

Problems of Water Districts

economic merit and feasibility are important considerations in justifying the construction of proposed district projects

Jerome W. Milliman

Under authority of the Metropolitan Water District Act—adopted by the California Legislature in 1927—groups of cities and certain other governmental subdivisions, such as water districts, can join together for the development of a cooperative water supply. However, a water project, just as any other project, should not be exempt from careful consideration of its economic merit.

The Colorado River Aqueduct illustrates the point that economic questions of project feasibility and repayment should not be made subsidiary to the engineering questions in initial project planning.

The major support for the Colorado River Aqueduct came from the City of Los Angeles and was originally proposed as a Los Angeles project. It was not until later that it became an intercommunity undertaking.

Evidence suggests that Los Angeles was not confronted with a serious water shortage at the time it proposed the Colorado River Aqueduct but possessed or could develop an additional water supply to meet future growth needs. Such a supply actually was developed after the Metropolitan Water District of Southern California was organized. Also, there is strong evidence to indicate that Los Angeles was faced with a shortage of electric power for its municipal power system, and that it looked toward Boulder Canyon as a site for the construction of its own hydroelectric power plant several years before it sought a Colorado River water supply.

The possibility of a water shortage in other areas of southern California was sufficient to provide a wide basis of support for the Colorado River Aqueduct and to give the movement more urgency.

Of 38 cities in southern California originally expressing interest in the project, only 11 actually voted to join the District in the enabling election of 1928.

All the demands for water, domestic, industrial, and agricultural, were computed as amounts completely independent of probable prices or costs of the aqueduct water to the various users.

The tentative repayment plan introduced in July, 1931—before the aqueduct was even financed—was based upon the premises that the aqueduct costs were to be distributed in such a manner as to

encourage use of the aqueduct and that it was not feasible to make commitments as to water prices until after the aqueduct was put into operation.

The repayment plan involved a two-part charge: One part was to represent ownership in the project and to cover interest and bond repayment and thus was to be charged on the basis of assessed valuation; the second part was to cover operation and maintenance expense and was to be covered directly by water revenues.

Despite the lack of serious economic study of the aqueduct, the Metropolitan Water District of Southern California gained public approval for a \$220 million bond issue in September, 1931.

The District constructed the Colorado River Aqueduct—completed in 1941—which when operating at full capacity, will supply approximately 180 gallons of water per person per day for six million people.

At present the district has an area of 2,932 square miles with a population of approximately 6.5 million people. Included within district boundaries are some 79 cities and most of the coastal plain of southern California, roughly corresponding to the five counties of Los Angeles, Orange, Riverside, San Bernardino, and San Diego.

The Colorado River Aqueduct represents an engineering achievement, in regard to its technical planning and construction.

The aqueduct is the largest and longest domestic water supply line in the United States. It extends from its source at Parker Dam on the Arizona-California border for 242 miles across California to its terminal storage reservoir at Lake Mathews. At Lake Mathews, the District operates a distribution system approximately 310 miles in length for the wholesale delivery of water to its component members.

Engineering achievement aside, the economic record of the district has been one of operating losses, low water sales, and large tax collections.

In 1955-56—the best year to date—water sales revenues were less than \$6 million while tax collections for the year were more than \$24 million. When interest charges on the bond indebtedness were included, the district showed an

operating loss of \$5.6 million for the 1955-56 year.

In 15 years of operation—1941-1956—total water revenues were only \$30,103,960 or average sales revenue of \$13.77 an acre-foot. Total costs, not including bond amortization charges, were \$142,758,762 or an average cost of \$65.32 an acre-foot. The total operating loss for the 1941-1956 period was \$112,627,802 or a deficit of \$51.55 for every acre-foot of Colorado water delivered.

For the 1941-1956 period, tax collections were \$207,249,242. For the 1929-1956 period, tax collections were \$253,661,639, an amount more than eight times the revenue received from water sales.

Reliance on taxation to support the project has meant not only that water use has been subsidized by property taxes but that water users in some cities have been supported by taxpayers in other cities. The unevenness of the tax burden is best seen in the case of Los Angeles which had by June 30, 1956, purchased only 7% of all of the water sold yet had paid 57% of all district taxes.

If tax levies are included, the total cost of the Colorado River water purchased by Los Angeles would be approximately \$1,200 an acre-foot. The San Diego County Water Authority, on the other hand, has purchased over 30% of

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all Colorado water sold by the District yet has paid only about 5% of the total tax burden.

The problem is further complicated by

the fact that the relatively large district taxes paid by Los Angeles, and by most other district member cities, do not show up in the municipal water accounts with the result that those charges are not usually recognized as water costs. Such policies do much to disguise the point that Colorado River water is relatively expensive.

All of the available evidence suggests that the sale of water could not have carried the costs of the project.

With continued growth of population and industry in the southern California

area, it is likely that the aqueduct will achieve full use by 1975 or 1980, but the cumulative tax burden over a period of almost 40 years of underutilization and large tax collections will mean that the water will prove very expensive.

Because of the increasing importance of water, there is danger that the cry of water shortage might be used to gain approval of projects which may have questionable economic justification.

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