.45	18.55	|
For 1-1/2-inch meter.....	26.45	28.15	28.80	|
For 2-inch meter.....	44.35	47.35	52.50	|
For 3-inch meter.....	80.05	85.75	93.20	|
For 4-inch meter.....	120.10	130.35	141.80	|
For 6-inch meter.....	187.55	213.85	243.60	|
For 8-inch meter.....	297.35	332.80	371.65	(I)
Quantity Rates:				
For the first 800 cu.ft.,per 100 cu.ft.	1.271	1.445	1.556	(C)
For all over 800 cu. ft.,per 100 cu.ft.	1.586	1.811	1.950	(C)

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

SPECIAL CONDITION

The boundaries of the three zones in which the above rates apply are as set forth in the Preliminary Statement and delineated on the Tariff Service Area Maps filed as part of these tariff schedules.

SCHEDULE NO. MO-4

MONTEREY PENINSULA TARIFF AREA

PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY

Applicable to all water service furnished for privately owned fire protection systems.

TERRITORY

The incorporated cities of Monterey, Pacific Grove, Carmel-bythe-Sea, Del Rey Oaks, and a portion of Seaside; and certain unincorporated areas in the County of Monterey, all as set forth on Service Area Maps on file with the California Public Utilities Commission.

RATES	PER MONTH	
For each 4-inch connection	$ 16.25	(I)
For each 6-inch connection	32.25	(I)
For each 8-inch connection	48.50	(I)

The rates for private fire service are based upon the size of the service and no additional charges will be made for fire hydrants, sprinklers, hose connections or standpipe connected to and supplied by such private fire service.

SPECIAL CONDITIONS

1. The fire protection service and connection shall be installed by the utility or under the utility's direction. Cost of the entire fire protection installation excluding the connection at the main shall be paid for by the aplicant. Such payment shall not be subject to refund.

2. The installation housing the detector type check valve and meter and appurtenances thereto shall be in a location mutually agreeable to the applicant and the utility. Normally such installation shall be located on the premises of applicant, adjacent to the property line. The expense of maintaining the fire protection facilities on the applicant's premises (including vault, meter, detector type check valves, backflow devise and apputenances) shall be paid for by the applicant.

SCHEDULE NO. MO-4-H

MONTEREY PENINSULA TARIFF AREA

PRIVATE FIRE HYDRANT SERVICE

APPLICABILITY

Applicable to all water service furnished for private fire hydrant service.

TERRITORY

The incorporated cities of Monterey, Pacific Grove, Carmel-by-the-Sea, Del Rey Oaks, and a portion of Seaside; and certain unicorporated areas in the County of Monterey, all as set forth on Service Area Maps on file with the California Public Utilities Commission.

RATES	PER MONTH
Private Fire Hydrant Service Installed at Cost of Applicant:	
For each Fire Hydrant Installed	$ 7.25 (I)

SPECIAL CONDITIONS

1. The fire protection service and connection shall be installed by the utiltiy or under the utility's direction. Cost of the entire fire protection installation excluding the connection at the main shall be paid for by the applicant. Such payment shall not be subject to refund.

2. The installation housing the detector type check valve and meter and appurtenances thereto shall be in a location mutually agreeable to the applicant and the utility. Normally such installation shall be located on the premises of applicant, adjacent to the property line. The expense of maintaining the fire protection facilities on the applicant's premises (including vault, meter, detector type check valve, backflow devise and appurtenances) shall be paid for by the applicant.

3. All facilities paid for by the applicant shall br the sole property of the applicant. The utility and its duly authorized agents shall have the right to ingress to and egress from the premises for all purposes relating to said facilities.

4. The minimum diameter will be 6 inches, and the maximum diameter will be the diameter of the main to which the service is connected.

SCHEDULE NO. MO-7

MONTEREY PENINSULA TARIFF AREA

STREET SPRINKLING SERVICE

APPLICABILITY

Applicable to water service furnished to municipalities on a metered basis for street sprinkling.

TERRITORY

The incorporated cities of Monterey, Pacific Grove, Carmel-by-the-Sea, Del Rey Oaks, and a portion of Seaside, and vicinity, Monterey County.

RATE	PER MONTH
For all water used, per 100 cu. ft. .....$	1.569 (I)

(END OF APPENDIX A)

APPENDIX B

Page 1

Each of the following increases in rates may be put into effect on or after January 1, 1990 by the following rate schedules which add the appropriate increase to the rate effective on that date.

SCHEDULE NO. MO-1

	PER METER PER MONTH		
	Gravity Zone	1st Elevation Zone	2nd Elevation Zone
Service Charge:			
For 5/8 x 3/4-inch meter ...	0.10	0.15	0.15
For 3/4-inch meter	0.20	0.20	0.20
For 1-inch meter	0.25	0.25	0.25
For 1-1/2-inch meter	0.45	0.45	0.50
For 2-inch meter	0.75	0.75	0.85
For 3-inch meter	1.30	1.40	1.50
For 4-inch meter	1.90	2.10	2.30
For 6-inch meter	3.00	3.45	3.90
For 8-inch meter	4.75	5.35	6.00
Quantity rates:			
For the first 800 cu. ft., per 100 cu. ft.	0.020	0.030	0.038
For all over 800 cu. ft., per 100 cu. ft.	0.028	0.038	0.048

RATES	SCHEDULE NO. MO-4	PER MONTH
For each 4-inch connection		0.30
For each 6-inch connection		0.60
For each 8-inch connection		0.90

RATES	SCHEDULE NO. MO-4H	PER MONTH
Private Fire Hydrant Service Installed at Cost of Applicant for each Fire Hydrant Installed:		0.15

RATE	SCHEDULE NO. MO-7	PER MONTH
For all water used, per 100 cu. ft.		0.028

APPENDIX B

Each of the following increases in rates may be put into effect on or after January 1, 1991 by the following rate schedules which add the appropriate increase to the rate effective on that date.

SCHEDULE NO. MO-1

	PER METER PER MONTH		
	Gravity Zone	1st Elevation Zone	2nd Elevation Zone
Service Charge:			
For 5/8 x 3/4-inch meter	0.10	0.10	0.10
For 3/4-inch meter	0.15	0.15	0.15
For 1-inch meter	0.20	0.20	0.25
For 1-1/2-inch meter	0.35	0.35	0.35
For 2-inch meter	0.55	0.60	0.65
For 3-inch meter	1.05	1.10	1.15
For 4-inch meter	1.55	1.65	1.80
For 6-inch meter	2.40	2.75	3.05
For 8-inch meter	3.80	4.25	4.70
Quantity rates:			
For the first 800 cu. ft., per 100 cu. ft.	0.016	0.019	0.020
For all over 800 cu. ft., per 100 cu. ft.	0.020	0.023	0.025

RATES	SCHEDULE NO. MO-4	PER MONTH
For each 4-inch connection		0.20
For each 6-inch connection		0.40
For each 8-inch connection		0.60

RATES	SCHEDULE NO. MO-4H	PER MONTH
Private Fire Hydrant Service Installed at Cost of Applicant for each Fire Hydrant Installed:		0.10

RATE	SCHEDULE NO. MO-7	PER MONTH
For all water used, per 100 cu. ft.		0.020

(END OF APPENDIX B)

APPENDIX C

Page 1

ADOPTED QUANTITIES

Name of Company: California American Water Company

District: Monterey

1. Net-to-Gross Mulitplier: 1.6806
2. Federal Tax Rate: 34%
3. State Tax Rate: 9.3%
4. Local Franchise Tax Rate: 0.219%
5. Uncollectibles Rate: 0.382%

Offset Items	Test Years 1989	1990
6. Purchased Power		
A. KWh/KCcf		
A1	297.5	297.5
A10	814.3	814.3
A1P	1537.3	1537.3
B. Authorized Production (KCcf)		
A1	33.7	35.2
A10	16,220.0	16,963.2
A1P	876.0	903.4
C. KWhrs		
A1,A1P Summer (65%)	881,831	902,673
Winter (35%)	474,832	486,054
A10 Summer (65%)	8,585,041	8,977,186
Winter (35%)	4,622,714	4,833,870
D. Energy Usage Charges ($/KWh)		
A1,A1P Summer	$0.10096	
Winter	$0.08297	
A10 Summer	$0.08403	
Winter	$0.06630	

APPENDIX C

Page 2

Offset Items (Cont'd)		Test Years 1989	1990
E. Energy Expense			
A1, A1P	Summer	$89,687.7	$91,133.9
	Winter	$39,396.8	$40,327.9
A10	Summer	$721,401.0	$754,352.9
	Winter	$306,485.9	$320,485.6

F. Monthly Service Charges and Expense

Charges (per pump)	No. of Pumps	Expense
A1 - $5	1	$60
A10 - $50	34	$20,400
A1P - $6.25	35	$2,625

G. Demand (on A10 schedule pumps only)
A10 - 4406 KW

H. Demand Charges
$2.77/Month/demand (KW)

I. Demand Expense	$146,455.5	$146,455.5
J. Authorized City Tax Expense (on PG&E bill)	$12,641	$12,833
K. Total Auth. Purch. Power	$1,339,152	$1,388,673
L. Average Cost/KWh	$0.092	$0.091
7. Ad Valorem taxes	$370,000	$406,100
Effective Tax Rate:	1.04%	1.04%

APPENDIX C

8. Number of Services:

	No. of Services		Usage-KCcf		Avg. Usage-Ccf/Yr	
	1989	1990	1989	1990	1989	1990
Residential-Metered	29,201	29,776	3,100	3,196	106	108
Business-Normal	4,811	4,858	1,713	1,820	356	375
Business-Large	66	66	676	712	10,249	10,788
Golf Courses	16	16	443	467	27,659	29,195
Industrial	8	8	40	40	4,946	4,946
Public Auth.-Normal	423	431	216	231	510	536
Public Auth.-Large	15	15	436	459	29,051	30,580
Subtotal	34,540	35,070	6,622	6,925		
Private Fire Protection	498	538				
Other	27	27	32	32		
Total	35,065	35,635	6,654	6,957		
Water Loss at 6.10%			432	452		
Other Losses			85	85		
Total Water Produced			7,171	7,494		

Surface Supply @ 65%
Pumped Water @ 35%

ADOPTED SERVICE BY METER SIZE

9. Adopted Service by Meter Size

Meter Size	1989 Gravity	1989 1st Elev.	1989 2nd Elev.	1990 Gravity	1990 1st Elev.	1990 2nd Elev
5/8 x 3/4	19,451	8,303	1,993	19,750	8,435	2,026
3/4	0	0	0	0	0	0
1	2,087	1,021	351	2,116	1,037	357
1-1/2	504	193	42	511	196	43
2	366	106	19	370	107	19
3	21	9	0	21	9	0
4	55	16	8	55	16	8
6	5	1	0	5	1	0
8	0	0	0	0	0	0
10	0	0	0	0	0	0
Total	22,489	9,649	2,413	22,828	9,801	2,453

10. Metered Water Sales Used to Design Rates

Range-KCcf	Usage - KCcf 1989 Gravity	1989 1st Elev.	1989 2nd Elev.	1990 Gravity	1990 1st Elev.	1990 2nd Elev.
Block 1 0-8	1,532.8	692.8	173.4	1,589.0	716.5	179.1
Block 2 8-	2,984.1	1,034.0	204.9	3,141.0	1,085.3	214.3
Total Usage	4,516.9	1,726.8	378.3	4,730.0	1,801.8	393.4

APPENDIX C

Page 5

ADOPTED TAX CALCULATIONS

		1989		1990	
		CCFT	FIT	CCFT	FIT
		(Dollars in Thousands)			
1	Operations Revenues	14492.1	14492.1	15299.5	15299.5
2	O&M Expenses	7362.7	7362.7	7686.2	7686.2
3	Taxes Other than Income	572.6	572.6	623.8	623.8
4	CCFT	.0	312.7	.0	303.6
5	Subtotal	7935.3	8248.0	8310.0	8613.6
6	Deductions from Taxable Income				
7	Tax Depreciation	1562.3	1535.7	1731.6	1710.3
8	Interest Expense	1631.9	1631.9	1993.6	1993.6
9	Subtotal Deductions	3194.2	3167.6	3725.2	3703.9
10	Net Taxable Inc. for CCFT	3362.6		3264.2	
11	CCFT	312.7		303.6	
12	Total CCFT	312.7		303.6	
13	Net Taxable Income for FIT		3076.6		2982.0
14	Federal Income Tax		1046.0		1013.9
15	Investment Tax Credit		45.2		45.2
16	Total FIT		1000.8		968.7

(END OF APPENDIX C)

APPENDIX D

TABLE - 1.0
1988
RETROFIT SAVINGS

	A	B	C	D		E	
	NON CONSERVING	% INSTLLTN OF KITS		GPCD REDUCTION		CONSERVING	
CONSUMPTION PER METER	120.4					120.4	
NUMBER OF PEOPLE PER HOUSEHOLD	2.299					2.51	
(CCF) / (PERSON) (YEAR)	52.37					47.97	
(GALLONS) / (PERSON) (YEAR)	39200	% RESIDENTS				35905	
(GALLONS) / (PERSON) (DAY)	109	INSTLLD KITS FROM LAST DROUGHT			ACTUAL % INSTLLTN	100	
INSIDE WATER USE							
TOILETS (GPCD)	22.0	90.00%	5.00%	4.0	85.50%	18.6	
SHOWERS (GPCD)	16.3	90.00%	5.00%	7.2	85.50%	10.1	
TOILET LEAKAGE (GPCD)	4.1	50.00%	5.00%	0.0	47.50%	4.1	
FAUCETS (GPCD)	9.0	90.00%	5.00%	1.0	85.50%	8.1	
DISHWASHERS (GPCD)	2.4	100.00%	5.00%	0.0	95.00%	2.4	
WASHING MACHINES (GPCD)	16.5	100.00%	5.00%	0.0	95.00%	16.5	
BATHS (GPCD)	7.0	100.00%	5.00%	0.0	95.00%	7.0	
TOTAL INSIDE WATER USE (GPCD)	77.3					66.869	13.49%
OUTSIDE WATER USE	31.6					31.6	
TOTAL INSIDE AND OUTSIDE WATER USE	109					98	9.58%

TABLE - 2.0
1988
NEW CONSTRUCTION SAVINGS

	A NON CONSERVING	B % INSTLLTN OF KITS	C GPCD REDUCTION	D CONSERVING	
CONSUMPTION PER METER	120.4			120.4	
NUMBER OF PEOPLE PER HOUSEHOLD	2.299			2.29	
(CCF) / (PERSON) (YEAR)	52.37			52.58	
(GALLONS) / (PERSON) (YEAR)	39200			39355	
(GALLONS) / (PERSON) (DAY)	109			109	
INSIDE WATER USE					
TOILETS (GPCD)	22.0	100.00%	16.0	6.0	
SHOWERS (GPCD)	16.3	100.00%	7.2	9.1	
TOILET LEAKAGE (GPCD)	4.1	100.00%	0.0	4.1	
FAUCETS (GPCD)	9.0	100.00%	0.0	9.0	
DISHWASHERS (GPCD)	2.4	100.00%	0.0	2.4	
WASHING MACHINES (GPCD)	16.5	100.00%	0.0	16.5	
BATHS (GPCD)	7.0	100.00%	0.0	7.0	
TOTAL INSIDE WATER USE (GPCD)	77.3			54.1	30.01%
OUTSIDE WATER USE	31.6			31.6	
TOTAL INSIDE AND OUTSIDE WATER USE	109			86	21.31%

TABLE - 3

WEIGHTED AVERAGE RESIDENTIAL CCF/CUST

	1988	1989	1990
CUSTOMERS ADDED EVERY YEAR	344	874	1349
RESALE HOUSES	1176	1127	1081
TOTAL CUSTOMERS	28671	29201	29676
NEW CUST AS A % OF TOTAL	1.20%	2.99%	4.55%
RESALE CUSTOMERS AS A % OF TOTAL	4.10%	3.86%	3.64%
TOTAL CUSTOMERS	94.70%	93.15%	91.81%

1988

	% OF TOTAL	CCF/CUST SAVINGS	CCF/CUST	WEIGHTED CCF/CUST
NEW CUSTOMERS	1.20%	21.31%	95	1.1
RESALE HOUSES	4.10%	21.31%	95	3.9
OLD CUSTOMERS	94.70%	9.58%	109	103.1
				108.1

1989

	% OF TOTAL	CCF/CUST SAVINGS	CCF/CUST	WEIGHTED CCF/CUST
NEW CUSTOMERS	2.99%	22.76%	93	2.8
RESALE HOUSES	3.86%	22.76%	93	3.6
OLD CUSTOMERS	93.15%	11.03%	107	99.8
				106.2

1990

	% OF TOTAL	CCF/CUST SAVINGS	CCF/CUST	WEIGHTED CCF/CUST
NEW CUSTOMERS	4.55%	21.31%	95	4.3
RESALE HOUSES	3.64%	21.31%	95	3.5
OLD CUSTOMERS	91.81%	9.58%	109	100.0
				107.7

(END OF APPENDIX D)