

## **Central Basin Municipal Water District:**

*Its Poorly Planned Recycled-Water Project  
Has Burdened Taxpayers But May Be  
Moving Toward Self-Sufficiency*



April 2001  
2000-115

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# CALIFORNIA STATE AUDITOR

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April 19, 2001

2000-115

The Governor of California  
President pro Tempore of the Senate  
Speaker of the Assembly  
State Capitol  
Sacramento, California 95814

Dear Governor and Legislative Leaders:

As requested by the Joint Legislative Audit Committee, the Bureau of State Audits presents its audit report concerning the Central Basin Municipal Water District's (district) recycled-water project (project).

This report concludes that the district inadequately planned its project before proceeding with construction. It used projections of high imported water rates to determine project revenues, failed to properly evaluate financial risks, and did not obtain firm customer commitments. As a result, it presented overly optimistic financial forecasts to the public. As sales revenues failed to meet projections, the district has continued to assess taxpayers \$3 million annually in standby charges to support the project though they were initially told the charges would only last three years. However, the district has recently improved its planning and decision-making processes. In addition, if the district adds identified customers, it will be able to significantly reduce the per acre-foot costs of its recycled water. Nevertheless, even with higher sales, the project would still suffer revenue shortfalls of \$1.8 million per year without the standby charge.

Respectfully submitted,

ELAINE M. HOWLE  
State Auditor

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# SUMMARY

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## Audit Highlights . . .

*Our review found that the Central Basin Municipal Water District (district) poorly planned its recycled-water project because it:*

- Overstated the project's potential for self-sufficiency by ignoring lower projections when estimating future revenue.*
- Failed to gain firm purchasing commitments before building the project.*

*As a result, the district:*

- Still relies on \$3 million in annual standby charges.*
- Currently distributes water costing \$1,395 per acre-foot compared to \$431 per acre-foot for imported water.*

*However, recent decisions to halt an expansion project and seek more customers suggest that the district is trying to move the project toward self-sufficiency.*

*Nevertheless, even if the district meets its sales goals without standby charges, it will suffer revenue shortfalls of \$1.8 million per year.*

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## RESULTS IN BRIEF

When the Central Basin Municipal Water District (district) started its recycled-water project (project) in 1991, it presented projections to taxpayers indicating that the project would be self-sufficient after three years and would no longer depend upon the so-called “standby charge,” an assessment levied on property owners. The district used high imported water rate projections of up to \$2,200 per acre-foot in fiscal year 2019-20 to determine the project’s recycled-water revenues. By ignoring lower projections, it overstated the project’s potential for self-sufficiency. An acre-foot of water is almost 326,000 gallons, enough to meet the needs of two average families for one year. The district also failed to properly evaluate the project’s financial risks and did not obtain firm purchasing commitments from local water retailers and their customers before constructing its distribution system. In doing so, it ignored the advice of the State Water Resources Control Board, which told the district to obtain customer contracts for the use of 50 percent of the system’s planned capacity and letters of intent from customers for the remaining 50 percent. The district’s 1991 cash flow projections yield a positive net present value of \$48 million. The use of more conservative imported water rate projections and sales assumptions results in negative net present values ranging from \$2.1 million to \$9 million.

More than nine years later, the district is still assessing its taxpayers \$3 million a year in standby charges, revenue that is essential for the district to meet debt payments related to construction of the project. The financial problems it faces—flattening water rates and customers who refuse service—have been exacerbated by the district’s choice to hold its recycled-water rates steady even when imported water rates have increased. Today, with sales volume for the project at 43 percent of the initial projection of 8,500 acre-feet, the district’s cost of distributing the recycled water amounts to \$1,395 per acre-foot, based on total costs of \$5 million. This exceeds its revenues, excluding the standby charge, of \$505 per acre-foot—an average of \$255 per acre-foot from existing customers and \$250 per acre-foot from Metropolitan Water District of Southern California

(Metropolitan) rebates for distributing recycled water. It also exceeds the \$431 per acre-foot that Metropolitan charges for its imported, non-interruptible water.

Recent decisions suggest that the district has become more mindful of the necessity to move the project toward self-sufficiency. For example, in 1998 the district suspended work on an expansion project when its economic analysis showed the cost of recycled water would be \$826 per acre-foot, which exceeds the cost of imported water at \$431 per acre-foot. It has instead turned its attention to potential customers who, because they are near the project's existing distribution system, could be connected for recycled-water service at relatively low construction costs. If the district is successful in adding identified customers along its existing pipelines and negotiating a pending agreement to sell water to a neighboring district, it could reduce the project's cost per acre-foot to approximately \$684. Nevertheless, it is important to note that, even if the district were able to add all these customers and deliver 8,100 acre-feet of water annually, it still would suffer revenue shortfalls of \$1.8 million per year at current recycled-water rates, excluding standby charges. Moreover, unless it implements a long-term plan to fund its reserve to replace aging facilities, the district may be forced to issue additional debt, thus prolonging the assessment of the standby charge.

## **RECOMMENDATIONS**

To achieve self-sufficiency for the recycled-water project, the district should:

- Continue to study the feasibility of raising its recycled-water rates to increase revenues from customers and to reduce reliance on general taxpayers.
- Continue to reject project expansions that do not improve the project's cost-effectiveness relative to alternative water sources.
- Execute binding agreements with potential customers for at least 50 percent of expected water deliveries before undertaking large capital projects.
- Establish sufficient reserves for future system replacement costs.

## **AGENCY COMMENTS**

The district agrees with most of our recommendations. Ironically, it disagrees with much of our analysis that established the basis for the recommendations. However, the district's response contains numerous incorrect or misleading statements. Our comments on the district's response begin on page 53. ■

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# INTRODUCTION

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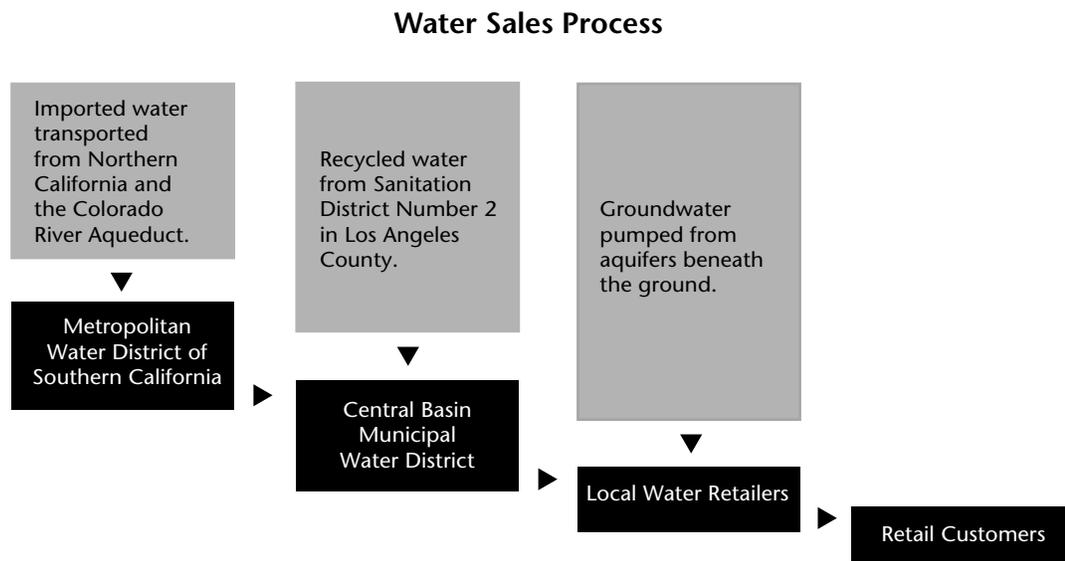
## BACKGROUND

The Municipal Water District Law of 1911 empowers water districts to acquire, distribute, spread, and recycle water for use within their service region. Under this law, the Central Basin Municipal Water District (district), which covers a 227-square-mile area and serves more than 1.5 million people, was formed in 1952. The district, located in southeast Los Angeles County, was created to provide supplemental water supplies imported from Northern California and the Colorado River Aqueduct to local water retailers who previously relied on groundwater. In order to obtain this supplemental water, the district became a member of the Metropolitan Water District of Southern California (Metropolitan), a regional agency that provides imported water to its member agencies.

A board of directors governs the district's activities and is composed of five elected members, each of whom serves a four-year term. The district shares its staff of about 40 employees, including its general manager, with the West Basin Municipal Water District, another water wholesaler. Figure 1 presents the various water supplies in the district and the sales distribution system.

FIGURE 1

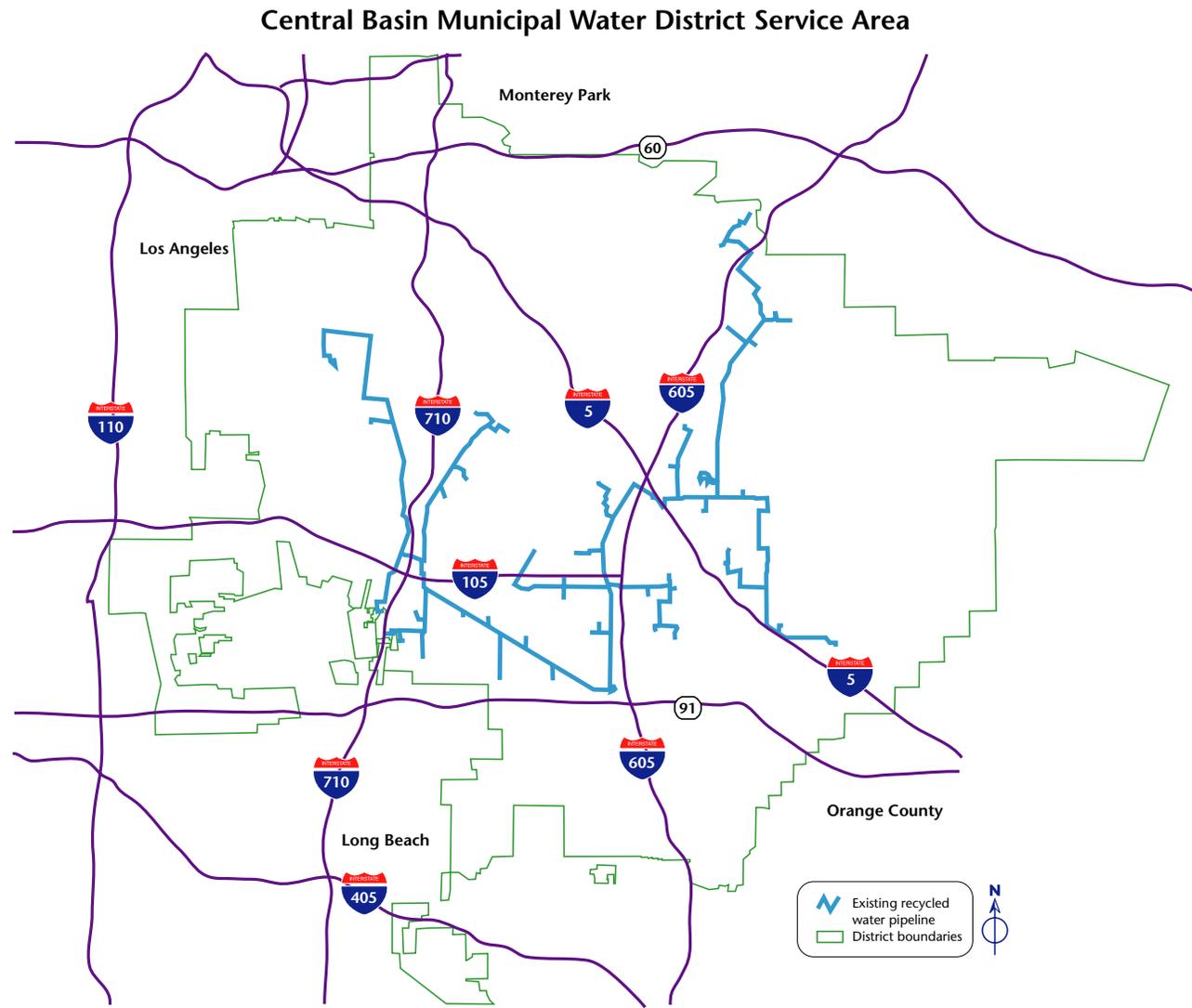
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As a wholesale water agency, the district does not bill residents or businesses for water service and use. Rather, it facilitates the billing process between Metropolitan and 28 local water retailers that provide service to residents and businesses. The district does not own or operate pipelines, pump stations, or other infrastructure associated with imported water deliveries. However, in response to California's last drought period from 1987 to 1992, the district began to engage in water-conservation efforts and to construct a recycled-water distribution system. The district determined that recycled water, which is cleaned wastewater that can be used for many non-drinking purposes, would insulate its service area from future water shortages and reduce its dependence on imported water.

The result was two projects, the E. Thornton Ibbetson Century (Century) and the Esteban E. Torres Rio Hondo (Rio Hondo), which when combined are referred to as the Central Basin Recycled Water Project (project). The project's pipelines are shown in Figure 2. Encompassing 50 miles of pipe, three pumping stations, and a reservoir, the project currently delivers roughly 3,600 acre-feet of water to more than 150 retail customers, including parks, schools, golf courses, and businesses. Century began distributing recycled water in February 1992, while Rio Hondo began distribution in July 1994.

FIGURE 2



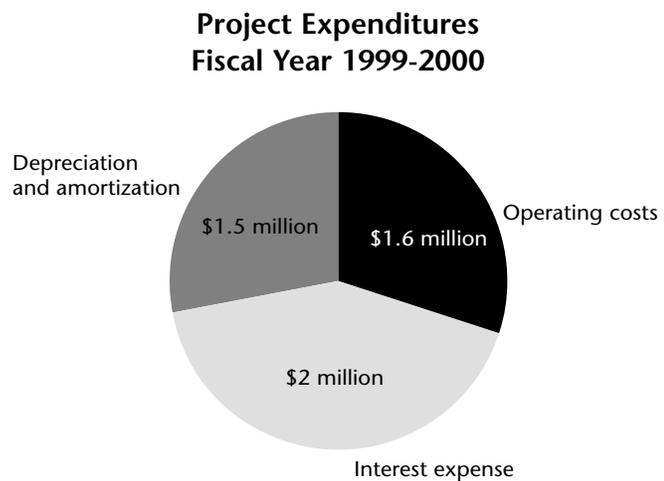
Source: Central Basin Municipal Water District.

Note: The district encompasses the cities of Artesia, Bell, Bellflower, Bell Gardens, Cerritos, Commerce, Cudahy, Downey, Hawaiian Gardens, Huntington Park, Lakewood, La Habra Heights, La Mirada, Lynwood, Maywood, Montebello, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, Whittier, and portions of the cities of Carson, Compton, Monterey Park, and portions of unincorporated Los Angeles County.

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As shown in Figure 3, the district had roughly \$5 million in expenses for the project in fiscal year 1999-2000. Depreciation expense of about \$1.5 million is an item that the district did not have to pay. However, it did pay almost \$1.4 million in principal payments to reduce the debt on its outstanding bonds. The project had three main sources of revenue, which totaled \$5 million. Recycled-water sales contributed approximately \$900,000, while rebates from Metropolitan, designed to encourage local agencies to recycle water, provided another \$900,000. The remaining \$3.2 million came from the standby charge. A standby charge is a property assessment that is legally limited to \$10 per acre per year for each acre of land being assessed, or \$10 per year for a parcel less than one acre. According to state law, municipal water districts may impose the charge in an area where districts make water available, whether the water is used or not.

**FIGURE 3**



Source: Fiscal year 1999-2000 audited financial statements and district financial records.

Note: Project expenditures were roughly \$5 million. Interest expense relates primarily to the district's \$46 million in outstanding bonds. Operating costs include project administration, the lease of a reservoir, and the operation of pump stations.

The district also is committed to implementing proven and reliable technologies and educational programs for conserving water within its service area. It does this by promoting industry-approved practices, such as the use of ultra low-flush toilets and high-efficiency clothes washers; educating those who maintain irrigation systems at businesses, parks, and cemeteries on ways to reduce outdoor water waste; and disseminating conservation information to the public.

In December 2000, Congress authorized the Secretary of the Army to spend up to \$10 million for the Central Basin Water Quality Protection Project. The district became responsible for administering the water quality project, but it will not be responsible for sharing the costs for this project. The purpose of this project, part of the San Gabriel Water Quality Initiative, is to remove contaminants migrating from the San Gabriel groundwater basin into the Central groundwater basin. The U.S. Environmental Protection Agency determined that volatile organic compounds located within the San Gabriel Valley Superfund sites have traveled through the Whittier Narrows area toward two spreading grounds. These spreading grounds are large holding ponds where water is diverted, seeps into the groundwater aquifers, and replenishes the Central groundwater basin.

### **Federal, State, and Regional Incentives to Recycle Water**

Federal, state, and regional governmental agencies recognize the benefits of water recycling and provide financial assistance to advance its use.

The U.S. Bureau of Reclamation (Reclamation) has been authorized to pay up to 25 percent of the costs of recycled-water projects that include the design and construction of facilities. As of June 30, 2000, Reclamation had paid almost \$7 million for part of the district's project.

The State also offers funds to support local recycled-water projects. It recognizes that recycled water supplements existing supplies, minimizes the impact of growing demand for new supplies, and helps meet future water needs. The State Water Resources Control Board (state board) offers grants for recycled-water project planning to cover 50 percent of eligible costs up to \$75,000. It also provides low-interest loans for the design and construction of recycled-water projects. Depending on the funding source, agencies may secure 25-year loans of up to \$10 million at interest rates equaling 50 percent of the State's rate for general obligation bonds. For reasons that will be discussed on page 24, the district chose not to pursue any of these funds.

At the regional level, Metropolitan supports local recycled-water projects by providing rebates of up to \$250 per acre-foot of recycled water sold to locally owned projects sponsored by its member agencies. According to Metropolitan, it believes that

water recycling can improve the reliability of the water supply for Southern California because it allows for the storage of available imported water. Metropolitan expects its rebate program costs to reach \$54 million by fiscal year 2004-05. During fiscal year 1999-2000, Metropolitan paid the district roughly \$900,000 for selling about 3,600 acre-feet of recycled water. We estimate that Metropolitan has paid the district \$4.4 million in rebates since the project began.

### Laws and Regulations Affecting Recycled-Water Projects

The State determines how recycled water may be produced and used. The Department of Health Services (DHS) specifies the standards for treating effluent, or wastewater, to reduce bacteria and viruses, thus yielding various types of recycled water, such as disinfected secondary and disinfected tertiary. In addition, it outlines requirements for water-sampling analyses and reporting for water-recycling facilities. The DHS also establishes uniform statewide criteria for the possible uses of the various types of recycled water.

#### Examples of Uses of Recycled Water

**Disinfected tertiary recycled water** may be used to irrigate school yards, parks, playgrounds, and residential landscaping. It may also be used for structural fire fighting, commercial car washes, and decorative fountains.

**Disinfected secondary—2.2 recycled water** (*containing a median concentration of total coliform bacteria less than 2.2 per 100 milliliters*) may be used to irrigate food crops if the edible portion is above ground and will not come into contact with the water. It may also be used for restricted recreational bodies of water, where recreation is limited to non-body contact activities, such as boating.

**Disinfected secondary—23 recycled water** (*containing a median concentration of total coliform bacteria less than 23 per 100 milliliters*) may be used to irrigate cemeteries, freeway landscapes, and pastures for milk-producing farm animals. Other uses of this type of recycled water include soil compaction, concrete mixing, and road cleaning.

**Undisinfected secondary recycled water** may be used for surface irrigation, such as for orchards and vineyards.

The district distributes recycled water from County Sanitation District Number 2 of Los Angeles County. Because this water must meet the Los Angeles Regional Water Quality Control Board's requirements for discharge into the San Gabriel River, it measures up to the most stringent DHS criteria for disinfected tertiary recycled water. The district must ensure that the water it distributes is used appropriately, and it works with local retail customers and Los Angeles County's Department of Health Services to obtain necessary recycled-water permits. Among other requirements, the district must ensure that customers maintain separate recycled- and drinking-water piping systems and that they post signs informing the public of the use of recycled water.

New state regulations were adopted in December 2000, but they should have a minimal effect on the district's operation of its recycled-water project. For example, the new regulations prohibit the use of primary-treated effluent, which the district does not sell, and recognize uses of recycled water that were not specified previously.

## SCOPE AND METHODOLOGY

The Joint Legislative Audit Committee asked the Bureau of State Audits to review the district's recycled-water project to determine whether the district undertook proper planning, met project goals, provided a cost-effective source of water, and fairly served its taxpayers.

To evaluate the recycled-water project's existing and proposed major construction phases, we reviewed the district's feasibility and planning documents. Using criteria established by Metropolitan and the state board, we examined whether the planning indicated that the recycled-water project's benefits would outweigh its costs.

To understand the district's responsibilities for managing its recycled-water project and to determine whether it provides a cost-effective source of water, we reviewed applicable laws, regulations, and procedures. We also reviewed the district's financial statements and other relevant documents to determine the revenues and costs associated with the project. Specifically, we reviewed the project's revenues and expenditures, including any long-term debt, and determined the cost per acre-foot of recycled water sold. We also assessed the district's retained earnings with respect to the project's need for reserves.

To determine whether the district fairly serves its taxpayers, we evaluated the soundness of its standby charge justification and reviewed its pending agreement with a neighboring district to ascertain whether its taxpayers would subsidize the sale of recycled water to entities outside the district.

Finally, we compared the district's recycled-water project's cost per acre-foot with the cost of groundwater and imported water. We also compared it with recycled water sold by other districts, as shown in Appendix A. We compared the compensation for district board members with compensation paid to board members at comparable districts, as shown in Appendix B. We also evaluated the district's contracting policies to identify any significant weaknesses and reviewed information on the water quality project to ascertain its impact on the district as discussed on page 10. ■

# AUDIT RESULTS

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## THE DISTRICT PLANNED INADEQUATELY FOR ITS RECYCLED-WATER PROJECT, SO IT UNDERESTIMATED RISKS AND PRESENTED TAXPAYERS WITH OVEROPTIMISTIC FORECASTS

The Central Basin Municipal Water District (district) poorly planned its recycled-water project (project) and significantly underestimated the economic risks involved. In projecting future revenue, the district assumed that the price for imported water—which it tied to the price it could charge for recycled water—would escalate rapidly, despite more conservative projections that were available to it at the time. In addition, the district chose not to act on recommendations by the State Water Resources Control Board (state board) that, before implementing the project, it assess retail customer needs and gain firm commitments of their willingness to buy the recycled water it distributes. As a result, the district’s projections that the project would deliver 8,500 acre-feet of recycled water by its fourth year of operation turned out to be drastically exaggerated: in fiscal year 1999-2000, the project delivered only about 3,600 acre-feet. The district used its overly optimistic projections to suggest to taxpayers that the project would be economically self-sufficient when alternative analyses would have revealed considerable financial risk.

### The District Assumed Rapidly Increasing Rates for Imported Water When Developing Its High Revenue Projections

Because the district planned to sell its recycled water to local retailers at 90 percent of Metropolitan Water District of Southern California’s (Metropolitan) imported water rate, its projections of Metropolitan rates significantly affected its estimates of its own future revenue. Thus, when the district used high imported water rate projections to justify the project to taxpayers, while ignoring lower projections, it overstated the project’s potential for self-sufficiency. For instance, in 1991 the district projected that the Metropolitan’s imported water rate would exceed \$1,700 per acre-foot by fiscal year 2015-16. Other projections available to the district indicated that Metropolitan rates would

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*To justify the project to taxpayers, the district used high imported water rate projections, while ignoring others that were lower.*

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reach only \$800 per acre-foot by 2015. The district used the higher rate in its analysis, claiming that the project would be self-supporting after three years.

When the district was planning the project, it had access to two separate sets of projected rates for imported water, both of which it failed to take into account. The first was presented by Metropolitan to its board of directors in 1991 and concerned increases in rates should the drought that California was experiencing continue through fiscal year 1993-94. Metropolitan projected that its non-interruptible water rates would increase substantially through fiscal year 1993-94 and then rise at an average annual increase close to the then-current average inflation rate of 3.9 percent through fiscal year 1999-2000.<sup>1</sup> Although three representatives from the district serve on Metropolitan's board and should have received Metropolitan's projections of its water rates, we found a significant difference in the rates used by the district and Metropolitan's rates. For example, the district's cash flow projections show a Metropolitan rate of almost \$700 per acre-foot by fiscal year 1999-2000, while Metropolitan was projecting a rate of less than \$600 per acre-foot. Moreover, the district assumed that between fiscal years 2000-01 and 2019-20 Metropolitan's rates would increase by 6 percent each year rather than by the then-current average inflation rate. This led the district to conclude that Metropolitan would be charging \$1,740 per acre-foot in fiscal year 2015-16 and almost \$2,200 by fiscal year 2019-20.

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***The district projected that imported water rates would rise to \$2,200 per acre-foot in fiscal year 2019-20.***

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In addition, the district had access to the estimates used by the West Basin Municipal Water District (West Basin) for planning its recycled-water project in February 1991. These predicted that Metropolitan's rate could be as low as \$700 per acre-foot in fiscal year 2014-15. The manager of finance told us that projections for West Basin and the district were prepared by different consultants hired by the respective districts and that each district took its consultant's findings at face value. Moreover, the current general manager, who directs both the district and West Basin, told us that, given the degree of uncertainty in 1991, he does not think a reasonable person could say that one projection was better than the other. However, the district and

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<sup>1</sup> Metropolitan sells water at different rates: Its interim agricultural and seasonal storage programs are less expensive than its non-interruptible imported water service. Since only water sold at the non-interruptible rate is available at all times to the district, it usually makes up the majority of the district's imported water purchases.

West Basin staff are the same, so we find it difficult to understand why the district staff would not have questioned this large disparity or at least taken into account the lower rates in its projections.

### **The District Projected Market Demand Without Adequately Securing Customers**

The errors in the projections were compounded by the district's failure to fully assess its market when planning the project. Although the district identified potential local retail customers, it did not adequately assess whether recycled water would meet these customers' water quality needs and did not consider the possibility that some customers would refuse recycled-water service. Moreover, rather than obtaining local retailer and customer contracts before starting construction as the state board had advised, the district relied on non-binding letters of interest. As a result, the district projected that its system would deliver 8,500 acre-feet of recycled water by the fourth year of operation without having ensured the existence of this level of market demand.

In planning the project, the district assumed that its customers would include factories, oil refineries, and entities that perform landscape irrigation. However, it did not assess the different needs each of these customers might present. The state board recommends that agencies applying for low-interest loans conduct market assessment surveys that involve obtaining information from potential customers such as how they will use the recycled water, how much they will need, when they will need it, and whether they have any water quality concerns. The state board advised the district to address several marketing issues when the district applied for a low-interest loan to cover part of the costs for the E. Thornton Ibbetson Century (Century) portion of the project in 1991. For example, the state board expressed concern that three oil refineries constituted 52 percent of the project's water demand. It asked the district to assess, among other things, whether the quality of recycled water would meet the refineries' demands and whether unforeseen circumstances could cause the refineries to relocate or shutdown within the 20-year planning period. The district did not follow the state board's advice before building the system. As a result, the district is currently working with two of the three oil refineries to address their water quality needs and bring them on as customers. The third refinery closed in the mid-1990s.

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***The district did not assess the different needs of each of its customers despite advice from the state board.***

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In contrast, West Basin did detailed comparisons of the quality needs of some of its larger customers when planning its recycled-water project. For example, it analyzed 21 chemical traits of its recycled water and compared them to the water quality specifications for a potential oil refinery customer. It was thus able to identify that its recycled water would need special treatment before the refinery could use it. The district's current general manager believes it was imperative for West Basin to do this sort of research because of the size of certain customers in relation to the entire project. For the district, however, he believes that no individual customer was large enough to warrant such an effort. This statement contradicts the state board's concern that three oil refineries constituted 52 percent of the Century portion of the project's water demand. We believe the state board's advice to deal with customer needs during the initial planning stages is more sensible than waiting to assess their needs after an expensive infrastructure is built. The district's experience in missing its goals for sales volume, as described on page 21, makes this clear.

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***Unlike entities operating other comparable recycled-water projects, the district did not obtain contracts with its potential customers.***

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The state board also advised that, before soliciting construction bids for Century, the district obtain customer contracts for the use of 50 percent of its planned capacity and letters of intent from customers for the remaining 50 percent. However, the district only obtained letters of interest from potential customers and never took the next step of requiring them to submit letters of intent, which contain greater detail regarding conditions of use, or to sign contracts. As shown in Appendix A, entities operating seven of nine comparable recycled-water projects in Southern California have required customers to demonstrate their willingness to purchase recycled water by signing contracts. Two others use a state law that allows water districts to require customers to take their recycled water.

### **The District Presented Taxpayers With an Overly Optimistic Estimate of Project Costs and Benefits**

The district's alternative water source is Metropolitan's imported water. Cost-effectiveness determinations for the district are based on a comparison of the cost of distributing recycled water to the cost of imported water supplies. If the cost of recycled water is less than imported water, water distributors, such as the district, can pass cost savings to their customers. Using the same assumptions underlying the district's initial cash flow projections for its recycled-water project, we calculated that the project could have yielded savings with a net present value of \$48 million for a

29-year period and could have distributed water at a cost per acre-foot about two-thirds of the cost of Metropolitan’s imported water. However, using more conservative assumptions, as we show in Table 1, we determined that the project could have yielded losses for the 29-year period with negative net present values between \$2.1 million and \$9 million and distributed water at a cost per acre-foot about 45 percent to 80 percent greater than the cost of Metropolitan’s imported water. If the district had prepared cash flow projections using assumptions that were more conservative and presented them to its taxpayers, the taxpayers would have known that the project could lose money. Under these circumstances, it is unknown whether they would have approved of the standby charge, causing the district to reconsider the project’s implementation.

**TABLE 1**

**Present Values for the District’s Recycled-Water Project Using Alternative Cash Flow Projections  
Fiscal Years 1991-92 through 2019-20  
(Dollars in Millions)**

	Savings From Buying Less Imported Water(a)	Metropolitan Rebate (b)	Capital Costs (c)	Operating Costs (d)	Net Savings (Cost) (a+b) less (c+d)
The district’s 1991 cash flow projections	\$83.9	\$23.8	(\$41.4)	(\$18.3)	\$48.0
Scenario 1: Cash flow projections incorporating lower sales volume and Metropolitan’s 1991 worst-case estimates	35.8	12.2	(41.4)	(8.7)	(2.1)
Scenario 2: Cash flow projections incorporating lower sales volume and West Basin’s 1991 lowest estimates for imported water	28.9	12.2	(41.4)	(8.7)	(9.0)

Note: All values are discounted to the project’s inception in fiscal year 1991-92.

Savings are calculated by netting project benefits against costs for the planning period. The district’s most important project benefit is the savings it derives from purchasing less imported water. The

level of savings depends on how much the district must pay for each acre-foot of imported water, so assumptions about the pace at which Metropolitan will increase its imported water rates are key. An additional benefit to the district is the per-acre-foot rebate it receives under an agreement with Metropolitan. Both benefits vary with the amount of recycled water sold and thus depend on assumptions of sales volume. Total project benefits are then offset by the project's capital and operating costs. Capital costs reflect assumptions about the cost to build the system and are reduced by the project's salvage value at the end of the planning period. These costs are fixed and do not vary with the amount of recycled water sold. Operating costs include expenditures for pumping water and administering the program. These costs vary with the amount of water sold and thus depend on sales assumptions.

Our more conservative present value calculations differed from the district's primarily because we assumed a lower growth in Metropolitan's non-interruptible water rate and a lower volume of overall customer sales. In making these projections, we considered two different sets of data and thus determined two alternative scenarios. For the first scenario, we used Metropolitan's 1991 worst-case estimates, which extended through fiscal year 1999-2000. Thereafter, we increased Metropolitan's estimate by the then-current average inflation rate of 3.9 percent. For our second scenario, we used the lowest Metropolitan water rate predictions presented in the West Basin's plans for its recycled-water project.

To project the levels of recycled water the district would sell under scenarios one and two, we used actual sales volume for the project through fiscal year 1999-2000 and then assumed that sales would grow by 6 percent per year until reaching 8,500 acre-feet—the project's full production potential—in fiscal year 2014-15. The 6 percent growth rate is close to the actual average rate the district achieved between fiscal years 1995-96 and 1999-2000. Our estimate is considerably lower than the district's 1991 estimate, which assumed the project would reach full production potential by fiscal year 1994-95. We realize that in 1991 the district did not have the benefit of knowing what its sales or sales growth rate would actually be. However, the district did receive a warning from the state board indicating that in a worst-case situation, the larger phase of its project, Century, would be able to deliver only 3,700 acre-feet, or 67 percent of its ultimate demand of 5,500 acre-feet, by fiscal year 1995-96 before sales stagnated. The state board's estimate was more reasonable than the district's, considering that the Century portion delivered

roughly 2,860 acre-feet or about 94 percent of the project's total deliveries of 3,060 acre-feet in fiscal year 1998-99, the last year in which the district reported sales for the Century and the Esteban E. Torres Rio Hondo (Rio Hondo) portions of the project separately.

For both scenarios, we also reduced the length of time the district would receive the Metropolitan rebates by four years to reflect its 1991 agreement with Metropolitan, which specified that the rebate would terminate at the end of fiscal year 2015-16. The district's initial projections erroneously included Metropolitan rebates through fiscal year 2019-20.

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***Federal, state and Metropolitan policies support the concept of using recycled water to supplement existing water supplies, but projects should not be undertaken without consideration of their cost-effectiveness.***

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The current general manager believes that measuring a recycled-water project's success using only a cost-benefit analysis does not adequately convey the positive role the project plays in local and statewide water management policy. He told us that, in addition to examining cost-benefit analyses of water supply costs, one must consider benefits such as ensuring an adequate supply of water and mitigating the economic impacts of severe water shortages. Although we agree, as shown in the Introduction, that federal, state, and Metropolitan policies support the concept of using recycled water to supplement existing water supplies, individual recycled-water projects should not be undertaken without serious consideration of their cost-effectiveness. If the district had prepared cash flow projections with varying scenarios, it would have been able to identify and communicate to taxpayers the project's potential for considerable financial risk before proceeding with the project.

### **The District Informed Taxpayers That the Standby Charge Would Be Levied for Only Three Years**

Although the district's June 1991 justification for levying a standby charge to support the project was legally sound, the district's accompanying cash flow projections indicated that the assessment would be needed for a short time. State law requires the district to conduct public hearings before establishing a standby charge so board members can hear and consider all objections. As discussed, the district used unrealistic assumptions when preparing its cash flow projections for its recycled-water project. Using these projections, the district informed the public that the standby charge, totaling roughly \$3 million a year, would be needed for only three years. The district's projections indicated that recycled-water revenues and

Metropolitan rebates would provide sufficient revenues to cover project costs after the first three years, eliminating the need for the standby charge.

In its summary of the standby charge justification, the district included a statement that “the performance of the revenue program will be reevaluated annually to ensure that the performance expectations are being realized. Adjustments will be made if necessary each year to ensure conformance with the Long Range Financial Plan.” It believes that this statement put the public on notice that the standby charge could continue beyond three years. We, however, do not believe that the public would draw a conclusion from this broad statement that the standby charge would extend beyond three years.

In justifying the levying of a standby charge, the district stated that the availability of additional water would be a benefit to all parcels and users within the district. Examples of the project’s benefits were maintaining a reliable supply of recycled water, substituting potentially 20,000 acre-feet of recycled water for more uncertain imported water supplies, and insulating the district from future drought.

Since 1995, the legality of the district’s standby charge was challenged by the city of Vernon (Vernon) and upheld by the Superior Court for the county of Los Angeles and the Court of Appeals of the State of California, Second Appellate District. The superior court determined that the assessment could not be set aside unless it appeared that no benefits would accrue to assessed properties. Because Vernon could not show each assessed property would receive no special benefit from the district’s recycled-water project, the court denied Vernon’s request to void the assessment.

However, despite the fact that the standby charge has been determined to be legal and that taxpayers receive some benefit from the project, it is clear that the district did not present any alternative cash flow projections to its taxpayers of the possibility that the standby charge could continue indefinitely.

### **THE DISTRICT FAILED TO MEET ITS REVENUE ESTIMATES FOR THE RECYCLED-WATER PROJECT, SO IT MUST RELY ON THE STANDBY CHARGE**

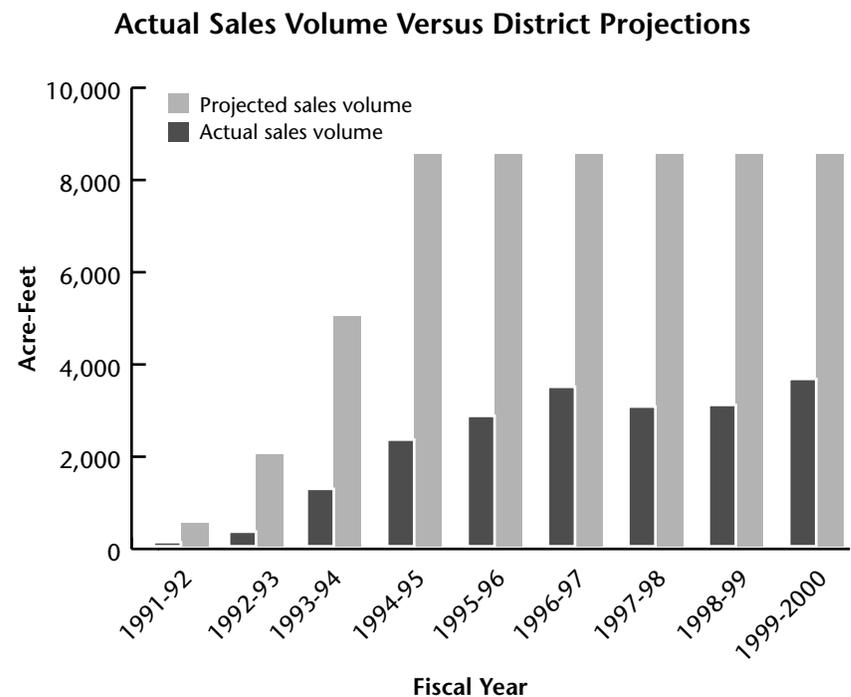
The district’s inability to meet sales targets has forced it to rely on the standby charge to fund 75 percent of its recycled-water project costs since inception. Because it did not secure agreements

guaranteeing sales, the district built most of the project’s distribution system only to find that some customers were unwilling to accept deliveries. The subsequent opposition of Vernon, a key water retailer, was particularly damaging because it kept several major customers from buying recycled water. In addition, the district’s low recycled-water rates, which have remained close to its 1991 rate of \$235 per acre-foot, have further dampened expected revenues. This problem of low revenues has been compounded by high fixed costs and the district’s decision not to participate in the State’s low-interest loan program. Under these circumstances, the district would have been unable to continue to operate the project without imposing the standby charge.

### The Project’s Sales Have Been Far Below Initial Projections

More than nine years after inception, the district’s recycled-water project operates at about 43 percent of its initially projected capacity. As a result, without standby charges, recycled-water revenues are not able to cover project costs. Figure 4 shows the dramatic difference between anticipated and actual sales.

**FIGURE 4**



Source: Central Basin Municipal Water Districts’ 1991 Cash Flow Projections and its Recycled-Water Sales Through June 30, 2000.

**More than nine years after its inception, the district's recycled-water project operates at 43 percent of its initially projected capacity.**

Most of the sales shortfall is due to the unwillingness of large industrial customers or their local water retailers to join the system. This has had a domino effect in some cases, making it economically unwise to extend pipelines to serve smaller, nearby customers. The most dramatic example occurred in Vernon, which has refused to allow the district to construct a recycled-water distribution system in its city. The explanations from the district and Vernon differ. Vernon officials told us that its own low cost of pumping groundwater, along with concerns about the high cost to its customers of treating recycled water to meet their needs have made recycled water economically unattractive. The former general manager of the district told us that Vernon initially supported its project, but subsequently refused service because it did not receive preferential pricing for the recycled water. Nevertheless, as noted earlier, the district did not take appropriate steps to ensure that potential customers submitted letters of intent or signed contracts before it began construction. Because the district did not secure agreements with local retail agencies before laying pipeline, it did not know the challenges it

would face in Vernon. The net result was to eliminate much of the sales from the Rio Hondo portion of the project. Sales, initially projected to reach about 3,000 acre-feet, barely exceeded 200 acre-feet in fiscal year 1998-99, the last year in which the district reported sales for the Century and Rio Hondo portions of the project separately.

Similar, though less severe, problems reduced sales along the Century portion of the project. For example, the district built a connecting pipeline to a golf course before learning that the golf course was unwilling to use recycled water due to estimated retrofit costs approaching \$2 million. The

district had projected that this customer would buy 280 acre-feet of water each year. In another case, an industrial company told us that it would have had to replumb its entire plant, at prohibitive cost, in order to avoid interconnections with pipes for drinking water. The district originally had estimated that this customer would purchase 276 acre-feet of recycled water annually.

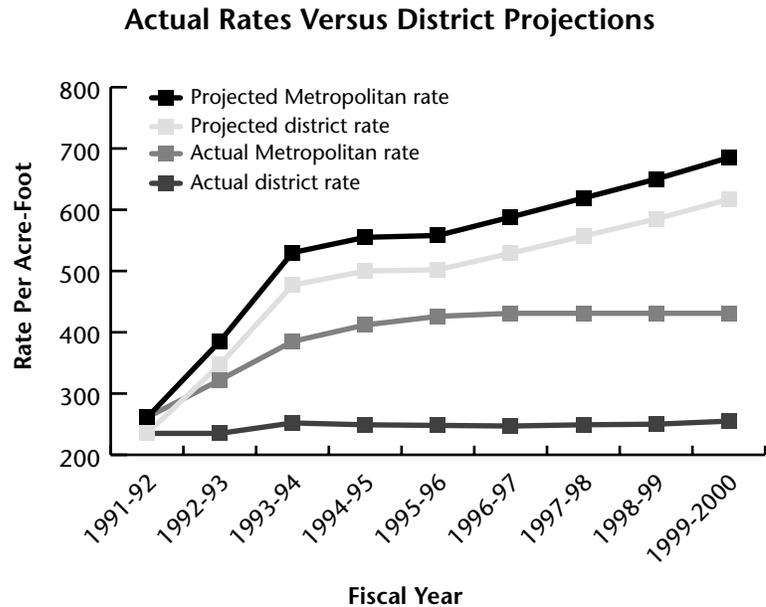
**Groundwater Costs Are Lower if Water Rights Are Owned  
Costs per Acre-Foot for  
Fiscal Year 1999-2000**

Retailer's approximate cost to produce groundwater, if it owns water rights	\$194
Retailer's approximate cost to produce groundwater, if it leases water rights	\$429

### The District's Low Rate for Its Recycled Water Has Further Reduced Revenues

Recycled-water rates also have failed to rise as high as the district predicted, further reducing the project's actual revenues. In its original plans as presented to taxpayers, the district projected that it would be able to charge retailers 90 percent of a rapidly escalating Metropolitan rate. For example, it estimated that in fiscal year 2000-01 its rate would be \$653 per acre-foot based on a Metropolitan rate of \$726. Moreover, although Metropolitan's rates reached only \$431 in fiscal year 1996-97 before stagnating, the district has failed to increase its rates comparably as shown in Figure 5.

**FIGURE 5**



Source: Central Basin Municipal Water Districts' 1991 Cash Flow Projections and its Recycled-Water Sales Through June 30, 2000. Metropolitan Water District's Summary of Water Rates.

In fact, the district's current rate has barely exceeded its initial rate of \$235 per acre-foot: Tiered rates based on the volume purchased ranged from \$206 to \$266 last year, with an average selling price of \$255. According to the district's current general manager, the district has kept rates low to attract customers.

The combination of poor sales and low rates has yielded a dramatic shortfall in project revenues: As of fiscal year 1999-2000, actual sales were roughly \$925,000, or 17 percent of sales originally projected by the district. If the district were to charge \$345 per acre-foot, which is 80 percent of the Metropolitan rate, it could increase annual revenues by \$327,000 at current sales levels. The district's current general manager told us the district is evaluating its ability to increase rates.

### **Annual Project Costs Have Remained High Despite Low Sales**

Although sales volume has failed to meet expectations, annual project costs have not fallen commensurately because so many of them are fixed. The result is a high cost per acre-foot that cannot be covered by sales revenue and Metropolitan's rebate alone. For example, in fiscal year 1999-2000, project costs totaled about \$5 million; of this, \$3.6 million, or 69 percent, related to the fixed costs of building the distribution system. This yielded a per-acre-foot cost of about \$1,395. The gap between the district's cost to distribute recycled water and the amount it charged for that water and that it received in rebates amounted to \$890 per acre-foot in fiscal year 1999-2000, a difference that taxpayers paid in the form of a standby charge. Taxpayers have contributed \$28 million, or 75 percent, of the project's revenues from its inception through fiscal year 1999-2000.

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*Taxpayers have contributed 75 percent of the project's revenues through fiscal year 1999-2000.*

---

The district's 1991 decision to forgo low-interest state loans has exacerbated its financial situation. The district's weighted average interest rate on its debt amounts to approximately 5 percent, which is 1.9 percentage points higher than the state board's 1991 interest rate. If the district had obtained state loans totaling \$10 million for the Century and Rio Hondo portions of the project, it could have saved an estimated \$122,000 per year in interest costs, or \$2.6 million over the loan's 20-year life. In justifying the district's decision to forgo the low-interest loans, the current general manager of the district told us the district and other agencies throughout the State have found that the state loan process results in unreasonable delays in projects. Thus, the district believes the reliance on state funding would have been too slow to justify the benefit of lower interest expense, while U.S. Bureau of Reclamation (Reclamation) funding was available almost immediately. We note, however, that since 1986 the State has loaned \$79 million to 20 other entities, including West Basin, that have satisfied its loan application requirements. Moreover, the district's grant agreement with Reclamation does not prohibit it from receiving a Reclamation

grant and a state loan. Finally, a survey published in the Water Science and Technology journal in 1996 concluded that delays during state review are the result of a local agency continuing to resolve key issues to project implementation, ranging from convincing users to take recycled water to determining location of facilities.

### **RECENT DECISIONS MAY IMPROVE THE FINANCIAL POSITION OF THE DISTRICT'S RECYCLED-WATER PROJECT**

As discussed, the district's failure to adequately plan its recycled-water project led to the project's current reliance on taxpayer support. Recently the district has improved its planning process. For example, in 1998 the district examined the feasibility of building a network of main and connecting lines to serve potential customers in Pico Rivera, Bell Gardens, and Downey, performing a more thorough assessment of market needs than it had for the original project. The district halted construction plans when its economic analysis revealed that the expansion was not cost-effective. It now is focusing on increasing sales to potential customers that can be served with the existing system, which should bring the project closer to self-sufficiency. Also, in 2000, the district completed two long-term plans to better manage its recycled-water project.

However, it is important to note that even if the district were able to increase its sales within three or four years, its water-recycling revenues would fall short of project costs by about \$1.8 million per year, without the standby charge. Moreover, current plans do not provide for ways to replace the project's infrastructure without incurring additional debt, which will prolong the district's need for the standby charge.

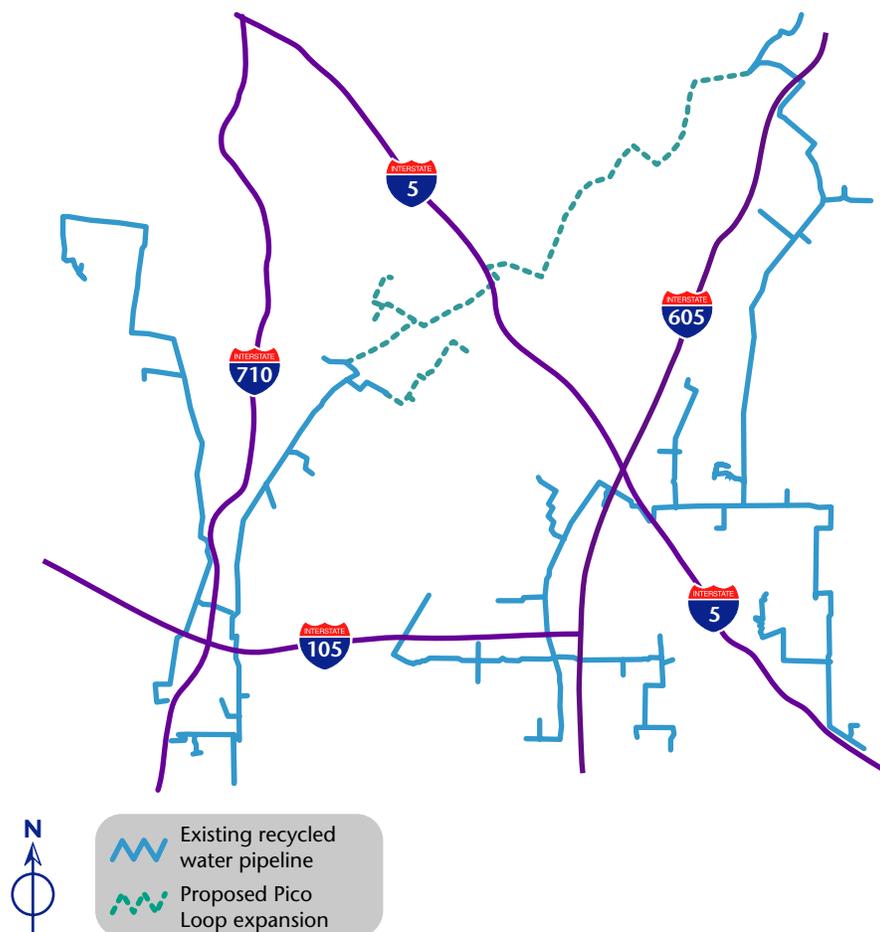
#### **The District's Plans to Expand the Project Were More Thorough and Led to a Prudent Decision to Suspend Expansion**

The district's planning for its Central Basin Recycled Water System Expansion Project, a proposed network of main and connecting lines passing through Pico Rivera, Bell Gardens, and Downey, was significantly better than its planning for the original project. Figure 6 shows a map of the current system and the expansion project, also known as the Pico Loop. The district completed an economic analysis using the state board's criteria. Although it still

did not address the potential customers' water quality needs, the district estimated project costs using its past experience, considered retrofit expenses for potential customers, and based its sales estimates primarily on customers it could be reasonably sure of signing up. The district also got feedback from potential customers and planned to ensure that they agreed to take water before beginning construction.

**FIGURE 6**

**Pico Loop Expansion**



Source: Central Basin Municipal Water District.

The district halted work when it determined that the expansion project would not be cost-effective. Its analysis indicated that the recycled water from this project would cost \$826 per acre-foot, considerably more than the \$431 per acre-foot that Metropolitan charges for imported water. Suspending expansion was appropriate and shows the district is more mindful of the need for cost-effectiveness of each new project it considers.

The district is considering other options for expanding its recycled-water project. It should use the same approach to determine cost-effectiveness for any plans that involve large capital investments. In this way, it can ensure that future actions move the project toward self-sufficiency.

### **The District Is Working to Secure More Customers**

By soliciting new customers from properties near its pipeline, the district expects to increase its annual recycled-water sales by about 2,700 acre-feet within the next three to four years, at minimal extra cost. In addition, the district is negotiating a contract to sell almost 1,800 acre-feet of water per year to a neighboring district. Together these sales could reduce the project's cost per acre-foot from \$1,395 to as little as \$684. However, a cost of \$684 per acre-foot still would exceed the \$505 per acre-foot that the district receives for recycled-water sales—an average of \$255 per acre-foot from existing customers and \$250 per acre-foot from Metropolitan rebates. It also would exceed Metropolitan's rate of \$431 per acre-foot for imported water.

The district has identified 19 potential customers near its existing distribution system that it estimates could purchase a total of about 2,700 acre-feet of recycled water per year. Ten of these potential customers, with a total demand of about 420 acre-feet per year, have completed their connections to the distribution system or appear close to doing so. Four others, with a demand of about 210 acre-feet per year, have completed water quality and retrofit cost analyses. The remaining five would use about 2,100 acre-feet per year. The district is discussing with them ways to alter the quality of recycled water to fit their needs and how to resolve concerns about the cost of retrofitting their piping. The district expects to start deliveries of its recycled water to all 19 potential customers within three to four years.

As an additional source of revenue, the district is negotiating an agreement to sell about 1,800 acre-feet of recycled water annually to the Upper San Gabriel Valley Municipal Water

District (San Gabriel). San Gabriel, which borders the northeast side of the district near its Rio Hondo pump station, would be the district's first customer outside its own district. The deal would require San Gabriel to construct a pipeline to distribute the recycled water into its service area and to operate the facilities that would monitor usage in its service area. The district states that its distribution facilities are adequately sized to serve the needs of its customers within the district as well as the needs of San Gabriel.

To purchase the recycled water, San Gabriel would pay a rate equal to the district's standard rate per acre-foot, plus an out-of-district charge. This charge is not yet set, but the district anticipates that it would be approximately \$20 per acre-foot. The district believes this amount will compensate for the fact that San Gabriel does not contribute to the standby charge. However, the district has been unable to provide us with support for how it arrived at \$20 per acre-foot. Therefore, we cannot analyze whether the charge is reasonable in relation to the district's standby charge. To help defray San Gabriel's pipeline construction costs, the district plans to use a portion of its Metropolitan rebate to reimburse San Gabriel \$180 for each acre-foot of water purchased through fiscal year 2016-17, or until San Gabriel's capital investment of \$2.4 million is fully paid, whichever occurs first. The district believes this action is reasonable because it otherwise would have borne these costs to achieve the same objective. If the district's sales to San Gabriel reach the expected 1,800 acre-feet, the agreement could yield the district an increase of almost \$360,000 in annual income after variable costs.

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*The district plans to use \$180 of its \$250 per acre-foot Metropolitan rebate to reimburse a neighboring district for constructing a pipeline expected to increase district sales by 1,800 acre-feet each year.*

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One advantage of focusing on potential customers near its existing distribution system is that, in most cases, the district believes it will cost only a few thousand dollars to install the piping necessary to connect them. The projected increased sales volume would significantly reduce the district's cost per acre-foot to distribute recycled water as shown in Table 2.

If the district sells 1,800 acre-feet to San Gabriel and delivers 630 acre-feet per year to other new customers in the district, its cost per acre-foot will drop from \$1,395 to \$880. If the district can secure the additional 2,100 acre-feet of potential in-district customers with unresolved concerns about water quality and retrofit costs, its sales volume would reach slightly more than 8,100 acre-feet and its cost per acre-foot would drop to \$684.

**TABLE 2**

**Cost Per Acre-Foot for Project's Fiscal Year 1999-2000 Sales  
and Projected Increases in Future Sales**

	Sales of 3,630 Acre-Feet	Sales Plus Additional Sales of 630 Acre-Feet in District and 1,800 Acre-Feet Out of District	Sales Plus Additional Sales of 2,700 Acre-Feet in District and 1,800 Acre-Feet Out of District
Operating cost	\$1,590,949	\$1,858,249	\$2,085,949
Capital cost	\$3,472,442	\$3,472,442	\$3,472,442
Total cost*	\$5,063,391	\$5,330,691	\$5,558,391
Sales volume, in acre-feet	3,630	6,060	8,130
Total cost, per acre-foot	\$1,395	\$880	\$684

\* To obtain total cost, we used data in the district's audited financial statements for fiscal year 1999-2000, then subtracted depreciation, amortization, and interest expenses that were unrelated to the recycled-water project. We also subtracted an amount to account for the district's Reclamation grant.

However, even under these improved circumstances, the district still would have a revenue shortfall of \$1.8 million per year without standby charges.

**The District Recently Developed Long-Term Plans for Its Project**

In 2000, the district completed two long-term plans. Its five-year business plan addresses issues such as restructuring its debt, connecting new recycled-water customers, and constructing its water quality protection project. Also, the district's consultant completed a Water Recycling Master Plan that includes an assessment of customer demand, identifies new facilities to serve potential recycled-water customers, and provides an evaluation of the cost-effectiveness of these facilities. The plan also prioritizes recommended phases and implementation steps for groups of projects. The development of these plans reinforces the district's intent to move the project toward self-sufficiency.

**The District Has Not Yet Sufficiently Provided for System Replacement**

Although in general the district's recent actions suggest an improvement in its planning, it is important to note that the district has not yet made adequate provisions for replacing the project's water distribution system as it ages. It has reserved some funds for this purpose, but the amount is considerably less than initially intended. As of June 30, 2000, the district had a

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*The district's \$1.5 million reserve for system replacement is considerably below its initial goal of setting aside \$3.5 million by fiscal year 2000-01.*

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facility replacement reserve of about \$1.5 million, rather than the \$3.5 million it originally stated it would set aside by fiscal year 2000-01. The district believes that about 50 percent of the project's infrastructure, totaling \$26 million, will require preventive maintenance or routine replacement. To determine the amount it must set aside for reserves, the district uses a rule of thumb of calculating 2.5 percent of the \$26 million for a two-year period.

The district plans to issue additional bonds as it becomes necessary to replace the remaining portions of the project's infrastructure. It must consider an alternative long-term plan to fund its facility replacement reserve so it can avert the need for further debt and a continuation of the standby charge. The district is reviewing its reserve policy, and it plans to present a revision to its board in July 2001.

## **RECOMMENDATIONS**

To increase the self-sufficiency of the recycled-water project, the district should:

- Continue to study the feasibility of raising its recycled-water rates to increase revenues from recycled-water customers and reduce reliance on general taxpayers.
- Execute binding agreements with potential customers for at least 50 percent of expected water deliveries before undertaking large capital projects.
- Reject project expansions that do not improve the project's cost-effectiveness relative to alternative water sources.
- Establish sufficient reserves to maintain the system.
- Prepare an analysis to support the out-of-district charge for San Gabriel so that it can determine whether the charge is set at an appropriate level.

We conducted this review under the authority vested in the California State Auditor by Section 8543, et seq., of the California Government Code and according to generally accepted government auditing standards. We limited our review to those areas specified in the audit scope section of this report.

Respectfully submitted,



ELAINE M. HOWLE  
State Auditor

Date: April 19, 2001

Staff: Joanne Quarles, CPA, Audit Principal  
James Sandberg-Larsen, CPA  
Vince J. Blackburn, Esq.  
John J. Romero

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# APPENDIX A

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## ***Comparison of Selected Recycled-Water Projects***

The Joint Legislative Audit Committee asked us to compare the cost of the Central Basin Municipal Water District's (district) recycled-water project to costs of other comparable projects. The 9 projects we selected are similar to the district's project in that they provide recycled water mostly for irrigation, receive rebates from the Metropolitan Water District of Southern California (Metropolitan), were between 4 and 11 years old at the end of fiscal year 1998-99, and had maximum expected capacities over 1,000 acre-feet per year. We used Metropolitan's most recent available data to compile Table 3 on the following page, which presents cost data for all 10 projects, including the district. For fiscal year 1998-99, the district's cost per acre-foot of more than \$1,200 was the fourth highest. The projects with the lowest unit costs were smaller in size or operating near capacity.

TABLE 3

## A Comparison of Recycled-Water Projects

Project	Years in Operation at the End of Fiscal Year 1998-99*	Capital Investment†	Sales in Acre-Feet for Fiscal Year 1998-99	Maximum Expected Capacity‡	Percent of Expected Capacity Produced in Fiscal Year 1998-99	Cost Per Acre-Foot in Fiscal Year 1998-99§	Customer Commitments¶
City of Glendale Water Reclamation Projects#	4 to 7	\$25,000,000	733	2,520	29%	\$2,561	Contracts, except for city's own properties
Green Acres Reclamation Project	8	58,000,000	2,006	3,500	57	2,209	Requires its retailers to use contracts
Rancho California Reclamation Expansion Project	6	32,000,000	2,131	6,000	36	1,297	Contracts
Central Basin Century and Rio Hondo Water Reclamation Projects	5 to 7	32,500,000	3,100	7,350	42	1,203	Relies on letters of interest. Mandatory use ordinance not in use
Moulton Niguel Water District Water Reclamation Project	6 to 9	48,866,750	3,388	8,470	40	1,158	Mandatory use ordinance
Encina Basin Water Reclamation Project Phase I	6	4,600,000	1,197	2,050	58	927	Contracts during start-up phase
Fallbrook Public Utility District Reclamation Project	9	3,800,000	642	1,200	54	844	Mandatory use ordinance
Los Angeles Greenbelt Project	6	7,000,000	747	1,610	46	760	Contracts
Oak Park/North Ranch Recycled Water Distribution System	6	5,000,000	1,142	1,300	88	394	Contracts
Cerritos Water Reclamation Project**	6 to 11	4,800,000	3,860	4,260	91	282	Contracts in early years

Source: Unless otherwise noted, data was taken from Metropolitan documents.

\* Moulton Niguel and Cerritos Water Reclamation Projects made limited deliveries to one or two customers for several years before expanding to serve the general population. We used the date that the system started making general deliveries.

† Capital investment as presented above may vary from actual project capital investment costs because Metropolitan disallows some construction costs.

‡ This is the amount that Metropolitan believes the system will reasonably be able to deliver by the year 2020, rather than the maximum capacity stated in its contract for providing rebates.

§ Cost per acre-foot is the sum of the following:

Capital cost per acre-foot: Using Central Basin's weighted-average interest rate on its debt of about 5 percent, we calculated an annual debt payment over a 25-year term on the capital cost reported by Metropolitan for each project. We then divided the annual payment by the number of acre-feet delivered in fiscal year 1998-99.

Operations and maintenance cost per acre-foot: Metropolitan reported these costs per acre-foot as projections for the calendar year 2003 by taking the districts' actual costs for calendar year 1995 and inflating them by 3 percent each year. We reduced the cost for calendar year 2003 by 3 percent for 4.5 years to arrive at a cost for the end of fiscal year 1998-99.

Central Basin's cost per acre-foot presented above varies from the \$1,395 cost per acre-foot shown in Table 2 on page 29. Our cost per acre-foot is higher because we used Central Basin's actual capital investment and operations and maintenance costs.

¶ Bureau of State Audits survey.

# Includes Glendale Brand Park Reclamation Water Project, Verdugo-Scholl Canyon Reclamation Water Project Expansion Phase II, and Glendale Forest Lawn Water Reclamation Expansion Project.

\*\* Includes Cerritos Water Reclamation Project and Cerritos Reclaimed Water Expansion Project.

# APPENDIX B

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## ***Comparison of Director's Compensation for Selected Water Districts***

The Joint Legislative Audit Committee asked us to compare the compensation of Central Basin Municipal Water District (district) directors to the compensation for directors at comparable districts. The district's board of directors, which is composed of five elected members who each serve four-year terms, oversees the district's finances, sales, contracts, and water quality, among other things. The seven districts we selected are similar to the district in that they are located in urban areas and sell imported water from the Metropolitan Water District of Southern California (Metropolitan) to retailers in their service areas. We surveyed the seven districts to determine the amount and type of compensation their directors received in fiscal year 1999-2000.

Table 4 on the following page presents comparison data on directors' compensation and shows that the district's total compensation is second highest, exceeded only by the San Diego County Water Authority, which has more directors. The district's package per director is \$28,038, which is almost \$16,000 more than the average package of about \$12,500 for the other seven districts. The district points out that each month its directors attend two board and up to four committee meetings. They also spend time promoting the district's water-recycling and conservation programs before city councils, at local community events, and in individual meetings with city and agency officials. Effective March 2001, the district froze its meeting stipend for its directors for 24 months.

The base compensation packages that districts offer their directors are similar. All compensate their members to attend the meetings of their own board, usually limiting the number of meetings that may be claimed to 10 per month. Most also compensate their representatives for attending Metropolitan board meetings. Daily meeting stipends range from \$150 to \$186, with the district's meeting stipend being the highest. Some water districts provide health benefits, including medical and dental, and some also offer retirement benefits.

TABLE 4

**Comparison of Directors' Compensation for Selected Water Districts\***  
**Fiscal Year 1999-2000**

District	Population	Director Positions <sup>†</sup>	Metropolitan Representative Positions <sup>†</sup>	Total Board Compensation	Average per Director and Representative Position <sup>‡</sup>	Meeting Stipend <sup>§</sup>	Average Number of Meetings per Month <sup>‡</sup>	Medical	Dental	Vision	Retirement	Life Insurance	Allowance/Reimbursements
Central Basin Municipal Water District	1,500,000	5	3	\$224,311	\$28,038	\$186	9	✓	✓	✓	✓	✓	✓
Calleguas Municipal Water District	517,000	5	2	114,794	16,399	185	5	✓	✓	✓	✓	✓	✓
Eastern Municipal Water District	418,000	5	1	112,605	18,767	157 <sup>#</sup>	7	✓	✓	✓	✓	✓	
Municipal Water District of Orange County	1,687,732	7	5	109,950	9,163	150	5						
San Diego County Water Authority	2,800,000	34	6	261,450	7,690 <sup>  </sup>	150	4 <sup>  </sup>						
Three Valleys Municipal Water District	475,000	7	1	38,961	4,870	150	2	✓	✓	✓			
Upper San Gabriel Valley Municipal Water District	900,000	5	2	105,783	15,112	163	6	✓	✓	✓	✓	✓	
West Basin Municipal Water District	900,000	5	3	125,646	15,706	166	6	✓	✓	✓		✓	✓
Average, excluding Central Basin				124,170	12,530		5						

Source: Bureau of State Audits survey of selected water districts.

\* Total compensation includes costs relating to health, dental, life, and vision insurance, retirement, car reimbursement or allowance, and meeting stipends, but does not include travel reimbursements.

† Some districts allow one person to serve both as an elected or appointed director and as a representative to the Metropolitan board of directors.

‡ Each district surveyed told us the total amount it paid all directors in meeting stipends for the fiscal year. We divided this amount by the per meeting stipend, by the total number of director positions and Metropolitan representatives, and by 12 months. The result is the average number of meetings per month per director or representative position. Six of these eight districts have one or more individuals that served as both a director and a Metropolitan representative. For this calculation, these individuals are counted twice, once as a director and once as a representative. Five of the eight districts allowed their directors and their representatives to receive a stipend for up to 10 meetings per month, and allowed a person who fills both positions to receive a stipend for up to 20 meetings per month. The only exceptions are as follows:

1. Municipal Water District of Orange County allowed directors to be paid for 10 meetings, representatives for 6, and persons holding both positions for 16.
2. Three Valleys Municipal Water District allowed directors and representatives to be paid for 7 meetings, and persons holding both positions for 14.
3. San Diego County Water Authority allowed directors to be paid for 10 meetings, but did not pay stipends to representatives attending Metropolitan meetings.

§ The meeting stipends are rounded to the nearest dollar.

|| Because San Diego County Water Authority does not compensate its Metropolitan representatives for meetings, we present the average only for directors.

# This amount represents an average of the two stipend amounts that Eastern Municipal Water District used during fiscal year 1999-2000.

*Agency's comments provided as text only.*

**Central Basin Municipal Water District**

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April 9, 2001

Ms. Elaine M. Howle, State Auditor\*

California State Auditor

Bureau of State Audits

555 Capitol Mall, Suite 300

Sacramento, CA 95814

Dear Ms. Howle:

**Central Basin's Response to State Audit**

We appreciate the opportunity to comment on the report prepared by the Bureau of State Audits on the Central Basin Municipal Water District's Water Recycling Program. We thank the audit team for their professional and courteous manner while reviewing District files.

We are pleased that the Audit Report states that the District's Recycled Water Project is well on its way towards achieving self sufficiency. A sound water management policy is vital to the success of Southern California and the Central Basin and recycled water is a key part of that policy.

Enclosed you will find two (2) hard copies of Central Basin's response to the State Audit. As requested the response has been copied to the enclosed diskette.

Again, the District appreciates working with the Bureau of State Audits in compiling a comprehensive report.

Sincerely,

*(Signed by: Darryl G. Miller)*

Darryl G. Miller

General Manager

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\*California State Auditor's comments begin on page 53.

## AGENCY RESPONSE TO STATE AUDITOR'S REPORT

### Overview

The Central Basin Municipal Water District (CBMWD) welcomes this opportunity to respond to the State Auditor's report on the CBMWD recycled water system and other items. This allows the District an opportunity to clarify for the record what constitutes sound water policy and can serve as a blueprint for other agencies to follow as the state prepares for a drought that is sure to happen in the future. As has been seen during the calamitous energy crisis of 2001, failure to prepare for the future can have disastrous results on the economy and lifestyles of everyone.

It's important to understand the context in which the District's recycled water system was planned and constructed. At the time the project was conceived and constructed during the late 1980s and early 1990s, the state was in the throes of a serious drought that threatened the physical and economical well-being of every person, business and entity in California. Rates for potable water skyrocketed in the early 1990s, almost doubling from \$230 to \$426 per acre-foot from 1990 to 1995, and all possibilities for conservation and development of new water supplies were being sought. Although cost was certainly considered, rapidly rising rates for potable water were quickly closing the gap between traditional and alternative sources.

Recycled water emerged during this time as a realistic alternative to potable water for non-personal use. By utilizing recycled water for landscaping and industrial/commercial uses, precious potable water could be diverted to the

thirsty millions of Californians who relied on fresh water to survive. The federal and state governments, along with the Metropolitan Water District of Southern California (MWD), realized the value of recycled water and developed grant, loan and subsidy programs to narrow the financial gap between the cost of potable water and the production of recycled water. Certainly many of these same agencies would jump at an opportunity today to help finance a project to recycle electricity, if such a prospect existed, regardless of the cost.

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It was in this context that visionaries such as the Central Basin Directors and staff moved to protect their constituencies by developing the Century and Esteban E. Torres Recycled Water Projects. They did so using the best information available at that time upon which to base their judgements, sought the least expensive source of funding that would allow the project to go on-line in the shortest period of time, and utilized a legal funding device referred to throughout this report as a standby charge to ensure that the public's well-being - both socially and financially - would be protected.

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Fortunately, the drought ended well before everyone's most dire predictions came true. This, however, does not mean that the District's efforts were wasted. Thanks to the District's efforts, residents and businesses in the Central Basin have a recycled water system in place today that daily saves millions of gallons of precious potable water for their future use. In addition, the basin is now better prepared for the next drought - a situation sure to occur in our desert home of Southern California. For this protection, homeowners have

paid \$100 over a 10-year period in standby charges - just \$10 a year - to help ensure their water reliability.

Poorly planned? Not when the context of the time in which the system was built is taken into account. Not when the intrinsic value of the system to the future of this region is considered.

"Ambitious" would be a better word to describe the plans and efforts of the District Directors and staff. Yes, they took a chance, but in so doing they and their partners in the retail community and Metropolitan Water District joined with federal and state officials to develop a plan for the future from which all benefit now. Continuing development of the recycled water system, together with conservation measures, desalination and increased water storage plans, constitute a sound water policy for Southern California.

Taken in that context, the Central Basin Water Recycling System was a success when it was built and it is, most definitely, a success now.

## **RESPONSE TO AUDIT RESULTS**

### **Inadequate Planning:**

The introduction to the actual audit results section presumes that the District had the same information available to it in the 1989-91 period that the audit team now has in the year 2001. However, not having a crystal ball or the benefit of 20-20 hindsight after more than 10 years, the District used the best available information in the context of a major drought event upon which to base its assumptions. Because the District chose not to use state loan funds (reasons to

be expanded upon later), it did not need to follow SWRCB suggestions and believed strong "Letters of Intent" sufficed for customer commitment. The end of the drought and the onset of a major business recession combined to slow sales of recycled water and put the project behind projections. These factors combined to force the District to continue the standby charge beyond the originally predicted 3-to-4 year period. In fact, the District's engineering report prepared for the project addresses that possible scenario, explaining that the standby charge and its use would be reviewed on an annual basis - a review which has occurred each year.

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**The District Assumed Rapidly Increasing Rate for Imported Water when Developing Its High Revenue Projects:**

The District did not assume anything when it came to making judgements on rates or other financial aspect of the project. Rather, the best information available was used. In the case of the rates, both actual figures and projections obtained from the Metropolitan Water District were used. At the time of the project's planning and the beginning of construction, MWD rates were projected to increase at a substantial rate. In fact, the MWD water rate almost doubled from 1990 to 1995. In the 20-year period from 1970 to 1990, MWD's water rates increased 370 percent from \$49 per acre-foot to \$230 per acre-foot. This means MWD's rate increased an average of 8 percent over the previous year's rate for 20 years. The District had no reason to believe that such a pattern would end during the early life of the recycled water project.

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That the West Basin Recycled Water Project used a different set of projections is not relevant. It is a totally different project developed under a different set of circumstances. Designed to serve specific, large industrial users, it could rely on a different

- ⑦ set of assumptions for usage and a more conservative set of MWD rates. In addition, the MWD projections had changed substantially in the length of time between the
- ⑧ Central Basin plan's inception, which occurred in the late 1980s, and the West Basin's planning, which started 2-3 years later.

### **The District Projected Market Demand Without Adequately Securing Customers:**

It is not correct to state that the District did not "fully assess its market when planning the project," and "did not consider the risk that some customers would refuse recycled-water service." In fact, an assessment of potential civic and business users was undertaken by staff and its consultant, HYA Consulting Engineers. Only likely customers were identified and those were contacted to assess interest and water quality needs. Sales assumptions were based on likely users from whom the District obtained

- ③ strong "Letters of Intent". Signed contracts were not obtained and would not be likely to be forthcoming due to the uncertain economic climate existing at that time. Such contracts were not required, since the District already had determined it would not be going through the cumbersome state loan process due to time and need constraints.
- ⑨ The District also felt comfortable relying on the refineries' total demand, since water quality issues had been addressed. The District and refineries, like everyone

else, were surprised by the strength and depth of the subsequent economic depression which forced the closure of two of the refineries. However, at least one of those sites is expected to go back on-line in the near future and will use recycled water.

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**The District Presented Taxpayers with an Overly Optimistic Estimate of Project Costs and Benefits:**

Again, the context in which the project was developed must be taken into consideration. At the time of approval and construction, potable water rates were increasing regularly and were expected to continue rising at a similar pace. The drought was expected to worsen and alternative water supplies were being sought. The gap between potable water costs and alternative supply costs were narrowing because of this situation and were the basis for the District's assumptions. The standby charge offered an alternative way to finance construction and operation that, along with the obtaining of federal Bureau of Reclamation grants (not loans), were preferable to the unreliable state loan process (Few loans were being given out specifically for water reclamation projects and the elapsed time from application to funding was 23 months, according to state figures.) In addition, the District continues to insist that more weight should be given to recycled water's role in local and statewide water management policy and supply, as supported by state legislation, which states:

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*It is the intention of the legislature that the state undertake all possible steps to encourage development of water reclamation facilities so that reclaimed*

*water may be made available to help meet the growing water requirements of the state...*

And...

*...The development of the infrastructure to distribute recycled water will provide jobs and enhance the economy of the state.*

Also, in the event of another, inevitable drought, the value of alternative water sources such as recycled water will go up. This would render the audit team's assumptions valueless.

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Also, the Metropolitan rebate 25-year period begins with the first delivery of water, not at the plan's inception. Thus, the rebates, which began in February 1992, would remain through the 2016-17 fiscal year.

**In Seeking Approval for a Standby Charge, the District Led Taxpayers to Believe It Would Be Levied for Four Years Only: (changed by audit team to three years, following draft meeting)**

The District never committed to ending the standby charge in three or four years and such statements erroneously imply that the District misled taxpayers. Although the project projections indicate the revenue would provide funds to support the project without the standby charge after a three-or-four year period, the documents also state that the assessment would be evaluated on an annual basis. This is, in fact, what has happened. The District holds two public

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hearings, both during the daytime and evening hours, each year before deciding on continued implementation of the standby charge. The hearing is advertised in seven community newspapers and a post card sent to all new parcel owners. For the original hearing on the standby charges, the District (according to then General Manager Rich Atwater) held public hearings in Bell Gardens and Paramount (two cities within the District) and sent a post card to every property owner in the District as well as publishing and posting the required notices. Thus, the public was, and continues to be, well informed about the standby charge assessment and the project.

The myth of the illegal standby charge continues to be spread by the City of Vernon (ironically, an original supporter of the project) despite several court decisions upholding both the District's right to levy the charge and the special benefit of recycled water for the general public's good.

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**The District's Failure to Meet Its Revenue Estimates for the Recycled-Water Project has Forced It to Rely on the Standby Charge:**

There is a misconception about the standby charge that is pervasive in this document. The charge is a legitimate financial tool that was developed so that agencies would be able to undertake, finance and support projects that would protect the public's welfare and provide for the public good. This allows these projects time to develop and mature so that they become financially self-sufficient

while providing service to the public from the beginning. The charge is small - just \$10 per homeowner parcel per year in the District - yet the benefits are enormous.

This is the case in the Central Basin. While it is true that the District's original projections showed that the standby charge would not be needed after 3-to-4 years, business conditions and the end of the drought conspired to drive revenues down and force the continued use of the charge. This hardly constitutes failure on the part of the project, which continues to save precious potable water by the millions of gallons a day

- ① and prepares the District to survive future droughts. This is where the general public good aspect comes in and justifies the continued imposition of the charge. This benefit has been upheld by the courts, despite repeated attacks by the City of Vernon - attacks caused by the District's refusal to give preferential rate treatment to an already wealthy city. Ironically, Vernon was a strong, initial supporter of the project, which was advanced by the then Central Basin President Leonis C. Malburg, who was also Mayor of Vernon at the time. In fact, on February 5, 1991, the City Council passed a resolution supporting the development of reclaimed water programs, signed by City Administrator/City Clerk Bruce V. Malkenhorst, now the most outspoken critic of the program. Using this, and "Letters of Support" from cities
- ⑭ throughout the District, staff was able to collect "Letters of Intent" to use recycled water from several Vernon businesses. However, when the City refused to allow the District access to construct pipes in which to deliver the water, these

opportunities were lost. This caused a large part of the shortfall that both Vernon and the audit report used to criticize the District for its sales failures.

Fortunately, the District is overcoming the obstacles placed before it by the City of Vernon and continues to develop sales opportunities that even the audit report admits is moving the program towards self-sufficiency. One potential user cited in the report as being against recycled water use due to quality and delivery cost issues has been contacted and has expressed interest in hearing details on potential usage. Several large and mid-sized deliveries are pending and the District harbors hope that Vernon, either by its choice or through mandatory use legislation, will eventually come on-line and make reliance on the standby charge less necessary.

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The standby charge has served its purpose. It has allowed the District to bring recycled water to the communities it serves and help drought-proof the Central Basin. The District has wisely used this special tool.

The Low Rate Charged by the District for its Recycled Water has Further Reduced Project Revenues:

While the District has made every effort to keep recycled water rates low both as a marketing tool and for the benefit of its customers, it is looking at the possibility of raising the basic rate in the near future.

**Annual Project Costs Have Remained High Despite Low Sales:**

- ①⑥ This section blames high fixed costs on the District's decision to seek federal grants and issue revenue bonds to finance the project, rather than taking out a low-interest state loan. Again, the context of the situation as it existed at the time of the project's development is most important. Records show the state made only one loan of significant size during that general time period - ironically to the West Basin Municipal Water District - for recycled water projects. The vast majority of loans being given out were for water pollution mitigation projects. In addition, the average time from application to decision was 23 months (West Basin's process took 24 months) and the "rules of the game" were constantly changing. In the meantime, potable water rates continued to climb substantially and the drought was beginning to have a major effect on the public and businesses. When free grant money became available from the Bureau of Reclamation, the District decided to accept the grant and fund the remainder of the project by revenue bonds to ensure its construction. Although the District is sure the state believes its deliberate process protects its program and the public, it is widely believed that this same process significantly impedes progress and causes many proposed projects to seek more expensive sources of funds. This is why money from previous state bonds and legislative measures have not been used by other public agencies - the process is too slow and requirements unfair and unreasonable, particularly when less-costly alternatives exist. Had the District relied on the state loan process, the project might never have been built and the public would have lost out on the benefits of a recycled water program.
- ①⑦
- ①⑧

**The District's Recent Decisions May Improve its Recycled Water Project's Financial Position:**

The District is pleased that the audit team has acknowledged that the District has developed plans to take it into the future. Both the Master Plan and Business Plan, developed during the last two years, acknowledged what the District has done in the past and put what has been learned into development of a plan for the future. These plans include improving the District's financial outlook, not only for the recycled water project but also in other key areas, and a new philosophy in developing capital programs. This led to the decision termed "prudent" by the audit team to suspend completion of the so-called Pico Loop until the District is sure of its financial stability and to study other options for project expansion. This includes an aggressive marketing program to develop more customers and the seeking of partnerships to expand recycled water use.

**Appendix B - Comparison of Directors' Compensation for Selected Districts:**

Although this is a part of the Joint Legislative Audit Committee's original request, the District fails to see the value of having this as part of an audit of the recycled water project. Director costs have not had a direct bearing on that project nor will they in the future. Also, this is one of those "can't win" situations in which the mere inclusion of the numbers generates negative publicity, no matter what the totals show.

The Central Basin MWD Board of Directors serves an extremely large service area that includes 24 cities, 1.4 million people and 43 water purveyors. It's difficult to believe that any of the "comparable" districts shown on the table truly are comparable in terms of area or constituency. Since the Directors are the public face of the District, this requires them to spend a great deal of time on District business, often taking them away from their workplace. In addition to their monthly board meetings, each Director also must attend a number of committee meetings and represent the District at a variety of industry and civic functions. The California Water Code allows each Director to receive compensation for up to 10 such meetings a month, although Directors often participate in more than that many functions. For this, the Directors each receive per diem for no more than 10 meetings and medical/dental benefits as well as a car allowance.

The current Board of Directors, recognizing that there has been much criticism lately of public officials' compensation, have frozen their per diem amount for a 24-month period beginning in March 2001, eliminated several benefits including the use of District credit cards, and publicly study each Director's monthly expenses both at its Finance Committee meetings and the monthly Board of Directors' meetings.

**BSA RECOMMENDATIONS:**

**Recommendation:** Continue to study the feasibility of raising its recycled water rates in order to increase revenues from recycled water customers and reduce reliance on general taxpayers.

**District Response:** The District is already studying its rate structure and possible future increases.

**Recommendation:** Execute binding agreements with potential customers for at least 50 percent of expected water deliveries before undertaking large capital projects.

**District Response:** The District believes its practice of securing "Letters of Intent" is sound and that securing binding contracts would unnecessarily slow down the process of bringing on new customers. ③

**Recommendation:** Reject project expansions that do not improve the project's cost-effectiveness relative to alternative water sources.

**District Response:** The District's Master Plan and Business Plan already incorporate this concept.

**Recommendation:** Establish sufficient reserves to maintain the system in the future.

**District Response:** A reserve-fund system will be presented to the District Board of Directors later this year.

**Recommendation:** Prepare an analysis to support out-of-district charges for San Gabriel so that it can determine whether the charge is set at an appropriate level.

- ①9 **District Response:** An initial analysis has already been completed and has determined that the service charge appears to be adequate. Further attention will be given to this item as plans proceed.

## CONCLUSION

We agree with the portion of the opening statement that the District's Recycled Water Project is well on its way towards achieving self-sufficiency. Programs that have been adopted during the past two years by the District in its Master and Business Plans establish policies and procedures that will ensure success. A sound water management policy is vital to the success of Southern California and the Central Basin and recycled water is a key part of that policy. Thanks to recycling and conservation, Southern California today uses the same amount of water it did 10 years ago - despite a huge leap in population. The District's Board of Directors and staff are committed to continuing that success.

# COMMENTS

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## ***California State Auditor's Comments on the Response From the Central Basin Municipal Water District***

To provide clarity and perspective, we are commenting on the Central Basin Municipal Water District's (district) response to our audit report. The number corresponds to the number we have placed in the response.

- ① The district is overstating the project's benefits. While we recognize the value of recycled water as stated on page 10, the district's project currently only delivers roughly 3,600 acre-feet of recycled water, which is enough to serve 7,200 average households for one year. Thus, the savings only cover the needs of a small portion of the district's 1.5 million residents.
- ② The district is incorrect when it asserts it used the best information available at the time. As stated on page 14, when the district was planning its project, it had access to two separate sets of projected rates for imported water, both of which it failed to take into account.
- ③ The district is incorrect. As stated on page 15, it used non-binding "Letters of Interest" not "Letters of Intent." These letters only indicated that the customers were interested in using a certain level of recycled water. They did not address water quality, water rates, facility retrofit costs, or delivery schedules that are normally included in a Letter of Intent.
- ④ The district is misrepresenting the facts. As stated on page 20, the district believes that it put the public on notice that the standby charge could continue beyond three years by including a statement in its engineering report that says "the performance of the revenue program will be reevaluated annually to ensure that the performance expectations are being realized. Adjustments will be made if necessary each year to ensure conformance with the Long Range Financial Plan." We, however, do not believe that the public would draw such a conclusion from this broad statement. Projections in the engineering report indicated that the standby charge would last for three years. Although the report included this broad statement, it did not include a range of possible scenarios.

- ⑤ The district is incorrect; it did make assumptions when it came to making judgments about rates and other financial aspects of the project. The Metropolitan Water District of Southern California (Metropolitan) only provided projections for imported water rates for a 10-year period. As noted on page 14, the district assumed an annual growth rate of 6 percent for subsequent years, which led it to conclude that Metropolitan would be charging almost \$2,200 per acre-foot by fiscal year 2019-20.
- ⑥ The district's comment is disingenuous. Throughout the audit, the district asserted that it based its analysis on Metropolitan projections. However, even if it believed a historic rate of 8 percent was relevant, it contradicts the projections for the early life of the project in its cash flow analysis. The district's cash flow projections reflect an average growth rate of 13.1 percent in imported water rates for the first 10 years. The projections we used for the first 10 years in alternative scenarios one and two reflected an average growth rate of 8.9 percent and 7.1 percent, respectively.
- ⑦ The district's argument is specious. Estimates of the Metropolitan rate bear no relationship to the size of the district's potential recycled-water users. The fact that West Basin Municipal Water District (West Basin) could use more conservative projections of Metropolitan rates and still justify its recycled-water project did not relieve the district of its responsibility to take more conservative projections into account for Central Basin's recycled-water project. As we state on page 14, when the district was planning the project, it had access to two separate sets of projected rates for Metropolitan water, both of which it failed to take into account.
- ⑧ The district is incorrect. The imported water rate projections were not from widely different times. The Metropolitan and the West Basin projections we used in scenarios one and two, respectively, were from February 1991 documents. The Central Basin's projections were from its June 1991 annual standby charge report.
- ⑨ The district is incorrect in stating that it addressed the refineries' water quality issues. We reviewed the district's files for two of the three refineries. Documentation found in the files indicated that using recycled water would be uneconomical for these customers. As stated on page 15, the district is still working to resolve water quality issues for potential refinery customers.
- ⑩ The district is overstating the refinery's interest in using recycled water. The city of Santa Fe Springs is requiring this refinery to use recycled water on a test basis in one of its six cooling towers.

- ⑪ The district is overstating the unreliability of the State Water Resources Control Board's (state board) approval process. As we noted on page 25, according to a survey published in the Water Science and Technology journal delays during state review are the result of the local agency continuing to resolve key issues to project implementation. The survey also said that the state board approved 37 loans or grants for design and construction of recycled-water projects between 1980 and March 1995. The average elapsed time for state review and approval was 16.5 months.
- ⑫ The district is wrong. Our analysis was consistent with the type of analysis the district should have performed in 1991 to justify the project and used information available at that time to the district. The assumptions of imported water rates we used in scenarios one and two were based on Metropolitan and West Basin projections that were valid in 1991, as noted at page 14.
- ⑬ The district's statement related to the myth of the illegality of the standby charge is irrelevant to our report. On page 20, we recognize the legality of the standby charge.
- ⑭ The district is incorrect. The district used Letters of Interest, not Letters of Intent. If the district had tried to obtain Letters of Intent and contracts, as advised by the state board, it would have been aware of the city of Vernon's opposition before it built the Esteban E. Torres Rio Hondo (Rio Hondo) phase of the project. As stated on page 22, sales initially projected to reach about 3,000 acre-feet, barely exceeded 200 acre-feet in fiscal year 1998-99.
- ⑮ The district's statement evades our stated concern that the district inadequately planned the project and did not get firm commitments prior to building. On page 15, we recognize that the district has ongoing sales efforts and is continuing to try to bring customers on board that it hoped would start deliveries years ago.
- ⑯ The district is incorrect. We did not attribute the district's high fixed costs to its decision not to take out a state loan. Rather, on page 24, we attribute the high fixed costs per acre-foot to inadequate sales volume caused by not having firm commitments prior to building.
- ⑰ The district understates the number of state loans made during the same time period for recycled-water projects. According to state board data, it issued five loans of more than \$4 million each for recycled-water projects from fiscal year 1990-91 through fiscal year 1994-95.

- ⑱ The district is evading the issue that it built the project without adequately addressing customer needs. If the district had followed the state board's guidelines for managing recycled-water projects, it might have addressed customer needs before building the project and thus avoided its poor sales and low water rates.
  
- ⑲ The district is disingenuous when it asserts it has an analysis supporting its anticipated out-of-district charge for San Gabriel. Despite repeated requests, as stated on page 28, district staff never provided us with an analysis supporting the level of its proposed out-of-district charge. In addition, when we received the district's response we again called to request the analysis. We were provided some type of preliminary analysis that the district was unwilling to defend. The district stated, "This is preliminary information and should be treated as confidential. Please do not include our preliminary calculations or refer to the rationale of this preliminary information in your audit report." Thus, there was nothing sufficiently developed for us to analyze at this time.

cc: Members of the Legislature  
Office of the Lieutenant Governor  
Milton Marks Commission on California State  
Government Organization and Economy  
Department of Finance  
Attorney General  
State Controller  
State Treasurer  
Legislative Analyst  
Senate Office of Research  
California Research Bureau  
Capitol Press