THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA
1111 SUNSET BOULEVARD
LOS ANGELES, CALIFORNIA

OFFICE OF
GENERAL MANAGER

MAILING ADDRESS
POST OFFICE BOX 54153
LOS ANGELES, CALIF. 90054
PHONE 626-4282
AREA CODE 213

December 4, 1969

TO ALL DIRECTORS

Gentlemen:

Transmitted herewith for your information is a synopsis of the report on Water Pricing Policy Study by Consulting Engineers Brown and Caldwell and Robert A. Skinner. This synopsis was prepared by Mr. Skinner in response to the request of the Water Problems Committee at their meeting of July 28, 1969.

Also enclosed is a copy of Mr. R. A. Skinner's letter of December 1, 1969, forwarding the synopsis to my office.

Very truly yours,

Henry J. Mills

Henry J. Mills
General Manager

JOH/ub

Encls.

cc: F. M. Clinton
J. H. Lauten
G. M. Carroll
N. L. Norris
D. C. Brooks
J. O. Herrmann

Robert A. Skinner
2204 Silver Lake Blvd.
Los Angeles, California 90039

December 1, 1969

Mr. Henry J. Mills
General Manager
The Metropolitan Water District
of Southern California
B u i l d i n g

Dear Mr. Mills:

Transmitted herewith in response to requests from members of the Water Problems Committee is a synopsis of the Water Pricing Policy Study report of June 1969.

In the interest of further examination of some of the issues, account has been taken of comments submitted by representatives of affected agencies subsequent to issuance of the report. In particular, there is included an analysis of the provisions of the MWD Act governing the fixing of water rates, and of the legislative history of Resolution 5821.

Very truly yours,

R. A. Skinner
Engineering Consultant

RAS/msh

Encl.

cc: Chairman Joseph Jensen
General Counsel
Controller
Executive Secretary

SYNOPSIS OF REPORT OF JUNE 1969

on

WATER PRICING POLICY STUDY

by

Brown and Caldwell and Robert A. Skinner, Consulting Engineers

for

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

FOREWORD

At the meeting of the District's Water Problems Committee on July 28, 1969, requests were made that a synopsis of the June, 1969, water pricing policy report be prepared for the purpose of providing a complete and simple summary, in non-technical terms, for use of the members of the Board. Subsequently, statements submitted on behalf of concerned agencies have expressed their respective viewpoints on issues in contention.

Under these circumstances, it appears that a summary will be more useful if account is taken of the questions and opinions submitted. With this in view, the following resumé of the report is submitted.

INTRODUCTION

The synopsis is organized as follows:

I. Summary of Conclusions

The principal conclusions are summarized in capsule form.

II. Scope of Study

The scope of the investigation and the procedure followed in making the study are outlined.

III. Impressions Created by Report

Reference is made to some of the impressions apparently created by the report, and to points of view expressed by commentators.

IV. Summarization of Report

A short summary is presented of each chapter in sequence.

Appendix A

An analysis is presented of the provisions of the MWD Act relating to fixing water rates, and of the legislative history of the declaration of MWD policy in Resolution 5821.

I. SUMMARY OF CONCLUSIONS

1. The recommended rate proposal is founded on the system expansion program and cost estimates presented in the latest official MWD publications and reports available for use in the study. While revisions in programming and financial forecasting were in progress during the course of the study, it was decided, on the basis of conferences with the MWD Staff, to apply the projections set forth in the Official Statement dated May 14, 1968, for Waterworks Bonds, Election 1966, Series B. Annual revaluation of the rate structure is required in accordance with the standing order of the Board.

2. The recommended rate proposal for water for domestic and municipal uses and water applied for ground water replenishment

is based on the cost-of-service study and related considerations presented in Chapters 8, 9, and 10. The results of the investigation indicate that the proposed rate structure for these classes of service would be feasible in respect to production of required revenues and impact on consumers, and would provide adequate economic advantages for continuance of conservational management of ground water basins, including recharge by application of purchased water obtained in part from MWD. It is proposed that rates for water purchased for injection into seawater repulsion barriers be the same as for water to be applied by spreading, although de facto interruptibility could not be tolerated in the case of injection.

3. The recommended preferential pricing for water used in agriculture is predicated on continuation of the established MWD practice of classifying the service as surplus water sales, subject to availability, with a rate set at a presumed ability-to-pay level. The proposed rates would remain uniform throughout each fiscal year, and would continue to increase $1 per acre-foot per year until the commodity rate is approximated. As the price which growers can afford to pay for supplemental imported water for agricultural use varies widely according to localized conditions, and is changeable from year to year, the recommended rate proposal is qualified by the statement in Chapter 9 that long-term policy in this regard can be established only in the light of future circumstances applying to irrigated agriculture in the MWD service area.

4. The objective of a pricing policy of creating an incentive for optimal conjunctive use of all available water resources can best be accomplished by establishing a water rate structure with MWD rates for domestic and municipal sales and basin replenishment sales varying monthly from a maximum for the year during July, the month of predominating maximum peak deliveries, to a minimum during February, the month of predominating minimum deliveries. Member agencies and purveyors which can operate surface storage facilities or ground water pumping facilities so as to mitigate seasonal peaking in deliveries from MWD would thereby be offered economic inducement to do so. This would release some of the MWD peaking capability for use of agencies and purveyors which find it more economical to rely on MWD service to meet seasonal peaking needs.

5. The proposed seasonally varying monthly rates would afford a price preference for water delivered into surface reservoirs during the off-peak season and stored for use during ensuing periods of peak demand. This method of providing an economic incentive for utilization of available surface reservoirs for seasonal regulation would obviate difficulties in determination of eligibility of surface reservoirs for a pricing preference, such as fixing a minimum storage capacity for eligibility, and deciding whether accreditation would be accorded to water from another source stored in substitution for MWD water. It would also avoid the complexities of measurement of MWD water held in storage for accreditation in the case of reservoirs which are replenished from local runoff or other non-MWD source, as well as by delivery of MWD water.

6. The water rates in the recommended proposal in conjunction with the resulting tax rates would produce water sales and tax revenues in reasonable balance for conformance with the MWD Act, and with the standing policy of the Board expressed in Resolution 5821 adopted September 27, 1960, as supported by its legislative history. The resulting tax rates would meet the test of adequately stabilizing the water rates and are commensurate with the other justifiable objectives of a general tax levy as set forth in Chapters 8 and 9. (An analysis of relevant statutory provisions and of the legislative history of Resolution 5821 is presented in Appendix A hereof.)

7. The relatively rapid rise in water rates in the first 12 years of the study period could be substantially moderated if additional long-term bond financing were obtained to permit elimination or reduction of expenditures for construction directly from income. As a further control on rate escalation, priority in programming for construction of the system expansion should be accorded to those features which can most economically provide timely delivery of water where needed and in the required quantities, to accommodate actual growth in demand, and those features which do not meet this test should be deferred.

8. Reserve funds with year-end balances as shown in the projection of required revenues (Table 9-3) will provide adequately for outstanding debt obligations and for current obligations during years of deficient revenue. Such reserve funds would be compatible

with the related policies proposed in MWD Report No. 843, which have been approved by the Board.

II. SCOPE OF STUDY

The effort applied in making the study can be summarized under 3 categories:

(1) A comprehensive examination of MWD's operation and costs to date, as well as of the overall transaction of water supply in the MWD service area by all public, private, and mutual agencies providing related services, whether as purveyors or in the exercise of overlying jurisdictional or conservational functions, with determination of all agency costs and all related direct and indirect costs to consumers and taxpayers.

(2) Research of available sources to identify applicable principles pertaining to economic allocation of resources, formulation of utility rates, equitable apportionment of costs, and other relevant issues, and to ascertain preponderant authoritative opinion thereon.

(3) Matching of factual data with applicable principles, in the light of conditions particularly relevant to MWD, for the purpose of developing an appropriate rate proposal.

Fact-Finding Investigation

The fact-finding investigation of water supply operations within the MWD constituent areas disclosed that, for the base year 1966-67, there were a total of 476 water purveyors in the overall MWD area. Cost data, so far as readily available, were obtained for all of these, and 124 purveyors were selected for detailed determination of unit cost of water to nine postulated typical consumers, eight for domestic and municipal service and one for agricultural, to the extent the purveyor furnished the particular type of service. While it is true that MWD as a wholesale supplier

must focus its attention on impartial rendering of service and equitable allocation of costs to each of its unit constituent agencies, and cannot become involved directly with the status of ultimate consumers, nevertheless the relative influence of MWD's pricing policies on costs to ultimate consumers in each agency is a subject of general interest and concern.

This part of the study provided a springboard for projecting the effects of alternative MWD policies into the future. In particular, cost data were developed for evaluating the effects of different rate proposals on the conservational management of ground water basins, and of resulting impact on costs of producing water from underground sources.

Sources of Opinion

The viewpoint has been expressed that, as MWD in many ways is without counterpart, guidelines developed elsewhere are generally inapplicable. However, a number of pertinent basic principles underlie the policies and practices which have emerged over the years from (1) the operations of the several types of public utilities and of public water service agencies in the several levels of government; (2) the decisions of federal and state regulatory bodies; (3) the legislative process; and (4) review in the courts. The comprehensive literature of resource development and allocation, of public utility rate formulation, and of the relevant economic and legal doctrines and sociological aspects provides further fields

for exploration. All of these sources were utilized in making the study.

Development of Rate Proposal

The principal tool for marshalling the factual information and guiding principles and formulating a rate proposal is the cost-of-service study, explained in Chapter 9. Coincidentally with this study, it was necessary to evaluate the issue of the relative amounts of revenue to be derived from water sales and from taxation for support of MWD's operation. Another important objective is the development of an economic incentive for optimal conjunctive use of all available water resources through the device of seasonally varying water rates for domestic and municipal sales and replenishment sales, as described in Chapter 10.

III. IMPRESSIONS CREATED BY REPORT

Comments received in regard to the report reveal that a few impressions may have been created which were not intended. In some cases this may be the result of lack of sufficient clarity in presentation of analyses and findings. In other cases, concepts which the authors tacitly assumed were commonly accepted, and consequently would not require elaboration, have emerged as unanticipated issues. Interesting points have been raised in regard to the interpretation of applicable law and of declarations of District policy adopted by the Board, and to related constraints

which appeared to have had a bearing on conclusions expressed in the report.

Procedure for Fixing Rates

To some degree the inference seems to have arisen that the report recommends the adoption of a specific tax rate schedule extending to year 1990, and thus exhibits unawareness on the part of the authors that the Board could not take action binding on future Boards. Also, that the sequence of accounting operations for deriving projected rates shown in the report, in which required income from water sales is developed as a remainder after applying other sources of revenue, violates the established procedure of the Board under which water rates are fixed in advance of tax rates.

Under the provisions of the MWD Act, the Board each August establishes the MWD tax rate for the fiscal year beginning July 1 next preceding. In view of the current Board practice of fixing water rates three years in advance, the general tax rate, in effect, accomplishes the final adjustment each fiscal year in prospective revenues to meet the expenditures budgeted for the year and to provide an appropriate fund balance at the end of the year.

Financial studies prepared by the MWD management in recent years generally have encompassed a time span extending to 1990, because of an expectation that MWD's entitlement to State project water would suffice for at least that length of time. The same time span was used in the pricing policy study. The propriety of showing

projected water and tax rates through such period of time, for purposes of indicating the pattern and prospective levels of a recommended rate proposal, did not appear to be in question. Previous pricing studies, as well as official statements on bond offerings, have followed a similar practice. The necessity for annual revaluation of rate requirements is accorded full recognition in the report, as is the standing order of the Board providing therefor.

The sequence of accounting steps for balancing prospective revenues and expenditures in developing the rate proposal was chosen for computational convenience, and does not connote any notion that MWD would alter its logical and necessary practice of fixing water rates in advance of tax rates.

Projection of Rates

The projected rates in the recommended pricing proposal fail to account for an additional layer of expenditures which may be found necessary by MWD prior to 1990, in the event water resource development beyond the purview of current planning should be begun by MWD before then. Because of this, it is contended, the projected rates are misleading.

In financial studies of the type involved it is usual to encompass specifically programmed resource and system development during a selected time span. This has been customary practice by MWD, and also by the Department of Water Resources in its financial

studies of the State Water Project. The rates projected in the report are related exclusively to the explicit State and MWD programs now in prospect to year 1990. General recognition is assumed that costs of subsequent programs might begin to be incurred before then, with corresponding impact on projected rates. As an incidental comment, influences are becoming apparent which indicate that the sufficiency of MWD's present contractual entitlement to State project water, if it remains unimpaired, may extend appreciably beyond 1990, and consequently that the prospective burdens of additional regional water resource development may not have a material effect on MWD's water and tax rates within the study period.

The financing program portrayed in the report is based on the projections presented in the May 14, 1968, MWD Official Statement for Series B bonds of the 1966 authorization, in which there is no indication that another bond proposition is expected to be submitted to the electorate within the period of time embraced by the official statement, which extends to 1990. Expenditures directly from revenues for new construction in the period July 1, 1971, to June 30, 1990, encompassed by the rate proposal, is indicated in the bond statement to be $370 million.

The question has been raised why, in the projections of water and tax rates shown in the report, it was not postulated that another bond issue would be authorized, which would result in lower projected rates during a major part of the study period. In particular,

since bond counsel had advised that proceeds from the 1966 bond issue should not be applied to construction of a desalting plant, a new bond issue would be desirable for this purpose, and could be expanded to provide for other capital expenditures which could not be financed by proceeds from the 1966 and 1956 bond authorizations.

As emphasized in the report, substantial moderation of the total increase in rates during the study period would result from additional debt financing in lieu of pay-as-you-go expenditures for capital works under the MWD system expansion program. Pursuant to an understanding with the MWD management, however, the latest bond official statement was taken as the basis for prospective revenue requirements and fiscal measures. It was considered inappropriate to project a water and tax rate proposal on the basis of an additional bond authorization in the face of the official statement, which had been distributed nation-wide and had to be construed as indicating the most probable MWD fiscal policy.

The programmed annual capital expenditures directly from revenues can be readily converted to estimated debt service on equivalent bond proceeds, if it is desired to pursue the effects of such a change in financing methods, and the projected water and tax rates adjusted accordingly. In order to quantify the resulting effects on rates, it is necessary to postulate (1) the annual capital expenditures directly from income which would take place absent the change in financing methods, (2) whether the annual difference between

the direct capital expenditures and the debt service to support the equivalent bonds would be applied year by year to reduce rates, or would be accumulated temporarily as a sinking fund to lower the plateau which rates otherwise would reach, and (3) in what proportion the available adjustment would be applied to water rates and to tax rates.

In the progress report submitted November 26, 1968, on the water pricing study it was stated that the additional annual revenue required for the projected capital expenditures directly from income, as compared with bond financing, involved the equivalent of an increment in water rates ranging from about $14 per acre-foot in 1970-71 to $6 in 1983-84, after which the annual debt service on the additional bonds would overmatch the alternative direct capital expenditures, reversing the effect of switching to debt financing. This finding was based on the estimated annual direct capital expenditures shown in the May 14, 1968, Official Statement for Series B bonds, and on converting the computed difference in annual revenue requirements to a year-by-year adjustment in water rates. In current MWD Staff studies the possible adjustment is applied in a manner affording a lowering of the plateau which water rates would attain in the absence of additional bond financing. Under this method of fiscal management, which appears to be the most appropriate procedure, the duration of the downward adjustment would be prolonged but the maximum amount of rate reduction indicated for any one year

would be considerably less than the hypothetical reduction derived from applying differences in annual revenue requirements on a year-by-year basis.

Constraints on Pricing Policy

Considerable discussion has been evoked by the observance accorded in the report to (1) the provision in the MWD Act that the Board is required, so far as practicable, to fix such rates for water as will result in revenue which will pay all expenses of the District and provide for the payment of the interest and principal of the bonded debt, and (2) the MWD policy declaration in Resolution 5821 adopted by the Board on September 27, 1960, in regard to relative magnitude of revenues to be obtained from water sales and from taxation. Points of view expressed can be paraphrased in the form of queries:

(i) Did the authors of the report display undue constraint under a false assumption that their findings must be rigidly bound within the confines of the MWD Act and the declaration of policy in Resolution 5821, thereby overlooking an opportunity to bring forth an economically and equitably sound resolution of the vexing issue of taxation versus water sales as sources of MWD revenue?

(ii) How should the provision in the MWD Act referred to above, requiring that rates for water, so far as practicable, shall be fixed to recover all of MWD's expenses and liquidate its debt, be interpreted, with due regard to other provisions which must be considered in construing the Act as a whole?

(iii) Was there a failure to comprehend the true meaning and intendment of Resolution 5821 in the light of its "legislative history" as evidenced by prior actions of the Board, including the statement of policy approved on April 12, 1960, and the adoption on July 26, 1960, of Resolution 5748, clarifying and reaffirming the provisions of the statement approved on April 12 of that year?

(iv) Have conditions so changed since its adoption in 1960 that Resolution 5821 no longer properly reflects the current true policy of the Board; i.e., in effect, is Resolution 5821 now obsolete?

In view of the interest expressed in the interpretation of (1) the provisions in the MWD Act regarding the fixing of water rates, and (2) the declaration of policy in Resolution 5821, Appendix A has been added to this synopsis in which there is presented an analysis of the statutory mandate, and also of Resolution 5821 in the light of its legislative history.

Further discussion of the points raised in the foregoing questions is included in the summary of Chapter 9.

IV. SUMMARIZATION OF REPORT

The remainder of this summary relates to the chapters of the report in sequence. As the information presented in Chapters 1 through 6 is largely historical and already has been highly condensed from the documentary sources, the corresponding portion of the synopsis consists only of brief references to the related content of the report.

CHAPTER 1

INTRODUCTION

Chapter 1 presents the authorization for the water pricing policy study and portrays the events leading to the study. A recital is made of relevant portions of recommendations made to the California Legislature by the Assembly Committee on Water as a result of a 3-day

hearing held by the Committee in December, 1967, and January, 1968, on the question of amending the MWD Act with regard to the provisions for the fixing of water rates.

CHAPTER 2

ROLE OF MWD

Chapter 2 contains a brief resumé of portions of MWD's historical background particularly relevant to the study. The MWD Act, as amended, is discussed, particularly in the context of its provisions for fixing water rates. The formation of MWD and its subsequent expansion are described. Information is presented regarding the service rendered by MWD, and its rules and regulations relating to delivery of water. The problem of controlling seasonal peaking is touched on.

CHAPTER 3

ROLE OF MWD MEMBER AGENCIES

Chapter 3 presents information regarding each of the unit constituent agencies of MWD. Institutional factors are discussed, as well as the manner in which the area of each agency became a part of MWD. Much statistical data on water supply and related facilities are included.

CHAPTER 4

MWD WATER SUPPLY AND REQUIREMENTS

Chapter 4 includes information regarding MWD's Colorado River water supply, and its participation in the State Water Project

as the contractor having the largest entitlement to project water. The proposed Bolsa Island desalting plant project is also described. A general discussion of supplemental water supply and requirements in the MWD service area is presented.

Statistical data are included on MWD diversions from the Colorado River, annual entitlement to State project water, and historical and projected water sales (Tables 4-1, 4-2, and 4-3, and Fig. 4-1).

CHAPTER 5

LOCAL WATER SUPPLIES

Chapter 5 furnishes information on local surface and ground water supplies available in the MWD member agencies, and on the Owens Valley-Mono Basin imported supply of the City of Los Angeles. Conservational activities of flood control districts and other agencies are described, including construction and operation of fresh water barriers for inhibiting seawater intrusion. Data are included on adjudication of ground water basins and related management operations, including recharge of basins by use of imported water and reclaimed wastewater. Augmentation of local supplies by means of wastewater reclamation is discussed at some length. Seawater desalting and weather modification are also touched on as possible measures for augmentation.

CHAPTER 6

FINANCIAL DATA AND REVENUE REQUIREMENTS

Chapter 6 includes a recapitulation of important financial aspects of the MWD operation. Tables 6-1 through 6-4 show financial data to June 30, 1967, including capital expenditures, bond issue data, tax rates and receipts, and operating income and expenses. The historical cost of MWD water to its member agencies is shown in Table 6-5. Estimated capital expenditures for planned system expansion are indicated, together with expected sources of funds. Table 6-6 shows estimated annual expenditures for all purposes, segregated into principal categories, for the period July 1, 1971, to June 30, 1990.

CHAPTER 7

TOTAL COST OF WATER IN THE MWD AREA

Chapter 7 includes a summary of the data collected on costs of production, conservation, and distribution of water in the MWD service area for the year 1966-67, taking into account the operation of all participating agencies. The principal purpose of this phase of the investigation is to provide means for determining the relative effects, during the study period, of postulated MWD alternative pricing proposals on its unit constituent agencies and on the water purveyors and tax paying ultimate consumers in each agency.

Unit Cost of Water to Typical Consumers

Of the total of 476 water purveyors found to be operating in the base year 1966-67 in the MWD area, 124 were selected for detailed analysis of costs to postulated typical tax paying consumers. These selected purveyors included each MWD unit city having a municipal water department, together with representative purveyors in each of the other MWD unit member agencies. Additional statistical detail is contained in Appendix C of the report.

Collection, reduction, and analysis of such data involve extended processing, and only a condensed and incomplete summarization could be presented in the report. The complete results are contained in data sheets, calculations, computer printouts, and related records retained in the MWD files.

Striking disparities in consumer costs are disclosed by the investigation. For the eight typical customers using water for domestic and municipal purposes in the service areas of the 124 selected purveyors, the overall range of total unit cost of water, including related taxes, is shown in the following tabulation, abstracted from Table 7-1 of the report:

RANGE OF TOTAL UNIT COST OF WATER
FOR DOMESTIC AND MUNICIPAL PURPOSES, 1966-67

	Typical Customer	Annual Water Use in Acre-feet	Total Assessed Value of Premises, Dollars	Range of Total Unit Cost to Customer, Dollars per Acre-foot	
				Min.	Max.
1.	Residential	0.33	2,300	78	366
2.	"	0.55	6,000	85	406
3.	"	0.96	12,000	81	413
4.	Commercial	6.89	25,000	30	230
5.	"	96.42	2,500,000	55	628
6.	Industrial	2.11	30,000	76	420
7.	"	6.89	110,000	67	438
8.	"	19.28	300,000	61	428

The three typical residential customers are reasonably representative of residential consumers found in virtually all of the selected purveyor service areas. Commercial customer No. 5, with very large premises, would not be found in all of the service areas, and some of the areas lack appreciable industrial development. Consequently, the tabulated minimum and maximum unit costs computed from purveyor water tariffs and water-related tax rates may not be representative of actual commercial and industrial customers in every case, but examination of Table 7-1 shows that the ranges

would not be substantially affected by disregarding the extreme values.

Effects of Alternative Pricing Proposals on Consumer Costs

Effects on unit cost of water to ultimate consumers during the study period, arising from four alternative MWD pricing proposals described in the report, were computed and applied to the base-year unit costs of water for domestic and municipal purposes in each of the 124 selected purveyor service areas. These four alternatives included the most divergent pricing proposals which have been advocated by MWD constituent agencies.

The maximum increase in unit cost to purveyors, attributable to water rates charged and taxes levied by MWD, computed from the postulated MWD alternative pricing proposals during the study period, was found to be $60 per acre-foot for the typical residential and industrial customers and $65 for the commercial customers. The maximum increase was indicated to occur at different times in different purveyor service areas, but in virtually all cases it would be between 1975 and 1983.

In a few cases of purveyors whose prospective use of MWD water is comparatively small in relation to assessed valuation, the comparisons disclosed a negative effect on total unit cost during later stages of the study period, when the projected MWD tax rate is in a declining phase. The extreme example of such effect is for typical commercial customer No. 5 in the City of Los Angeles,

for which alternative proposal No. 4 (with greatest decline in MWD tax rate) would result in $30 per acre-foot reduction in the MWD component of total unit cost, by year 1983.

The greatest variance during any year, among the alternative pricing proposals, in the effects on unit cost to consumers of water for domestic and municipal purposes in any purveyor service area was found to be $20 per acre-foot for residential and industrial customers, and $30 per acre-foot for commercial customers. This maximum spread generally occurred about year 1980. The larger variance in the case of commercial customers is brought about by the fact that, for the two postulated typical commercial customers, the ratio of annual water use is 14 to 1, whereas the ratio of assessed valuation is 100 to 1.

General Impact of Alternative Pricing Proposals

The foregoing trends point up the strikingly greater influence of localized circumstances on total unit cost to consumers, as compared with the relative effects of alternative MWD pricing practices. From one purveyor service area to another, for the study base year 1966-67, the ratio of maximum to minimum unit cost to consumers ranged from nearly 5:1 to more than 11:1, depending on the type of customer. At the same time the difference in unit cost to consumers under the locally most favorable as against the least favorable of the alternative pricing proposals tested in no case exceeds 20 percent, and in nearly all purveyor service areas is much less, particularly for residential and industrial customers.

The foregoing relationships do not point to any lack of importance in the issue of developing a pricing policy. It is evident, however, that the major grounds for contention are less concerned with relative effects on costs to ultimate consumers of water for domestic and municipal purposes than with institutional objectives, and with the contributions to be made in taxes by owners of property not immediately involved in use of water, such as land on which no purchased water is applied, inventories of minerals and durable goods, and other taxable assets in non-water using categories. Institutional factors include the competition among governmental jurisdictions for the tax dollar, and the concern for viability of basin management operations conducted by conservational agencies, among others. Policy in regard to pricing of water for agricultural use is discussed in the summary of Chapter 9.

Total Costs of Water Supply and Conservation

In Table 7-6 it is indicated that the total direct and indirect costs associated with water supply and conservation in the overall MWD service area was $247.5 million for year 1966-67. This represents the total related burden in taxes, payments for water, and costs of private production. The total quantity of water in purveyor sales and private production for the same area and year is shown in Table 7-5 to be 2.329 million acre-feet. The corresponding unit cost of water is $106 per acre-foot. The quantity of water here represented is that applied for direct use, however produced,

consequently water used for ground water replenishment is excluded except as it may contribute to the quantity of locally produced water. All costs associated with basin management operations, of course, including payments for purchase of water for recharge, are accounted for.

As the total population in the MWD area was estimated to be 9.86 million by the end of year 1966-67, the per capita cost of water supply and conservation for that year was $25. Few important services have so small a per capita cost. As a random example, the per capita cost of automotive transportation, exclusive of streets and highways and of insurance, is about 10 times as great.

Total investment in water supply and conservation facilities in the MWD area is shown in Table 7-7 to be $2.46 billion as of 1967. This corresponds to a unit investment of $1.05 million per thousand acre-feet of water applied for direct use.

CHAPTER 8

WATER PRICING PRACTICES

Chapter 8 contains a discussion of water pricing practices and principles, of general application in the industry, drawn from sources widely considered to be authoritative. Also included is a brief history of MWD pricing policies, in particular of the events leading to the adoption by the Board of Resolution 5821 on September 27, 1960, constituting the most recent express declaration in regard to utilization of water sales and taxation for obtaining required revenues.

No attempt will be made here to paraphrase the contents of Chapter 8, which is quite brief. However, in the following recapitulation of Chapter 9, related concepts are developed on the basis of circumstances applicable to MWD, and are explored in the context of comments on the report which have been submitted by representatives of MWD constituent agencies.

CHAPTER 9

WATER PRICING STUDIES

In Chapter 9 the concepts and principles explored in the study are applied in developing average annual water rates during the study period for the several classes of service furnished by MWD, and the compatible tax rates for the same period. The principal tool applied in formulating rates is the cost-of-service study, by means of which MWD costs are analyzed and assigned to each class of service in proportion to the costs incurred in its rendition. As a prelude to the cost-of-service study, basic criteria for a rate structure and for MWD taxation require consideration.

Criteria for a Rate Structure

Among the recognized criteria for measuring the appropriateness of a public utility rate structure, three stand out in basic importance:

(1) Adequacy for meeting total revenue requirements.

(2) Equitableness in apportionment of costs.

(3) Effectiveness for economic allocation of resources; i.e., for promoting optimal use while discouraging wasteful practices.

In regard to applying the first of these three criteria, it has been amply demonstrated that large-scale regional water resource development projects are usually beyond reach of private enterprise, and would be outside the capability of public agencies if it were not for recourse to the taxing power. Particularly where the project is sized for future service to a population greatly exceeding that initially involved, as is virtually always the case, it becomes impossible to achieve self-liquidating status from the beginning. It is necessary to invoke the well-recognized process of redistribution of capital resources from earlier developed highly urbanized areas to stimulate the participation of less-developed peripheral and hinterland areas, some of which also may not be endowed with comparable natural advantages. This process has made possible the progress achieved by MWD, and the imposition of ad valorem taxation on property at a declining rate level has been generally accepted as unavoidable.

As to the second criterion, if MWD were the sole agency for developing, transporting, conserving, and purveying water within its area, as East Bay Municipal Utility District is within its corporate territory in Alameda and Contra Costa counties, taxation would remain a socio-economic issue and possibly even an equitable issue as between classes of customers, such as industrial versus

residential. But in such case taxation would largely be immune to involvement as an intercommunity issue, because internally there would be no layers of constituent agencies between MWD and the ultimate consumer. Or, if all the MWD agencies were essentially similar in area, physiography, population, type and proportionality of development, endowment in local surface and underground water resources, and possession of water import facilities, MWD taxation would be relatively free from imputations of intercommunity bias. As things stand, particularly with the acute imbalance in relationship of tax base to demand for MWD water, use of taxation by MWD is an inevitable focal point for interagency contention.

Under the third of the foregoing criteria, taxation for support of proprietary services unavoidably represents a departure from efficient utilization of resources. If, for example, it were attempted to supply electricity on a tax-supported basis, the use would skyrocket. Similarly, to the extent that water is supplied by means of taxation, its misuse increases the burdens borne by all, the frugal user as well as the improvident.

In view of these incompatible conditions, how should the appropriateness of a policy for taxation by MWD be measured? If it were decided to entirely discontinue the MWD tax at some future time, should this become practicable, then a constituent agency having no immediate need for MWD water at that time would be relieved of any current charge for MWD's readiness to serve. Also, the owner of land not served with MWD water would receive the benefit of

availability of a regional supply without making any compensating contribution.

Comparative Aspects of Rate Proposal

Many different combinations of projected water and general tax rates were examined during the study. Under the recommended proposal, the revenue from general taxes would remain between $45 and $50 million annually from the beginning of the study period until 1978, and thereafter would decline to $20 million by 1985, when the rate would be 5 cents per $100. Subsequently, the general tax rate would remain at the 5-cent level and the tax revenue would increase slowly, parallel with assessed valuation. In proportion of total revenue, exclusive of annexation charges, the general tax revenue would range from 39 percent for year 1971-72 to a low of 11 percent for year 1984-85, after which the proportion would rise moderately.

By comparison, EBMUD has consistently levied a general ad valorem property tax within its area sufficient to produce about 18 percent of total revenue.

If the MWD revenue requirements as projected in the water pricing study were adjusted to conform to the construction schedule and cost estimate submitted to the Board in the General Manager's letter September 11, 1969, the domestic and replenishment water rates shown in the proposal presented in the study report would be reduced in the first five years of the study period, and both of these water

rates and the tax rates would be increased in most of the subsequent years. This is because of deferment of completion of several features of the system expansion program, together with increased allowance for cost escalation. The construction schedule recommended in the aforementioned letter of the General Manager was approved by the Board on September 16, 1969.

In some of the comments on the report it has been proposed that water rates charged at any particular point in time should include a fixed-cost component attributable only to that portion of system capacity then in use, so that current water-rate payers would not be burdened with costs incurred for benefits to future users. The fixed costs associated with unused capacity, it has been suggested, should be paid from taxes. Whatever the merits of this proposal, it would not achieve the implied objective of burdening future beneficiaries with the costs incurred on their account, but would only assist current water-rate payers at the expense of current taxpayers owning property not requiring commensurate service of water. The only way to shift part of the fixed costs to future beneficiaries is by means of long-term debt financing, which is advocated in the report and by most of the commentators, if the voters can be persuaded to authorize additional bonds.

Criteria for Taxation by MWD

Three valid criteria for the MWD general tax levy have been identified:

(1) Tax revenues should be used as reinforcement of MWD income to stabilize water rates and prevent them from rising to a point of diminishing returns, or otherwise becoming unmanageable.

(2) Such revenues should be sufficient to yield a fair compensation for readiness to serve in cases where sale of water is insufficient for that purpose.

(3) Taxes provide a means of obtaining a return for enhancement of land value as a result of availability of a regional water supply.

As to the first of these criteria, the proposal recommended in the report would not result in exhorbitant water rates for domestic and municipal service or for ground water replenishment service. The prospective effects were exhaustively investigated in the study. In regard to rates for agricultural water, the conclusions in the report supporting the recommended pricing proposal have been strongly challenged on behalf of several member agencies in which substantial quantities of MWD water are used for irrigation. This subject is discussed subsequently.

Measurement of tax revenue component attributable to readiness to serve, referred to in the second criterion above, can be approached on a cost basis or on a value basis. The latter has been suggested on behalf of some member agencies, but yields different results according to circumstances applicable to each agency. The cost basis is more responsive to the equitable objective of equivalent treatment of all constituencies. In any case, the contribution in taxes already made toward liquidation of capital costs should be taken into account, as well as future contributions.

Under the rate proposal recommended in the report the ratio of (1) MWD annual general tax revenue to (2) total annual capital expenditures less annexation charges would be approximately 60 percent in 1971-72 and would become slightly less than 50 percent in 1973-74, after which it would decrease progressively to about 20 percent by 1984, remaining close to that level to the end of the study period. The weighted average ratio through the study period would be 32 percent. In deriving these ratios, annual capital expenditures are taken as the sum of (1) the capital cost components of MWD obligations under the water supply contract with the State, (2) interest and redemption of MWD bonds, (3) expenditures directly from income for capital works, and (4) payments to others for acquisition of capital works.

As a frame of reference for the foregoing, minimal compliance with Resolution 5821 would require that the ratio be less than 50 percent. Thus, minimal compliance would be accomplished by 1974 and thereafter the relative tax burden would diminish progressively as the use of water approaches the total supply, in accord with the expectancy expressed in Resolution 5821. Observe, however, that at year 1990 the general tax levy still would account for 20 percent of total annual capital expenditures less annexation charges.

As a further comparison of tax revenues and capital expenditures, it is noted that the total amount of taxes collected

by MWD from the initial levy in 1929 through 1970-71 will amount to $771 million, of which $647 million represents regular tax collections and $124 million represents annexation fees. Total capital expenditures for the same period of time will amount to $716 million. Corresponding amounts for the study period 1971-72 through 1989-90, on the basis of the recommended rate proposal, would be:

Total taxes	$806 million
Regular taxes	681 "
Annexation fees	125 "
Capital expenditures	2,249 "

The foregoing comparisons indicate that, from the beginning of MWD's activities through year 1970-71, regular tax collections will have aggregated 109 percent of total capital expenditures less annexation charges. Also, for the study period 1971-72 through 1989-90, on the basis of the recommended rate proposal, the corresponding ratio would be 32 percent. Thus, general tax support of capital expenditures would be on a diminishing scale under the recommended proposal, but would remain substantial. The comparisons reflect the circumstances that, in the aggregate to date, the MWD capital construction program necessarily has been substantially carried by taxation, but with prospective growth of water sales revenue it will be possible to reduce the use of general taxes for support of capital expenditures during the time span of the pricing study to about a third of the average proportion during the prior history of MWD.

The third of the foregoing three criteria, namely, return for enhancement of land value, does not provide a satisfactory basis for quantitative evaluation. A partial return to MWD for enhancement of land value in annexed areas may be considered to be included in the annexation charge. This charge is currently $200 per acre of gross area, cash value as of time of annexation, except that the computed equivalent back tax payment, including interest, is imposed where it is greater than the charge based on area. Annexation fees are usually paid in installments for which funds are obtained from property taxes, and the land owner who profits from the accretion in value often has disposed of the property by the time the first installment is due. Nevertheless, any enhancement in value of the property after annexation is reflected in greater revenue to MWD from the general annual tax levy.

Cost-of-Service Study

The cost-of-service study is a device for identifying and separating out the components of cost incurred in rendering service, so that recipients of each class of service may be assigned an appropriate proportion of total annual costs. Such a study affords a basis for designing equitable rates.

For purposes of the pricing policy investigation, three classes of MWD service require consideration, namely, (1) domestic and municipal, (2) ground water replenishment, and (3) agricultural.

Under the MWD policy, all costs attributable to water treatment are to be reimbursed by surcharges. In making the cost-of-service study, it was necessary to identify and segregate treatment costs so that the remainder could be accounted for in rates for untreated water, but determination of surcharges for treatment is not included in the assigned tasks covered by the report. Pursuant to MWD's established policy and as discussed elsewhere herein, special pricing criteria based on ability to pay have been applied in regard to rates for water for agricultural use. The formalized cost-of-service study, consequently, primarily provided means for developing unit revenues to be derived from sale of untreated water for domestic and municipal uses, and from sale of untreated water for replenishment service.

Sequence of Steps in Cost-of-Service Study

The cost-of-service study can be segregated into a series of interdependent steps, as follows:

(1) Develop net annual revenue requirements to be derived from water sales, general taxes, and reserves.

Results for the study period are shown in Table 9-2 of the report, applying estimated annual expenditures from Table 6-6.

(2) Apportion the net annual revenue requirements among water sales revenue, general tax revenue, and transfers to and from reserves.

Results are shown in Table 9-3. Although the net annual revenue requirements fluctuate irregularly, the corresponding revenues from water sales and from general taxes have been adjusted to vary smoothly, by utilizing transfers to and from

reserves to absorb the fluctuations. Table 9-3, of course, could be developed only after many computer re-runs in testing results against the applicable criteria. After final adjustment, average unit water revenue and regular tax rate could be derived for each year and entered in Table 9-3.

(3) Divide required annual revenue from water sales for selected years among the functions of (i) supply, (ii) distribution, (iii) treatment, and (iv) administrative and general expense. Segregate costs under (i), (ii), and (iii) into fixed costs and variable costs. Redistribute administrative and general costs (iv) to the fixed components of the other three functions in proportion to the cumulated capital investment in each component. Determine for each selected year the percentage of total water sales revenue allocated to the fixed and variable component of each function (i), (ii), and (iii).

Results are shown in Table 9-4.

(4) Assign the percentages of total water sales revenue developed for three selected years in Table 9-4 to the three rate components (i) demand, (ii) commodity, and (iii) treatment, and interpolate percentages for intervening years.

Results are shown in Table 9-5, which indicates how the functional cost components are assigned to the rate components.

(5) Convert the percentages of total water sales revenue developed in Table 9-5 to required annual revenue applicable to each class of service, resulting in apportionment of the total water sales revenue shown in Table 9-3 to (i) domestic and municipal sales, (ii) replenishment sales, (iii) agricultural sales, and (iv) water treatment.

Results are shown in Table 9-6, in which (i) the revenue from agricultural sales is based on rates developed independently from the cost-of-service study, as explained heretofore, (ii) the revenue from domestic and municipal sales includes the entire demand charge and a proportional part of the commodity charge, and (iii) the revenue from replenishment sales includes only a proportional part of the commodity charge.

(6) Convert the annual revenues for each class of service as shown in Table 9-6 to corresponding unit revenues in dollars per acre-foot, by dividing each annual amount of revenue by the

projected annual quantity of water sales under the corresponding class of service, as shown in Table 4-3.

Table 9-7 shows the end results of the cost-of-service study, in terms of unit revenues from sale of untreated water for each class of service.

The unit revenues shown in Table 9-7 for water treatment represent composite values not differentiated between filtration only and combined filtration and softening. These unit revenues are not directly comparable with the surcharge rates developed in MWD Report No. 860 dated December 1968. In making the cost-of-service study, regular tax revenues were allocated to the fixed component of costs in each functional group, including water treatment, in proportion to the gross plant investment in the particular group (Table 9-4). Such allocation in the case of water treatment is contrary to the established MWD policy of fixing surcharge rates so as to recover all costs of treatment. When the departure from established policy came to light, the computational work was in final stages, and a change in programming for data processing would have entailed delay. The effect of the variance is that the unit revenues for water treatment shown in Table 9-7 are appreciably lower than for conformity with the established policy, and the unit revenues for domestic and municipal sales and for replenishment sales are slightly higher. This is on the conservative side for purposes of the rate proposals for untreated water, and has an offsetting effect on the probable lack of conservatism in the projected quantities of water sales.

It has been mentioned that the conclusions in the report in regard to pricing of water for agricultural uses have been strongly challenged. A large store of information is available on costs of producing agricultural products in Southern California. As a result of the investigation, it was concluded in the report that irrigation involving purchase of MWD water is mostly for crops of relatively high value for which cost of water is less than 10 percent of total production cost. The recommended rate proposal

provides for an annual increase of $1 per acre-foot for untreated water for agricultural use, with continuation of such annual increase until the end of the study period, at which time the agricultural rate would become approximately equal to the commodity rate. A rate increasing annually in this manner would keep pace with expected general escalation of production costs. However, agricultural income in Southern California has not kept abreast of related costs.

Evidence has been presented that farming already is beset with financial failure in some parts of the MWD area where agriculture previously has been the largest single industry. It is contended that the MWD price for untreated water for agricultural use should not rise above the rate of $22 per acre-foot already fixed for year 1971-72 or, in any event, above $25 per acre-foot.

Critical factors affecting use of MWD water for agriculture vary so widely from place to place and from time to time that rate proposals are more susceptible to the possibility of acutely adverse consequences than for other types of water service. In view of this, it was stated in Chapter 9: "Long-term policy in this regard can be established only in the light of future circumstances applying to irrigated agriculture in the MWD service area."

CHAPTER 10

WATER PRICING PROPOSALS

In Chapter 10 the projections of unit revenue developed in Chapter 9 are converted into compatible rate proposals for sale of

untreated water. In order to accomplish this in a manner providing economic inducement for optimizing the conjunctive use of all available water resources, extended investigations were made of related factors such as: (1) costs of water production from underground sources; (2) costs of conservational management of ground water basins by spreading and by injection into seawater repulsion barriers, utilizing water from various available sources; (3) effects of different methods of managing ground water basins for seasonal and cyclical operation; (4) costs of reclaiming waste water from various sources and with different degrees of quality of finished product; (5) possibility and consequences of utilizing surface reservoirs for seasonal and cyclical storage; and (6) costs to MWD of providing seasonal peaking service.

These investigations led to development of the rate proposals set out in Table 10-2 for untreated water for domestic and municipal use, and in Table 10-5 for untreated water for basin replenishment. Both of these proposals provide for seasonally varying monthly rates, highest in July and lowest in February, with spread from high to low ranging from $17.50 per acre-foot in 1971-72 to $26.00 in 1982-83, then diminishing to $19.50 in 1989-90.

The economic analyses made for deriving these rate proposals, and the methods of testing them, are presented in Chapter 10 and cannot readily be further condensed. The seasonally varying rate structure has been endorsed by several of the MWD constituent agencies

and appears to be looked upon with at least a degree of favor by some of the others.

Economic Basis for Seasonally Varying Rates

Products and services which are more plentiful in relation to demand at certain times than at other times will fluctuate in price in response to supply and demand if sales are subject to unregulated market conditions. Both governmentally regulated public utilities and publicly owned utilities operate under the influences of stimuli and constraints quite different from those generated in the sector of unregulated private enterprise, nevertheless they exhibit well-recognized responses to marketing factors. In the case of the gas and electric utilities, for example, while rates charged to ultimate consumers under standard tariffs may be uniform with respect to time of rendering service, the rates for wholesale and special contractual sales vary widely between off-peak and on-peak periods. In the water industry, seasonally varying rates currently are rare, although the concept is attracting increasing attention.

Considering MWD's situation, uniform rates throughout the fiscal year for each class of service inevitably tend to induce full reliance on MWD for seasonal peaking service, because this is cheaper than it is to utilize available surface reservoirs for seasonal storage, with attendant evaporation losses and possibly risk of loss of purchased water in case of flood, or to operate ground water

pumping facilities at a seasonally varying rate of extraction. That is, in MWD's case, uniform rates simply discourage optimal conjunctive use of available water resources, resulting in overall diseconomy in the MWD service area.

It has been inferred by some commentators that adoption of seasonally varying monthly rates by MWD would force affected purveyors to alter their retail water service tariffs accordingly. This does not follow. Retail water purveyors enjoy, in effect, a captive market because their customers ordinarily have no substitute source of supply. Annual gross income of purveyors would not be affected by seasonal variation in MWD rates and annual cost of purchasing MWD water could be estimated on the basis of expected monthly demand, as under present circumstances. Consequently, there would be no compulsion for any purveyor to adopt a tariff for retail service with seasonally varying rates.

Tests of Alternative Rate Proposals

In the progress statement dated November 26, 1968, on the water pricing study, four alternative proposals for projecting water and general tax rates were postulated for purposes of investigating the comparative effects during the study period on the 26 unit constituent agencies of MWD and on the consumers in selected purveyor service areas. These four alternative proposals include:

(1) Rates projected in the Official Statement dated May 14, 1968, for Series B Bonds of the 1966 authorization.

(2) Projected rates adapted from MWD Report No. 821 on the 1965 Water Pricing Investigation.

(3) Projected rates adapted from MWD Report No. 836 on the 1966 Water Pricing Investigation.

(4) Projected rates adapted from the proposal submitted by the Los Angeles Department of Water and Power to the Assembly Committee on Water at the hearing on December 12 and 13, 1967.

The water and tax rates in the four proposals were conformed on the basis of the projected deliveries of MWD water as shown in Table 4-3 of the report, so that each proposal would result in approximately the same revenue production during the study period, disregarding possible variances arising from price elasticity of demand.

As part of the study, the comparative effects of these four alternative proposals on the MWD unit agencies and on the consumers in the 124 selected purveyor service areas referred to in Chapter 7 were estimated year by year during the study period. The results for each MWD unit city and for one purveyor service area in each of the other MWD unit member agencies are shown graphically in Figures 10-7 through 10-32 of Chapter 10. To each graph has been added a line representing the rate proposal, designated No. 5, recommended in the report, for comparison with the other four alternatives. In each case, the effect of the recommended rate proposal is intermediate among the other four proposals in virtually all the years of the study period.

A brief discussion of the comparative effects of alternative pricing proposals on consumer costs is presented hereinbefore in the summary of Chapter 7. An extended presentation of the comparative effects of the first four alternative proposals, both on consumer costs and on the contributions made to MWD in water rates and taxes by the 26 unit member agencies, is given in Appendix E of the report.

CHAPTER 11

SUMMARY AND CONCLUSIONS

A general review of the study and a presentation of conclusions are set forth in Chapter 11. The projected rates for untreated water under each class of service and for the general MWD tax levy are reassembled for convenience in Tables 11-1, 11-2, and 11-3. The conclusions reached in the study have been summarized beginning on page 2 of this synopsis.

APPENDICES OF THE REPORT

Five appendices are included in the report for presentation of explanatory and analytical detail. Abbreviations and certain terms used in the report are defined in Appendix A, and a list of references is given in Appendix B.

Appendix C - Total Cost of Water in the MWD Area

In Appendix C, cost data for all 476 water purveyors in the MWD service area for year 1966-67 are presented in Table C-1.

Composite average unit costs of sales by groups of purveyors are given in Tables C-2 and C-3, the grouping being by types of purveyors in Table C-2 and by size classes of purveyors in Table C-3. Appendix C includes certain details of total cost of water in the MWD area omitted from Chapter 7, to which reference is made for definition of the types and classes of purveyors developed for statistical purposes.

Appendix D - Economic Effects of System Peaking Criteria

An economic analysis of the effects of system peaking operation is presented in Appendix D. This study provides supporting data for Chapter 10 on development of water pricing proposals.

Appendix E - Tests of Four Alternative Rate Proposals

A discussion of the comparative effects on consumer costs and on revenues derived by MWD from its member agencies, attributable to the four alternative rate proposals referred to in the progress statement dated November 26, 1968, and in Chapter 10 of the report, is presented in Appendix E. Table E-1 shows the comparative revenues from each member agency for the period 1966-67 through 1989-90.

R. A. Skinner

December 1, 1969

APPENDIX A

SYNOPSIS OF REPORT OF JUNE 1969
ON
WATER PRICING POLICY STUDY
BY
Brown and Caldwell and Robert A. Skinner, Consulting Engineers
FOR
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Reference is made in the synopsis to questions which have arisen in regard to interpretation of the statutory provisions relating to fixing MWD water rates, and of the declaration of MWD policy expressed in Resolution 5821. The following analysis is presented in response to these questions.

STATUTORY MANDATE REGARDING FIXING OF WATER RATES

Prior to amendment of the MWD Act in 1961, a provision specifying certain objectives to be achieved in the fixing of water rates appeared in Sec. 7(j) of the Act, to wit:

> (j) The board of directors, so far as practicable, shall fix such rate or rates for water as will result in revenue which will pay the operating expenses of the district, provide for repairs and maintenance, and provide for the payment of the interest and principal of the bonded debt. If, however, from any cause, the revenues of the district shall be inadequate to pay the interest or principal of any bonded debt as the same becomes due, the board of directors shall, at the time of fixing the tax levy and in the manner for such tax levy provided, levy and collect annually until said bonds are paid....

Section 7 of the Act relates to bonded indebtedness, and subsection (j) to measures for meeting the interest and principal thereon. This juxtaposition of water rate and debt service provisions had given rise to occasional discussion whether the recited provision should be construed primarily as assurance that MWD bonds will be

strongly supported by revenues from water sales, as well as underwritten by the taxing power, rather than as a compelling mandate controlling the fixing of water rates.

By amendment of the Act in 1961, the provision at issue was added to Sec. 6(8) covering the fixing of water rates, and was amplified and qualified by adding:

> ...provide for payment of the purchase price or other charges for property or services or other rights acquired by the district, ...subject to the applicable provisions of this act authorizing the issuance and retirement of the bonds.

Thus, if there had been any doubt that water rates, subject to the criterion of practicability, were to be fixed so as to result in revenue sufficient to provide for the payment of MWD costs under its water service contract with the State, as well as the costs theretofore stipulated, the uncertainty was removed by the 1961 amendment. Moreover, the recited provision was brought directly under the subsection of the Act relating to water rates, although necessarily remaining subject to the provisions relating to retirement of bonded indebtedness.

By amendment of the Act in 1965, the recited provision was deleted from Sec. 7(j). Thus, through two legislative enactments during the past decade, the provision at issue has migrated from Sec. 7(j) relating to servicing bonds, to Sec. 6(8) relating to water rates, and has been amplified in the process so as to leave no doubt that costs incurred under the water service contract with the State are within the purview of the mandate.

Possible Restriction Against Reducing Water Rates While Continuing to Levy General Tax

The General Counsel of the District has called attention to a possible interpretation of Section 6(8) of the MWD Act which might inhibit an eventual scaling down of water rates while continuing the MWD general tax levy. Such a downward trend of rates for domestic and replenishment service is indicated after 1983 in the rate proposal presented in the report. The point is that after having attained a particular plateau of water rates, and thus having demonstrated the "practicability" of such rates, it might be held to be in conflict with the statute if the water rates thereafter were reduced while the levying of a general tax were continued. A modification to preclude such an eventuality could be made by continuing the water rates at the same level after reaching a somewhat lower plateau, and making a compensating adjustment in tax rates. So long as the water rates were held level, a general tax levy could be imposed to bring in any remainder required to meet total revenue requirements. In regard to the foregoing, however, a number of previous MWD water pricing investigation reports have indicated a downward trend in water rates subsequent to reaching peak values, while also projecting continuance of the general tax levy. The point is an interesting one, but a situation necessitating resolution of the legal issue involved will not arise in the near future.

Preferential Right to Purchase Water

Throughout the history of MWD, both astonishment and dissent have been frequently aroused by the seeming anomaly in the

MWD Act, which confers on constituent agencies a preferential right to purchase water from the District for domestic and municipal uses virtually in proportion to the total accumulation of taxes paid in by each agency, while at the same time prescribing in explicit terms that water rates shall be fixed, so far as practicable, so as to render general taxation unnecessary. As it could not be presumed that these provisions were written into the Act without due deliberation, it can only be concluded that in the formative stages it was considered justifiable that accumulated taxes paid in be made the measure of preferential right to water, even though under other provisions in the Act a substantial portion of capital costs eventually would be paid from water sales revenue.

There have been general expressions of agreement that the preferential right provision of the Act has become inequitable and should be changed by accreditation, for purposes of measuring such right, of the component of payments for water which is attributable to capital costs.

LEGISLATIVE HISTORY OF RESOLUTION 5821

On April 12, 1960, the Board adopted a statement in opposition to amendments of the MWD Act proposed by the Los Angeles Department of Water and Power. Under the Department's proposal, MWD's power to levy taxes would be severely curtailed; MWD would be permitted to serve State project water to constituent agencies only under separate contracts with the individual agencies prescribing a fixed entitlement to water under each contract; and MWD would be

prevented from enlarging its aqueduct and distribution system except by contractual arrangements with the affected constituent agencies, affording any such agency a choice whether or not to participate in the expense of such enlargements.

In disapproving the proposed amendments, the Board explained at length its views on the issues, and included certain declarations of related policy. In regard to the legislative history of Resolution 5821 adopted more than five months later, the following excerpts from the statement adopted on April 12, 1960, are of interest:

From page 1 of the Statement:

> Water users in the District have paid and are paying substantial sums on capital costs as well as all operating expenses.
>
> It is the policy of the Metropolitan Water District Board of Directors to bring about the payment of all such charges from water revenues as soon as practicable. The same policy should pertain to the development of the project for the delivery of water from Northern California.

From pages 8 et seq. of the Statement:

> Water Rates Ultimately To Pay All Costs
>
> It is evident that capital and operating costs of a large domestic water supply system cannot all be paid, initially or for a number of years, from water revenues alone.
>
> The Metropolitan Aqueduct is now delivering water up to more than one-half of its full capacity. Accordingly, the District Board of Directors on March 8 adopted a schedule of increasing water rates extending to 1963, and planned on a basis designed ultimately to return sufficient water sales revenues to meet the District's Colorado River Aqueduct costs including all bond retirement and interest charges.
>
> Under the District's policy, beginning in the year 1963, the selling price per acre foot of untreated water for domestic uses from the Colorado River should be not less than the price at which it would be sold if the aqueduct were operating at

full capacity in its completed form and were entirely paying its own way from sale of water for domestic uses, including interest and bond retirements and any amounts needed for reserves and such other sums as would otherwise be collected from taxes payable that year.

Underground water replenishment avoids building excessively expensive surface storage with attendant evaporation, tying up District capital in stored water, and provides a dependable and important source of water for the peak summer period. Of even more importance this helps to establish a dependable source of water in the area of greatest population and valuation for use in case of war, catastrophes, breakdowns, or years of water shortage. Therefore, taxpayers should support the deficit made necessary in selling surplus water for agricultural and replenishment purposes.

The method of collecting taxes of the District must continue to be based upon assessed valuation of the taxable property within the District. Until an aqueduct operates at full capacity the excess of all costs over the amount received from water sales will continue as at present to be paid by the taxpayers. It follows that when an aqueduct is operating at full capacity the taxpayer thereafter will be relieved of any tax burden, except as to water for agriculture and replenishment.

Resolution 5748 adopted by the Board on July 26, 1960, reaffirmed the statement of policy adopted on April 12 of that year. All but the first paragraph of the above-quoted excerpt from pages 8, et seq., of the April 12, 1960, declaration was restated, almost verbatim, in Resolution 5748.

During the period July through September, 1960, a delegation from the MWD Board and Staff and representatives of the Los Angeles Department of Water and Power engaged in extended discussions with a negotiating committee of the Board of Directors of the Los Angeles Chamber of Commerce with the objective of formulating an MWD water pricing policy which would reconcile, so far as feasible, the issues under contention between the District and the Department concerning

methods for obtaining the revenues needed by MWD for meeting the costs incurred under its water service contract with the State. Six analytical studies to determine water and tax rates which would be required for meeting MWD's obligations under different assumptions regarding pricing policy were prepared by the MWD Staff for the use of the negotiators.

The conferences resulted in a proposal by the Chamber of Commerce negotiating committee expressed in Resolution 5821, subsequently adopted by the MWD Board on September 27, 1960.

The recitals of Resolution 5821 begin with the above-quoted excerpt from Sec. 7(j) of the MWD Act, as then in effect, regarding fixing water rates. Next included in the recitals are four paragraphs repeated from Resolution 5748, these being essentially identical with the second through the fifth paragraphs quoted above from the declaration adopted April 12, 1960. The following recital was added:

> WHEREAS, it seems advisable to extend and amplify this statement for the years following January 1, 1964 in anticipation of large expenditures for the development of new sources of water and in order that water users, taxpayers, and constituent Member-agencies may be fully advised.

The operative part of the resolution consists, in effect, of the familiar declaration of policy that, beginning January 1, 1964:

> (1) All revenues from annexation fees shall be applied first to bond obligations to which they are pledged and next to reduce other indebtedness resulting from capital expenditures.
>
> (2) At least one-half of all remaining capital costs plus all operation and maintenance costs shall be borne by sales of water at uniform rates to constituent members irrespective of

the source or point of delivery of the water, except for equitable surcharges to reflect the cost of special services (i.e., water treatment).

(3) The remainder of capital charges may be met from tax levies to the extent permitted by law, with the expectancy that this tax burden will diminish progressively as the use of water approaches the total of the aqueducts' supplies.

The sequence of actions culminating in adoption of Resolution 5821 on September 27, 1960, can be identified with related events somewhat as follows:

(1) The strong effort by the Los Angeles Department of Water and Power to bring about amendment of the MWD Act so as to compel changes in MWD's water pricing and taxation practices, among others, prior to consummation of a water service contract between the State and MWD and to submission of the Burns-Porter Bond Act to the California electorate led to formulation of the declaration of policy adopted by the Board on April 12, 1960.

(2) Continuation of the efforts by Los Angeles, and developments in the negotiations between the State and MWD for a water supply contract, contributed to the MWD Board's decision to restate its financial and water rate policies and to reaffirm its declaration adopted on April 12, 1960. This was implemented by adoption of Resolution 5748 on July 26, 1960.

(3) The water pricing policy expressed in Resolution 5748 was stated in terms of rates to be charged, beginning in 1963, for service of water for domestic uses from the Colorado River Aqueduct. These rates were to be determined so as to meet all expenses, including debt service, on the basis of a full-flowing

aqueduct providing only domestic service. So long as surplus water were available for ground water replenishment and agricultural uses, it would be sold at a deficit supported by taxation.

(4) The action of the MWD Board on September 27, 1960, in adopting Resolution 5821, was the outgrowth of recommendations made by the negotiating committee of the Los Angeles Chamber of Commerce. These recommendations were formulated as a result of discussions during the period July through September, 1960, between the Chamber committee and representatives of MWD and the Los Angeles Department of Water and Power. When the MWD Board adopted Resolution 5748 on July 26, 1960, there was no inkling what the results of the negotiations with the Chamber group would be.

(5) The water pricing policy expressed in the operative part of Resolution 5821 is in terms of costs to be met from sales of water and from taxes, without the differentiation of domestic uses in the rate formula which had been expressed in Resolution 5748. The operative part is clear and unambiguous, but affords quantitative latitude in the terms <u>at least one-half</u> (referring to remaining capital charges), and <u>diminish progressively</u> (referring to expectancy regarding tax burden as the MWD use approaches its full supply).

It has been contended that the true intent and meaning of Resolution 5821 can only be understood by construing it in combination with the total policy adopted on April 12 and July 26, 1960, together

with the background and legislative intent when that policy was adopted. Parts of Resolution 5748, restated from the declaration of April 12, 1960, appear in the recitals of Resolution 5821. On the other hand, the genesis of Resolution 5821 was the recommendation of the Chamber of Commerce, not theretofore in evidence, and the resolution also recites that:

> ...it seems advisable to extend and amplify this statement for the years following January 1, 1964 in anticipation of large expenditures for the development of new sources of water....

The issue in contention is whether the operative part of Resolution 5821 means what it says in clear language, or must be construed to have a different meaning to be reconstructed from the legislative history. If we may draw an analogy, the question whether the plain words and meaning of a statute can be overcome by its legislative history seems to depend on the view the court takes of all the circumstances of a particular case. In the case at bar, the legislative history indicates beyond doubt that the Board, in adopting Resolution 5821, took deliberate action to modify and amplify its previously declared policy.

The foregoing analysis has been presented in response to suggestions that it should be determined whether Resolution 5821 has been properly interpreted in the water pricing policy report.

Status of Resolution 5821 in the Light of Changed Conditions

The last of the group of related questions propounded in the accompanying synopsis is concerned with the contention that Resolution 5821 no longer is compatible with conditions confronting

MWD, and does not now reflect the current state of mind of the Board.

The basic tenor of Resolution 5821 is that of long-range policy. It refers to the development of new sources of water, and to conditions when the use of water by MWD approaches the total supply. It is true that changing financial conditions have brought about stringencies not generally foreseen in 1960. However, until the Board itself adopts different ones, the guidelines expressed in Resolution 5821 must be considered to represent MWD policy.

Constraints Imposed by Statutory Provisions and Board Declarations

If the authors of the report had found reason to conclude that the provisions of the MWD Act governing the fixing of water rates, or the policy expressed in Resolution 5821, were in conflict with the best interests of the MWD community, or were discriminatory or inequitable among the member agencies, they had ample opportunity to say so. On the contrary, in principle as well as in consideration of the range of discretion afforded within the bounds of reasonable interpretation, both the statutory provisions and the adopted policy were found to be compatible with the preponderance of authoritative opinion.

R. A. Skinner

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