



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

January 26, 1993

To: Board of Directors (Engineering and Operations Committee-Information)
(Finance and Insurance Committee-Information)

From: General Manager

Subject: Status Report on the IID/MWD Conservation Program

Report

The Imperial Irrigation District (Imperial) and Metropolitan entered into a water conservation agreement (Conservation Agreement) in December 1988 which became effective in December 1989 after Coachella Valley Water District's (Coachella) and Palo Verde Irrigation District's (Palo Verde) approval. The Conservation Agreement calls for Metropolitan to bear the capital, annual direct and indirect costs of 15 different conservation projects that Imperial is implementing. Imperial is bearing all costs associated with two additional projects designated as augmentation projects. The capital costs of the conservation program were estimated in 1988 dollars to total \$97.8 million. Indirect costs total \$23 million. The annual direct costs were estimated in 1988 dollars to total \$2.6 million upon full implementation of the program. In return, Metropolitan will be entitled to divert from the Colorado River a quantity of water equal to the amount of water conserved by the conservation and augmentation projects, estimated in 1988 to total 106,110 acre-feet per year upon full implementation of the program, and for at least 35 years thereafter, except under certain limited conditions specified in the 1989 Approval Agreement.

The program is administered by a three-person Program Coordinating Committee (PCC) consisting of a representative from Imperial, Metropolitan, and a third person who serves as Chairman. A five-person Water Conservation Measurement Committee (WCMC) oversees and approves the determination of the water conserved by the program. In addition to the three PCC members, the WCMC includes one member representing Coachella and another representing Palo Verde.

Conservation project implementation began in February 1990. From 1990 through 1992, approximately

\$80.0 million has been expended as shown in Table 1. Actual project capital costs, particularly canal lining and system automation, have been higher than estimated in the Conservation Agreement mainly due to the unforeseen need for additional project planning, acquisition of field verification data and analysis of such data to establish methods and procedures to verify these projects' conserved water volume. Through December 1992, 153 miles of lateral and main canals were concrete lined, one regulatory reservoir was placed into operation, operation of the Plum-Oasis Lateral Interceptor was initiated, and 18 tailwater recovery systems and three drip irrigation systems were installed. Also, eight canal checks and headings were automated, and six non-leak gates were installed, and over 42,900 twelve-hour deliveries were made. These projects have conserved an estimated 54,830 acre-feet of water which is available to Metropolitan in 1993 as shown in Table 2. Additionally, a new Water Control Center is under construction and planning and design of six additional tailwater recovery systems and an irrigation field laboratory is underway.

The Water Control Center will house the Imperial staff and upgraded communications and monitoring control equipment required to operate the newly automated main canal facilities including the regulatory reservoirs and the automated lateral checks and headings within the interceptor systems. The irrigation field laboratory is planned to provide training and demonstration facilities of on-farm irrigation systems (tailwater recovery, surge irrigation, etc.), irrigation management (scheduling, moisture monitoring, water measurement, etc.) and various equipment available to the farmer to improve on-farm irrigation management.

The original program envisioned installation of 284 non-leak gates, however, this number will be considerably reduced as the majority of the proposed sites are situated within the interceptor projects' service areas. Consequently, installing the non-leak gates would not be cost effective and the water to be conserved will be captured by the interceptors in any case.

Verification of conserved water activities continued through 1992, particularly those related to canal lining, 12-hour deliveries, and system automation. Through much improved technical procedures and methods of analysis

of available data, more accurate and verifiable estimates have resulted for canal lining (currently, 115 acre-feet per mile per year versus the original estimate of 110 acre-feet per mile per year) and 12-hour deliveries (currently, 14,000 acre-feet per year versus the original estimate of 12,000 acre-feet per year). The final verification plan for system automation is expected early in 1993.

Completion projects being considered to substitute for certain canal lining projects contemplated by the Conservation Agreement (postponed indefinitely because potential conserved water available was considerably below the original estimate making these projects uneconomical pursuant to Conservation Agreement guidelines) include geothermal cooling water recovery, additional lateral interceptors, main canal seepage recovery through a series of subsurface collection lines and sump pumps, a mid-canal reservoir, and retirement of certain irrigated agricultural lands for flood control purposes. The geothermal project will entail recovering the existing cooling tower water, which has elevated temperatures, and running it through a new cooling unit thereby making this water available to replace water that would have normally been supplied by Imperial.

At the request of the Regional Water Quality Control Board, Colorado River Basin Region (RWQCB), a focused Environmental Impact Report (EIR) for the remaining two interceptor projects and completion projects is now being prepared by a consultant for Imperial. The EIR has been undertaken because of the RWQCB's concern as to potential water quality impacts that the remaining projects may have on Imperial's drains and the New and Alamo Rivers. The RWQCB's concerns arise from the need for Imperial to prepare and implement best management practices to comply with the performance goals stated in the Inland Surface Waters Plan adopted by the State Water Resources Control Board on April 11, 1991. Of primary concern to the RWQCB is the selenium and organochloride levels associated with the agricultural drains in the Imperial Valley which flow into the New and Alamo Rivers and subsequently into the Salton Sea. Therefore, final design of these projects is on hold pending completion and certification of the EIR. This will result in a delay in completing the Conservation Program by 1994 as previously scheduled. Assuming that final design work on these projects can begin between mid-summer and early fall of 1993, the Conservation Program is expected to be completed in 1995. This will result in the Program's current water conservation estimate of 106,110 acre-feet per year being available to Metropolitan in 1996.

Projects budgeted for implementation in 1993 are estimated to conserve approximately 15,840 acre-feet at a capital and annual direct cost of \$23.5 million in 1993 dollars. As contemplated at the time the Agreement was negotiated, the total cost of the program due to escalation in the cost of construction will require an increase in the capital appropriation in the near future. Nonetheless, when such costs are indexed back to the 1988 dollars contained in the Conservation and Approval agreements, it is anticipated that the Program will be implemented at or below the unit cost contemplated in the agreements which was \$120 per acre-foot.

Board Committee Assignments

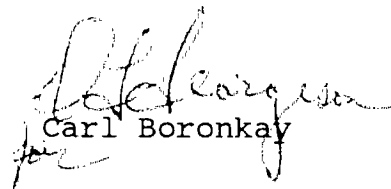
This letter is referred for information to:

The Engineering and Operations Committee because of its authority to study and advise on the performance of construction programs and work and operation and maintenance of facilities required for the production of water pursuant to Administrative Code Section 2431 (b) and (c); and

The Finance and Insurance Committee because of its authority to study and advise on disposition of appropriated funds pursuant to Administrative Code Section 2441 (c) and (d).

Recommendation

For information only.


Carl Boronkay

AKD:bvf

Attachments

TABLE 1

IMPERIAL-METROPOLITAN WATER CONSERVATION PROGRAM
COSTS THROUGH 1993

(Million Dollars)

<u>Year</u>	<u>Capital & Annual Direct Funding Call</u>	<u>Interest Earned</u>	<u>End-Of -Year Capital & Annual Direct Bank Account Balances</u>	<u>Costs¹</u>			<u>Total</u>
				<u>Capital</u>	<u>Annual Direct</u>	<u>Indirect</u>	
1990	18.3	0.9	3.0 ²	15.6	0.6	4.6	20.8
1991	36.8	1.4	12.5 ³	27.2	1.5	4.6	33.3
1992	<u>20.1</u>	<u>0.8</u>	12.0 ⁴	<u>19.4</u>	<u>1.9</u>	<u>4.6</u>	<u>25.9</u>
Subtotal	75.2	3.1		62.2	4.0	13.8	80.0
1993	<u>13.6⁵</u>	<u>0.5</u>		<u>21.0</u>	<u>2.5</u>	<u>4.6</u>	<u>28.1</u>
Total	88.8	3.6		83.2	6.5	18.4	108.1

(1) Current Dollars.

(2) Amount to be credited against 1992 funding call. End Of Year Capital and Annual Direct Bank Account Balance excludes funds withdrawn after the end of the bank business day on December 31, 1990 for payment of costs incurred in 1990.

(3) Amount to be credited against 1993 Funding Call.

(4) Amount to be credited against 1994 Funding Call.

(5) Budget estimate for 1993 approved by the PCC.

TABLE 2

Water Conserved Through 1993 by
 Imperial/Metropolitan Water Conservation Program
 (Acre-Feet)

<u>Year</u>	<u>Annual Amount of New Water Conserved</u>	<u>Water Available to Metropolitan</u>
1989 (Augmentation Projects)	6,110	
1990	20,590	6,110
1991	7,229	26,700
1992	20,901	33,929
1993	15,840 ¹	54,830

¹Estimated