

Bulletin 132-88
September 1988

State of California
The Resources Agency

Department of
Water Resources

Management of the California State Water Project



Gordon K. Van Vleck

Secretary for Resources
The Resources Agency

George Deukmejian

Governor
State of California

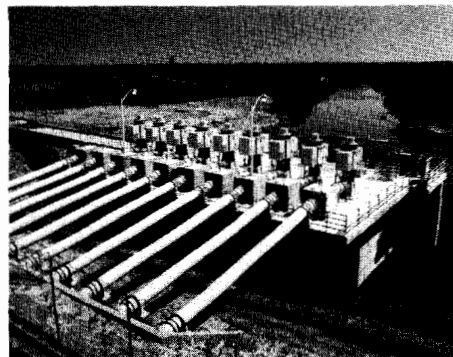
David N. Kennedy

Director
Department of Water Resources

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ON THE COVER: Barker Slough Pumping Plant, a facility of the recently completed North Bay Aqueduct, will divert 67,000 acre-feet of SWP water from the Delta annually for delivery to Napa and Solano counties.

**Department of
Water Resources**

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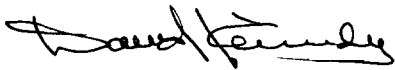
David N. Kennedy
Director
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Stuart T. Pyle, Engineer and Manager of the Kern County Water Agency (right), reviews the technical report on the Kern Water Bank with Department of Water Resources Director, David N. Kennedy.

FOREWORD

This edition of the Bulletin 132 series is the twenty-sixth annual summary of the State Water Project's operation and management. Bulletin 132-88 reviews Project operations during calendar year 1987 and describes other management activities, emphasizing the period between July 1, 1987 and June 30, 1988. Outlooks for present and future (1) water supplies, (2) power supplies, and (3) Project costs and financing are presented in the bulletin as well. As usual, Appendix B presents information supporting the water contractors' statements of charges for the coming year (1989).



David N. Kennedy
Department of Water Resources
The Resources Agency
State of California

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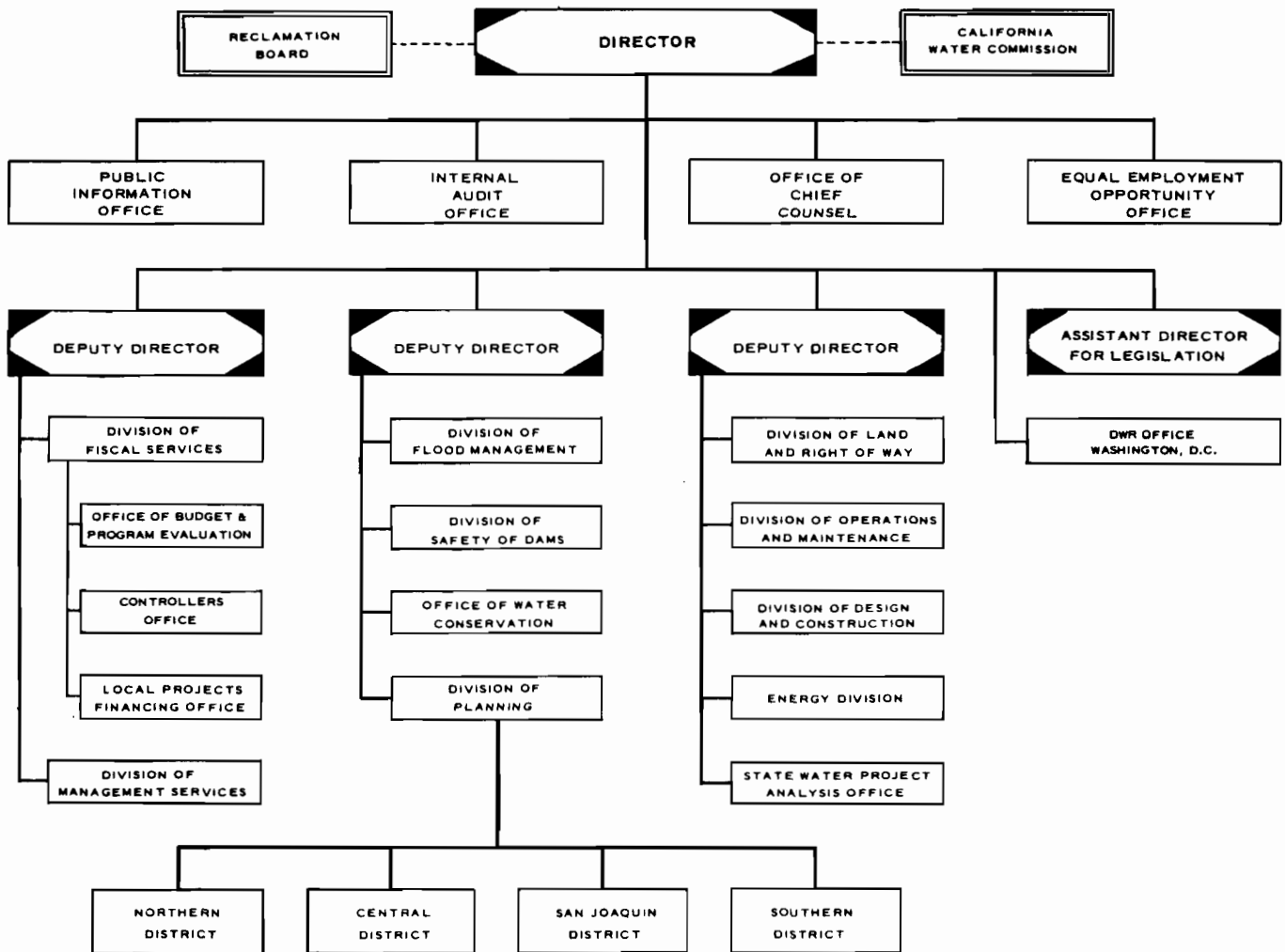
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The California Water Commission serves as a policy advisory body to the Director of Water Resources on all California water resources matters. The nine-member citizen commission provides a water resources forum for the people of the State, acts as a liaison between the legislative and executive branches of State Government, and coordinates federal, state, and local water resources efforts.

ORGANIZATION OF THE DEPARTMENT OF WATER RESOURCES



ABBREVIATIONS

AB	Assembly Bill	FC&WCD	Flood Control and Water Conservation
cfs	Cubic feet per second		District
COA	Coordinated Operation Agreement	kW	Kilowatt
DOI	Delta Outflow Index	kWh	Kilowatt-hour
EC	Electrical conductivity	kV	Kilovolt
EIR	Environmental Impact Report (State)	MW	Megawatt
EIS	Environmental Impact Statement (federal)	OMP&R	Operation, maintenance, power, and replacement
EHV	Extra-high voltage		

SB Senate Bill

AGENCIES AND ACRONYMS

ACFC&WCD	Alameda County Flood Control & Water Conservation District
ACWD	Alameda County Water District
AVEKWA	Antelope Valley–East Kern Water Agency
BPA	Bonneville Power Administration
CK	County of Kings
CLAWA	Crestline–Lake Arrowhead Water Agency
CLWA	Castaic Lake Water Agency
CVP	Central Valley Project
CVWD	Coachella Valley Water District
DDWD	Devil’s Den Water District
DFG	Department of Fish and Game
DRWD	Dudley Ridge Water District
DWA	Desert Water Agency
DWR	Department of Water Resources
EWSID	Empire West Side Irrigation District
FERC	Federal Energy Regulatory Commission
KCWA	Kern County Water Agency
LADWP	Los Angeles Department of Water and Power
LCID	Littlerock Creek Irrigation District
MWA	Mojave Water Agency
MWDSC	The Metropolitan Water District of Southern California
NCFC&WCD	Napa County Flood Control & Water Conservation District
NPC	Nevada Power Company
OFWD	Oak Flat Water District
PCFC&WCD	Plumas County Flood Control & Water Conservation District
PG&E	Pacific Gas & Electric Company
PWD	Palmdale Water District
SBCFC&WCD	Santa Barbara County Flood Control & Water Conservation District
SBVMWD	San Bernardino Valley Municipal Water District
SCE	Southern California Edison Company
SCFC&WCD	Solano County Flood Control & Water Conservation District
SCVWD	Santa Clara Valley Water
SDG&E	San Diego Gas & Electric Company
SDWA	South Delta Water Agency
SGPWA	San Geronio Pass Water Agency
SGVMWD	San Gabriel Valley Municipal Water District
SLOCFC&WCD	San Luis Obispo County Flood Control & Water Conservation District
SWP	State Water Project
SWRCB	State Water Resources Control Board
TLBWSD	Tulare Lake Basin Water Storage District
USBR	United States Bureau of Reclamation
VCFC	Ventura County Flood Control District
WAPA	Western Area Power Administration

CHAPTER I

OVERVIEW OF THE CALIFORNIA STATE WATER PROJECT

Bulletin 132-88 is the 26th edition of *Management of the California State Water Project*. This report has provided a continuing history of the State Water Project's (SWP) water contract administration activities, water and power operations, financing, and management plans. Appendix B, which is bound within each bulletin, has provided the documentation of costs and information on water charges for the annual statements of charges to long-term water supply contractors.

As in past bulletins, each chapter of Bulletin 132-88 updates a different aspect of SWP activities. Chapter I opens the report with a brief review of California's water history, discussing both the SWP and the Central Valley Project (CVP). Project operations; administration; and right of way, design, and construction activities are highlighted in the next three chapters. Chapters V and VI describe present and future SWP water supply and power management plans, respectively, while Chapter VII details the future costs and financing of the SWP. Appendix B, which documents the water contractors' statements of charges for 1989, follows Chapter VII.

California Water History

Since the 1770s, when Spanish missionaries built California's first irrigation systems, agriculture has been the predominant reason, but not the only reason, for diverting water from the State's rivers and streams. During the gold rush, miners dammed rivers and altered their flows to further the search for gold. Later, cities began to flourish and water was diverted for urban use.

Until the beginning of the 20th century, individuals and companies generally undertook the development of California's water resources. Then, as the need for water increased, local entities took the lead in developing water. As a result of this local approach to water development planning, small irrigation systems and municipal projects were scattered throughout the State, but no centralized plan coordinated them.

The first systematic planning for the development of California's water resources began in 1873, when President Grant appointed a commission to investigate the water resources of the Central Valley. The commission

recommended using the Sierra Nevada's water supply and advocated federal and State leadership in developing California's water resources. In 1878, following the State's first investigation of its water resources, State Engineer William Hall published maps and reports to support the systematic water resources development of the Central Valley.

In 1919, Col. Robert B. Marshall, chief geographer of the U. S. Geological Survey, proposed transferring water from the Sacramento River to the Sacramento and San Joaquin valleys through large canals to irrigate 12,000,000 acres. He also proposed exporting water to Southern California. In 1921, the State Legislature authorized a comprehensive statewide water resources investigation, which led to the eventual development of both the CVP and the SWP.

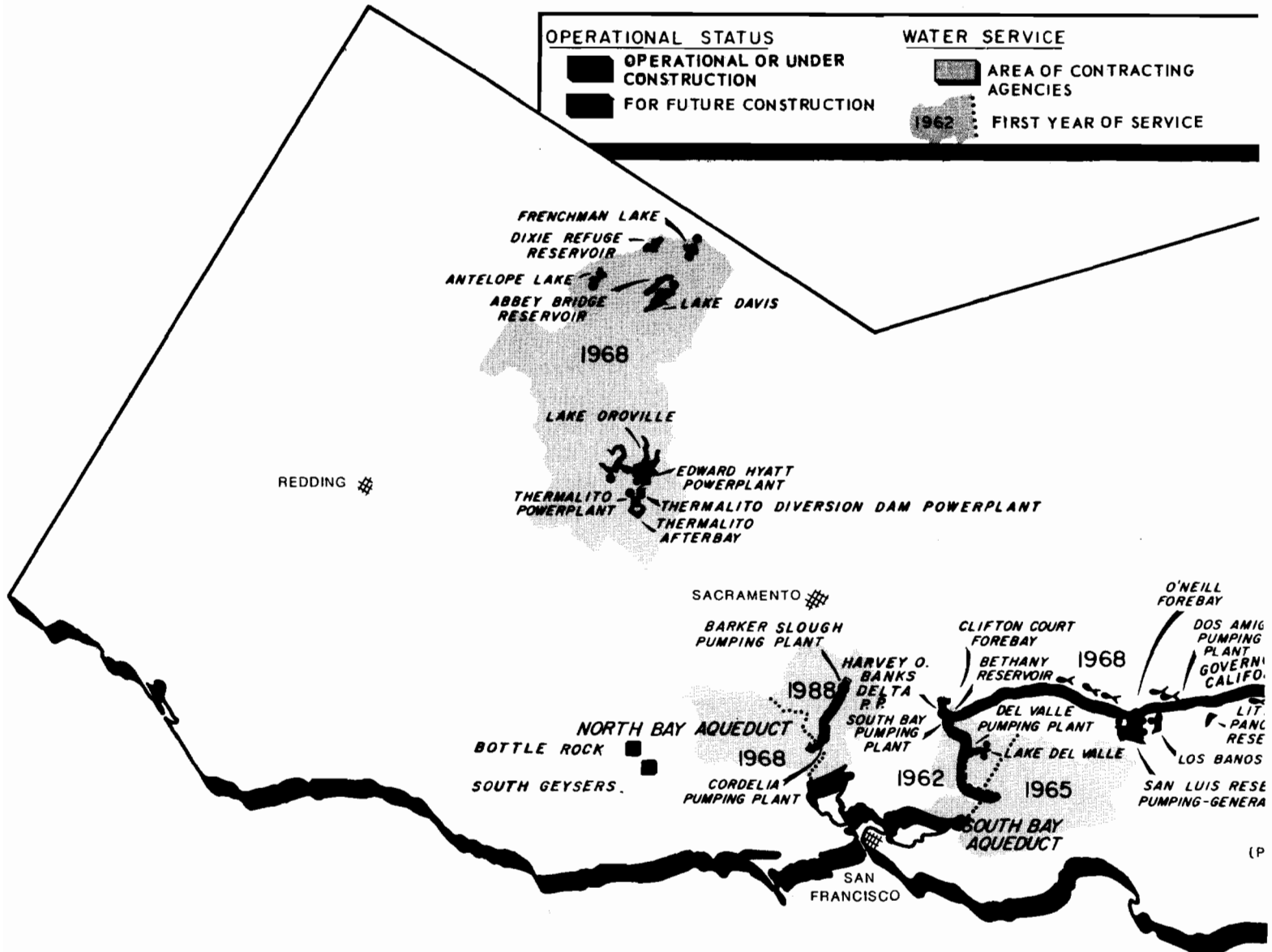
The State Water Plan

In 1931, State Engineer Edward Hyatt made a report to the Legislature called the "State Water Plan." This report set forth the available water supply, water requirements, and engineering plans for the ultimate development of water resources in the principal hydrographic divisions of the State. It addressed the State's most crucial water problems and discussed physical and economic solutions to those problems.

Two years later the California Legislature passed the Central Valley Project Act to implement the initial features of the State Water Plan in the Central Valley. The act provided financing for the authorized facilities through \$170 million in revenue bonds. However, because of the nationwide depression of the early 1930s, the bonds became unmarketable. Federal financing obtained through the U. S. Bureau of Reclamation (USBR) eventually allowed construction to begin in 1937, when ground was broken for the Contra Costa Canal.

Initial CVP works included Shasta Dam as the main water conservation facility, Friant Dam, the Friant-Kern Canal, the Madera Canal, and a number of smaller conservation dams. In 1944, the first CVP water was delivered to farms in the San Joaquin Valley. Those early facilities and subsequent additions to the

FIGURE 1. STATE WATER



DAMS AND RESERVOIRS							
Name of Reservoir	Reservoirs ^(a)			Dams			
	Capacity (acre-feet)	Surface Area (acres)	Shoreline (miles)	Crest Elevation (feet)	Structural Height (feet)	Crest Length (feet)	Volume (cubic yards)
Frenchman Lake.....	55,500	1,580	21	5,607	139	720	537,000
Antelope Lake.....	22,600	930	15	5,025	120	1,320	380,000
Lake Davis.....	84,400	4,030	32	5,785	132	800	253,000
Lake Oroville.....	3,540,000	15,800	167	922	770	6,920	80,000,000
Thermalito Diversion Pool.....	13,300	320	10	233	143	1,300	154,000
Fish Barrier Pool.....	600	50	1	181	91	600	10,000
Thermalito Forebay.....	11,700	630	10	231	91	15,900	1,840,000
Thermalito Afterbay.....	57,000	4,300	26	142	39	42,000	5,020,000
Clifton Court Forebay.....	28,700	2,110	8	14	30	36,500	2,440,000
Bethany.....	4,800	180	6	250	121	3,940	1,400,000
Lake Del Valle.....	77,100	1,060	16	773	235	880	4,150,000
San Luis.....	1,070,000 ^b	12,700	65	554	385	18,600	77,645,000
O'Neill Forebay.....	56,400	2,700	12	233	88	14,350	3,000,000
Los Banos.....	34,600	620	12	384	167	1,370	2,100,000
Little Panoche.....	5,600	190	4	678	152	1,440	1,210,000
Silverwood Lake.....	76,000	980	13	3,378	249	2,230	7,600,000
Lake Perris.....	131,000	2,320	10	1,600	128	11,600	20,000,000
Quail Lake.....	8,800	360	3	3,320	45	6,800	6,800,000
Pyramid Lake.....	171,000	1,300	21	2,606	400	1,080	8,000,000
Elderberry Forebay.....	28,200	480	7	1,550	200	1,980	8,000,000
Castaic Lake.....	324,000	2,240	29	1,535	425	4,900	46,000,000
Castaic Lagoon.....	5,700	200	3	1,150	25		
Totals	5,806,000	55,040	493			175,000	266,599,000

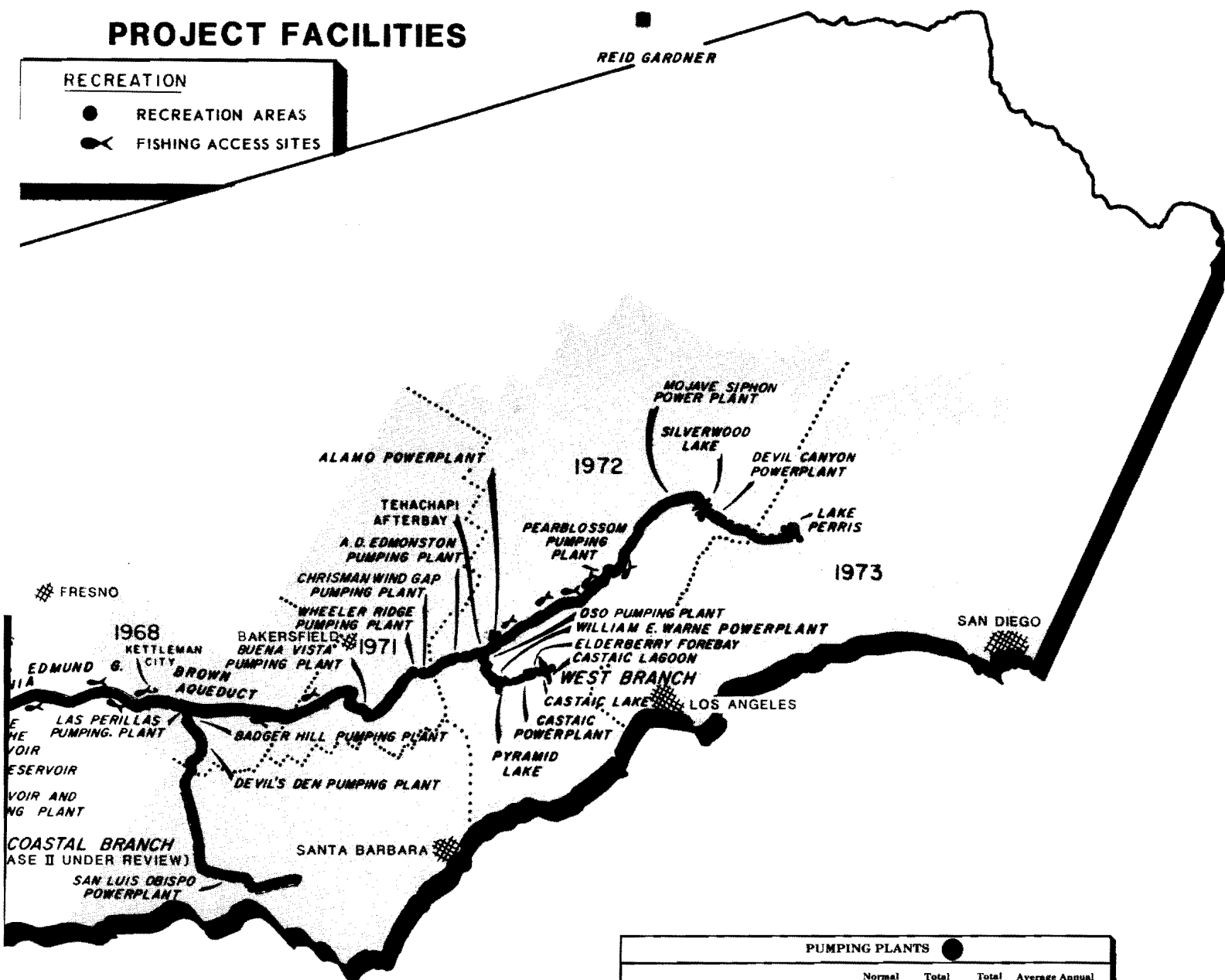
a) Reservoir data represent design elevation, generally spillway crest level. In most cases, maximum operational levels are set 1 or 2 feet lower.
b) SWP share of total storage of 2,040,000 acre-feet.

AQUEDUCTS					
Name	Length (miles)				Channel and Reservoir
	Total	Canal	Pipeline	Tunnel	
North Bay Aqueduct.....	27.4	0	27.4	0	0
South Bay Aqueduct.....	42.9	8.4	32.9	1.6	0
Subtotal	70.3	8.4	60.3	1.6	0
California Aqueduct (main line):					
Delta to O'Neill Forebay.....	68.4	67.0	0	0	1.4
O'Neill Forebay to Kettleman City.....	106.7	103.5	0	0	2.2
Kettleman City to A.D. Edmonston Pumping Plant.....	120.9	120.9	0	0	0
A.D. Edmonston Pumping Plant to Tehachapi Afterbay.....	10.6	0.2	2.5	7.9	0
Tehachapi Afterbay to Lake Perris.....	138.4	93.4	38.3	3.8	2.9
Subtotal, main line	444.0	385.0	40.8	11.7	6.5
California Aqueduct (branches):					
West Branch.....	31.9	9.1	6.4	7.2	9.2
Coastal Branch (under review).....	100.8	14.8 (a)	86.0	0	0
Subtotal, branches	132.7	23.9	92.4	7.2	9.2
Totals	647.0	417.3	193.5	20.5	15.7
a) Constructed					

PROJECT FACILITIES

RECREATION

- RECREATION AREAS
- ⊗ FISHING ACCESS SITES



POWERPLANTS

Name	Number of Units	Normal Static Head (feet)	Total Design Flow (cfs)	Total Generator Rating (kW)	Average Annual Energy Output (a) (kWh)
Edward Hyatt	6	410-676	16,960	678,750	1,838,000,000
Thermalito	4	85-102	16,900	119,600	240,000,000
Thermalito Diversion Dam	1	70-77	600	3,000	18,000,000
San Luis	8	99-327	13,200	424,000	195,000,000
SWP Share				222,100	
Alamo (a)	1	139-144	1,640	17,000	110,000,000
Mojave Siphon (b)	2	144	2,880	10,000	133,000,000
Devil Canyon (a)	4	1,368-1,433	2,800	272,000	1,723,000,000
W.E. Warne	2	719-739	1,560	78,500	358,000,000
Castaic	7	830-1,098	18,400	1,250,000	569,000,000
SWP Share				214,000	
San Luis Obispo (b)	1	781	92	5,200	40,000,000
Reid Gardner					
Unit No. 4					
Total	1			260,000	
SWP Share				169,500	
Bottle Rock	1			55,000	360,000,000
South Geysers (c)	1			55,000	360,000,000
Total, SWP Share					7,324,000,000

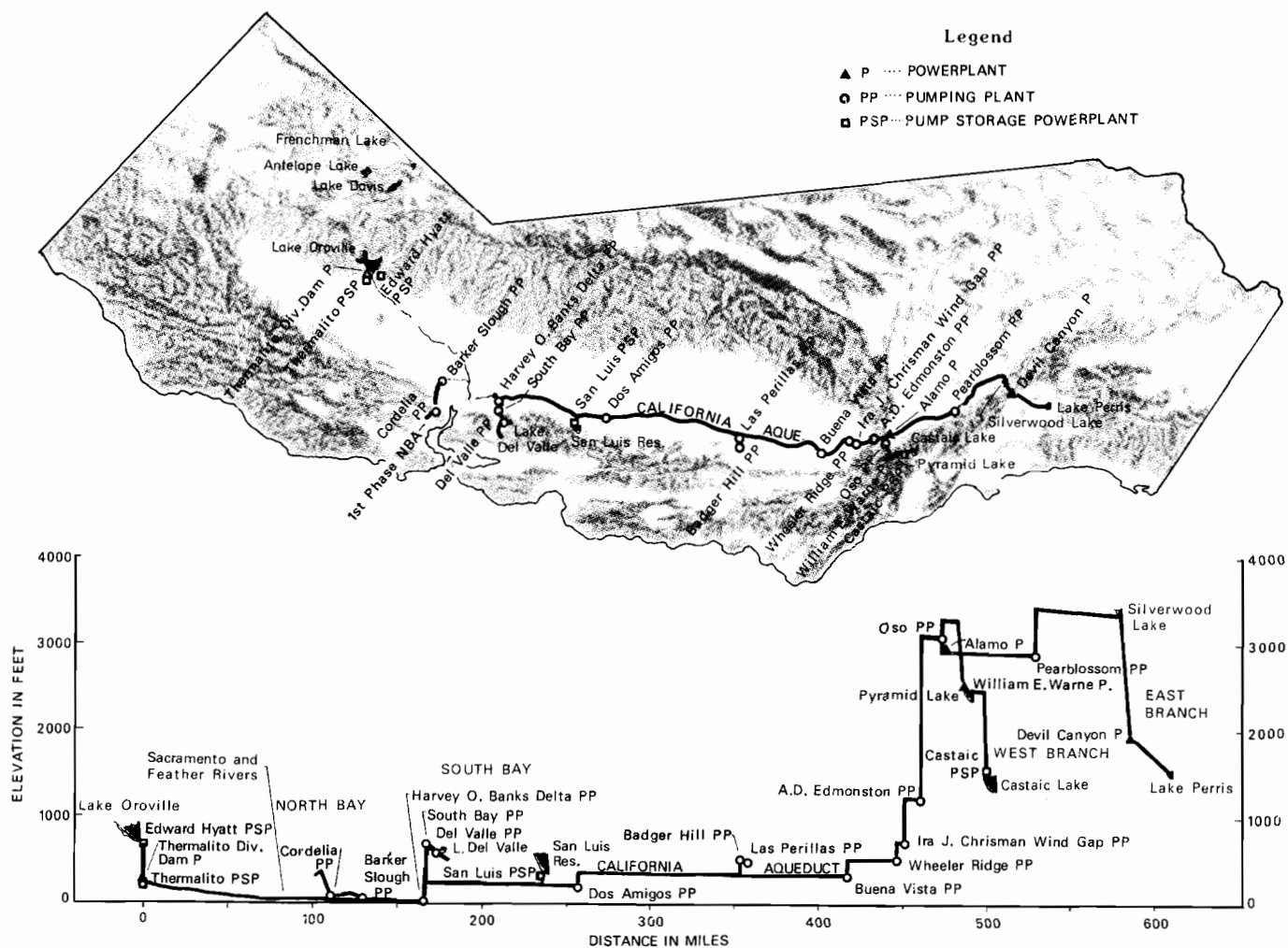
- a) Under full development.
- b) Tentative date for future facility.
- c) Schedule for completion deferred.

PUMPING PLANTS

Name	Number of Units	Normal Static Head (feet)	Total Design Flow (cfs)	Total Motor Rating (hp)	Average Annual Energy Requirement (a) (kWh)
Edward Hyatt (pumped storage)	3	500-600	5,610	519,000	(b)
Thermalito (pumped storage)	3	85-102	9,000	120,000	(b)
North Bay Aqueduct					
Barker Slough	10 (d)	120	155	4,800	15,000,000
Cordelia	11	100-380	119	5,600	23,000,000
South Bay Aqueduct					
South Bay	9	545-566	330	27,750	151,000,000
Del Valle	4	0-38	120	1,000	2,000,000
California Aqueduct					
H.O. Banks Delta	11	244	10,303	333,000	1,230,000,000
San Luis (pumped storage)					
Total	8	99-327	11,000	504,000	
SWP Share				5,760	
Don Amigos					
Total	6	113	13,200	240,000	
SWP Share				7,100	
Buena Vista	10 (d)	205	5,049	144,500	545,000,000
Wheeler Ridge	9 (d)	233	4,598	150,000	756,000,000
Christman Wind Gap	9 (d)	518	4,410	330,000	1,609,000,000
A.D. Edmonston	14 (d)	1,926	4,095	1,120,000	5,580,000,000
Pearblossom	11	542	2,880	263,000	1,247,000,000
West Branch					
Oso	8	231	3,128	93,800	255,000,000
Coastal Branch					
Las Perillas	6	55	450	4,060	16,000,000
Badger Hill	8	151	450	11,750	42,000,000
Devil's Den (c)	5 (d)	547	108	10,000	47,000,000
Sawtooth (c)	5 (d)	547	108	10,000	47,000,000
Polonio (c)	5 (d)	547	108	10,000	47,000,000
Total, SWP Share					12,559,000,000

- a) Under full development.
- b) Pumped storage capability used only under economically favorable conditions.
- c) Tentative data for future facility.
- d) Includes spare unit; data for spare unit is excluded from total design flow but included in total motor rating.

PROFILE OF STATE WATER PROJECT FACILITIES



CVP, many of which were constructed by the U.S. Army Corps of Engineers, are currently operated by the USBR.

California Water Plan and the Feather River Project

In 1947, the Legislature authorized another investigation of California's water resources. The results of this task were reported in three publications. Bulletin 1, *Water Resources of California*, concentrated on the basic data collection; Bulletin 2, *Water Utilization and Requirements of California*, described the present and projected water needs; and Bulletin 3, titled *The California Water Plan*, presented preliminary plans to meet the State's ultimate water needs, including those works re-

quired for transferring surplus water from the north to the water-deficient south.

Concurrently, State Engineer A. D. Edmonston presented the first complete report on the Feather River Project, authorized by the Legislature in 1951 under the Central Valley Project Act. Later, in 1955, the project was revised by adding new facilities to those originally proposed.

The Feather River Project included what is now the Oroville Dam and Reservoir; San Luis Reservoir; the Delta Cross Channel; an electric power transmission system; an aqueduct to serve San Benito, Santa Clara, and Alameda counties; and an aqueduct to transport water from the Delta to the San Joaquin Valley and Southern California.

State Water Project

Although approved by the Legislature in 1951, the Feather River Project received added support after the 1955–56 Northern California flood. It wasn't until 1959, however, that the Legislature passed the California Water Resources Development Act, known as the Burns–Porter Act. The act authorized the issuance and use of \$1.75 billion in general obligation bonds to assist in financing immediate construction of the State Water Facilities, the first stage of the State Water Development System, known as the State Water Project. In 1960, the voters of the State approved this method of financing.

The water supply contract between DWR and The Metropolitan Water District of Southern California (MWDSC), signed on November 4, 1960, became the prototype of all other SWP water supply contracts. During the early 1960s, DWR received a large number of applications from agencies interested in a long-term water supply from the SWP. Most of the resulting contracts were signed between 1961 and 1965. There are now 30 long term water supply contracts with the SWP. A thirty-first contractor, Hacienda Water District, merged with the Tulare Lake Basin Water Storage District in 1981. A thirty-second contractor, the city of West Covina, merged with MWDSC in 1965.

The initial facilities of the State Water Project were constructed between 1957 and 1973. They included Oroville and San Luis dams and reservoirs, the South Bay Aqueduct, and the California Aqueduct. The first SWP water deliveries were made to the South Bay contractors in 1962, just two years after construction began. The San Joaquin Valley and the Southern California contractors received their first deliveries in 1968 and 1972, respectively. Existing contracts call for deliveries to eventually total 4.2 million acre-feet per year.

Looking to the Future

In 1987, DWR published Bulletin 160–87, a fifth update of the California Water Plan, presenting information on water use in California, projected water demands to 2010, and the availability of water supplies to meet those needs. The publication also discusses several leading water management concerns, such as water quality, the solutions to problems associated with water diversions from the Sacramento–San Joaquin Delta, and evolving water policies.

Bulletin 160–87 reports trends indicating that the State's population will approach 36.3 million by 2010, an increase of approximately one-third, and considers how the State can continue to satisfy the water needs of its growing population. Overall, Bulletin 160–87 reflects the philosophy that step-by-step development of California's water resources will best enable the State to provide an adequate supply of water for the future.

The SWP and the CVP

Included within SWP operations (Figures 1 and 1A) are the joint-use facilities that were developed together by DWR and the USBR under an agreement entered into on December 30, 1961. Comprising San Luis Reservoir, O'Neill Forebay, San Luis Pumping–Generating Plant, Dos Amigos Pumping Plant, and an aqueduct extending from O'Neill Forebay to Kettleman City, these joint-use facilities represent a combined State–Federal effort in management of water resources. Under this agreement, the USBR acquired the right of way for the aqueduct and designed and constructed the joint-use facilities, with costs shared on the basis of approximately 55 percent SWP and 45 percent USBR. DWR purchased the land for the reservoirs (later transferred to USBR) and was granted responsibility for operation and maintenance under the same cost-sharing formula.

The Coordinated Operation Agreement (COA), signed in 1986 by DWR and the USBR, provides a more recent example of the SWP and CVP working together to improve their operations. This landmark agreement permits increased operational efficiency of the SWP and the CVP and provides for the sharing of responsibilities to meet Decision 1485 requirements. Under the provisions of the COA, the USBR and DWR are currently negotiating a contract for the conveyance of CVP water through SWP facilities in exchange for SWP use of excess CVP water.

Some California legislators have recently proposed the transfer of all or part of CVP operations to the State. Department of the Interior officials have encouraged exploration of this concept. DWR is analyzing the CVP to determine whether the State would benefit if project operations were transferred. An important consideration is to fully protect existing federal water and power contracts.

TABLE 1. SWP ACCOMPLISHMENTS THROUGH 1987

Year	Water Delivered (acre-feet)							Recreation Supported (recreation days)(b)	Hydro-electric Energy Generated (million kilowatt-hours)(c)
	Entitlement Water			Other Deliveries					
	Municipal and Industrial	Agri-cultural	Total	Surplus and Unscheduled		Other Water(a)	Total Delivery		
				Municipal and Industrial	Agri-cultural				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
1962						18,289	18,289	30,000	
1963						22,456	22,456	105,000	
1964						32,507	32,507	331,600	
1965						44,105	44,105	449,800	
1966						67,928	67,928	482,700	
1967	5,747	5,791	11,538	0	0	53,605	65,143	455,200	
1968	46,472	125,237	171,709	10,000	111,534	14,777	308,020	931,300	628
1969	34,434	158,586	193,020	0	72,397	18,829	284,246	1,554,800	2,614
1970	47,936	185,997	233,993	0	133,024	38,080	405,097	1,804,800	2,679
1971	85,286	272,054	357,340	2,400	293,619	44,127	697,486	2,085,900	3,302
1972	181,066	430,735	611,801	22,205	401,759	73,127	1,108,892	1,971,200	1,922
1973	293,824	400,564	694,388	3,161	293,255	43,666	1,034,470	2,502,000	3,298
1974	418,521	455,556	874,077	4,753	412,923	48,342	1,340,095	4,073,600	4,672
1975	641,621	582,369	1,223,990	21,043	601,859	67,170	1,914,062	4,189,300	3,159
1976	818,588	554,414	1,373,002	32,488	547,622	116,962	2,070,074	4,239,600	2,131
1977	280,919	293,236	574,155	0	0	390,176	964,331	3,951,900	958
1978	742,385	710,314	1,452,699	3,566	13,348	122,916	1,592,529	5,773,700	2,882
1979	690,659	969,237	1,659,896	66,081	582,308	189,396	2,497,681	5,298,700	2,485
1980	730,545	799,204	1,529,749	19,722	384,835	48,590	1,982,896	5,701,900	2,988
1981	1,057,273	852,289	1,909,562	12,000	896,428	283,849	3,101,839	6,017,800	3,358
1982	928,721	821,303	1,750,024	0	215,873	155,820	2,121,717	6,187,700	5,097
1983	483,499	701,370	1,184,869	0	13,019	188,596	1,386,484	5,838,200	5,419
1984	725,925	862,694	1,588,619	3,663	259,254	387,505	2,239,041	6,273,100	3,368
1985	992,538	1,002,915	1,995,453	9,638	298,034	408,904	2,712,029	6,639,800	3,227
1986	998,611	997,025	1,995,636	2,595	34,025	197,471	2,229,727	6,966,039	3,706
1987	1,096,368 (d)	1,033,718	2,130,086 (d)	6,949	107,958	385,264 (e)	2,630,257	7,228,815	2,707
Total	11,300,998	12,214,608	23,515,606	220,264	5,673,074	3,462,457	32,871,401	91,084,454	60,600

- a) Includes preconsolidation repayment water, emergency relief water, regulated delivery of local supply, non-SWP water delivered to Napa County FC&WCD through SWP facilities, conveyance of CVP water (including Decision 1485 and recreation and fish & wildlife water), recreation water, and exchange water.
- b) A recreation day is the visit of one person to a recreation area for any part of one day.
- c) Includes SWP share of generation from Hyatt-Thermalito, San Luis, Devil Canyon, Warner, Alamo, and Castaic powerplants.
- d) Includes 639 acre-feet of 1988 entitlement water delivered in 1987, and 16,171 acre-feet of entitlement water recaptured from ground water storage.
- e) Includes 7,501 acre-feet of water delivered under the 1987 Advance Storage Program.

DWR is also developing computer models of integrated CVP and SWP operation under a common set of operation criteria. Once an acceptable simulation model is available, DWR will determine the benefits in water and power operation under integrated operation.

SWP Service Areas

The service areas of the 30 long-term water supply contractors vary widely in size, location, climate, and population. The contractors' uses for SWP water also differ. In the San Joaquin Valley, SWP water is used mostly for agriculture, whereas in the Feather River,

San Francisco South Bay and North Bay areas, and in Southern California, water is used mostly for urban needs. Figure 2 shows the boundaries for each SWP water supply contracting agency.

SWP Accomplishments

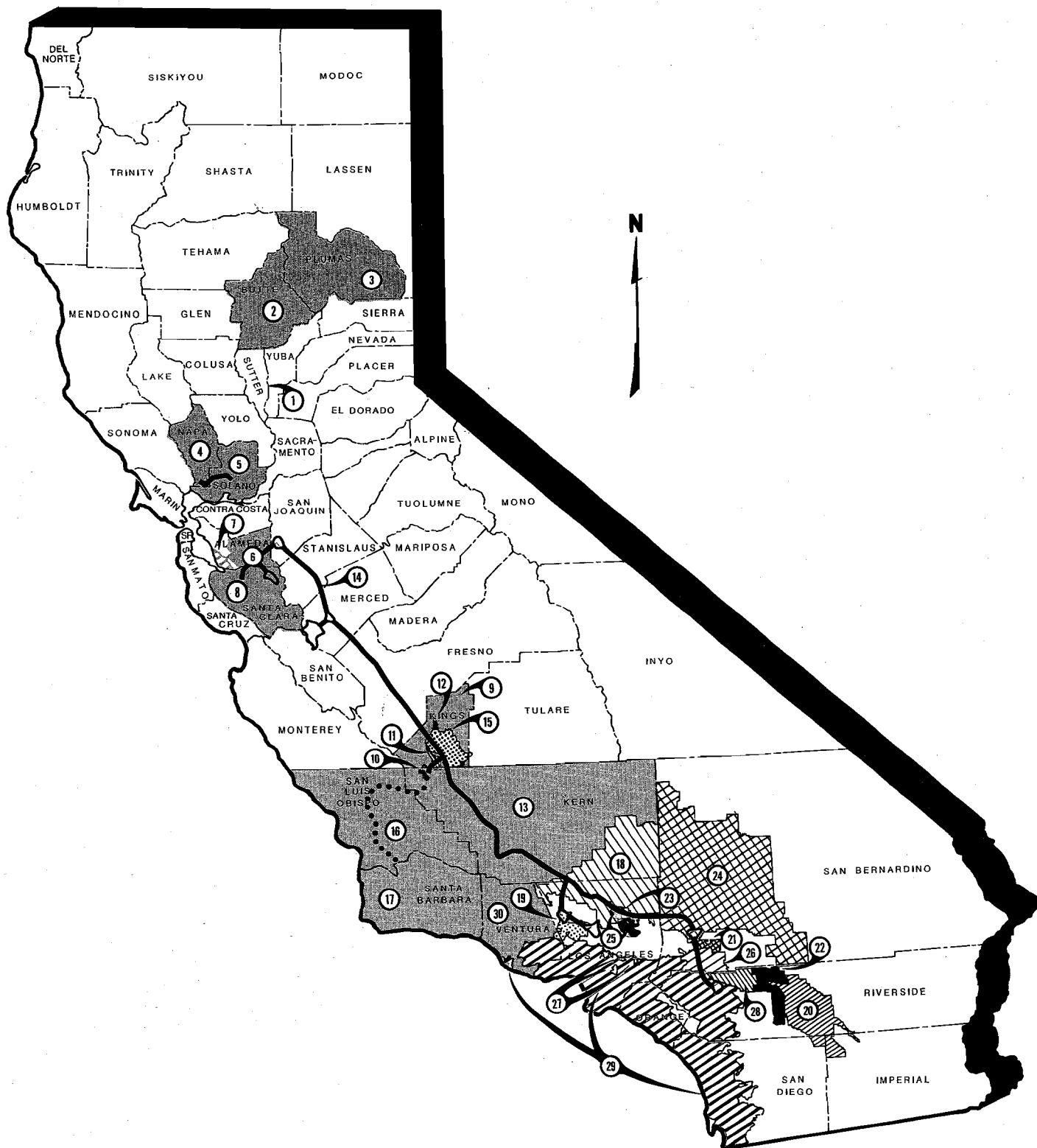
The primary purpose of the SWP is to develop and transport water from areas of abundance to areas of need. Additional SWP purposes include flood control, recreation, and fish and wildlife enhancement. Table 1 summarizes SWP water deliveries, recreational use, and

hydroelectric energy generation from 1962 through 1987.

SWP Highlights

- The SWP delivered 2,630,257 acre-feet of water in 1987, including 2,130,086 acre-feet of entitlement water, 114,907 acre-feet of unscheduled water and 385,264 acre-feet of other water (Chapter II).
- The 1986-87 water year was defined as critical under the State Water Resources Control Board's (SWRCB) Decision 1485 criteria (Chapter II).
- Balanced water conditions, as defined in the COA, were proclaimed by DWR and the USBR from April 6 through December 10, 1987 (Chapter II).
- The SWP generated a total of 3,950 million kWh of energy (2,707 million kWh from hydroelectric powerplants) in 1987 and used 4,850 million kWh to deliver water to contractors. The SWP also purchased 908 million kWh and sold 2,658 million kWh (Chapter II, Table 6).
- In July, August, and September 1987, DWR purchased 37,052 acre-feet of water released from Yuba County Water Agency's New Bullards Bar Reservoir. This release allowed DWR to hold a corresponding amount of water in Lake Oroville, increasing the water supply for the 1987-88 water year (Chapter III).
- DWR, in cooperation with the San Luis Obispo and Santa Barbara County Flood Control and Water Conservation Districts, completed alternative route studies for the proposed Coastal Branch, Phase II pipeline. The Polonio Pass route was selected (Chapter III).
- In early 1988 nearly one-half million striped bass were released into the Delta under an agreement signed by DWR and the Department of Fish and Game to mitigate direct fish losses at the Harvey O. Banks Delta Pumping Plant (Chapter III).
- In July 1987, the SWRCB opened Phase I of the Bay-Delta hearings to gather evidence on the beneficial uses of Bay-Delta water. DWR presented over 500 exhibits through 30 expert witnesses (Chapter III).
- In March 1987, DWR, the USBR, the Department of Fish and Game, and the Suisun Resource Conservation District signed the Suisun Marsh Preservation Agreement, which defines marsh water quality standards and provides details for implementing the plan of protection (Chapter III).
- North Bay Aqueduct-Phase II construction was completed in early 1988. Dedication ceremonies were held and the first water was delivered from the Delta to Napa County Flood Control and Water Conservation District in May 1988. Deliveries to Solano County Flood Control and Water Conservation District from Phase II began in June 1988 (Chapter IV).
- After years of controversy, environmental impact analyses, and negotiations, construction work toward installation of the remaining four pump units of the Harvey O. Banks Delta Pumping Plant began in August 1987. Only seven units were installed when the plant was constructed in the 1960s. The final units are expected to be operational by 1991 (Chapter V).
- On February 26, 1988, DWR and MWDSC executed the Coordination Agreement, which provides for the sale of surplus and economy energy to MWDSC, purchase of surplus energy from MWDSC's Colorado River Aqueduct system, and exchange of energy between DWR and MWDSC (Chapter VI).
- On June 30, 1988, DWR purchased the Francisco Leasehold steam field, the geothermal steam resource for Bottle Rock Powerplant. Additionally, DWR contracted with Calpine Corporation to operate and maintain the steam field for 18 months and to train DWR personnel to take over operations and maintenance in January 1990 (Chapter VI).
- On June 14, 1988, DWR sold \$100 million of tax-exempt Central Valley Project Water System Revenue Bonds Series D, dated June 1, at a net interest cost of 7.69 percent, to fund ongoing SWP construction and planning. The successful bidder was an investment group headed by First Interstate Bank (Chapter VII).

FIGURE 2. LONG-TERM



WATER SUPPLY CONTRACTING AGENCIES

Location No.	Contracting Agency	Total Cumulative Deliveries through 12/31/87 (acre-feet)(a)	Maximum Annual Entitlement (acre-feet)	Total Payments through 12/31/87 (dollars)	Gross Area as of 7/1/87 (acres)	Assessed Valuation 1987-88 (dollars)(b)	Estimated Population (7/1/87)
UPPER FEATHER AREA							
1.	City of Yuba City	586	9,600	137,000	4,230	645,733,000	22,300
2.	County of Butte	5,329	27,500	393,000	1,069,000	5,660,591,000	167,000
3.	Plumas County Flood Control and Water Conservation District	6,175	2,700	848,000	1,644,000(c)	1,370,448,000(c)	19,300(c)
	Subtotal	12,090	39,800	1,378,000	2,717,230	7,676,772,000	208,600
NORTH BAY AREA							
4.	Napa County Flood Control and Water Conservation District	94,514	25,000	8,329,000	508,000	4,970,841,000	105,200
5.	Solano County Flood Control and Water Conservation District	2,950	42,000	8,510,000	575,000	8,886,989,000	290,100
	Subtotal	97,464	67,000	16,839,000	1,083,000	13,587,830,000	395,300
SOUTH BAY AREA							
6.	Alameda County Flood Control and Water Conservation District, Zone 7	302,751	46,000	22,537,000	272,000	6,333,122,000	125,000
7.	Alameda County Water District	391,192	42,000	25,180,000	63,000	11,663,337,000	245,300
8.	Santa Clara Valley Water District	1,933,971	100,000	95,633,000	833,000	66,598,000,000	1,400,000
	Subtotal	2,627,914	188,000	143,350,000	1,168,000	84,594,459,000	1,770,300
SAN JOAQUIN VALLEY AREA							
9.	County of Kings	41,900	4,000	1,089,000	893,300(d)	2,327,554,000(d)	87,900(d)
10.	Devil's Den Water District	306,612	12,700	8,888,000	8,700	(e)	50
11.	Dudley Ridge Water District	1,080,798	57,700	20,586,000	29,970	(e)	50
12.	Empire West Side Irrigation District	68,497	3,000	1,325,000	7,400	(e)	50
13.	Kern County Water Agency	14,505,234	1,153,400	424,937,000	5,161,000(f)	28,216,042,000(f)	504,800(f)
14.	Oak Flat Water District	114,759	5,700	3,029,000	4,000	(e)	50
15.	Tulare Lake Basin Water Storage District	2,241,319(g)	118,500	37,780,000	189,200	(e)	50
	Subtotal	18,359,119	1,355,000	497,634,000	6,293,570	30,543,596,000	592,950
CENTRAL COASTAL AREA							
16.	San Luis Obispo County Flood Control and Water Conservation District	0	25,000	5,888,000	2,131,300	11,769,634,000	201,900
17.	Santa Barbara County Flood Control and Water Conservation District	0	45,486	11,044,000	1,756,900	16,221,670,000	342,900
	Subtotal	0	70,486	16,932,000	3,888,200	27,991,304,000	544,800
SOUTHERN CALIFORNIA AREA							
18.	Antelope Valley-East Kern Water Agency	546,364	138,400	93,259,000	1,524,000	6,223,855,000	127,100
19.	Castaic Lake Water Agency	79,943	41,500	34,807,000	125,000	4,932,914,000	112,900
20.	Coachella Valley Water District	168,207	23,100	30,114,000	637,600	9,548,790,000	122,600
21.	Crestline-Lake Arrowhead Water Agency	17,663	5,800	6,202,000	55,100	1,023,100,000	13,600
22.	Desert Water Agency	264,800	38,100	48,207,000	208,800	4,527,062,000	55,600
23.	Little Rock Creek Irrigation District	6,087	2,300	1,592,000	43,300	76,696,000	1,900
24.	Mojave Water Agency	57,606	50,800	36,758,000	3,160,400	7,170,213,000	147,500
25.	Palmdale Water District	10,033	17,300	10,725,000	73,900	1,337,455,000	47,400
26.	San Bernardino Valley Municipal Water District	173,892	102,600	112,459,000	210,200	9,442,510,000	434,600
27.	San Gabriel Valley Municipal Water District	79,995	28,800	31,798,000	16,300	5,269,203,000	185,000
28.	San Geronimo Pass Water Agency	0	17,300	16,214,000	140,600	1,054,380,000	41,500
29.	The Metropolitan Water District of Southern California	7,886,902	2,011,500	2,002,273,000	3,286,400(g)	564,692,806,000(g)	13,731,500(g)
30.	Venture County Flood Control District	0	20,000	12,193,000	1,179,500(h)	28,308,436,000(h)	628,100(h)
	Subtotal	9,291,492	2,497,500	2,436,601,000	10,661,100	643,607,420,000	15,649,300
	TOTAL STATE WATER PROJECT	30,388,079	4,217,786	3,112,734,000	25,811,100(i)	808,001,378,000(i)	19,161,250(i)
	NET TOTAL, STATE WATER PROJECT SERVICE AREA				24,492,500(j)	787,536,119,000(j)	18,731,900(j)
	TOTAL, STATE OF CALIFORNIA				100,314,000	1,165,057,000,000	27,662,900
	PERCENT, NET SWP VS. TOTAL CALIFORNIA				24.4	67.6	67.7

- a) All water delivered to long-term SWP contractors, including current and deferred entitlement, surplus, unscheduled, emergency relief, exchange, and non-SWP water delivered through SWP facilities to Napa County FC&WCD.
- b) Statutes of 1978, Chapter 1207, added Section 135 to the Revenue and Taxation Code, requiring assessment at 100 percent of full value for the 1981-82 fiscal year and fiscal years thereafter.
- c) Total for all of Plumas County Flood Control and Water Conservation District, including Last Chance Creek Water District.
- d) Total for all of Kings County, including the following contracting agencies: County of Kings, Dudley Ridge Water District, Empire West Side Irrigation District, nearly all of Tulare Lake Basin Water Storage District, and about 40 percent of Devil's Den Water District.
- e) Assessed valuation not available on an agency area breakdown.
- f) Total for all of Kern County, including the following contracting agencies: Kern County Water Agency, about 60 percent of Devil's Den Water District, and about 50 percent of Antelope Valley-East Kern Water Agency.
- g) Total for MWDSC including Calleguas Municipal Water District, which is common to MWDSC and Ventura County Flood Control District.
- h) Total for all of Ventura County, including the following contracting agencies: Ventura County Flood Control District and portions of Antelope Valley-East Kern Water Agency, Castaic Lake Water Agency, and MWDSC.
- i) Includes duplicate values. Some areas that are within two or more agencies are included in each agency's total.
- j) Excludes duplicate values where agencies have overlapping boundaries.

CHAPTER II

SWP OPERATIONS IN 1987

This chapter summarizes SWP water and power operations, recreation and visitor use at SWP facilities, and SWP fish and wildlife activities during the 1987 calendar year.

Water Operations

Water conditions, SWP reservoir and aqueduct operations, and SWP water quality during 1987 are covered in this section.

Water Conditions

Total precipitation was well below average for the 1986–87 water year (October 1, 1986 through September 30, 1987). Precipitation in the Sacramento and Feather River drainage areas was considerably below average during the first third of the water year. Although February precipitation was near average, and March precipitation was above average in most areas, low precipitation continued through April. As of May 1, statewide average precipitation during the 1986–87 water year was only 60 percent of normal (Figure 3).

To classify the water year, SWRCB Water Rights Decision 1485 uses an index based on the sum of the May 1 forecast of unimpaired runoff of the four major Sacramento Valley river basins included in the Sacramento River Index (the Sacramento, Feather, Yuba, and American rivers). The combined May 1 forecast of unimpaired runoff in the 1986–87 water year was 9.2 million acre-feet, only 50 percent of average and in the range classified as “critical” by Decision 1485. However, this amount was above the 8.1 million acre-feet index in 1976, and well above the 5.1 million acre-feet index in 1977.

Figure 4 shows cumulative unimpaired runoff to Lake Oroville and Shasta Lake during the 1986–87 water

year. Unimpaired runoff to Lake Oroville was well below average for the year (about 50 percent), but above that of the 1976–77 drought years. Unimpaired runoff to Shasta Lake was also well below average for the year (about 42 percent) and below the previous record minimum that occurred during the 1976–77 drought years.

DWR and the USBR declared balanced Delta water conditions from April 6 to December 10, 1987. This was the fourth consecutive year, and the seventh out of the last nine years, in which balanced water conditions were declared. Balanced water conditions are proclaimed when upstream reservoir storage withdrawals, plus other inflows, approximately equal the water supply needed to (1) satisfy Sacramento Valley and Sacramento–San Joaquin Delta in-basin needs, including Delta water quality requirements, and (2) meet export needs. During balanced water conditions, each agency adjusts its reservoir storage withdrawals and Delta exports to meet its share of in-basin uses and Delta outflow.

Reservoir Operations

Lake Oroville and San Luis Reservoir are the major storage sites for SWP water supplies. Figure 5 compares the 1987 operations of these reservoirs with the previous year's operations. Lake Oroville storage started the year above 1986 levels and roughly paralleled 1986 until April 13, when storage peaked at 3,139,394 acre-feet, or 89 percent of total capacity. Then storage dropped substantially until it reached its lowest level at 1,967,234 acre-feet on October 23. Storage showed a moderate recovery in November and December and reached 2,388,007 acre-feet on December 31.

San Luis Reservoir started 1987 at near capacity for State storage and at approximately 95 percent of total storage. Total storage peaked on March 12, 14, and 15

FIGURE 3: STATEWIDE PRECIPITATION, 1986-1987 WATER YEAR

(Precipitation in Percent of Average)

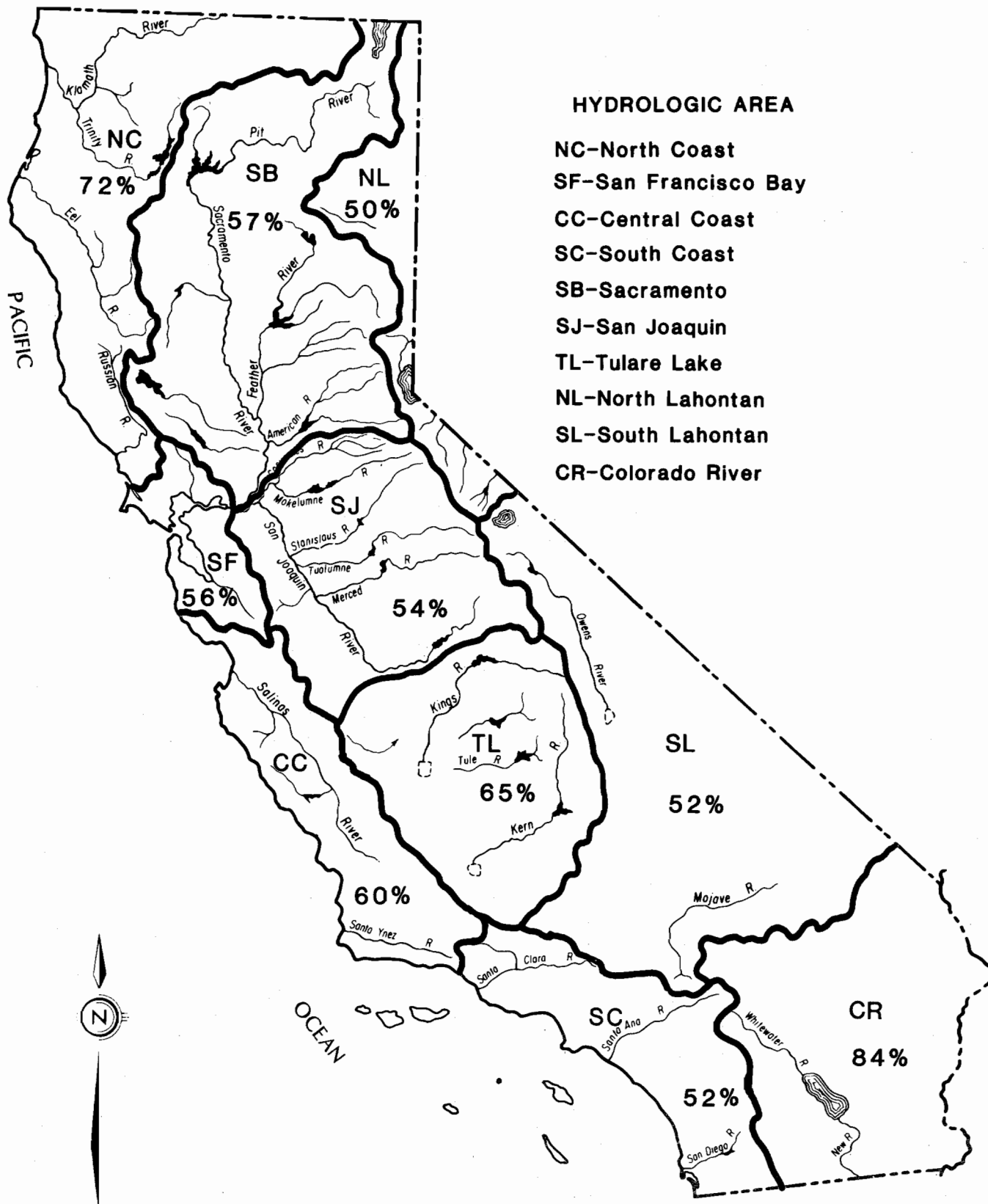


FIGURE 4. CUMULATIVE UNIMPAIRED RUNOFF TO LAKE OROVILLE AND SHASTA LAKE

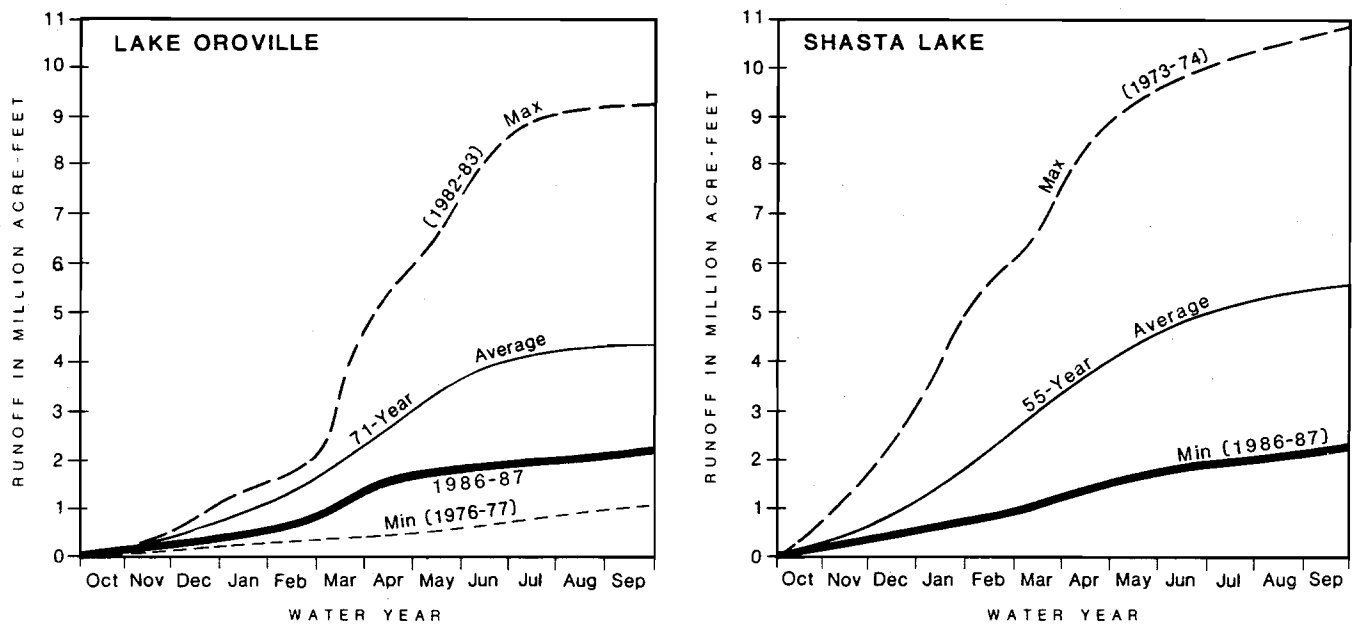
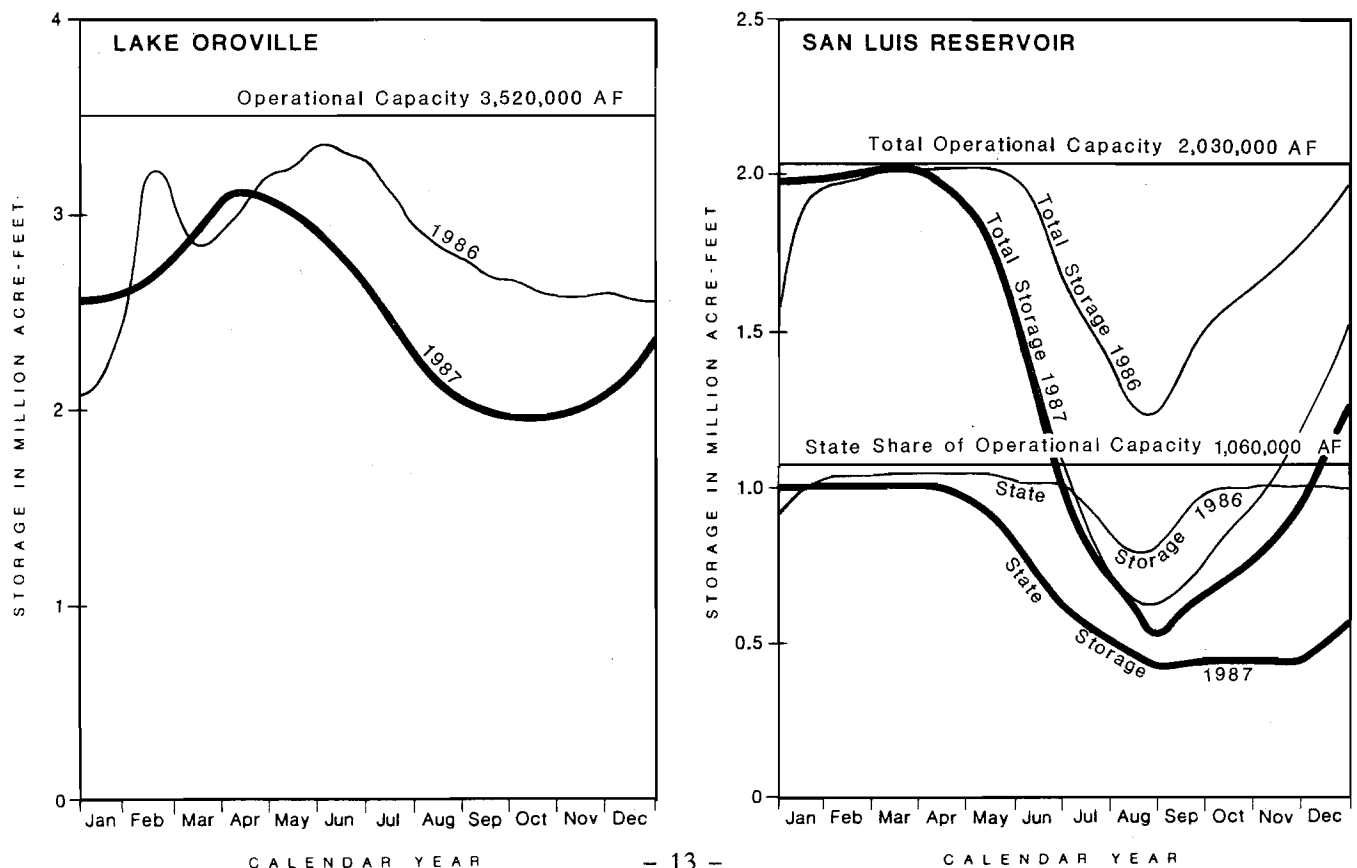


FIGURE 5. LAKE OROVILLE AND SAN LUIS RESERVOIR STORAGE





Lake Perris, along with the other SWP southern reservoirs (Pyramid, Castaic, and Silverwood) started the 1987 water year at above-average storage levels.

at 2,026,819 acre-feet. Rapid State and federal draw-down began around mid-April. State drawdown occurred at a lower rate than the federal drawdown. The lowest total storage for the year, 529,199 acre-feet, was reached on August 27. Total storage increased to 1,267,855 acre-feet (approximately 63 percent of maximum) by December 31.

Lake Del Valle storage is normally held to a maximum of 39,914 acre-feet between Memorial Day and Labor Day for recreational purposes. In 1987, the Corps of Engineers approved an additional 2,000 acre-feet of storage during this period. Seasonal storage in Lake Del Valle topped out at 41,281 acre-feet on May 20.

SWP southern reservoirs (Pyramid, Castaic, Silverwood, and Lake Perris) started the season at above-average levels. By December 31, the combined storage of the SWP southern reservoirs returned to within 61,000 acre-feet of full storage.

The following tabulation compares 1986 and 1987 year-end storage in the principal SWP reservoirs:

Reservoir & Operational Capacity (acre-feet)	Storage (acre-feet)	
	12/31/86	12/31/87
Lake Oroville	2,564,000	2,388,000
3,520,000		
Lake Del Valle		
40,000	25,000	25,000
San Luis Reservoir ¹		
1,062,000	1,063,000	570,000
Silverwood Lake		
73,000	72,000	68,000
Lake Perris		
127,000	124,000	113,000
Pyramid Lake		
170,000	164,000	161,000
Castaic Lake		
319,000	299,000	286,000
Total	4,311,000	3,611,000
Total Change	-700,000	

¹ SWP Share

Aqueduct Operations

Figure 6 summarizes overall SWP operations in 1987 and shows the 1,462,359 acre-feet of CVP water conveyed through the San Luis Joint-Use Facilities to the federal San Luis service area. (DWR operates and maintains the joint-use facilities, including 102 miles of

aqueduct between O'Neill Forebay and Kettleman City.)

The Kern River Intertie was not used in 1987, but vandals broke into the intertie facilities on March 10, activated the site, and opened one gate completely and another gate about a foot. Approximately 600 acre-feet of water from the California Aqueduct spilled into the intertie collection basin before the gates could be closed. The spilled water was contained in the basin.

On May 26, embankment damage occurred downstream from check 49 of the California Aqueduct, in the Quartz Hill area west of Palmdale. A water leak developed at a water level measurement well. The leakage washed away some of the embankment and caused the concrete stilling well to topple. Flows in the aqueduct pools above Pearblossom Pumping Plant were first reduced to 580 cfs, then gradually increased to 870 cfs by June 24, when repairs to the eroded embankment were completed.

Releases from Lake Del Valle into the South Bay Aqueduct began on August 18, at the request of the South Bay Aqueduct water service contractors. These releases continued through August and totaled 1,682 acre-feet. The released water was part of the additional 2,000 acre-feet of storage approved earlier in the year by the U.S. Army Corps of Engineers. The releases were used to reduce the high Delta water chloride levels to improve water quality in the South Bay Aqueduct. Normal seasonal drawdown began at the lake on September 8.

Between July 1 and October 15, DWR pumped 193,590 acre-feet of Decision 1485 replacement water for the USBR at Banks Delta Pumping Plant. This water replaced part of the May-June diversion capacity foregone by the CVP to comply with the SWRCB Water Rights Decision 1485.

Water levels were lowered in pools 38, 39, and 40 to allow repairs to the California Aqueduct at Grapevine Creek from October 19-30. During that time Edmonston Pumping Plant's operation was limited to one unit at 315 cfs.

The switchyard for the new Cordelia Pumping Plant on the North Bay Aqueduct was activated for the first time on December 2. Barker Slough Pumping Plant switch-

yard was energized on December 4. Both plants were activated for testing only.

Alamo Powerplant Unit No. 1 was returned to service on December 21. It had been out of service since October 19 to remove corrosion from the wicket gates. On December 22, a maximum load restriction of 4 MW was imposed on the unit until problems with lower guide bearing runout and shaft vibration on load rejection are eliminated. A consultant was hired to investigate the problems and recommend corrective measures.

A. D. Edmonston Pumping Plant Unit No. 9 was returned to service on June 9, after being out since July 1985. The unit was totally disassembled for repair of the stand still seal and for complete overhaul. Unit No. 7 returned to service on December 23 after being out for two months while oil was cleaned from the stator.

Water Quality

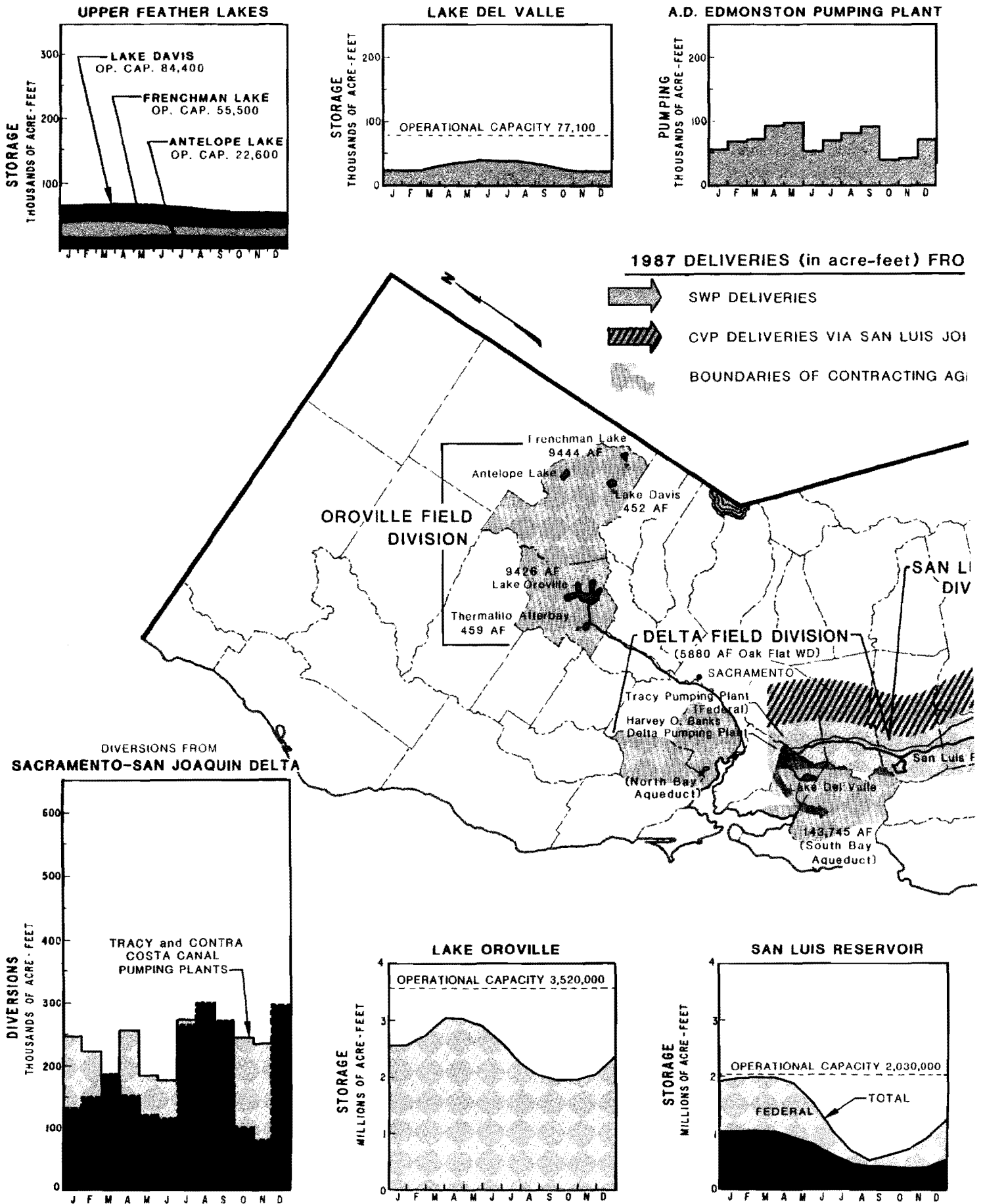
SWP and Sacramento-San Joaquin Delta water quality conditions are summarized below. A more detailed report appears in Appendix E to Bulletin 132, published separately as *Water Operations in the Sacramento-San Joaquin Delta*, and in DWR's monthly *State Water Project Operations Data*.

Water quality and SWP operations in the Delta are governed by SWRCB's Decision 1485, which protects beneficial uses of the Delta by water quality standards, export limitations, and minimum flow rates. These standards are based on the water year type. Classification of the 1986-87 water year was "critical" under the Sacramento River Index (formerly the Four Basin Index) of Decision 1485, permitting relatively low water quality standards for the Delta.

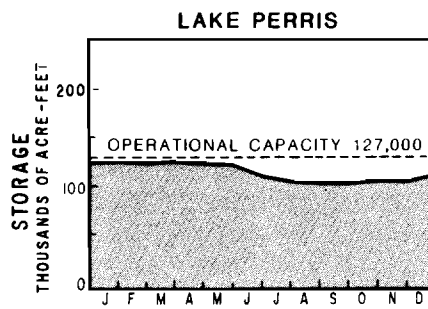
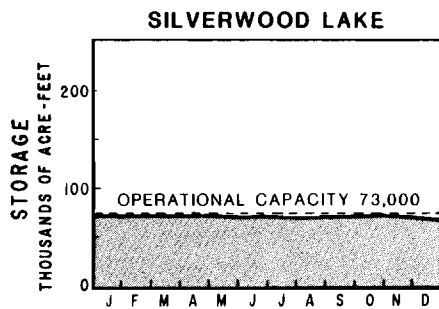
The Delta Outflow Index (DOI) is a calculated approximation of the Delta fresh water outflow past Chipps Island near Pittsburg. During 1987, both the minimum DOI standard and minimum flow in the Sacramento River at Rio Vista required by Decision 1485 were met.

The average DOI was about 16,000 cfs from January through March. During April and May the sparse Sierra snowpack and runoff reduced the DOI to about 6,000 cfs. From June through November the average DOI dropped to about 2,000 cfs, but finally increased in December to about 8,000 cfs because of early winter rainfall. The lowest DOI was 730 cfs in September and the highest was nearly 37,000 cfs in March.

FIGURE 6. SUMMARY OF



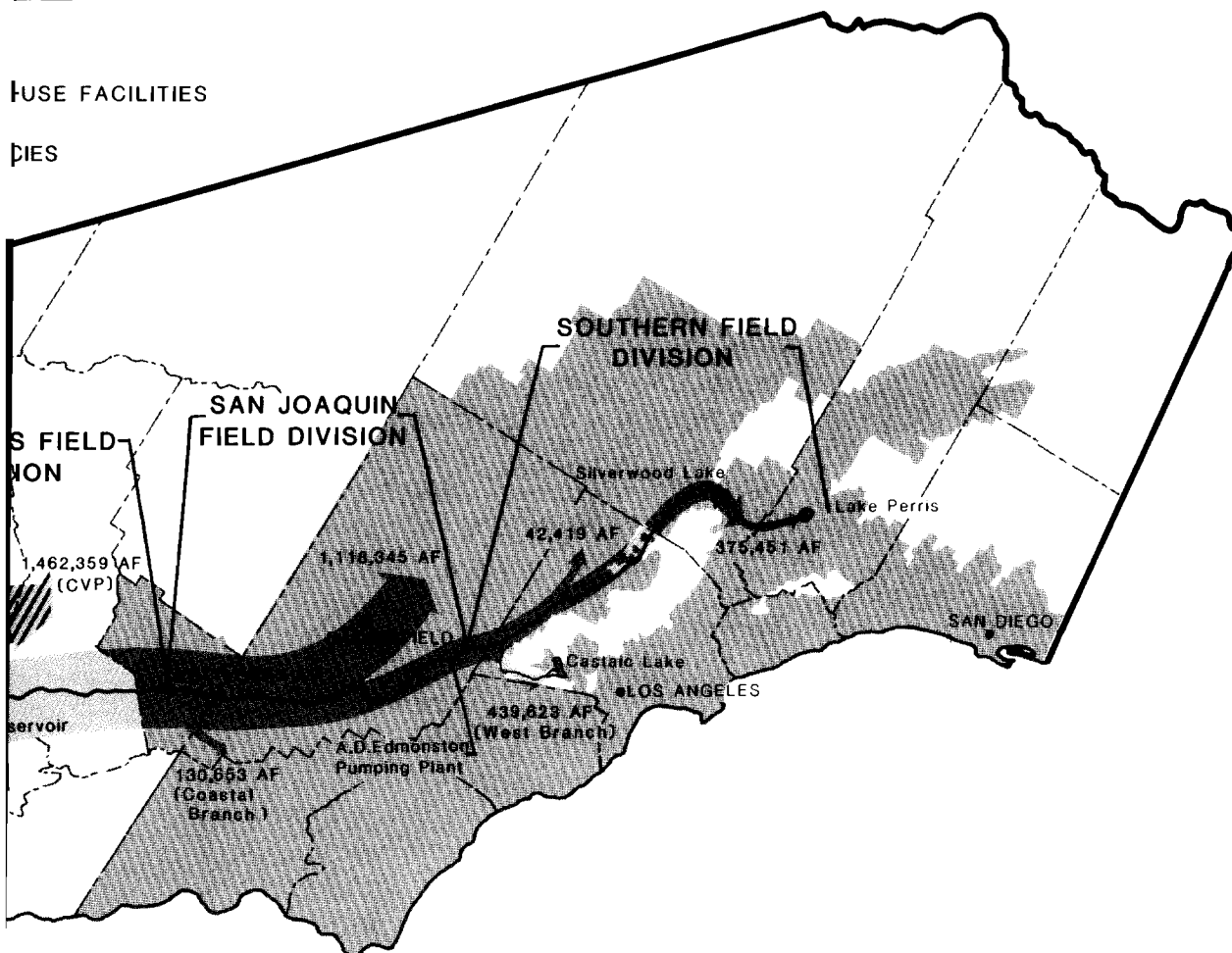
SWP OPERATIONS, 1987



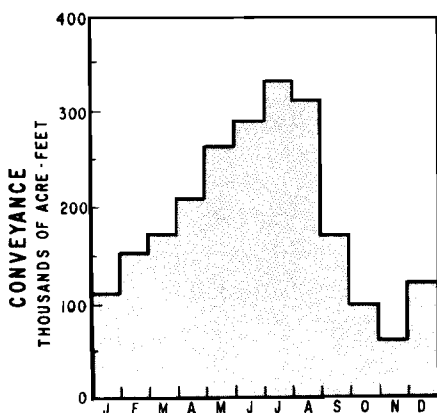
PROJECT FACILITIES

PIPER FACILITIES

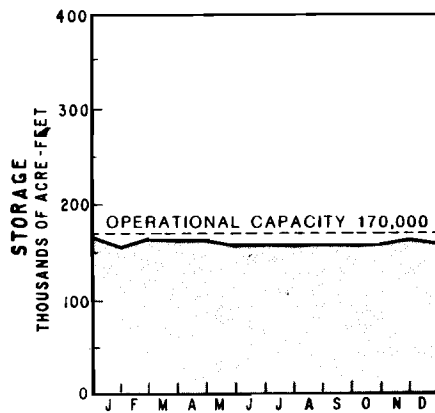
PIPER



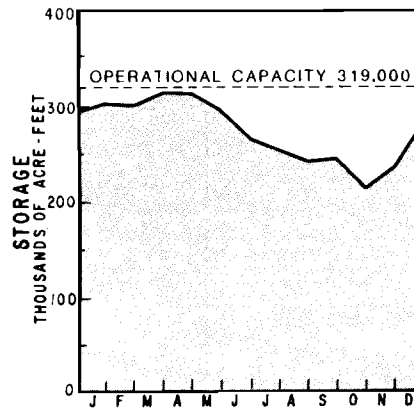
CONVEYANCE PAST KETTLEMAN CITY



PYRAMID LAKE



CASTAIC LAKE



Despite the dry weather conditions and low Delta outflow, nearly all Decision 1485 salinity standards were met in 1987. The only salinity standard not met was the 250 mg/l mean daily chloride standard at the Contra Costa Canal intake. This standard was equaled on December 1, 1987 and exceeded by 1 mg/l chloride (251 mg/l) on December 12, 1987, despite several water operations efforts to reduce the level of salinity during this period.

The agreement between the North Delta Water Agency and DWR is an SWP water quality obligation and serves as a measure of Delta water quality conditions. Under this agreement, water quality standards for electrical conductivity (EC) at the Emmaton station on the Sacramento River are at times more stringent than in Decision 1485. During 1987, the running 14-day mean NDWA Emmaton EC standard of 2.79 mS (microsiemens)/cm was exceeded from October 31 through December 12. The highest 14-day mean EC was 4.0 mS/cm on December 4, 1987, and the average for this period, based on the running 14-day mean, was 3.55 mS/cm. In order to help alleviate this situation, the Delta Cross Channel gates were frequently closed (forcing more Sacramento River flows past Emmaton) and Delta exports were reduced.

All SWP Delta export limitations imposed by Decision 1485 were met in 1987.

Through an agreement among DWR, USBR, the U.S. Fish and Wildlife Service, and the Department of Fish and Game, DWR installs a rock barrier on Old River during years when fall flows are forecast to be low. This barrier aids survival of upstream migrating salmon and steelhead by increasing fall flows in the lower San Joaquin River near Stockton. In 1987, the barrier was installed in early September and removed in late November.

The Interagency Delta Health Aspects Monitoring Program continued water quality sampling in the Delta during 1987. Under this program, water samples are collected from the Delta and analyzed for minerals, pesticides, organic pollutants, and total trihalomethane formation potential (TTHMFP). As an adjunct to the Health Aspects study, DWR also started a special 30-month study of agricultural drainage in the Delta to determine the impacts of agricultural drainage on

TTHMFP in Delta water and evaluate alternative remedies.

Considerable attention has been focused on TTHMFP in the Delta because trihalomethanes are potential carcinogens, and more stringent federal drinking water standards are expected. Recent evidence shows elevated levels of TTHMFP in agricultural drainage from Delta islands. Preliminary studies also indicate that mineral composition of SWP export water may be more significantly affected by local south Delta water conditions than by either tides or river flow conditions. Nonetheless, the levels of chemical contaminants and minerals that affect human health remain at acceptable levels in Delta water supplies.

Algae production in the Delta was generally low during 1987. The first indication of significant production occurred in the lower San Joaquin River and south Delta, where moderate runoff flows stimulated algal growth as early as March, with production persisting until December. In Suisun Bay, algae production was stifled by low Delta outflows and seldom rose above background levels throughout 1987.

The central Delta experienced moderate phytoplankton blooms in early May and September when production levels approached 25 μ l. Surprisingly, the notorious alga *Melosira* sp. was not the dominant species in either. Since 1980, *Melosira* has been almost exclusively involved, sometimes to nuisance levels, in central Delta phytoplankton blooms. This trend reversal complicates the food chain relationships studies for Delta fisheries.

Low Delta outflows through 1987 caused a severe salinity intrusion pattern, which prompted DWR to initiate a series of salinity profiles documenting the extent of the intrusion. This information will be used to check hydrodynamic/salinity mathematical model results developed by DWR against actual prototype measurements.

Table 2 summarizes 1987 water quality conditions monitored by DWR at key locations throughout the SWP. The table also lists the monthly average water quality objectives set forth in Article 19 of the water supply contracts. These water quality objectives are based on the expected construction of an efficient cross Delta water transfer system.

TABLE 2. WATER QUALITY AT SELECTED STATIONS IN 1987

Stations	Annual	Concentrations (a)					
		Total Dissolved Solids	Total Hardness	Chlorides	Sulfates	Percent Sodium	Boron
Thermalito Afterbay Outlet to Feather River	Minimum	50	32	<1	1	11	<0.1
	Average	56	36	1	2	15	<0.1
	Maximum	66	39	1	3	24	<0.1
Sacramento-San Joaquin Delta Banks Delta Pumping Plant	Minimum	187	81	38	31	46	0.1
	Average	299	115	90	60	53	0.2
	Maximum	444	151	156	97	58	0.3
South Bay Aqueduct, Santa Clara Terminal Facility	Minimum	184	82	33	30	43	0.1
	Average	295	118	78	62	50	0.2
	Maximum	438	164	136	103	55	0.3
California Aqueduct: Entrance to O'Neill Forebay	Minimum	181	81	34	30	44	0.1
	Average	306	125	87	68	51	0.2
	Maximum	442	173	161	111	55	0.3
Outlet from O'Neill Forebay	Minimum	250	98	59	48	50	0.2
	Average	321	117	89	67	54	0.2
	Maximum	449	151	143	103	58	0.3
Near Kettleman City	Minimum	236	94	54	45	50	0.2
	Average	332	119	87	66	53	0.2
	Maximum	486	158	140	101	57	0.4
Coastal Branch near Devil's Den	Minimum	234	94	53	43	50	0.1
	Average	299	112	80	61	53	0.2
	Maximum	439	151	138	100	58	0.3
Near Buena Vista Pumping Plant	Minimum	227	92	49	40	49	0.1
	Average	338	131	97	72	53	0.2
	Maximum	479	181	158	112	57	0.4
Tehachapi Afterbay	Minimum	165	76	26	24	42	0.1
	Average	307	111	91	47	54	0.2
	Maximum	495	156	169	72	59	0.4
Pearblossom Pumping Plant	Minimum	189	80	36	29	46	0.1
	Average	300	120	70	64	52	0.2
	Maximum	426	166	108	104	55	0.4
Silverwood Lake, Outlet to San Bernadino Tunnel	Minimum	188	84	42	29	43	0.1
	Average	268	104	72	40	50	0.2
	Maximum	323	112	108	54	59	0.3
Lake Perris, Inlet from Santa Ana Pipeline	Minimum	205	80	43	34	48	0.1
	Average	229	86	53	37	51	0.2
	Maximum	254	92	57	41	52	0.2
Pyramid Lake, Outlet to Angeles Tunnel	Minimum	219	95	45	37	44	0.2
	Average	283	114	70	50	49	0.2
	Maximum	335	124	106	61	55	0.3
Castaic Lake, Outlet Tower	Minimum	249	118	56	57	43	0.2
	Average	282	125	60	61	45	0.2
	Maximum	309	131	66	67	46	0.3
Monthly Average Quality Objectives		440	180	110	110	50	0.6

a) Concentrations in mg/l except sodium. Values obtained or correlated from either continuous recording electrical conductivity equipment or monthly grab sample.

The SWP water supply contracts' Article 19 objective for the percentage of sodium to total salt content was exceeded at times at all points south of the Delta except Castaic Lake. The chloride objective was exceeded on several occasions in nearly all waters between the Delta and Pearblossom Pumping Plant. The average monthly totals of dissolved solids, hardness, sulfates, and boron remained substantially below contract objectives at all locations.

Overall during 1987, the best SWP water quality was found upstream of the Delta and in the four Southern California lakes, even though the percentage of sodium to total salt content sometimes exceeded the objective in three of these reservoirs.

DWR continued monthly monitoring of asbestos in SWP waters south of the Delta. Results indicate that during 1987, in water upstream and downstream from Arroyo Pasajero, asbestos remained essentially at background levels in water pumped from the Delta.

Water Service

The following sections summarize 1987 water conveyance and deliveries via SWP facilities.

Total Water Conveyed

A total of 2,630,257 acre-feet of water was conveyed through SWP facilities in 1987. Table 3 summarizes total water conveyance and disposition for the 26 years of SWP operation. The following paragraphs discuss Table 3 in detail.

Entitlement Water. The SWP water supply contracts, executed in the early 1960s, establish the specific annual entitlement water amounts each long term water contractor may request. The initial Table A schedules reflected estimates of each contractor's future water needs prevailing at the time the contracts were signed; some schedules have subsequently been revised. Table B-4 in Appendix B presents complete information on



Castaic Lagoon, a facility of the SWP, is a popular recreation area for Southern California residents.

annual entitlements for each contractor, as set forth in Table A of each SWP water supply contract.

Columns (1) through (7) of Table 3 summarize annual contractual entitlements for the various SWP service areas for the 1962–87 period; actual entitlement deliveries by year are shown in column (8).

Annually in September each contractor furnishes an updated estimate of future requirements for SWP water. In the fall of 1986, 25 contractors requested a total of 2,717,215 acre–feet of entitlement water and 43,705 acre–feet of deferred entitlement (wet–weather) water for 1987 delivery. In December 1986, DWR approved 2,255,000 acre–feet of 1987 entitlement water deliveries, based upon the 1987 risk analysis criteria and then–prevailing water supply forecast. No wet–weather water was approved. The initial approved schedule reflected a 462,215 acre–foot reduction for all agricultural entitlement requests. Early in 1987, The Metropolitan Water District of Southern California decreased its 1987 entitlement request by 379,500 acre–feet, which decreased the agricultural entitlement reduction to 82,715 acre feet. In March, following several storms and improved water supply forecasts, all agricultural entitlement delivery requests were approved under risk analysis criteria.

Actual entitlement water delivered in 1987 to the 25 contractors requesting deliveries totaled 2,130,086 acre–feet. This amount includes 425 acre–feet of 1988 advance entitlement water to Oak Flat Water District, 214 acre–feet of 1988 advance entitlement water to Antelope Valley East Kern Water Agency, and 16,171 acre–feet of water recaptured from ground water storage (10,000 acre–feet by the Metropolitan Water District of Southern California and 6,171 acre–feet by San Bernardino Valley Municipal Water District).

San Geronio Pass Water Agency requested 1,427 acre–feet of entitlement water but took no deliveries; Mojave Water Agency did not initially request any entitlement water but took 17 acre–feet at a temporary turnout for construction use. Eleven contractors took less entitlement water than initially requested, and six contractors took all of their initially requested Table A entitlements.

The following contractors increased their requested deliveries within 1987 entitlement amounts during the year:

<u>Contractor</u>	<u>Requested Increase</u> (acre–feet)
ACFC&WCD, Zone 7	224
AVEKWA	742
CLWA	422
CLAWA	298
LCID	481
MWA	17
PWD	2,379
SGVMWD	130
ACFC and WCD: Alameda County Flood Control and Water Conservation District	
AVEKWA: Antelope Valley–East Kern Water Agency	
CLWA: Castaic Lake Water Agency	
CLAWA: Crestline–Lake Arrowhead Water Agency	
LCID: Littlerock Creek Irrigation District	
MWA: Mojave Water Agency	
PWD: Palmdale Water District	
SGVMWD: San Gabriel Valley Municipal Water District	

In addition to the contractors listed above, Oak Flat Water District required water deliveries in excess of its 1987 annual entitlement, and Antelope Valley–East Kern Water Agency requested water deliveries to a temporary turnout for construction outside its service area. To assure that the increased deliveries would not affect SWP’s capability to deliver 1988 entitlements to other SWP contractors, these two contractors were required to take the deliveries as advance deliveries of their 1988 entitlement water.

Surplus Water. In September 1986, seven contractors submitted estimates indicating they could use 291,543 acre feet of surplus water during 1987. Due to the limited water supply, DWR could not approve any surplus water deliveries under 1987 risk analysis criteria.

Unscheduled Water. In 1987 a total of 114,907 acre–feet of unscheduled water was delivered to Santa Clara Valley Water District, Devil’s Den Water District, Empire West Side Irrigation District, Kern County Water Agency, Oak Flat Water District, and Tulare Lake Basin Water Storage District.

Other Water. Column (10) of Table 3 summarizes deliveries of several other types of water, as defined in the accompanying footnote. These are shown in more detail (for 1987) in Table 5 and described in this chapter under the heading “Total 1987 Water Deliveries.”

Initial Fill Water. The quantities shown in column (12) of Table 3 are the amounts used for initially filling aqueducts and reservoir storage space south of the

TABLE 3. HISTORICAL SUMMARY OF ENTITLEMENTS,

Calendar Year	Annual Entitlements Under Long-Term Water Supply Contracts (acre-feet)(a)							Entitlement Water
	Feather River Area	North Bay Area	South Bay Area	San Joaquin Valley Area	Central Coastal Area	Southern California Area	Total	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	11,538	0	0	0	11,538	11,538
1968	550	0	109,900	81,050	0	0	191,500	171,709
1969	620	0	98,700	168,075	0	0	267,395	193,020
1970	700	0	114,200	207,700	0	0	322,600	233,993
1971	890	0	116,200	258,500	0	0	375,590	357,340
1972	970	0	118,300	420,766	0	201,723	741,759	611,801
1973	1,100	0	120,400	392,352	0	472,400	986,252	694,388
1974	1,230	0	122,400	470,350	0	588,220	1,182,200	874,077
1975	1,610	0	124,500	556,509	0	704,250	1,386,869	1,223,990
1976	1,990	0	126,500	555,117	0	824,780	1,508,387	1,373,002
1977	2,420	0	128,600	594,100	0	942,201	1,667,321	574,155
1978	1,850	0	130,700	647,262	0	1,038,222	1,818,034	1,452,699
1979	2,130	0	132,700	715,385	0	1,177,873	2,028,088	1,659,896
1980	1,810	500	134,800	770,800	1,946	1,304,914	2,214,770	1,529,749
1981	1,940	650	137,000	830,700	2,813	1,419,365	2,392,468	1,909,562
1982	1,970	800	139,200	889,200	5,626	1,537,749	2,574,545	1,750,024
1983	2,000	950	141,400	880,648	8,439	1,668,557	2,701,994	1,184,869
1984	3,630	1,100	143,600	991,911	12,698	1,731,398	2,884,337	1,588,619
1985	3,760	1,250	145,800	1,031,749	21,138	1,852,149	3,055,846	1,995,453
1986	4,190	1,400	148,100	1,139,200	28,210	1,971,190	3,292,290	1,995,636 (e)
1987	4,620	1,550	150,300	1,201,200	35,204	2,091,241	3,484,115	2,130,086 (g)
Totals 1962-1987	39,980	8,200	2,594,838	12,802,574	116,074	19,526,232	35,087,898	23,515,606

a) From Table B-4.

b) Values include deliveries of SWP water to short-term contractors (Mustang Water District, 1970-1971; Tracy Golf and Country Club, 1974, 1979, and 1980; Green Valley Water District, 1974, 1975, 1978, 1979, 1980, and 1985; Granite Construction Company, 1980).

c) Includes preconsolidation repayment water, 1977 emergency relief water, regulated delivery of local supply, non-SWP water delivered to Napa County FC&WCD through SWP facilities, 1987 Advance Storage Program Water, CVP water conveyed (including D1485 and recreation and wildlife water), 1987 and 1982 exchange water.

d) Includes net effect of (1) operational losses from SWP transportation facilities, (2) changes in reservoir storage south of the Delta, (3) storable local inflows to SWP reservoirs, (4) side inflow to the San Luis Canal, and (5) inflow into the California Aqueduct from the Kern River Intertie.

DELIVERIES, AND WATER CONVEYED

Water Conveyed (acre-feet)							Calendar Year
Deliveries			Initial Fill Water	Operational Losses and Storage Changes (d	Recreation Water	Total	
Surplus and Unscheduled Water (b	Other Water (c	Subtotal					
(9)	(10)	(11)	(12)	(13)	(14)	(15)	
0	18,289	18,289	9	272	0	18,570	1962
0	22,456	22,456	71	185	0	22,712	1963
0	32,507	32,507	171	152	0	32,830	1964
0	44,105	44,105	93	729	0	44,927	1965
0	67,928	67,928	0	1,746	0	69,674	1966
0	53,605	65,143	8,328	4,212	0	77,683	1967
121,534	14,777	308,020	498,926	117,906	0	924,852	1968
72,397	18,829	284,246	510,614	72,196	0	867,056	1969
133,024	38,080	405,097	23,947	2,435	0	431,479	1970
296,019	44,119	697,478	7,853	5,812	8	711,151	1971
423,964	66,638	1,102,403	100,274	53,062	6,489	1,262,228	1972
296,416	42,511	1,033,315	204,638	53,798	1,155	1,292,906	1973
417,676	46,224	1,337,977	237,554	10,657	2,118	1,588,306	1974
622,902	63,793	1,910,685	103,352	- 94,606	3,377	1,922,808	1975
580,110	115,217	2,068,329	61,122	- 681,025	1,745	1,450,171	1976
0	389,065	963,220	0	- 131,151	1,111	833,180	1977
16,914	121,225	1,590,838	64,443	717,370	1,691	2,374,342	1978
648,389	187,630	2,495,915	12,302	- 83,401	1,766	2,426,582	1979
404,557	46,459	1,980,765	0	- 30,453	2,131	1,952,443	1980
908,428	279,161	3,097,151	0	126,180	4,688	3,228,019	1981
215,873	154,886	2,120,783	0	136,555	4,646	2,261,984	1982
13,019	181,453	1,379,341	0	- 90,320	7,849	1,296,870	1983
262,917	380,591	2,232,127	0	- 1,690	7,040	2,237,477	1984
307,672	404,842	2,707,967	0	- 88,136	4,062	2,623,893	1985
36,620 (f	193,606	2,225,862	0	117,458	3,865	2,347,185	1986
114,907	377,592	2,622,585		-449,063	7,672	2,181,194	1987
5,893,338	3,405,588	32,814,532	1,833,697	-229,120	61,413	34,480,522	Totals 1962-1987

e) Includes 37,170 acre-feet of entitlement water that was carried over from 1985.

f) Includes 12,270 acre-feet of surplus water that was carried over from 1985.

g) Includes 639 acre-feet of 1988 entitlement water that was delivered during 1987, and 16,171 acre-feet of entitlement water recaptured from ground water storage.

Delta to maximum operational capacities. Initial filling began in 1962 with the first filling of the South Bay Aqueduct and was completed in 1979, when Lake Perris reached its maximum operational capacity.

Operational Losses and Storage Changes. Column (13) of Table 3 shows the annual quantities of water conveyed to replenish losses through evaporation and seepage from SWP aqueducts and reservoirs south of the Delta, combined with corrections for changes in reservoir storage and for inflow from local drainage areas (including inflows from the Kern River Intertie and the First Los Angeles Aqueduct). Years with negative values are those in which storage withdrawals and storable local inflow exceed storage additions plus replenishment of evaporation and seepage losses.

Recreation Water. Column (14) of Table 3 summarizes historic deliveries of recreation water. Recreation water is used both at SWP recreation facilities and for fish and wildlife mitigation and enhancement. In 1987, a total of 7,672 acre-feet was conveyed under this category, as follows:

- 1,841 acre-feet for public recreation facilities at Lake Del Valle, San Luis Reservoir, O'Neill Forebay, Silverwood, Pyramid, and Castaic lakes, and Lake Perris;
- 2,936 acre-feet released to maintain a trout fishery in Piru Creek, in accordance with a condition of the Federal Energy Regulatory Commission license for power development at Pyramid Lake;
- 2,305 acre-feet to replace water losses at Castaic Lagoon, an impoundment below Castaic Lake devoted entirely to recreation;
- 590 acre-feet conveyed to about 830 acres of wildlife mitigation lands located below O'Neill Forebay and at the Pilibos Wildlife Area (30 miles south of Los Banos).

Water Deliveries and Credits to Long Term Contractors

Table 4 summarizes 1987 water deliveries to each SWP long-term contractor that received water during the year. The table also shows future entitlement delivery and reduction credits, as explained in the following sections.

1982 Exchange Water. During 1987, Kern County Water Agency took delivery of 6,171 acre-feet of its 1982 exchange water stored in the Metropolitan Water District of Southern California's ground water basin. To complete the exchange, KCWA received 6,171 acre-feet of MWDSC's 1987 entitlement delivered from the Delta, and MWDSC recaptured a like amount of KCWA's 1982 exchange water stored in MWDSC's ground water basin as entitlement water. For a more detailed description of the 1982 exchange water program, see page 45 of Bulletin 132-87.

The March 1987 agreement for delivering KCWA's 1982 exchange water from Lake Oroville provided that KCWA not take delivery of its exchange water when those deliveries would decrease deliveries of entitlement water to other SWP contractors. In 1987, however, because of the dry hydrologic conditions, KCWA requested water above the approved entitlement deliveries. In December 1987, DWR executed an agreement with KCWA allowing the agency to receive during 1987 up to 24,106 acre-feet of its 1982 exchange water from Lake Oroville.

To ensure that entitlement water deliveries to other SWP contractors would not be affected, KCWA agreed to accept reduction of its 1988 entitlement water deliveries by the amount of 1982 exchange water delivered from Lake Oroville storage during 1987. This reduction was to be independent of and in addition to any delivery reduction resulting from application of Article 18(a) of the water supply contract. DWR agreed, however, that KCWA could increase its 1988 entitlement water deliveries by the amount they had been reduced under the December agreement, provided that these deliveries would not reduce the combined storage in Lake Oroville and the State's share of San Luis Reservoir to less than 3.0 million acre-feet at the end of the water year on September 30, 1988. Because of redistribution of water within the member units of KCWA, the agency ultimately did not take any 1982 exchange water from Lake Oroville.

Future Entitlement Delivery Credits (Makeup Water).

When the SWP is unable to deliver the requested entitlement water in any year, long term contractors are afforded relief under Articles 12(d) and 14(b) of the water supply contract. Contractors may elect to receive the undelivered entitlement water at other times during the year, or in succeeding years, to the extent that the water and delivery capability are available. No

**TABLE 4. SUMMARY OF 1987 DELIVERIES AND CREDITS
TO LONG-TERM CONTRACTORS**
(acre-feet)

Long-Term Water Supply Contractor	Water Deliveries in 1987						Future Entitlement Credits as of January 1, 1988				Future Entitlement Reduction Credit Per Articles 7 or 45 (11)
	Entitlement Water Deliveries			Unscheduled Water Deliveries (4)	Other Water Deliveries (5)	Total Deliveries (3+4+5) (6)	Make-Up Water Per Articles 12(d) or 14(b) (7)(a)	Wet-Weather Water Per Articles 7 or 45 (8)	1987 Carry-over Entitlement (9)	Total Delivery Credit (7+8+9) (10)	
	1987 Entitlement (1)	1988 Entitlement Delivered During 1987 (2)	Total Entitlement (1+2) (3)								
UPPER FEATHER RIVER AREA											
City of Yuba City	88		88			88					-
County of Butte	459		459			459					-
Plumas County FC&WCD	452		452			452					-
NORTH BAY AREA											
Solano County FC&WCD	1,550		1,550			1,550					-
Napa County FC&WCD	7,693 (b)		7,693			7,693					-
SOUTH BAY AREA											
Alameda County FC&WCD, Zn 7	23,406		23,406			23,406	2,438	111,580 (g)		114,018	-
Alameda County WD	25,390		25,390			25,390	2,220	172,088 (g)		174,308	-
Santa Clara Valley WD	88,000		88,000	6,949		94,949					-
SAN JOAQUIN VALLEY AREA											
County of Kings	4,000		4,000			4,000					-
Devil's Den WD	11,821		11,821	2,573		14,394			879	879	-
Dudley Ridge WD	46,288		46,288			46,288			5,112	5,112	-
Empire West Side ID	2,525		2,525	1,876		4,401			475	475	-
Kern County WA	969,905		969,905	52,048	6,171 (f)	1,028,124			53,595	53,595	-
Oak Flat WD	5,200	425	5,625	255		5,880					2,466
Tulare Lake Basin WSD	93,084		93,084	51,206		144,290		80,662	8,316	88,978	-
SOUTHERN CALIFORNIA AREA											
Antelope Valley-East Kern WA	33,875	214	34,089			34,089	14,841 (h)			14,841	-
Castaic Lake WA	16,167		16,167			16,167	500			500	-
Coachella Valley WD	19,431		19,431			19,431					-
Crestline-Lake Arrowhead WA	1,849		1,849			1,849	151			151	-
Desert WA	31,500		31,500			31,500					-
Littlerock Creek ID	1,085		1,085			1,085	438			438	-
Mojave WA	17		17			17	20			20	-
Palmdale WD	5,379		5,379			5,379					-
San Bernardino Valley MWD	18,751 (c)		18,751			18,751	4,269			4,269	-
San Gabriel Valley WD	10,630		10,630			10,630	1,000			1,000	-
The Metropolitan Water District of Southern California	718,595 (d)		718,595			718,595	102,239			102,239	-
TOTAL ENTITLEMENT WATER	2,129,447	639	2,130,086	114,907	6,171	2,251,164	128,116	364,330	68,377	560,823	2,466
TOTAL ENTITLEMENT WATER AND NON- PROJECT WATER THROUGH SWP FACILITIES	2,137,140	639	2,137,779 (e)	114,907	6,171	2,258,857	128,116	364,330	68,377	560,823	2,466

a) Credits for all contractors are under Article 12(d) of their water supply contract unless otherwise stated.
b) Non-Project water delivered to Napa County FC&WCD through SWP facilities.
c) Includes 10,000 acre-feet of entitlement recaptured from ground water storage.
d) Includes 6,171 acre-feet of entitlement water through the 1982 exchange water program.

e) Equals deliveries shown in Table B-58.
f) 1982 exchange water (MWDSC ground water basin).
g) Recalculation of Article 7 wet-weather credits since publication of Bulletin 132-87.
h) Antelope Valley-East Kern Water Agency future entitlement delivery credits total 4,787 acre-feet under water supply contract Article 14(b) and 10,054 acre-feet under Article 12(d).

makeup water was delivered in 1987. As shown in Table 4, column (7), 128,116 acre-feet of credits for future deliveries remained available as of January 1, 1988: 123,329 acre-feet under Article 12(d) and 4,787 acre-feet under Article 14(b).

Future Entitlement Delivery Credits (Wet-Weather Water). Under water supply contract Article 7 (South Bay contractors) or Article 45 (San Joaquin Valley contractors), SWP contractors can acquire credits for future deliveries when above-normal local water supplies reduce the need for SWP water. At the time of delivery, the sum of current annual entitlement, plus “wet-weather” water cannot, however, exceed a contractor’s maximum annual entitlement.

During 1987, no additional credits were acquired under Article 7 or 45. The wet-weather credits acquired in previous years under Articles 7 and 45 have been recalculated since publication of Bulletin 132-87, resulting in additional credits to two South Bay contractors. As of January 1, 1988, three contractors had credits totaling 364,330 acre-feet acquired under the wet-weather provisions of their contracts.

Future Entitlement Reduction Credits (Wet-Weather Water). The “wet weather” contract provisions also allow a contractor to increase entitlement water deliveries in years of below average local water supply and to decrease entitlement deliveries by an equal amount in later years. Oak Flat Water District made such an increase in 1972 and has retained its reduction credit of 2,466 acre-feet through 1987, as shown in column (11) of Table 4.

Future Entitlement Delivery Credits 1987 Carry-Over Water). During spring 1987, the lack of sufficient rainfall prompted fears of a possible drought. Precipitation continued to be below normal during fall 1987, and DWR imposed deficiencies on the 1988 agricultural entitlement requests. Full requests were restored in February 1988. (See Chapter V.)

With the Water Service Contractors Council Memorandum No. 1869, dated September 4, 1987, DWR informed the contractors of its willingness to consider requests to carry over pre-irrigation water for application during January and February 1988. The memorandum also informed contractors that the requests for carry-over water must not be detrimental to other SWP contractors. The amount of 1987 water remaining to

be delivered at any time would be considered by DWR in evaluating deliveries under the 1988 risk analysis to ensure that delivery of carry-over water would not affect allocations of 1988 entitlement water. Any 1987 entitlement water not delivered by February 29, 1988 would be foregone by the individual contractor and become part of the total SWP supply. The carry-over contractor would have to agree to pay for any identified cost increase in either 1987 or 1988 that, if not paid by the carryover contractor, would otherwise result in increased charges to other contractors.

Agreements executed with Devil’s Den Water District, Dudley Ridge Water District, Empire West Side Irrigation District, Kern County Water Agency, and Tulare Lake Basin Water Storage District in December 1987 allowed a maximum carry-over of 68,377 acre-feet of 1987 agricultural entitlement water for use during January and February 1988. The total amount of carry-over taken by the end of February was 67,581 acre-feet. Dudley Ridge Water District was the only contractor that did not use all of its carry-over water, foregoing 796 acre-feet.

Total 1987 Water Deliveries

During 1987, the SWP provided water service to 43 agencies. These included 26 long-term water contractors and 17 other agencies. Monthly deliveries to each of the 43 agencies, shown in Table 5, are summarized as follows:

- 2,129,447 acre-feet of 1987 entitlement water to 25 long-term contractors. Only six contractors took their full contract entitlement. Napa County Flood Control and Water Conservation District received only non-SWP water delivered through SWP facilities;
- 639 acre-feet of 1988 entitlement water was delivered during the last five months of 1987 as advance delivery of the 1988 entitlement allocation, with the understanding that the 1988 approved entitlement allocation will be reduced by the amount taken in 1987.
- 10,000 acre-feet of 1987 entitlement water was recaptured from ground water basins under San Bernardino Valley Municipal Water District’s 1978 ground water demonstration program;
- 6,171 acre-feet of 1982 exchange water to Kern County Water Agency;

- 114,907 acre-feet of unscheduled water to six long-term contractors;
- 14,858 acre-feet of regulated local supply to two long-term contractors and two other agencies;
- 7,693 acre-feet of non-SWP water to Napa County Flood Control and Water Conservation District;
- 7,501 acre-feet of advance storage water delivered to the Kern Water Bank storage area under the 1987 Advance Storage Program;
- 7,672 and 645 acre-feet of SWP and CVP water, respectively, conveyed for recreation and fish and wildlife enhancement;
- 30,872 acre-feet of CVP water transported to six annual USBR contractors in the San Joaquin Valley;
- 116,262 acre-feet of CVP water transported to eight USBR contractors via Kern County Water Agency's Cross Valley Canal, including 12,000 acre-feet reassigned to the Friant Water Users Authority; and
- 193,590 acre-feet of CVP water conveyed to O'Neill Forebay to replace curtailed CVP pumping during May and June in accordance with SWRCB Decision 1485.

Table 5 shows 1987 monthly deliveries of each type of water along with summaries of Table A entitlements and cumulative entitlements not delivered. The types of water service not described in preceding sections are covered in the following paragraphs.

Regulated Delivery of Local Supply. SWP facilities are also used to transport non-SWP water for long-term SWP contractors and for other agencies under various agreements for local water rights. Some of this water simply passes through SWP transportation facilities and some is stored in SWP reservoirs for later release. In 1987, a total of 14,858 acre-feet in this category was delivered to two long-term contractors and two other agencies.

Non-SWP Water to Napa County Flood Control and Water Conservation District. Before completion of Phase II of the North Bay Aqueduct, NCFC&WCD received interim water from the USBR's Solano Project at Reach

3B of the North Bay Aqueduct. From there the water was pumped through interim pumping facilities near Cordelia and transported through SWP facilities to the terminus. During 1987, NCFC&WCD received 7,693 acre-feet of Solano Project water.

Preconsolidation Repayment Water. No preconsolidation repayment water was delivered in 1987 because of limited SWP water supply.

Demonstration Ground Water Program. In 1978, San Bernardino Valley Municipal Water District and DWR established a demonstration program for storing SWP water in ground water basins within the district. The basic agreement, dated May 12, 1978, was augmented by the June 2, 1978 operating agreement and amended by the September 14, 1982 letter agreement. In 1987, DWR requested the district to recapture 10,000 acre-feet of the stored water, reducing the remaining storage to 8,749 acre-feet as of January 1, 1988.

Advance Storage Ground Water. The 1987 Advance Storage Program Agreement was executed by Kern County Water Agency and DWR on January 12, 1987. During January and February 1987, DWR delivered 7,501 acre-feet to the City of Bakersfield's 2,800-acre Ground Water Recharge Facility. The water stored is SWP water that will be extracted or exchanged as part of the Kern Water Bank or other ground water programs involving this agency.

Conveyance and Transportation of CVP Water. During 1987, DWR had several arrangements for conveying CVP water through SWP facilities. In each arrangement the USBR provided the electrical energy required for moving the water through the Banks Delta Pumping Plant and, if needed, the Dos Amigos and Las Perillas Pumping Plants.

Under contracts executed in 1975 and 1976, DWR conveys CVP water through SWP facilities to the turnout to Kern County Water Agency's Cross Valley Canal, west of Bakersfield. The Cross Valley Canal contracts, which extend to 1995, provide that conveyance of CVP water shall not interfere with, adversely affect the quality of, or add to the delivery cost of SWP water to SWP contractors.

- Hills Valley Irrigation District and Tri-Valley Water District executed amendments to their three party Cross Valley Canal contracts in 1987. These amendments provide for the use of SWP facilities

TABLE 5. MONTHLY WATER

Line No.	Contracting Agency and Type of Service	Month						
		JAN	FEB	MAR	APR	MAY	JUN	JUL
	FEATHER RIVER AREA							
1.	City of Yuba City Entitlement Water	0	0	0	0	0	0	46
2.	County of Butte: Entitlement Water	36	20	95	100	48	0	0
3.	Last Chance Creek Water District: Regulated Delivery of Local Supply	0	0	0	322	2,218	2,715	1,861
4.	Plumas County Flood Control and Water Conservation District: Entitlement Water	3	1	0	26	67	78	67
5.	Thermalito Irrigation District: Regulated Delivery of Local Supply	98	89	95	210	276	311	304
6.	AREA TOTAL	137	110	190	658	2,609	3,104	2,278
	NORTH BAY AREA							
7.	Napa County Flood Control and Water Conservation District: Non-SWP Water via SWP Facilities	322	130	163	448	681	848	923
8.	Solano County Flood Control and Water Conservation District: Entitlement Water	100	100	100	155	160	160	160
9.	AREA TOTAL	422	230	263	603	841	1,008	1,083
	SOUTH BAY AREA							
10.	Alameda County Flood Control and Water Conservation District, Zone 7: Entitlement Water	1,062	4	480	2,181	2,737	3,256	3,459
11.	Regulated Delivery of Local Supply	309	1,272	1,083	327	0	0	0
12.	Agency Total	1,371	1,276	1,563	2,508	2,737	3,256	3,459
13.	Alameda County Water District: Entitlement Water	2,248	1,409	1,504	1,115	2,243	3,630	3,396
14.	Regulated Delivery of Local Supply	0	85	0	0	0	0	0
15.	Agency Total	2,248	1,494	1,504	1,115	2,243	3,630	3,396
16.	Santa Clara Valley Water District Entitlement Water	4,400	4,200	5,928	6,487	9,449	9,779	9,914
17.	Unscheduled Water	3,467	2,259	1,223	0	0	0	0
18.	Agency Total	7,867	6,459	7,151	6,487	9,449	9,779	9,914
19.	Recreation/Fish and Wildlife Water	3	4	4	9	21	19	16
20.	AREA TOTAL	11,489	9,233	10,222	10,119	14,450	16,684	16,785
	SAN JOAQUIN VALLEY AREA SWP Water							
21.	County of Kings: Entitlement Water	400	400	400	400	0	400	400
22.	Devil's Den Water District: Entitlement Water	170	286	603	931	1,085	2,002	3,161
23.	Unscheduled Water	1,378	1,195	0	0	0	0	0
24.	Agency Total	1,548	1,481	603	931	1,085	2,002	3,161
25.	Dudley Ridge Water District: Entitlement Water	976	1,250	2,739	2,452	7,738	9,710	10,139
26.	Empire West Side Irrigation District: Entitlement Water	40	68	167	572	0	885	656
27.	Unscheduled Water	104	1,547	225	0	0	0	0
28.	Agency Total	144	1,615	392	572	0	885	656

a) Includes all entitlement not delivered and deferred, whether or not the water contractor has received any remuneration.

DELIVERIES IN 1987

Month						1987 Contract Entitlement	1987 Entitlement Not Delivered	Net Cumulative Entitlement Not Delivered Through (a)		Line No.
AUG	SEP	OCT	NOV	DEC	TOTAL			1986	1987	
42	0	0	0	0	88	2,500	2,412	4,902	7,314	1.
0	0	0	77	83	459	1,200	741	13,630	14,371	2.
1,626	505	105	92	0	9,444					3.
96	80	14	8	12	452	920	468	5,737	6,205	4.
330	284	206	94	41	2,338					5.
2,094	869	325	271	136	12,781	4,620	3,621	24,269	27,890	6.
922	893	823	754	786	7,693					7.
160	155	100	100	100	1,550	1,550	0	2,350	2,350	8.
1,082	1,048	923	854	886	9,243	1,550	0	2,350	2,350	9.
3,119	2,566	2,443	1,131	968	23,406	29,000	5,594	150,852	156,446	10.
0	0	0	0	0	2,991					11.
3,119	2,566	2,443	1,131	968	26,397					12.
3,016	1,736	1,077	2,046	1,970	25,390	33,300	7,910	252,864	260,774	13.
0	0	0	0	0	85					14.
3,016	1,736	1,077	2,046	1,970	25,475					15.
9,927	9,563	9,513	5,419	3,421	88,000	88,000	0	40,782	40,782	16.
0	0	0	0	0	6,949					17.
9,927	9,563	9,513	5,419	3,421	94,949					18.
22	20	14	3	2	137					19.
16,084	13,885	13,047	8,599	6,361	146,958	150,300	13,504	444,498	458,002	20.
400	400	400	0	400	4,000	4,000	0	0	0	21.
3,166	213	204	0	0	11,821	12,700	879	128	1,007	22.
0	0	0	0	0	2,573					23.
3,166	213	204	0	0	14,394					24.
6,767	2,294	1,891	109	223	46,288	51,400	5,112	0	5,112	25.
11	0	40	25	61	2,525	3,000	475	12,023	12,498	26.
0	0	0	0	0	1,876					27.
11	0	40	25	61	4,401					28.

TABLE 5. MONTHLY WATER

Line No.	Contracting Agency and Type of Service	Month						
		JAN	FEB	MAR	APR	MAY	JUN	JUL
Kern County Water Agency:								
29.	Entitlement Water	10,723	21,966	51,077	72,283	118,991	190,427	215,944
30.	1982 Exchange Water (MWDSC Ground Water Basin)	0	0	0	0	0	0	0
31.	Unscheduled Water	0	26,560	25,488	0	0	0	0
32.	Agency Total	10,723	48,526	76,565	72,283	118,991	190,427	215,944
Oak Flat Water District:								
33.	Entitlement Water	70	172	166	814	824	1,194	1,321
34.	1988 Entitlement Water	0	0	0	0	0	0	0
35.	Unscheduled Water	86	119	0	50	0	0	0
36.	Agency Total	156	291	166	864	824	1,194	1,321
Tulare Lake Basin Water Storage District:								
37.	Entitlement Water	1,356	2,290	2,230	9,052	13,874	9,311	4,594
38.	Unscheduled Water	34,956	16,250	0	0	0	0	0
39.	Agency Total	36,312	18,540	2,230	9,052	13,874	9,311	4,594
40.	1987 Advance Storage Program	3,788	3,713	0	0	0	0	0
41.	Recreation/Fish and Wildlife Water	16	41	111	61	16	42	64
42.	AREA SUBTOTAL (SWP Water)	54,063	75,857	83,206	86,615	142,528	213,971	236,279
SAN JOAQUIN VALLEY AREA								
Conveying CVP Water								
Annual Contract:								
43.	Green Valley Water District	0	0	0	0	37	125	184
44.	Kings County Water District	0	0	0	0	0	0	0
45.	Lakeside Irrigation Water District	0	0	2,120	7,880	0	0	0
46.	Musco Olive Products, Inc.	0	0	1	4	3	3	3
47.	Tracy Golf and Country Club	4	4	12	58	66	75	84
48.	SUBTOTAL	4	4	2,133	7,942	106	203	271
Cross Valley Canal Contracts:								
49.	Fresno County	0	0	281	215	482	441	0
50.	Lower Tule River	0	0	2,919	2,226	5,001	4,576	4,652
51.	Pixley Irrigation District	0	0	0	5,145	5,001	4,576	4,652
52.	Rag Gulch Water District	0	0	0	0	0	0	1,768
53.	Tulare County	0	0	0	0	853	781	0
54.	Kern-Tulare Water District	0	4,542	7,967	6,745	1,792	3,299	0
Kern-Tulare Water District:								
55.	Transferred to Friant Water Users Authority	0	0	0	0	0	0	4,717
56.	Hills Valley Irrigation District	0	0	0	0	538	492	0
57.	Tri-Valley Water District	0	0	0	0	184	168	0
58.	SUBTOTAL	0	4,542	11,167	14,331	13,851	14,333	15,789
59.	Decision 1485	0	0	0	0	0	0	46,965
60.	U. S. Fish and Wildlife Service	0	0	0	0	0	0	0
61.	Recreation/Fish and Wildlife Water	14	32	92	50	14	32	57
62.	AREA SUBTOTAL (CVP Water)	18	4,578	13,392	22,323	13,971	14,568	63,082
63.	AREA TOTAL	54,081	80,435	96,598	108,938	156,499	228,539	299,361
CENTRAL COASTAL AREA								
San Luis Obispo County Flood Control and Water Conservation District:								
64.	Entitlement Water	0	0	0	0	0	0	0
Santa Barbara County Flood Control and Water Conservation District:								
65.	Entitlement Water	0	0	0	0	0	0	0
66.	AREA TOTAL	0	0	0	0	0	0	0
SOUTHERN CALIFORNIA AREA								
Antelope Valley-East Kern Water Agency:								
67.	Entitlement Water	970	1,139	2,037	3,478	3,502	4,310	4,902
68.	1988 Entitlement Water	0	0	0	0	0	0	0
69.	Agency Total	970	1,139	2,037	3,478	3,502	4,310	4,902
Castaic Lake Water Agency:								
70.	Entitlement Water	1,115	1,018	1,100	1,187	1,262	1,574	1,712
Coachella Valley Water District:								
71.	Entitlement Water	1,619	1,619	1,619	1,619	1,619	1,619	1,619

DELIVERIES IN 1987 (con't.)

Month						1987 Contract Entitlement	1987 Entitlement Not Delivered	Net Cumulative Entitlement Not Delivered Through (a)		Line No.
AUG	SEP	OCT	NOV	DEC	TOTAL			1986	1987	
173,669	53,501	36,042	5,053	20,229	969,905	1,023,500	53,595	327,256	380,851	29.
0	5,067	1,104	0	0	6,171					30.
0	0	0	0	0	52,048					31.
173,669	58,568	37,146	5,053	20,229	1,028,124					32.
639	0	0	0	0	5,200	5,200	0	640	215	33.
38	284	68	1	34	425					34.
0	0	0	0	0	255					35.
677	284	68	1	34	5,880					36.
6,115	3,494	11,689	8,605	20,474	93,084	101,400	8,316	80,662	88,978	37.
0	0	0	0	0	51,206					38.
6,115	3,494	11,689	8,605	20,474	144,290					39.
0	0	0	0	0	7,501					40.
54	66	73	41	13	598					41.
190,859	65,319	51,511	13,834	41,434	1,255,476	1,201,200	68,377	420,709	488,661	42.
95	0	0	0	0	441					43.
0	0	0	0	4,459	4,459					44.
0	0	0	0	0	10,000					45.
0	3	1	0	1	19					46.
83	59	36	7	3	491					47.
178	62	37	7	4,463	15,410					48.
1,018	396	139	14	14	3,000					49.
5,891	4,106	1,440	145	146	31,102					50.
5,891	4,106	1,440	145	146	31,102					51.
811	1,478	1,109	509	540	6,215					52.
2,678	0	0	24	76	4,412					53.
0	0	0	0	0	24,345					54.
7,283	0	0	0	0	12,000					55.
1,689	0	0	16	209	2,944					56.
575	152	53	0	10	1,142					57.
25,836	10,238	4,181	853	1,141	116,262					58.
58,977	60,900	26,748	0	0	193,590					59.
0	197	2,863	2,769	9,633	15,462					60.
46	58	60	32	158	645					61.
85,037	71,455	33,889	3,661	15,395	341,369					62.
275,896	136,774	85,400	17,495	56,829	1,596,845	1,201,200	68,377	420,709	488,661	63.
0	0	0	0	0	0	12,500	12,500	29,000	41,500	64.
0	0	0	0	0	0	22,704	22,704	51,870	74,574	65.
0	0	0	0	0	0	35,204	35,204	80,870	116,074	66.
5,432	4,188	2,551	715	651	33,875	44,000	10,125	263,977	273,888	67.
0	173	41	0	0	214					68.
5,432	4,361	2,592	715	651	34,089					69.
1,811	1,711	1,549	1,088	1,040	16,167	32,900	16,733	175,360	192,093	70.
1,619	1,619	1,619	1,619	1,622	19,431	19,431	0	5,200	5,200	71.

TABLE 5. MONTHLY WATER

Line No.	Contracting Agency and Type of Service	Month						
		JAN	FEB	MAR	APR	MAY	JUN	JUL
72.	Crestline-Lake Arrowhead Water Agency: Entitlement Water	136	117	114	109	151	172	211
73.	Desert Water Agency: Entitlement Water	2,625	2,625	2,625	2,625	2,625	2,625	2,625
74.	Littlerock Creek Irrigation District: Entitlement Water	0	0	0	0	0	175	246
75.	Mojave Water Agency: Entitlement Water	0	0	0	0	0	3	14
76.	Palmdale Water District: Entitlement Water	164	174	225	243	709	1,006	797
77.	San Bernardino Valley Municipal Water District: Entitlement Water	300	441	111	4	434	813	988
78.	1978 Ground Water Demonstration	0	0	1,000	1,000	1,000	1,000	1,000
79.	Agency Total	300	441	1,111	1,004	1,434	1,813	1,988
80.	San Gabriel Valley Municipal Water District: Entitlement Water	0	0	0	0	1,708	1,930	1,896
81.	San Geronimo Pass Water Agency: Entitlement Water	0	0	0	0	0	0	0
82.	The Metropolitan Water District of Southern California: Entitlement Water	42,231	60,945	48,129	84,016	102,758	78,660	64,960
83.	1982 Exchange Water	0	0	0	0	0	0	0
84.	Agency Total	42,231	60,945	48,129	84,016	102,758	78,660	64,960
85.	Ventura County Flood Control District: Entitlement Water	0	0	0	0	0	0	0
86.	Recreation/Fish and Wildlife Water	40	51	66	773	560	1,063	1,069
87.	AREA TOTAL	49,200	68,129	57,026	95,054	116,328	94,950	82,039
ALL AGENCIES								
88.	Entitlement Water	70,744	100,244	121,449	189,849	271,984	323,719	333,227
89.	Other Entitlement Water:							
90.	1978 Ground Water Demonstration	0	0	1,000	1,000	1,000	1,000	1,000
91.	1982 Exchange Water	0	0	0	0	0	0	0
92.	Total 1987 Entitlement Water	70,744	100,244	122,449	190,849	272,984	324,719	334,227
93.	1988 Entitlement Water Delivered in 1987	0	0	0	0	0	0	0
94.	SUBTOTAL (Entitlement Water Delivered)	70,744	100,244	122,449	190,849	272,984	324,719	334,227
95.	1987 Advance Storage Program	3,788	3,713	0	0	0	0	0
96.	Unscheduled Water	39,991	47,930	26,936	50	0	0	0
97.	1982 Exchange Water (MWDSC Ground Water Basin)	0	0	0	0	0	0	0
98.	Recreation/Fish and Wildlife Water	59	96	181	843	597	1,124	1,149
99.	SUBTOTAL (SWP WATER)	114,582	151,983	149,566	191,742	273,581	325,843	335,376
100.	Regulated Delivery of Local Supply	407	1,446	1,178	859	2,494	3,026	2,165
101.	Non-SWP Water to Napa County FC&WCD	322	130	163	448	681	848	923
102.	Conveying CVP Water--Annual Contract	4	4	2,133	7,942	106	203	271
103.	Conveying CVP Water--U.S. Fish and Wildlife	0	0	0	0	0	0	0
104.	Conveying CVP Water--Cross Valley Canal	0	4,542	11,167	14,331	13,851	14,333	15,789
105.	Conveying CVP Water--Decision 1485	0	0	0	0	0	0	46,965
106.	Conveying CVP Water--Recreation/Fish and Wildlife Water	14	32	92	50	14	32	57
107.	SUBTOTAL (OTHER WATER)	747	6,154	14,733	23,630	17,146	18,442	66,170
108.	TOTAL WATER	115,329	158,137	164,299	215,372	290,727	344,285	401,546

DELIVERIES IN 1987 (con't.)

Month						1987 Contract Entitlement	1987 Entitlement Not Delivered	Net Cumulative Entitlement Not Delivered Through (a)		Line No.
AUG	SEP	OCT	NOV	DEC	TOTAL			1986	1987	
244	200	162	119	114	1,849	4,930	3,081	23,282	26,363	72.
2,625	2,625	2,625	2,589	2,661	31,500	31,500	0	8,000	8,000	73.
218	204	204	38	0	1,085	1,960	875	11,106	11,981	74.
0	0	0	0	0	17	43,700	43,683	312,394	356,077	75.
1,175	127	670	79	10	5,379	15,420	10,041	135,146	145,187	76.
1,356	1,676	1,472	586	570	8,751	89,000	70,249	740,536	810,785	77.
1,000	1,000	1,000	1,000	1,000	10,000					78.
2,356	2,676	2,472	1,586	1,570	18,751					79.
1,283	1,228	2,002	583	0	10,630	24,600	13,970	169,157	183,127	80.
0	0	0	0	0	0	14,000	14,000	68,700	82,700	81.
78,236	69,242	55,416	15,761	12,070	712,424	1,759,800	1,041,205	6,788,487	7,829,692	82.
0	5,067	1,104	0	0	6,171					83.
78,236	74,309	56,520	15,761	12,070	718,595					84.
0	0	0	0	0	0	10,000	10,000	29,000	39,000	85.
1,331	1,333	589	21	41	6,937					86.
96,330	90,393	71,004	24,198	19,779	864,430	2,091,241	1,233,962	8,730,345	9,964,093	87.
301,126	156,822	131,683	45,750	66,679	2,113,276	3,484,115	1,354,668	9,703,041	11,057,070	88.
1,000	1,000	1,000	1,000	1,000	10,000					89.
0	5,067	1,104	0	0	6,171					90.
302,126	162,889	133,787	46,750	67,679	2,129,447					91.
38	457	109	1	34	639					92.
302,164	163,346	133,896	46,751	67,713	2,130,086					93.
0	0	0	0	0	7,501					94.
0	0	0	0	0	114,907					95.
0	5,067	1,104	0	0	6,171					96.
1,407	1,419	676	65	56	7,672					97.
303,571	169,832	135,676	46,816	67,769	2,266,337					98.
1,956	789	311	186	41	14,858					99.
922	893	823	754	786	7,693					100.
178	62	37	7	4,463	15,410					101.
0	197	2,863	2,769	9,633	15,462					102.
25,836	10,238	4,181	853	1,141	116,262					103.
58,977	60,900	26,748	0	0	193,590					104.
46	58	60	32	158	645					105.
87,915	73,137	35,023	4,601	16,222	363,920					106.
391,486	242,969	170,699	51,417	83,991	2,630,257	3,484,115	1,354,668	9,703,041	11,057,070	107.
										108.

from the Delta to the canal, and the use of USBR storage in San Luis Reservoir during May, June, and July. The original contracts required the use of SWP facilities from the Delta to O'Neill Forebay and from Reach 8C to the canal. The original contract provided wheeling through the USBR share of the joint use facilities but did not provide for the use of any storage from San Luis Reservoir during May, June, and July. During 1987, 4,086 acre-feet of water was wheeled to these two contractors, of which 1,382 acre-feet was accounted for as deliveries from the USBR's share of San Luis Reservoir.

- Under separate agreements, 42,591 acre-feet of water was delivered during May, June, and July from DWR's share of storage in San Luis Reservoir to the remaining participants in the three-party contracts. The contractors were charged for use-of-facilities for San Luis Reservoir and the cost of electrical energy to replace an equal amount of water, furnished by USBR, into DWR's share of storage.
- Under another agreement executed July 9, 1987, 12,000 acre-feet of CVP water originally assigned to one of the Cross Valley Canal contractors was reassigned to the Friant Water Users Authority. This water was delivered in Reach 8D to Tulare Lake Basin Water Storage District, which conveyed it to the Friant Water Users Authority. This amount included 4,717 acre-feet of water delivered during July from DWR's share of San Luis Reservoir storage and was part of the 42,591 acre-feet of water mentioned in the previous paragraph.
- Water conveyed during 1987 under allocations to the participants of the three-party contracts were 12,000 acre-feet to Reach 8D (Friant Water Users Authority) and 104,262 acre-feet to the Cross Valley Canal in Reach 12E, for a total of 116,262 acre-feet.
- Under the annual conveyance agreement with USBR, DWR agrees to provide wheeling of up to 49,840 acre-feet of CVP water to nine USBR contractors. The term of the agreement is from March 1 to the end of February of the following year. This conforms to USBR contractors' irrigation season, covering the current irrigation and the next pre-irrigation periods. During the 1987 calendar

year, 15,410 acre-feet was conveyed, of which eight acre-feet was delivered during January and February 1987 under the 1986 agreement. An additional 15,636 acre-feet of CVP water was delivered during January and February 1988, for a total delivery of 31,038 acre-feet under the 1987 agreement.

- Two separate agreements were executed among the U.S. Fish and Wildlife Service, the USBR, and DWR. Under these two agreements a total of 15,462 acre-feet of CVP water was wheeled by DWR.
- The first agreement, executed September 18, 1987, provided for DWR to convey up to 6,200 acre-feet of CVP water to Reach 10A to the Buena Vista Water Storage District turnout. Buena Vista in turn wheeled the water to the Kern National Wildlife Refuge. A total of 6,127 acre-feet was conveyed under this agreement.
- The second agreement, executed October 22, 1987, provided for DWR to convey up to 80,000 acre-feet of CVP water from the Delta to O'Neill Forebay to compensate for reduced flows from Keswick Dam. Flows were reduced from Lake Shasta in an attempt to lower water temperatures in the Sacramento River. This action was taken to minimize the potential damage to salmon during the fall run and avoid dewatering salmon spawning beds in November. DWR conveyed 9,335 acre-feet of water under this agreement.
- Under the Coordinated Operation Agreement, executed November 24, 1986, DWR conveyed 193,590 acre-feet of CVP water from the Delta to O'Neill Forebay to replace USBR capacity foregone during May and June 1987 in compliance with Decision 1485.
- In accordance with the 1970 agreement among DWR, USBR, and the Department of Parks and Recreation and the 1974 agreement among DWR, USBR, and the Department of Fish and Game, the recreation and fish and wildlife water delivered from the San Luis joint-use facilities is delivered as 45 percent CVP water and 55 percent SWP water. The deliveries shown on lines 59 and 104 are the CVP portion (45 percent) of the total recreation and fish and wildlife deliveries along the joint-use facilities.

Power Operations

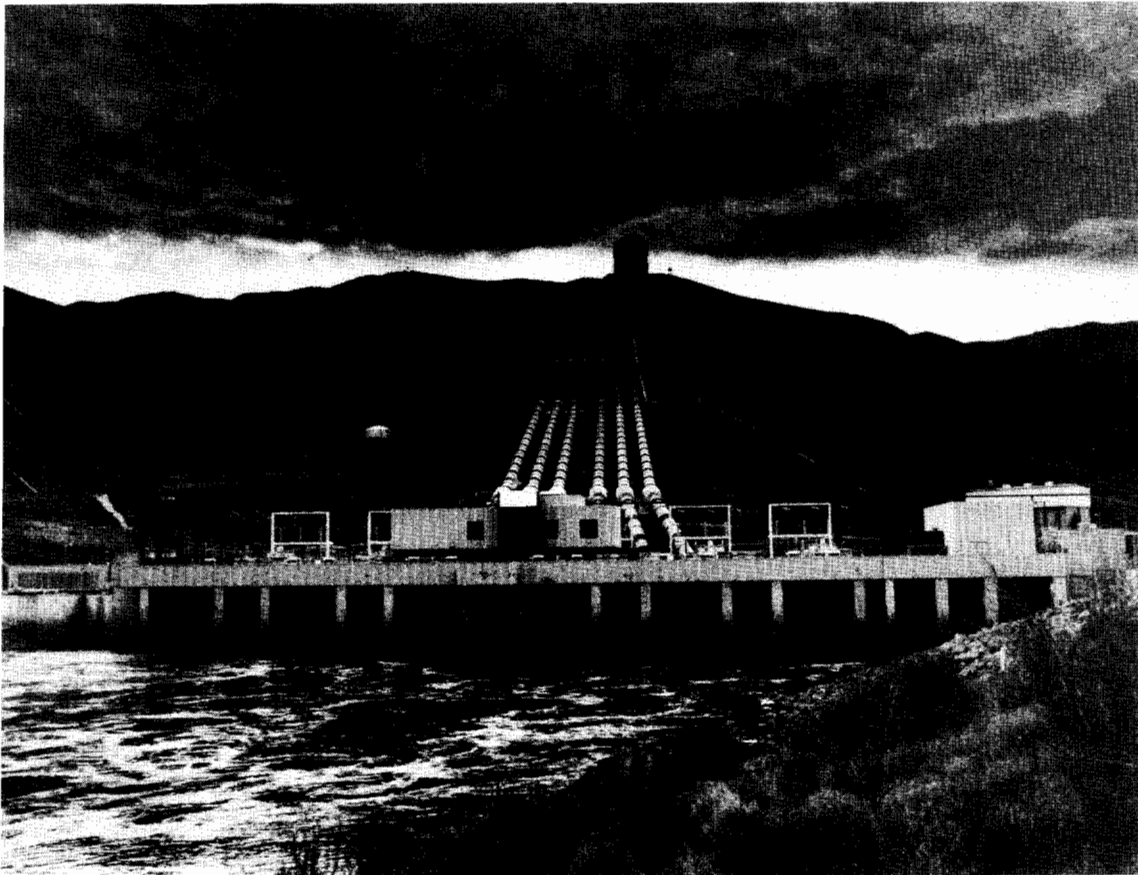
DWR has operated as a bulk power agency since April 1983. As such, DWR operates a mix of owned, contracted, and purchased power resources to meet SWP needs via contracted transmission capacity. DWR also sells or exchanges temporary resource excesses to other bulk power agencies and utilities.

Energy Use

Table 6 summarizes monthly SWP energy use at SWP plants during 1987. Transmission losses from the major transmission network to the SWP plants are included as part of the monthly SWP energy use at the SWP plants. Total energy use and losses for the year were 4.85 billion kWh, approximately 6.7 percent less than the corresponding amount for 1986. Water deliveries to SWP contractors in 1987 were about 11 percent higher than the deliveries in 1986. Because of the dry fall, by the end of calendar year 1987 San Luis Reservoir storage was refilled approximately 500,000 acre-

feet less than in 1986, reducing pumping requirements at Banks and San Luis pumping plants. This was the major reason for the lower 1987 energy use by the SWP.

Under various water conveyance contracts and exchange agreements, some CVP water is pumped through SWP facilities at Banks Delta, Dos Amigos, San Luis, and Las Perillas pumping plants. The USBR furnishes the energy for this use of SWP pumping facilities. Table 6A summarizes the total amount of energy used for pumping at each plant, the energy furnished by the USBR, and the derivation of the net SWP energy use presented in Table 6. (The quantities shown as "excess daily energy scheduled by USBR" represent the accumulations of small differences between hourly amounts of energy scheduled for pumping SWP water and those actually used.) Similarly, Table 6A shows the derivation of the SWP share of energy generated at the San Luis Pumping-Generating Plant.



Castaic Powerplant, a 214-MW facility on the West Branch of the California Aqueduct, generated over 427 million kWh of energy for the SWP in 1987.

TABLE 6. MONTHLY POWER

(in millions of kilowatt-hours)

ITEM	MONTH						
	JAN	FEB	MAR	APR	MAY	JUN	JUL
ENERGY USED BY SWP PUMPING AND POWER PLANTS							
Hyatt-Thermalito Pumpback and Station Service	41.29	5.01	17.67	1.09	12.92	5.19	1.94
North Bay Interim Pumping Plant	0.15	0.06	0.07	0.22	0.33	0.42	0.45
South Bay Pumping Plant	9.84	7.78	13.50	13.70	14.93	14.76	14.95
Del Valle Pumping Plant	0.01	0.01	0.38	0.43	0.18	0.00	0.01
Harvey O. Banks Delta Pumping Plant	40.04	45.44	52.98	39.61	37.06	35.72	65.08
San Luis Pumping-Generating Plant (SWP Share)	0.66	0.73	0.39	0.20	0.98	0.02	0.10
Dos Amigos Pumping Plant (SWP Share)	16.52	19.36	21.48	25.61	31.58	37.86	42.88
Buena Vista Pumping Plant	14.97	20.45	23.05	26.95	30.31	20.79	26.98
Wheeler Ridge Pumping Plant	16.62	20.79	22.25	28.72	31.32	17.46	22.92
Chrisman Wind Gap Pumping Plant	37.43	45.90	48.21	62.52	67.05	35.92	47.66
A. D. Edmonston Pumping Plant	132.16	162.84	168.83	218.71	232.23	119.43	162.98
Alamo Powerplant (Station Service)	0.04	0.02	0.03	0.02	0.00	0.02	0.02
Pearblossom Pumping Plant	10.61	22.23	12.18	30.17	42.55	25.11	22.49
Oso Pumping Plant	11.71	10.38	15.10	13.11	9.84	2.94	8.68
William E. Warne Powerplant (Station Service)	0.05	0.05	0.04	0.05	0.03	0.08	0.05
Las Perillas Pumping Plant (SWP Share)	0.42	0.45	0.55	1.01	1.50	1.77	1.96
Badger Hill Pumping Plant	1.09	1.21	1.45	2.76	4.13	4.73	5.16
Subtotal	333.61	362.71	398.16	464.88	516.94	322.22	424.31
System Losses and Unaccounted for Energy	8.62	4.82	9.92	11.01	4.28	8.14	16.68
Total	342.23	367.53	408.08	475.89	521.22	330.36	440.99
SWP ENERGY SOURCES							
Hyatt-Thermalito Powerplant	82.62	51.73	57.87	120.87	165.60	192.20	239.71
San Luis Pumping-Generating Plant (SWP Share)	0.00	0.00	0.00	21.84	35.65	45.38	25.47
Alamo Powerplant	1.90	4.11	2.34	5.41	7.09	3.88	4.56
Devil Canyon Powerplant	19.69	38.23	20.92	50.07	71.84	42.86	39.82
William E. Warne Powerplant	25.10	22.25	31.68	27.21	20.78	6.14	18.97
Castaic Powerplant	39.62	34.78	51.41	43.43	32.94	8.80	31.49
Bottle Rock Powerplant	23.89	22.24	23.17	21.65	21.67	19.29	19.79
Reid Gardner Unit No. 4	70.27	29.92	71.70	71.35	73.13	88.92	83.15
Pine Flat Powerplant	-0.25	1.89	19.50	0.97	40.99	111.04	67.85
TERA Power Corporation	0.02	0.09	0.17	0.47	0.45	0.47	0.51
MWDSC Hydroelectric Plants (Exchange Energy)	10.78	11.90	15.21	17.33	24.01	18.70	17.21
Power Exchange Delivered to SCE	-58.43	-74.37	-63.45	-157.61	-211.66	-190.72	-201.48
Power Exchange Received from SCE	278.91	281.86	316.55	354.82	260.88	233.48	318.20
Power Exchange Bonneville Power Administration	0.00	0.00	0.00	0.00	0.00	0.00	-5.66
SCE-SBVMWD Exchange	-0.16	-0.12	-0.13	-0.15	-0.14	-0.15	-0.10
USBR Schedule Excess	0.37	0.12	0.01	0.02	0.03	0.00	0.00
Purchases							
British Columbia Hydro Power Authority	17.87	14.74	6.24	7.98	0.00	0.00	0.00
Bonneville Power Administration	6.03	0.00	0.00	6.25	146.78	16.40	0.00
Idaho Power Company	3.03	1.30	0.00	0.00	0.00	0.00	0.00
Portland General Electric Company	67.30	18.82	0.00	0.00	0.10	0.00	0.00
Seattle City Light	1.48	0.00	0.00	0.00	0.00	0.00	0.00
Los Angeles Department of Water and Power	0.00	0.00	0.00	0.00	1.04	0.00	0.00
Salt River Project	2.95	14.32	2.05	5.69	10.24	16.30	9.52
Washington Water and Power Company	0.55	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	593.54	473.81	555.24	597.60	701.42	612.99	669.01
Less Sales	251.31	106.28	147.16	121.71	180.20	282.63	228.02
Total	342.23	367.53	408.08	475.89	521.22	330.36	440.99

Energy Sources

Table 6 also shows the monthly sources of SWP energy during 1987. The output of the Hyatt-Thermalito power complex in 1987 was 1.39 billion kWh, about 43 percent lower than last year's output (substantially less than the estimated average annual output of 2.18 billion kWh) and reflects the lower than normal rainfall.

Energy generation at the SWP aqueduct recovery plants (San Luis, Alamo, Devil Canyon, Warne, and Castaic) totaled about 1.32 billion kWh, about 58 percent higher than last year's amount. The combined output of the recovery plants and the Hyatt-Thermalito facilities was sufficient to meet about 56 percent of SWP energy requirements in 1987.

OPERATIONS IN 1987

(in millions of kilowatt-hours)

MONTH						ITEM
AUG	SEP	OCT	NOV	DEC	TOTAL	
						ENERGY USED BY SWP PUMPING AND POWER PLANTS
17.96	15.25	7.97	41.12	39.25	206.66	Hyatt-Thermalito Pumpback and Station Service
0.46	0.45	0.40	0.37	0.38	3.76	North Bay Interim Pumping Plant
12.60	6.45	5.70	7.10	5.15	126.46	South Bay Pumping Plant
0.00	0.01	0.00	0.01	0.00	1.04	Del Valle Pumping Plant
59.74	55.21	18.75	24.90	83.64	558.17	Harvey O. Banks Delta Pumping Plant
0.19	8.16	3.87	6.09	45.06	66.45	San Luis Pumping-Generating Plant (SWP Share)
38.84	22.62	12.20	8.10	16.19	293.24	Dos Amigos Pumping Plant (SWP Share)
27.95	25.60	12.19	11.05	18.76	259.05	Buena Vista Pumping Plant
25.16	28.25	13.20	12.64	21.49	260.82	Wheeler Ridge Pumping Plant
54.90	62.50	28.49	28.58	47.83	566.99	Chrisman Wind Gap Pumping Plant
191.29	219.11	97.35	99.98	168.43	1,973.34	A. D. Edmonston Pumping Plant
0.05	0.05	0.03	0.05	0.05	0.38	Alamo Powerplant (Station Service)
31.71	24.72	18.21	4.47	7.41	251.86	Pearblossom Pumping Plant
8.16	15.06	3.81	10.17	17.45	126.41	Oso Pumping Plant
0.05	0.00	0.10	0.02	0.00	0.52	William E. Warne Powerplant (Station Service)
1.39	0.62	0.59	0.08	0.09	10.43	Las Perillas Pumping Plant (SWP Share)
3.72	1.73	1.58	0.18	0.18	27.92	Badger Hill Pumping Plant
474.17	485.79	224.44	254.91	471.36	4,733.50	Subtotal
22.97	15.81	14.67	1.09	-1.06	116.95	System Losses and Unaccounted for Energy
497.14	501.60	239.11	256.00	470.30	4,850.45	Total
						SWP ENERGY SOURCES
164.32	101.19	74.52	69.73	69.34	1,389.70	Hyatt-Thermalito Powerplant
12.93	2.26	6.82	1.95	0.00	152.30	San Luis Pumping-Generating Plant (SWP Share)
0.01	0.02	2.54	0.00	0.33	32.19	Alamo Powerplant
54.47	42.25	31.59	7.43	15.64	434.81	Devil Canyon Powerplant
17.63	32.56	7.26	22.98	37.72	270.28	William E. Warne Powerplant
26.24	54.79	10.46	34.68	58.93	427.57	Castaic Powerplant
19.25	18.31	17.80	16.99	15.77	239.82	Bottle Rock Powerplant
102.02	82.64	93.28	88.72	148.68	1,003.78	Reid Gardner Unit No. 4
9.61	-0.22	-0.23	-0.23	-0.24	250.68	Pine Flat Powerplant
0.44	0.44	0.13	0.07	0.08	3.34	TERA Power Corporation
15.90	15.10	11.21	9.68	8.30	175.33	MWDSC Hydroelectric Plants (Exchange Energy)
-187.72	-140.81	-111.14	-68.88	-76.67	-1,542.94	Power Exchange Delivered to SCE
377.26	382.33	386.66	509.83	492.11	4,192.89	Power Exchange Received from SCE
0.00	0.00	5.66	0.00	0.00	0.00	Power Exchange Bonneville Power Administration
-0.08	-0.08	-0.08	-0.06	-0.07	-1.32	SCE-SBVMWD Exchange
0.03	0.09	0.14	0.12	0.09	1.02	USBR Schedule Excess
0.00	0.00	0.00	0.00	0.00	46.83	Purchases
13.35	14.31	13.84	0.00	0.00	216.96	British Columbia Hydro Power Authority
0.00	0.00	0.00	0.00	0.00	4.33	Bonneville Power Administration
0.00	0.00	0.00	0.00	0.00	86.22	Idaho Power Company
0.00	0.00	0.00	0.00	0.00	1.48	Portland General Electric Company
0.00	0.00	0.00	0.00	0.00	1.04	Seattle City Light
23.53	23.32	6.86	5.65	0.75	121.18	Los Angeles Department of Water and Power
0.00	0.00	0.00	0.00	0.00	0.55	Salt River Project
0.00	0.00	0.00	0.00	0.00	0.55	Washington Water and Power Company
649.19	628.50	557.32	698.66	770.76	7,508.04	Subtotal
152.05	126.90	318.21	442.66	300.46	2,657.59	Less Sales
497.14	501.60	239.11	256.00	470.30	4,850.45	Total

Other SWP hydroelectric power resources are obtained under contract with the Kings River Conservation District and the Metropolitan Water District of Southern California. The KRCD contract provides DWR with all of the output of the 165-MW Pine Flat Powerplant. The plant furnished 0.25 billion kWh to the SWP in 1987. Under the MWDSC contract, DWR receives energy from five small hydroelectric plants on the

MWDSC system (30 MW total capacity). As explained in Chapter VI, DWR has exchange agreements with Southern California Edison Company and the Los Angeles Department of Water and Power to facilitate transmission of energy from the MWDSC plants to the SWP.

TABLE 6A. RECONCILIATION OF ENERGY USE IN 1987 FOR SWP

(in millions of kilowatt-hours)

ITEM	MONTH						
	JAN	FEB	MAR	APR	MAY	JUN	JUL
Harvey O. Banks Delta Pumping Plant							
Energy Metered at Pumping Plant	40.04	45.44	56.90	46.17	37.06	35.72	79.03
Less Energy Scheduled by USBR for CVP Pumping	0.00	0.00	-3.92	-6.56	0.00	0.00	-13.95
Plus Excess Daily Energy Scheduled by USBR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Used for SWP Pumping	40.04	45.44	52.98	39.61	37.06	35.72	65.08
Dos Amigos Pumping Plant							
Energy Metered at Pumping Plant	33.24	38.07	31.95	43.03	54.64	72.24	80.65
Less Energy Scheduled by USBR for CVP Pumping	-16.72	-18.71	-10.47	-17.42	-23.06	-34.38	-37.77
Less Energy Scheduled by USBR for Station Service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plus Excess Daily Energy Scheduled by USBR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Used for SWP Pumping	16.52	19.36	21.48	25.61	31.58	37.86	42.88
San Luis Pumping Plant							
Energy Metered at Pumping Plant	38.05	10.71	2.78	0.92	1.12	0.05	0.18
Less Energy Scheduled by USBR for CVP Pumping	-37.57	-9.79	-2.04	-0.56	0.00	0.00	0.00
Less Energy Scheduled by USBR for Station Service	-0.19	-0.29	-0.36	-0.17	-0.14	-0.03	-0.08
Plus Excess Daily Energy Scheduled by USBR	0.37	0.10	0.01	0.01	0.00	0.00	0.00
Energy Used for SWP Pumping	0.66	0.73	0.39	0.20	0.98	0.02	0.10
Las Perillas Pumping Plant							
Energy Metered at Pumping Plant	0.42	0.45	0.55	1.01	1.50	1.77	1.96
Less Energy Scheduled by USBR for CVP Pumping	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Used for SWP Pumping	0.42	0.45	0.55	1.01	1.50	1.77	1.96
San Luis Generating Plant							
Energy Metered at Pumping Plant	0.00	0.39	0.00	30.22	85.64	112.64	67.64
Less Energy Scheduled by USBR for CVP Pumping	0.00	0.41	0.00	8.39	50.02	67.26	42.17
Plus Excess Daily Energy Scheduled by USBR	0.00	0.02	0.00	0.01	0.03	0.00	0.00
SWP Share of Energy Generated	0.00	0.00	0.00	21.84	35.65	45.38	25.47

Under the 1979 power contract between the Department and Southern California Edison, in effect since April 1983, and the 1981 Capacity Exchange Agreement, in effect since April 1987, part of the Hyatt-Thermalito generation and all of the output of Devil Canyon and Alamo powerplants are delivered to SCE. The energy is generally delivered during on-peak periods, and a greater amount of energy is returned during off-peak periods. The additional energy is primarily in payment for the power capacity available to SCE. Table 6 shows the monthly quantities of energy both delivered and returned under these contracts. The net gain to the SWP during 1987 was 2.65 billion kWh.

The Bottle Rock Powerplant provided 0.24 billion kWh during 1987. DWR paid MCR Geothermal Corporation \$4,154,797 for the steam supply.

Reid Gardner Unit No. 4 supplied 1.00 billion kWh in 1987. Final accounting of start-up energy banked with Nevada Power Company in 1983 indicates that all of

the energy had been returned to DWR by the end of 1986.

DWR also has a contract with TERA Power Corporation for the purchase of energy produced at Bethany Wind Park, near the South Bay Pumping Plant. About 45 50- kW wind turbines were operational at the end of 1987; over 3.3 million kWh of wind-generated energy was delivered to DWR during the year.

From time to time the SWP has energy resources in excess of its requirements and has the option to sell this excess. If power requirements sometimes exceed SWP resources, short term power purchases can be made to meet the load requirements. Another option available to the SWP (and one that was used in 1987) is to bank excess energy with another utility and have the banked energy returned during a period when the SWP would normally make a short-term power purchase. In July 1987 the SWP delivered 5.66 million kWh of on-peak energy to Bonneville Power Administration and

AND CVP PUMPING AT SWP PLANTS AND JOINT-USE FACILITIES

(in millions of kilowatthours)

MONTH						ITEM
AUG	SEP	OCT	NOV	DEC	TOTAL	
90.91	81.12	31.81	24.90	89.18	658.28	Harvey O. Banks Delta Pumping Plant
-31.17	-25.91	-13.06	0.00	-5.54	-100.11	Energy Metered at Pumping Plant
0.00	0.00	0.00	0.00	0.00	0.00	Less Energy Scheduled by USBR for CVP Pumping
59.74	55.21	18.75	24.90	83.64	558.17	Plus Excess Daily Energy Scheduled by USBR
						Energy Used for SWP Pumping
66.33	28.36	18.53	11.25	24.25	502.54	Dos Amigos Pumping Plant
-27.49	-5.73	-6.33	-3.00	-8.01	-209.09	Energy Metered at Pumping Plant
0.00	-0.01	0.00	-0.15	-0.05	-0.21	Less Energy Scheduled by USBR for CVP Pumping
0.00	0.00	0.00	0.00	0.00	0.00	Less Energy Scheduled by USBR for Station Service
38.84	22.62	12.20	8.10	16.19	293.24	Plus Excess Daily Energy Scheduled by USBR
						Energy Used for SWP Pumping
3.96	42.02	30.90	57.14	102.37	290.20	San Luis Pumping Plant
-3.57	-33.88	-26.98	-51.12	-57.40	-222.91	Energy Metered at Pumping Plant
-0.23	-0.07	-0.19	-0.05	0.00	-1.80	Less Energy Scheduled by USBR for CVP Pumping
0.03	0.09	0.14	0.12	0.09	0.96	Less Energy Scheduled by USBR for Station Service
0.19	8.16	3.87	6.09	45.06	66.45	Plus Excess Daily Energy Scheduled by USBR
						Energy Used for SWP Pumping
1.39	0.64	0.59	0.08	0.09	10.45	Las Perillas Pumping Plant
0.00	-0.02	0.00	0.00	0.00	-0.02	Energy Metered at Pumping Plant
1.39	0.62	0.59	0.08	0.09	10.43	Less Energy Scheduled by USBR for CVP Pumping
						Energy Used for SWP Pumping
29.37	2.26	6.82	1.95	0.00	336.93	San Luis Generating Plant
16.44	0.00	0.00	0.00	0.00	184.69	Energy Metered at Pumping Plant
0.00	0.00	0.00	0.00	0.00	0.06	Less Energy Scheduled by USBR for CVP Pumping
12.93	2.26	6.82	1.95	0.00	152.30	Plus Excess Daily Energy Scheduled by USBR
						SWP Share of Energy Generated

scheduled the return of the energy during the on-peak period in October 1987. During early 1988 the SWP exchanged off-peak energy with Bonneville Power Administration for on-peak energy at an additional cost of 4 mills per kWh.

Power Purchases and Power Service Costs

Power purchases and transmission service costs during 1987 are summarized in Table 7. DWR purchased 0.90 billion kWh of energy for \$19.30 million and paid \$4.15 million for geothermal steam at the Bottle Rock Powerplant. Transmission, capacity, losses, and dispatching services amounted to \$14.69 million. Other costs associated with the operation and management of SWP power resources not in Table 7 include:

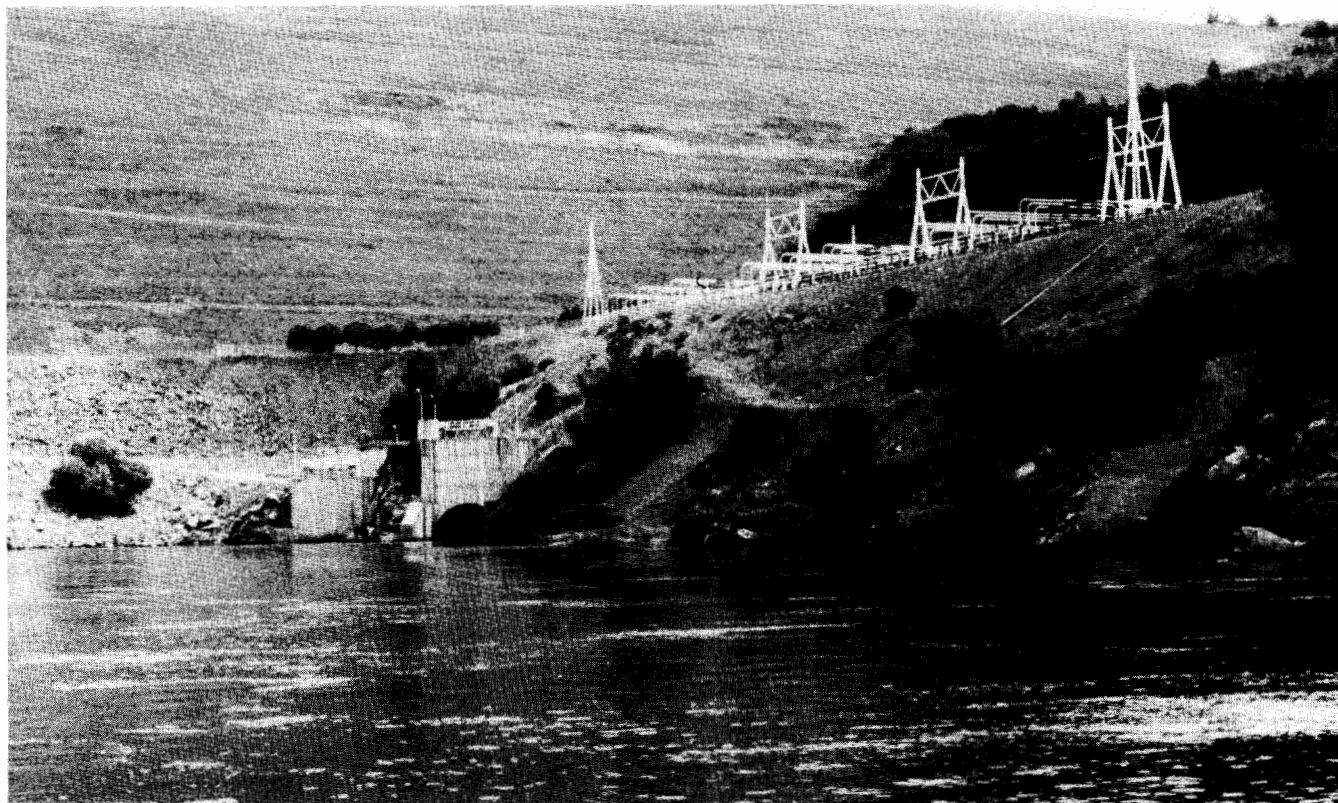
- debt service, auditing costs, and OM&R costs of \$9.37 million associated with the output of Pine Flat Powerplant;

- OM&R and fuel costs of \$41.41 million associated with Reid Gardner Unit No. 4; and
- debt service and OM&R costs associated with other SWP-owned generation facilities.

Power Sales

Existing SWP resources, short-term power purchase and sales contracts, and long-term power and transmission contracts combine to ensure that the SWP has enough energy and capacity to meet future needs. DWR entered into power sales contracts to sell any excess capacity and energy, within the limit of SWP's contractual transmission capabilities, at Malin, Tesla, Vincent, Sylmar, and Eldorado substations.

DWR sells this excess capacity and energy on a daily basis to utilities at current market rates. The decision to sell the power, or to wait for a more opportune time, takes into consideration projected SWP operations and changes in the power market as well as energy losses,



Hyatt Powerplant is part of the SWP Hyatt-Thermalito Complex, which generated 1.39 billion kWh of energy in 1987.

transmission costs, and dispatching costs. DWR's computerized accounting system monitors the status of the power purchases and sales operation.

Table 8 summarizes power-related sales by DWR in 1987. Total energy sold to 15 utilities was 2.658 billion kWh for a revenue of \$55.79 million. Other power-related revenues were for peaking capacity payments from Nevada Power Company, peaking-capacity foregone payments from Los Angeles Department of Water and Power, and capacity payments from the cities of Azusa and Vernon for a combined revenue of \$3.43 million.

Transmission Service Agreements

The transmission service agreements described in Bulletin 132-84 (page 38) are still in effect. Some contractual options on new interruptible transmission paths between Vincent-San Onofre, Vincent-Sylmar, Vincent-Midway, Vincent-Palo Verde, and Eldorado-Mead were exercised in order to make energy sales,

purchases, and exchanges with utilities in Arizona, Nevada, and Southern California.

The Table Mountain reinforcement project, which increased the 500 kV transmission capacity on Pacific Gas and Electric Company's transmission line from Table Mountain to Tesla substations, was completed in April 1987, thus removing transmission limitations on DWR's generation from Hyatt and Thermalito powerplants giving the SWP improved transmission service from PG&E.

At PG&E's request and expense, two Hyatt units were temporarily reconnected to the Western Area Power Administration's 230-kV Cottonwood-Elverta line on May 9, 1987 to assist PG&E's system during summer of 1987.

Recreation and Visitor Facilities

SWP recreation developments provide opportunities for camping, boating, fishing, swimming, bicycling, and other activities. More than 7 million recreation days of

**TABLE 7. SWP POWER AND TRANSMISSION
SERVICE PURCHASES IN 1987**

Supplier	Services Provided	Invoice Amount
Bonneville Power Administration	Firm and nonfirm energy	\$ 3,348,341
British Columbia Hydro Power Authority	Nonfirm energy	859,241
Idaho Power Company	Nonfirm energy	88,002
Kings River Conservation District	Hydroelectric energy	1,944,825
Los Angeles Department of Water and Power	Transmission, dispatching and energy	86,663
MCR Geothermal Corporation	Geothermal steam	4,154,797
Nevada Power Company	Transmission	949,464
Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas and Electric Company	EHV transmission	1,500,000
Pacific Gas and Electric Company	Transmission	7,511,514
Portland General Electric Company	Firm and nonfirm energy	1,454,159
Salt River Project Agricultural Improvement and Power District	Nonfirm energy	2,053,667
Seattle City Light	Nonfirm energy	26,712
Southern California Edison Company	Transmission, dispatching, and FERC filings	4,655,714
TERA Power Corporation	Wind energy and O&M	285,148(a)
The Metropolitan Water District of Southern California	Hydroelectric energy	9,207,275
Washington Water Power Company	Nonfirm energy	10,960
Western Systems Power Pool	Start-up costs	6,000
Total		\$38,142,482

a) A credit of \$15,904 for transformer O&M is not included.

use were recorded at SWP facilities in 1987. This represents a 4 percent increase from 1986. Table 9 summarizes recreation use at SWP facilities in 1987.

Most recreation and visitor use is concentrated at the major reservoirs: Lake Oroville, San Luis Reservoir, O'Neill Forebay, Silverwood Lake, Lake Perris, Castaic Lake, and Pyramid Lake. These reservoirs have well developed facilities to accommodate extensive public use. More than half, 55 percent, of the total 1987 recreation use occurred at the four major Southern California reservoirs.

Many recreational developments at SWP facilities were improved during 1987, and other improvements will begin soon.

- At Frenchman Lake, in the Upper Feather River area, a new two-lane launch ramp, with additional parking, was completed at Lunker Point.
- East Bay Regional Park District's Phase IV facilities at Lake Del Valle were completed by December 1987. New facilities include: 46 additional family campsites, a new amphitheater, 100 picnic sites, paved day-use parking for 400 cars, a new group picnic area that can accommodate 150 persons, and restroom and shower buildings. Piles for a new marina complex were driven. The complex is scheduled for completion in 1988. A 40-acre parcel of ranch land next to the Lake Del Valle boundary was acquired to secure the ridge line view shed.
- At Pyramid Lake the landscaping and irrigation system were completed at Emigrant Landing, and a four-station restroom was constructed at Spanish

TABLE 8. SWP POWER SALES IN 1987

Purchaser	Kilowatthours	Amount of Sale
City of Anaheim	46,910,000	\$ 1,024,442
City of Azusa	12,186,000	555,708(a)
City of Banning	1,361,000	30,891
City of Colton	4,360,000	98,889
Los Angeles Department of Water and Power	300,000	947,500(b)
The Metropolitan Water District of Southern California	109,342,000	1,736,562
Nevada Power Company	317,808,000	9,561,552(c)
Northern California Power Agency	69,426,000	1,291,538
Pacific Gas and Electric Company	824,349,000	14,430,730
Portland General Electric	4,800,000	76,800
City of Riverside	21,396,000	475,875
Salt River Project Agricultural Improvement and Power District	24,517,000	631,982
City of Santa Clara	56,860,000	1,142,645
Southern California Edison Company	395,824,000	6,430,942(d)(e)
City of Vernon	768,155,000	17,349,943(f)
Total	2,657,594,000	\$55,785,999

- a) Includes \$275,000 for capacity.
- b) Includes \$941,200 for peaking capacity foregone.
- c) Includes \$596,197 for capacity.
- d) Includes \$21,429 for emergency service.
- e) In addition to this amount, there was the delivery of 1,322,000 kWh of energy to SCE under the DWR-SCE Generation Replacement Agreement which has been valued at \$26,017. DWR made this energy delivery to SCE pursuant to the 1982 DWR-San Bernardino Valley Municipal Water District (SBVMWD) Energy Purchase Agreement to replace generation lost to SCE because of water diversions SBVMWD made from the Santa Ana River and Mill Creek.
- f) Includes \$1,620,135 for capacity and \$995 for late penalty charge.

Point. Landscaping also was completed at the Los Alamos Campground, which was reopened in 1987 and is now operated by concessionaires.

- At the San Jacinto Wildlife Area, an additional half-mile long levee and new water well were added to augment operation of the waterfowl ponds.
- Los Angeles County Department of Parks and Recreation requested proposals for development, operation, and maintenance of the recreational vehicle camping facilities along the eastern end of the Castaic Lagoon.

- The equestrian trail entrance and exit from the Moreno Valley area to the existing equestrian trail at Lake Perris was approved. Construction should begin in fall 1988.

Table 9 includes recreation use figures at fishing access sites and recreation developments along the California Aqueduct. Figure 7 shows the location of these facilities. There are 17 developed fishing access sites along the Aqueduct. Recreation use at these sites and on the California Aqueduct Bikeway in Southern California declined as a result of closure of the 107-mile reach in Antelope Valley due to East Branch Enlargement construction.

TABLE 9. RECREATION USE AT SWP FACILITIES IN 1987

Facility	1987 Use in Recreation Days	Facility	1987 Use in Recreation Days
<u>Oroville Field Division</u>		<u>San Luis Division</u>	
Frenchman Lake	335,750	San Luis Reservoir	347,100
Antelope Lake	330,000	O'Neill Forebay	395,800
Lake Davis	281,000	Los Banos Reservoir	102,800
Lake Oroville and Thermalito Forebay	662,200	Fishing Access Sites	
Thermalito Afterbay and Oroville Wildlife Area	153,300	Canyon Road	1,100
Total	1,762,250	Mervel Avenue	1,300
		Fairfax	700
		Three Rocks	60
		Huron	2,450
		Avenal Cutoff	1,400
<u>Delta Field Division</u>		California Aqueduct	
Lake Del Valle	495,340	Walk-In Fishing	9,400
Bethany Reservoir	84,620	Wildlife Areas	14,500
Fishing Access Sites		Total	876,610
Niels Hansen	550		
Orestimba	1,370	<u>Southern Field Division</u>	
Cottonwood Road	550	Silverwood Lake	769,200
California Aqueduct		Lake Perris	1,545,000
Walk-In Fishing	19,040	Pyramid Lake	374,700
Bikeway	540	Castaic Lake	1,269,600
White Slough Wildlife Area	7,640	Fishing Access Sites	
Total	609,650	77th Street East	490
		Longview Road	25
<u>San Joaquin Field Division</u>		California Aqueduct	
Fishing Access Sites		Walk-In Fishing	4,570
Kettleman City	3,910	Bikeway	440
Lost Hills City	3,800	Total	3,964,025
Buttonwillow	3,470		
California Aqueduct			
Walk-In Fishing	5,100		
Total	16,280	GRAND TOTAL, SWP	7,228,815

In addition to the recreation facilities used, SWP visitor centers recorded nearly one-half million visitor days during 1987. The following figures include people entering visitor centers, stopping at overlooks, and participating in guided tours of SWP facilities.

<u>Location</u>	<u>Visitor Days</u>
Project Operations Control Center, Sacramento	400
Oroville Field Division	177,600
Delta Field Division	1,100
San Luis Field Division	161,800
San Joaquin Field Division	4,300
Southern Field Division	87,600
SWP Total	430,800

Fish and Wildlife Activities

The Department of Fish and Game continued its fish planting activities at the SWP facilities during 1987. Table 10 summarizes fish plantings at each location. Total plantings of catchable trout decreased about 9 percent, but the number of fingerlings planted was more than twice the total planted in 1986.

The Feather River Fish Hatchery and Feather River Fish Hatchery, Thermalito Facility produced 13,306,500 fish in 1987, up 21 percent from 1986. Of the 12,065,100 Chinook salmon reared at the hatcheries, 2,982,700 were planted as fingerlings; 8,093,600 were planted as advanced fingerlings; and 988,800 were planted as yearlings. The hatcheries also produced 1,241,400 steelhead, of which 788,900 were planted as fingerlings and 452,500 were planted as yearlings.

FIGURE 7. AQUEDUCT RECREATION DEVELOPMENTS

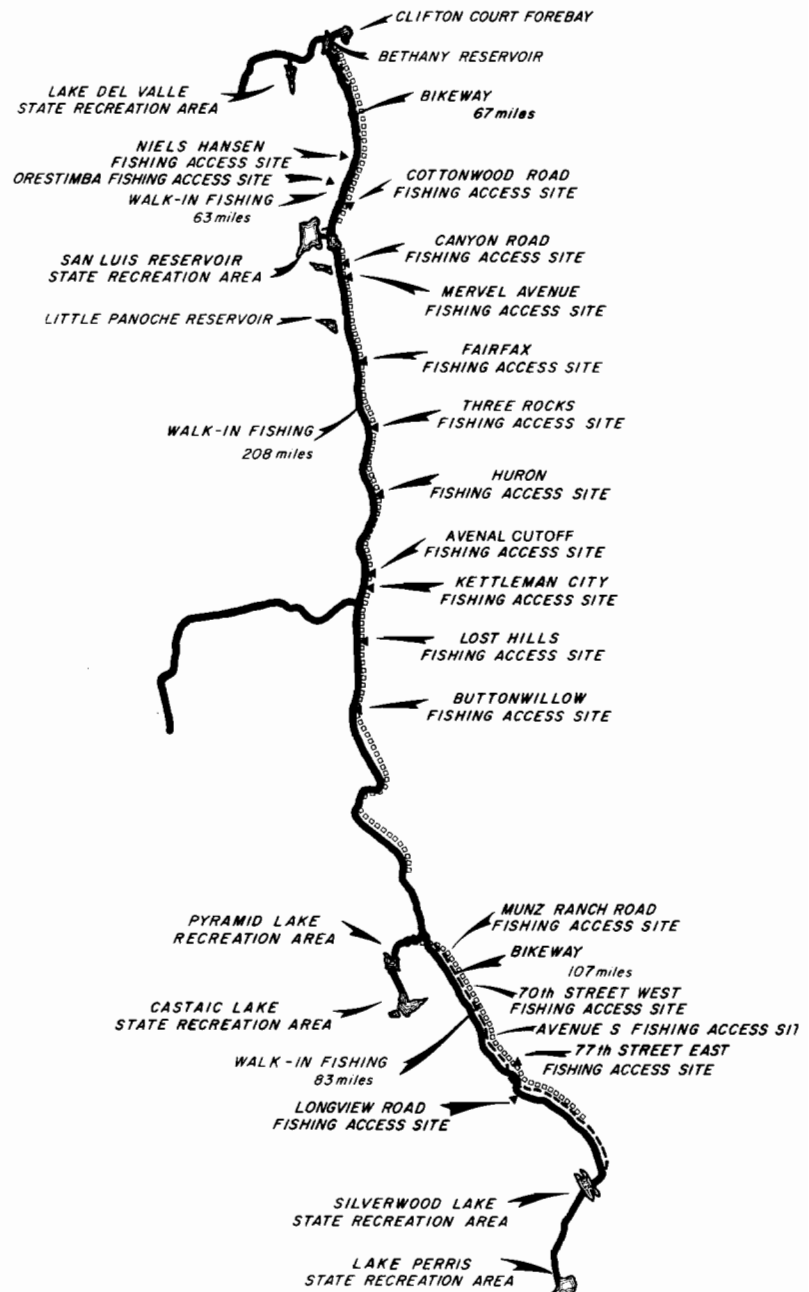


TABLE 10. FISH PLANTED AT SWP FACILITIES IN 1987

(in thousands)

Location	Size(a)	Rainbow Trout	Eagle Lake Trout	Brown Trout	Channel Catfish	Coho Salmon	Total
Antelope Lake	C	25.5					25.5
Lake Davis	C	29.6	46.4				76.0
	F		306.7				306.7
Frenchman Reservoir	F	150.0	132.0				282.0
Lake Oroville	C			68.6		11.8	80.4
	F					63.6	63.6
	S					31.9	31.9
Thermalito Forebay	C	127.4					127.4
Lake Del Valle	C	38.5					38.5
Los Banos Reservoir	C	10.0					10.0
Pyramid Lake	C	120.5			7.0		127.5
Castaic Lake	C	170.3			10.4		180.7
Castaic Lagoon	C	53.9					53.9
Silverwood Lake	C	147.6					147.6
Lake Perris	C	127.8			6.3		134.1
Lake Skinner(b)	C	<u>100.5</u>	<u> </u>	<u> </u>	<u>10.6</u>	<u> </u>	<u>111.1</u>
Total		1,101.3	485.1	68.6	34.3	107.3	1,796.6
a) C-Catchable; F-Fingerling; S-Subcatchable							
b) Included in SWP fish-planting program, but not an SWP facility.							

CHAPTER III

SWP ADMINISTRATION ACTIVITIES

Along with construction and operation activities, substantial contract administration efforts are necessary to manage the SWP. This chapter summarizes the principal administrative activities of the SWP, emphasizing the period between July 1, 1987 and June 30, 1988.

Water Contracts Management

Contract Amendments

The 30 long-term water supply contracts have been amended a number of times since the 1960s, when the initial contracts were signed. Table 11 shows contract amendments and lists the general content of each amendment, but it does not list revisions to Table A. Only one amendment was executed during the report period.

- On April 7, 1988, Coachella Valley Water District and Desert Water Agency executed Amendment No. 13 to their respective water supply contracts. The amendment expands Article 21 to include provisions for the delivery of unscheduled water subject to conditions under an annual agreement which provides for scheduling, cost and rate determination, and other items not included in the amendment. To date, eight contractors have executed amendments to receive unscheduled water when declared available.

Relinquished Aqueduct Capacity and Entitlement

On March 10, 1987, DWR, Santa Barbara County Flood Control and Water Conservation District, Kern County Water Agency, and Berrenda Mesa Water District reached a settlement and compromise agreement affecting the Santa Barbara District's 1981 relinquishment of Aqueduct capacity and associated entitlement water (Bulletin 132-87, p. 43). As part of the agreement, DWR granted SBCFC&WCD a one-year option

to reacquire the capacity and entitlement water relinquished in 1981. This option was extended for an additional year in early 1988.

South Bay Aqueduct Reallocation

In late 1987, Alameda County Water District notified DWR of its planned construction of a new water treatment plant near the Alameda-Bayside turnout along the South Bay Aqueduct. The plant will be served from a proposed turnout, which will require transporting more water through Reach 8.

Alameda County Water District requested that DWR reallocate the South Bay Aqueduct's future contractor capacity in Reach 8 to the district. This reallocation would increase Reach 8 capacity from 8,775 acre-feet to 38,940 acre-feet. A contract amendment is currently being prepared. The district will be required to repay the past capital cost components of the transportation charges at the current Project Interest Rate.

Temporary Water Purchase Contract

In July 1987, DWR agreed to purchase up to 83,100 acre-feet in water releases from Yuba County Water Agency's New Bullards Bar Reservoir during summer 1987. This purchase enabled DWR to hold back a corresponding amount of water in Lake Oroville. Under the terms of the agreement, DWR was required to pay the agency \$5 per acre-foot for water released and an additional \$10 per acre-foot contingent upon the benefit DWR realized as a result of the purchase.

In July, August, and September 1987, the agency released 83,100 acre-feet of water from New Bullards Bar Reservoir for DWR's use in meeting Delta outflow requirements under Decision 1485. In June 1988, DWR determined that USBR was entitled to part of the release (46,048 acre-feet) under the terms of the

**TABLE 11. WATER SUPPLY CONTRACT AMENDMENTS
AS OF JUNE 30, 1988**

Contracting Agency	Minimum Project Yield Increased	Supplemental Conservation Facilities Costs Delayed			Project Interest Rate Modified	Surcharge and Surcharge Credit Provisions							"Wet Weather" Provisions Added	Surplus Water Provisions		Turnout Construction by Agency	Peaking Service		Annual Entitlements Revised	Excess Capacity Purchased	Article 28 Revised	Repayment Period and Contract Term Revised	Special Conditions	Contract Issues Resolved (a)	Enlargement of the East Branch Aqueduct	Water Revenue Bonds
		1970	1971	1972 until Construction		Added	Revised				Deleted	Added		Revised	Increased		Decreased									
								Through 1969	1970	1971																
FEATHER RIVER AREA																										
City of Yuba City	1	2	2	2	2		1							1					1,4		3		5			
County of Butte	1	3	3	3	3		1	2		4	5			1				6,8	10	7		9		10		
Plumas County Flood Control and Water Conservation District	1	3	5	6	3		1	2	4	7	8			10					9	11		12		13		
NORTH BAY AREA																										
Napa County Flood Control and Water Conservation District	1	3	4	5	3		1				6			1				8,9, 10,12	13	7	1,2, 12	11		13		
Solano County Flood Control and Water Conservation District	1	2		11	2		1							1,5		1		6,7, 11	10	6	6,10	9		12		
SOUTH BAY AREA																										
Alameda County Flood Control and Water Conservation District-Zone 7	2	6	8	9	6	2		5	7	10	11	1		2,12	3			1,4		13	1	14		15		
Alameda County Water District	1	4	5	7	4	1		3		8	9	5	1	11,12	2				10	13	1,6	14		15		
Santa Clara Valley Water District	2	6	8	10	6	2		5	7	11	12	1	1	2,14, 15,17	3			1,4	13	16	1,9	18		19		
SAN JOAQUIN VALLEY AREA																										
County of Kings		2	3	4	2			1		5	6	5	5	8					7	9		10		11		
Devil's Den Water District	1	5	7	8	5			4	6	9	10			1,12, 13,15				1,3	11	14	2	16		17		
Dudley Ridge Water District	1	6	8	9	6			5	7	10	11			1,13, 14,16				1,2, 3,4	12	15		17		18		
Empire West Side Irrigation District	1	4	6	7	4			3	5	8	9	5		1,11, 12,14				2	10	13		15		16		
Kern County Water Agency	1	4	6	8	4			3	5	9	10			1,12, 14,16				1,2, 18	11	15	7,13, 19	17		20		
Oak Flat Water District		3	5	6	3			2	4	7	9	5	5	11, 12,14	1			8	10	13		15		16		
Tulare Lake Basin Water Storage District	2	5	6	7	5			4		8	10	5		2,13, 14,17				1,3,9, 12,19, 20,21	11	15	16	18		22		
CENTRAL COASTAL AREA																										
San Luis Obispo County Flood Control and Water Conservation District	2	3	4	5	3	1	2				6		1	2,8					7	9		10		11		
Santa Barbara County Flood Control and Water Conservation District	2	3	4	5	3	1	2				6		1	2,7				2,9		8		10		11		
SOUTHERN CALIFORNIA AREA																										
Antelope Valley-East Kern Water Agency	1	5	6	7	5	1					8		1	10		3	2	1,14	4	9	12	2,3, 4	13	15	16	
Castaic Lake Water Agency	2	4	5	6	4	1	2				7		1	2,10		2		2,3,9	8	11		12		13		
Cochella Valley Water District	2	3	4	5	3	1	2				6		1	2,8,13				2	7	9		10	11	12		
Crestline-Lake Arrowhead Water Agency	2	5	6	7	5	1	2				8		1	2,11	4	3		2,10	9	12		13		14		
Desert Water Agency	2	3	4	5	3	1	2				6		1	2,8,13				2	7	9		10	11	12		
Littlerock Creek Irrigation District	2	3	4	5	3	1	2				6		1	2,7				2		8		9		10		
Mojave Water Agency	2	4	5	6	4	1	2				7		1	2		3	2,10, 12		8	9	3	11	13	14		
Palmdale Water District	2	3	4	5	3	1	2				6		1	2,8				2	7	9		10	11	12		
San Bernardino Valley Municipal Water District	2	4	5	6	4	1	2				7		1	2				1,2, 3,9	8	10		11	12	13		
San Gabriel Valley Municipal Water District	2	4	5	6	4	1	2				7		1	2,10		2		2,9	3	8	11		12	13		
San Geronimo Pass Water Agency	2	4	5	6	4	1	2				7		1	2		2				8	2,3	9		10		
The Metropolitan Water District of Southern California	1	9	10	11	9	1					13		1	16				1, 3, 8V,15	2,6, 7	14	17	(b)	18	19, 21	20	
Ventura County Flood Control District	1	2	3	4	2		1				5			1,7					6	8		9		10		

S = Special provisions of basic contract V = Amendment voided by subsequent action

- a) Contract issues covered by these amendments are (1) repayment of "Off-Aqueduct" power facility costs, (2) delinquency penalties, and (3) authority to include other types of projects as additional conservation facilities.
b) MWD special conditions are covered by Amendment Nos. 2, 3, 4, 5, 7, 8V, and 12.

Coordinated Operation Agreement, as specified in the November 2, 1987 letter of understanding between DWR and USBR. Therefore, the actual increase in carry-over storage in Lake Oroville resulting from this release was 37,052 acre-feet. The total payment for the purchase was \$786,020, for a unit rate of \$21.21 per acre-foot.

In 1988, DWR entered into another agreement with the Yuba County Water Agency to purchase approximately 122,000 acre-feet of water from New Bullards Bar Reservoir for 1988. Under this agreement, DWR will pay \$11.50 per acre-foot for the releases.

Devil's Den-Castaic Lake Negotiations

On April 6, 1988, an organizational meeting was held for the Devil's Den-Castaic Lake Authority, which was created to implement the potential transfer of Devil's Den SWP contractual entitlement water to Castaic Lake Water Agency. This organization is responsible preparing the required environmental documentation and negotiating the necessary water contract amendments with DWR for the transfer. In the April meeting, the authority elected officers, adopted by-laws, and selected a private consultant to develop an environmental impact report.

Castaic Lake Water Agency is considering the purchase of approximately 90 percent of the property within the Devil's Den Water District. The property purchased might be leased to a private farmer if it is economically feasible to do so. As an alternative, a land utilization plan could be developed to restore the land to its natural, pre-agricultural condition. While the Castaic Lake Water Agency would like to transfer all or part of the Devil's Den Water District's 12,700 acre-feet of entitlement water into its own service area, the agency recognizes the water needs of the other minority landowners and will consider their needs in the environmental review.

Coastal Branch, Phase II

The Coastal Branch, Phase I facilities were constructed in the late 1960s to serve agricultural water contractors in northwestern Kern County. The Phase I facilities include a 14.8 mile "Coastal Stub" aqueduct, extending from Avenal Gap to the vicinity of Devil's Den Pumping Plant.

The Coastal Branch, Phase II facilities will transport up to 70,486 acre-feet of water to Santa Barbara and San Luis Obispo counties. In the fall of 1986, as part of the environmental impact report preparation process, DWR and the counties developed several routes for this aqueduct branch. Each of these alternative routes identified a one-mile-wide corridor within which the aqueduct could be located.

In early 1987, the San Luis Obispo-Santa Barbara County Technical Committee requested DWR to conduct additional reconnaissance-level studies for the Polonio Pass and Barrel Valley routes. The study showed that the Polonio Pass route is the better route with respect to design, geology, energy, economics, botany, and general environmental planning. DWR will determine the specific alignment within the Polonio Pass route in 1988.

An EIR and an advance planning study are scheduled to be completed in September 1990. At that time the two districts will decide whether to construct the facilities.

East Branch Enlargement

In 1986, DWR executed a Water Supply Contract amendment with The Metropolitan Water District of Southern California, Antelope Valley-East Kern Water Agency, Coachella Valley Municipal Water District, Desert Water Agency, Mojave Water Agency, Palmdale Water District, and San Bernardino Valley Municipal Water District to provide construction, operation, maintenance, and repayment of the costs related to enlargement of the East Branch of the California Aqueduct.

Financing for the enlargement project is different from previous SWP financing. The participating contractors share in repaying the enlargement costs in proportion to their shares of the enlargement capacity in each repayment reach.

Each participating contractor may repay a portion or all of its share of capital costs by advance payment in lieu of participating in the revenue bond financing. On June 1, 1987, the San Bernardino Valley Municipal Water District elected to pay a \$2.2 million portion of its allocated costs in advance. As of June 30, 1988, no other participating contractor has elected to use this advance payment option.

Coordinated Operation Agreement

The Coordinated Operation Agreement, signed in November 1986, signaled the end of one round, and the beginning of another, of negotiations between the State and the USBR. Article 10 (h) of the agreement mandates negotiating a contract for the conveyance and purchase of CVP water to make more efficient use of facilities and water supply.

The first negotiating session for this contract was held in June 1987, and public negotiating sessions have been held regularly since. The negotiators plan to have a draft contract submitted to Congress for approval and execution in 1989.

San Joaquin Valley Drainage Monitoring Program

Both agricultural production and the environment in the western San Joaquin Valley are threatened by high salt concentrations and other elements connected with irrigated agriculture. Focus on these problems in the federal service area has centered on the Kesterson Reservoir.

At Kesterson Reservoir, the USBR is following a revised cleanup order issued by the State Water Resources Control Board in July 1988. This order requires the Bureau to fill the ephemeral pools that exist in the dry reservoir to eliminate anticipated problems that could occur during the 1988–89 winter season. The order also gives the Bureau until December 1988 to report on the feasibility of using soil bacteria for volatilization of the selenium from the soil as a cleanup method.

DWR closely monitors the Department of the Interior's agricultural waste water management and studies the San Luis Drain system. DWR representatives also serve on several committees and advisory groups of the interagency San Joaquin Valley Drainage Program. These committees are actively pursuing various measures to deal with the drainage and selenium problems in both the federal and State service areas.

DWR is collecting data and preparing studies on reuse and disposal of the waste water in the State service

area. Analyses emphasize trace elements, such as selenium and arsenic, because of their potential adverse effect on water supplies and the environment. Other water quality parameters, such as nutrients, do not appear to be a problem and are analyzed less frequently.

To determine the prevalence of high selenium concentrations in the State service area, DWR has increased its selenium data collection. Together with information on applied irrigation rates, cropping patterns, soil types, and precipitation, these data are evaluated to identify possible selenium leaching rate trends. Feasibility of waste water reuse for irrigation or wetland wildlife habitat is also determined with this data.

Los Banos Demonstration Desalting Facility

The Los Banos Demonstration Desalting Facility began operation in late 1983 to investigate the present technology and economics of reclaiming drainage water by desalting. In late 1986, following the San Luis Drain shutdown by the federal government, the plant lost its agricultural feedwater. The facility, except for the solar pond system, closed.

The solar pond system at Los Banos is still operating. The Rankine-cycle power generator began operation in summer of 1987, producing about 10 kW. A 5,000 gallon-per-day vertical-tube foamy evaporator (VTFE) desalter will be integrated into the system to demonstrate the use of solar pond heat for direct desalting. The VTFE desalter will also demonstrate the steady-state operation of a salt-gradient, power-generation desalting system.

The premature shutdown of the Los Banos facility left the investigation of desalting technology unfinished. To complete its work in this field, DWR is cooperating with other agencies to establish a drainage water treatment facility west of Tranquillity in the San Joaquin Valley. The Los Banos program, at a much reduced capacity, will be among the treatment programs included at this new facility. DWR will concentrate on completing the studies on pretreating drainage water for reverse-osmosis membrane desalting that were started at Los Banos. As a follow-up to the successful Los Banos Pond, a solar salt-gradient pond will also be included if conditions allow it. This new facility is scheduled to be established by late 1988.

Project Purpose Cost Allocation

Appendix D to Bulletin 132 reports the costs associated with recreation and fish and wildlife enhancement for the SWP. SWP capital costs allocated to recreation and fish and wildlife enhancement through 1986 are updated in Appendix D to Bulletin 132-87. The appendix reported an additional \$4,854,271 for recreation and fish and wildlife enhancement over the amount reported in Appendix D to Bulletin 132-86. Appendix D to Bulletin 132-87 was submitted to the Legislature in April 1988. No new or revised project purpose cost allocations are included in this report.

Two Agency Fish Agreement

DWR and the Department of Fish and Game (DFG) signed an agreement at the end of 1986 to mitigate direct fish losses at the Harvey O. Banks Delta Pumping Plant.

The agreement provides for DWR to make funding available for projects which will help to increase the survival of Chinook salmon, steelhead, and striped bass. The agreement requires two types of payment by DWR: (1) \$15 million to initiate a program to quickly replenish fish populations depleted by SWP pumping and (2) annual payments based on the calculated numbers of fish lost at the Clifton Court Forebay.

DFG has estimated DWR mitigation responsibility for approximately 544,000 striped bass, 631,000 Chinook salmon, and 22,000 steelhead in 1986 and 684,000 striped bass, 492,000 Chinook salmon, and 12,000 steelhead in 1987. The 1987 figures are under review by DWR. If these fish were replaced by hatchery fish, the maximum annual payment would be about \$1.2 million for each of these years. If the fish were replaced by projects such as spawning grounds or other environmental improvements, the cost might be less depending on the number of fish to be produced.



Striped bass are reared in tanks at Skinner Fish Protection Facility to mitigate fish losses at the Banks Delta Pumping Plant.

The payments for 1986 losses are being used in part to purchase yearling striped bass from private aquaculture firms. Private aquaculture firms contracted to supply the required 544,000 striped bass yearlings but they were able to supply only 345,000 yearlings. Although the agreement recognizes that hatchery plants can help meet DWR's mitigation responsibility, DFG prefers measures that improve natural survival rates.

DWR and DFG are operating a newly constructed fish rearing facility for striped bass. Fish salvaged at the Skinner Fish Protection Facility will be reared in tanks for release as fingerlings and yearlings. Fish from this project should be planted in the Delta in 1988 and 1989 to offset losses at the pumps. Preliminary data from DFG's Elk Grove hatchery indicate that fish raised in this fashion survive to adulthood better than fish reared from eggs in a hatchery.

DWR and DFG are continuing to examine and evaluate potential striped bass and Chinook salmon projects as they are developed. An advisory committee representing fishery, environmental, and water user interests has been established to assist in project selection and evaluation. The agencies are also evaluating the factors used to calculate mitigation losses and will make adjustments as needed.

Water Rights Management

DWR operates SWP storage and diversion facilities to meet criteria established in the SWRCB's Decision 1485. Currently the SWRCB is reviewing these conditions under a three-year process to determine new water quality standards for this vital area.

Bay-Delta Hearings

Decision 1485 focused solely on the water rights and operations of the two largest water projects, the SWP and the CVP. The USBR and DWR were required to maintain the Delta water quality according to standards based on "without project" conditions, as if the projects had never been built.

Lawsuits by various water users and the federal government challenged Decision 1485, which was overturned in 1984. However, the standards remained in force until a decision was issued by the Court of Appeal. In 1986, the appellate court broadly interpreted SWRCB's authority to establish and enforce water quality objec-

tives that assure reasonable protection of beneficial uses of Delta water as well as protection for San Francisco Bay. The ruling also ordered SWRCB to consider the effects of all upstream water uses, not just those of the SWP and CVP.

In July 1987, the SWRCB opened Phase I of the Bay-Delta hearings to gather evidence on the beneficial uses of Bay-Delta water. After 54 days of testimony, cross examination, and rebuttal on 14 subjects, Phase I concluded in late December 1987. DWR presented over 500 exhibits through 30 expert witnesses. Altogether, there were over 40,000 pages of exhibits and more than 600 speakers.

Considering the evidence from Phase I, the SWRCB will draft a water quality control plan and a pollutant policy document, both of which will be circulated for review. The SWRCB will then hold the Phase II hearings, scheduled to begin in November 1988, to adopt a final water quality plan and pollutant policy.

During Phase III, scheduled to start in mid-1989, the SWRCB will hold hearings on how various water rights are affected by or may affect the Bay-Delta estuary. After Phase III, SWRCB will circulate a draft EIR and possibly conduct a public hearing. By mid-1990, SWRCB plans to have a final EIR and render a water rights decision to replace Decision 1485.

Delta Water Quality Monitoring and Reporting

DWR continues its extensive monitoring program in the Sacramento-San Joaquin Delta and the Suisun Marsh. Twenty-seven discrete sites are sampled bi-weekly for a variety of physical, chemical, and biological constituents. This sampling is supported by six multi-parameter, continuously operating, shoreline installations. Continuous water quality profiles of the main channels are also recorded biweekly, using instrumentation aboard DWR's laboratory work boat, the San Carlos. DWR also maintains 34 tide and 13 electrical conductivity recorders in the Delta, as well as a network of continuous electrical conductivity and stage recorders throughout the Suisun Marsh. Additionally, DWR determines soil chemistries at 51 representative sites, as provided in the Suisun Marsh Plan of Protection.

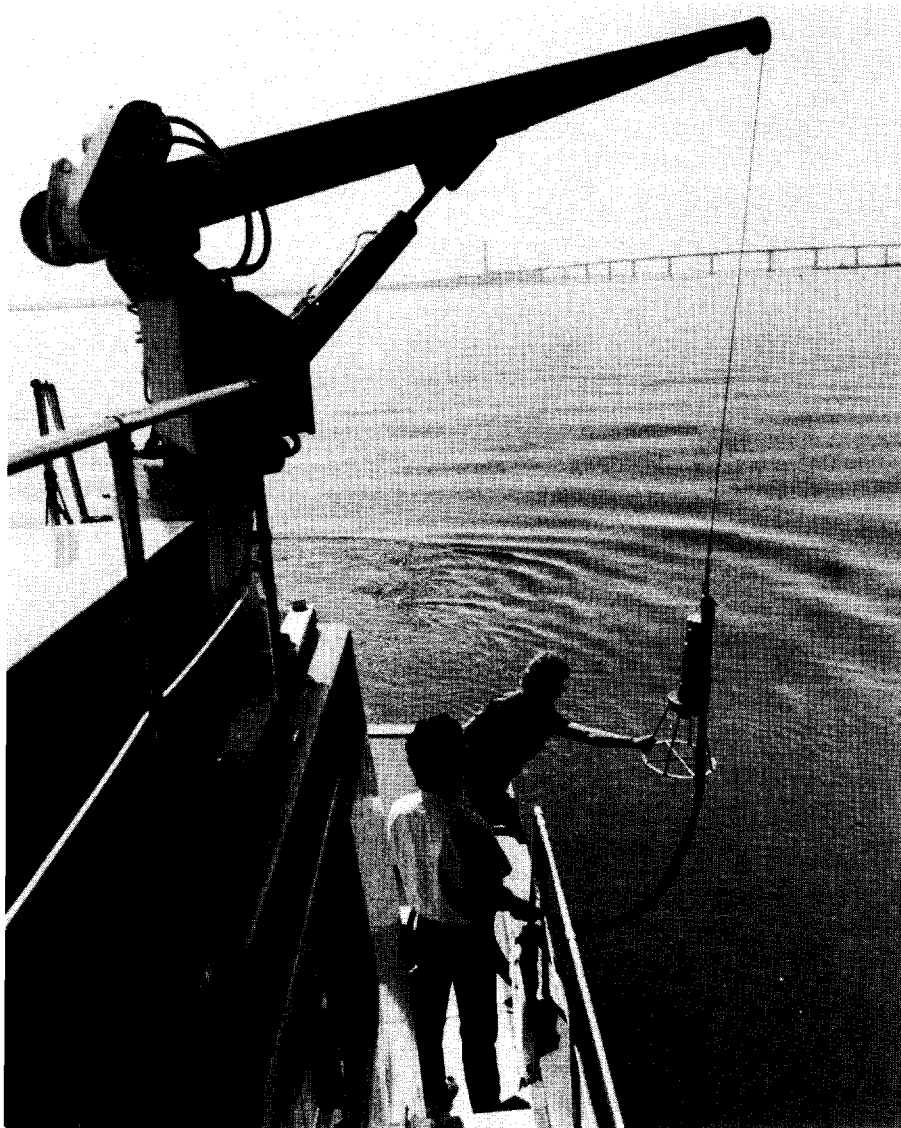
Compliance with Decision 1485 also requires supplemental studies of the San Francisco Bay ecosystem's

freshwater outflow needs. The objective is to separate the effects of Delta outflow from other major influences on the bay, such as waste discharges and shoreline development. Water quality information generated from these programs is electronically processed and stored on the Environmental Protection Agency's "Storet" and in DWR's Water Data Information System. Tabulations of basic data and an evaluation report are submitted for annual SWRCB review. Copies of 1975 through 1986 reports are still available.

Suisun Marsh

Suisun Marsh, in southern Solano County, consists of about 116,000 acres. The marsh supports as many as 200 species of wildlife. The brackish water in Suisun Marsh fosters plants and provides habitat for wildfowl.

The marsh's salinity affects the wildlife food chain, and the Sacramento-San Joaquin Delta outflow affects the marsh salinity. Decision 1485 required DWR and



Using instrumentation aboard DWR's laboratory work boat, the San Carlos, Delta water quality is monitored carefully.

USBR to develop a plan to meet specified water quality standards within the marsh. Initial facilities were completed in 1983, and a coordinated protection plan for Suisun Marsh water quality was developed. The protection plan, published with an EIR in 1984, includes:

- a program to construct (as required) a major tidal pumping station, three conveyance channels, and one additional distribution system; and
- a system to monitor compliance with water quality standards and measure the performance of the facilities constructed. The monitoring plan has been implemented.

A key part of the protection plan is the Suisun Marsh Salinity Control Gates. Upon completion, this facility will be tested for effectiveness in meeting the specified water qualities; additional features will be built as needed.

In March 1987, DWR, the USBR, the Department of Fish and Game, and the Suisun Resource Conservation District signed the Suisun Marsh Preservation Agreement. The agreement includes definitions of marsh water quality standards and construction staging, as well as the details for implementing the Plan of Protection.

In December 1985, at the request of the USBR, the SWRCB agreed to defer application of Decision 1485 standards for Suisun Marsh until 1988. The standards will then be phased in on a schedule similar to the one in the agreement.

Western Delta Municipal Water Users

Two contracts are in effect for the cost of substitute municipal water supplies in the Antioch-Pittsburgh area (Bulletin 132-67, page 20). The first, signed April 21, 1967, is with the Contra Costa Water District (CCWD) for its municipal water diversion at Mallard Slough near Pittsburg; the second, signed April 11, 1968, covers the City of Antioch.

Each contract provides that DWR compensate each entity for its additional costs of purchasing a substitute water supply from the Contra Costa Canal to replace offshore supplies lost because of SWP operation.

Credits for above-average offshore water supplies accrue to offset below-average days in future years.

Both agencies had below-average water supplies during the 1987 water year as defined in the contracts. During the 1987 water year, water of usable quality was available to CCWD for 15 days, compared to the contract standard of 142 days. For the City of Antioch, usable water was available for 84 days, compared to the standard of 208 days. The deficiencies (127 days for CCWD and 124 days for Antioch) were offset by credit days accumulated during prior years of above-average supplies. These subtractions reduced the credit balances of CCWD and Antioch to 108 days and 167 days, respectively, at the end of the 1986-87 water year.

Western Delta Industrial Water Users

Several industries near Antioch and Pittsburg use offshore water for processing. When offshore water quality is below the industries' requirements, the Contra Costa Canal provides a substitute supply.

A water entitlement contract was executed on November 16, 1987 with Fibreboard Corporation. Under this agreement, DWR compensates Fibreboard for the added net costs it incurs for the substitute supply and for any treatment required due to the operation of the SWP. The contract uses a graphic schedule of "agreed upon days of availability" of water of 150 mg/l Cl or better at Antioch, assigning a number of days to each level of year wetness using the Sacramento River Index. A factor is applied to the difference between that schedule and the actual days of availability for the year to determine the SWP impact. The value of net benefits to Fibreboard are banked against net costs in future years. DWR pays an additional "cost penalty" for treatment for times when there are insufficient additional days of availability from Contra Costa Canal to make up the deficiency in availability from the river. DWR also agrees to negotiate the payment of claims for lost production in the event that water quality deteriorates to worse than 230 ppm Cl from both sources.

Negotiations have begun with Gaylord Container, Inc. Also, Gaylord Container recently purchased Fibreboard's mill.

Delta Agricultural Water Users

DWR has sought contracts with Delta agricultural agencies for more than a decade to help the SWP meet

necessary water quality standards for reasonable beneficial uses throughout each agency's respective area. Included in such contracts would be the relaxing of these standards during dry and critical years. In return, the agencies would make annual payments for services in excess of any SWP mitigation obligation.

Six agencies representing Delta agricultural water interests replaced the Delta Water Agency in 1974. Contracts were signed in 1981 with the North Delta Water Agency and the East Contra Costa Irrigation District. Negotiations are proceeding with the Central Delta Water Agency and the South Delta Water Agency.

South Delta Activities

Because negotiations among DWR, the USBR, and the South Delta Water Agency were under way, and because SWRCB had insufficient information available, Decision 1485 did not establish water quality standards for the southern Delta. Subsequently, SDWA filed a lawsuit against the SWRCB for failing to include southern Delta standards in Decision 1485.

In 1982, the SWRCB informed SDWA that it must petition the SWRCB if it wished any motion regarding the adoption of standards. SDWA restated its position that the SWRCB must adopt standards for the southern Delta and indicated that negotiations had come to an impasse.

SDWA filed a lawsuit against DWR and the USBR in July 1982 over the effects of SWP and CVP operations on water quantity and quality in the southern Delta. The parties have been actively negotiating since then. In 1985, DWR and SDWA signed an interim letter of intent to construct facilities, to dredge certain channels, and to operate the SWP to eliminate adverse water level and water circulation impacts resulting from the construction and operation of the SWP.

The letter of intent included a plan for: (1) dredging the upper five miles of Tom Paine Slough; (2) installing siphons into Tom Paine Slough if the dredging was not effective; (3) developing Clifton Court Forebay operational criteria; and (4) constructing a weir in Middle River.

The Tom Paine Slough dredging was completed in October 1986. DWR will install the siphons for the 1988 irrigation season.

The Middle River weir was installed in May 1987, and the center portion was removed at the end of September 1987. The removable weir portion was reinstalled for the 1988 irrigation season.

In October 1986, a framework agreement for settling SDWA litigation was signed by the USBR, DWR and SDWA. The agreement includes: (1) negotiations for a long-term plan of physical or operational solutions; (2) provisions for cost-sharing and responsibilities for the implementation of the long-range plan; (3) interim actions, namely New Melones releases, to help improve the south Delta water supply; and (4) action to cancel the April 1987 trial date. The trial date was vacated and legal action was stayed.

Also as part of the agreement, SDWA will release claims against DWR for water level damage caused by SWP operations in the south Delta. This release will be in effect during the length of the agreement.

The agreement is an interim solution. Both agencies, with the USBR as third party, expect a permanent solution within the next five years.

Davis-Grunsky Act Program

The Davis-Grunsky Act provides funding for loans and grants to public agencies for construction of local water projects. As companion legislation to the Burns-Porter Act, the Davis-Grunsky Act was passed by the Legislature in 1959. Of the original \$1.75 billion provided by the Burns-Porter Act to construct the State Water Resources Development System, \$130 million was reserved specifically for distribution under the Davis-Grunsky Act. Funding is drawn from the California Water Resources Development Fund and the California Water Fund. Repayment of loans is made to the California Water Resources Development Fund.

Under the program established by the Davis-Grunsky Act, financial assistance is given to local agencies to (1) overcome and avoid public health problems in their water supplies, (2) develop new water supplies, and/or (3) encourage development of public recreation and fish and wildlife enhancement. Program funds are also available for feasibility report preparation. Under certain circumstances, the State may participate as a partner with an applicant. Any city, county, district, or other political subdivision of the State is considered an eligible local agency. Mutual water companies or other

private organizations and individuals are not eligible. Eligibility is also based upon conformance with the California Water Plan and statewide benefit; if a loan is requested, inability to finance from other sources is also considered.

The Davis–Grunsky Act is administered jointly by DWR and the California Water Commission, under policies and procedures set forth in the California Administrative Code, a Joint Statement of Policies, and the Davis–Grunsky Act itself.

The seven specific types of assistance available to local agencies are:

- grants for part of the construction cost of any dam and reservoir properly allocated to recreation;
- grants for construction of initial water supply and sanitary facilities needed for public recreational use of the reservoir;
- grants for part of the construction cost of a project properly allocated to the enhancement of fish and wildlife;
- construction loans for local water projects;
- loans for acquisition of reservoir sites for proposed water projects;
- loans for feasibility reports about proposed projects for which construction loans are requested; and/or
- State participation as a partner in a project larger than one the local agency proposes to construct on its own.

When the program began, loans were made at the current market interest rate at the time of the loan, which caused the rate to vary from loan to loan. To be more equitable to the low-income agencies the program was designed to assist, the interest rate was changed to an overall rate of 2.5 percent, with a maximum repayment period of 50 years. In some instances, at the discretion of DWR, agencies were given an initial 10-year deferment on loan payments. The accumulated interest was then amortized over the repayment period.

Through June 30, 1988, approximately \$119 million of the \$130 million allocated under the Burns–Porter Act

was disbursed for loans, grants, and administrative costs.

Principal actions under the Davis Grunsky Act program during the report period in 1987 were:

- Home Gardens County Water District, San Bernardino County, submitted a formal application for a water supply and distribution system. The application was approved, and the district received three disbursements totaling \$2,306,000. Estimated cost of the project is \$2.5 million.
- Strathmore Public Utility District, Tulare County, applied for a \$2.2 million construction loan. The formal application and feasibility report, along with DWR's report of findings, were approved in 1986 by the California Water Commission. The loan would partially finance construction of a \$3 million project to provide drinking water to the community of Strathmore and adjacent lands. A combination of funds from the Davis–Grunsky Act Program and the Safe Drinking Water Bond Act of 1984 is proposed for the project.
- Littlerock Creek Irrigation District, Los Angeles County, submitted a formal application for a \$2 million construction loan. The proposed loan is for the upgrading and expansion of the water distribution system to serve the community. The Department has prepared findings on the application, which was approved by the California Water Commission on June 17, 1988.
- Big Bear Municipal Water District, San Bernardino County, submitted a formal application for a \$5 million construction grant. The proposed grant is for the repair of Bear Valley Dam, which does not meet earthquake safety standards. The Department prepared a finding on the application, which the California Water Commission approved on June 17, 1988.

State Legislation

SB 34 is the only major water-related bill enacted since Bulletin 132–87. Passed early in 1988, it creates the Delta Flood Protection Fund, financed from tidelands revenues currently designated for the California Water Fund. It authorizes \$12 million to be appropriated annually for the next 10 years for local assistance under the Delta Maintenance Subventions program

and for DWR– sponsored flood control projects for eight western Delta islands and the towns of Walnut Grove and Thornton. DWR is directed to seek appropriate cost sharing. SB 34 increases the State share of the local assistance from 50 to 75 percent of costs above \$1,000 per mile and permits DWR to acquire easements up to 400 feet in width along levees. It authorizes \$5 million a year in appropriations for mitigation in the Delta, Suisun Marsh, and San Francisco Bay, and in Salton Sea and its tributaries. Chapter No. 28 of 1988.

The following laws are also of interest:

- **AB 645:** Requires a DWR study of the economic and environmental impacts resulting from the removal of O'Shaughnessy Dam, or the modification of the operation of the Hetch Hetchy Project, to be completed by the end of 1989. Chapter No. 1366 of 1987.
- **AB 1541:** Directs DWR to make a reconnaissance-level investigation of water marketing transfers between Imperial Irrigation District and San Diego County Water Authority. The investigation is to cost no more than \$25,000 and is to be completed by January 1, 1990. Chapter No. 918 of 1987.
- **AB 1705:** Transfers \$5 million from 1988–89 tidelands oil revenues to the Fisheries Restoration Account and appropriates the funds to the Department of Fish and Game for fisheries damaged by past water diversions and development activities. Chapter No. 1325 of 1987.
- **ACR 80:** Requests DWR to implement a program for direct recharge of SWP water in the Kern River alluvial fan area. The following activities are part of the program: additional technical studies; acquiring lands; negotiating a contract with Kern County Water Agency; negotiating water supply contract amendments; and constructing facilities. No formal report to the Legislature is needed nor is a deadline established. DWR is already doing the technical studies and negotiating to acquire the land. Chapter No. 131 of 1987.
- **AB 1715:** Enacts the Water Conservation Bond Law of 1988 authorizing \$60 million in bonds to finance local water supply projects, water conserva-

tion programs, and ground water recharge facilities. Res. Chapter No. 46 of 1988.

- **AB 1439:** Enacts the Safe Drinking Water Bond Law of 1988 authorizing \$75 million in bonds to finance loans and grants to construct, improve, or rehabilitate domestic water systems. Chapter No. 45 of 1988.
- **AB 1350:** Authorizes public agencies which provide services, including water, to other entities to charge those agencies for the cost of capital facilities needed to provide the service. Chapter No. 53 of 1988.
- **SB 1484:** Provides that Imperial Irrigation District will not be liable for the effects to Salton Sea or its bordering area from conservation measures which would reduce the flow into Salton Sea. Chapter No. 629 of 1987.

Litigation

The following are summaries of the principal litigation involving DWR during the report period:

Control Over SWP Operations

South Delta Water Agency (SDWA) v. United States, et al., filed July 9, 1982, Federal District Court for the Eastern District of California CIV S–82– 567 MLS, by SDWA against the United States, the Department of the Interior, the USBR, and DWR. It involves the effects of the CVP and SWP on the southern Delta and the Department of the Interior's designation of the New Melones Reservoir service area.

SDWA alleges (1) that CVP operations in the San Joaquin River unlawfully reduce the quantity and diminish the quality of water flowing in the San Joaquin River to the southern Delta; (2) that operation of the SWP and the CVP pumps violates southern Delta rights by lowering water levels, reversing flows, and diminishing the influence of the tides; and (3) that the Secretary of the Interior's designation of the "Stanislaus River Basin" for purposes of allocating water from New Melones Reservoir violates southern Delta rights by not including the southern Delta in the basin. SDWA asks for declaratory and injunctive relief.

The United States and the plaintiff settled plaintiff's Motion for Preliminary Injunction (to enjoin the

United States from signing contracts for New Melones water) by stipulating that any contracts entered into by the United States are subject to any superior rights in the southern Delta that are determined in this litigation. Further activity on the suit has been postponed indefinitely while the parties negotiate a settlement. An interim agreement has been signed and a permanent agreement is expected within the next five years.

Seepage Suits

More than 25 landowners adjacent to the Sacramento and Feather rivers filed several suits in 1975 and 1976 against the United States for damages alleged to have been caused by erosion and seepage in March and April of 1974. The plaintiffs claim damages in excess of \$30 million as a result of CVP and SWP operations.

One such case is *H. S. Sanborn, et al. v. United States*, filed March 22, 1976, U. S. District Court CIV 5-76-154, a complaint in inverse condemnation, negligence, and trespass. The claim arises from damages allegedly caused by high flows in the Sacramento River during March and April of 1974 at the time of a heavy and late storm. The levels were partially controlled by releases from Shasta lake and diversions from the CVP's Trinity River Division. The plaintiffs contend that the USBR kept the river levels high for an extended period, causing erosion and seepage that damaged their orchards and crops. The plaintiffs also sued the State, claiming that DWR participated as a joint venturer in the planning and operation of the CVP.

In May 1984, the U. S. Court of Claims rejected the claim against the United States, on the ground that a one-time flooding is not a taking of a property right in inverse condemnation.

Plaintiffs then turned to the State courts, seeking a summary judgment on the ground that DWR was a joint venturer with the United States in the CVP, and that flood control operations were a joint responsibility. Identical actions were initiated in Colusa County and Sutter County, and denied on April 23, 1985, and April 30, 1985, respectively.

On January 25, 1988, the Court granted the State's motion and dismissed all 11 seepage cases for failure to bring them to trial within the time prescribed by law.

February 1986 Flood Cases

Claims for over \$3 billion were filed with the California State Board of Control against State agencies, including DWR, for damages arising out of levee failures and flooding in areas of the Sacramento Valley during February 1986. The Board of Control denied the claims. Since SWP operations do not appear to have any causal connection to such levee failures or flooding, DWR believes that SWP liability is unlikely.

Thirty-one of the 44 Yuba County claims were coordinated and assigned to a Coordination Trial Judge. The Sacramento cases were not coordinated and are proceeding to trial individually. One class action suit, involving over 100 plaintiffs and alleging several million dollars of damage from flooding at Cal Expo, went to trial on February 4, 1988. The jury returned a verdict in favor of the public agency defendants and found no liability on the part of the State or the County of Sacramento.

Kern River Intertie

River West, Inc. v. State of California, et al., filed August 5, 1980, in San Francisco and transferred to Kern County Superior Court, No. 174778. This case involves water rights, Kern River Intertie operation, and the operation of the California Aqueduct. The plaintiffs have sued DWR, upstream landowners on the Kern River, and local water agencies, alleging infringement of the riparian and appropriative water rights of the plaintiffs. Plaintiffs contend, as to DWR, that water other than flood water is being accepted into the Intertie contrary to the Intertie's flood control purpose. The plaintiffs originally wanted an injunction and declaratory judgment. Now they have amended their complaint to add a count relating to damages for inverse condemnation.

A dismissal of this action was signed by the judge on January 21, 1988, and entered on February 8, 1988. The dismissal is with prejudice in exchange for a waiver of defendant's costs. A suit dismissed with prejudice cannot be refiled.

On December 29, 1982, a related case, *Kern Property Corporation v. State of California*, acting through Department of Water Resources, et al., was filed in Kern County Superior Court No. 181265. This suit also involves operation of the Kern River Intertie and local

water rights. Several of the defendant districts have agreed to indemnify the State against judgment in favor of the plaintiff.

Energy Cases

Southern California Edison Company (SCE) v. Los Angeles Department of Water and Power (LADWP), et al., filed October 18, 1979, Los Angeles Superior Court, No. C-301654. This suit was filed by SCE to compel LADWP to continue to meet its obligation to supply DWR with electrical power under the Suppliers Contract. LADWP has claimed that under the doctrine of commercial impracticability, it is entitled to be excused from its obligations under this contract.

LADWP had earlier given notice to DWR that, unless DWR paid a higher price for the power than that set forth in the contract, it would no longer provide DWR with service. After DWR refused to deviate from the terms of the Suppliers Contract, LADWP informed DWR and the other parties to the contract that it would terminate service as of October 21, 1979. The Pacific Gas and Electric Company and the San Diego Gas and Electric Company, suppliers under the contract along with SCE and LADWP, are defendants in the lawsuit. DWR intervened in the case. On November 7, 1979, a preliminary injunction was issued requiring LADWP to continue to supply power under the Suppliers Contract. LADWP continued supplying power to DWR until termination of the Suppliers Contract in 1983. SCE and LADWP have reached a settlement agreement. However, the settlement is subject to Federal Energy Regulatory Commission approval. If FERC approves the settlement, SCE will dismiss the case with prejudice.

MCR Geothermal Corporation and Entex Energy Operations, Ltd. v. State of California, filed August 28, 1985, Sacramento Superior Court, No. 332642. The plaintiffs filed a complaint against DWR for \$9.5 million. They claimed they are owed this sum because DWR failed to have Bottle Rock Powerplant ready by the scheduled commercial operating date. DWR filed a cross complaint against MCR for recovery of damages sustained at the unit due to impurities in the steam delivered shortly after startup. The cross complaint also sought liquidated damages for MCR's inability to deliver sufficient steam to operate the power plant at 55 MW.

MCR also filed a \$200 million claim with the State Board of Control alleging that DWR acted in bad faith.

The parties have negotiated a settlement agreement whereby all litigation and Board of Control claims were dismissed with prejudice. As part of the settlement DWR purchased the producers' interest in the steam fields for \$13.58 million.

Arbitration Between Nevada Power Company and DWR, filed October 30, 1986. The arbitration involves a dispute between the parties relating to their joint operation of Reid Gardner Unit No. 4. Specifically, the issue involves the allocation of the minimum coal purchase obligations under four contracts for the coal supply to Unit No. 4, owned jointly by DWR and the Nevada Power Company, and the Units Nos. 1, 2, and 3, owned solely by the Nevada Power Company.

The dispute is being arbitrated pursuant to arbitration provisions in the Participation Agreement for Reid Gardner Unit No. 4. Each party appointed an arbitrator, and the two arbitrators selected a neutral arbitrator. The parties are engaging in discovery.

DWR v. Lake County, filed October 1987, Lake County Superior Court. DWR is challenging the validity of Lake County's Electricity Generation Tax ordinance as it applies to DWR's Bottle Rock Powerplant and is claiming a refund of the \$1.7 million paid the County. DWR asserts that the tax is, in effect, an ad valorem tax on State property that is prohibited by the State Constitution. Payment of the tax was a prerequisite to challenging the ordinance in court.

The answer was filed in January 1988.

Water Supply Contracts

Antelope Valley-East Kern Water Agency (AVEK) v. Local Agency Formation Commission of Los Angeles County (LAFCO), filed April 9, 1987. Residents of the Aqua Dulce area sought to detach the area from AVEK, a water service contractor with the SWP. LAFCO approved the detachment and terminated the obligation of the residents to pay taxes for the pre-existing bonded indebtedness of AVEK. LAFCO further did not require the detachment to be approved by DWR as the water supply contract with AVEK requires. AVEK challenged the detachment insofar as it did not require the area residents to remain subject to taxes for the pre-existing bonded indebtedness. DWR intervened

on the side of AVEK. Castaic Lake Water Agency, Crestline-Lake Arrowhead Water Agency, and Desert Water Agency joined as friends of the court.

On May 22, 1987, the trial judge ruled that the LAFCO detachment order was invalid. On June 18, 1987, the trial judge issued a peremptory writ of mandate requiring LAFCO to set aside its action and to reconsider the detachment proposal in light of the court opinion. On August 3, 1987, the property owners filed a notice of appeal. The real party in interest, the Aqua Dulce Water Committee, representing the detaching owners, filed their appellate brief on December 10, 1987. They agreed to allow the State extra time to file a reply brief. The Attorney General filed the reply brief on March 21, 1988.

Environmental Cases

U. S. v. Nevada Power Company (NPC), filed December 1, 1987, United States District Court, District of Nevada. The Environmental Protection Agency (EPA) sued NPC over its operation of the Reid Gardner generating station, Units 3 and 4. DWR was not named as a defendant, but jointly owns Unit 4 with NPC. EPA has alleged several violations of the Clean Air Act, including failure to meet particulate matter standards reporting violations, failure to maintain appropriate files, and failure to report required emissions information.

NPC filed an answer asserting general denials on December 28, 1987. The answer also raises several affirmative defenses and requests a jury trial. Discovery is proceeding. DWR staff attended a preliminary settlement meeting on June 8, 1988.

Construction Cases

Pascal and Ludwig, Inc. v. State of California, pending in various courts and administrative forums since 1967. This case involves claims totaling approximately \$1.2 million plus interest based on alleged changed conditions discovered during construction of Grizzly Valley Dam at Lake Davis, in Plumas County. The Court of Appeal ruled in March 1986, that the claims must be heard and decided by a "neutral expert." A hearing was held from October 26 through November 4, 1987 before a hearing officer who was agreed to by both parties. After submission of extensive post-hearing briefs, the judge awarded the contractor \$432,000 in principal.

The largest portion of the award was for acceleration costs.

The largest of the contractor's four claims, arising out of alleged differing site conditions in the Department - designated rock quarry, was denied. The contractor was awarded \$627,000 in interest from 1967, for a total award of \$1,061,000. The parties agreed that no appeal could be taken from the decision and to bear their own attorney fees.

Nevada Power Company (NPC) and DWR v. Fluor Power Services, Inc., et al., filed fall 1986, Clark County District Court, Nevada. DWR and NPC contracted in 1979 for the construction of a coal-fired steam turbine generating plant, known as Reid Gardner Unit 4. The superstructure of the plant's concrete cooling tower is deteriorating and will eventually collapse, due in part to reactive aggregate in the concrete mix, which produces high internal pressures as silica gel forms, causing the concrete to fail.

DWR and NPC have sued the general contractor for the power plant (Fluor Power Services), the cooling tower contractor (Boecon), and the materials supplier (Las Vegas Building Materials) alleging that they failed to ensure an adequate specification for the concrete mix, failed properly to supervise the placement of concrete, and misrepresented the quality of the aggregate. All defendants have been served and have answered. Discovery is under way. The case is expected to go to trial in 1989.

Condemnations

State of California v. Norman P. Andresen, et al., filed December 4, 1981, Merced County Superior Court. This case involved condemnation of 689 acres of property adjacent to San Luis Dam for repair and maintenance purposes. The property includes a rock quarry. The State's appraisal was \$248,000 for the land valued as agricultural land.

On June 27, 1985, Merced County Superior Court rendered judgment for \$3.2 million plus interest, costs, and attorneys' fees to the defendants. Subsequently, prejudgment interest was stipulated to be \$1.5 million and, on September 5, 1985, the court awarded an additional \$1.1 million in attorneys' fees and \$87,000 in court costs to the defendant. An appellate decision of August 24, 1987, affirmed the judgment of the trial

court. On October 14, 1987, the Supreme court denied a petition for review, thereby making the judgment final.

The judgment has been paid. A January 26, 1988 hearing resulted in an order which required DWR to pay an additional \$641,435 for appellate attorneys' fees and costs of appeal.

Other Contracts

Morrow Island Land Co. v. State of California, filed November 4, 1982, Solano County Superior Court, No. 83255. Under a contract with Morrow Island Land Company, a private duck club, DWR agreed to build water control facilities in Suisun Marsh. The claimant agreed to provide without charge the necessary easements for right of way and to maintain the facilities

(four 48-inch corrugated steel pipes and some levees) after construction. DWR substituted pipes equal to those specified in the preliminary draft specifications. However, the company brought suit against the Department claiming that the State had not constructed the facilities in the manner it had agreed to in the contract. The claimant contended that it had been damaged to the extent of \$300,000 by the substitution because of higher maintenance and shorter life of the pipes installed. DWR contended that the pipes would provide service equal to the service available from those originally contemplated.

A non-jury trial resulted in a proposed judgment adverse to the Department in the amount of \$249,715, which was affirmed on appeal in an opinion filed on June 28, 1988.

CHAPTER IV

DESIGN, RIGHT OF WAY, AND CONSTRUCTION ACTIVITIES

July 1, 1987 through June 30, 1988

This chapter discusses design, right of way, and construction work within the SWP construction divisions shown in Figure 8.

Design Activity

Table 12 summarizes the principal SWP design activities during the report period. Of these, the following were most significant in terms of design effort.

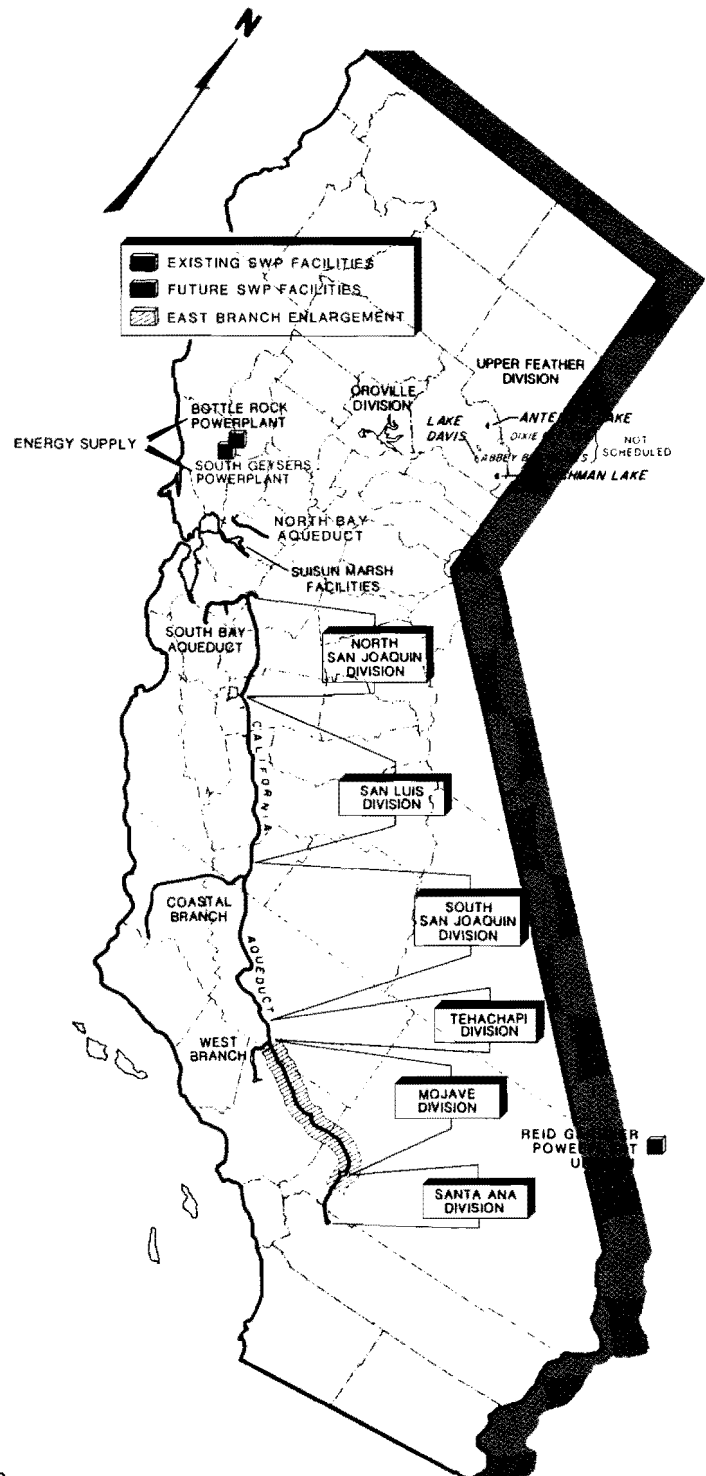
Harvey O. Banks Delta Pumping Plant

Completion of the Harvey O. Banks Delta Pumping Plant requires adding four pump units (units 8, 9, 10, and 11) to the existing facility. The work will be done under ten construction contracts. The first contract, for furnishing and installing the pumps, was awarded to Voith Hydro on August 14, 1987. Plans and specifications for a 100-ton bridge crane, north service bay excavation, the north service bay, motors, and discharge valves were completed and advertised within the last year. The pumping plant service bay excavation design was completed and construction was started in April 1988. Design work was initiated for plant completion and electrical equipment contracts.

North Bay Aqueduct, Phase II

The main features of the North Bay Aqueduct, Phase II are the pumping plants at Barker Slough and Cordelia Forebay and 23 miles of pipeline. All of the design work required for these features is complete. Design of the access road and landscaping at Cordelia Pumping Plant, earthwork completion at Barker Slough, and a water well at Barker Slough Pumping Plant were all completed between July 1987 and

FIGURE 8. SWP CONSTRUCTION DIVISIONS



**TABLE 12. SWP DESIGN ACTIVITY IN PROGRESS,
JULY 1987-JUNE 1988**

Construction Division *Facility	Construction Contract	Begin Design	Complete Design
Energy Supply *Bottle Rock Powerplant	Service Bay Sound Barrier Modification of Sour Gas Line	Jun. 1987 Jan. 1988	Nov. 1987 Apr. 1988
Oroville Division *Edward Hyatt Powerplant	Foam Fire System, Edward Hyatt Powerplant, High Voltage Tunnel Oroville Area Control Center	May 1987 Dec. 1986	Nov. 1987 Sep. 1987
Suisun Marsh Facilities	Suisun Marsh Recreation Facilities	Jul. 1987	Mar. 1988
North Bay Aqueduct	Control System Microwave Towers Access Road and Landscaping at Cordelia Pumping Plant Water Wells at Barker Slough Pumping Plant	Jan. 1986 Sep. 1987 Jul. 1987 Sep. 1987	Apr. 1988(a) Dec. 1987 Nov. 1987 Nov. 1987
South Bay Aqueduct	Furnish Pump Bowl Assembly for South Bay Pumping Plant Del Valle Dam - Flood Control Intake Bulkhead Gate	Jun. 1987 Oct. 1987	Oct. 1987(b) Mar. 1988
North San Joaquin Division *Harvey O. Banks Delta Pumping Plant	North Service Bay Excavation North Service Bay Furnish & Install Bridge Crane Furnish & Install Four Pump Motors Furnish & Install Four Pump Discharge Valves Completion Contract Control Switchboards and Motor Switchgear Transformers Furnish 54-inch Blind Flange and 84-inch Bumped Head Replacement Pump Impellers, Dos Amigos and Harvey O. Banks Delta Pumping Plants	Feb. 1987 Feb. 1987 Mar. 1987 Jun. 1987 Apr. 1987 Oct. 1987 Jan. 1988 Jan. 1988 Jun. 1987 May 1987	Jan. 1988 Apr. 1988 Oct. 1987 Mar. 1988 Apr. 1988 Dec. 1988 Dec. 1988 Sep. 1988 Sep. 1987 Jan. 1988
*John E. Skinner, Delta Fish Protective Facility	Demonstration Striped Bass Grow-Out Project	Jan. 1988	Jan. 1988
San Luis Division	Seal Coat Operation Roads, San Luis Field Division	Nov. 1987	Mar. 1988
South San Joaquin Division	Repair Concrete Lining Downstream of Grapevine Siphon Increase Aqueduct Lined Depth, Mile 182.00 to Mile 184.82 & Mile 195.00 to Mile 196.96 Replace Pump Impellers for Buena Vista and Wheeler Ridge Pumping Plants Replace Pump Impellers for Oso and Wind Gap Pumping Plants Lost Hill Subcenter Pavement Repair Recoating of Discharge Lines and Appurtenance for Wheeler Ridge Pumping Plant Repair Old River Road Bridge Near Mettler	May 1987 Oct. 1987 May 1987 May 1987 Dec. 1987 Dec. 1987 Jul. 1987	Jul. 1987 Mar. 1988 Mar. 1988 Mar. 1988 Apr. 1988 Apr. 1988 Aug. 1987
Tehachapi Division *A. D. Edmonston Pumping Plant	A. D. Edmonston Discharge Line-Adit Repair A. D. Edmonston 4.16kV Transmission Line Repair Recoating Transformers, Towers and Switchyards, A. D. Edmonston Pumping Plant	May 1987 Aug. 1987 Aug. 1987	Aug. 1987 Jan. 1988 Jan. 1988
Mojave Division	Pearblossom O&M Subcenter Warehouse HVAC and Awning Addition Internal Joint Seal for Southern Field Division Recoating Pearblossom Pumping Plant, Surge Tanks, Switchyard & Transformers	Sep. 1987 Aug. 1987 Feb. 1987	Jan. 1988 Dec. 1987 Jun. 1988
*East Branch Enlargement	Canal Structure Modifications, Alamo Power Plant to Pearblossom Pumping Plant Nine Circular Siphons Antelope Siphon	Jul. 1987 May 1986 May 1988	Sep. 1988 Aug. 1987 Apr. 1989
*Pearblossom Pumping Plant Enlargement	Initial Contract Cranes Motors Valves Switchgear Switchboards Transformer Completion Contract Third Discharge Pipeline	Apr. 1986 Jan. 1987 Dec. 1986 Mar. 1987 Oct. 1986 Jun. 1986 Jun. 1986 Jan. 1988 Jan. 1988	Mar. 1988 May 1988 Sep. 1987 Mar. 1988 May 1988 Sep. 1988 Sep. 1988 Feb. 1989 Feb. 1989
*Mojave Siphon Powerplant	Turbines, Generators & Governors Initial Contract	Jul. 1987 Jul. 1987	Aug. 1988 Feb. 1990
Santa Ana Division *Devil Canyon Powerplant Enlargement	Initial Contract Office Trailer Shelter Penstocks Penstock Shutoff Valve Generators Switchboards Breakers Cofferdam Completion Contract Switchgear	Mar. 1987 Mar. 1987 May 1987 May 1987 Feb. 1987 Mar. 1987 Feb. 1987 Sep. 1987 Nov. 1987 Feb. 1987	Dec. 1987 Oct. 1987 Aug. 1988 Jun. 1989 Oct. 1988 Nov. 1988 Mar. 1988 Oct. 1987 Jul. 1989 Oct. 1988
West Branch	Disposition of Gorman Creek Interim Facilities Vista del Lago Visitor Facilities, Pyramid Lake	Jan. 1987 Mar. 1988	Feb. 1988 Nov. 1988

a) Job was postponed at the request of O&M.
b) Job was suspended by O&M.

June 1988.

The North Bay Aqueduct pumping plants will be remotely operated by an interim control and communication system. During 1987, design was completed on the remaining control and communication systems required for inclusion in the SWP Supervisory Control and Data Acquisition System. This system, which provides total integration with the Project Operation Center and Delta Area Control Center, will be incorporated into the control system replacement contract.

East Branch Enlargement (Mojave and Santa Ana Divisions)

Enlargement of the East Branch of the California Aqueduct will be completed in two stages and will ac-

commodate an additional flow of 1,500 to 1,683 cfs in the various reaches. The majority of enlargement work will be completed during first-stage construction, which will provide at least half of the ultimate enlargement capacity. Approximately 50 contracts will cover the first-stage construction. The second stage of the East Branch Enlargement has been deferred.

Raising the canal lining to accommodate the increased flow in Stage I was completed in 1987. Fifteen canal siphons require additional barrels. The first contract, awarded last year, was for three of the 15 siphons; design for 10 other siphons was completed in 1987-88. Two contracts were required for nine circular siphons and the Antelope Siphon.

Design continues on the enlargement of Pearblossom Pumping Plant to house five additional pumping units.



Design and Construction activities are proceeding for the East Branch Enlargement, shown here near Devil Canyon Powerplant.

During the first stage of enlargement, three units will be installed, each with 375 cfs design capacity. Two of the new units will be considered enlargement facilities (raising total plant capacity to 2,200 cfs), and the third will serve as a spare unit to enhance the plant's reliability to deliver scheduled flows. During 1987-88, plans and specifications for six contracts were completed and advertised to complete initial construction work and to furnish and install cranes, motors, valves, switchgear, and switchboards. Design work was started for the transformer, discharge line, control system, and completion contracts.

The Mojave Siphon Powerplant will be a new power generating facility on the East Branch of the California Aqueduct. Final design for the initial construction contract and for the turbines, generators, and governors began in July 1987. The facility will be operational in 1994.

The Devil Canyon Powerplant expansion will accommodate two additional generating units. Two 800-cfs impulse turbines, together with the two existing 600-cfs impulse turbines, will increase the plant's flow capacity to 2,800 cfs. A second penstock will be built to deliver water to the new units; however, the existing afterbay will not be enlarged in the initial work. (DWR is studying the possibility of adding a second afterbay, but it is not an element of the present enlargement program.)

Plans and specifications are complete for eight contracts at the Devil Canyon Powerplant. These contracts are for (1) turbines, governors and valves, (2) warehouse, (3) bypass sleeve valve, (4) trailer shelter, (5) cofferdam, (6) initial construction, (7) penstock, and (8) generators. Design for the remaining contracts is on schedule.

Land and Right of Way

DWR spent \$8.53 million for land acquisition in excess of credits for sales of surplus property and return of condemnation deposits for the 18 months ending June 30, 1988. The total net expenditure for SWP right of way for the 18 months ending June 30, 1988 was \$127.0 million. Forty-five parcels (864.47 acres) were acquired during that period. The cumulative total of excess lands sold through June 30, 1988 was 853 parcels (13,649 acres).

Thirty-six new and existing leases were monitored through June 1988; revenues for the 18-month period totaled \$107,000.

DWR's 1987-88 program included the following land and right of way actions:

Energy Supply

- At Bottle Rock Powerplant, four parcels along Bottle Rock Road were acquired and two parcels remain to be acquired.
- On June 30, 1988, escrow closed on the acquisition of the Francisco Leasehold, the 356-acre steam field for Bottle Rock Powerplant. The Department paid approximately \$13.5 million to acquire the Francisco mineral lease, all wells, the gathering system, and all materials and facilities on the lease. This amount also includes the settlement of all lawsuits and claims between DWR and the former leasehold owners.
- Mitigation lands for South Geysers Powerplant have been transferred to the Department of Fish and Game.

North Bay Aqueduct

- Fifteen parcels were acquired the 18-month period ending June 30, 1988, and seven acquisitions remain to be completed. Negotiations are in progress to acquire the remaining necessary rights of way.

South Bay Aqueduct

- Two parcels are being acquired to accommodate additional operation and maintenance activities related to slides.

Suisun Marsh Facilities

- DWR obtained the one remaining parcel, which completes the land acquisition part of the project.

North San Joaquin Division

- DWR lost the appeal in State v. Andresen. Judgment has been paid. (See "Litigation," Chapter III.)

South San Joaquin Division

- Nine parcels are being acquired for the California Aqueduct silt removal program.

West Branch

- Two parcels are being acquired for flood control improvement at Gorman Creek. Eminent domain action has been filed on these two parcels.

Construction Activity

Table 13 lists the major SWP construction contracts initiated or completed during July 1987 through June 1988. The following is a brief description highlighting the most significant construction activities during this period:

Energy Supply

- At Bottle Rock Powerplant, all major contract work was completed by April 1987, with the exception of the cooling tower, which did not meet the required design operational criteria. DWR has been working with the contractor to resolve this matter. Subsequent contracts for an after-condenser, repair of the steam generator rotor assembly, and a service bay sound barrier are in progress.
- The installation phase of all South Geysers Powerplant equipment contracts was deleted and all contracts were administratively closed out. All equipment is being stored in or around the completed turbine building structure at the South Geysers plant site.
- The replacement of the cooling towers at Reid Gardner Unit No. 4 is expected to be completed in October 1988, along with the removal of the former cooling towers.

Oroville Division

- Construction of the Thermalito Diversion Dam Powerplant was completed and the 3-MW unit began commercial operation in June 1987.
- Other contracts that have been completed in the Oroville Division include: Area Control Center computer room modification, repairs of the 13 radial gates at Thermalito Diversion Dam, wildlife area levee repairs, and other minor repair contracts.

Suisun Marsh

- A contract was awarded in May 1986 for the Suisun Marsh Salinity Control Gates construction. The three main structures—a gate, a boat lock, and a flashboard structure—were completed in the fall of 1987 at the contractor's Stockton Ship Basin casting yard. The three reinforced concrete structures were constructed on large barges to be floated to their final location in Montezuma Slough. Radial gates were installed on the gate structure before the structure was towed to its final site. The first gate structure was placed in September 1987, but because problems were encountered during sinking and siting, the other two structures were not installed as originally scheduled. These remaining structures were placed in the summer of 1988 after installation methods had been improved. Initial operation is expected by October 1, 1988.

North Bay Aqueduct, Phase II

- All major construction of North Bay Aqueduct, Phase II, was completed by January 1988. The last of the six pipeline reaches for the 23-mile aqueduct was completed in October 1987. Cordelia and Barker Slough pumping plants construction was completed in December 1987. All the pumping units at the Barker Slough Pumping Plant were tested in January 1988. At the Cordelia Pumping Plant, three units for pumping water to Napa were tested and declared operational in January 1988. The other units were tested in June 1988 after being connected to the water contractors' receiving pipeline. A contract was completed in March 1988 for laying fiber optic communication cable from Barker Slough Pumping Plant to the Napa terminal facilities.

North San Joaquin Division

- A contract for the four vertical centrifugal pump units for the Harvey O. Banks Delta Pumping Plant enlargement was started in September 1987. The scheduled completion date is December 1991. Excavation for the service bay started in April 1988 and is set for July 1988 completion. A contract for the north service bay construction was advertised in May 1988, with a completion date set for October 1989. In June 1988, a contract was awarded for the motors.

TABLE 13. SWP CONSTRUCTION ACTIVITIES

Construction Division *Facility	Construction Contract (Specification Number)	Start of Construction (a)	End of Construction (b)	Contract Costs(c) (\$1,000)
Energy Supply *Bottle Rock Powerplant	Furnishing and Installing Cooling Tower (82-33)	Nov. 1982	Oct. 1988	3,215
	Furnish After-Condenser Replacement (86-25)	Sep. 1986	Jun. 1988	466
	Turbine Rotor Repair (87-34)	Nov. 1987	Jul. 1988	304
	Service Bay Sound Barrier (88-05)	Mar. 1988	Jul. 1988	189
*South Geysers Powerplant	Turbine Generator (82-48)	Jan. 1983	Jul. 1988	7,950
	230kV Line Breaker (83-12)	Jul. 1983	Jul. 1987	160
	Condenser and Gas Removal System (83-13)	Aug. 1983	Dec. 1987	2,951
	Plant Auxiliary Control System (83-15)	Aug. 1983	Jul. 1987	488
	Control Switchboards (83-21)	Aug. 1983	Jul. 1987	321
	Stretford System (83-28)	Sep. 1983	Dec. 1987	3,850
	Cooling Tower (83-31)	Oct. 1983	Dec. 1987	3,952
	Switchgear Motor Control (84-05)	Apr. 1984	Jul. 1988	640
Oroville Division *Edward Hyatt Powerplant and O&M Center	Restroom Modifications (86-21)	Sep. 1986	Jul. 1987	112
	Roof Restoration for Three Buildings at Oroville O&M Center (87-13)	Jan. 1987	Sep. 1987	152
	Relocating Shutter Gantry Cranes (87-10)	Apr. 1987	Jul. 1987	55
	Seal Coat Crest Road (87-09)	Apr. 1987	Jul. 1987	29
	Computer Room Modification (87-46)	Dec. 1987	Apr. 1988	46
*Thermalito Diversion Dam	Turbine, Generator, and Governor (84-19)	Aug. 1984	Jul. 1987	1,711
	Power Distribution System (86-01)	Mar. 1986	Oct. 1987	631
	Acoustic Flowmeter (86-05)	May 1986	Sep. 1987	114
	Penstock Shut-off Butterfly Valves (86-02)	Mar. 1986	Jul. 1987	266
	Modification of Radial Gates Nos. 1 through 13 (87-20)	Jun. 1987	Jan. 1988	282
	Repair Levee and Weirs in Oroville Wildlife Area (87-31)	Jul. 1987	Sep. 1987	287
Suisun Marsh Facilities *Suisun Marsh Salinity Control Gates	Control Gates, Boat Lock, and Flashboard Structures (86-10)	May 1986	Nov. 1988	13,820
North Bay Aqueduct, Phase II *Pipelines	Reach IV: Clay Bank Road to Ledgebrook Creek (85-34)	Jan. 1986	Aug. 1987	8,650
	Reach V: Travis Surge Tank to Clay Bank Road (86-15)	May 1986	Oct. 1987	7,300
	Reach VI: Barker Slough Pumping Plant to Travis Surge Tank (85-38)	Mar. 1986	Oct. 1987	12,025
	Barker Slough Air Chambers and Travis Surge Tank (86-48)	Dec. 1986	Apr. 1988	2,033
	Dredging Barker Slough (87-25)	Jul. 1987	Dec. 1987	439
*Pumping Plants	Cordelia Pumping Plant and Barker Slough Pumping Plant, Furnish Pumping Units (85-22)	Sep. 1985	Jun. 1988	966
	Cordelia Pumping Plant and Forebay (86-03)	Mar. 1986	Jul. 1988	3,971
	Access Road and Landscaping at Cordelia Pumping Plant (88-02)	Mar. 1988	Jun. 1988	61
	Barker Slough Pumping Plant (86-27)	Sep. 1986	May 1988	4,510
	Cordelia Pumping Plant and Barker Slough Pumping Plant, Furnish Power Transformers (86-43)	Dec. 1986	Sep. 1987	459
	High Voltage Circuit Breakers (86-45)	Dec. 1986	Sep. 1987	181
	Cordelia Pumping Plant and Barker Slough Pumping Plant, Furnish Switchgear (86-47)	Dec. 1986	Jun. 1987	350
	Water Wells at Barker Slough Pumping Plant (88-06)	Mar. 1988	May 1988	27
*Communication System	North Bay Aqueduct Fiber Optic Cable System (87-29)	Jul. 1987	Mar. 1988	532
North San Joaquin Division *John E. Skinner Delta Fish Facility	Recoating Gantry Cranes (87-11)	Apr. 1987	Jul. 1987	55
	Demonstration Striped Bass Grow-Out Project (88-11)	Mar. 1988	Jun. 1988	142
*Harvey O. Banks Delta Pumping Plant	Furnish and Install Four Centrifugal Pumps (87-18)	Sep. 1987	Dec. 1991	7,524
	North Service Bay Excavation (88-10)	Apr. 1988	Jul. 1988	2,100
	Motors Units, 8, 9, 10, & 11 (88-40)	Jun. 1988	Dec. 1991	11,000
	Furnish 54-inch Blind Flange & 84-inch Bumped Head (87-47)	Jan. 1988	Apr. 1988	39
*Miscellaneous	Road Repairs (87-23)	Jun. 1987	Jul. 1987	183
	Welding and Warehouse Building, Delta O&M Center (87-19)	Jun. 1987	Apr. 1988	459
	Repair and Recoat Gate, Check Structure No. 8, Bay 1 (87-28)	Jun. 1987	Sep. 1987	38
	Del Valle Dam, Flood Control Intake Bulk Head Gate (88-19)	May 1988	Aug. 1988	70
	Reconstruct Tidal Barrier at Middle River (88-22)	Jun. 1988	Sep. 1988	36

IN PROGRESS, JULY 1987-JUNE 1988

Construction Division *Facility	Construction Contract (Specification Number)	Start of Construction (a)	End of Construction (b)	Contract Costs(c) (\$1,000)
San Luis Division *San Luis Pumping/Generating Plant	O&M Center Slurry Seal and Pavement Repair (87-24)	Jun. 1987	Aug. 1987	117
*Dos Amigos Pumping Plant	Furnish and Install Stator Windings for Units 1 & 2 (87-02)	Mar. 1987	Jul. 1988	1,111
	Recoating Dos Amigos Pumping Plant, Siphon Breaker House, and Water Tank and Tower (87-21)	Jul. 1987	Oct. 1988	87
*Miscellaneous	Seal Coat Operating Roads, San Luis Field Division (88-16)	Jun. 1988	Jun. 1988	190
South San Joaquin Division *Miscellaneous	Replacement Pump Impellers (86-09)	Jun. 1986	Sep. 1987	128
	Lining Repair at Grapevine Creek Siphon, Mile 287.15 (87-42)	Oct. 1987	Nov. 1987	36
	Repair Old River Road Operational Bridge Near Mettler (87-45)	Nov. 1987	Dec. 1987	9
Tehachapi Division *A. D. Edmonston Pumping Plant	Seal Coat Bear Trap/Pastoria Access Road (87-37)	Sep. 1987	Oct. 1987	118
	Seal Coat Access Road (87-33)	Aug. 1987	Oct. 1987	81
	Adit Repair (87-43)	Dec. 1987	May 1988	236
	Repair 4.16 kV Transmission Line (88-09)	Apr. 1988	Jul. 1988	42
Mojave Division *Alamo Power Plant	Turbine (80-16)	Jul. 1983	(d)	2,200
	Generator (83-14)	Aug. 1983	(d)	2,100
	Completion Contract (83-18)	Aug. 1983	Mar. 1988	4,700
	Governor (83-20)	Jul. 1983	Aug. 1987	360
	Acoustic Flowmeter (84-07)	Apr. 1984	(d)	108
*East Branch Enlargement Canal and Siphons	Pearblossom Pumping Plant to Southern Pacific Railroad Bridge (86-40)	Nov. 1986	Nov. 1987	5,300
	Southern Pacific Railroad Bridge to Mojave Siphon (87-06)	Apr. 1987	Jun. 1988	8,500
	Three Reinforced Concrete Box Siphons (87-03)	Apr. 1987	Sep. 1987	913
	Nine Circular Siphons (87-44)	Mar. 1988	Apr. 1990	11,820
	Big Rock Siphon (87-27)	Aug. 1987	Jul. 1989	9,650
*Pearblossom Pumping Plant Enlargement	Vertical Centrifugal Pumps 7, 8, and 9 (87-04)	Apr. 1987	Mar. 1992	5,600
	Field Office and Materials Laboratory (87-08)	Apr. 1987	Jan. 1988	130
	Initial Contract (88-17)	Jan. 1988	Sep. 1990	21,000
	Motors (87-48)	Jun. 1988	Aug. 1992	8,815
Santa Ana Division *Devil Canyon Power Plant Enlargement	Turbines, Governors, and Valves (87-15)	Jun. 1987	Jan. 1992	12,717
	Bypass Equipment, Sleeve Valve (87-05)	Jul. 1987	Mar. 1989	335
	Coffer Dam (87-49)	Dec. 1987	Feb. 1988	575
	Office Trailer Shelter (87-51)	Mar. 1988	Apr. 1988	95
	Initial Contract (88-07)	Apr. 1988	Apr. 1990	21,000
SWP General	Replacement Pump Impeller for Oso and Pearblossom Pumping Plants (84-08)	Jun. 1984	Jul. 1987	575
	Labyrinth Seals and Shaft Seals, Edmonston Pumping Plant; Wearing Rings, Pearblossom Pumping Plant; Body Seats and Plug Seats, Chrisman Windgap Pumping Plant (86-12)	Aug. 1986	Jul. 1987	538
	Master Repair Contract, San Joaquin and Southern Field Division (86-50)	Feb. 1987	Jun. 1989	3,020
	Master Repair Contract, Oroville, Delta & San Luis (86-53)	Mar. 1987	Jun. 1989	3,080
	Master Repair Contract, Geysers Area (86-54)	Feb. 1987	Jun. 1989	172
	Bryte Laboratory Air Conditioning (87-32)	Jun. 1987	Sep. 1987	18

(a) Notice to begin work given to contractor. Contract administration activities occurring prior to this date are advertising of contract, opening of bids, and awarding of contract.

(b) Recommended for acceptance by the Project Engineer, the contract work is operationally complete. Contract administration activities occurring after this date are settlement of claims, final pay estimates, final notice of acceptance, and contract documentation.

(c) Costs represent actual costs of completed work or estimated final costs of construction in progress.

(d) Final completion dates cannot be determined until turbine/generator shaft bearing and vibration problems are resolved.

Mojave Division

- At Alamo Powerplant, shaft vibration and bearing problems developed during load rejection testing of the unit. DWR hired a consultant to assist in solving these operational problems. The unit continued limited (4MW) commercial operations during this period.
- Enlargement of two aqueduct reaches from Pearblossom Pumping Plant to the Mojave Siphon was completed in April 1988. This work was similar to that performed on the three 18-mile reaches from Cottonwood Chutes (Alamo Power plant) to Pearblossom Pumping Plant, completed in April 1987.
- Siphon construction on the East Branch Enlargement started in March 1987. The three reinforced concrete siphons were completed in September 1987. Big Rock Siphon construction started in August 1987, and the scheduled completion date is July 1989. Work on the nine circular siphons started in April 1988, with a January 1990 completion date.
- A contract for pumping units 7, 8, and 9 at Pearblossom Pumping Plant was awarded in April 1987 with a set completion date of March 1992. A contract for the motors was let in May 1988, and the scheduled completion date is March 1992.
- Work started in June 1987 for Devil Canyon Powerplant turbines, governors, and valves. Completion is set for January 1992. Work on a sleeve valve started July 1987, with a completion date of March 1989. Work in the cofferdam was completed in February 1988. Bids for the Devil Canyon Powerplant initial contract were opened in June 1988.

Safety of SWP Facilities

A review program of SWP dam safety is required by Water Code Section 6056. Consulting boards conduct independent safety reviews of each dam every five years. DWR provides technical engineering support to the various consulting boards. DWR is implementing

recommendations made under the first safety evaluation. Activities under this program include:

- Two new Safety Review Boards will convene in spring 1989 to review Oroville-Thermalito facilities and Castaic and Pyramid dams.
- DWR continues the Safety Review Board's recommended monitoring of the concrete slab movement in the Castaic Dam Spillway.
- A permanent pressure relief system test at Thermalito Afterbay Dam was made to determine the effect on ground water without the deep well pumps.
- The Safety Review Board for Perris and Cedar Springs dams was held in September 1987. At the end of that month, the board submitted reports finding the dams safe for continued operation.

To meet the Federal Energy Regulatory Commission's five-year safety review requirements, an independent consultant will be retained in early 1989 to inspect Oroville-Thermalito facilities and submit a report to the commission.

An independent consultant was retained in late 1987 for the first review of the Commission's five-year requirements for W. E. Warne Powerplant and appurtenances. The consultant's final report was submitted to the commission in mid-summer.

A Federal Safety Evaluation of Existing Dams investigation of O'Neill Dam was reviewed by a two-member consultant board hired by DWR. The main area of investigation was the possibility of dam foundation liquefaction during earthquakes; there were differing views as to the earthquake size that could possibly cause foundation liquefaction. The decision to proceed with the more conservative view of modifying the dam, as recommended by the USBR, is still pending. Feasibility study alternatives were made by the USBR. Design is scheduled to begin in 1988, after the most economical scheme has been selected.

Crack monitoring at San Luis Dam is continuing. No new cracks have been observed since 1986.

CHAPTER V

SWP WATER SUPPLY, PRESENT AND FUTURE

This chapter examines future SWP water delivery plans, compares presently developed water supplies to anticipated demands, and assesses potential means for augmenting water supply capabilities to meet future needs.

Future Water Delivery Plans

DWR annually requests each long-term SWP contractor to prepare an estimate of short- and long-term SWP water requirements. These projections form the basis for DWR water planning and project operation studies in the upcoming year.

DWR sent a letter to each long-term SWP contractor in August 1987, requesting estimates of (1) monthly SWP water requirements during 1988 through 1992, and (2) annual requirements for 1995 and every fifth year beyond until the year in which maximum entitlements would be used on a regular basis.

In September and October 1987, SWP contractors submitted their estimated water delivery requirements. For 1988 through 2035, their estimates include delivery of entitlement, agricultural surplus, wet-weather (Article 45), and repayment water as well as permit water for the city of Vallejo.

Entitlement Water

Table 14 shows the estimated 1988 through 1992 entitlement water needs submitted in 1987. The table also shows estimates submitted in the six previous years. The long-range contractor projections for entitlement water are in Table B-5B (in Appendix B).

Initial entitlement water requests for 1988 totaled 2,643,893 acre-feet. Because of below average precipitation in 1987, DWR delayed the establishment of 1988 monthly delivery schedules from December 1, 1987 to December 15, 1987 (with the concurrence of water-contractor representatives). On December 15, 1987,

pursuant to the 1988 risk analysis criteria, approved 1988 entitlement water deliveries (excluding undelivered amounts carrying from 1987) totaled only 2,255,000 acre-feet. Scheduled agricultural reductions totaled 371,685 acre-feet, which amounted to 31.6 percent of the agricultural entitlement requested for 1988.

After several January 1988 storms, DWR reanalyzed the SWP's 1988 delivery capability in accordance with 1988 risk analysis procedures. Based on improved February 1 water supply forecasts, DWR canceled the agricultural reductions and gave the contractors the option of revising their entitlement water requests. Revised entitlement requests for 1988 totaled 2,595,120 acre-feet.

Miscellaneous Water

Some other types of water besides entitlement water are scheduled for 1988 delivery. Miscellaneous 1988 water deliveries as of June 30, 1988, include 67,581 acre-feet of 1987 carry-over entitlement delivered in January and February and 1,646 acre-feet of non-Project water, pumped through interim facilities, to Napa County Flood Control and Water Conservation District. Unscheduled water has not been available for delivery to contractors as of June 30, 1988.

SWP Water Delivery Capability

The measure of the SWP's delivery capability is founded on the concept of "firm yield" operation. Defined in the water supply contracts as "minimum project yield," firm yield is the dependable annual water supply that can be made available without exceeding specified allowable reductions in agricultural deliveries during extended dry periods.

The firm yield of existing SWP facilities is approximately 2.4 million acre-feet per year. Contractor requests for delivery of entitlement water now exceed

TABLE 14. WATER CONTRACTORS' REQUESTS FOR ENTITLEMENT WATER 1987 THROUGH 1992

Year Estimate Submitted	Annual Delivery Requests (Acre-Feet)(a)					
	1987	1988	1989	1990	1991	1992
1987		2,643,893	3,046,372	3,106,033	3,152,935	3,281,998
1986	2,765,040	2,825,543	2,880,172	2,935,137	2,972,543	
1985	2,655,526	2,739,093	2,789,545	2,849,832		
1984	2,625,184	2,828,253	2,877,215	2,934,450		
1983	2,780,832	2,852,989	2,906,699			
1982	2,800,235	2,888,377				
1981	2,901,175					
Total Entitlements(b)	3,491,808	3,695,915	3,958,190	4,108,321	4,157,156	4,165,116

- a) Includes deferred entitlement. For 1987 and 1988, amounts include non-SWP water pumped through interim facilities to Napa County Flood Control and Water Conservation District.
- b) Maximum amounts that could be requested under the water supply contracts (derived from Table B-4 by adding non-SWP water for Napa County Flood Control and Water Conservation District in 1987 and 1988).

that amount (see Table 14). Since augmenting SWP yield through new construction has been delayed, DWR has been examining methods of improving existing facilities' average annual delivery capabilities. Increasing attention has been focused on operating strategies other than those used for conventional firm yield operation.

Short-range operation decisions for SWP facilities are made with an annual risk analysis, formerly called the "rule curve." The risk analysis provides a rational means of deciding the amounts of water to be delivered in a given year and the amounts to be left in storage as insurance to protect against subsequent dry periods.

The first risk analysis procedure was developed in 1978. The 1978 procedure was designed to assure a high probability of meeting future delivery schedules. Implementation of this 1978 procedure resulted in high

fall-season storage target levels for Lake Oroville and the State portion of San Luis Reservoir and often delayed the approval of water delivery requests until late in the water-producing season. Furthermore, the procedure planned for use of storage reserves for the current water year and the following water year only; it did not address how reserves should be managed over an extended dry period.

The annual risk analysis procedure was revised for use in 1986, as described in Bulletin 132-87 (p. 71). In 1987 the water contractors approved a modification of the 1986 procedure. The 1987 risk analysis procedure lowered the requirements for fall carry-over storage in the earlier years of an extended dry period, permitting higher deliveries in most types of years, but at the possible expense of reduced deliveries in the driest years. The 1987 risk analysis procedure permitted approval of a reasonable annual delivery early in the water produc-

ing season without jeopardizing the average dry-period supply that would be available during a recurrence of the historic 1928–34 drought period.

In December 1987, the water contractors approved the “State Water Project Water Delivery Rule Curve and Criteria for 1988.” The 1988 procedure introduced a new method of determining target storage (the sum of Lake Oroville and SWP San Luis Reservoir storages at the end of the water year) to be reserved for the subsequent year. In past procedures, the target storage was a specific amount based on a “drought year counter” (the number of drought years up to and including the coming year.) Under the revised procedure, the target storage is calculated by formula using the actual storage in Lake Oroville and SWP San Luis Reservoir at the beginning of the water year (October 1) as a parameter. This formula was implemented for 1988 deliveries on a one-year trial basis.

SWP Delivery Outlook for 1989

DWR’s determination of firm yield and the risk analysis studies are based on hydrological records extending back to the 1920s. Since the 1920s Northern California has experienced three sets of two consecutive critically dry years (1933–34, 1976–77, and 1987–88), but a set of three consecutive critically dry years has never occurred.

Planning for SWP operations in 1989 must be on a contingency basis at this time. DWR will not know until mid-February 1989, at the earliest, how dry or how wet the 1988–89 water year will be. In assessing the water supply availability for 1989 DWR must plan for the possibility of an unprecedented third consecutive critically dry year. Since no historical data exist for this situation, previous methods of analyzing water supply availability based on historical hydrology are not applicable.

A recurrence of the 1977 hydrology (the driest on record) immediately following two consecutive critically dry years (1986–87 and 1987–88) would undoubtedly be considered a drought emergency that would require extraordinary measures. (The likelihood that the coming year’s hydrology will be as dry as that of 1977 is only about one percent.) This 1977 condition would affect the SWP’s delivery capability for 1989 and possibly for the following years. Deliveries to contractors would be reduced, but the degree of reduction cannot be accurately determined until early 1989.

A repeat of the 1987–88 hydrology in the 1988–89 water year would allow full deliveries to municipal and industrial contractors but could result in substantial delivery reductions to agricultural contractors. The potential for reductions in 1990 deliveries would also increase. There is a 10 percent chance that the 1987–88 hydrological conditions will be repeated in the 1988–89 water year.

A median hydrology in the 1988–89 water year (50 percent chance of being wetter) would enable full delivery of contractors’ requests in 1989 and would not negatively affect deliveries for the following years.

Delta Water Management Planning

The three Delta water management programs address many complex issues affecting the future SWP water supply. Other State agencies and several federal regulatory agencies are also concerned with water management issues and therefore have become involved in the water supply planning process. The complexity of these water-related issues in the Delta is reflected in the environmental documentation process, which started in 1987 with scoping meetings and will take three to four years to complete.

The environmental documentation process provides the information necessary for DWR to obtain the State agreements and federal regulatory permits required for implementation of SWP activities in the Delta. Using the environmental documentation process during planning also allows public participation and promotes flexibility in formulating project alternatives and related mitigation agreements. The process also facilitates communication among the agencies concerned with water management issues, leading to better coordination of local, State, and federal planning efforts.

North Delta Water Management Program

The North Delta Water Management Program study area generally includes the area of the Delta north of the San Joaquin River from Threemile Slough eastward. Primary objectives are to help alleviate flooding along the Mokelumne River, reduce reverse flow in the lower San Joaquin River, improve water quality, reduce fishery impacts, and improve water supply reliability. Secondary objectives are to provide navigational improvements and recreational enhancements.

The North Delta Water Management Program will be done in phases. Alternatives considered under the in-

initial phase include increasing hydraulic capacity of the South Fork Mokelumne River by dredging, levee setbacks, and levee improvements. Possible alternatives for future phases include partial tide gate structures in the Sacramento River, Steamboat and Threemile sloughs, and possibly a new Sacramento River connecting channel.

In August and September 1987, public scoping meetings were conducted by DWR to discuss this planning and identify significant issues. The U. S. Corps of Engineers has been requested to be the lead federal agency.

West Delta Water Management Program

DWR and the Department of Fish and Game are investigating west Delta water management needs. This investigation was initiated by a 1981 contract between the North Delta Water Agency and DWR. This agreement includes water supply protection and an overland facility for Sherman Island.

Preliminary investigations have identified the following concerns: changes in the agricultural economy, increasing levee maintenance costs, continued land subsidence, and environmental needs that warrant the consideration of alternatives to an overland facility. Various alternatives have been discussed with Sherman Island landowners, who agreed that feasibility investigations of alternatives to an overland facility should be conducted.

The scope of the West Delta Water Management Program includes the following considerations: water supply and water quality needs of Sherman Island; minimizing oxidation and subsidence; providing habitat for waterfowl and wildlife; flood control; identifying potential wildlife habitat projects; protecting highways and utilities; improving recreation; and increasing the reliability of the SWP.

One alternative is a wildlife management plan for the island. The Department of Fish and Game is evaluating acquisition of waterfowl easements, habitat management requirements, likely costs and revenues, funding sources, and benefits to waterfowl populations. If it were coordinated with other Delta planning, the wildlife management plan could develop a number of significant benefits for wildlife and flood control. A feasi-

bility report is being prepared by DFG and will be completed in mid-1988.

Altering land use practices on Sherman Island, as proposed in the wildlife management plan, could provide up to 10,000 acres of managed wildlife and waterfowl habitat. This would also provide substantial benefits to flood control, recreation, and water supply reliability to both the SWP and the CVP.

South Delta Water Management Program

In October 1987, DWR, the USBR, and South Delta Water Agency entered into the South Delta Agreement to work together to develop mutually acceptable, long-term solutions to the water supply problems of water users within the agency's service area. The particular objectives of the South Delta Agreement are to improve and maintain water levels, circulation patterns, and water quality in the south Delta area. In meeting these objectives, alternatives will also be evaluated with regard to the following issues of concern to DWR and the USBR in the Delta region: reducing fishery impacts; improving efficiency of SWP and CVP operations; improving water supply reliability through winter water banking; and improving flood control protection and navigation.

In April 1987, DWR and the USBR conducted public meetings to discuss significant issues and alternatives for south Delta water management. Considered alternatives include dredging, with channel and levee improvements, and flow control structures. Alternatives that may meet the South Delta Agreement objectives and also may benefit water supply, water quality, agriculture, and fish may also be considered. These include: new intake gate locations for Clifton Court Forebay; enlargement of Clifton Court Forebay; a CVP interconnection with Clifton Court Forebay; increasing winter exports to fill storage south of the Delta for water banking; an exchange with local interests for New Melones water releases to the south Delta; and relocation of the Contra Costa Canal intake to Clifton Court Forebay.

Potential Means to Augment Water Supply

California's water plans are evolving from conventional surface water storage north of the Delta and ground water pumping to include water conservation, water salvage, cloud seeding, ground water conjunctive use

projects, and offstream storage south of the Delta. This change in emphasis has been brought about by such factors as construction and financing costs, a depressed farm economy, federal spending cuts, and changing public attitudes about acceptable water development.

Areas served by SWP contractors continue to need more water while, at the same time, overall supply availability is decreasing. Upstream consumptive uses will further decrease water supplies in the Delta; Colorado River water supplies currently available to California are now starting to be diverted to Arizona; and, despite extensive conservation efforts, total urban water use in SWP service areas will increase.

Some of the solutions to meeting increasing needs may be interim or short term. Water marketing agreements, SWP entitlement transfers, CVP purchases, and increased agricultural and urban water conservation programs are examples of interim solutions being pursued. Such interim actions can allow the SWP to meet short-term contractual obligations while postponing some of the more expensive structural solutions that eventually will be needed.

The status of various projects, facilities, and programs under consideration, both short- and long-term, is discussed in more detail on the following pages.

Oroville Reservoir Inflow Enhancement

The Feather River basin is the major source of SWP water. Faced with increasing demands for water by the SWP contractors, DWR is considering the possibility of conducting cloud-seeding in the Feather River watershed to increase the water amount available from Lake Oroville. For almost 40 years, cloud seeding has been used by other agencies to augment streamflow from rivers on the western side of the Sierra Nevada, but it has not been used in the Middle Fork Feather River area.

In 1985, a contract was awarded to North American Weather Consultants to conduct a feasibility study of cloud seeding in the Feather River watershed. The positive results of this study led to funding the design of an operational plan and preparation of environmental documentation.

The final operational plan and its implementation will be developed from a prototype project to be conducted for a period of three to five years in a remote area of the Middle Fork of the Feather River near Johnsville. This project emphasizes augmenting streamflow by increasing the snowpack. It is being carried out under a cost-sharing agreement with the USBR, which has been engaged in a cloud-seeding research program since 1975. DWR will provide the environmental documentation.

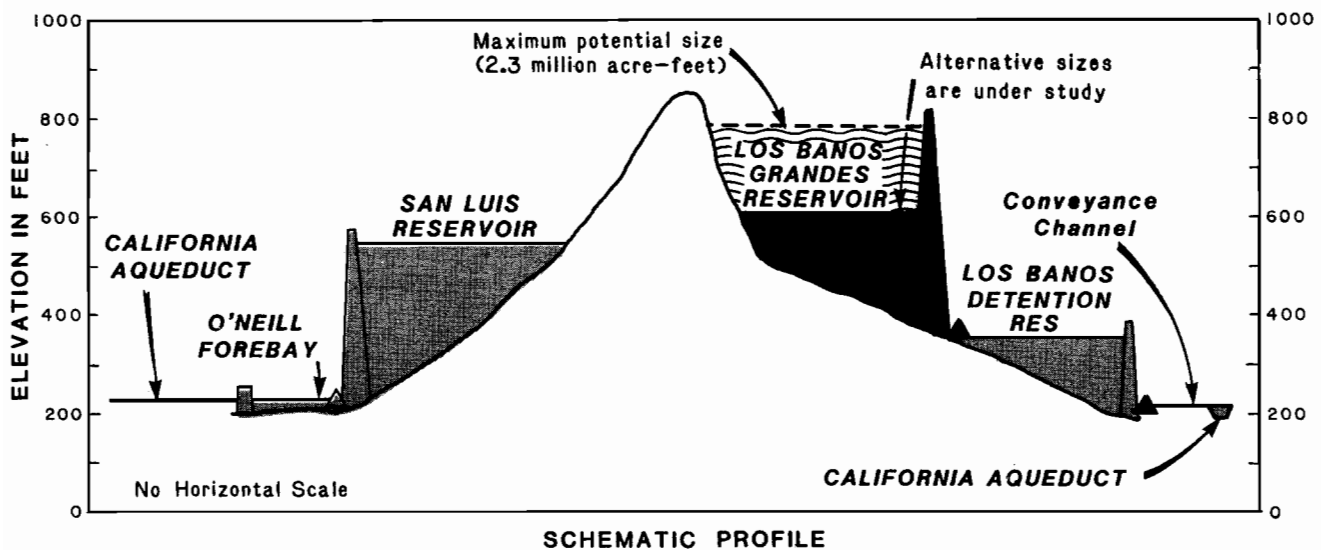
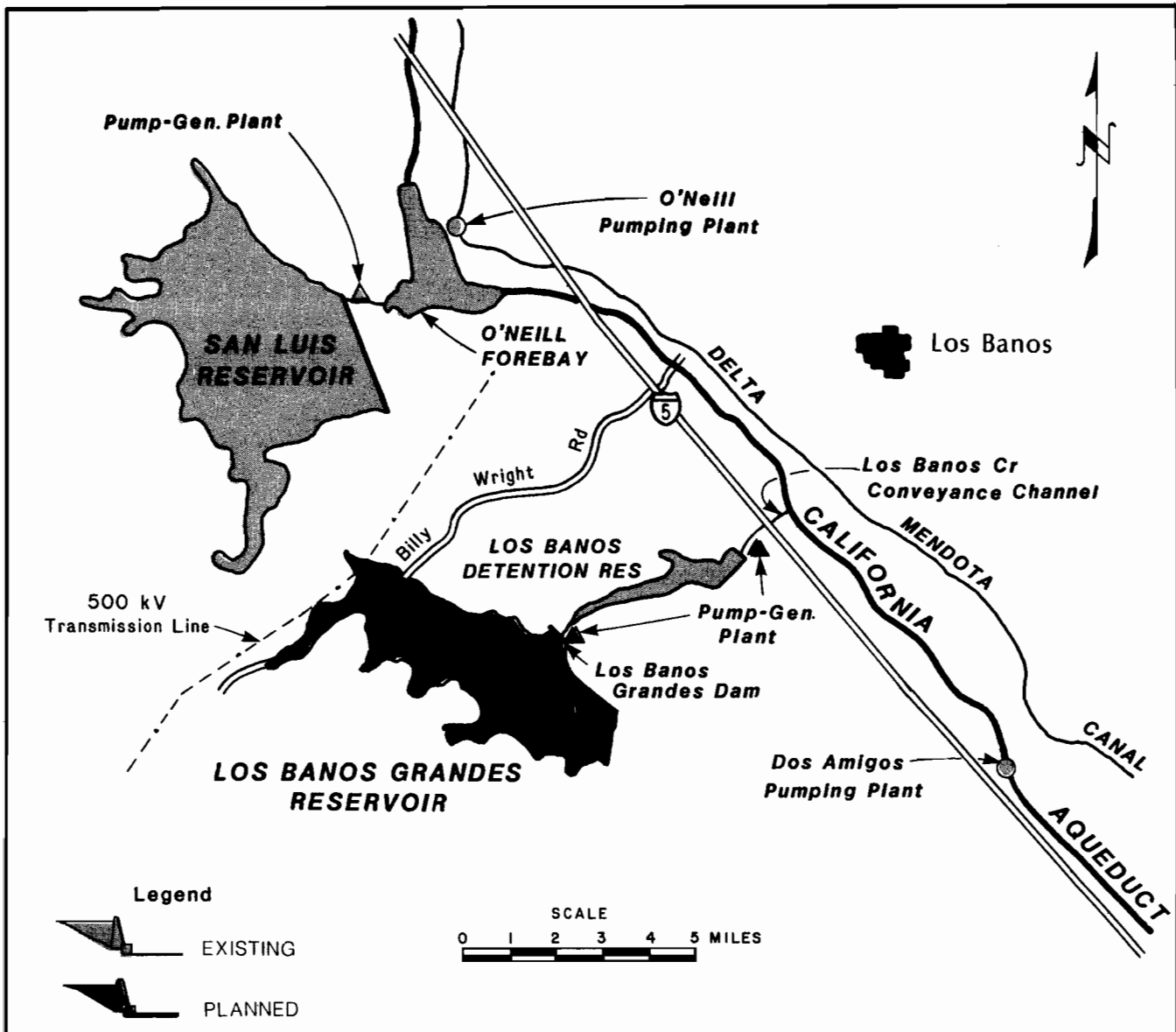
Information provided by the prototype project will be used to design a larger project to guide future cloud-seeding in the Feather River watershed. The operational plan will specify the storms to be seeded, seeding agents to be used and their rates of application, locations for ground-based generators, aircraft-seeding tracts (if applicable), suspension criteria, and a proposed method of evaluation.

Implementation of the program will start with the purchase and installation of cloud-seeding and monitoring equipment during the early part of the 1988-89 fiscal year.

Banks Delta Pumping Plant, Additional Units

The most advanced program for water supply augmentation is the installation of additional pumping units at the Banks Delta Pumping Plant. The plant was built to accommodate 11 units, but only seven were initially installed. On December 30, 1987, DWR's Director signed a Notice of Determination, and the installation schedule for the four additional units shifted from the planning phase to the design and construction phase. The new units, each with a design capacity of 1,067 cfs, are scheduled to be operational in 1991.

FIGURE 9: LOS BANOS GRANDES OFFSTREAM STORAGE PLAN



Completion of the Banks Delta Pumping Plant will increase SWP delivery reliability and efficiency by increasing standby capacity for the existing units and by permitting a larger share of the pumping to be done with off-peak power. The new units will also allow a small amount of additional pumping to be shifted to the winter months.

The last four units will increase the total capacity of the pumping plant to 10,300 cfs, bringing the California Aqueduct up to its full design capacity between the Banks Delta Pumping Plant and Bethany Reservoir. To protect the navigable capacity of the Delta waterways in the vicinity of the pumps, the Corps of Engineers limited diversions into the Clifton Court Forebay to historical levels (Public Notice 5802A, amended October 1981). As long as the SWP follows the operational criteria published in Public Notice 5802A, no Corps of Engineers' permit is needed. However, if diversions into Clifton Court Forebay are to be increased beyond historical rates, a Corps of Engineers' permit will be required (under Section 10 of the River and Harbor Act of 1899).

Installation of the additional units will also increase the reliability of SWP water supply deliveries. Under the Corps of Engineers' constraints, the additional pumps could increase firm deliveries during critical water supply periods by about 60,000 acre-feet annually. This water, pumped during high-flow winter months, will partially offset the frequency and severity of projected shortages.

The additional pumping units will allow more pumping to be shifted to off-peak hours, when energy costs are lower. This will provide cost savings to SWP water contractors, as well as possibly delay the need to buy additional power or to construct additional power generating facilities.

Before the Notice of Determination could be signed, environmental concerns regarding the additional units at Banks Delta Pumping Plant needed to be addressed. A fishery agreement between DWR and the Department of Fish and Game, signed on December 30, 1987, allowed work to continue on the final four units. The agreement spells out the steps needed to offset adverse fishery impacts by SWP operations. (See "Two Agency Fish Agreement," Chapter III.)

Offstream Storage South of the Delta

Los Banos Grandes Reservoir. In 1984, DWR completed a reconnaissance study of 13 potential offstream storage sites south of the Delta. Reservoirs at these sites could be used to store excess runoff pumped from the Delta during wet periods and delivered via the California Aqueduct. The subsequent report, "Alternative Plans for Offstream Storage South of the Delta," recommended that future studies focus on the Los Banos Grandes Reservoir site, south of the existing San Luis Reservoir (Figure 9).

DWR began a feasibility study of the Los Banos Grandes Reservoir plan in July 1984. Two months later, Assembly Bill 3792 was enacted, which authorized Los Banos Grandes Reservoir as a unit of the State Water Resources Development System. Included in the bill is a requirement that DWR feasibility studies consider related impacts on drainage problems of adjacent farm areas.

The Los Banos Grandes Reservoir site is on Los Banos Creek, about six miles west of the California Aqueduct. The main damsite is in a narrow canyon, about one mile upstream of the existing Los Banos Detention Reservoir (a 34,600 acre-foot joint SWP/CVP facility that provides flood protection to the California Aqueduct). The Los Banos Detention Reservoir would be used as a conveyance link between the California Aqueduct and Los Banos Grandes Reservoir. A pumping-generating plant at the base of the Los Banos Detention Dam would lift water about 130 feet; a second pumping-generating plant at the head of Los Banos Detention Reservoir would make the major lift into the main reservoir. Los Banos Reservoir would assume responsibility for flood control, allowing the detention reservoir to be operated as a conveyance/afterbay reservoir.

DWR is studying four alternative Los Banos Grandes Reservoir plans. The basic plan would be solely for an SWP water supply facility; power generated by reservoir releases would be incorporated into the SWP power resource plan. Reservoir capacity would be 1.25 million acre-feet, the most cost effective size as determined by previous studies.

The second alternative would be a joint SWP/CVP water supply plan. The USBR indicated an interest in acquiring up to 300,000 acre-feet of Los Banos

Grandes Reservoir storage in conjunction with a Mid-Valley Canal development. In this case, power for pumping and power generated would be shared in proportion to each project's water operations (as is currently done at San Luis Reservoir).

The third and fourth approaches would involve participation by an electric utility (or a consortium of utilities) in developing a pumped-storage power system between Los Banos Grandes Reservoir and the Los Banos Detention Reservoir. Eight of eighteen electric utilities contacted indicated interest in participating. Once the details of the basic SWP and SWP/CVP plans are determined, DWR will request these eight utilities to propose changes and terms to incorporate pumped-storage power. Preliminary principles for participation were sent to the eight utilities in February 1988.

Table 15 summarizes tentative physical data for the four versions of the Los Banos Grandes plan. As noted, the data on the pumped-storage plans are illustrative only, pending proposals by potential utility participants.

A completed Los Banos Grandes draft EIR/EIS was projected for late 1988, with the final EIR/EIS due one year later. In late 1987, it became apparent that planning should be rescheduled to (1) match the schedule of related planning for Delta facilities; (2) provide more time to work out joint water supply/power plans; and (3) respond to the State Water Contractors' recommendation for stretching out the Los Banos Grandes planning program. The revised schedule calls for completion of the draft EIR/EIS in June 1990 and the final EIR/EIS in December 1990. With this schedule, Los Banos Grandes could be completed and in operation by late 1998.

Feasibility study highlights during 1987 and early 1988 include:

- The USBR formally agreed to serve as the lead federal agency in preparation of a joint EIR/EIS. A notice of intent to prepare a joint EIR/EIS was issued in October 1987.
- DWR's consultant, Morrison-Knudsen Engineers, completed an evaluation of potential seepage from Los Banos Grandes Reservoir and associated facilities to nearby agricultural lands already plagued by high ground water. The possibility of significant

seepage was concluded to be unlikely, but monitoring of water levels and water quality was recommended for confirmation. Work in establishing a monitoring program started in early 1988.

- Topographic mapping was completed of the reservoir area and the Billy Wright Road relocation corridor.
- Field work for evaluating impacts on fish and wildlife was completed. (However, additional field work may be necessary to develop mitigation measures.)
- Feasibility level cost estimates were completed for a range of sizes of storage and conveyance facilities. All feasibility planning will be based on embankment type dams; further consideration may be given to roller-compacted concrete dams during the design phase.
- A Recreation Coordination Committee was formed to provide a forum for exchange of ideas and information among those interested in recreation aspects of the Los Banos Grandes plan. The multi-agency committee will meet quarterly.

In the next year, planning will concentrate on project formulation, analysis of water and power operations, exploration of possible USBR and/or utility participation, and development of mitigation plans to offset fish and wildlife impacts. The principal environmental issues appear to be (1) the inundation of significant riparian habitat along Los Banos Creek, and (2) impacts on the San Joaquin kit fox, a species listed as "threatened" by the State and "endangered" by the federal government.

Kellogg/Los Vaqueros Reservoirs. DWR continues to participate in Kellogg/Los Vaqueros Reservoir project studies conducted by Contra Costa Water District and the USBR even though DWR's 1984 report indicates that the Los Banos Grandes Reservoir project would be more cost effective. DWR is evaluating potential participation in a Kellogg/Los Vaqueros project for the purposes of water quality enhancement for the South Bay contractors and service reliability.

Contra Costa Water District began purchasing the entire Kellogg/Los Vaqueros watershed in early 1987. Environmental and land management plans are being addressed by Jones and Stokes, the district's environmental consultant, during 1987 and 1988. A Stage II

**TABLE 15. ALTERNATIVE FORMULATIONS OF THE
LOS BANOS GRANDES RESERVOIR PLAN**

Facility Description	Alternatives			
	Water Only		Water and Pumped Storage Power(a	
	SWP	SWP/CVP	SWP	SWP/CVP
Reservoir Storage (1,000 acre-feet)	1,250	1,550	1,800	1,800
Reservoir Elevation (feet)	718	742	763	763
Main Dam Height (feet)	382	406	427	427
Maximum Pump Lift (feet)				
Aqueduct to Detention Res.	136	136	136	136
Detention Res. to LBG Res.	390	414	435	435
Minimum Pumping Capacity (cfs) (b				
Aqueduct to Detention Res.	2,000	2,500	2,000	2,500
Detention Res. to LBG Res.	2,000 (c	2,000 (c	10,000	10,000
Generation Capacity (MW)				
Detention Res. to Aqueduct	25	32	25	32
LBG Res. to Detention Res.	75 (c	98 (c	420	415

- a) Data shown are illustrative only; reservoir and plant sizes will be determined in consultation with the electric utility participant.
- b) At maximum head; capacity at other heads would be greater.
- c) With continuous operation; capacity would be greater if plant were sized for only off-peak pumping.

EIR will be completed by the end of 1989. DWR will continue to parallel the district's studies with operations and cost studies needed to determine if participation is desirable.

The USBR expanded its Kellogg Reformulation Study to include a preliminary analysis of the Los Vaqueros Reservoir site in fall 1985. The study previously concentrated on Kellogg Reservoir and relocation of the Contra Costa Canal intake. The USBR's proposed planning report and draft EIS were available for review in early 1988. The report indicates the Highline Canal and relocation of the Contra Costa Water District intake to Clifton Court is the best alternative.

Sacramento Valley Projects

Thirty years ago, conventional wisdom surrounding water development in California centered around construction of physical works to transfer surplus Northern California water to areas of deficiency in the San Joaquin Valley and Southern California (Bulletin 3, *The California Water Plan*). Institutional changes over the years altered the direction of water resources planning and development in the State. Such changes include court decisions and legislation regarding environmental protection and water quality standards; the defeat of three comprehensive water development plans during the late 1970s and early 1980s; changes in both State and federal government fiscal policies, which reduce

the governments' abilities to fund public works; economic changes, most notably in the agricultural industry; and a growing recognition that means other than "construction of physical works" have the ability to reduce water demand or augment water supply.

These institutional changes all have had some effect, in varying degrees, upon the ability of agencies at all levels of government to plan and develop physical works for the storage and distribution of water.

SWP contractors have indicated that a through-Delta facility should be in place before Northern California's water supply sources are developed further. Estimated unit costs for most of the Delta water-transfer alternatives are below \$100 per acre-foot of new water supply made available. Construction of a water-transfer facility would substantially enhance the value of future Sacramento Valley projects because the projects' net contributions to SWP deliveries would be approximately 20 to 25 percent greater than without a Delta water-transfer facility.

Alternatives under discussion by the water community include (1) interim purchase of water by the SWP pursuant to the Coordinated Operation Agreement, (2) purchase of water from CVP contractors, (3) water marketing, and (4) off stream storage south of the Delta. These alternatives have decreased the SWP contractors' enthusiasm to participate in financing Sacramento Valley projects.

Alternatives to the Cottonwood Creek Project. Cottonwood Creek, in Shasta and Tehama counties, is the largest uncontrolled tributary of the Sacramento River and is a major contributor to flooding, particularly along the upper river. In the mid-1960s, the Corps of Engineers selected the Cottonwood Creek Project as the most suitable means of providing flood protection and developing additional water supply.

A 1984 engineering report estimated the total first cost of the Cottonwood Creek Project at \$753 million. The annual payments by the SWP contractors would have been prohibitively high. Consequently, in June 1984, DWR asked the Corps to reanalyze the project, looking at methods for cost reduction. The Corps' reanalysis reduced the total first cost to \$571 million.

After discussions with the SWP contractors and a briefing before the California Water Commission in 1985,

DWR decided not to participate in the project. Later that year, a letter explaining DWR's position to the Corps' proposal reiterated DWR's commitment to help the local counties with their flood problems and stated that DWR would move ahead with studies of less costly upstream reservoir alternatives. The letter also stated DWR's desire to work with the Corps on the flood control aspects of the alternative projects.

In June 1984, DWR initiated a reconnaissance investigation of tributary reservoirs in the Cottonwood Creek Basin. (Previous studies of these tributary reservoirs appeared in Bulletin 150, March 1965.)

In June 1985, DWR's Northern District published a memorandum report, "Cottonwood Creek Alternatives." The report recommends studying construction of a combination diversion and storage dam at the Dippingvat site on South Fork Cottonwood Creek, a storage dam at the Schoenfield site in the adjacent Red Bank Creek Basin, and a conveyance system connecting the two reservoirs.

Following the June 1985 report's recommendations, DWR began a two-year prefeasibility investigation of the Dippingvat-Schoenfield Project. The study report, published in November 1987, estimated the first cost of the Dippingvat-Schoenfield Project at \$90 million (July 1987 prices). The capitalized cost, including interest during construction and the present worth of operation, maintenance, and replacement, was estimated at \$119 million. The project would provide a critical period water supply of 47,000 acre-feet per year to the SWP, assuming Delta transfer facilities are in place. The capitalized cost allocated to municipal and industrial water supply was estimated at approximately \$78 million, which would result in a unit economic cost of about \$105 per acre-foot. This cost is competitive with other sources of water supply presently under consideration.

The Dippingvat-Schoenfield Project would reduce the 100-year peak flood flow at Cottonwood from 106,000 cfs to 90,000 cfs and would accrue annual flood control benefits of \$2.35 million. The project initially would provide up to 91,000 public recreation-days per year, increasing to an estimated 113,000 days per year by the end of the 50-year analysis period. This recreation use would provide an average annual benefit of about \$560,000.

Project analysis did not include fisheries enhancement as a project purpose. There is potential fisheries enhancement in South Fork Cottonwood Creek, but this potential cannot be defined until the detailed analyses of a feasibility study are completed. There is also potential Sacramento River fishery enhancement through conjunctive operation with the Corning Canal and/or the Tehama-Colusa Canal. Analysis of this potential will require USBR participation in the project feasibility study.

Following the November 1987 report's recommendation, DWR began a feasibility study of the Dippingvat-Schoenfield Project, now called the Red Bank Project, to be completed by mid-1990. The study is being conducted in cooperation with the USBR, Department of Fish and Game, U. S. Fish and Wildlife Service, and the Corps of Engineers, and it will include fishery and flood control elements. Communication with Shasta and Tehama counties and cooperating agencies is maintained through an advisory group.

Auburn Dam and Reservoir. The USBR began preliminary construction activities for a 685-foot high concrete arch dam at the Auburn site in 1967. The dam would have impounded a 2.3 million acre-foot multipurpose reservoir to provide CVP water supply, power, recreation, flood control, and fishery enhancement. After foundation preparation was completed in 1976, construction was suspended to permit further study of seismic and design issues.

After intensive studies by eminent engineers, geologists, and seismologists, the Secretary of the Interior concluded in 1980 that a safe dam could be constructed. A concrete gravity dam was recommended in lieu of the original thin arch design, but final design was deferred pending resolution of questions about flows in the lower American River.

While the issue of minimum flows was being considered, a State-Federal task force was formed in October 1984 to recommend a program for completion of the project. At the task force's recommendation, DWR retained Bechtel National, Inc. to determine whether Auburn Dam could be completed at less cost. In mid-1986, following Bechtel's review, the USBR offered a cost-sharing proposal to prospective water and power purchasers of a full-sized (2.3 million acre-foot) project. No real interest was expressed, primarily be-

cause of the relatively high cost of the new water supply and a weak market for electrical energy.

In March 1987, the Corps of Engineers released the results of a reanalysis of lower American River flood problems. The Corps' study, which was conducted in response to the record high river flows of mid-February 1986, revealed that flood hazards are much higher than previously believed. Major metropolitan areas, with a combined population of 325,000 and an assessed valuation of \$15 billion, were considered to be at significant risk from levee failures in a 200-year flood. Of the remedial measures the Corps examined, only additional reservoir storage could provide a high level of flood protection; as a practical matter, the required amount of storage could be obtained only via an Auburn Reservoir.

In response to the Corps' study, the USBR analyzed several alternative sizes of Auburn Reservoir, ranging from a 315,000 acre-foot single purpose flood control reservoir to the original 2.3 million acre-foot multipurpose proposal. The USBR's July 1987 report examined a wide range of cost allocation alternatives, but made no recommendations.

While the USBR analysis was under way, Secretary of the Interior Hodel expressed doubt about the near-term prospects of the USBR obtaining federal financing for completion of Auburn Dam. He suggested that non-federal interests consider assuming responsibility for the project. Following Secretary Hodel's suggestion, DWR made a brief analysis of the potential for financing and repaying construction of a small (850,000 acre-foot) multipurpose project under State sponsorship. The DWR study assumed that past federal expenditures would be treated as sunk costs (i.e., not repaid) and that the new water supply would be integrated into the SWP. However, the State Water Contractors indicated that other potential projects south of the Delta appeared more attractive. DWR prepared a December 1987 report summarizing its analysis, "Auburn Dam, Reconnaissance Appraisal of Construction Under State Sponsorship."

Meanwhile, the Corps of Engineers continued reconnaissance studies of flood control options for the lower American River area. Considerable support developed for the concept of an Auburn Reservoir with flood control as the primary objective, but with the possible addi-

tion of a modest amount of water supply capability to meet future local water needs.

The Corps worked with State and local interests to develop a scope of study and cost-sharing agreement for a Corps feasibility study that will include Auburn Dam. On June 17, 1988, the Reclamation Board, DWR, and the Corps executed a cost-sharing agreement for a 28-month investigation. The State agencies agreed to accept responsibility for the 50 percent non-federal share of the \$2,500,000 investigation. Nearly half of the non-federal contribution will be furnished by local sponsors (Sacramento County, the City of Sacramento, Reclamation District 1000, Sutter County, Placer County, and the American River Flood Control District). DWR will assist the Corps in evaluation of local water supply aspects, but no further consideration is planned of Auburn Reservoir as a potential source of additional water supply for the SWP, and no SWP funds will be expended for the Corps' investigation.

Ground Water Storage Programs

Kern Water Bank. Negotiations continue in DWR's efforts to purchase 22,000 acres of land on the alluvial fan of the Kern River, in Kern County, for a direct ground water recharge and extraction facility. As reported in Bulletin 132-87, a 1987 technical report indicated that the proposed program was feasible and could increase SWP yield up to 144,000 acre-feet per year at competitive water prices.

In addition to the Kern Fan, planning efforts have also focused on potential additional Kern Water Bank elements proposed by local water districts. These local district elements are mostly in-lieu recharge proposals, whereby water would be retained in the ground water basin by delivering extra surface water to participants who would then use the water in lieu of pumping ground water. In dry years, when less SWP water would be available, more ground water would be pumped. Some proposals also include direct recharge, with extraction either locally, off-site, or by entitlement exchange. Most of the local districts involved are members of the Kern County Water Agency.

DWR began developing a surface water model for Kern County in late 1987. The Kern County Water Agency, the City of Bakersfield, the Kern River Watermaster, and local water districts contributed to the

model's development. The first version of the model will be available for the agency and others to evaluate its effectiveness in representing surface water distribution in Kern County. A refined version of the model will be used for evaluating proposed local district elements, as well as for ground water model studies. In early 1988, DWR began updating its ground water model to better represent the Kern Ground Water Basin. The ground water model should be available for study during 1989.

Also in 1988, DWR installed monitoring wells to determine the effects of ground water recharge activities on ground water levels. Subsequent studies will focus on geohydrologic characteristics of the ground water basin. The purpose of these studies is to determine the best location for direct recharge, the potential effectiveness of that recharge, and potential impacts associated with ground water extraction.

Local Water Supply Projects

Local water supply projects can augment SWP water supply. Provided appropriate guidelines are met, these local projects could be financed with available SWP funds and included in the SWP. Basic assumptions are that:

- any necessary SWP contract amendments are executed;
- yield developed by a local project as a unit of the SWP becomes part of the yield of the SWP, whether for the life of the project or for an interim period; and
- the local project must not adversely affect either the costs or water deliveries of nonparticipating SWP contractors.

DWR conducts a feasibility study of a local project when conceptual and reconnaissance reports, and general contractor support, indicate the project is advantageous. Projects must be feasible with respect to engineering, contractual, economical, and financial issues as well as be environmentally acceptable before they can become units of the SWP. Feasibility procedures and contract amendment provisions for construction and operations repayment costs have been established by DWR.

Local projects eligible to be added to the SWP may be financed with available SWP funds. Should construc-

tion costs of the local project exceed available SWP funds, local participation in financing the construction will be required. SWP financing will not exceed the actual construction cost of the local project. The local project will not become a unit of the SWP until an agreement is signed.

Santa Barbara County. The only local project currently under consideration is in Santa Barbara County. After five years of reviewing several different proposals, DWR initiated the feasibility study for the Cachuma Reservoir Enlargement Project in February 1987. Since the USBR owns the Cachuma Reservoir and Bradbury Dam and is considering modifying the dam to increase its safety, the feasibility study is being conducted as a joint DWR-USBR effort. The study will combine the safety modifications with the raising of the dam to increase water supplies. The study's objectives are to (1) determine if the enlargement of Cachuma Reservoir is a feasible SWP alternative with respect to all engineering, geologic, economic, and environmental issues; (2) define the costs for this project accurately; (3) define a plan for financing the enlargement as a feature of the SWP; and (4) define the financial impacts on SWP contractors. The study is scheduled for completion by early 1989.

Water Transfers

Statewide emphasis on several distinct types of water transfers has intensified during the 1980s. Commencing with the 1979 legislative session, a number of new laws have been passed that express State policy, make additions to the existing water rights authority of the SWRCB, and authorize new programs for DWR. These include:

- A statewide policy to encourage voluntary transfer of water and rights where consistent with the public welfare of the place of export and the place of import.
- DWR and SWRCB are directed to encourage voluntary transfers of water and water rights, offering technical assistance if necessary, to identify and implement water conservation measures which will make additional water available for transfer.
- Local and regional public agencies are authorized to sell, lease, exchange, or transfer surplus agency water for use outside the agency.

- DWR is required to:

- (1) establish an ongoing program to facilitate the voluntary exchange or transfer of water;
- (2) implement the various State laws pertaining to water transfers;
- (3) create and maintain a list of entities seeking to enter into transfers and a list of the physical facilities that may be available to carry out water transfers; and
- (4) prepare a water transfer guide.

- State and local agencies are prohibited from denying a bona fide transferrer of water the use of unused capacity in a water conveyance facility under specified conditions.

As mentioned in Bulletin 132-87, DWR established an in-house Water Transfers Committee to respond to the interest in water marketing and water transfers. The committee developed two documents to facilitate the voluntary exchange or transfer of water within California: "A Catalogue of Water Transfer Proposals" and "Questions to be Asked in the Case by Case Review of Water Transfer Proposals."

DWR is working on the Water Transfer Guide, authorized by Section 482 of the Water Code, for completion in 1988.

CVP Purchases. DWR expressed interest in purchasing existing CVP water supplies that the CVP will not need for at least 10 to 20 years. DWR is interested in acquiring such interim supplies to meet near-term SWP needs, while continuing to plan SWP facilities for the long term.

The Coordinated Operation Agreement provides that the USBR and DWR will negotiate a contract by December 31, 1988 for the sale of interim federal water to DWR and for the conveyance of federal water through SWP aqueduct facilities. The negotiations are open to the public; the Department of Fish and Game, the SWRCB, and the U.S. Fish and Wildlife Service are also involved in the negotiations. Normal USBR public participation rules have been relaxed to allow public comment at essentially any time during the negotiations. The negotiations are closely coordinated with periodic meetings with the State Water Contractors.

Transfer of State Water Project Entitlements. In March 1987, the California Water Commission sponsored a "Briefing and Discussion of Transfer of State Water Project Entitlements" in Bakersfield. The Commission heard statements from representatives of various SWP contractors. Some of the contractors would like to sell their entitlements, some would like to purchase entitlements, and others support the concept of the SWP as a whole buying back entitlements.

Yuba County Water Agency. As described in Chapter III, DWR entered into an agreement with the Yuba County Water Agency to purchase water released from New Bullards Bar Reservoir during summer 1987. The purchase of this water allowed DWR to hold a corresponding amount of water in Lake Oroville, and essentially had the effect of transferring the water from New Bullards Bar to Lake Oroville. DWR is investigating similar arrangements for 1988.

Blue Ridge Project. Yolo County Flood Control and Water Conservation District made a preliminary analysis of a northern Yolo County dam that would provide water supply in excess of local needs. The district contacted the Department of Water Resources to determine if the SWP was interested in water from such a project.

Findings from a Corps of Engineers reconnaissance-level study completed late in 1987 show a justification of 60,000 acre-feet of flood control storage in a proposed Blue Ridge Reservoir of approximately 1,000,000 acre-feet providing \$10,000,000 in annual flood control benefits.

The district has notified the Corps by letter that because of the small flood control benefits, the district does not want the Corps to proceed with a feasibility-level study. Without a significant federal flood control contribution, a high dam at the Blue Ridge site would be hard to justify.

New Melones Water Exchange. Two San Joaquin County agencies, Stockton East Water District and Central San Joaquin Water Conservation District approached DWR with a plan to release the districts' New Melones contract water to the SWP in dry and critical years in exchange for SWP financing of facilities to provide for conjunctive use of the New Melones water.

In January 1988, DWR, the USBR, and local water agencies agreed to study the future demands for New Melones water and the most efficient means of meeting those demands. DWR and the USBR are preparing a work plan for this study as well as a "Memorandum of Understanding" for all involved agencies. Agencies involved in this study include: DWR, USBR, Stockton East Water District, Central San Joaquin Water Conservation District, Oakdale Irrigation District, South San Joaquin Irrigation District, Tri-Dam, Calaveras County, Tuolumne County, Stanislaus County, San Joaquin County, Lathrop Water District, South Delta Water Agency, Department of Fish and Game, the U.S. Fish and Wildlife Service, and the cities of Escalon, Ripon, Manteca, and Stockton.

After the water demand study is completed, a new study of alternatives to meet future water demands will be made. An EIR/EIS will be made concurrently with the second study.

The selected plan should meet the following goals:

- accommodate future water needs of all the involved counties and agencies;
- increase instream flows for the Stanislaus and San Joaquin rivers;
- improve water quality in the channels of the southern Delta; and
- increase CVP and SWP water supplies in the Delta.

CHAPTER VI

SWP POWER SUPPLY, PRESENT AND FUTURE

This chapter assesses SWP power needs, the resources available to meet those needs, and projected power costs.

Power Requirements

Each year DWR develops short- and long-range aqueduct operational studies while preparing the annual water contractors' statements of charges. These studies are the basis for projections of the electrical capacity and energy requirements for future SWP operations. These studies include pumping to deliver the SWP contractors' requested entitlement water but do not include any surplus water delivery projections. (The delivery of surplus water must not adversely affect the magnitude or costs of entitlement water service.)

The SWP aqueduct operational studies are based on median-year water supply conditions. SWP power requirements can vary significantly, however, depending upon the balance of water supply and water demand in a given year. Dry conditions in Northern California can reduce the deliverable water supply. If the SWP cannot deliver full entitlement requests, power requirements decrease. SWP power requirements also decrease under wet year conditions, if the hydrologic and water conditions reduce the need for SWP water in the San Joaquin Valley or Southern California. SWP power requirements would be larger than projected only if actual water deliveries were greater than projected, or if additional pumping were required to refill reservoirs south of the Delta after a dry year (when sufficient water supplies become available).

DWR generally determines energy output from hydroelectric resources on statewide median water supply conditions. However, DWR bases its power resources planning for the two succeeding years on a lower quartile water supply; that is, the assumed supply would be exceeded three out of four years. This approach guards against overestimating power resources, since a large

portion of SWP resources rely upon hydroelectric generation. Therefore, the resources shown for 1989 and 1990 (Figure 11) indicate a reduction from what had been projected in Bulletin 132-87. All other years assume a median level of reservoir inflow.

Table 16 shows the projected entitlement water requests, the energy requirements for operating the SWP, and corresponding transmission energy losses. Losses depend upon contractual arrangements with utilities providing transmission services. Table 16 also includes projected energy deliveries to the Southern California Edison Company, pursuant to the 1979 DWR-SCE Power Contract and the 1981 DWR-SCE Capacity Exchange Agreement. (See "Exchanges" in this chapter.)

In addition to energy requirements, DWR also considers electrical capacity requirements—the rate of delivery or demand for energy during a given time period. Since DWR has flexibility in regulating the SWP's capacity requirements, the SWP is operated to reduce pumping capacity requirements during on-peak periods, when capacity and energy costs are the highest. Thus, the SWP's highest capacity requirements occur during off-peak periods (during nights, weekends, and holidays) when capacity and energy costs are the lowest.

Table 17 shows the projected highest on-peak and off-peak capacity requirements for the years 1990 and 2000 during the month of highest system use. The highest off-peak monthly pumping requirements are projected to occur during the fall, winter, and spring months to take advantage of seasonal power cost diversities (highest power costs generally occur during summer months). The highest on-peak monthly pumping requirements are projected to occur during the spring months when water supplies are most plentiful. The total capacity requirements in Table 17 consist of pumping and reserve requirements, transmission losses, and DWR obligations to Southern California Edison.

**TABLE 16. PROJECTED WATER DELIVERIES
AND ENERGY REQUIREMENTS**

	Calendar Year			
	1990	1995	2000	2004
Entitlement Requests (thousands of acre-feet)				
Feather River Area	4	32	33	38
North Bay Area	27	44	53	57
South Bay Area	165 a)	184	188	188
San Joaquin Valley Area	1,355	1,355	1,355	1,355
Southern California Area	1,555	1,817	2,037	2,220
Central Coastal Area	--	59	70	70
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Total	3,106	3,491	3,736	3,928
Energy Requirements (millions of kWh)				
North Bay Aqueduct Plants				
Barker Slough	5	8	10	11
Cordelia	8	11	13	15
South Bay Aqueduct Plants				
South Bay	129	147	150	150
Del Valle	1	2	2	2
California Aqueduct				
Banks Delta	982	1,045	1,119	1,173
San Luis	224	224	253	268
Dos Amigos	425	461	493	520
Buena Vista	457	506	558	604
Wheeler Ridge	507	566	629	685
Chrisman Wind Gap	1,070	1,199	1,335	1,457
A.D. Edmonston	3,695	4,146	4,622	5,049
East Branch				
Pearblossom	592	778	865	956
West Branch				
Oso	210	186	205	217
Coastal				
Las Perillas	10	14	15	15
Badger Hill	25	37	39	39
Devils's Den	--	36	43	43
Sawtooth	--	29	34	34
Polonio	--	77	91	91
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Subtotal (b)	8,340	9,472	10,476	11,329
Transmission losses (c)	541	270	445	606
SWP Pumping Energy Requirement	8,881	9,742	10,921	11,935
Energy Obligations to SCE	1,876	2,280	2,365	2,424
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Total SWP Energy Requirement	10,757	12,022	13,286	14,359

a) Includes deferred entitlement water.

b) Pumping energy requirements based upon energy to deliver SWP contractors' requested entitlement water, recreation water, reservoir and aqueduct losses, and replacement of reservoir storage south of Delta.

c) Transmission losses depend upon contractual arrangements with the utilities rather than actual losses.

TABLE 17. PROJECTED ELECTRICAL CAPACITY REQUIREMENTS

Pumping Plant	Peak Demand Load During Month of Highest System Use (MW)			
	1990		2000	
	On-Peak	Off-Peak	On-Peak	Off-Peak
North Bay Aqueduct				
Barker Slough	1	1	1	1
Cordelia	1	1	2	2
South Bay Aqueduct				
South Bay	17	17	19	17
Del Valle	(a	1	(a	1
California Aqueduct				
Banks Delta	140	157	1	250
San Luis	1	130	(a	202
Dos Amigos	32	71	52	71
Buena Vista	44	82	63	82
Wheeler Ridge	52	97	70	105
Chrisman Wind Gap	102	207	153	223
A.D. Edmonston	345	746	516	746
East Branch				
Pearblossom	76	76	111	128
West Branch				
Oso	12	70	15	44
Coastal				
Las Perillas	1	1	3	1
Badger Hill	4	2	7	3
Devils's Den	--	--	6	5
Sawtooth	--	--	4	4
Polonio	--	--	12	10
Total Capacity Needed to				
Pump Entitlement Water	828	1659	1035	1895
Transmission Losses (5% of Pumping)	41	83	52	95
Reserve Margin				
(10% of Pumping and Losses) (b	87	174	109	199
Capacity Obligation to SCE (c(d	426	426	710	485
Total SWP Capacity Requirement	1382	2342	1906	2674

a) Less than 0.5 MW.

b) During the on-peak period, 10 percent of the pumping load may be insufficient to meet contractual requirements for spinning reserve or Western Systems Coordinating Council standards for regulation and frequency bias. Additional spinning reserve may be required based on the largest single contingency.

c) Includes 350 MW of Hyatt-Thermalito power under contractual obligation to SCE, but it is anticipated that SCE will have little or no demand for this capacity during off-peak periods.

d) The 1990 study is based on lower quartile; the 2000 study is based on median hydrology (see text). In the 1990 study, less than 350 MW of Hyatt-Thermalito capacity is available to SCE. Also in 1990, pursuant to the proposed amendment to the SCE-DWR Capacity Exchange Agreement, the full 225 MW of capacity does not have to be made available to SCE during the winter on-peak period if the SWP has limited capacity.

Power Resources

Basic goals of DWR's long-range power supply program are:

- to obtain adequate, reliable, competitively-priced power supplies and transmission services for sufficient capacity and energy to operate the SWP as an independent, interconnected utility;
- to develop and manage power resources to provide flexibility in meeting water delivery requests at minimum cost and to maximize benefits to the people of California; and
- to minimize the impact on the SWP when major contractual arrangements expire in 2004.

DWR's power supply program seeks to (1) use existing SWP resources for maximum benefit to the SWP, and (2) reduce dependence on purchased power from utilities that rely on high-priced oil and natural gas power generation. To achieve these goals, DWR has constructed and acquired hydro, coal, and geothermal power resources and has contracted to purchase capacity and energy from others with similar resources. Figure 10 shows the SWP power facilities in operation or under construction. Power resources available to the SWP are described in the following sections.

Hydro

Economical hydroelectric generation provides the largest share of the SWP power resources. The 900 MW available at Hyatt-Thermalito generate about 2.2 billion kWh in a median water supply year. Generation at the existing SWP power recovery plants (San Luis, Alamo, Devil Canyon, Warner, and Castaic) varies with water conveyance. The combined 650 MW capacity at these five plants could recover about one-fourth of the total energy used for SWP pumping.

- Alamo Powerplant, a 17-MW recovery facility on the East Branch of the California Aqueduct, recovers energy that was dissipated through Cottonwood Chutes prior to 1986.
- Thermalito Diversion Dam Powerplant, a 3-MW recovery facility near Oroville, began commercial operation in June 1987.

- Hyatt-Thermalito, Devil Canyon and Alamo facilities are treated separately for energy accounting purposes in this bulletin. The energy returned by Southern California Edison during the off-peak period is described in the discussion under "Exchanges."
- DWR receives power at Sylmar Substation from the Los Angeles Department of Water and Power's Castaic Powerplant under provisions in the DWR-LADWP West Branch Cooperative Development Contract.
- DWR purchases energy from hydro generation developed by others. For example, the output of the 165-MW Pine Flat Powerplant, owned by the Kings River Conservation District, provides SWP an annual average of 400 million kWh. DWR also contracts for the output from five hydroelectric facilities owned by the Metropolitan Water District of Southern California. (See the following discussion of "Exchanges".)

Exchanges

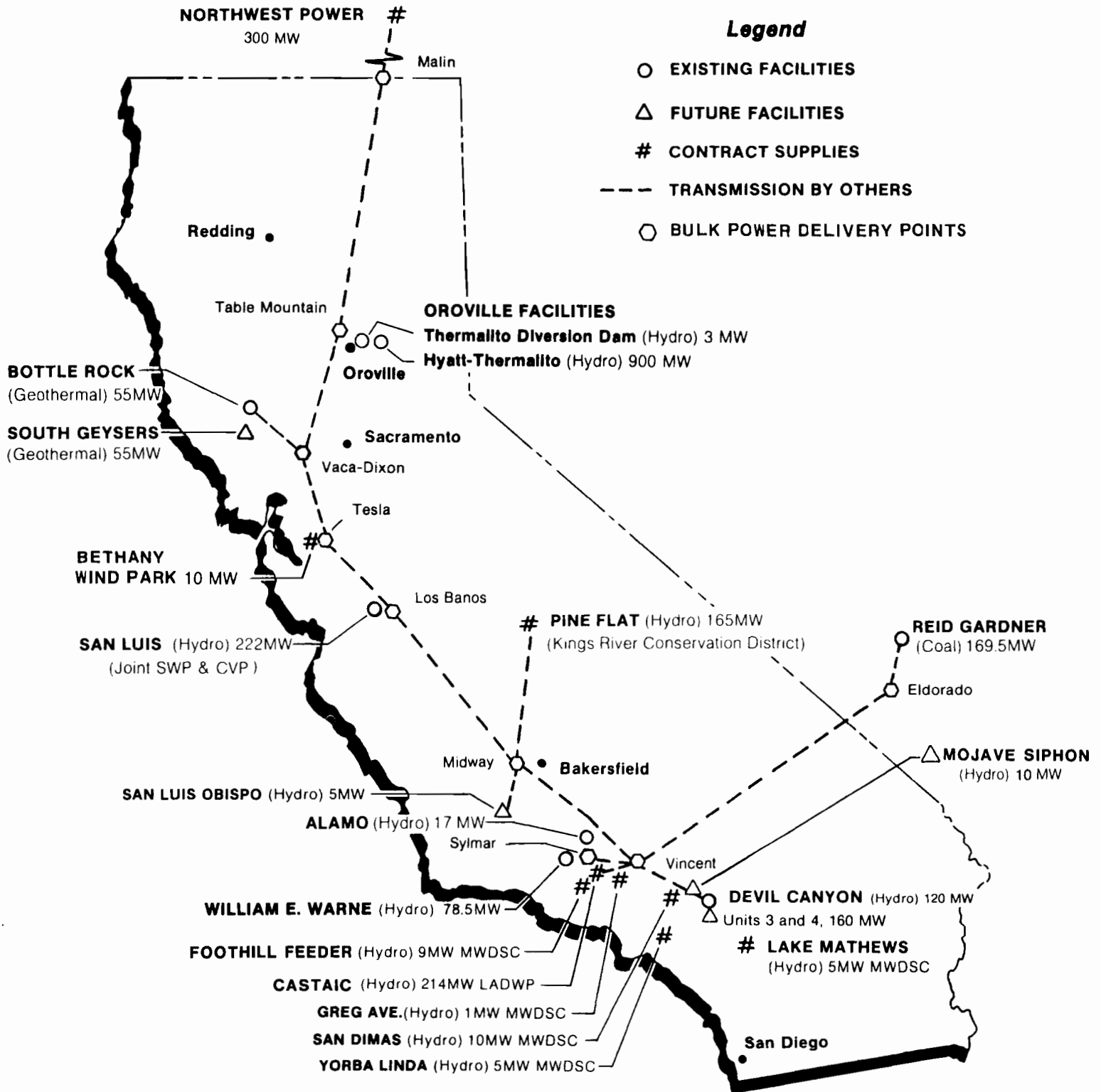
The 1979 Power Contract and the 1981 Capacity Exchange Agreement with Southern California Edison also provide for significant SWP power resources. Services provided under these documents were available in April 1983 and April 1987, respectively.

Under the Power Contract, DWR provides to SCE:

- up to 350 MW of capacity and approximately 40 percent of the energy from Hyatt and Thermalito powerplants;
- all of the energy generated by the Devil Canyon Powerplant up to a maximum delivery rate of 120 MW;
- all of the energy generated by Alamo Powerplant up to a maximum delivery rate of 15 MW.
- all of the capacity and energy from Lake Mathews, Foothill Feeder, San Dimas, and Yorba Linda hydro facilities operated by the Metropolitan Water District of Southern California.

In return, DWR receives off-peak energy from SCE equal to the portion SCE receives from Hyatt-Thermalito, Devil Canyon, and Alamo powerplants. DWR

FIGURE 10. SWP POWER FACILITIES



NOTES:

Power exchange and transmission services provided by Pacific Gas and Electric Co., Southern California Edison Co., San Diego Gas and Electric Co., and Los Angeles Department of Water and Power.

SWP owns a 169.5-MW share of Reid Gardner Unit No. 4, but under agreement with Nevada Power Company, receives up to 226 MW on an interruptible basis.

also receives an amount of energy determined by the Capacity-Energy Exchange Formula defined in the contract. Under this formula, which is affected by the cost of the oil and natural gas purchased by SCE each year, deliveries to DWR are projected to be approximately 1.7 billion kWh in 1990 and 0.9 billion kWh in 2000. Additionally, DWR receives 107 percent of the energy provided to SCE from four hydro plants operated by MWDSC (Foothill Feeder, San Dimas, Yorba Linda, and Lake Mathews).

Under the Capacity Exchange Agreement DWR delivers to SCE, during on-peak periods, 412.5 million kWh of energy each year at a maximum delivery rate of 225 MW. SCE returns 110 percent of the energy provided by DWR. SCE also waives 75 percent of DWR's costs for firm transmission service based on capacity amounts shown in Exhibit II of the Power Contract and the Firm Transmission Agreement and makes an annual payment of \$900,000 to DWR. The Capacity Exchange Agreement is being amended to provide greater operational flexibility to DWR.

DWR contracts for the energy output of five hydro plants owned by MWDSC, which have a combined total capacity of 30 MW. Under the power contract, SCE receives energy from four of the five plants, then returns exchange energy to DWR during off-peak periods. Under a 1983 agreement with the Los Angeles Department of Water and Power, the energy from the fifth plant (Greg Avenue) is provided to LADWP. LADWP returns 98.8 percent of this energy to DWR during off-peak periods.

On February 26, 1988, the Coordination Agreement between DWR and MWDSC was executed. This agreement calls for the preparation of a coordinated operation plan between the SWP and MWDSC's Colorado River Aqueduct system and also provides for (1) sales of surplus firm energy to MWDSC on a monthly basis, (2) sale of economy energy to MWDSC, (3) purchases of surplus energy from MWDSC's Colorado River Aqueduct system, and (4) exchanges of energy between DWR and MWDSC.

DWR exchanges its economy energy with several utilities in California, the Pacific Northwest, and the Southwest through additional interchange agreements. Under these agreements, DWR can sell and/or buy economy energy on an hourly or daily basis. These agree-

ments also permit more efficient use of DWR's generating capacities and more efficient scheduling of energy deliveries. The terms of these agreements are generally between 20 and 30 years.

Coal

DWR and the Nevada Power Company jointly own Reid Gardner Unit No. 4, a coal-fired facility near Las Vegas. DWR owns 67.8 percent of Unit 4; NPC owns 32.2 percent of Unit 4 and all of Units 1, 2, and 3. DWR has received energy from Unit 4 since July 1983. Unit 4 is rated at 250 MW, giving DWR a 169.5-MW share of ownership. DWR receives up to 226.0 MW from Unit 4 in exchange for NPC's limited right to interrupt DWR energy deliveries. DWR receives payment based on combustion turbine costs whenever NPC interrupts DWR's portion of generation. Beginning in 1998 NPC has the annual option to buy back up to 6 percent of DWR's ownership share of Unit 4. A five-year notice to DWR is required.

Geothermal

Bottle Rock Powerplant, a 55-MW facility in Lake County's Geysers area, has been owned, operated, and maintained by DWR since February 1985. However, geothermal steam for the plant was provided under a contract with MCR Corporation and others until the end of June 1988. On July 1, 1988, DWR acquired the steam supply for Bottle Rock Powerplant through the purchase of the Francisco Leasehold geothermal steam field. DWR also contracted with Calpine Corporation to operate maintain the steam field through the end of 1989 and train DWR personnel to take over the steam field operation and maintenance in January 1990.

Bottle Rock Powerplant is now operating at approximately 17-20 MW. An economic analysis of the energy market and geothermal energy costs, to be completed in 1988-89, will determine the feasibility of reconditioning existing wells and drilling new wells to increase steam production and bring the plant's output up to its rated capacity.

DWR is also studying the possibility of using another steam field in conjunction with Bottle Rock Powerplant and has filed applications with local, State, and federal agencies for permits to construct a well pad in the leasehold. The steam field is located north of Bottle Rock Powerplant on the Binkley property, which DWR

leases from the federal government. DWR is working to extend the primary lease term and hold the resource for DWR's best use.

South Geysers Powerplant, in Sonoma County, is DWR's other geothermal facility. Three steam wells originally drilled on the property provided the basis for DWR's decision to construct the plant. Subsequent analyses indicated that the available steam resources were not capable of supporting a 55-MW power plant. Efforts were then concentrated on assessing all steam supply alternatives and securing an assured steam supply.

Because of the reduced need for additional SWP power resources and the unsettled circumstances in the geothermal steam business, DWR has deferred the decision to complete the South Geysers Powerplant.

In the interim, DWR has subleased a portion of the Rorabaugh Leasehold, with the three steam wells, to Thermogenics, Inc. DWR will receive a royalty from any steam sold by Thermogenics. DWR has the option to terminate the sublease in 1993 or every two years thereafter.

Wind

DWR purchases wind-generated energy from TERA Power Corporation; the energy is delivered from the Bethany Wind Park to the South Bay Pumping Plant near Tracy. At the end of 1987, about 45 (2.4 MW) of the 168 planned wind turbines were operational. If the park were to be fully completed, TERA would have an installed wind turbine capacity totaling 9.45 MW.

Power and Interruptible Energy Purchases

Power purchases are an integral part of DWR's power supply program. To obtain economical power, DWR has long-term power purchasing contracts with Pacific Gas and Electric Company, Southern California Edison, and Bonneville Power Administration; other potential purchases are being evaluated. Additionally, under the Coordination Agreement between DWR and the Metropolitan Water District of Southern California, DWR can purchase from MWDSC the surplus energy generated by MWDSC's operations on the Colorado River Aqueduct. DWR also has several agreements for purchasing interruptible economy energy.

Table 18 summarizes economy energy purchase agreements and major long-term power contracts.

Other Projects

DWR continually studies and evaluates potential projects for the DWR power supply program. A project may be included, excluded, or deferred in the program based on the (1) ability to meet anticipated power requirements, (2) cost of the resource, (3) financing considerations, (4) environmental impacts, and (5) operating characteristics.

Projects currently being added to the program are the Mojave Siphon Powerplant, now in the final design stage, and two additional units at Devil Canyon Powerplant. Also, one unit at San Luis Obispo Powerplant has been recommended for the program.

Projects under consideration are a second unit at Alamo Powerplant, additional capacity at Hyatt Thermalito, and a new off-stream pumped storage power plant (Los Banos Grandes).

SWP power studies assume power recovery facilities will be constructed on the Coastal Branch, Phase II; however, as discussed in Chapter III, the Coastal Branch is still under review.

Transmission Service

DWR must make arrangements for transmission service between SWP resources and loads, and to interconnected utilities for purchases, sales, and exchanges of power. Most current SWP transmission needs are met by contractual arrangements with California utilities (Table 18). DWR's long-term objectives include acquisition of its own transmission facilities between resources and loads where feasible. To this end, DWR will participate in studies to:

- develop additional transmission capability from the Oregon-California border to Southern California, and extend existing transmission agreements;
- develop alternative transmission paths between DWR resources and loads to achieve a greater degree of operating flexibility; and
- develop additional transmission agreements to the Southwest.

At Pacific Gas and Electric Company's request and expense, two Hyatt units were temporarily reconnected to Western Area Power Administration's 230-kV

TABLE 18. SUMMARY OF

Contract Title (Short Form) and Date Signed	With	Providing	Through
1. West Branch Cooperative Development (9/2/66)	Los Angeles Department of Water and Power	Joint development of Castaic Power Project on the California Aqueduct, West Branch	12/31/41
2. Extra High Voltage (EHV) Intertie (8/1/67)	Pacific Gas and Electric Co., Southern California Edison Co., San Diego Gas and Electric Company	300 MW of EHV transmission from the Oregon border to specific points in California by SWP and purchase of off-peak energy to the extent of purchased transmission capacity	12/31/05
3. Bonneville Power Administration (9/5/87)	Bonneville Power Administration	Purchase of surplus BPA energy at Oregon-California border	12/4/07
4. Fourth Supplemental Resolution, Oroville (9/28/77)	DWR Resolution	Replacement of Power Sale Contract, effective 4/1/83	Repayment of last Bonds or 11/29/17, whichever later
5. MWD Hydro (1/9/78)	The Metropolitan Water District of Southern California	Effective 4/1/83 provides for purchase of output from five small hydro developments totaling 29.5 MW of capacity	At least to 3/31/08
6. San Diego Gas and Electric EHV Settlement (5/25/78)	San Diego Gas and Electric Company	Establishes extent of SDG&E's obligation to supply off-peak energy during the remaining term of the EHV contract, and resolves disputes concerning DWR's use of its EHV transmission entitlement	12/31/04
7. Reid Gardner Unit 4 Participation (7/11/79)	Nevada Power Company	Joint ownership of an additional unit at an existing coal-fired plant near Las Vegas	7/25/13
8. Power Contract (10/11/79)	Southern California Edison Company	Commencing 4/1/83, provides: a. transmission service in SCE's service area b. rights to purchase up to 300 MW firm capacity and/or spinning reserves c. rights to purchase off-peak energy d. exchanges of off-peak energy for 485 MW of DWR's on-peak capacity	12/31/04
9. Firm Transmission Service Agreement (10/11/79)	Southern California Edison Company	Transmission service between Eldorado and Vincent substations	7/25/13
10. Edison-DWR 1979 (10/11/79)	Southern California Edison Company	Establishes rate of SCE's off-peak energy under the EHV contract effective 1/1/83	12/31/04
11. Pine Flat (11/6/79)	Kings River Conservation District	Purchase of hydroelectric output from Pine Flat Powerplant	3/31/34
12. Emergency Services Agreement (7/21/80)	Southern California Edison Company	Emergency service between the parties	12/31/04
13. Capacity Exchange Agreement (9/17/81)	Southern California Edison Company	Effective 4/2/87, exchanges 225 MW of on-peak capacity from Hyatt-Thermalito for: a. up to 600 MW of SCE's capacity during off-peak periods b. up to 225 MW of SCE's capacity during partial-peak periods c. a 75% reduction in transmission service charges for transmission under Power Contract and Firm Transmission Service Agreement d. an annual payment of \$900,000 to DWR	12/31/04
14. Agreement for Sale of Interruptible Energy (3/8/82)	British Columbia Hydro and Power Authority	Sale of B.C. Hydro surplus interruptible energy to DWR	12/31/91 or upon one month notice by either party
15. Agreement for Sale of Nonfirm Thermal Energy (3/8/82)	Pacific Power and Light Company	Sale of nonfirm thermal energy to DWR	12/31/91 or upon one month notice by either party
16. Comprehensive Agreement (4/22/82)	Pacific Gas and Electric Company	Up to 1,465 MW of firm energy transmission service in PG&E's service areas effective 4/1/83	12/31/04 with option for 10-year extension
17. Generation Replacement Agreement (6/14/82)	Southern California Edison Company	Provides energy from DWR resources to replace lost generation of two SCE plants on San Bernardino Valley Municipal Water District system	5/31/12
18. Energy Purchase Agreement (6/14/82)	San Bernardino Valley Municipal Water District	District to pay DWR for energy supplied to SCE under the Generation Replacement Agreement, and give DWR option to develop four small hydro plants on District's system	5/31/12
19. Power Sale Agreement (5/14/82)	TERA Power Corporation	Sale of energy to DWR from wind-powered generation facilities constructed by TERA	5/2/02
20. Southern California Edison EHV Settlement Agreement/Pacific Gas and Electric EHV Settlement Agreement (12/31/82)	Southern California Edison Company/Pacific Gas and Electric Company	Establishes the extent of DWR's ability to exercise its rights to 300 MW of EHV transmission from the Pacific Northwest. PG&E Agreement also defines the rate for EHV off-peak energy purchases	12/31/04 and 1/1/05, respectively
21. Interchange Agreement (6/29/83)	San Diego Gas and Electric Company	Energy exchanges between SDG&E and DWR	7/31/10
22. Greg Avenue Powerplant Energy Exchange Agreement (8/29/83)	Los Angeles Department of Water and Power	Exchange of DWR's entitlement to Greg Avenue Powerplant energy for credit and off-peak energy	Until terminated by either party upon two-year advance written notice

MAJOR SWP POWER CONTRACTS

Contract Title (Short Form) and Date Signed	With	Providing	Through
23. Economy Energy Agreement (9/22/83)	Los Angeles Department Water and Power	Bilateral sale of economy energy	Until terminated by either party
24. Coordination Agreement between SCE and DWR (10/8/83)	Southern California Edison Company	Nonfirm energy sales to SCE, short-term exchanges, allows SCE to bank energy at San Luis Reservoir, and allows for seasonal capacity and energy exchange	12/31/05
25. Energy Interchange Agreement (6/6/84)	Tucson Electric Power Company	Bilateral sale of economy energy	12/31/08
26. Energy Interchange Agreement (7/27/84)	City of Pasadena	Bilateral sale of economy energy and interruptible transmission service	12/31/11
27. Energy Interchange Agreement (7/27/84)	City of Riverside	Bilateral sale of economy energy	12/31/13
28. Energy Interchange Agreement (7/27/84)	City of Glendale	Bilateral sale of economy energy	12/31/12
29. Energy Interchange Agreement (7/31/84)	City of Burbank	Bilateral sale of economy energy	12/31/13
30. Interconnection Agreement (7/31/84)	Nevada Power Company	Bilateral sale of economy energy	12/31/06
31. Energy Interchange Agreement (9/17/84)	City of Anaheim	Bilateral sale of economy energy	12/31/13
32. Service Agreement (11/1/84)	Montana Power Company	Sale of nonfirm energy to DWR	Until terminated by either party
33. Economy Energy Agreement (11/6/84)	Salt River Project	Bilateral sale of economy energy	12/31/13
34. Energy Interchange Agreement (12/1/84)	Northern California Power Agency	Bilateral sale of economy energy	12/31/09
35. Edison-DWR Interruptible Transmission Service Agreement (12/19/84)	Southern California Edison Company	Interruptible transmission service between Palo Verde Generating Station and Vincent Substation, between Eldorado and Mead substations, etc.	12/31/04
36. Service Agreement (1/7/85)	Idaho Power Company	Sale of nonfirm energy to DWR	Until terminated by either party
37. Energy Interchange Agreement (4/18/85)	El Paso Electric Company	Bilateral sale of economy energy	12/31/10
38. Interconnection Agreement (4/18/85)	Portland General Electric Company	Bilateral sale of economy energy	12/31/10
39. Interconnection Agreement (4/30/85)	Pacific Power and Light Company	Bilateral sale of economy energy	12/31/09
40. Energy Interchange Agreement (4/30/85)	Seattle City Light	Bilateral sale of economy energy	12/31/15
41. Power and Energy Interchange Agreement (6/3/85)	Arizona Public Service Company	Bilateral sale of economy energy	12/31/10
42. Energy Interchange Agreement (8/20/85)	City of Santa Clara	Bilateral sale of economy energy	12/31/08
43. Service Agreement (8/13/85)	Washington Water Power Company	Sale of nonfirm energy to DWR	Until terminated by either party
44. Service Agreement (9/1/85)	Western Area Power Administration (Sacramento Area Office)	Sale of nonfirm energy to WAPA	12/31/04
45. Economy Energy Agreement (7/1/86)	City of Azusa	Sale of nonfirm energy by DWR	12/31/90
46. Economy Energy Agreement (7/1/86)	City of Banning	Sale of nonfirm energy by DWR	12/31/90
47. Economy Energy Agreement (1/12/87)	City of Colton	Sale of nonfirm energy by DWR	12/31/90
48. Power Sale Agreement (1/1/87)	City of Vernon	Sale of 15 MW to city	12/31/88
49. Power Sale Agreement (1/1/87)	City of Azusa	Sale of 5 MW to city	12/31/88
50. Power Sale Agreement (5/12/86)	Nevada Power Company	Sale of firm capacity and associated energy	9/15/87
51. Power Sale Agreement (10/8/88)	Turlock Irrigation District	Sale of firm capacity and associated energy	12/31/90

Cottonwood–Eleverta line on May 9, 1987 to assist PG&E's system during summer 1987.

DWR requested that PG&E add reinforcements between Los Banos and Midway substations to upgrade their transmission capability and provide nearly 1,100 MW of firm transmission capability for DWR in accordance with the Comprehensive Agreement. The estimated cost of the reinforcements is about \$85 million; the scheduled operating date is December 1990. PG&E has indicated that possible reinforcement installation could be delayed and possibly avoided if DWR were willing to drop its pump loads during emergencies. DWR and PG&E are exploring this concept in further detail to ensure that the SWP is not adversely impacted under this proposal.

DWR has contracted through 2004 for 300 MW of transmission capacity in the extra-high voltage (EHV) Pacific Northwest Intertie from the California–Oregon border to the the Table Mountain, Tesla, Los Banos, and Midway substations. DWR is retaining the entire 300-MW share of this EHV transmission capacity for access to the Northwest, where low cost power is currently available and is projected to be available in the future.

DWR signed a Memorandum of Understanding with major California public and private utilities for an option to purchase 97 MW of transmission capacity on the proposed third 500-kV transmission line connecting California with the Pacific Northwest. The Memorandum of Understanding also provides DWR an option to extend its original 300 MW of transmission capacity entitlement for the life of the existing Pacific Intertie lines.

In May 1984, DWR entered into an interim agreement with PG&E for funding a 165-MW capacity share on the 230-kV Geysers–Lakeville transmission line. The agreement preserves DWR's rights for an ownership share in the line. DWR completed payment for its share of the transmission line in February 1985. DWR subsequently reevaluated the SWP's transmission needs from the Geysers area and requested that its share of transmission capacity be reduced to 110 MW. The final agreement will be signed in 1988 when necessary changes have been made.

In 1988, pending the Federal Energy Regulatory Commission's approval, DWR's purchase of 75 percent of

PG&E's Stub Transmission Line (Midway to Wheeler Ridge line) will be final. The transmission line serves Buena Vista, Wheeler Ridge, and Chrisman Wind Gap pumping plants. A contract for the line purchase (provided for under the 1982 EHV Settlement Agreement) as well as operation and maintenance was signed in November 1984. DWR ownership of the line will result in savings for the SWP.

Studies have demonstrated that a transmission line between the Banks and South Bay pumping plants is economically feasible. Based on latest cost estimates, the transmission line would pay for itself in about 14 years. DWR is actively pursuing this project.

DWR entered into an agreement in September 1986 to participate in first-stage planning studies of the Desert Southwest Project, a proposed transmission line between an undetermined location in the Pacific Northwest to Mead Substation near Las Vegas, Nevada. The studies will be completed in May 1989. DWR's participation in the project is based on a projected need for about 350 MW of transmission capability from the Southwest. The transmission capacity from the Desert Southwest Project, combined with DWR's other transmission arrangements, will help meet this need. The agreement provides valuable transmission planning information in the project area, as well as the option to participate in the project up to 2.5 percent of the total transmission line capacity, beginning in the mid-1990s.

Sales

DWR enters into agreements with many utilities for short-term power and economy (nonfirm) transactions. These agreements provide DWR with markets for selling power in excess of SWP needs. Surpluses may develop as a result of reduced water delivery demands in a given year or an abundance of SWP generated hydro power available during wet water years.

Payment to DWR for the sales can be in cash or, in some instances, return energy during periods of SWP power needs. For example, in 1987 DWR sold or exchanged energy with:

- Bonneville Power Administration;
- Cities of Anaheim, Azusa, Banning, Colton, Riverside, Santa Clara, and Vernon;
- Los Angeles Department of Water and Power;

- The Metropolitan Water District of Southern California;
- Nevada Power Company;
- Northern California Power Agency;
- Pacific Gas and Electric Company;
- Portland General Electric Company;
- Salt River Project;
- Southern California Edison Company and;
- Turlock Irrigation District.

DWR entered into the Western Systems Power Pool Agreement with 24 other utilities in the western states. The agreement provides for a two-year experiment to test market-based pricing for the following services: economy energy, unit commitment, short-term capacity/energy sales or exchanges, and transmission services. DWR has received daily quotations for services since May 1987. The parties may enter into mutually beneficial transactions for any of these services during the two-year term.

Negotiations continue with various Pacific Northwest utilities to develop long-term arrangements for purchases, sales, and exchanges to take full advantage of DWR's 300 MW of transmission capacity on the Pacific Northwest Intertie. To reduce SWP costs, DWR intends to use this transmission capability to the maximum extent possible. Power will be purchased for resale, as well as for direct SWP use.

Negotiations also continue with California and Southwest utilities for purchases and sales of power to maximize power benefits to the SWP.

Comparison of Power Requirements and Resources

Figure 11 compares projected SWP annual pumping energy requirements with available resources for the remainder of the century. SWP annual requirements are based on energy needed to deliver entitlement and other related water, including associated transmission losses. The energy resources include allowances for scheduled maintenance and forced outages. Energy output from hydroelectric resources is based on state-

wide median water supply conditions for 1991 and thereafter. As mentioned previously, DWR bases its power resources planning for the two succeeding years, 1989 and 1990, on a lower quartile reservoir inflow to guard against overestimating hydroelectric generation.




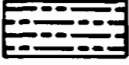



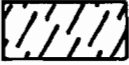




In the upper graph in Figure 11, the SWP pumping energy requirements do not include contractual obligations to Southern California Edison. The energy resources include only the net energy gained by the SWP under the exchange arrangements with SCE. In the lower graph in Figure 11, the SWP pumping energy requirements do include contractual obligations to SCE (as shown in Table 16) and the energy resources include all energy delivered by SCE to the SWP.

Figure 12 compares SWP monthly energy requirements and resources for 1990, 1995, 2000, and 2004. (The year 2004 is the last year for some of the major power contracts such as the SCE Power Contract and Capacity Exchange Agreement, the EHV settlement Agreement, and contracts with Pacific Gas and Electric Company.) As in the lower graph in Figure 11, the energy requirements shown in Figure 12 include those both for SWP water service and contractual obligations. The resources include all energy received from the SCE exchange. Apparent energy surpluses and deficits occur in some months because energy requirements and resources are balanced on four seasonal periods (on-peak summer, off-peak summer, on-peak winter, and off-peak winter). Net energy deficits for each period will be met with short-term energy purchases while net surplus energy will be sold. Load management techniques or energy exchanges with utilities will be used to balance monthly requirements and resources within each period.

Figure 13 compares SWP on-peak and off-peak monthly capacity requirements and resources for 1990 and 2000. As in Table 17, both the on-peak and off-peak capacity requirements in Figure 13 include (1) transmission losses equal to five percent of the on-peak/off-peak pumping requirement; (2) a reserve margin allowance equal to 10 percent of pumping requirements plus losses; and (3) allowances for capacity commitments to SCE under the 1979 Power Contract and the 1981 Capacity Exchange Agreement. Thus, the presentation in Figure 13 is similar to that of the lower graph in Figure 11; the obligations to SCE are included in the total SWP load and the full capacity furnished

FIGURE 11: ANNUAL SWP ENERGY

LEGEND

	HYATT - THERMALITO		REID GARDNER UNIT NO. 4
	RECOVERY PLANTS		DWR - SCE EXCHANGE
	BOTTLE ROCK		CRA ENERGY TO SWP
	PINE FLAT		ENERGY PURCHASES
	MWDSC HYDRO		SWP ENERGY REQUIREMENTS
	GENERIC COAL		Thermalito Diversion Dam and TERA wind amounts are too small to show graphically

ENERGY RESOURCES IN YEAR 2000 (billions of kWh)

1. Hyatt-Thermalito.....	2.18
2. Thermalito Diversion Dam.....	0.02
3. Recovery Plants (seven energy recovery plants along the aqueduct - San Luis, Alamo, Mojave Siphon, Devil Canyon, Warner, Castaic, and San Luis Obispo).....	3.01
4. Bottle Rock (SWP geothermal plant).....	0.34
5. Reid Gardner Unit No. 4 (SWP share under 1979 agreement with Nevada Power Company).....	1.08
6. DWR-SCE Exchange (net energy gained from Southern California Edison Co. under 1979 DWR-SCE Power and 1981 Capacity Exchange Agreement).....	0.88
7. CRA Energy to SWP (purchases of surplus energy from MWDSC's Colorado River Aqueduct operation beginning in 1990).....	0.91
8. Pine Flat (purchase under contract with Kings River Conservation District).....	0.39
9. MWDSC Hydro (output of five small hydro plants on the MWDSC distribution system, purchase under contract).....	0.25
10. Wind (purchase under contract with TERA Power Corporation).....	0.02
11. Generic Coal.....	1.71
12. Energy Purchases.....	0.80
TOTAL RESOURCES TO MEET SWP ENERGY REQUIREMENTS	
(as shown in Figure 12).....	11.59
"Return Energy" from Southern California Edison Co. under 1979 DWR-SCE Power Contract and 1981 Capacity Exchange Agreement.....	2.37
TOTAL RESOURCES TO MEET SWP ENERGY REQUIREMENTS AND DWR-SCE CONTRACTUAL OBLIGATIONS (as shown in Figure 12A).....	
	13.96

SWP energy requirements are based on delivery of requested entitlement water, recreation water, water to replace reservoir storage south of the Delta (all assuming median statewide water supply conditions). All associated transmission losses are included. Placement of resources in figure does not indicate a priority of use or need. Identified resources are:

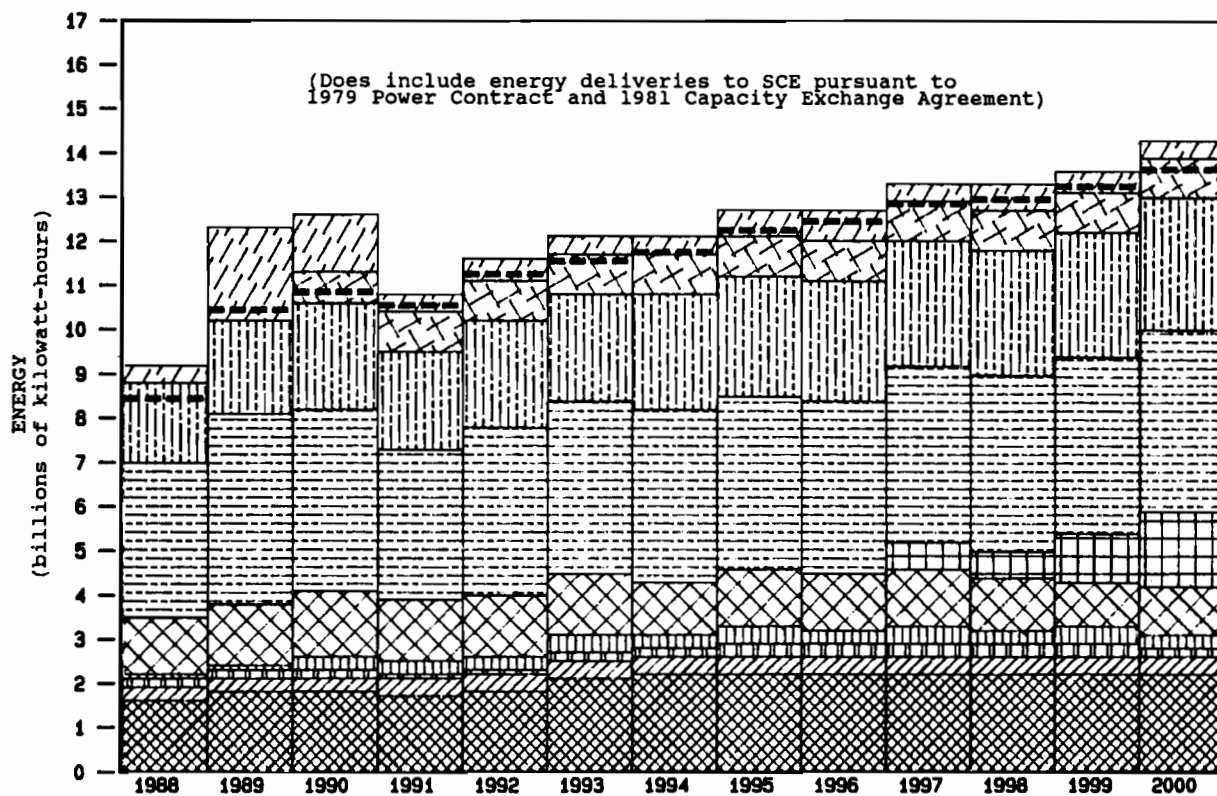
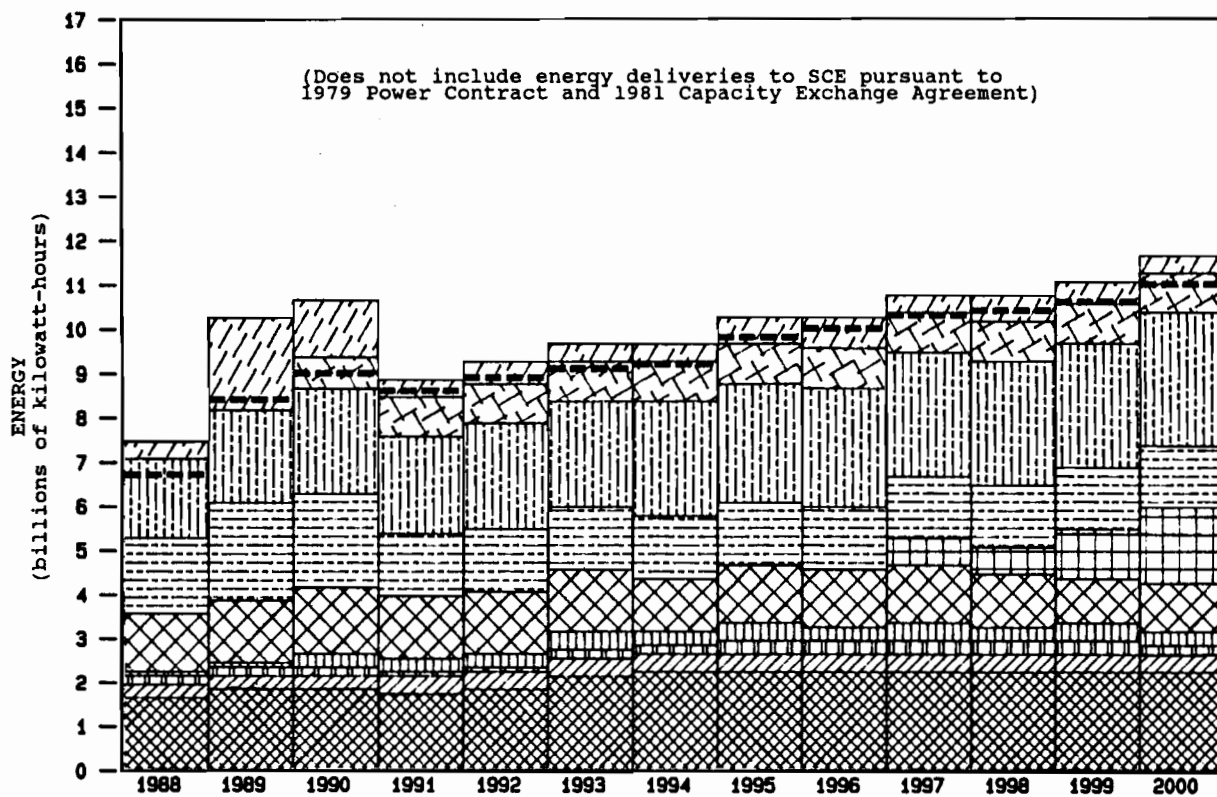
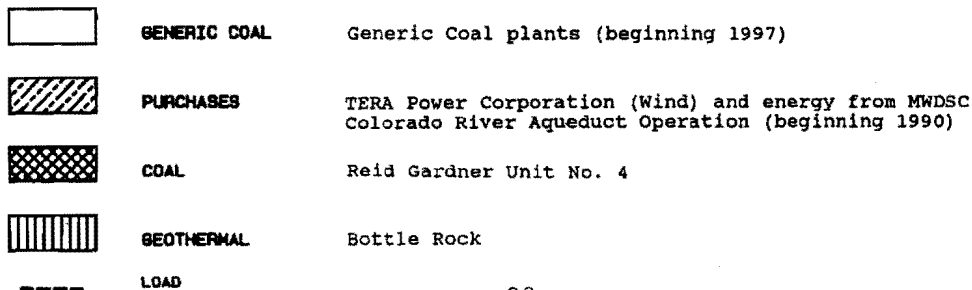
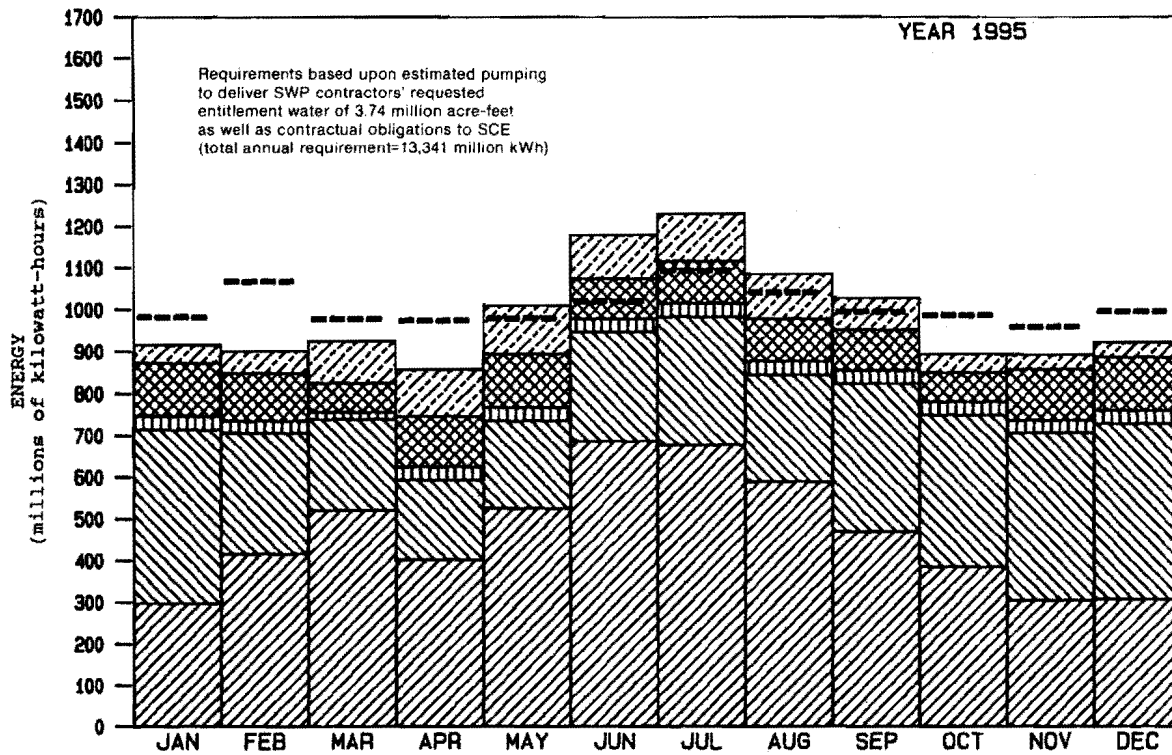
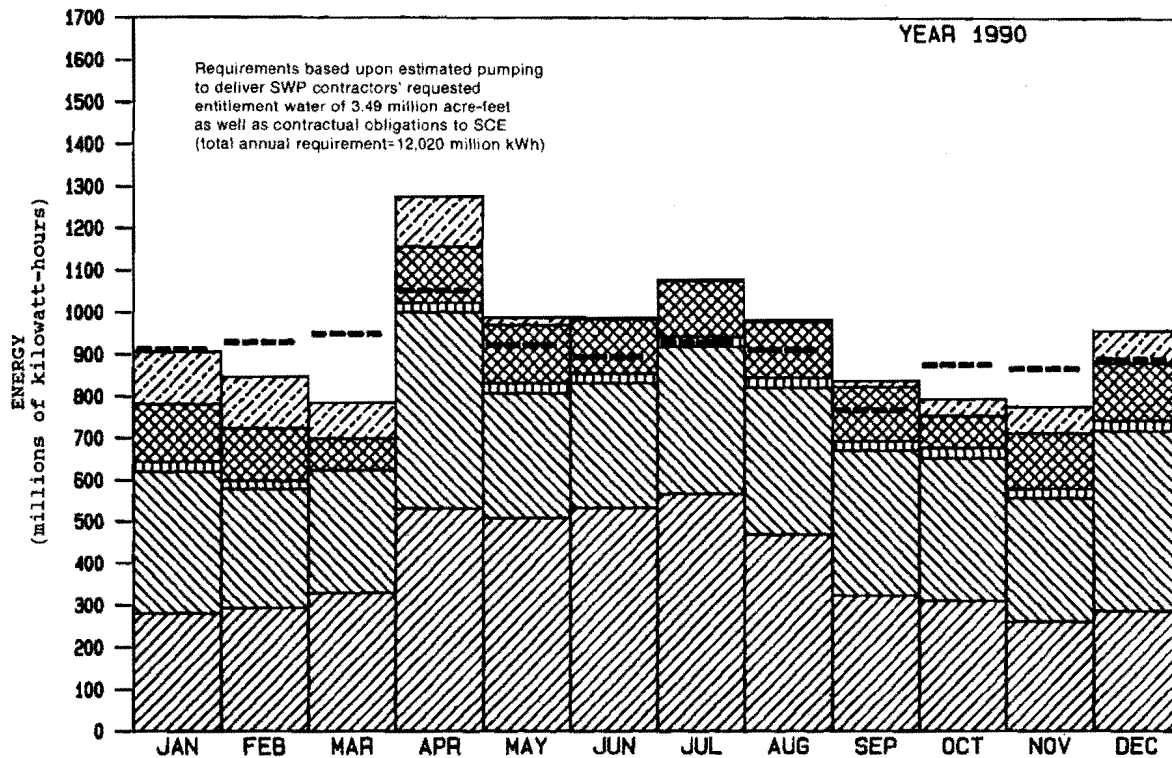
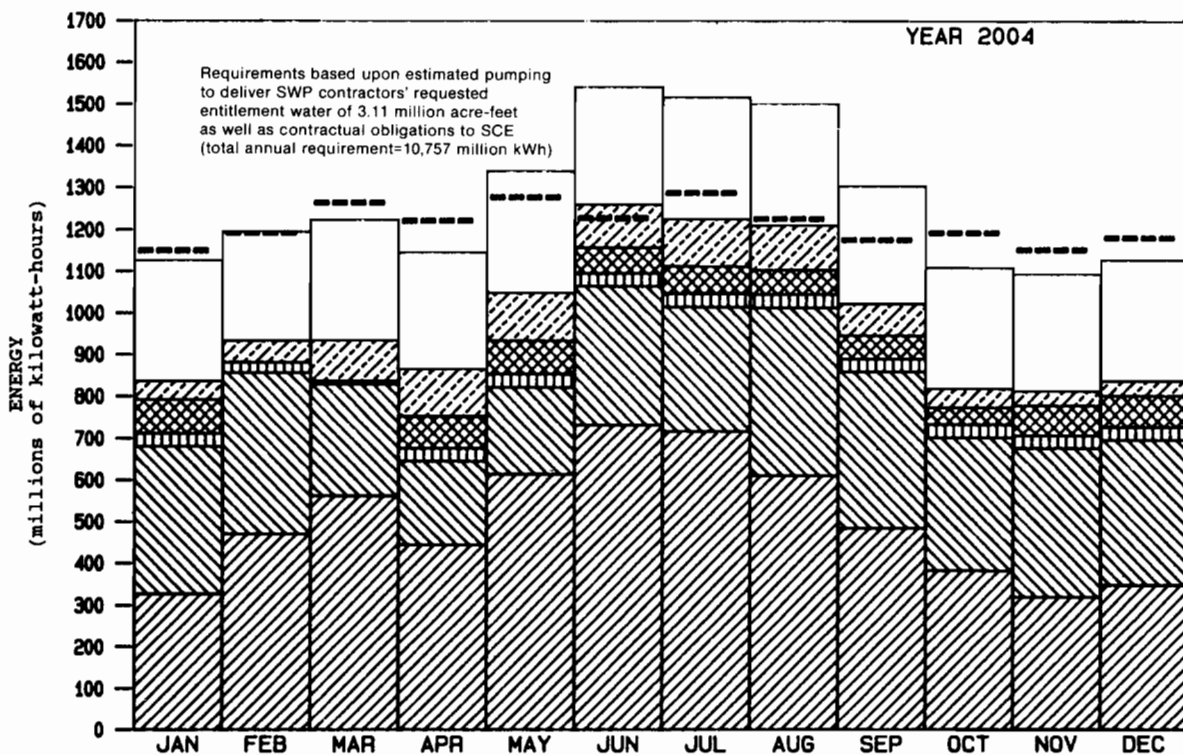
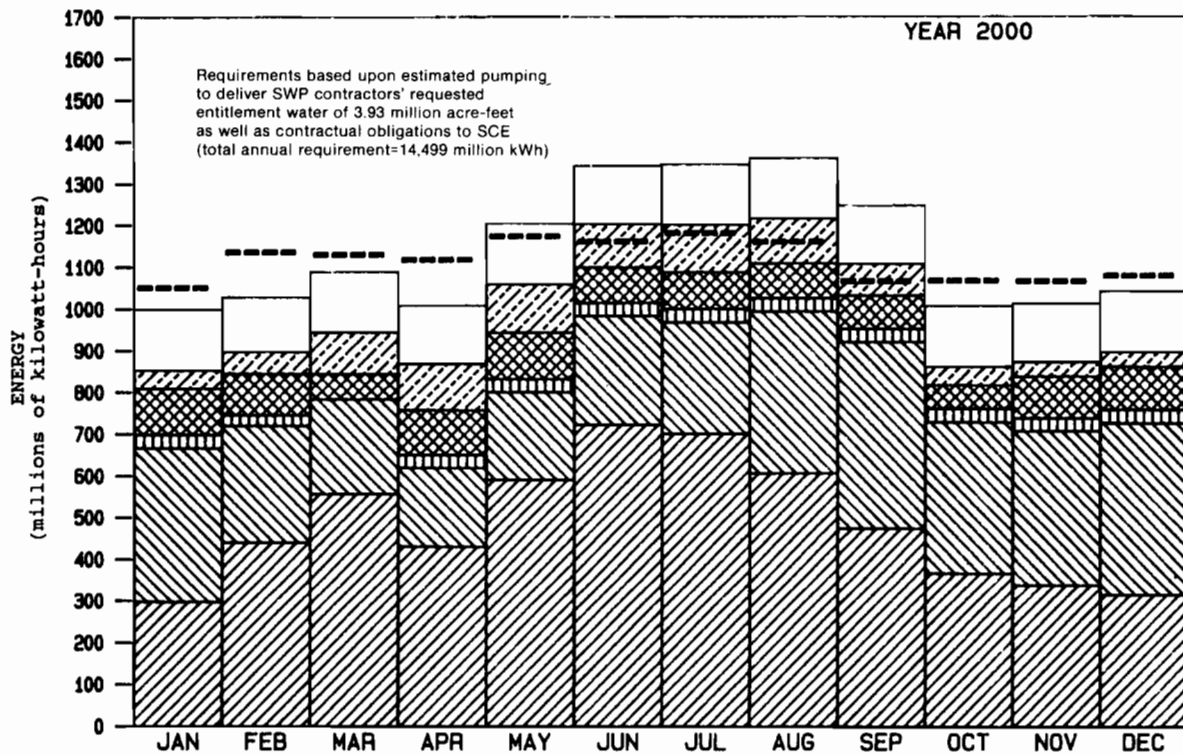


FIGURE 12: MONTHLY SWP ENERGY



REQUIREMENTS AND RESOURCES



SCE EXCHANGE

Energy from Southern California Edison Co. pursuant to 1979 Power Contract and 1981 Capacity Exchange Agreement

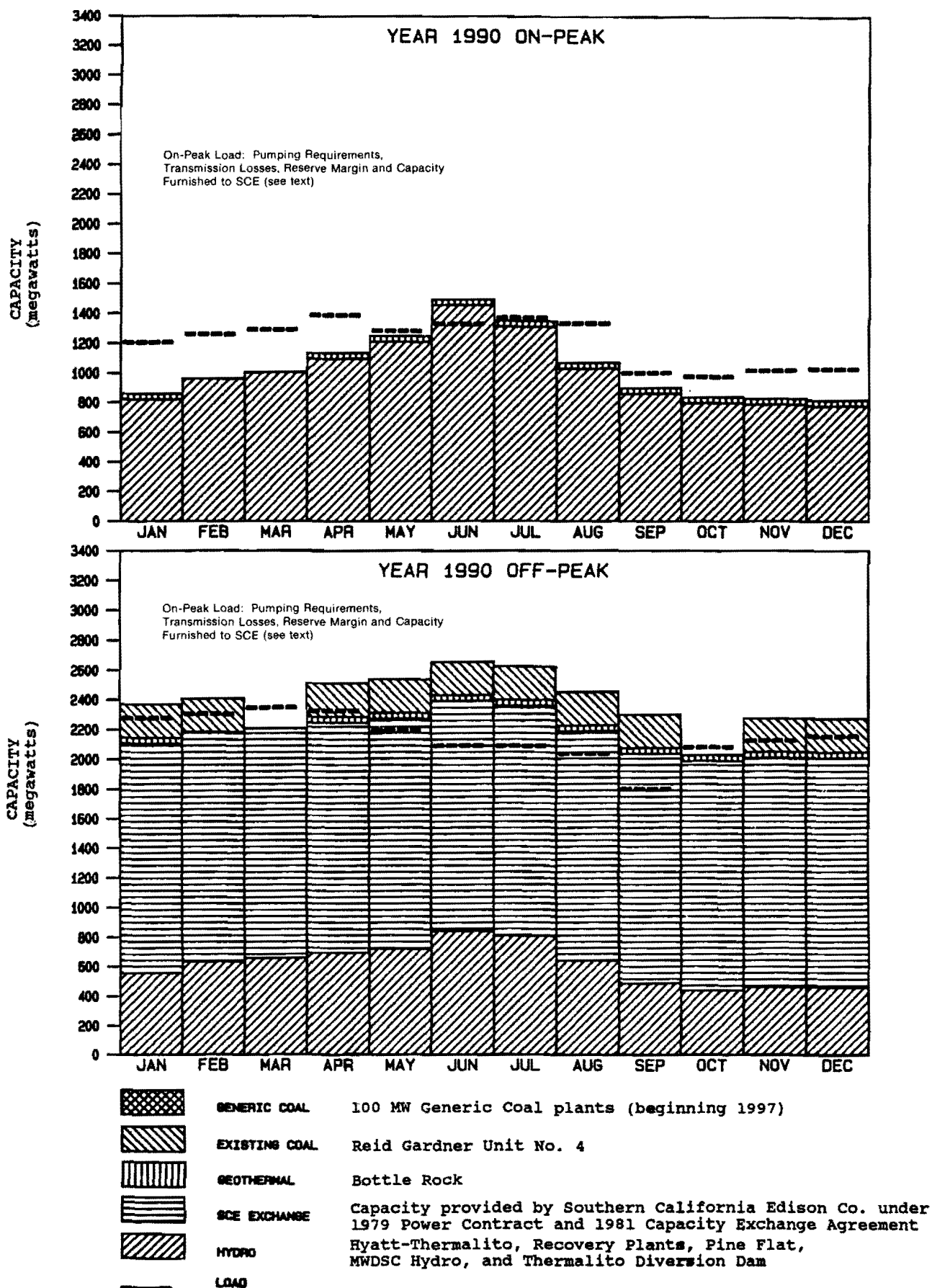


HYDRO

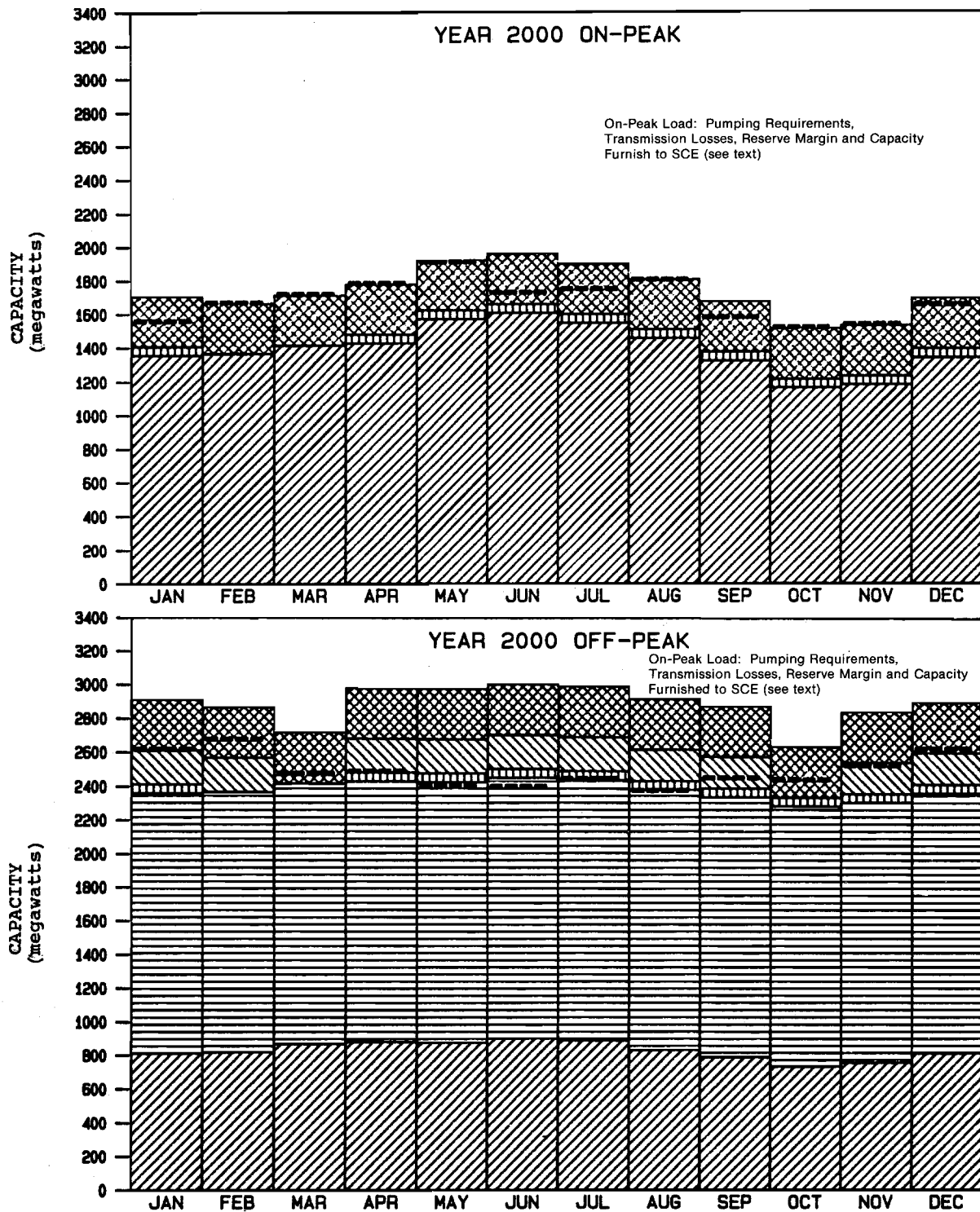
Hyatt-Thermalito, Recovery Plants, Pine Flat, MWDSC Hydro, and Thermalito Diversion Dam

Note: Projected loads and resources were balanced on a seasonal basis (summer on-peak, summer off-peak, winter on-peak, and winter off-peak). Apparent monthly energy deficits will be met by load management, energy exchanges with utilities, and/or additional energy purchases. Placement of resources in figure does not indicate a priority of use or need.

FIGURE 13. MONTHLY ON-PEAK AND OFF-PEAK



SWP CAPACITY LOADS AND RESOURCES



- Notes:
1. The 350 MW contractual obligation to SCE is included in the load requirement, but it is anticipated that SCE will have little or no demand for this capacity during off-peak periods.
 2. The apparent capacity deficits for the 1990 on-peak periods are misleading because the SWP can load drop to meet a portion of its operating reserves. In addition, available resources are understated (see text for further details). Actual deficits will be covered by short-term firm purchases.
 3. Placement of resources in figure does not indicate a priority of use or need.

by SWP is part of the resources.

The indicated on-peak capacity resources in Figure 13 do not include any on-peak capacity from Reid Gardner Unit No. 4 because the participation agreement allows Nevada Power Company to interrupt SWP generation at any time—with certain limitations. Nevertheless, during on-peak periods, there is likely to be power available from Reid Gardner Unit No. 4 for SWP use, but some interruptions must be expected. The same contractual arrangement exists for interruption of off-peak generation from Reid Gardner Unit No. 4. However, off-peak capacity for Reid Gardner Unit No. 4 is shown in Figure 13 because it is unlikely that Nevada Power Company will use significant off-peak capacity, due to minimum service area load concerns and high contractual penalty costs. The participation agreement with Nevada Power Company requires advance notice for use of capacity, which will give DWR adequate time to adjust loads and other resources.

In Figure 13, it appears that there are capacity deficits during the on-peak period for 1990. The capacity deficits shown are higher than actual deficits for the following reasons:

- Hyatt-Thermalito capacities are based on lower quartile hydrology. These capacities would be higher if 1990 were assumed to be in a median hydrology year;
- 226 MW of capacity from Reid Gardner is not included for the on-peak period, but there is likely to be power available from Reid Gardner;
- pursuant to the 1981 Capacity Exchange Agreement with SCE, SCE will provide up to 225 MW of capacity while furnishing the return and additional energy from this agreement during some on-peak hours, but it has not been included in Figure 13; and
- the SWP has the capability to meet a portion of its operating reserves by load-dropping at pumping plants.

Actual shortages of on-peak capacity will be covered by short-term firm purchases. Additionally, 300 MW of extra-high voltage transmission capacity is available for

firm and/or interruptible power purchased from the Pacific Northwest.

Power Costs

The current SWP power resources, in combination with the power contracts outlined in Table 18, are able to meet SWP power needs at a relatively economical cost.

Table 19 is a detailed summary of the most recent projections of SWP energy resources and their costs. The top section of the table shows the estimated future energy supply from each resource at intervals from 1990 through 2004. The future energy supplies for all years except 1990 are based on median water supply conditions. The future energy supplies for 1990 are based on lower quartile water supply conditions. The study assumes that energy requirements in excess of available resources will be met through unspecified energy purchases and from generic baseload coal plants. As in the upper graph of Figure 11, the SWP pumping energy requirements do not include contractual obligations to Southern California Edison, and the energy resources include the net energy gained by the SWP under the exchange arrangements with SCE. The pumping energy requirements include energy and the associated transmission losses for delivery of entitlement water, recreation water, reservoir and aqueduct losses, and replenishment of reservoir storage south of the Delta. The excess of projected resources over requirements is shown as surplus energy available for sale.

The lower section of Table 19 shows current projections of the average unit cost of energy from the various sources. These projections include allowances for future escalation of operation and maintenance costs (at 5 percent per year) and appropriate allowances for escalation of fuel costs.

Most of the differences between the Bulletin 132-88 and Bulletin 132-87 resource costs reflect updated estimates for SWP construction, financing, fuel, and operation and maintenance costs.

The composite resource costs shown in Table 19 represent the weighted average unit cost of all SWP energy from the listed sources. The unit values of potential sales of surplus SWP energy were estimated by escalating the projected 1990 value of 26 mills per kWh for on-peak energy sales and 21 mills per kWh for off-

TABLE 19. PROJECTED ENERGY RESOURCES AND COSTS

(Does not include energy deliveries to SCE pursuant to
1979 Power Contract and 1981 Capacity Exchange Agreement.)

	Calendar Year			
	1990	1995	2000	2004
ENERGY RESOURCES (millions of kWh)				
Hyatt-Thermalito	1,796	2,178	2,178	2,178
SWP Recovery Plants				
San Luis	143	162	188	196
Alamo	95	108	114	113
Devil Canyon	964	1,227	1,366	1,495
W. E. Warne	483	432	472	497
Castaic	738	654	719	761
San Luis Obispo	--	39	46	46
Pine Flat	291	387	387	387
MWDSC Hydro	148	260	246	225
Thermalito Diversion Dam	24	24	24	24
Mojave Siphon	--	94	97	93
SCE Exchange (a)	1,748	1,046	908	812
Reid Gardner Unit No. 4	1,485	1,267	1,084	671
Bottle Rock	257	361	339	339
TERA Power Corp. (Wind)	21	21	21	21
Generic Coal	--	--	1,708	3,416
CRA energy purchases	654	915	915	915
Energy purchases	1,305	912	744	588
Total Resources	10,152	10,087	11,556	12,777
SWP Pumping Energy Requirement (b)	8,881	9,742	10,921	11,935
Surplus Energy for Sale	1,271	345	635	842
RESOURCES' COST (mills per kWh) (c)				
Hyatt-Thermalito	14	12	13	14
SWP Recovery Plants				
San Luis	25	25	25	25
Alamo	33	33	33	33
Devil Canyon	25	25	25	25
W. E. Warne	25	25	25	25
Castaic	25	25	25	25
San Luis Obispo	--	25	25	25
Pine Flat	40	36	40	44
MWDSC Hydro	56	71	91	111
Thermalito Diversion Dam	31	31	32	32
Mojave Siphon	--	37	37	37
SCE Exchange (a)	0	0	0	0
Reid Gardner Unit No. 4	61	80	94	127
Bottle Rock	84	69	83	93
TERA Power Corp. (Wind)	85	68	68	68
Generic Coal	--	--	116	133
CRA energy purchases	21	29	41	54
Energy purchases	23	32	46	64
Capacity purchases (\$/kw-mo)	--	8	11	13
Composite Cost of Resources	27	32	48	64
Value of Potential Energy Sales	29	34	45	59
Value of Potential Capacity Sales (\$/kw-mo)	--	8	11	13
Net Cost of SWP Pumping Energy	27	31	48	64
Transmission Cost	3	3	2	2
Effective Unit Cost	30	34	50	66

- a) Net energy gained from Southern California Edison Company under 1979 DWR-SCE Power Contract and 1981 Capacity Exchange Agreement.
- b) Requirement based upon energy to deliver SWP contractors' requested entitlement water, recreation water, reservoir and aqueduct losses, and replacement of reservoir storage south of Delta; includes transmission losses.
- c) Includes allowance for future cost escalation.

peak energy sales at 7 percent and then averaging the two rates. The net cost of energy for SWP use is the unit cost of the energy actually used for SWP purposes. The unit transmission costs shown were calculated by dividing total annual SWP expenditures for power transmission services by the annual SWP pumping energy requirements. (This calculation reflects the 75 percent of DWR's costs for firm transmission service waived by SCE according to the provisions of the Ca-

pacity Exchange Agreement).

The effective unit costs shown in Table 19 represent the average costs for energy used to operate the SWP, exclusive of any surplus or unscheduled water service. However, because of allocation adjustments for costs of off-aqueduct power facilities and credits for generation at SWP recovery plants, the unit costs shown in Table 19 do not represent actual energy costs reflected in water bills to respective contractors.

CHAPTER VII

FUTURE COSTS AND FINANCING

This chapter presents both a summary and a detailed explanation of SWP capital costs and financing, revenues and expenses, and bond activities. The overall summary is in Table 20; more detailed presentations of financial matters are shown in additional tables, figures, and line item descriptions throughout the chapter.

Capital costs and financing have been changed from those in Bulletin 132-87 to reflect changes in construction scheduling and cost estimates. Projected bond activities have also been revised to reflect these changes.

The following major SWP facilities planned for completion by 2000 are included in the financial analysis:

- Suisun Marsh Facilities (first stage of final facilities);
- final four units at Banks Delta Pumping Plant;
- Mojave Siphon power generation facilities;
- enlargement of the East Branch of the California Aqueduct; and
- Coastal Branch - Phase II.

The financial analysis shown in Table 20 excludes the costs and financing of facilities to develop the remaining 2 million-plus acre-feet of yield to meet the total contractual commitment to all long-term SWP water contractors.

The financial analysis also excludes costs of associated works that, although essential for realizing full SWP benefits, are financed and constructed by local interests or State agencies other than DWR. These works include onshore recreation developments at SWP facilities and local distribution facilities.

The financial analysis demonstrates that projected contractor payments and other revenues will be adequate to pay annual OMP&R costs and to meet all repayment

obligations on funds used to finance SWP construction and other authorized costs during the period 1988 through 2000. The current analysis indicates that future capital requirements through 2000 for power and water facilities and the Davis-Grunsky Act Program, along with special requirements for revenue bond financing, will be \$1,002 million.

Future Conditions

Future conditions may require changes in the financial analysis. For this reason, basic assumptions are reviewed and the financial analysis is updated annually. Notable contingencies that could change the financial analysis are:

- deviation from the assumptions regarding SWP power resources;
- deviation of actual rates of future construction-price escalation from those currently assumed for cost estimates;
- rescheduling of currently planned construction for future facilities;
- development of additional sources of water not foreseen at this time;
- capital costs associated with the Kern Water Bank and other additional conservation facilities;
- construction of Buttes Reservoir for Antelope Valley-East Kern Water Agency;
- enlargement of the San Luis Canal;
- changes in SWP contractors' entitlements due to changes in water needs, water conservation, or reclamation;
- inability of DWR to market sufficient revenue bonds;

TABLE 20. SWP FINANCIAL

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Line No.	Line Item	CALENDAR							
		1952-1987	1988	1989	1990	1991	1992	1993	1994
CAPITAL REQUIREMENTS									
1.	Initial Project Facilities	2,202,316	0	0	0	0	0	0	0
2.	North Bay Aqueduct-Phase II	80,955	11,058	2,555	728	2	0	0	0
3.	Delta & Suisun Marsh Facilities	114,927	6,680	3,039	2,877	652	862	1,727	285
4.	Final 4 Units at Banks Delta Pumping Plant	2,746	10,023	16,768	15,211	7,500	1,612	0	0
5.	Coastal Branch Aqueduct-Phase II	3,929	2,193	1,982	3,215	11,487	79,483	101,533	79,759
6.	West Branch Aqueduct	86,507	2,600	2,344	6,454	5,900	345	0	0
7.	East Branch Aqueduct-Enlargement	60,427	49,438	76,966	79,163	44,265	14,503	2,583	2,034
8.	East Branch Aqueduct-Non-Enlargement	34,748	7,844	8,918	8,737	4,068	1,588	89	0
9.	Power Generation and Transmission Facilities	589,185	39,488	6,984	2,913	4,595	4,367	2,000	1,655
10.	Additional Conservation Facilities	39,208	37,564	6,833	5,656	4,376	3,126	3,039	2,881
11.	San Joaquin Drainage Facilities	27,939	1,205	1,561	1,310	827	849	912	958
12.	Other Costs	129,254	8,025	21,261	14,552	5,034	2,753	2,385	2,001
13.	TOTAL PROJECT CONSTRUCTION EXPENDITURES	3,372,141	176,118	149,211	140,816	88,706	109,488	114,268	89,573
14.	Davis-Grunsky Act Program Costs	118,309	7,046	53	2,253	2,050	50	50	50
15.	Special Capital Requirements Under Revenue Bond Financing	340,885	12,606	0	13,500	0	20,000	9,000	7,500
16.	TOTAL CAPITAL REQUIREMENTS	3,831,335	195,770	149,264	156,569	90,756	129,538	123,318	97,123
17.	Power Facilities Capital Requirements	1,290,929	39,488	6,984	2,913	4,595	4,367	2,000	1,655
18.	Water Facilities Capital Requirements	2,540,406	156,282	142,280	153,656	86,161	125,171	121,318	95,468
FINANCING OF CAPITAL REQUIREMENTS									
POWER-REVENUE BOND PROCEEDS									
19.	Power Facilities-Series A through H	1,144,928	7,734	4,578	0	0	0	0	0
WATER REVENUE BOND PROCEEDS									
20.	East Branch Enlargement - Series A	73,524	48,283	10,193	0	0	0	0	0
21.	East Branch Enlargement - Series D	0	6,000	0	0	0	0	0	0
22.	East Branch Enlargement - Future	0	1,155	66,773	92,663	44,265	10,844	0	0
23.	Water System Facilities-Series B & C	109,000	0	0	0	0	0	0	0
24.	Water System Facilities-Series D	0	94,000	0	0	0	0	0	0
25.	Water System Facilities-Future	0	7,645	0	37,999	19,100	77,654	94,651	71,189
26.	SUBTOTAL WATER REVENUE BONDS	182,524	157,083	76,966	130,662	63,365	88,498	94,651	71,189
OTHER CAPITAL FINANCING									
27.	Initial Project Facilities Bond Proceeds	1,452,269	0	0	0	0	0	0	0
28.	Davis-Grunsky Act Program Bond Proceeds	118,309	7,046	53	2,253	2,050	50	50	50
29.	Application of California Water Fund Monies (Tideland Oil Revenues)	501,502	1,205	1,561	1,310	827	849	912	958
30.	Application of Capital Resources Revenues to Construction	431,803	22,702	61,987	0	0	10,159	2,583	2,034
31.	Revenue Transfers Applied	0	0	4,119	22,344	24,514	29,982	25,122	22,892
32.	SUBTOTAL OTHER CAPITAL FINANCING	2,503,883	30,953	67,720	25,907	27,391	41,040	28,667	25,934
33.	TOTAL FINANCING OF CAPITAL REQUIREMENTS	3,831,335	195,770	149,264	156,569	90,756	129,538	123,318	97,123

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YEAR						TOTAL 1988-2000	TOTAL 1952-2000	Line No.	Line Item
1995	1996	1997	1998	1999	2000				
0	0	0	0	0	0	0	2,202,316	1.	Initial Project Facilities
0	0	0	0	0	0	14,343	95,298	2.	North Bay Aqueduct-Phase II
298	313	1,675	345	375	717	19,845	134,772	3.	Delta & Suisun Marsh Facilities
0	0	0	0	0	0	51,114	53,860	4.	Final 4 Units at Banks Delta Pumping Plant
20,434	1,337	1,092	819	0	0	303,334	307,263	5.	Coastal Branch Aqueduct-Phase II
0	0	0	0	0	0	17,643	104,150	6.	West Branch Aqueduct
0	0	0	0	0	0	268,952	329,379	7.	East Branch Aqueduct-Enlargement
0	0	0	0	0	0	31,244	65,992	8.	East Branch Aqueduct-Non-Enlargement
0	0	0	0	0	0	62,002	651,187	9.	Power Generation and Transmission Facilities
3,025	3,176	3,335	3,502	3,677	3,861	84,051	123,259	10.	Additional Conservation Facilities
1,006	1,056	1,109	1,164	1,222	1,284	14,463	42,402	11.	San Joaquin Drainage Facilities
1,939	560	583	508	533	559	60,693	189,947	12.	Other Costs
26,702	6,442	7,794	6,338	5,807	6,421	927,684	4,299,825	13.	TOTAL PROJECT CONSTRUCTION EXPENDITURES
50	50	39	0	0	0	11,691	130,000	14.	Davis-Grunsky Act Program Costs
0	0	0	0	0	0	62,606	403,491	15.	Special Capital Requirements Under Revenue Bond Financing
26,752	6,492	7,833	6,338	5,807	6,421	1,001,981	4,833,316	16.	TOTAL CAPITAL REQUIREMENTS
0	0	0	0	0	0	62,002	1,352,931	17.	Power Facilities Capital Requirements
26,752	6,492	7,833	6,338	5,807	6,421	939,979	3,480,385	18.	Water Facilities Capital Requirements
0	0	0	0	0	0	12,312	1,157,240	19.	Power Facilities-Series A through H
0	0	0	0	0	0	58,476	132,000	20.	WATER REVENUE BOND PROCEEDS
0	0	0	0	0	0	6,000	6,000	21.	East Branch Enlargement - Series A
0	0	0	0	0	0	215,700	215,700	22.	East Branch Enlargement - Series D
0	0	0	0	0	0	0	109,000	23.	East Branch Enlargement - Future
0	0	0	0	0	0	94,000	94,000	24.	Water System Facilities-Series B & C
0	0	0	0	0	0	94,000	94,000	25.	Water System Facilities-Series D
6,232	0	0	0	0	0	314,470	314,470	26.	Water System Facilities-Future
6,232	0	0	0	0	0	688,646	871,170	27.	SUBTOTAL WATER REVENUE BONDS
0	0	0	0	0	0	0	1,452,269	28.	OTHER CAPITAL FINANCING
0	0	0	0	0	0	0	1,452,269	29.	Initial Project Facilities Bond Proceeds
50	50	39	0	0	0	11,691	130,000	30.	Davis-Grunsky Act Program Bond Proceeds
1,006	1,056	1,109	1,164	1,222	1,284	14,463	515,965	31.	Application of California Water Fund Monies (Tideland Oil Revenues)
0	0	0	0	0	0	99,465	531,268	32.	Application of Capital Resources Revenues to Construction
19,464	5,386	6,685	5,174	4,585	5,137	175,404	175,404	33.	Revenue Transfers Applied
20,520	6,492	7,833	6,338	5,807	6,421	301,023	2,804,906	34.	SUBTOTAL OTHER CAPITAL FINANCING
26,752	6,492	7,833	6,338	5,807	6,421	1,001,981	4,833,316	35.	TOTAL FINANCING OF CAPITAL REQUIREMENTS

TABLE 20. SWP FINANCIAL

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Line No.	Line Item	CALENDAR							
		1952-1987	1988	1989	1990	1991	1992	1993	1994
	PROJECT REVENUES								
34.	Capital Resources Revenues	663,182	13,629	0	0	0	0	0	0
	WATER CONTRACTOR PAYMENTS								
35.	Transportation Capital	1,390,011	100,435	97,279	99,417	101,119	102,592	106,704	111,609
36.	Transportation Minimum	1,046,746	202,653	233,776	228,433	227,497	225,425	226,176	225,590
37.	Transportation Variable	616,046	44,878	65,008	81,023	76,046	78,906	79,704	80,870
38.	Delta Water Charge	452,511	57,026	65,617	68,107	68,928	69,059	69,195	69,314
39.	EB Enlargement Payments	0	13,308	13,913	13,915	28,544	29,122	37,174	37,536
40.	Water Revenue Bond Surcharge	0	5,463	11,425	11,370	11,379	11,404	16,419	19,570
41.	SUBTOTAL WATER CONTRACTOR PAYMENTS UNDER LONG-TERM WATER SUPPLY CONTRACTS	3,505,314	423,763	487,018	502,265	513,513	516,508	535,372	544,489
42.	Revenue Bond Cover Adjustments	0	(13,602)	(19,771)	(21,289)	(21,731)	(24,940)	(25,281)	(29,791)
	OTHER REVENUES								
43.	Federal Payments for Project Operating Costs	55,527	9,840	8,399	7,465	8,430	8,974	9,071	8,632
44.	Appropriations for Operating Costs Allocated to Recreation	16,657	0	0	0	0	0	0	0
45.	Local Agency Payments Under Davis-Grunsky Loan Repayment Contracts	16,046	2,000	2,000	2,000	2,000	2,000	2,000	2,000
46.	Revenue Bond Proceeds	254,207	3,746	0	0	0	0	0	0
47.	Interest Earnings on Operating Revenues	252,730	6,300	5,000	5,000	5,000	5,000	5,000	5,000
48.	Payments Under Oroville-Thermalito Power Sale Contract	249,279	0	0	0	0	0	0	0
49.	Miscellaneous Revenues	77,951	0	0	0	0	0	0	0
50.	SUBTOTAL OTHER REVENUES	922,397	21,886	15,399	14,465	15,430	15,974	16,071	15,632
51.	TOTAL OPERATING REVENUES	4,427,711	432,047	482,646	495,441	507,212	507,542	526,162	530,330
52.	TOTAL OPERATING REVENUES AND CAPITAL RESOURCES REVENUES	5,090,893	445,676	482,646	495,441	507,212	507,542	526,162	530,330
	PROJECT EXPENSES								
53.	Project Operation, Maintenance and Power Costs	1,658,828	203,462	247,407	254,126	248,163	245,290	246,202	246,986
54.	Deposits to Replacement Reserves	115,933	10,718	10,364	9,098	10,227	10,763	10,962	11,070
55.	Deposits to Special Reserves Under Revenue Bond Financing	350,128	6,717	(59,806)	4,671	8,282	(4,743)	6,444	4,985
	PAYMENTS OF DEBT SERVICE								
56.	Principal Repayments on Bonds sold Through June 30, 1988	355,099	41,040	43,905	46,195	48,265	50,435	53,390	56,360
57.	Interest on Bonds Sold Through June 30, 1988	2,053,172	157,923	159,462	157,940	154,590	151,934	149,714	146,184
58.	Future East Branch Enlargement Bond Principal Repayments	0	0	0	0	785	845	1,350	1,455
59.	Future East Branch Enlargement Bond Interest Payments	0	0	0	0	10,800	10,737	16,670	16,922
60.	Future Water Bond Principal Repayments	0	0	0	0	0	0	785	1,365
61.	Future Water Bond Interest Payments	0	0	579	1,067	1,586	2,140	12,940	20,077
62.	TOTAL PRINCIPAL	355,099	41,040	43,905	46,195	49,050	51,280	55,525	59,180
63.	TOTAL INTEREST	2,053,172	157,923	160,041	159,007	166,976	164,811	179,324	183,183
64.	SUBTOTAL DEBT SERVICE	2,408,271	198,963	203,946	205,202	216,026	216,091	234,849	242,363
65.	California Water Fund Appropriation to Non-SWP Purposes	70,000	0	0	0	0	0	0	0
66.	TOTAL OPERATING EXPENSES AND DEBT SERVICE	4,603,160	419,860	401,911	473,097	482,698	467,401	498,457	505,404
67.	Deposits to Operating Reserves	55,930	3,114	14,629	0	0	0	0	0
68.	California Water Fund Repayment Required for Current Construction	0	0	4,119	22,344	24,514	29,982	25,122	22,892
69.	California Water Fund Repayment Available for Future Construction	0	0	0	0	0	0	0	0
70.	Capital Resources Revenues Used for Construction	431,803	22,702	61,987	0	0	10,159	2,583	2,034
71.	TOTAL PROJECT EXPENSES	5,090,893	445,676	482,646	495,441	507,212	507,542	526,162	530,330

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\$1,000)

YEAR						TOTAL 1988-2000	TOTAL 1952-2000	Line No.	Line Item
1995	1996	1997	1998	1999	2000				
0	0	0	0	0	0	13,629	676,811	34.	Capital Resources Revenues
115,471	116,466	116,532	116,627	116,655	116,655	1,417,581	2,807,592	35.	WATER CONTRACTOR PAYMENTS Transportation Capital
227,622	227,771	229,681	227,001	222,109	218,459	2,922,193	3,968,939	36.	Transportation Minimum
88,013	90,859	121,532	129,348	163,795	201,797	1,301,779	1,917,825	37.	Transportation Variable
69,461	69,565	69,617	69,636	69,655	69,675	884,855	1,337,366	38.	Delta Water Charge
37,543	37,546	37,543	37,546	37,546	37,548	398,784	398,784	39.	EB Enlargement Payments
22,468	22,487	22,502	22,513	22,518	22,524	222,042	222,042	40.	Water Revenue Bond Surcharge
560,578	564,694	597,427	602,671	632,278	666,658	7,147,234	10,652,548	41.	SUBTOTAL WATER CONTRACTOR PAYMENTS UNDER LONG-TERM WATER SUPPLY CONTRACTS
(31,725)	(33,338)	(33,339)	(33,347)	(33,510)	(33,509)	(355,173)	(355,173)	42.	Revenue Bond Cover Adjustments
10,996	13,068	10,011	12,883	12,226	12,952	132,947	188,474	43.	OTHER REVENUES Federal Payments for Project Operating Costs
0	0	0	0	0	0	0	16,657	44.	Appropriations for Operating Costs Allocated to Recreation
2,000	2,000	2,000	2,000	2,000	2,000	26,000	42,046	45.	Local Agency Payments Under Davis-Grunsky Loan Repayment Contracts
0	0	0	0	0	0	3,746	257,953	46.	Revenue Bond Proceeds
5,000	5,000	5,000	5,000	5,000	5,000	66,300	319,030	47.	Interest Earnings on Operating Revenues
0	0	0	0	0	0	0	249,279	48.	Payments Under Oroville- Thermalito Power Sale Contract
0	0	0	0	0	0	0	77,951	49.	Miscellaneous Revenues
17,996	20,068	17,011	19,883	19,226	19,952	228,993	1,151,390	50.	SUBTOTAL OTHER REVENUES
546,849	551,424	581,099	589,207	617,994	653,101	7,021,054	11,448,765	51.	TOTAL OPERATING REVENUES
546,849	551,424	581,099	589,207	617,994	653,101	7,034,683	12,125,576	52.	TOTAL OPERATING REVENUES AND CAPITAL RESOURCES REVENUES
259,651	262,385	294,634	299,252	329,995	362,313	3,499,866	5,158,694	53.	PROJECT EXPENSES Project Operation, Maintenance and Power Costs
13,058	16,117	13,073	16,947	16,187	17,805	166,389	282,322	54.	Deposits to Replacement Reserves
6,705	4,854	5,108	5,270	5,120	4,440	(1,953)	348,175	55.	Deposits to Special Reserves Under Revenue Bond Financing
58,995	61,875	63,360	65,350	68,385	71,950	729,505	1,084,604	56.	PAYMENTS OF DEBT SERVICE Principal Repayments on Bonds sold Through June 30, 1988
143,073	140,019	136,351	132,791	129,091	126,029	1,885,101	3,938,273	57.	Interest on Bonds Sold Through June 30, 1988
1,575	1,700	1,835	1,985	2,140	2,310	15,980	15,980	58.	Future East Branch Enlargement Bond Principal Repayments
16,445	16,319	16,183	16,036	15,878	15,706	151,696	151,696	59.	Future East Branch Enlargement Bond Interest Payments
1,915	2,065	2,235	2,410	2,600	2,815	16,190	16,190	60.	Future Water Bond Principal Repayments
25,968	25,814	25,650	25,753	25,560	25,353	192,487	192,487	61.	Future Water Bond Interest Payments
62,485	65,640	67,430	69,745	73,125	77,075	761,675	1,116,774	62.	TOTAL PRINCIPAL
185,486	182,152	178,184	174,580	170,529	167,088	2,229,284	4,282,456	63.	TOTAL INTEREST
247,971	247,792	245,614	244,325	243,654	244,163	2,990,959	5,399,230	64.	SUBTOTAL DEBT SERVICE
0	0	0	0	0	0	0	70,000	65.	California Water Fund Appropriation to Non-SMP Purposes
527,385	531,148	558,429	565,794	594,956	628,721	6,655,261	11,258,421	66.	TOTAL OPERATING EXPENSES AND DEBT SERVICE
0	0	0	0	0	0	17,743	73,673	67.	Deposits to Operating Reserves
19,464	5,386	6,685	5,174	4,585	5,137	175,404	175,404	68.	California Water Fund Repayment Required for Current Construction
0	14,890	15,985	18,239	18,453	19,243	86,810	86,810	69.	California Water Fund Repayment Available for Future Construction
0	0	0	0	0	0	99,465	531,268	70.	Capital Resources Revenues Used for Construction
546,849	551,424	581,099	589,207	617,994	653,101	7,034,683	12,125,576	71.	TOTAL PROJECT EXPENSES

- changes in economic conditions, including interest rates;
- adverse impacts upon water contractors, resulting from water shortages due to insufficient supplies (see Chapter V);
- conditions that would change the abilities of SWP contractors to pay SWP costs; and
- the outcome of certain lawsuits now pending before the courts (see Chapter III).

Financial Analysis

The current SWP financial analysis in Table 20 is in two parts. Actual and projected capital expenditures and sources of financing are shown in Part 1. Part 2 shows actual and anticipated revenues and their application to pay SWP operating expenses and principal and interest on bonds, as well as provide a limited amount of construction funding.

Estimates of future capital expenditures include allowances for escalation of construction costs and land acquisition costs at 3 percent per year for 1988 and 1989 and at 5 percent per year thereafter. State salaries are assumed to escalate at 5 percent per year for 1988 and 1989 and at 5 percent per year thereafter. Capital expenditures for the SWP also include requirements other than those for construction, such as disbursements under the Davis–Grunsky Act Program (Line 14), and special capital requirements under revenue bond financing (Line 15).

Capital Requirements

Lines 1–18 in Table 20 show actual and projected SWP capital requirements through the year 2000.

Table 21 shows actual and projected SWP construction expenditures, together with a preliminary allocation of such expenditures among SWP purposes. A generalized construction schedule for current and future contracts is shown in Figure 14.

The following sections describe DWR’s current assumptions concerning the costs of each facility of the future construction program through 2000, as shown in Table 20. Decisions to commence construction on facilities not yet under way will be made only after an

examination of alternatives and upon completion of final EIRs and other review processes.

Line 1: Initial Project Facilities

Facilities included in the initial construction program are those completed before 1974 (see Bulletin 132–74, Chapter II). Additional costs after 1973 and estimated costs of remaining work on the initial SWP facilities are not included in this line.

Line 2: North Bay Aqueduct–Phase II

Phase II of the North Bay Aqueduct, which connects with existing Phase I facilities, consists of pipelines, pumping plants, and a small reservoir necessary to divert water from the western Delta to Napa and Solano Counties for urban use.

Costs are included for increased capacity for the City of Vallejo and to provide excess peaking capacity to meet possible future peak summer demands. These additional costs were funded by advance payments from the Solano County Flood Control and Water Conservation District. These advance payments are included in Line 34.

Line 3: Delta and Suisun Marsh Facilities

The history column (1952–1987) of Line 3 includes costs for general Delta facilities and planning costs associated with the previously-planned Peripheral Canal and overland water delivery facilities for the western Delta. Included for Suisun Marsh are historic planning costs as well as construction costs through 1987.

The columns for 1988–2000 show Delta facilities planning costs and costs for construction of Suisun Marsh facilities. The construction costs are for only a portion of the final Suisun Marsh facilities: the Suisun Marsh Salinity Control Gates and an access road. Present plans are to evaluate the effectiveness of the control structure before proceeding with any additional facilities at Suisun Marsh.

Line 4: Final Four Units at Banks Delta Pumping Plant

The final four 1,067–cfs units are scheduled to be operational in 1991. The final EIR has been completed and distributed to the public and interested parties.

TABLE 21. STATE WATER PROJECT CAPITAL EXPENDITURES

(in thousands of dollars)

Facilities and Construction Divisions	Expenditures Incurred Through 1987	Future Expenditures	TOTAL	Preliminary Allocation Among Project Purposes			
				Water Supply and Power Generation	Flood Control (a)	Recreation and Fish and Wildlife Enhancement	Other (b)
PROJECT CONSTRUCTION EXPENDITURES							
Upper Feather Division	16,024	63	16,087	1,170	0	14,917	0
Oroville Division	545,968	3,276	549,244	459,906	70,661	18,677	0
North Bay Aqueduct	82,343	14,343	96,686	96,686	0	0	0
Delta Facilities	135,112	19,845	154,957	134,131	0	20,826	0
South Bay Aqueduct	73,321	1,545	74,866	53,322	7,478	14,042	24
California Aqueduct							
North San Joaquin Division	183,663	76,041	259,704	250,412	0	9,292	0
San Luis Division	205,797	25,894	231,691	219,866	0	11,615	210
South San Joaquin Division	272,188	4,973	277,161	260,877	0	16,284	0
Tehachapi Division	313,099	5,040	318,139	300,065	0	18,074	0
Mojave Division	244,096	22,216	266,312	243,189	0	23,123	0
Santa Ana Division	193,643	8,533	202,176	184,461	0	17,715	0
West Branch	510,956	17,643	528,599	495,141	0	32,952	506
Coastal Branch	18,335	303,335	321,670	321,320	245	0	105
Subtotal, California Aqueduct	1,941,777	463,675	2,405,452	2,275,331	245	129,055	821
Small Hydroelectric Power Generating Facilities	61,587	19,318	80,905	79,179	0	1,726	0
Off-Aqueduct Power Generating Facilities	406,378	31,399	437,777	415,798	0	0	21,979
East Branch Enlargement	60,427	268,952	329,379	329,379	0	0	0
San Joaquin Drainage Facilities	34,454	14,463	48,917	0	0	0	48,917
Planning and Preoperations (c)	8,542	84,051	92,593	92,593	0	0	0
Unassigned	6,208	6,754	12,962	0	0	0	12,962
SUBTOTAL, PROJECT CONSTRUCTION EXPENDITURES	3,372,141	927,684	4,299,825	3,937,495	78,384	199,243	84,703
OTHER CAPITAL REQUIREMENTS							
Davis-Grunsky Act Program	118,309	11,691	130,000	0	0	0	130,000
TOTAL CAPITAL EXPENDITURES	3,490,446	939,379	4,429,825	3,937,495	78,384	199,243	214,703

a) Reflects DWR's allocation to this purpose, irrespective of federal payments.

b) Includes costs currently unassigned to purpose, planning costs of deleted features of Project facilities, initial costs of inventoried items, joint costs assigned to the federal government, and costs assigned to the Davis-Grunsky Act Program.

c) Includes \$31,400,000 Kern County Water Bank land purchase and planning expenses allocated to conservation facilities.

Line 5: Coastal Branch Aqueduct—Phase II

This line shows the planning costs for the Coastal Branch—Phase II. Future expenditures also include a projection of construction costs for this project.

Line 6: West Branch Aqueduct

The costs shown in Line 6 are for all facilities on the West Branch except Warne Powerplant. Warne Powerplant costs are included in Line 9. Included in this line are projected costs for the Vista Del Lago

FIGURE 14: GENERALIZED CONSTRUCTION SCHEDULE

FACILITY, CONSTRUCTION DIVISION OR FEATURE	CALENDAR YEAR									
	1987	1988	1989	1990	1991	1992	1993	1994	1995	
ENERGY SUPPLY (NON-HYDRO)										
BOTTLE ROCK POWERPLANT										
SOUTH GEYSERS POWERPLANT <u>1/</u>										
REID GARDNER POWERPLANT										
OROVILLE DIVISION										
THERMALITO DIVERSION DAM POWERPLANT										
SUISUN MARSH										
NORTH BAY AQUEDUCT (PHASE II), BARKER SLOUGH THROUGH CORDELIA SURGE TANK										
NORTH SAN JOAQUIN DIVISION										
HARVEY O. BANKS DELTA PUMPING PLANT UNITS 8, 9, 10, & 11										
MOJAVE DIVISION										
ALAMO POWERPLANT, UNIT 1										
EAST BRANCH ENLARGEMENT										
CANAL, STRUCTURES, SIPHONS										
PEARBLOSSOM PUMPING PLANT, UNITS 7, 8, 9, 10 & 11										
DEVIL CANYON POWERPLANT, UNITS 3 & 4										
MOJAVE SIPHON POWERPLANT										
ALAMO POWERPLANT <u>2/</u>										
COASTAL BRANCH, PHASE II										

1/ Construction suspended. Completion date pending procurement of a firm steam supply.

2/ Not scheduled.

Visitors Center and Gorman Creek channel modifications.

Line 7: East Branch Aqueduct—Enlargement

Line 7 shows expenditures for first-stage construction of the East Branch Enlargement, including the enlargement share of power plant costs. (The remaining power plant costs are included in Line 9.) Estimated East Branch Enlargement costs by facility are:

	<u>\$ millions</u>
Aqueduct	109.5
Pearblossom Pumping Plant	55.2
Alamo Powerplant	5.0 ¹
Mojave Siphon Powerplant	21.1
Devil Canyon Powerplant and Bypass	<u>138.6</u>
Total	329.4

¹Expenditures for Unit 1 facilities allocated to enlargement. Construction of Unit 2 has been deferred.

All costs in this line are allocated to and repaid by the seven Southern California contractors participating in the East Branch Enlargement.

Line 8: East Branch Aqueduct—Non-Enlargement

The costs shown in Line 8 are for all aqueduct costs on the East Branch that are not allocated to the enlargement project. This includes improvements constructed concurrently with the enlargement work. No costs for power plant construction are included in this line.

Line 9: Power Generation and Transmission Facilities

Estimated capital costs for facilities included in Line 9 are:

	<u>\$millions</u>
Powerplants	
Reid Gardner, Unit 4	254.5
Bottle Rock	119.0
South Geysers	57.5 ¹
Devil Canyon	37.1 ²
William E. Warne	84.5
Alamo	45.2 ¹
Mojave Siphon	19.0 ²
Thermalito Diversion Dam	14.7
Other Small Hydro Costs	<u>2.0</u>
Subtotal	633.5
Transmission Lines	
Midway-Wheeler Ridge	10.9
Geysers-Lakeville	<u>6.8</u>
TOTAL	651.2

¹Expenditures to complete work in progress only; remaining work has been deferred (see Chapter IV).
²Does not include East Branch Enlargement share of costs in Line 7

Line 10: Additional Conservation Facilities

The costs shown in Line 10 are for planning of additional conservation facilities. In 1988, \$31.4 million is included for the purchase of land for the Kern Water Bank. No costs are shown in the financial analysis for construction of additional conservation facilities.

Line 11: San Joaquin Drainage Facilities

Included are the projected costs of (1) monitoring and reporting the quality and quantity of agricultural waste waters in the San Joaquin Valley, (2) closing the desalting plant at the Los Banos Demonstration Desalting Facility and writing the final report, (3) continued operation of the solar pond system and (4) a cooperative program with Westlands Water District to develop methods for the disposal and/or treatment of agricultural drainage water. These costs are to be financed by California Water Fund appropriations. No costs shown in this line are charged to SWP water contractors.

Line 12: Other Costs

These expenditures cover such items as general design and construction costs, completion of operation and maintenance facilities, and other completion activities for the initial facilities of the California Aqueduct. Portions of these costs will ultimately be allocated to aqueduct units described in the preceding paragraphs.

Line 12 includes expenditures that cover completion of monitoring and control systems and other completion activities for SWP facilities other than the California Aqueduct. This line also includes past planning costs for Abbey Bridge and Dixie Refuge dams and reservoirs in the Upper Feather River area; DWR continues to assume that these facilities will be postponed until there is local support and demonstrated need for them.

Line 13: Total Project Construction Expenditures

This line is the total of Lines 1 through 12.

Line 14: Davis–Grunsky Act Program Costs

This financial assistance program for water developments constructed by local public agencies is discussed in more detail in Chapter III. As of December 31, 1987, DWR had disbursed \$118.3 million (including \$8.3 million for administration) in grants and loans for 114 local agencies throughout the State. DWR projects that funds presently authorized for the program will be disbursed prior to 1992.

Line 15: Special Capital Requirements under Revenue Bond Financing

This line shows the special capital requirements at the time revenue bonds are sold. The financial analysis assumes that proceeds from future revenue bonds will pay for bond discount, bond issuance costs, debt service reserve requirements, and the financing charges paid on funds borrowed prior to the bond sale and used to finance construction costs.

Application of proceeds to these special requirements for actual and assumed revenue bond sales is shown in Table 22.

Line 16: Total Capital Requirements

This line is the total of Lines 13, 14, and 15.

Line 17: Power Facilities Capital Requirements

This line is the total of capital requirements for power facilities contained in Lines 1–12, and that part of Line 15 associated with power revenue bonds.

Line 18: Water Facilities Capital Requirements

This line is the total of capital requirements for water facilities contained in Lines 1–12, and that part of Line 15 associated with water revenue bonds.

Financing of Capital Requirements

Three general types of financing have been used for the SWP:

- **Burns–Porter Financing**, derived from the sale of California Water Resources Development Bonds (general obligation bonds) and the State's Tideland Oil revenues deposited in the California Water Fund as authorized by the Burns–Porter Act (California Water Code Sections 12930–12944), approved by the electorate in November 1960.
- **Revenue Bond Financing**, derived from the sale of revenue bonds as authorized by the Central Valley Project Act (California Water Code Sections 11100–11925). DWR's authority to issue revenue bonds was confirmed by a decision of the California Supreme Court in 1963, (*Warne v. Harkness*, 60 Cal.2d 579).
- **Capital Resources Financing** (previously called Miscellaneous Receipts), derived from payments and appropriations (including a portion of Tideland Oil revenues) as authorized by a variety of special contracts, cost-sharing agreements, and legislative actions concerning the SWP, plus accrued interest on these funds.

The Burns–Porter Act authorized an issue of \$1.75 billion of general obligation bonds of the State, which are repaid by revenues received under the water supply contracts. This bond issue authorization includes a reservation of \$130 million specifically for the Davis–Grunsky Act Program. Proceeds from the sale of general obligation bonds are deposited in the California Water Resources Development Bond Fund–Bond Proceeds Account, from which monies may be expended only for the construction of SWP facilities and for the Davis–Grunsky Act program. Approximately 45 percent of the expenditures through 1987 for SWP construction and the Davis–Grunsky Act program were financed with general obligation bonds.

Monies deposited in the California Water Fund are appropriated for purposes of the Burns–Porter Act.

TABLE 22: APPLICATION OF REVENUE BOND PROCEEDS

(in millions of dollars)

Bond Series	Application of Revenue Bond Proceeds						Total Principal Amount of Bonds
	Construction Expenditures	Other Capital Requirements					
		Reimbursement of General Fund	Bond Interest thru One Year following Completion of Construction	Operating Costs for One Year following Completion of Construction	Bond Discount and Financing Costs	Subtotal	
Oroville (Actual)	218.0	2.6	19.9	1.5	3.0	27.0	245.0
Devil Canyon-Castaic (Actual)	126.4	0.0	10.0	0.7	2.1	12.8	139.2
Pyramid Series A (Actual)	74.0	0.0	19.2	1.0	1.6	21.8	95.8
Reid Gardner Series B (Actual)	146.1	0.0	41.9	0.0	12.0	53.9	200.0
Reid Gardner Series C (Actual)	91.1	0.0	17.9	7.9	8.1	33.9	125.0
Small Hydro-South Geysers Series D (Actual)	49.6	0.0	19.9	0.0	5.5	25.4	75.0
Bottle Rock Series E (Actual)	96.9	0.0	22.0	3.7	2.4	28.1	125.0
Alamo-South Geysers Series F (Actual)	59.1	0.0	14.2	0.0	1.7	15.9	75.0
Power Facilities Series H (Actual)	22.2	0.0	0.0	0.0	184.5(a)	184.5	206.7
East Branch Enlargement Series A (Actual)	117.9	0.0	12.6(b)	0.0	1.5	14.1	132.0
Water System Facilities Series B (Actual)	97.4	0.0	0.0	0.0	2.6	2.6	100.0
Water System Facilities Series C (Actual)	0.5	0.0	0.0	0.0	8.5(c)	8.5	9.0
Water System Facilities Series D (Actual)	95.0	0.0	3.8	0.0	1.2	5.0	100.0
Water System Facilities (Assumed)	276.5	0.0	0.0	0.0	38.0(d)	38.0	314.5
East Branch Enlargement (Assumed)	195.7	0.0	0.0	0.0	20.0(d)	20.0	215.7

- a) Total bond discount was \$2.7 million. Remaining amount was used to refund portions of Series C and D bonds.
b) Interest capitalized 1-1/2 years.
c) Includes funds applied to Series B and C debt service reserves.
d) Includes debt service reserves.

Such deposits are derived from a portion of the State's Tideland Oil revenues under a continuing authorization. In the past, the Legislature has acted both to decrease and increase the level of deposits to the fund.

As of June 30, 1988, DWR has sold \$1.9 billion of revenue bonds. This includes \$9 million of Water System Revenue Bonds, Series C, sold December 1, 1987, and \$100 million of Water System Revenue Bonds, Series D, sold June 14, 1988. The Series C bond sale was the first sale of taxable revenue bonds (the bonds were made taxable to comply with the arbitrage rebate requirements of the federal tax code). The proceeds of the Series C sale were used for funding the debt service reserves for Series B and Series C bonds. Proceeds from the Series D sale were used for reimbursement of other SWP funds used for ongoing SWP construction.

Additional issues of revenue bonds are planned to fund future SWP construction. Proceeds from the sale of revenue bonds are deposited in the Central Valley

Water Project Construction Fund, from which money is expended only for purposes specified in the resolution authorizing each bond sale. These purposes, in addition to construction, planning, and right of way costs, may include (1) funding the Debt Service Reserve Account and (2) payment of interest on bonds and water system operating expenses during the period specified by the resolution authorizing the bond issue.

Capital Resources revenues are deposited in the Central Valley Water Project Construction Fund and may be expended for (1) general obligation bond interest, and (2) construction of SWP facilities. Under DWR's financial management, the capital resources revenues are first used to the extent needed for coverage of any general obligation bond debt service that exceeds available revenues.

The financing of capital expenditures is described in Lines 19 through 33.

Line 19: Power Revenue Bonds—Series A Through H

This line shows the proceeds applied from power revenue bonds for the Oroville, Devil Canyon, Castaic, Pyramid, Reid Gardner, Bottle Rock, Alamo, South Geysers, and Small Hydro projects.

Line 20: East Branch Enlargement—Series A

On July 15, 1987, DWR sold \$132 million of Water System Revenue Bonds, Series A, to finance a portion of the East Branch Enlargement Project. The proceeds provide (1) \$18.0 million for reimbursement of other SWP funds used for construction expenditures prior to the sale of bonds, (2) \$99.9 million for ongoing construction work, and (3) \$14.1 million for other requirements as shown in Line 15.

Line 21: East Branch Enlargement—Series D

On June 14, 1988, DWR sold \$100 million of Water System Revenue Bonds, Series D, to provide \$95.0 million for reimbursement of other SWP funds used for construction expenditures prior to the sale of bonds. The remaining \$5.0 million was used for other requirements as shown in Line 15.

The amount of Series D proceeds allocated to the East Branch Enlargement Project was \$5.7 million for reimbursement and \$0.3 million for other requirements. The remaining proceeds were allocated to other SWP facilities and are included in Line 24.

Line 22: East Branch Enlargement—Future

Future water revenue bonds are needed to provide \$210 million for completion of the East Branch Enlargement Project First Stage and for special capital requirements (discount and finance costs of bonds, debt service reserves, and interest on construction funds borrowed prior to the sale of bonds).

Line 23: Water System Facilities—Series B and C

On May 5, 1987, DWR sold \$100 million of Water System Revenue Bonds, Series B, to provide \$97.4 million for reimbursement of other SWP funds expended prior to the sale for ongoing construction of SWP facilities. The remaining \$2.6 million was used for other requirements as shown in Line 15.

On December 1, 1987, DWR sold \$9 million of Water System Revenue Bonds, Series C, to provide \$8.317 million for funding the debt service reserve requirements for Series B and C bonds and \$0.135 million for other requirements as shown in Line 15. Both the debt service reserve and other requirements are included in Line 15. After the above requirements were met, the remaining \$0.548 million was used for reimbursement of other SWP funds used for construction expenditures prior to the sale of the bonds.

Line 24: Water System Facilities—Series D

The amount of Series D proceeds allocated to SWP projects other than the East Branch Enlargement Project was \$89.3 million for reimbursement and \$4.7 million for other requirements as shown in Line 15.

Line 25: Water System Facilities—Future

Future water revenue bonds are needed to provide \$314.5 million for construction of SWP water system facilities and for special capital requirements (discount and finance cost of bonds and debt service reserves).

Line 26: Subtotal Water Revenue Bonds

This line is the total of Lines 20–25.

Line 27: Initial Project Facilities Bond Proceeds

This line includes financing of initial SWP facilities and planning costs for certain additional conservation facilities. Financing of initial facilities from general obligation bonds was completed in mid-1972, and amounted to \$1.444 billion—i.e., the total of \$1.75 billion Burns-Porter Act authorization, less \$130 million reserved for the Davis-Grunsky Act Program, and \$176 million “offset” for additional conservation facilities. The Burns-Porter Act provides that to the extent California Water Fund monies are expended, an equal amount of general obligation bonds are reserved (“offset”) for financing the construction of additional conservation facilities in certain watersheds.

In mid-1972, the reservation of “offset” bonds was effectively limited to \$176 million—the total amount of California Water Fund monies that had been expended up to that time. By mid-1972, all general obligation bonds authorized by the Burns-Porter Act had been “offset”, reserved for the Davis-Grunsky Act Program, or used for SWP construction.

Approximately \$8.5 million of the "offset" bonds have been used to finance planning studies of the Middle Fork Eel River Development (Line 10). This analysis does not use any "offset" bond proceeds to meet capital requirements. If at some time the State constructs an additional conservation facility as specified in Water Code Section 12938, the remaining "offset" bonds could be sold.

Line 28: Davis-Grunsky Act Program Bond Proceeds

For simplification, the entire \$130 million of capital expenditures authorized for the Davis-Grunsky Act Program under the Burns-Porter Act are shown to be funded solely by proceeds from the sale of general obligation bonds. In fact, \$28.0 million from the California Water Fund was used for the program in lieu of bond proceeds prior to 1969. A \$4.0 million bond issue is expected to be sold in 1988 to meet the cash flow needs of the Davis-Grunsky Program. The financial analysis assumes that the remaining \$8.5 million in authorized Davis-Grunsky bonds will be sold prior to 1992. A State Pooled Money Investment loan of approximately \$2 million is being used to finance current expenditures. This short-term loan will be repaid with proceeds from the sale of bonds.

Line 29: Application of California Water Fund Monies (Tideland Oil Revenues)

The Burns-Porter Act provides that any available money in the California Water Fund shall be used for construction in lieu of proceeds from the sale of general obligation bonds. When the Burns-Porter Act became effective in late 1960, approximately \$97 million had been accumulated in the fund. This balance and continuing annual appropriations to the fund through June 18, 1968, financed a total of \$176 million of Project construction costs.

On June 28, 1968, SB 261 became effective (California Statutes of 1968, Chapter 411), which transferred the remaining balance of the California Water Fund to the Central Valley Water Project Construction Fund and deferred accruals to the California Water Fund until July 1, 1972. Since the latter date, appropriations from Tideland Oil revenues have been deposited in the California Water Fund in annual amounts of \$25 million

through Fiscal Year 1980-81 and in the following amounts thereafter:

1981-82	\$ 27,789,800
1982-83	14,710,000
1983-84	None
1984-85	25,000,000
1985-86	22,533,000 ¹
1986-87	2,449,000 ²
1987-88	1,261,000 ³
1988-89	2,855,000 ²

¹Plus \$2,467,000 for non-SWP purposes.
²All for non-SWP purposes.
³Plus \$2,379,000 for non-SWP purposes.

The financial analysis assumes that appropriations of Tidelands Oil revenues will be made as needed to fund future costs of the Los Banos Demonstration Desalting Facility and the San Joaquin drainage monitoring program (see Line 11).

Line 30: Application of Capital Resources Revenues to Construction

This line shows the application of Capital Resources revenues for capital expenditures (see description for Line 34).

Line 31: Revenue Transfers Applied

This line shows monies that are assumed to be transferred to the California Water Fund pursuant to provisions of the Burns-Porter Act (see Lines 68 and 69), and subsequently reappropriated to construction.

Line 32: Subtotal Other Capital Financing

This line is the total of Lines 27-31.

Line 33: Total Financing of Capital Requirements

This line is the total of Lines 21, 26, and 32.

Project Revenues

SWP revenues, consisting primarily of SWP contractor payments, are deposited in two funds: the Central Valley Water Project Revenue Fund, in which are placed all revenues pledged to revenue bonds, and the California Water Resources Development Bond Fund-Systems Revenue Account, in which all other SWP operating revenues are placed, including interest earnings on

any unexpended proceeds from the sale of general obligation bonds. Use of these funds is limited to operating costs and debt service, except that revenues in excess of such costs can be transferred to the California Water Fund.

Line 34: Capital Resources Revenues

Sources of these revenues are (1) federal payments for SWP capital expenditures, (2) appropriations for capital cost allocated to recreation, (3) appropriations for SWP capital expenditures prior to the Burns-Porter Act and under SB 261, (4) Los Angeles Department of Water and Power payments for Castaic power development, (5) water contractor advances for construction of requested works, (6) investment earnings on the Capital Resources Account, and (7) investment earnings on unexpended revenue bond proceeds.

Historically, appropriations for capital costs allocated to recreation and fish and wildlife enhancement have amounted to \$5 million per year, appropriated by the Legislature from Tideland Oil revenues. No appropriations were received in the 1988-89 fiscal year. Because of the uncertainties over future legislative action no appropriations are shown for 1988 through 2000. DWR is considering an offset between the amount owed to the SWP by the State for costs allocated to recreation and the amount the SWP owes the California Water Fund.

Lines 35-40: Water Contractor Payments

These lines show the separate elements of water contractor payments. The payments identified in Lines 35-40 are described in detail in Appendix B, with supplemental discussion in the following paragraphs. Line 37 also includes revenues sufficient to cover costs associated with sales of excess power.

OMP&R costs are repaid under the Transportation Charge as they are incurred and therefore do not include any interest charges. Construction costs under the Transportation Charge and all construction and annual OMP&R cost under the Delta Water Charge are to be repaid with interest at the Project Interest Rate.

The Project Interest Rate is defined in Article 1(r) of the Standard Provisions for Water Supply Contracts as the weighted average of the rates paid on securities

issued and loans obtained to finance SWP facilities, excluding Oroville Revenue Bonds. Under original contract provisions, the basis for determining the Project Interest Rate was the weighted average of rates paid on general obligation bond sales only. Under contract amendments executed in 1969, after issuance of Oroville Revenue Bonds, the basis was expanded to include rates on all other securities sold and loans obtained thereafter for financing SWP facilities, including revenue bonds (see Bulletin 132-70, page 28).

However, not all proceeds from the sale of revenue bonds are melded into the calculation of the Project Interest Rate. Only those proceeds applied to construction costs (the only application of general obligation bonds permitted by law) and those consumed by the bond discount (a component of the total interest cost of a revenue bond issue) are included in the calculation (Table 23). The Project Interest Rate calculation does not include proceeds from the sale of power revenue bonds for Off-Aqueduct power facilities, revenue bonds for the East Branch Enlargement, or Water Revenue Bonds covered under the Water Revenue Bond Amendment.

Table 24 presents information basic to the calculation of the Project Interest Rate. The discussion of contractors' water charges in Appendix B is based upon presently known conditions and supports DWR's determination of 1989 water charges, which were billed July 1, 1988. However, the following are significant differences between the sum of future charges shown in Line 41 and the substantiation of 1989 charges discussed in Appendix B.

- Future capital costs discussed in Appendix B are based upon prices prevailing on December 31, 1987. Those shown in the financial analysis include allowances for price escalation.
- Pre-1987 charges discussed in Appendix B represent what the charges should have been under presently known conditions. Pre-1987 charges shown in Table 20 are those actually paid under previously determined bills.
- Charges discussed in Appendix B are unadjusted for past over- or under-payments. Table 20 charges for 1987 and thereafter include adjustments for any apparent over- or under-payments of pre-1987 charges.

- The charges discussed in Appendix B for East Branch Enlargement costs include the debt service and 25 percent cover for Series A bonds only. Table 20 charges also include the debt service and cover for assumed future bonds.
- The water bond surcharge discussed in Appendix B covers the recently issued Series B bonds only. Table 20 surcharge values cover Series B and the assumed future issues required to finance SWP construction.

Line 41: Subtotal Water Contractor Payments

This line is the total of Lines 35–40.

Line 42: Revenue Bond Cover Adjustments

This line shows the credit to contractors resulting from the cover of 25 percent of one year's debt service for Off–Aqueduct power facility bonds and Water System Revenue Bonds. Cover is collected as required by the bond resolutions to provide security to the bondholders.

For Off–Aqueduct facilities, this amount is charged annually to contractors and collected through the minimum OMP&R component of the Transportation Charge. For the East Branch Enlargement facilities, the cover is collected through the capital component of the East Branch Enlargement Transportation Charge. For Water System Facilities, this amount is collected through the water bond surcharge. If not needed to meet annual bond service, the cover is credited back to the contractors in the following year. The amount varies in proportion to the debt service for these facilities.

Line 43: Federal Payments for Project Operating Costs

Under the December 31, 1961, agreement between the State and the United States, DWR operates and maintains the San Luis Joint–Use Facilities. Under the January 12, 1972, supplement to the agreement, the USBR paid 45 percent of OM&R costs for these activities. (The percentage does not apply to power costs; the USBR and DWR provide their own power to pump their respective amounts of water through the joint facilities). This percentage is reviewed every five years by the USBR and DWR. For the calendar years 1981–1985, the federal share was 44.47 percent. The

most recent review was completed in 1987 and resulted in a federal share of 44.09 percent for the calendar years 1987–1990. The amounts in Line 43 assume that the federal share continues at 44.09 percent for the calendar years 1991–2000.

Line 44: Appropriations for Operating Cost Allocated to Recreation

Under the Davis–Dolwig Act, the Legislature declared its intent that, except for funds provided pursuant to AB 12 (1966), DWR's budget shall include appropriations from the General Fund of monies necessary for enhancement of fish and wildlife and for recreation in connection with State water projects. Annual OMP&R costs allocated to recreation and fish and wildlife enhancement are paid by annual General Fund appropriations. For Fiscal Years 1983–84 through 1988–89, no funds were appropriated for this purpose. Because of the uncertainties over future legislative action no appropriations are shown for 1989 through 2000. DWR is considering an offset between the amount owed to the SWP by the State for costs allocated to fish and wildlife enhancement and recreation and the amount the SWP owes the California Water Fund.

Line 45: Local Agency Payments under Davis–Grunsky Loan Repayment Contracts

Over \$48 million of loan funds have been disbursed as of December 31, 1987. Loan repayments received through December 31, 1987 are shown in the history column. The future amounts on Line 45 are based upon the loans currently outstanding. Repayment on any future loans under the Davis–Grunsky Act Program was assumed to be beyond the period covered by the financial analysis.

Line 46: Revenue Bond Proceeds

This line includes bond proceeds that are special reserves under revenue bond financing, described in Line 15. These proceeds are not classified as revenues, but are shown in this line to simplify the financial presentation since they are used for capitalized OMP&R costs, revenue bond service, and debt service reserves.

Line 47: Interest Earnings

This line includes interest earnings on unexpended proceeds from sale of general obligation bonds, interest on

**TABLE 23. REVENUE BOND PROCEEDS AFFECTING
THE PROJECT INTEREST RATE**

(in millions of dollars)

PROJECT	REVENUE BOND PROCEEDS					
	APPLIED TO CONSTRUCTION COSTS	LESS PORTION OF PROCEEDS DERIVED FROM INTEREST EARNINGS PRIOR TO DELIVERY OF BONDS	PLUS BOND DISCOUNT AND FINANCING COSTS	SUBTOTAL, PROCEEDS INCLUDED IN CALCULATING THE PROJECT INTEREST RATE	PRINCIPAL AMOUNT OF BONDS	PERCENT TOTAL PRINCIPAL AMOUNT INCLUDED IN CAL- CULATING THE PROJECT INTEREST RATE
DEVIL CANYON CASTAIC PROJECT REVENUE BONDS	125.3	1.5	1.4	125.2	139.2	90%
PYRAMID PROJECT REVENUE BONDS (SERIES A)	71.2	0.5	1.1	71.8	95.8	75%
ALAMO PROJECT BOND ANTICIPATION NOTE	16.8	0.1	0.3	17.0	24.4	70%
SMALL HYDRO PROJECT I REVENUE BONDS (SERIES D)	25.4	0.2	1.5	26.7	37.5	71%
ALAMO PROJECT REVENUE BONDS (SERIES F)	38.9	0.3	0.7	39.3	50.0	79%
POWER FACILITIES REVENUE BONDS (SERIES H)						
PYRAMID PROJECT	5.0	-	0.1	5.1	5.1	100%
ALAMO PROJECT	1.7	-	-	1.7	1.7	100%
SMALL HYDRO PROJECT I	25.2*	0.2	0.4	25.4	35.6	71%

*AMOUNT IS 71 PERCENT OF THE PROCEEDS DEPOSITED IN ESCROW ACCOUNT TO REFUND PORTION
OF SERIES D BONDS (\$35.1 MILLION) PLUS DEPOSITS TO CONSTRUCTION ACCOUNT (\$0.3 MILLION).

operating reserves, and other short-term investment earnings on SWP revenues. Based upon experience to date, interest earnings for 1988 and beyond are estimated at \$5 million per year.

Line 48: Payments under Oroville—Thermalito Power Sale Contract

Prior to April 1, 1983, all of the power generation from Hyatt and Thermalito power plants was sold under a Power Sale Contract dated November 29, 1967, to three electric utilities (Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company). The 1952- 1987

entry includes final settlement of payments under the contract.

Line 49: Miscellaneous Revenues

This line shows all other operating revenues not included in Lines 35-48.

Line 50: Subtotal Other Revenues

This is the total of Lines 43-49.

Line 51: Total Operating Revenues

This is the total of Lines 41, 42, and 50.

**TABLE 24. ACTUAL BOND SALES AND
PROJECT INTEREST RATES**

Bond Sales	Date of Sale	Dollar-Years(a) (in 1,000s)	Interest Cost (\$1,000)	Percent Interest Cost(b)	Project Interest Rate (%) (c)
	(1)	(2)	(3)	(4)	(5)
Actual Issues					
\$ 50,000,000 Bond Anticipation Notes	11/21/63	26,944	531	1.970	1.970
\$100,000,000 Series A Water Bonds	2/18/64	3,402,000	119,750	3.520	3.508
\$ 50,000,000 Series B Water Bonds	5/5/64	1,726,000	60,986	3.533	3.516
\$100,000,000 Series C Water Bonds	10/7/64	3,452,000	123,764	3.585	3.544
\$100,000,000 Series D Water Bonds	2/16/65	3,497,900	122,403	3.499	3.531
\$100,000,000 Series E Water Bonds	11/23/65	3,497,900	130,029	3.717	3.573
\$100,000,000 Series F Water Bonds	6/8/66	3,497,900	137,359	3.927	3.638
\$100,000,000 Series G Water Bonds	11/22/66	3,497,900	143,788	4.111	3.711
\$100,000,000 Series H Water Bonds	3/21/67	3,497,900	129,261	3.695	3.709
\$100,000,000 Series J Water Bonds	7/18/67	3,497,900	143,199	4.094	3.754
\$100,000,000 Series K Water Bonds	11/14/67	3,497,900	163,887	4.685	3.853
\$150,000,000 Revenue Bonds, Oroville Division, Series A	4/3/68	5,228,700	270,289	5.197	-
\$100,000,000 Series L Water Bonds	7/11/68	3,497,900	166,918	4.772	3.941
\$100,000,000 Series M Water Bonds	10/22/68	3,497,900	169,989	4.860	4.021
\$ 94,995,000 Revenue Bonds, Oroville Division, Series B	4/1/69	3,423,460	195,902	5.767	-
\$100,000,000 Series N Water Bonds	2/2/71	3,447,900	190,292	5.519	4.148
\$100,000,000 Series P Water Bonds	4/21/71	3,397,900	193,377	5.691	4.255
\$150,000,000 Series Q and R Water Bonds	11/9/71	5,171,850	265,734	5.138	4.342
\$ 40,000,000 Series S Water Bonds	3/28/72	1,399,160	76,509	5.468	4.371
\$139,165,000 Devil Canyon-Castaic Revenue Bonds(d)	8/8/72	4,776,204	258,839	5.419	4.457
\$ 10,000,000 Series T Water Bonds	3/20/73	185,265	9,491	5.122	4.459
\$ 10,000,000 Series U Water Bonds	1/13/76	158,750	8,731	5.500	4.462
\$ 10,000,000 Series V Water Bonds	11/15/77	158,750	7,573	4.769	4.462
\$ 95,800,000 Pyramid Hydroelectric Revenue Bonds(d)	10/23/79	2,260,072	172,495	7.632	4.584
\$200,000,000 Reid Gardner Project, Series B Revenue Bonds	7/7/82	4,623,137	553,793	11.979	-
\$125,000,000 Reid Gardner Project, Series C Revenue Bonds	11/16/82	2,720,045	255,744	9.402	-
\$ 37,500,000 Small Hydro Project I, Series D Revenue Bonds(d)	11/16/82	837,769	84,587	10.097	4.666
\$ 37,500,000 South Geysers Project, Series D Revenue Bonds	11/16/82	930,325	90,021	9.676	-
\$125,000,000 Bottle Rock Project, Series E Revenue Bonds	4/27/83	2,624,805	225,102	8.576	-
\$ 50,000,000 Alamo Project, Series F Revenue Bonds(d)	4/27/83	1,190,763	100,836	8.435	4.727
\$ 25,000,000 South Geysers Project, Series F Revenue Bonds	4/27/83	608,550	52,578	8.640	-
\$239,505,000 Reid Gardner Project, Series G Revenue Bonds	3/15/85	4,524,136	425,840	9.413	-
\$206,690,000 Power Facilities Series H Revenue Bonds	6/20/86	4,430,520	347,745	7.849	4.713
\$132,000,000 East Branch Enlargement, Series A Water System Revenue Bonds	7/15/86	3,427,165	254,915	7.438	-
\$100,000,000 Series B Water System Revenue Bonds	5/5/87	2,664,012	194,817	7.313	-
\$ 9,000,000 Series C Water System Revenue Bonds	12/1/87	324,000	32,130	9.917	-
\$100,000,000 Series D Water System Revenue Bonds	6/14/88	2,640,510	202,469	7.668	-
Total		102,183,502	6,153,042		
"Project Interest Rate" Portion		63,621,853	2,998,367	4.713	

- a) A unit equivalent to one dollar of principal amount outstanding for one year.
b) The total interest cost (without regard to premiums received) divided by the total dollar-years, expressed as a percent.
c) Determined by dividing cumulative interest costs by cumulative dollar-years, expressed as a percent. Excluding Oroville Division, Power Revenue Bonds for Off-Aqueduct Facilities, and Water System Revenue Bonds, which do not affect the "Project Interest Rate."
d) These revenue bonds and revenue bond anticipation notes were sold at the following net interests costs and the indicated amounts (representing the sum of proceeds used for construction and the bond discount) were used in the calculations of the Project Interest Rate:

Devil Canyon-Castaic Revenue Bonds:	5.446%	\$126,893,000
Pyramid Hydroelectric Revenue Bonds:	7.680%	\$ 75,586,000
Alamo Bond Anticipation Notes:	10.036%	\$ 18,034,000
Small Hydro Project I, Series D Revenue Bonds:	10.275%	\$ 28,012,000
Alamo Project, Series F Revenue Bonds:	8.525%	\$ 40,114,000
Power Facilities, Series H Revenue Bonds:	7.926%	\$ 42,340,000

Line 52: Total Operating Revenues and Capital Resources Revenues

This is the total of Lines 34 and 51.

Project Expenses

Project expenses include operation, maintenance, and power (OM&P) costs, deposits to replacement reserves, deposits to special reserves (see Line 55 description),

debt service, deposits to operating reserves, repayment of the California Water Fund, and application of Capital Resources Revenues for construction (see Line 30).

Revenue bond proceeds earmarked for both debt service during construction and the first year's operating expenses are deposited in the Central Valley Water Project Construction Fund; and are disbursed in accordance with resolutions authorizing the issuance of such bonds. Water contractor revenues associated with power facility operating costs and debt service are deposited in the Central Valley Water Project Revenue Fund for appropriate disbursement. All other operating revenues, deposited in the California Water Revenue Fund-Systems Revenue Account, are disbursed in accordance with the following priorities of use as specified in the Burns-Porter Act:

- first, SWP operation, maintenance, power, and replacement costs;
- second, general obligation bond debt service;
- third, repayment of expenditures from the California Water Fund; and
- fourth, deposits to a reserve for future SWP construction.

Line 53: Project Operation, Maintenance, and Power Costs

Historical and projected OMP&R costs are presented in Table 25 by project facility, by composition, and by project purpose. Line 53 shows the OM&P portion of the Table 25 costs. Table 25 and Line 53 also include the operation and maintenance costs for the federal share of joint facilities and those OM&P costs allocated to recreation, which are intended to be offset by revenues shown in Lines 43 and 44, respectively. Allowances for cost escalation are included in OM&P costs through 1990. Allowances for further future long-term price escalation are not included in these estimates since changes in OM&P costs do not substantially affect the overall results of the financial analysis. (For the most part, changes in OM&P costs cause direct offsetting changes in operating revenues.)

Power cost is the major item of annual operating expense for the SWP, and there have been changes in the assumptions regarding future power sources and costs

(see Chapter VI). Line 53 also includes costs associated with power transactions that result in the sale of power not required for the delivery of water.

Line 54: Deposits to Replacement Reserves

This line includes funds set aside as required by contract for replacement of existing SWP facilities. As of December 31, 1987, \$12.5 million had been spent for replacement costs; the balance of the replacement reserve as of this date was \$103.4 million. Replacement reserve amounts are also shown in Table 25.

Line 55: Deposits to Special Reserves under Revenue Bond Financing

Line 55 includes two major components: special reserves deposits, and the amount of capital resources revenue carry-over from prior years needed for construction in the current year.

Special reserves deposits are the net of several income and expenditure items. The income items are deposits for power revenue bonds as follows:

- proceeds set aside to pay bond interest through one year following construction (capitalized interest);
- proceeds set aside for the first year of operating costs (capitalized O&M);
- water contractor payments or bond proceeds set aside for debt service reserves;
- water contractor payments for power revenue bond cover requirements; and
- water contractor payments deposited in the surplus account.

The history entry for Line 55 includes deposits to special reserves for all past bond sales shown in Table 22. For future power revenue and water revenue bonds, deposits to special reserves are included in the year of assumed sale. The history amount also includes advances to DWR's revolving fund for working funds to purchase mobile equipment and to meet day-to-day operating expenses.

The expenditure items are:

- total capitalized interest paid out;

- total capitalized O&M paid out;
- debt service cover payments returned to water contractors;
- debt service reserve payments returned to water contractors; and
- surplus account funds returned to water contractors or applied to meet expenses.

Special reserves are reduced over time as reserved amounts are used for their respective purposes. The amount shown each year in Line 55 indicates the change from the previous year. A negative number means a withdrawal of special reserves to meet expenses, while a positive number represents a deposit.

Lines 56-57: Payment of Service on Bonds Sold through June 30, 1988

These two lines show the total principal and interest payments on bonds sold to date. Table 26 summarizes payments on general obligation bonds (Series A through V), power revenue bonds by project, and water system revenue bonds.

The last bonds sold were the Series D Water System Revenue Bonds in June 1988. Proceeds from the Series D bonds were used for reimbursement of other SWP funds used for construction of Water System Projects and the East Branch Enlargement Project prior to the delivery of the Series D bonds.

Since 1978, the trustee has been retiring Oroville Revenue Bonds prior to the fixed maturity date as follows:

<u>Year</u>	<u>Bonds Retired</u>	<u>Cost</u>
1978	\$ 4,045,000	\$ 3,845,099
1979	\$ 9,730,000	\$ 8,933,093
1980	\$ 1,350,000	\$ 1,227,600
1981	\$ 2,865,000	\$ 1,805,862
1982	\$15,890,000	\$ 9,623,312
1983	\$18,865,000	\$16,776,000
1984	\$ 7,640,000	\$ 6,807,020
1985	\$10,215,000	\$ 9,044,000
1986	\$ 7,175,000	\$ 6,598,000
1987	\$ 8,980,000	\$ 8,808,104

The schedule for service of Oroville Revenue Bonds shown in Table 26 is based upon a revised bond maturity schedule that reflects these early bond retirements.

Line 57 also includes over \$0.3 million in interest payments to the General Fund for the temporary loan of \$46.8 million in 1970. This loan was repaid by proceeds from the sale of Series N Water Bond Anticipation Notes.

Lines 58-59: Payments on Projected East Branch Enlargement Bonds

These lines show the projected annual service for future water revenue bonds shown on Line 23 for the East Branch Enlargement Project. Assumptions concerning the service on these future bonds are as follows:

- the interest costs for the water revenue bonds are estimated to average 8.0 percent; and
- the bonds are to be repaid within 35 years of sale with maturities commencing in the year following the date of sale and with equal annual bond service for the principal repayment period.

Lines 60-61: Payments on Projected Future Water System Revenue Bonds

These lines show the projected annual service for future water revenue bonds shown on Line 25 for Water System Facilities. Assumptions concerning the service on these future bonds are the same as those described for Lines 58-59 above.

Lines 62-63: Total Payments of Bond Service

This is the total of interest payments shown on Lines 57, 59, and 61 and the total of principal payments shown on Lines 56, 58, and 60, respectively.

Line 64: Subtotal Debt Service

This is the total of Lines 62 and 63.

Line 65: California Water Fund Appropriation to Non-SWP Purposes

In 1982 and 1983, DWR transferred \$70 million to the California Water Fund as repayment of Tideland Oil revenues advanced in prior years for construction of

TABLE 25. SWP OPERATION, MAINTENANCE,

(in thousands of dollars)

FEATURE	Calendar Year							
	1962-1987	1988	1989	1990	1991	1992	1993	1994
BY PROJECT FACILITY								
Feather River Facilities	168,454	-4,817	-3,756	-4,525	-5,138	-5,173	-5,162	-5,123
North Bay Aqueduct	2,400	275	1,313	1,347	1,383	1,392	1,395	1,438
Suisun Marsh	38	1,225	1,372	1,424	1,428	1,424	1,425	1,428
South Bay Aqueduct	53,775	5,252	6,484	7,935	6,552	7,515	6,942	6,923
California Aqueduct								
Delta to Edmonston	703,567	147,129	160,556	113,142	115,844	127,579	109,816	115,024
Edmonston to Perris	498,316	12,954	36,557	82,585	78,714	62,943	84,263	80,278
West Branch	27,760	-8,788	-12,228	-12,204	-12,455	-9,953	-10,858	-11,361
Coastal Branch	25,419	2,052	3,443	2,982	2,898	2,994	2,939	2,948
Off-Aqueduct Power Generating Facilities	226,645	56,731	60,697	66,789	66,710	66,539	65,808	65,769
Water Quality Monitoring	57,282	6,092	7,034	7,382	6,022	4,222	3,886	3,883
Davis-Grunsky Act Program	29,592	260	345	275	201	201	201	201
SUBTOTAL	1,793,248	218,365	261,817	267,132	262,159	259,683	260,655	261,408
Payments to\Credits from PG&E under Comprehensive Agreement	27,575	-4,185	-4,046	-3,908	-3,769	-3,630	-3,491	-3,352
TOTAL OMP&R COSTS	1,820,823	214,180	257,771	263,224	258,390	256,053	257,164	258,056
BY COMPOSITION								
Salaries and Expenses of Headquarters Personnel	302,686	38,154	42,196	43,446	41,751	39,975	39,636	39,636
Salaries and Expenses of Field Personnel	662,730	70,850	75,136	75,921	74,577	74,540	75,496	77,666
Pumping Power								
Used by Pumping Plants	669,028	109,236	151,488	159,152	154,089	156,619	158,819	161,623
Produced by Generation Plants	-84,604	-67,252	-78,595	-87,728	-85,368	-88,594	-89,935	-94,388
Payments to\Credits from PG&E under Comprehensive Agreement	27,575	-4,185	-4,046	-3,908	-3,769	-3,630	-3,491	-3,352
Off-Aqueduct Power Generating Facilities Requirement	226,645	56,731	60,697	66,789	66,710	66,539	65,808	65,769
Oroville-Thermalito Insurance Premiums	5,229	659	601	609	613	613	613	613
Less: Portion of Costs Incurred During Construction	-91,918	-731	-70	-155	-440	-772	-744	-581
SUBTOTAL	1,717,371	203,462	247,407	254,126	248,163	245,290	246,202	246,986
Deposits to Replacement Reserves	103,452	10,718	10,364	9,098	10,227	10,763	10,962	11,070
TOTAL OMP&R COSTS	1,820,823	214,180	257,771	263,224	258,390	256,053	257,164	258,056
BY PROJECT PURPOSE								
Water Supply and Power Generation	1,861,002	205,464	247,513	253,636	247,854	245,214	246,135	247,295
Payments to\Credits from PG&E under Comprehensive Agreement	27,575	-4,185	-4,046	-3,908	-3,769	-3,630	-3,491	-3,352
Recreation and Fish and Wildlife Enhancement	31,926	4,594	5,063	5,310	5,304	4,920	4,876	4,907
Flood Control	1,040	141	154	172	174	173	173	173
Miscellaneous Purposes								
Federal Share, San Luis and Delta Facilities	57,722	7,645	8,399	7,465	8,430	8,974	9,071	8,632
Other (Davis-Grunsky, Drainage, City of Los Angeles)	-158,442	521	688	549	397	402	400	401
TOTAL OMP&R COSTS	1,820,823	214,180	257,771	263,224	258,390	256,053	257,164	258,056

POWER, AND REPLACEMENT COSTS

(in thousands of dollars)

Calendar Year								FEATURE
1995	1996	1997	1998	1999	2000	2001-2035	TOTAL	
								BY PROJECT FACILITY
-5,046	-5,045	-5,015	-5,012	-4,979	-4,951	-168,735	-64,023	Feather River Facilities
1,497	1,512	1,586	1,610	1,698	1,783	87,106	107,735	North Bay Aqueduct
1,434	1,434	1,434	1,434	1,434	1,434	170,670	189,038	Suisun Marsh
6,937	7,066	7,374	7,496	8,192	9,060	449,321	596,824	South Bay Aqueduct
								California Aqueduct
120,419	126,968	134,672	140,837	157,449	173,234	9,817,332	12,263,568	Delta to Edmonston
86,641	84,542	104,492	109,123	124,622	144,067	10,563,267	12,153,364	Edmonston to Perris
-10,320	-11,065	-10,737	-11,536	-10,158	-8,004	-191,619	-303,526	West Branch
4,455	6,298	6,911	6,997	7,766	8,491	445,748	532,341	Coastal Branch
65,808	65,769	65,828	63,950	58,719	53,426	566,165	1,615,353	Off-Aqueduct Power Generating Facilities
3,896	3,896	3,896	3,896	3,896	3,896	146,583	265,762	Water Quality Monitoring
201	201	201	201	201	201	8,036	40,518	Davis-Grunsky Act Program
275,922	281,576	310,642	318,996	348,840	382,637	21,893,874	27,396,954	SUBTOTAL
-3,213	-3,074	-2,935	-2,797	-2,658	-2,519	-8,838	-24,840	Payments to\Credits from PG&E under Comprehensive Agreement
272,709	278,502	307,707	316,199	346,182	380,118	21,885,036	27,372,114	TOTAL OMP&R COSTS
								BY COMPOSITION
39,636	39,636	39,636	39,636	39,636	39,636	1,375,236	2,200,532	Salaries and Expenses of Headquarters Personnel
82,902	83,201	82,179	82,345	82,063	80,446	7,031,347	8,711,399	Salaries and Expenses of Field Personnel
								Pumping Power
175,246	177,171	211,799	218,495	256,822	298,632	16,540,094	19,598,313	Used by Pumping Plants
-100,141	-100,931	-102,486	-102,990	-105,200	-107,921	-4,105,571	-5,401,704	Produced by Generation Plants
-3,213	-3,074	-2,935	-2,797	-2,658	-2,519	-8,838	-24,840	Payments to\Credits from PG&E under Comprehensive Agreement
65,808	65,769	65,828	63,950	58,719	53,426	485,118	1,534,306	Off-Aqueduct Power Generating Facilities Requirement
613	613	613	613	613	613	21,455	34,683	Oroville-Thermalito Insurance Premiums
-1,200	0	0	0	0	0	0	-96,611	Less: Portion of Costs Incurred During Construction
259,651	262,385	294,634	299,252	329,995	362,313	21,338,841	26,556,078	SUBTOTAL
13,058	16,117	13,073	16,947	16,187	17,805	546,195	816,036	Deposits to Replacement Reserves
272,709	278,502	307,707	316,199	346,182	380,118	21,885,036	27,372,114	TOTAL OMP&R COSTS
								BY PROJECT PURPOSE
259,322	262,928	294,823	300,320	330,616	363,503	20,441,855	25,807,480	Water Supply and Power Generation
-3,213	-3,074	-2,935	-2,797	-2,658	-2,519	-8,838	-24,840	Payments to\Credits from PG&E under Comprehensive Agreement
5,026	5,007	5,219	5,214	5,413	5,602	231,029	329,410	Recreation and Fish and Wildlife Enhancement
174	174	177	177	181	182	7,207	10,472	Flood Control
								Miscellaneous Purposes
10,996	13,068	10,011	12,883	12,226	12,952	372,805	561,279	Federal Share, San Luis and Delta Facilities
404	399	412	402	404	398	840,978	688,313	Other (Davis-Grunsky, Drainage, City of Los Angeles)
272,709	278,502	307,707	316,199	346,182	380,118	21,885,036	27,372,114	TOTAL OMP&R COSTS

**TABLE 26. ANNUAL SERVICE ON BONDS
SOLD THROUGH JUNE 30, 1988**

Calendar Year	Amounts in Thousands of Dollars									
	Series A through V Water Bonds		Oroville Revenue Bonds		Devil Canyon-Castaic Project Revenue Bonds		Pyramid Project Revenue Bonds Series A and H		Reid Gardner Project Revenue Bonds Series B,C,G and H	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
1964	0	3,333	0	0	0	0	0	0	0	0
1965	0	11,114	0	0	0	0	0	0	0	0
1966	0	16,742	0	0	0	0	0	0	0	0
1967	0	26,912	0	0	0	0	0	0	0	0
1968	0	37,760	0	3,876	0	0	0	0	0	0
1969	0	47,461	0	10,448	0	0	0	0	0	0
1970	0	53,291	0	13,145	0	0	0	0	0	0
1971	0	63,035	0	13,145	0	0	0	0	0	0
1972	0	69,148	1,260	13,112	0	0	0	0	0	0
1973	1,200	69,348	1,330	13,042	0	7,708	0	0	0	0
1974	3,000	69,533	1,400	12,969	0	7,708	0	0	0	0
1975	5,000	69,366	1,475	12,893	0	7,708	0	0	0	0
1976	7,000	69,408	1,555	12,811	0	7,708	0	0	0	0
1977	10,200	69,323	1,635	12,727	0	7,708	0	0	0	0
1978	12,700	69,312	5,775	12,537	0	7,708	0	0	0	0
1979	13,650	68,690	11,585	12,275	0	7,708	0	0	0	0
1980	16,050	67,968	3,265	11,739	0	7,708	0	7,900	0	0
1981	18,050	67,109	4,885	11,444	0	7,708	0	7,292	0	0
1982	19,250	66,162	17,920	10,968	0	7,708	0	7,292	0	7,972
1983	20,520	65,148	21,110	10,147	900	7,708	0	7,292	0	35,719
1984	21,785	64,068	10,005	9,013	955	7,647	640	7,292	0	35,719
1985	22,555	63,932	12,700	8,628	1,010	7,583	675	7,238	9,425	27,209
1986	23,830	61,742	11,435	7,859	1,070	7,515	715	7,377	3,805	32,882
1987	25,495	60,492	11,715	7,355	1,135	7,442	790	7,513	4,860	32,606
1988	26,770	59,165	2,870	6,722	1,205	7,366	830	7,447	5,065	32,295
1989	28,145	57,825	3,015	6,572	1,275	7,284	875	7,378	5,435	31,969
1990	29,385	56,473	3,175	7,246	1,355	7,198	930	7,304	5,825	31,596
1991	30,365	55,070	3,335	6,242	1,435	7,107	980	7,227	6,260	31,171
1992	31,295	53,640	3,510	6,065	1,520	7,010	1,040	7,145	6,780	30,690
1993	32,940	52,183	3,695	6,438	1,610	6,907	1,095	7,074	7,310	30,155
1994	34,525	50,660	3,885	5,680	1,705	6,799	1,165	7,000	7,900	29,560
1995	35,660	49,073	4,085	5,473	1,810	6,684	1,235	6,919	8,490	28,956
1996	36,900	47,436	4,300	5,497	1,920	6,561	1,305	6,835	9,145	28,290
1997	36,595	45,818	4,525	5,025	2,035	6,432	1,385	6,743	9,875	27,556
1998	36,675	44,226	4,760	4,783	2,155	6,295	1,470	6,646	10,660	26,748
1999	37,600	42,655	5,005	4,524	2,285	6,160	1,560	6,542	11,545	25,865
2000	38,890	41,033	5,280	5,103	2,420	6,040	1,655	6,431	12,490	24,895
2001	39,980	39,351	5,565	3,952	2,565	5,912	1,760	6,311	13,530	23,832
2002	41,120	37,620	5,865	3,643	2,720	5,773	1,870	6,183	14,675	22,666
2003	42,970	35,835	6,180	3,316	2,885	5,626	1,995	6,047	15,980	21,394
2004	45,160	33,957	6,520	2,972	3,055	5,470	2,120	5,900	17,350	19,992
2005	46,450	31,995	6,870	2,609	3,240	5,305	2,255	5,744	18,835	18,467
2006	47,740	29,971	7,245	2,226	3,435	5,130	2,405	5,580	20,505	16,808
2007	49,230	27,883	7,635	1,823	3,640	4,945	2,570	5,405	22,270	14,998
2008	51,220	25,727	8,050	1,397	3,860	4,749	2,740	5,218	24,200	13,011
2009	53,560	23,478	4,250	1,059	4,090	4,540	2,925	5,018	26,305	10,835
2010	55,250	21,134	3,700	832	4,335	4,319	3,120	4,804	28,620	8,467
2011	56,740	18,717	3,935	613	4,595	4,085	3,330	4,563	31,150	5,889
2012	58,530	16,216	4,195	379	4,875	3,837	3,555	4,304	34,165	3,079
2013	60,370	13,676	4,435	131	5,165	3,574	3,795	4,028	0	0
2014	57,900	11,244	60	2	5,475	3,303	4,055	3,734	0	0
2015	53,690	8,838	0	0	5,805	3,015	4,325	3,418	0	0
2016	46,130	6,626	0	0	6,150	2,710	4,620	3,083	0	0
2017	38,060	4,614	0	0	6,520	2,388	4,935	2,724	0	0
2018	25,350	2,980	0	0	6,910	2,045	5,265	2,340	0	0
2019	16,890	1,778	0	0	7,325	1,682	5,625	1,932	0	0
2020	17,320	934	0	0	7,765	1,298	6,005	1,495	0	0
2021	8,510	301	0	0	8,230	890	6,410	1,029	0	0
2022	1,800	48	0	0	8,725	458	6,845	532	0	0
2023	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0
TOTAL	1,570,000	2,378,577	244,995 ^a	320,457 ^a	139,165	283,872	100,870	239,279	392,455	731,291

a) Principal and interest schedule is adjusted to reflect early redemption of bonds.

**TABLE 26. ANNUAL SERVICE ON BONDS SOLD
THROUGH JUNE 30, 1988 (con't.)**

Calendar Year	Amounts in Thousands of Dollars									
	South Geysers Project Revenue Bonds Series D, F and H		Small Hydro Project Revenue Bonds Series D and H		Bottle Rock Project Revenue Bonds Series E		Alamo Project Revenue Bonds Series F and H		Subtotal	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
1964	0	0	0	0	0	0	0	0	0	3,333
1965	0	0	0	0	0	0	0	0	0	11,114
1966	0	0	0	0	0	0	0	0	0	16,742
1967	0	0	0	0	0	0	0	0	0	26,912
1968	0	0	0	0	0	0	0	0	0	41,636
1969	0	0	0	0	0	0	0	0	0	57,909
1970	0	0	0	0	0	0	0	0	0	66,436
1971	0	0	0	0	0	0	0	0	0	76,180
1972	0	0	0	0	0	0	0	0	1,260	82,260
1973	0	0	0	0	0	0	0	0	2,530	90,098
1974	0	0	0	0	0	0	0	0	4,400	90,210
1975	0	0	0	0	0	0	0	0	6,475	89,967
1976	0	0	0	0	0	0	0	0	8,555	89,927
1977	0	0	0	0	0	0	0	0	11,835	89,758
1978	0	0	0	0	0	0	0	0	18,475	89,557
1979	0	0	0	0	0	0	0	0	25,235	88,673
1980	0	0	0	0	0	0	0	0	19,315	95,315
1981	0	0	0	0	0	0	0	0	22,935	93,553
1982	0	1,217	0	0	0	0	0	0	37,170	101,319
1983	0	5,647	0	3,727	0	6,017	0	2,449	42,530	143,854
1984	0	5,647	0	3,727	0	10,315	0	4,198	33,385	147,626
1985	0	5,647	0	3,727	0	10,315	0	4,198	46,365	138,477
1986	0	5,516	0	3,537	1,240	10,315	0	4,264	42,095	141,007
1987	0	5,386	0	3,348	1,305	10,253	265	4,329	45,565	138,724
1988	580	5,371	345	3,348	1,390	10,181	280	4,314	39,335	136,209
1989	690	5,328	365	3,328	1,470	10,098	295	4,299	41,565	134,081
1990	740	5,277	405	3,304	1,575	10,002	320	4,279	43,710	132,679
1991	795	5,219	430	3,277	1,680	9,892	335	4,257	45,615	129,462
1992	860	5,154	435	3,246	1,805	9,771	365	4,233	47,610	126,954
1993	930	5,084	470	3,214	1,940	9,637	390	4,206	50,380	124,898
1994	1,005	5,004	455	3,178	2,085	9,490	420	4,177	53,145	121,548
1995	1,090	4,917	490	3,142	2,245	9,328	450	4,144	55,555	118,636
1996	1,180	4,821	530	3,102	2,425	9,151	490	4,108	58,195	115,801
1997	1,290	4,716	560	3,059	2,625	8,957	530	4,070	59,420	112,376
1998	1,400	4,600	605	3,012	2,840	8,744	565	4,028	61,130	109,082
1999	1,520	4,473	655	2,961	3,075	8,511	620	3,981	63,865	105,672
2000	1,660	4,333	695	2,905	3,340	8,256	675	3,929	67,105	102,925
2001	1,810	4,179	765	2,844	3,625	7,979	725	3,874	70,325	98,234
2002	1,975	4,008	800	2,777	3,945	7,675	790	3,814	73,760	94,159
2003	2,165	3,822	790	2,705	4,285	7,343	860	3,747	78,110	89,835
2004	2,325	3,659	885	2,650	4,675	6,979	940	3,674	83,030	85,253
2005	2,495	3,484	970	2,589	5,085	6,582	1,020	3,594	87,220	80,369
2006	2,685	3,295	1,010	2,523	5,545	6,149	1,110	3,509	91,680	75,191
2007	2,880	3,092	1,085	2,455	6,045	5,678	1,210	3,414	96,565	69,693
2008	3,130	2,848	1,100	2,368	6,585	5,164	1,320	3,311	102,205	63,793
2009	3,380	2,584	1,120	2,280	7,185	4,604	1,435	3,200	104,250	57,598
2010	3,670	2,297	1,110	2,190	7,830	3,994	1,570	3,078	109,205	51,115
2011	3,980	1,987	1,110	2,102	8,545	3,328	1,705	2,945	115,090	44,229
2012	4,305	1,651	1,115	2,013	9,325	2,602	1,865	2,800	121,930	36,881
2013	4,675	1,286	1,740	1,924	10,175	1,809	2,035	2,641	92,390	29,069
2014	5,070	890	1,830	1,784	11,110	944	2,220	2,469	87,720	24,370
2015	5,425	460	1,925	1,638	0	0	2,420	2,281	73,590	19,650
2016	2,240	0	2,145	1,484	0	0	2,645	2,075	63,930	15,978
2017	0	0	2,295	1,312	0	0	2,885	1,851	54,695	12,889
2018	0	0	2,455	1,129	0	0	3,150	1,606	43,130	10,100
2019	0	0	2,615	932	0	0	3,440	1,339	35,895	7,663
2020	0	0	2,800	723	0	0	3,755	1,047	37,645	5,497
2021	0	0	2,975	499	0	0	4,105	728	30,230	3,447
2022	0	0	3,265	261	0	0	4,480	380	25,115	1,679
2023	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0
TOTAL	65,950	132,899	42,345	100,324	125,000	240,063	51,685	130,840	2,732,465	4,557,602

**TABLE 26. ANNUAL SERVICE ON BONDS SOLD
THROUGH JUNE 30, 1988 (con't.)**

Calendar Year	Amounts in Thousands of Dollars									
	Water System Revenue Bonds									
	East Branch Enlargement Series A		Water System Facilities Series B & C		Water System Facilities Series D		Subtotal		Grand Total	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
1964	0	0	0	0	0	0	0	0	0	3,333
1965	0	0	0	0	0	0	0	0	0	11,114
1966	0	0	0	0	0	0	0	0	0	16,742
1967	0	0	0	0	0	0	0	0	0	26,912
1968	0	0	0	0	0	0	0	0	0	41,636
1969	0	0	0	0	0	0	0	0	0	57,909
1970	0	0	0	0	0	0	0	0	0	66,436
1971	0	0	0	0	0	0	0	0	0	76,180
1972	0	0	0	0	0	0	0	0	1,260	82,260
1973	0	0	0	0	0	0	0	0	2,530	90,098
1974	0	0	0	0	0	0	0	0	4,400	90,210
1975	0	0	0	0	0	0	0	0	6,475	89,967
1976	0	0	0	0	0	0	0	0	8,555	89,927
1977	0	0	0	0	0	0	0	0	11,835	89,758
1978	0	0	0	0	0	0	0	0	18,475	89,557
1979	0	0	0	0	0	0	0	0	25,235	88,673
1980	0	0	0	0	0	0	0	0	19,315	95,315
1981	0	0	0	0	0	0	0	0	22,935	93,553
1982	0	0	0	0	0	0	0	0	37,170	101,319
1983	0	0	0	0	0	0	0	0	42,530	143,854
1984	0	0	0	0	0	0	0	0	33,385	147,626
1985	0	0	0	0	0	0	0	0	46,365	138,477
1986	0	4,021	0	0	0	0	0	4,021	42,095	145,028
1987	0	9,651	0	4,952	0	0	0	14,603	45,565	153,327
1988	995	9,651	710	8,317	0	3,746	1,705	21,714	41,040	157,923
1989	1,045	9,604	760	8,284	535	7,493	2,340	25,381	43,905	159,462
1990	1,100	9,549	810	8,245	575	7,467	2,485	25,261	46,195	157,940
1991	1,160	9,489	865	8,202	625	7,437	2,650	25,128	48,265	154,590
1992	1,225	9,423	925	8,155	675	7,402	2,825	24,980	50,435	151,934
1993	1,300	9,350	985	8,102	725	7,364	3,010	24,816	53,390	149,714
1994	1,380	9,271	1,050	8,044	785	7,321	3,215	24,636	56,360	146,184
1995	1,470	9,184	1,120	7,980	850	7,273	3,440	24,437	58,995	143,073
1996	1,565	9,089	1,200	7,909	915	7,220	3,680	24,218	61,875	140,019
1997	1,670	8,984	1,280	7,831	990	7,160	3,940	23,975	63,360	136,351
1998	1,785	8,870	1,365	7,745	1,070	7,094	4,220	23,709	65,350	132,791
1999	1,910	8,747	1,455	7,651	1,155	7,021	4,520	23,419	68,385	129,091
2000	2,045	8,613	1,555	7,549	1,245	6,942	4,845	23,104	71,950	126,029
2001	2,195	8,468	1,660	7,438	1,345	6,854	5,200	22,760	75,525	120,994
2002	2,350	8,310	1,775	7,317	1,455	6,759	5,580	22,386	79,340	116,545
2003	2,520	8,140	1,895	7,186	1,570	6,654	5,985	21,980	84,095	111,815
2004	2,705	7,957	2,020	7,045	1,695	6,540	6,420	21,542	89,450	106,795
2005	2,905	7,760	2,155	6,894	1,830	6,417	6,890	21,071	94,110	101,440
2006	3,120	7,548	2,300	6,732	1,975	6,283	7,395	20,563	99,075	95,754
2007	3,350	7,317	2,460	6,560	2,135	6,137	7,945	20,014	104,510	89,707
2008	3,600	7,065	2,625	6,375	2,305	5,979	8,530	19,419	110,735	83,212
2009	3,875	6,795	2,800	6,178	2,490	5,806	9,165	18,779	113,415	76,377
2010	4,165	6,505	2,990	5,968	2,690	5,616	9,845	18,089	119,050	69,204
2011	4,475	6,193	3,190	5,744	2,905	5,411	10,570	17,348	125,660	61,577
2012	4,810	5,857	3,405	5,505	3,140	5,190	11,355	16,552	133,285	53,433
2013	5,170	5,496	3,635	5,250	3,390	4,950	12,195	15,696	104,585	44,765
2014	5,560	5,108	3,880	4,977	3,660	4,691	13,100	14,776	100,820	39,146
2015	5,975	4,691	4,145	4,686	3,955	4,410	14,075	13,787	87,665	33,437
2016	6,425	4,243	4,425	4,375	4,270	4,105	15,120	12,723	79,050	28,701
2017	6,905	3,761	4,725	4,032	4,610	3,776	16,240	11,569	70,935	24,458
2018	7,430	3,244	5,040	3,666	4,980	3,421	17,450	10,331	60,580	20,431
2019	7,995	2,686	5,380	3,275	5,380	3,038	18,755	8,999	54,650	16,662
2020	8,605	2,087	5,745	2,858	5,810	2,624	20,160	7,569	57,805	13,066
2021	9,255	1,441	6,135	2,413	6,275	2,176	21,665	6,030	51,895	9,477
2022	9,960	747	6,545	1,938	6,775	1,693	23,280	4,378	48,395	6,057
2023	0	0	15,990	1,430	7,315	1,172	23,305	2,602	23,305	2,602
2024	0	0	0	0	7,900	608	7,900	608	7,900	608
TOTAL	132,000	254,915	109,000	226,808	100,000	201,250	341,000	682,973	3,073,465^(b)	5,240,575^(c)

b) Serial maturities or mandatory requirements for term bonds.

c) Includes capitalized interest payment.

SWP facilities. The Legislature subsequently appropriated all of these funds to the State's General Fund.

Line 66: Total Operating Expenses and Debt Service

This is the total of Lines 53, 54, 55, 64, and 65.

Line 67: Deposits to Operating Reserves

DWR policy for proper fiscal management of the SWP and protection of the interests of bondholders is to maintain reserves of \$48 million for payment of operation and maintenance costs and debt service, and to provide funds for drought contingencies.

Line 68: California Water Fund Repayment Required for Current Construction

The Burns-Porter Act requires that, after operation, maintenance, replacement, and bond service requirements have been satisfied, SWP revenues shall be transferred to the California Water Fund to reimburse the fund for monies expended for construction of the State Water Resources Development System. For the financial analysis, repayment amounts through 2000 shown in Line 68 are required for financing scheduled capital expenditures.

Line 69: California Water Fund Repayment Available for Future Construction

Line 69 shows that some revenues in excess of expenses are available, beyond present construction requirements, to repay the California Water Fund. These funds would be available to fund a portion of future SWP facilities, and/or be credited as repayment against

past California Water Fund expenditures (see Line 65). The amount shown could be transferred to Line 68 if additional facilities are scheduled for construction which would require funding.

Line 70: Capital Resources Revenues Used for Construction

This line is the same as Line 30.

Line 71: Total Project Expenses

This is equal to the sum of Lines 66 through 70.

Future Costs of Water Service

Estimates of future water costs are useful to SWP contractors in short- and long-range planning of their water needs, operations, and budgets.

Unit water charges displayed in Table 27 represent future costs of water by SWP service area. The Table 27 unit rates include capital, transportation, and operating costs of existing and future SWP facilities accounted for in Table 20. The unit charges also assume that in 1990 and 2000 the SWP will be able to deliver full contractor requests for water.

The unit water charges shown in Table 27 are shown both as unescalated 1988 dollars, and escalated rates reflecting assumed future inflation. DWR estimates of future capital expenditures include allowances for escalation of construction costs at 3 percent per year through 1989 and at 5 percent per year thereafter. The escalated unit rates for future power sources reflect escalation varying from 3 percent to 7 percent, depending upon the source of energy.

TABLE 27. ESTIMATED FUTURE UNIT WATER CHARGES

SWP Service Area	Dollars per Acre-Foot(a)			
	1990		2000	
	Unescalated	Escalated(b)	Unescalated	Escalated(b)
Feather River Capital, OM&R(c(d)	33	31	21	27
North Bay Capital, OM&R	248	249	135	154
Power(e)	<u>13</u>	<u>13</u>	<u>15</u>	<u>22</u>
Total	261	262	150	176
South Bay Capital, OM&R	59	59	53	70
Power(e)	<u>31</u>	<u>31</u>	<u>40</u>	<u>56</u>
Total	90	90	93	126
Coastal Branch Capital, OM&R	0	0	270	327
Power(e)	<u>0</u>	<u>0</u>	<u>93</u>	<u>132</u>
Total	0	0	363	459
San Joaquin Capital, OM&R	34	35	34	44
Power(e)	<u>15</u>	<u>15</u>	<u>19</u>	<u>28</u>
Total	49	50	53	72
Southern California Capital, OM&R	132	133	104	132
Power(e)	<u>82</u>	<u>83</u>	<u>120</u>	<u>170</u>
Total	214	216	224	302

- a) These estimated unit water charges differ from those in Table 26 of Bulletin 132-87 due to a number of factors, primarily (1) changes in projected water deliveries in some service areas, (2) increased OM&R costs projected for future years, and (3) changes in projected power costs.
- b) These values reflect the effects of assumed future cost escalation.
- c) Operation, maintenance, and replacement.
- d) No power costs are incurred for water delivery to Feather River area contractors.
- e) Power costs of Transportation facilities to deliver SWP water to the service area, including costs of Off-Aqueduct power facilities.

APPENDIX B
DATA AND COMPUTATIONS USED
IN DETERMINING WATER CHARGES FOR 1989

APPENDIX B

DATA AND COMPUTATIONS USED IN DETERMINING WATER CHARGES FOR 1989

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APPENDIX B

DATA AND COMPUTATIONS USED IN DETERMINING WATER CHARGES FOR 1989

DWR annually furnishes statements of charges to the 30 long-term SWP water supply contractors. These statements are described in Article 29(e) of the "Standard Provisions for Water Supply Contract":

All such statements shall be accompanied by the latest revised copies of the document amendatory to Article 22 and of Tables B, C, D, E, F, and G of this contract, together with such other data and computations used by the State in determining the amounts of the above charges as the State deems appropriate.

To comply with Article 29(e), DWR annually performs a comprehensive review and redetermination of all water supply and financial aspects of the SWP for the entire Project repayment period. This annual redetermination is provided for in Water Contract Article 22(f), concerning the Delta Water Rate per acre-foot of future entitlement, and in Article 28, with regard to the annual Transportation Charges for the entire Project repayment period.

Appendix B documents the redetermination of water charges to be paid by contractors during calendar year 1989 and is based upon established data, both known and projected, about the SWP as of June 30, 1988. The computational procedures and interrelationships between tabulations in this appendix are outlined in Figures B-1 and B-2. All B-tables shown in Figures B-1 and B-2 are included at the end of this text. Appendix B also documents payments by contractors under amended Article 21 of the Standard Provisions for surplus water deliveries from the SWP.

Types of Water Charges

Costs of SWP facilities that are necessary for either the conservation and development of water supply, or conveyance of such supply to SWP service areas, are included in charges to water contractors. The Standard Provisions classify these facilities as "Project conservation facilities" and "Project transportation facilities." Following is a list of the principal facilities in each classification:

Project Conservation Facilities

- Frenchman Dam and Lake;
- Grizzly Valley Dam and Lake Davis;
- Antelope Dam and Lake;
- Oroville Dam and Lake Oroville;
- Oroville Power Facilities;
- Delta Facilities;
- Additional Conservation Facilities;
- A portion of the California Aqueduct from the Delta to Dos Amigos Pumping Plant; and
- San Luis Dam, Reservoir, and Pumping-Generating Plant.

Project Transportation Facilities

- Grizzly Valley Pipeline;
- North Bay Aqueduct;
- South Bay Aqueduct (including Del Valle Dam and Lake Del Valle);
- The remainder of the California Aqueduct from the Delta to Dos Amigos Pumping Plant and all facilities south, including dams and lakes in Southern California; and
- Off-Aqueduct Power Facilities (Reid Gardner Unit No. 4, Bottle Rock Powerplant, and South Geysers Powerplant).

The Standard Provisions provide for two basic annual charges for Project water:

- the Delta Water Charge, which will be paid by all contractors and which will return all reimbursable costs of the Project conservation facilities to the State; and

FIGURE B-1. RELATIONSHIPS OF DATA USED TO SUBSTANTIATE STATEMENTS OF CHARGES

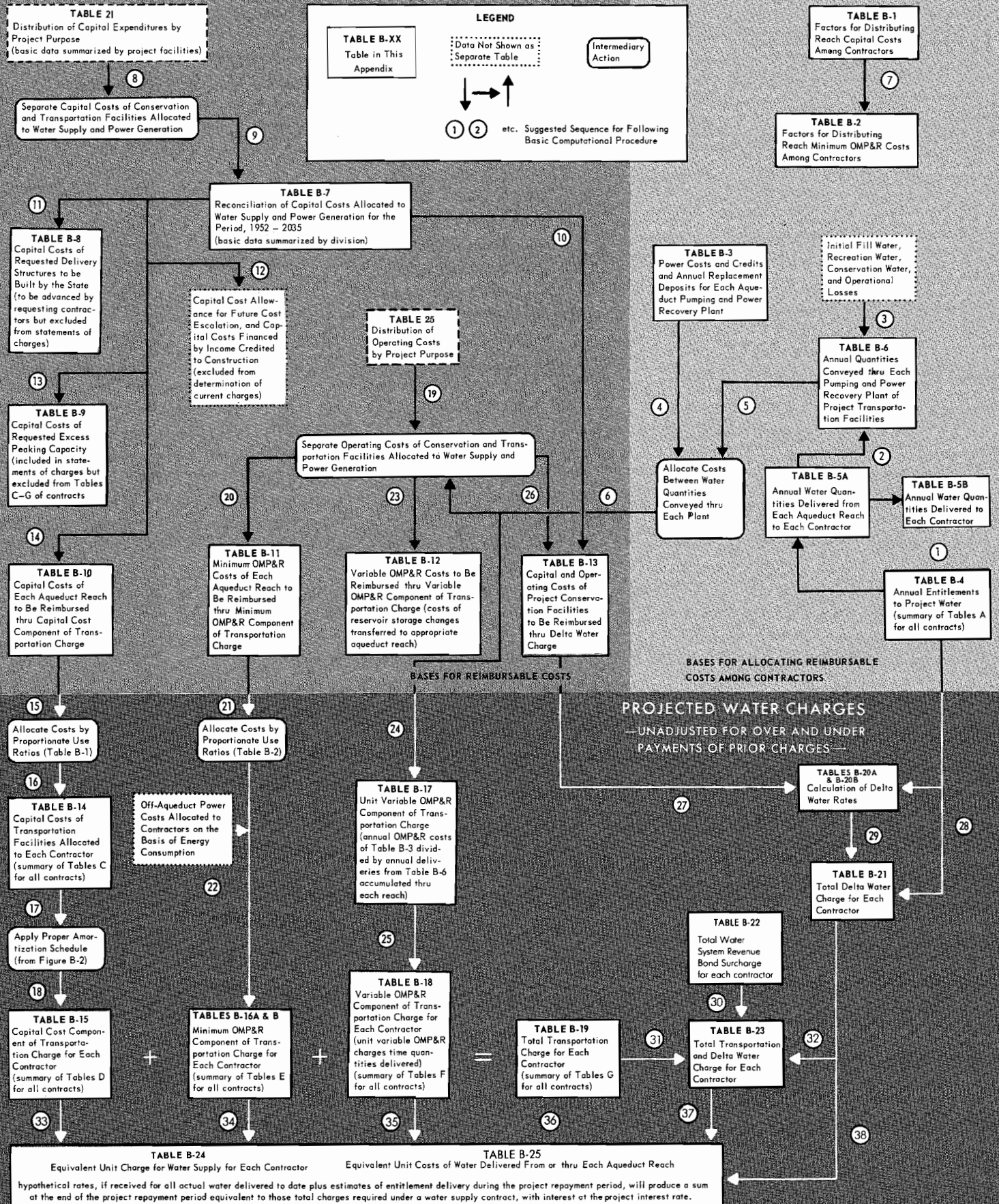
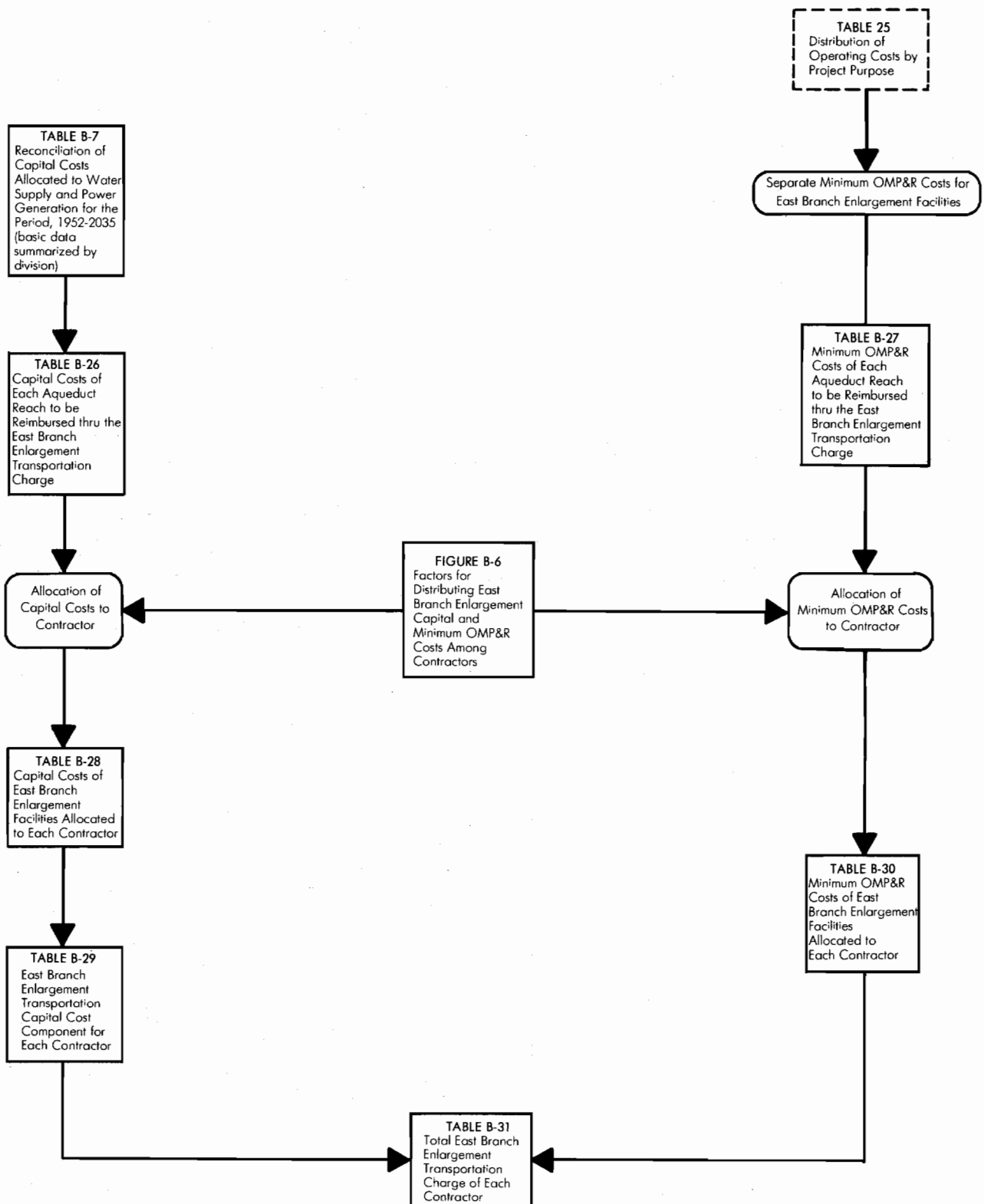


FIGURE B-2. RELATIONSHIPS OF DATA USED TO SUBSTANTIATE EAST BRANCH ENLARGEMENT CHARGES



- the Transportation Charge, in addition to the Delta Water Charge, which will be paid by those contractors served by the Project transportation facilities and which will return all reimbursable costs of such facilities to the State.

The Delta Water Charge is a unit charge applied to each acre-foot of SWP water the contractors are entitled to receive under their contracts. The unit charge, if applied to each acre-foot of all such entitlements for the remainder of the Project repayment period, will repay all outstanding reimbursable costs of the Project conservation facilities, with appropriate interest, by the end of the repayment period (2035).

The Transportation Charge is a charge for use of facilities to transport water to the vicinity of each contractor's turnout. Generally, the annual charge represents each contractor's proportionate share of the reimbursable capital costs and operating costs of Project transportation facilities. Each contractor's allocated share of these reimbursable capital costs is amortized for repayment to the State and certain variations are allowed in the amortization methods. The contractors' shares of reimbursable operating costs are repaid essentially in the year such costs are incurred by the State.

The East Branch Enlargement Transportation Charge will be paid by seven Southern California contractors participating in the enlargement. San Bernardino Valley Municipal Water District elected to advance funds to pay the district's allocated East Branch Enlargement capital costs. The remaining contractors will pay an allocated share of the debt service on the revenue bonds sold to finance the enlargement. Each contractor also will pay an allocated share of the minimum OMP&R costs of the East Branch Enlargement.

Composition and Timing of Water Charges

As detailed in Figure B-3, the Delta Water Charge and the Transportation Charge consist of the following components:

- Conservation and Transportation capital cost components, which will return to the State all reimbursable capital costs;
- Conservation and Transportation minimum OMP&R components, which will return to the

State all reimbursable operating costs that do not depend upon quantities of water actually delivered to the contractors; and

- A Transportation variable OMP&R component, which will return to the State all reimbursable operating costs that depend upon, and vary with, quantities of water actually delivered to the contractors.

Article 28 of the Standard Provisions of the water supply contracts provides that Transportation Charges be redetermined each year. The tables in Appendix B present the numerical data used in this redetermination. Transportation Charges for prior years through 1987 shown in these tables do not equal those amounts actually paid by contractors. As provided under the Water System Revenue Bond Amendment to the water supply contract, differences between actual payments and amounts computed in this redetermination are accumulated with interest and amortized during the remaining years of the contract repayment period. All adjustment computations are shown in the attachments accompanying each contractor's statement of charges and are reflected in revised copies of Tables C through G of the contract, also furnished to each long-term water supply contractor in the annual statement of charges.

The formula for computing the Delta Water Rate, Article 22(f) of the Standard Provisions, provides that all adjustments for prior over-payments or under-payments of the Delta Water Charge are accounted for in a redetermination of the rate. Since the redetermined rate applies to all future entitlements, such adjustments are amortized during the remainder of the Project repayment period. This Appendix B includes a redetermination of the Delta Water Rate for 1989.

These redeterminations exclude charges associated with water service other than the Delta Water Charge and the Transportation Charge. These excluded charges (and the manner in which such excluded charges are treated herein) are:

- Advances of funds pursuant to Article 24(d) of the Standard Provisions, for excess capacity constructed by the State at the request of contractors; and

**FIGURE B-3. COMPOSITION OF DELTA WATER CHARGE AND
TRANSPORTATION CHARGE (a)**

DELTA WATER CHARGE	CAPITAL COST COMPONENT	<ol style="list-style-type: none"> 1. Planning, design, right of way, and construction costs of conservation facilities 2. O&M costs for newly constructed conservation facilities prior to initial operation 3. Activation costs for newly constructed conservation facilities 4. Power costs allocated to initial filling of San Luis Reservoir 5. Capitalized O&M costs (major repair work, etc.) for conservation facilities 6. Credits for a portion of Hyatt-Thermalito power generation 7. Program costs (portion) to mitigate impacts on current Delta fishery population due to SWP pumping prior to 1986 (DWR-DFG Agreement)
	MINIMUM OMP&R COMPONENT	<ol style="list-style-type: none"> 1. Direct O&M costs of conservation facilities <ol style="list-style-type: none"> a. Headquarters and field divisions (portion) b. Insurance and FERC costs (portion) 2. General O&M costs allocated to conservation facilities <ol style="list-style-type: none"> a. Contractor Accounting Office (portion) b. Financial and contract administration (portion) c. Water rights d. Power planning for SWP facilities (portion) 3. Replacement deposits for SWP control centers (portion) 4. Credits for a portion of Hyatt-Thermalito power generation 5. Power costs and credits related to pumping water to San Luis Reservoir for project operations (storage changes) 6. Value of power used and generated by San Luis Pumping-Generating Plant 7. Program costs (portion) to offset annual fish losses resulting from pumping at Banks Delta Pumping Plant (DWR-DFG Agreement)
TRANSPORTATION CHARGE	CAPITAL COST COMPONENT	<ol style="list-style-type: none"> 1. Planning, design, right of way, and construction costs of transportation facilities 2. O&M costs for newly constructed transportation facilities prior to initial operation 3. Activation costs for newly constructed transportation facilities 4. Power costs allocated to initial filling of Southern California reservoirs 5. Capitalized O&M costs (major repair work, etc.) for transportation facilities 6. Program costs (portion) to mitigate impacts on current Delta fishery population due to SWP pumping prior to 1986 (DWR-DFG Agreement)
	OMP&R MINIMUM OMP&R COMPONENT	<ol style="list-style-type: none"> 1. Direct O&M costs of transportation facilities <ol style="list-style-type: none"> a. Headquarters and field divisions (portion) b. Insurance and FERC costs (portion) 2. General O&M costs allocated to transportation facilities <ol style="list-style-type: none"> a. Contractor Accounting Office (portion) b. Financial and contract administration (portion) c. Power planning for SWP facilities (portion) 3. Power costs and credits related to pumping water to Southern California reservoirs for project operations (storage changes) 4. Power costs for pumping water to replenish losses from transportation facilities 5. Other power costs <ol style="list-style-type: none"> a. Station service at transportation facility power and pumping plants b. Transmission service costs related to "backbone" transmission facilities 6. Replacement deposits for SWP control centers (portion) 7. Off-Aqueduct power facility costs - bond service, bond cover costs (25% of bond service), bond reserves, transmission costs to provide service to "backbone," fuel costs, taxes, and O&M - less power sales allocated to Off-Aqueduct power facilities 8. Program costs (portion) to offset annual fish losses resulting from pumping at Banks Delta Pumping Plant (DWR-DFG Agreement)
	VARIABLE OMP&R COMPONENT	<ol style="list-style-type: none"> 1. Power purchase costs <ol style="list-style-type: none"> a. Capacity b. Energy c. Pine Flat bond service, O&M, and transmission costs allocated to aqueduct pumping plants 2. Alamo, Devil Canyon, Warne, and Castaic power generation credited at the power plant reach and charged to aqueduct pumping plants 3. Hyatt-Thermalito and Thermalito Diversion Dam Powerplant generation charged to aqueduct pumping plants (credits for this generation are reflected in the Delta Water Rate) 4. Replacement deposits for equipment at pumping plants and power plants 5. Credits from sale of excess SWP system power 6. Program costs (portion) to offset annual fish losses resulting from pumping at Banks Delta Pumping Plant (DWR-DFG Agreement)

a) Excluding costs recovered under the East Branch Enlargement Transportation Charge.

- Advances of funds pursuant to Article 10(d) of the Standard Provisions, for delivery structures (turn-outs) constructed by the State at the request of contractors. Partial information is included in this appendix concerning actual and projected capital costs of such delivery structures. Statements concerning these costs and data are furnished to the appropriate contractors at various times and are not part of the annual statements.
- Payments for sale and service of surplus water to entities other than contractors, pursuant to Article 21 of the Standard Provisions are also excluded. These payments are generally based upon the unit rates shown in Table B-25. Net revenues resulting from "noncontractor" service are applied as described in Bulletin 132-71, page 24.
- Payments under the Devil Canyon-Castaic Contract for costs of the Devil Canyon and Castaic facilities allocable to power generation. Charges under the contract are billed separately from those under the Water Supply Contract. The treatment of such charges in relation to redetermined Transportation Charges is shown in special attachments to the bills of the six participating contractors.

The time and method of payment for corresponding components of the Delta Water Charge and the Transportation Charge are as follows:

- The capital cost components of the Delta Water Charge and the Transportation Charge are paid in two semiannual installments, due January 1 and July 1 of each year, on the basis of statements furnished by the State about July 1 of the preceding year.
- The minimum OMP&R components of the Delta Water Charge and the Transportation Charge are paid in 12 equal installments, due the first of each month, on the basis of statements furnished by the State about July 1 of the preceding year.
- The variable OMP&R component of the Transportation Charge is paid in varying monthly amounts, due the 15th of the second month following actual water delivery. The charges are projected based upon a unit charge per acre-foot established about July 1 of the preceding year. These unit charges may be revised several times during the year to

reflect current power costs and revenues. These unit charges are applied to actual monthly delivery quantities as determined by the State on or before the 15th of the month following actual delivery.

Bases for Allocating Reimbursable Costs Among Contractors

This section discusses DWR's procedures (diagrammed in the upper right portion of Figure B-1) for allocating reimbursable costs of Project transportation facilities among contractors. These costs do not include annual costs of Off-Aqueduct power facilities, which are discussed in the "Project Water Charges" section.

Capital and Minimum OMP&R Costs

Figure B-7, following the text in this appendix, shows repayment reaches that are the bases for allocating reimbursable costs of Project transportation facilities among contractors.

Allocations of reimbursable capital costs and minimum OMP&R costs of each reach are based upon the proportionate maximum use of that reach by respective contractors under planned conditions of full development.

The derivation of ratios that represent the proportionate maximum use of each aqueduct reach by the respective contractors was described in Bulletin 132-70. The Bulletin 132-70 ratios were subsequently revised for (1) the North Bay Aqueduct, (2) the South Bay Aqueduct, (3) the California Aqueduct from the Delta to the Coastal Branch, and (4) the Coastal Branch.

Revised ratios for the first reach of the California Aqueduct and for the South Bay Aqueduct are described in Bulletin 132-72 and reflect certain contract amendments executed early in 1972 regarding South Bay Aqueduct use (Bulletin 132-73, pages 33-35).

Bulletin 132-83 presented revised ratios for reaches in the Coastal Branch and in the California Aqueduct from the Delta to the Coastal Branch. These revisions reflect a contract amendment with Santa Barbara County Flood Control and Water Conservation District that reduced maximum annual entitlement from 57,700 acre-feet to 45,486 acre-feet.

Bulletin 132-86, page 170, presented revised ratios for reaches of the North Bay Aqueduct. These revisions

reflect contract amendments executed with Solano County Flood Control and Water Conservation District in 1985 and with Napa County Flood Control and Water Conservation District in 1986.

Table B-1 presents the reach ratios currently applicable to reimbursable capital costs.

Table B-2 presents corresponding ratios for reimbursable minimum OMP&R costs. Requested excess capacity is omitted when deriving ratios in *Table B-1* (because the capital costs for the excess capacity are paid on an incremental-cost basis and not a proportionate-use basis) but is accounted for in *Table B-2*.

Variable OMP&R Costs

Contract Article 26(a) provides that the variable OMP&R component of the Transportation Charge shall return to the State those costs that depend upon and vary with the amount of SWP water delivered. (The minimum OMP&R component returns those operating costs that do not vary with deliveries.) The Article explains that all such costs for a reach for a given year shall be allocated among contractors in proportion to the actual annual use of that reach by the respective contractors.

Table B-3 summarizes total variable OMP&R costs for each SWP pumping and power plant. These variable costs comprise the following:

- Costs of capacity and energy used, exclusive of associated power transmission and station service charges (transmission and station service costs are classified as minimum OMP&R costs);
- Credits for capacity and energy produced at aqueduct power recovery plants (treated as negative costs); and
- Annual payments to sinking fund reserves to finance periodic replacement of major plant machinery components having economic lives shorter than the Project repayment period. Sinking fund payments for 1962 through 1979 were based upon a schedule determined in 1970. Sinking fund payments for 1980 through 2035 are based upon revised replacement schedules. This schedule was updated in 1986. DWR plans to update the re-

placement deposit schedule at five-year intervals. Current sinking fund payments are substantially greater than those projected in 1970.

Table B-3 excludes plant capacity and energy costs associated with surplus water service after May 1, 1973. Prior to that date, surplus water service was charged the same unit variable OMP&R component as entitlement water service. The rate structure for surplus water service was significantly changed on May 1, 1973. Since then, capacity and energy costs for pumping surplus water have been allocated directly to those water contractors receiving that water service.

Water Conveyance

Four Appendix B tables present the water conveyance quantities that form the basis of allocation of variable OMP&R costs.

Table B-4 presents the schedules of annual entitlements as set forth in *Table A* of each water supply contract.

Table B-5A shows actual and projected water quantities delivered from each aqueduct reach to each contractor. Projected deliveries for 1988 through 2035 are based on contractor requests for future water deliveries. The *Table B-5A* quantities also include non-Project water delivered to contractors and surplus water deliveries prior to May 1, 1973. (For a comparison of historical deliveries to annual entitlements, see *Table 3* in Chapter II.)

Table B-5B presents a summary of actual and projected annual water quantities delivered or to be delivered to each contractor.

Table B-6 summarizes the annual water quantities conveyed, or to be conveyed, through each aqueduct pumping plant or power plant for each of the following functions:

- made available to contractors at down-aqueduct delivery structures ("Deliveries — Water Supply");
- required to initially fill down-aqueduct reaches and reservoirs, or for repayment of preconsolidation water used during construction ("Initial Fill Water");

- delivered to down-aqueduct recreation developments or used for fish and wildlife mitigation or enhancement ("Deliveries — Recreation");
- lost through evaporation and seepage from all down-aqueduct reaches ("Operational Losses"); and
- placed in down-aqueduct reservoir storage after initial filling of the reservoirs ("Reservoir Storage Changes"). With one exception, "Reservoir Storage Changes" also includes SWP water placed into Southern California ground water storage in 1978 through 1982 (as positive amounts), and water withdrawn from storage and delivered to contractors between 1979, 1982, 1987, and 1988 (as negative amounts). The exception is at Banks Delta Pumping Plant, where the ground water additions and withdrawals are included in "Conservation Water".

In addition, Table B-6 summarizes the following under the heading "Conservation Water" (Column 20):

- net annual water amounts stored and projected to be stored in San Luis Reservoir; and
- water lost and projected to be lost through evaporation and seepage from San Luis Reservoir and from the water conservation portion of the California Aqueduct.

San Luis Reservoir is operated to conserve water for future delivery to downstream contractors. To account for costs associated with reservoir storage, those power and replacement costs of the Banks Delta Pumping Plant (a joint transportation-conservation facility) that are allocated to the conveyance of annual "conservation water" quantities, are transferred to the capital costs of San Luis Reservoir (during initial fill) or to the minimum OMP&R costs of San Luis Reservoir (subsequent to initial fill). In years of net storage withdrawal from San Luis Reservoir, a portion of the minimum OMP&R cost of the reservoir is transferred to the variable OMP&R cost of the Banks Delta Pumping Plant. This transfer is equal to the variable OMP&R cost per acre-foot of delivery through the Banks Delta Pumping Plant for that year, multiplied by the acre-feet of deliveries derived from San Luis Reservoir storage for that year.

Bases for Reimbursable Costs

This section describes how the costs allocated by the procedures outlined in the preceding section are derived. The cost derivation process is diagrammed in the upper left quadrant of Figure B-1.

First, the capital and OMP&R costs of all SWP facilities are allocated among the various project purposes according to the allocation percentages in Figure B-4. These percentages are subject to future revision. The redeterminations in this appendix are concerned only with the costs that are allocated to water supply and power generation.

Capital Costs

Capital costs used in the redetermination in this appendix reflect prices prevailing on December 31, 1987; future cost escalation will be reflected in subsequent bulletins.

Table B-7 presents a reconciliation of estimated total capital costs of each Project conservation facility and each Project transportation facility.

Table B-8 shows costs incurred and projected to be incurred by the State in connection with each contractor's turnouts. Costs incurred by the State for both State- and contractor-constructed delivery structures are paid directly by the contractors for which the structures are built. (The State incurs design review and construction inspection costs in connection with contractor constructed turnouts.)

Table B-9 lists costs and payments for excess capacity built into SWP transportation facilities under amendments to contracts with MWDSC, San Gabriel Valley Municipal Water District, and Antelope Valley-East Kern Water Agency as follows:

- additional costs incurred by the State for requested excess capacity;
- advances, by water contractors, of funds for such costs; and
- credits for advances in excess of costs, which were applied to the respective contractors' installments of the capital cost component of the Transportation Charge in 1981.

Under Amendment 2 of MWDSC's contract, 809 cfs of excess capacity originally was constructed in reaches of

the West Branch at MWDSC's request. Under Amendment 7, this capacity was reclassified as basic capacity of the SWP transportation facilities. MWDSC paid \$16.3 million as a prepayment of the capital cost component of the Transportation Charge in lieu of advancing of funds for the original requested capacity.

Amendment 5 to MWDSC's contract requires that additional costs for modifications to the Santa Ana Valley Pipeline (required for enlargement of Lake Perris) are to be allocated to MWDSC and returned to the State through payments of the Transportation Charge. The additional costs to be repaid through MWDSC's capital cost component for the aqueduct reach from Devil Canyon Powerplant to Barton Road total about \$6.7 million as shown in Bulletin 132-72, page 98.

Table B-10 presents the actual and projected annual capital costs of each aqueduct reach that will eventually be returned to the State, with interest, through contractor payments of the capital cost component under the Transportation Charge and of debt service under the Devil Canyon-Castaic Contract.

Annual Operating Costs

Annual operating costs allocable to water supply and power generation are returned to the State through the minimum and variable OMP&R components of Delta Water and Transportation Charges and through a portion of the revenues from energy sales. All reimbursable operating costs of conservation facilities are included in the minimum OMP&R component of the Delta Water Charge.

Table B-11 lists the actual and projected costs to be reimbursed through payments of (1) the minimum OMP&R component under the Transportation Charge, and (2) allocated operating costs under the Devil Canyon-Castaic Contract. *Table B-11* includes the following types of operating costs, which are considered to be incurred in annual amounts that do not vary with the water quantities delivered to the contractors:

- all direct labor charges for field operation and maintenance personnel, including associated indirect costs;
- a distributed share of general operating costs that cannot be identified solely with one facility or aqueduct reach;

- electric power transmission and station service costs allocable to aqueduct pumping and power recovery plants;
- all costs for equipment, materials, and supplies and for replacement of electronic control systems;
- portions of the power and replacement costs of all up-aqueduct pumping and power plants that are allocable to the annual conveyance of water (1) lost to evaporation and seepage from respective aqueduct reaches, or (2) placed into storage in respective reservoirs of the Project transportation facilities (after initial fill);
- credits, which offset those costs in (2) above, for deliveries drawn from reservoir storage; and
- escalation of projected operating costs at 4 percent per year for 1988 and 1989 and 5 percent for 1990.

Table B-12 shows the portions of the variable OMP&R costs in *Table B-3* that are allocable to the water supply delivery quantities shown in *Table B-6* and reimbursed through payments of the variable OMP&R component of the Transportation Charge. The following adjustments are made to the *Table B-3* costs to derive the *Table B-12* costs:

- A portion of the variable OMP&R costs of each plant is allocated to recreation. The allocation to recreation is in proportion to the quantity of water conveyed through each plant each year for delivery to on-shore recreation developments.
- That portion of variable plant costs attributable to the initial fill of aqueduct reaches is allocated to the joint capital costs of respective down aqueduct reaches and reservoirs.
- That portion of costs attributable to evaporation and seepage is allocated to the joint minimum OMP&R costs of respective down-aqueduct reaches and reservoirs.
- Adjustments are made for additions or withdrawals from storage in aqueduct reservoirs. In years when water is added to storage in aqueduct reservoirs, the cost of conveying this water into storage is charged to the minimum OMP&R costs of the corresponding reservoir. The unit cost is equal to the variable OMP&R unit rate for the year the water is

FIGURE B-4. COST ALLOCATION FACTORS

Project Facilities	Water Supply and Power Generation		All Other Purposes (Nonreimbursable)	
	Capital Costs	Minimum OMP&R Costs	Capital Costs	Minimum OMP&R Costs
(in percent)				
Project Conservation Facilities				
Frenchman Dam and Lake	21.5	0	78.5	100.0
Antelope Dam and Lake	0	0	100.0	100.0
Grizzly Valley Dam and Lake Davis	1.0	1.8	99.0	98.2
Oroville Division ^a	97.1	99.5	2.9	0.5
California Aqueduct, Delta to Dos Amigos Pumping Plant	96.6	96.7	3.4	3.3
Delta Facilities	86.0	86.0	14.0	14.0
Transportation Facilities				
Grizzly Valley Pipeline	100.0	100.0	0	0
North Bay Aqueduct	100.0	100.0	0	0
South Bay Aqueduct:				
Del Valle Dam and Lake Del Valle	25.2	22.0	74.8 ^(b)	78.0 ^(c)
Remainder of South Bay Aqueduct	100.0	100.0	0	0
California Aqueduct:				
Delta to Dos Amigos Pumping Plant	96.6	96.7	3.4	3.3
Dos Amigos Pumping Plant to terminus excluding Coastal Branch	94.3	96.9	5.7	3.1
Coastal Branch	100.0	100.0	0	0

a) Percentages shown are applicable to the remaining costs of the Division after excluding costs allocated to flood control that are reimbursed by the federal government (22 percent of capital costs) and excluding specific power costs of Edward Hyatt and Thermalito power plants and switch yards.

b) Percentage shown consists of 48.0 percent recreation and 26.8 percent flood control.

c) Percentage shown consists of 44.9 percent recreation and 33.1 percent flood control.

conveyed into storage. In years when storage in aqueduct reservoirs is decreased for the purpose of making deliveries, a credit is applied to the minimum OMP&R costs of the reservoir from which the storage is released. This credit is equal to the number of acre-feet of storage reduction times the variable OMP&R unit rate for the year storage is released.

Table B-13 summarizes actual and projected capital and operating costs of the initial Project conservation facilities to be reimbursed through payments under (1) the Delta Water Charge, (2) Oroville power sales, and (3) San Luis power credits. Included in Table B-13 are credits applied to the reimbursable capital costs of the Project conservation facilities pursuant to negotiated

settlements concerning the magnitude of incurred planning costs for the period 1952 through 1978.

Project Water Charges

This section summarizes the redetermination of past and projected components of the Transportation Charge for annual revision of Tables C through G of each water contract. This section also includes the Water System Revenue Bond Surcharge and describes derivation of the unit Delta Water Rates. Equivalent unit charges for each acre-foot of entitlement water service are also summarized herein for each contractor and each aqueduct reach. All of these calculations are diagrammed in the lower half of Figure B-1.

Transportation Charges

The accumulation of allocated costs of each aqueduct reach to each contractor forms the basis for the annual components of the Transportation Charge.

Table B-14 summarizes each contractor's share of the capital costs of aqueduct reaches presented in Table B-10. These amounts are determined by applying proportionate-use ratios set forth in Table B-1 to the costs shown in Table B-10. The resulting allocated costs are set forth in Table C of the respective water supply contracts.

Prepayments of the capital cost component, required under MWDSC's Amendment 7, are included as negative capital costs in Table B-14 and in Table C of MWDSC's Statement of Charges for 1989. Empire West Side Irrigation District and Devil's Den Water District also prepaid capital costs (see Table B-14 footnotes).

Both Table B-14 and Table C of the six contracts for Project water service below Devil Canyon and Castaic power plants include the capital costs reimbursable under the Devil Canyon-Castaic Contract.

Table B-15 summarizes the capital cost components of the Transportation Charge for each contractor for each year of the Project repayment period, based upon the amortization schedules shown in Figure B-5. These estimated components, subsequently adjusted for prior over-payments or under-payments, are set forth in Table D of the respective water supply contracts. Costs of excess capacity are billed separately and are not included in Table B-15. Table B-15 for the six contractors down-aqueduct from Devil Canyon and Castaic power plants include the debt service payments due under the Devil Canyon-Castaic Contract.

Table B-16A summarizes the minimum OMP&R components of the Transportation Charge for each year of the Project repayment period. These estimated components, subsequently adjusted for prior over-payments or under-payments, are set forth in Table E of the respective contracts. The total amounts shown in Table B-16A are determined by applying the proportionate-use ratios in Table B-2 to the reach costs presented in Table B-11.

Both Table B-16A and Table E for the six contractors down-aqueduct from Devil Canyon and Castaic power plants include the portion of operating costs payable under the Devil Canyon-Castaic Contract.

Under operating agreements with DWR, Kern County Water Agency is billed for any additional operating costs caused by early installation of units by Berrenda Mesa Water District in Las Perillas and Badger Hill pumping plants (see Bulletin 132-71, page 7). Under these agreements, the following minimum OMP&R costs of Reach 31A are assigned directly to the Agency, with the remaining reach costs allocated by application of the proportionate-use ratios:

<u>Year</u>	<u>Direct Charge</u>	<u>Year</u>	<u>Direct Charge</u>
1969	\$ 46,510	1981	\$ 74,759
1970	46,302	1982	82,693
1971	140,072	1983	88,733
1972	95,016	1984	104,033
1973	72,452	1985	156,108
1974	100,688	1986	133,485
1975	127,456	1987	123,619
1976	138,500	1988	172,634
1977	120,749	1989	184,732
1978	159,728	1990	185,278
1979	121,207	1991	183,593
1980	150,715	1992	183,323
		1993	184,477
		1994	<u>184,832</u>
Total			\$3,361,694

Table B-16B projects the annual charges for Off-Aqueduct power facilities allocated to each water contractor. These charges are to repay all Off-Aqueduct power costs including bond service, deposits for reserves, operation and maintenance costs, fuel costs, taxes, and insurance. The General Bond Resolution, adopted October 1, 1979, requires that sufficient revenues be collected each year for all of these costs. In addition, an amount totaling 25 percent of the annual bond service is collected each year to ensure that sufficient funds are available to "cover" all annual costs. Any revenues collected and not needed at the end of the year are refunded to the contractors in the next year.

**FIGURE B-5. CRITERIA FOR AMORTIZATION OF CAPITAL COSTS
OF TRANSPORTATION FACILITIES**

Contractor	Year of Initial Payment ^(a)
Alameda County Flood Control and Water Conservation District, Zone 7	1963 ^(b)
Alameda County Water District	1963
Antelope Valley-East Kern Water Agency	1963
Castaic Lake Water Agency	1964
City of Yuba City	(c)
Coachella Valley Water District	1964
County of Butte	(c)
County of Kings	1968
Crestline-Lake Arrowhead Water Agency	1964
Desert Water Agency	1963 ^(d)
Devil's Den Water District	1968 ^(e)
Dudley Ridge Water District	1968 ^(e)
Empire West Side Irrigation District	1968 ^(e)
Kern County Water Agency	
Agricultural Use	1968 ^(e)
Municipal and Industrial Use	1965
Littlerock Creek Irrigation District	1964
Mojave Water Agency	1964
Napa County Flood Control and Water Conservation District	1966
Oak Flat Water District	1968 ^(e)
Palmdale Water District	1964
Plumas County Flood Control and Water Conservation District	1970
San Bernardino Valley Municipal Water District	1963
San Gabriel Valley Municipal Water District	1963 ^(d)
San Geronio Pass Water Agency	1963 ^(d)
San Luis Obispo County Flood Control and Water Conservation District	1964 ^(f)
Santa Barbara County Flood Control and Water Conservation District	1964 ^(f)
Santa Clara Valley Water District	1963
Solano County Flood Control and Water Conservation District	1973
The Metropolitan Water District of Southern California	1963
Tulare Lake Basin Water Conservation District	1968 ^(e)
Ventura County Flood Control District	1964

- a) Allocated capital costs of transportation facilities are amortized in equal annual installments, unless otherwise noted.
- b) Principal payments on each annual capital cost prior to 1971 delayed until calendar year 1972, except payments for 1963.
- c) Payments on Delta Water Charge only.
- d) Deferred and added to 1964 payment with accrued interest.
- e) Under Article 45 of the contracts for supply of agricultural water, capital costs of transportation facilities allocated to agricultural water supply are amortized via an equivalent unit rate per acre-foot applied to the annual entitlements (Table B-4) through the Project repayment period.
- f) Exception: all principal and interest payments for costs of "Coastal Stub" were deferred until 1976.

The following tabulation summarizes Off-Aqueduct power facility charges for 1987. The net charges for 1987 are allocated among contractors as shown in Table B-16B.

<u>Item</u>	<u>1987</u>
Charges	(\$)
Reid Gardner	91,116,672
Bottle Rock	24,298,452
South Geysers	<u>6,948,516</u>
Total	122,363,640
Credits	
Off Aqueduct Power Sales	<u>7,013,102</u>
Total	115,350,538

The following tabulation shows projected charges for Off-Aqueduct power facilities and an amount equal to 25 percent of annual bond service for 1988 and each year thereafter.

<u>YEAR</u>	<u>TOTAL ANNUAL COST</u>	<u>25% BOND SERVICE</u>
1988	124,838,634	13,724,356
1989	128,821,540	14,063,980
1990	135,581,082	14,192,573
1991	135,506,884	14,323,460
1992	135,394,107	14,473,588
1993	134,658,184	14,472,548
1994	134,608,579	14,470,517
1995	134,629,402	14,466,791
1996	134,575,045	14,463,808
1997	134,647,447	14,466,559
1998	132,740,915	14,531,100
1999	127,508,736	14,530,964
2000	122,202,163	14,528,194
2001	116,969,284	14,524,479
2002	111,668,280	14,522,996
2003	106,534,294	14,535,393
2004	101,835,855	14,654,838
2005	96,569,677	14,648,415
2006	91,331,476	14,659,858
2007	86,094,626	14,655,874
2008	80,777,285	14,651,674
2009	75,532,200	14,642,400
2010	71,670,032	14,929,645
2011	66,446,748	14,932,372
2012	61,472,901	14,997,244
2013	23,820,560	5,704,749
2014	37,325,788	5,725,381
2015	8,983,780	1,514,913
2016	3,038,000	607,600

The annual charges for Off-Aqueduct power facilities are allocated among contractors in proportion to the electrical energy required to pump entitlement water for the year. The initial allocation for the statements of charges is based upon estimates of energy to pump requested entitlement water deliveries. An interim adjustment in the allocation of power costs may be made in May of each year based upon April revisions in water delivery schedules for annual entitlement. A further adjustment is made the following year based upon actual entitlement water deliveries and actual costs for the year.

The energy required to pump each contractor's entitlement water is calculated using the following kWh/acre-foot factors for the pumping plants upstream from the delivery turnout.

<u>Pumping Plant</u>	<u>kWh per acre-foot¹ at Plant</u>	<u>Cumulative From Delta</u>
North Bay Interim ²	515	515
Barker Slough	223	223
Cordelia-Solano	344	567
Cordelia-Napa	563	786
Banks Delta	296	296
South Bay including		
Del Valle	869	1,165
Dos Amigos	138	434
Las Perillas	77	511
Badger Hill	200	711
Buena Vista	242	676
Wheeler Ridge	295	971
Wind Gap	639	1,610
Edmonston	2,236	3,846
Pearblossom	703	4,549
Oso	280	4,126

¹Includes transmission losses.
²In service through April 1988.

Table B-17 presents a summary of actual and projected total variable OMP&R costs for each acre-foot of water conveyed through each aqueduct pumping plant and power plant for each year of the Project repayment period. These data are derived pursuant to Article 26(a) of the Standard Provisions, which specifies the following procedure for calculating the variable OMP&R component of the Transportation Charge:

- An annual charge per acre-foot of projected water deliveries to all contractors served from or through each reach is determined so the projected variable OMP&R costs to be incurred for each reach will be returned to the State.

- The total annual variable OMP&R component for any contractor for a given reach is obtained by multiplying the unit charge associated with that reach by the quantity of water actually delivered to the contractor downstream of the reach.

The data summarized in Table B-17 have been derived by dividing the costs shown in Table B-3 by the quantities of water shown in Table B-6. However, certain costs included in Table B-3 for "extra peaking service," which would otherwise constitute variable OMP&R costs, are assigned directly to contractors requesting this type of service (see Bulletin 132-71, page 21, and Water Service Contractors Council Memo No. 593, July 10, 1970). These costs are excluded from the unit charges shown in Table B-17. Extra peaking charges for additional power capacity are as shown below:

Year	Agency ¹	Pumping Plant	
		Dos Amigos (\$)	Las Perillas and Badger Hill (\$)
1972	KCWA	9,553	24,700
	TLBWSD	10	—
1973	KCWA	—	6,016
1974	KCWA	—	7,140
1975	KCWA	494	6,397
1976	KCWA	—	1,981
1978	KCWA	41,832	3,772
	DRWD	2,086	—
	Kings	43	—
	AVEKWA	2,322	—
1979	KCWA	—	3,245

¹ KCWA = Kern County Water Agency
 TLBWSD = Tulare Lake Basin W.S.D.
 DRWD = Dudley Ridge Water District
 Kings = County of Kings
 AVEKWA = Antelope Valley-East Kern W.A.

Table B-18 shows the variable OMP&R components of the Transportation Charge for each contractor for each year of the Project repayment period. Table B-18 is developed from the costs per acre-foot shown in Table B-17 and the delivery quantities for each contractor from each reach as shown in Table B-5A, plus any costs for "extra peaking service". These estimated components, subsequently adjusted for prior over-payments or under-payments, are set forth in Table F of the respective water supply contracts.

Table B-19 summarizes the annual Transportation Charges for each contractor (the sums of the corre-

sponding amounts shown in Tables B-15, B-16A, B-16B, and B-18). These estimated payments, subsequently adjusted for prior over-payments or under-payments, are set forth in Table G of the respective water supply contracts. Both Table B-19 and Table G for the six contractors down-aqueduct from Devil Canyon and Castaic power plants include debt service and operating cost payments due under the Devil Canyon-Castaic Contract.

Delta Water Charges

Table B-20A shows the calculation of the Delta Water Rate for the "initial" conservation facilities applicable in 1989, in accordance with the amended Articles 22(e) and 22(g) of all 30 contracts. The top part of the table shows the calculation of the Delta Water Rate at a Project Interest Rate of 4.713 percent. This Delta Water Rate is used to compute future Delta Water Charges shown in Table B-21 for the 29 long-term water supply contractors who have signed an amendment to exclude interest costs from sale of water system revenue bonds from the Project Interest Rate. One Contractor (City of Yuba City) has not signed the Water System Revenue Bond amendment to exclude interest costs from sale of water system revenue bonds. The Delta Water Rate and future Delta Water Charges to Yuba City in this appendix are based on a Project Interest Rate of 5.027 percent which reflects the interest costs of the \$100 million Water System Revenue Bonds, Series A, B, and D.

Table B-20B shows each component of the 1989 Delta Water Rates from Table B-20A.

Table B-21 summarizes the annual Delta Water Charge for each contractor. Table B-21 is developed by application of the total rate per acre-foot, as shown in Table B-20A, to the entitlement water for each contractor as shown in Table B-4.

Table B-22 summarizes the Water System Revenue Bond Surcharge to the Delta Water Charge and the Transportation Capital Cost Component of each contractor. The surcharge shown in Table B-22 includes the financing costs of WSRB Series B through E. This surcharge is in accordance with an amendment to the water supply contracts to provide for repayment of Water System Revenue Bond financing costs. All long-term water supply contractors except Yuba City have signed this amendment.

FIGURE B-6. DETERMINATION OF FACTORS FOR DISTRIBUTING CAPITAL AND MINIMUM OMP&R COSTS OF EAST BRANCH ENLARGEMENT FACILITIES AMONG PARTICIPATING CONTRACTORS

Reach No.	Description
18A	Junction, West Branch, Calif. Aqueduct thru Alamo Powerplant
19	Alamo Powerplant to Fairmont
20A	Fairmont thru 70th Street West
20B	70th Street West to Palmdale
21	Palmdale to Littlerock Creek
22A	Littlerock Creek to Pearblossom Pumping Plant
22B	Pearblossom Pumping Plant to West Fork Mojave River
23B	West Fork Mojave River to Silverwood Lake (excluding Mojave Siphon Powerplant Facilities)
23C	Mojave Siphon Powerplant Facilities
24	Cedar Springs Dam and Silverwood Lake
25	Silverwood Lake to South Portal, San Bernardino Tunnel
26A	South Portal, San Bernardino Tunnel thru Devil Canyon Powerplant
26B	Devil Canyon Powerplant Bypass

Share of Enlargement Capacity (cfs)

Reach No.	Antelope Valley -East Kern Water Agency	Coachella Valley Water District	Desert Water Agency	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	Metropolitan Water District of Southern California	Total
18A		151	13	136	6		1200	1506
19		151	13	136	6		1200	1506
20A	35	151	13	136	6		1200	1541
20B	35	151	13	136	6		1200	1541
21	35	151	13	136			1200	1535
22A	35	151	13	136			1200	1535
22B		151	13	136			1200	1500
23B		184	67	212			1200	1663
23C		184	67				1200	1451
24		190	78				1200	1468
25		193	83			63	1200	1539
26A		193	83			63	1200	1539
26B							300	300

Factors for Distributing Capital and Minimum OMP&R Costs of East Branch
Enlargement Facilities (flow ratios)

Reach No.	Antelope Valley -East Kern Water Agency	Coachella Valley Water District	Desert Water Agency	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	Metropolitan Water District of Southern California	Total
18A	0.00000000	0.10026560	0.00863214	0.09030544	0.00398406	0.00000000	0.79681276	1.00000000
19	0.00000000	0.10026560	0.00863214	0.09030544	0.00398406	0.00000000	0.79681276	1.00000000
20A	0.02271252	0.09798832	0.00843608	0.08825438	0.00389358	0.00000000	0.77871512	1.00000000
20B	0.02271252	0.09798832	0.00843608	0.08825438	0.00389358	0.00000000	0.77871512	1.00000000
21	0.02280130	0.09837134	0.00846906	0.08859935	0.00000000	0.00000000	0.78175895	1.00000000
22A	0.02280130	0.09837134	0.00846906	0.08859935	0.00000000	0.00000000	0.78175895	1.00000000
22B	0.00000000	0.10066667	0.00866667	0.09066667	0.00000000	0.00000000	0.79999999	1.00000000
23B	0.00000000	0.11064342	0.04028863	0.12748046	0.00000000	0.00000000	0.72158749	1.00000000
23C	0.00000000	0.12680910	0.04617505	0.00000000	0.00000000	0.00000000	0.82701585	1.00000000
24	0.00000000	0.12942779	0.05313351	0.00000000	0.00000000	0.00000000	0.81743870	1.00000000
25	0.00000000	0.12540611	0.05393112	0.00000000	0.00000000	0.04093567	0.77972710	1.00000000
26A	0.00000000	0.12540611	0.05393112	0.00000000	0.00000000	0.04093567	0.77972710	1.00000000
26B	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	1.00000000	1.00000000

Total Water Charges

Table B-23 summarizes total annual charges to each contractor (the sum of the Transportation Charge in Table B-19, the Delta Water Charge in Table B-21, and the Water System Revenue Bond Surcharge in Table B-22.

Equivalent Total Water Charges

Table B-24 presents the Transportation and Delta Water Charges in terms of the equivalent unit charge for each acre-foot of entitlement water now estimated to be delivered to the respective contractors. These equivalent charges if applied to each acre-foot of entitlement water would provide the same principal sum at the end of the Project repayment period as annual payments to be made under the Delta Water Charge and Transportation Charge, plus interest at the Project Interest Rate. The Table B-24 equivalent unit Delta Water Charges are greater than those in Table B-20A because current estimates of future entitlement water service are appreciably less than the amounts shown in Table A for most contractors.

Equivalent Water Costs by Reach

Table B-25 presents a summary of the equivalent unit transportation cost of conveying entitlement water through respective aqueduct reaches of the Project transportation facilities. These unit costs provide the basis of charges assessed (1) for "extra service" (such as for delivery of entitlements down aqueduct from a contractor's turnout), (2) together with the Delta Water Charge per acre-foot, for surplus water service to entities other than the 30 long-term water supply contractors, and for (3) "wheeling service" to entities other than the long-term water supply contractors. A discussion of wheeling services in the California Aqueduct follows at the end of this Appendix B text.

The cumulative unit conveyance costs shown for reaches in Table B-25 do not necessarily equal the equivalent unit Transportation Charges to contractors served from such reaches. This is because the unit charges of Table B-24 account for the rate of water demand buildup and cost allocation factors of the individual contractors, whereas the unit costs of Table B-25 meld the effect of the respective buildups and allocation criteria of all contractors whose entitlements

are conveyed through a given reach. Also, Table B-25 does not include the Water System Revenue Bond financing costs shown in Table B-22.

East Branch Enlargement Facility Charges

Table B-26 presents DWR's projection of annual capital costs of the East Branch Enlargement facilities for each aqueduct reach. These projections will be re-determined in future bulletins to include:

- a reallocation of costs of constructing the present East Branch facilities between Alamo Powerplant and Silverwood Lake;
- a reallocation of costs of Silverwood Lake to reflect additional use as a result of East Branch enlargement operation;
- reallocation of costs of San Bernardino Tunnel to reflect redistribution of flow capacities necessary for the East Branch enlargement facilities; and
- actual construction costs of the enlargement.

These costs will be recovered with interest through payments by the seven Southern California water contractors participating in the enlargement, in accordance with their amended water supply contracts.

Table B-27 lists the projected minimum OMP&R costs for each reach of the enlargement to be repaid by the seven Southern California contractors participating in the East Branch Enlargement.

Table B-28 summarizes each contractor's share of the estimated capital costs of the East Branch Enlargement.

Table B-29 summarizes the annual capital cost components of the East Branch Enlargement Transportation Charge for each participating contractor.

Table B-30 summarizes the minimum OMP&R components of the East Branch Enlargement Transportation Charge for each participating contractor for each year of the Project repayment period.

Table B-31 summarizes the annual East Branch Enlargement Transportation charges for each participating contractor (the sums of the corresponding amounts shown in Tables B-29 and B-30).

Surplus Water Service

Surplus water has been delivered from 1968 through 1986, except for the drought year of 1977.

Table B-32 shows the quantities of surplus water delivered to long-term contractors during the period of May 1, 1973 through December 31, 1987.

Table B-33 shows the costs for power that have been incurred by the State at each pumping plant associated with surplus water deliveries shown in *Table B-32*.

Table B-34 shows the actual charges to each contractor for delivery of the surplus water quantities shown in *Table B-32*. The method of determining these charges is discussed in Bulletin 132-77, page 117.

Wheeling Services in the California Aqueduct

When the SWP has additional capability to move non-Project water through the California Aqueduct, services can include pumping, transportation (wheeling) and, if needed, storage in San Luis Reservoir. Through separate annual agreements, the SWP has provided wheeling to temporary federal water contractors with the CVP providing the water and electrical power. In 1975, 20-year wheeling agreements were signed that provide for wheeling CVP water through SWP facilities to the Cross Valley Canal in Kern County. Additional agreements provide for storage, generally in cases when water cannot be wheeled directly to the user on a demand basis.

Wheeling and storage rates are developed for the most part from information shown in Appendix B. Wheeling rates are calculated from the Appendix B tables used in developing contractor charges for the year the water is wheeled. For example, wheeling rates for 1989 were developed from Appendix B tables in Bulletin 132-88.

Annual wheeling rates are developed from four sources:

- *Table B-25*: Capital and Minimum OMP&R Equivalent Unit Transportation Costs of water for the Aqueduct reaches used;

- *Table B-20B*: that portion of the Delta Water Rate associated with capital and minimum costs of California Aqueduct reaches 1, 2A, 2B, and 3. For SWP purposes, a portion of costs for these reaches is allocated to SWP contractors as part of the Delta Water Rate. These costs are added to wheeling rates because they reflect the total costs of constructing and maintaining these reaches, irrespective of the SWP repayment system;
- *Variable replacement costs*: DWR charges a fixed rate for every acre-foot of water going through SWP pumping plants to provide funds for eventual replacement of equipment. Wheeling is through the Banks Delta Pumping Plant and sometimes through the Dos Amigos Pumping Plant. For 1989, the rates for each plant, respectively, are \$0.25 and \$0.27. These rates are revised periodically; and
- *Fish agreement costs*: On December 30, 1986, DWR and the Department of Fish and Game entered into an agreement to provide a means to offset specific fish losses at the Banks Delta Pumping Plant. Specific fish losses are calculated each year; these calculations are used to develop payment amounts for a fund to pay fishery program costs. These costs are then recalculated on an acre-foot basis by DWR, and reallocated to water users based on acre-feet of pumped water. Wheeling charges are based on estimates of the maximum likely fish losses associated with pumping in the Delta during the year.

During May, June, and July, the SWP operates under Delta export limitations as a condition of SWP water right permits. When deliveries from the California Aqueduct are requested during key summer months, some of the Cross Valley Canal Agreement or annual wheeling contractors may want to use water stored in the SWP share of San Luis Reservoir.

Advance deliveries are made from SWP water stored in San Luis Reservoir provided that the USBR agrees to replace the water later in the year. The San Luis Reservoir use charge is equal to the San Luis Reservoir portion of the Delta Water Rate as shown in *Table B-20B*, plus the estimated value of the net energy costs to replace water in the San Luis Reservoir.

For 1989, the basic wheeling charge to Reach 12E and to Reach 31A is shown in the following table:

California Aqueduct	Cumulative Charge per Acre-Foot (\$)
Reach 1	\$ 6.51
Reach 2A	8.85
Reach 2B	9.98
Reach 3	10.84
Reach 4	12.86
Reach 5	13.66
Reach 6	13.92
Reach 7	14.98
Reach 8C	15.05
Reach 8D	15.60
Reach 9	16.06
Reach 10A	16.57
Reach 11B	17.17
Reach 12F	17.74
Reach 12E	18.26
Reach 31A*	23.04

*to the Green Valley Water District turnout.

These rates do not include charges for the following items and may increase, as necessary, due to:

- an annual minimum use-of-facility charge of \$1,000 levied to assure the recovery of costs associated with implementation and administration of these wheeling contracts during 1988. The minimum fee will be applied to the first \$1,000 of use-of-facilities charges incurred as a result of water delivered;
- a charge for the proportionate share of the costs to offset direct fish losses associated with SWP pumping at the Banks Pumping Plant, determined by DWR. For monthly billing purposes an estimate of \$1 per acre-foot is used;
- a charge of \$6.02 per acre-foot for use of the State's share of San Luis Reservoir, if releases from the State's share of the reservoir is required;
- any identified increase in the cost of power operations as a result of the use of the State's share of the San Luis Reservoir, if releases from the State's share of the reservoir are required during the May, June, and July pumping curtailment;
- any identified increase in power operations as a result of the use of the State's share of San Luis Reservoir;

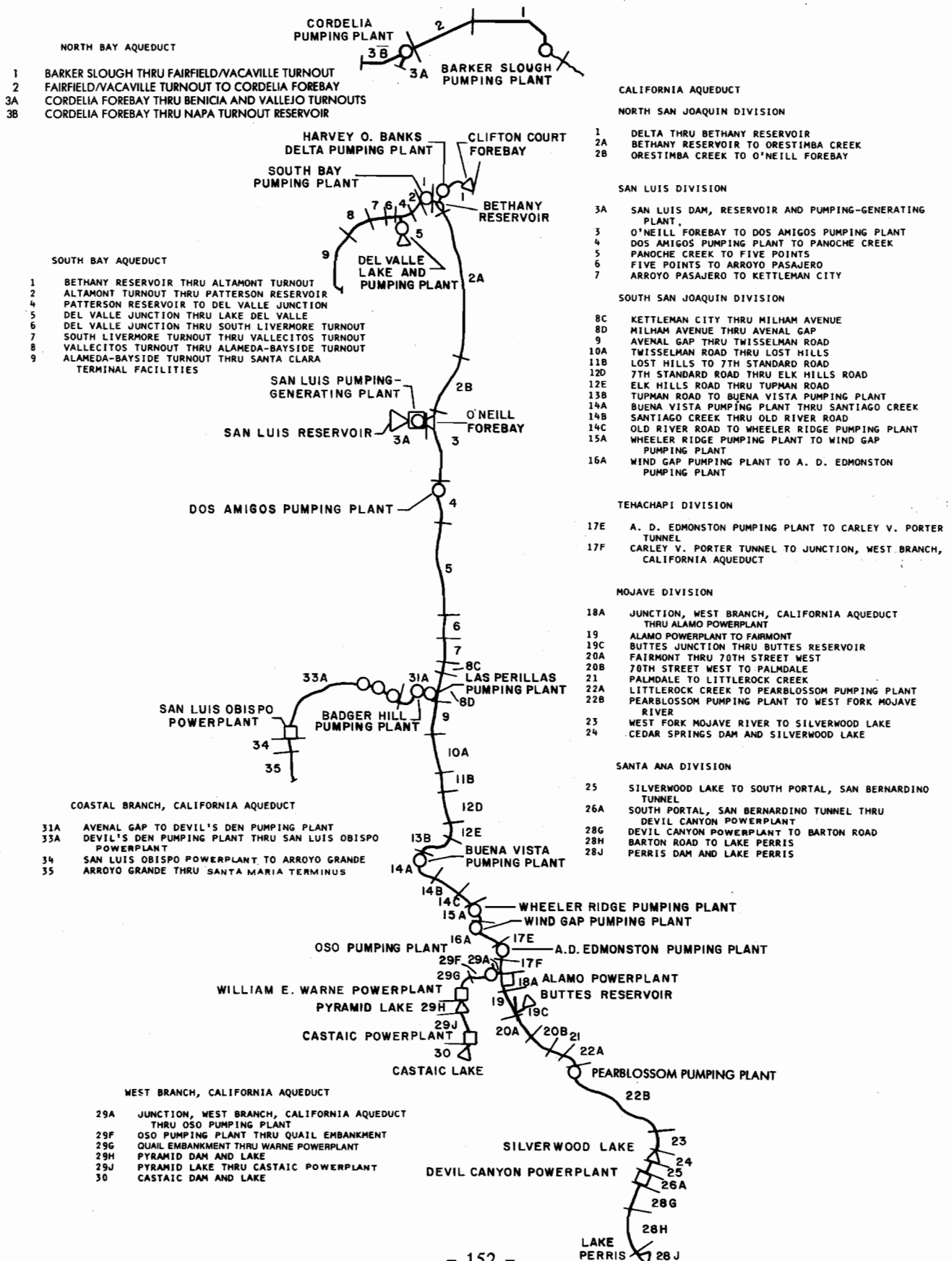
- additional power scheduling and transmission charges if water is wheeled through Las Perillas Pumping Plant; and
- any other identified increase in cost that would otherwise have to be borne by the SWP contractors as a result of the wheeling.

Surplus Water and Unscheduled Water Administrative Charges. The costs associated with administering the surplus and unscheduled water programs are divided into five categories and updated annually. Both programs are administered separately. The categories are as follows:

- Category 1 – Setup Costs: activities include setting up the initial surplus or unscheduled water program, receiving and verifying surplus water requests, preparing annual surplus or unscheduled water contracts, and determining surplus water availability.
- Category 2 – Costs Determination: activities include either preparing letters notifying all surplus water contractors, or verbally notifying all unscheduled water contractors of the maximum charge for water each month and determining final delivery amounts and charges.
- Category 3 – Schedule Revision Costs: this is applicable to the surplus water program only. Activities include analyzing revised operation studies and preparing revised delivery schedules.
- Category 4 – Delivery Billing Costs: activities include analyzing delivery data from O&M field divisions, updating data summaries, and preparing monthly bills. The multiple scheduling each month for unscheduled water is included in the delivery billing costs.
- Category 5 – Computer Program Development Costs: activities include developing computer programs to allocate available surplus or unscheduled water among contractors and determining the power charge for pumping surplus or unscheduled water. These costs are not incurred annually.

FIGURE B-7. REPAYMENT REACHES AND DESCRIPTIONS

PROJECT TRANSPORTATION FACILITIES



Tables B-1 through B-34 follow

TABLE B-1: FACTORS FOR DISTRIBUTING

Reach No.	Reach Description	NORTH BAY AREA		SOUTH BAY AREA				TOTAL
		Napa County FC&WCD	Solano County FC&WCD	Alameda County FC&WCD* Zone 7	Alameda County Water District	Santa Clara Valley Water District	Future Contractor	
<u>North Bay Aqueduct:</u>								
1	Barker Slough thru Fairfield/Vacaville Turnout	.29667895	.70332105					1.00000000
2	Fairfield/Vacaville Turnout to Cordelia Forebay	.38414551	.61585449					1.00000000
3A	Cordelia Forebay thru Benicia and Vallejo Turnouts		1.00000000					1.00000000
3B	Cordelia Forebay thru Napa Turnout Reservoir	1.00000000						1.00000000
<u>South Bay Aqueduct:</u>								
1	Bethany Reservoir thru Altamont Turnout			.22599612	.20663022	.49237698	.07499668	1.00000000
2	Altamont Turnout thru Patterson Reservoir			.22599657	.20663060	.49237783	.07499500	1.00000000
4	Patterson Reservoir to Del Valle Junction			.19504794	.21450018	.51113249	.07931939	1.00000000
5	Del Valle Junction thru Lake Del Valle			.14436367	.12972254	.33715573	.38875806	1.00000000
6	Del Valle Junction thru South Livermore Turnout			.14599918	.21144710	.50574745	.13680627	1.00000000
7	South Livermore Turnout thru Vallecitos Turnout				.25176680	.60218448	.14604872	1.00000000
8	Vallecitos Turnout thru Alameda-Bayside Turnout				.06294980	.72065355	.21639665	1.00000000
9	Alameda-Bayside Turnout thru Santa Clara Terminal Facilities					1.00000000		1.00000000
<u>California Aqueduct</u>								
1	Delta Thru Bethany Reservoir			.00954802	.00872977	.02080260	.00342519	— — —

Reach No.	Reach Description	CENTRAL COASTAL AREA				SOUTHERN			
		San Luis Obispo County FC&WCD	Santa Barbara County FC&WCD	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	
California Aqueduct									
1	Delta Thru Bethany Reservoir	.00533047	.00983404	.02939503	.00890866	.00528393	.00133628	.00871425	
2A	Bethany Reservoir to Orestimba Creek	.00557252	.01028060	.03072975	.00931319	.00552151	.00139638	.00910607	
2B	Orestimba Creek to O'Neill Forebay	.00557864	.01029191	.03076360	.00932344	.00552915	.00139831	.00911867	
3	O'Neill Forebay to Dos Amigos Pumping Plant	.00557758	.01028995	.03075777	.00932168	.00552856	.00139816	.00911771	
4	Dos Amigos Pumping Plant to Panoche Creek	.00557646	.01028790	.03075165	.00931982	.00552794	.00139801	.00911670	
5	Panoche Creek to Five Points	.00557506	.01028534	.03074401	.00931751	.00552717	.00139781	.00911543	
6	Five Points to Arroyo Pasajero	.00557297	.01028147	.03073244	.00931400	.00552602	.00139750	.00911351	
7	Arroyo Pasajero to Kettleman City	.00557229	.01028022	.03072873	.00931287	.00552565	.00139740	.00911289	
8C	Kettleman City thru Milham Avenue	.00557143	.01027864	.03072405	.00931145	.00552517	.00139729	.00911211	
8D	Milham Avenue thru Avenal Gap	.00568653	.01049097	.03135878	.00950380	.00564073	.00142650	.00930269	
9	Avenal Gap thru Twisselman Road			.03437577	.01041612	.00618845	.00156502	.01020599	
10A	Twisselman Road thru Lost Hills			.03492681	.01058510	.00628966	.00159061	.01037292	
11B	Lost Hills to 7th Standard Road			.03848657	.01166387	.00694140	.00175542	.01144773	
12D	7th Standard Road thru Elk Hills Road			.04046660	.01226391	.00730484	.00184732	.01204709	
12E	Elk Hills Road thru Tupman Road			.04052108	.01228043	.00731580	.00185010	.01206514	
13B	Tupman Road to Buena Vista Pumping Plant			.04397523	.01332721	.00794772	.00200992	.01310729	
14A	Buena Vista Pumping Plant thru Santiago Creek			.04618687	.01399742	.00835456	.00211281	.01377821	
14B	Santiago Creek thru Old River Road			.04702647	.01425185	.00851020	.00215219	.01403490	
14C	Old River Road to Wheeler Ridge Pumping Plant			.04846556	.01468794	.00877627	.00221947	.01447369	
15A	Wheeler Ridge Pumping Plant to Wind Gap Pumping Plant			.04927653	.01493368	.00892667	.00225752	.01472172	
16A	Wind Gap Pumping Plant to A.D. Edmonston Pumping Plant			.05113509	.01549688	.00927017	.00234438	.01528821	
17E	A.D. Edmonston Pumping Plant to Carley V. Porter Tunnel			.05355379	.01622984	.00971819	.00245767	.01602709	
17F	Carley V. Porter Tunnel to Junction, West Branch, Calif. Aqueduct			.05366827	.01626453	.00973908	.00246295	.01606154	
18A	Junction, West Branch, Calif. Aqueduct thru Alamo Powerplant			.13238112		.02399390	.00606795	.03957043	
19	Alamo Powerplant to Fairmont			.13237766		.02399451	.00606811	.03957141	
19C	Buttes Junction thru Buttes Reservoir			1.00000000					
20A	Fairmont thru 70th Street West			.06847930		.02576425	.00651573	.04249001	
20B	70th Street West to Palmdale			.02276024		.02702917	.00683555	.04457607	
21	Palmdale to Littlerock Creek			.02318952		.02754717	.00696651	.04543034	
22A	Littlerock Creek to Pearblossom Pumping Plant			.01181870		.02794143	.00706621	.04608044	
22B	Pearblossom Pumping Plant to West Fork Mojave River					.02827552	.00715074	.04663153	
23	West Fork Mojave River to Silverwood Lake					.00324449	.00818122	.00535117	
24	Cedar Springs Dam and Silverwood Lake					.01024605	.01251569	.01690478	
25	Silverwood Lake to South Portal, San Bernardino Tunnel								
26A	South Portal, San Bernardino Tunnel thru Devil Canyon Pwp.								
28C	Devil Canyon Powerplant to Barton Road								
28H	Barton Road to Lake Perris								
28J	Perris Dam and Lake Perris								
29A	Junction, West Branch, Calif. Aqueduct thru Oso Pumping Plant				.02736564				
29F	Oso Pumping Plant thru Quail Embankment				.02736563				
29G	Quail Embankment thru Warner Powerplant				.02736564				
29H	Pyramid Dam and Lake				.02646380				
29J	Pyramid Lake thru Castaic Powerplant				.02736563				
30	Castaic Dam and Lake				.02637131				
31A	Avenal Gap to Devil's Den Pumping Plant	.10560302	.19482503						
33A	Devil's Den Pumping Plant thru San Luis Obispo Powerplant	.35150790	.64849210						
34	San Luis Obispo Powerplant to Arroyo Grande	.24688802	.75311198						
35	Arroyo Grande thru Santa Maria Terminus	.18022524	.81977476						

REACH CAPITAL COSTS AMONG CONTRACTORS

Reach No.	SAN JOAQUIN VALLEY AREA								
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin	Kern County Water Agency.		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District
					Municipal and Industrial	Agricultural			
California Aqueduct									
1	.00377824	.01707931	.00088687	.00254710	.02742073	.30633442	.00090702	.00167139	.03505306
2A	.00394038	.01781205	.00092491	.00266276	.02864588	.31948963	.00094755	.00174305	.03655686
2B	.00395099	.01786013	.00092740	.00266569	.02869070	.32034362	.00094904		.03665560
3	.00395208	.01786513	.00092766	.00266517	.02868917	.32043064	.00094899		.03666585
4	.00395323	.01787039	.00092794	.00266463	.02868756	.32052214	.00094893		.03667664
5	.00395466	.01787694	.00092828	.00266396	.02868556	.32063639	.00094886		.03669011
6	.00395684	.01788685	.00092879	.00266296	.02868253	.32080926	.00094875		.03671048
7	.00395753	.01789003	.00092896	.00266264	.02868156	.32086471	.00094872		.03671701
8C	.00395842	.01789405	.00092918	.00266223	.02868032	.32093468	.00094867		.03672526
8D	.00404591	.01828966		.00271722	.02928492	.32802221			.01821042
9					.03214521	.32838224			
10A					.03267760	.31755652			
11B					.03609912	.24768443			
12D					.03801001	.20879251			
12E					.03807068	.20769413			
13B					.01464596	.16664965			
14A					.00622935	.13374077			
14B					.00634719	.11790931			
14C					.00654829	.09078926			
15A					.00666217	.07549599			
16A					.00692172	.04047416			
17E					.00213551				
31A	.07364766			.05046239		.57546190			

CALIFORNIA AREA									
Reach No.	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District	San Geronimo Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	TOTAL
1	.00049187	.01101303	.00369180	.02363192	.00650449	.00398446	.43940271	.00429334	1.00000000
2A	.00051421	.01151300	.00385943	.02469456	.00679800	.00416362	.45932579	.00448830	1.00000000
2B	.00051477	.01152575	.00386368	.02472869	.00680672	.00416938	.45985088	.00449324	1.00000000
3	.00051469	.01152359	.00386296	.02472605	.00680580	.00416893	.45976950	.00449238	1.00000000
4	.00051459	.01152131	.00386218	.02472327	.00680482	.00416846	.45968394	.00449149	1.00000000
5	.00051448	.01151846	.00386122	.02471980	.00680361	.00416788	.45957709	.00449037	1.00000000
6	.00051427	.01151416	.00385978	.02471455	.00680178	.00416698	.45941542	.00448869	1.00000000
7	.00051421	.01151278	.00385931	.02471286	.00680118	.00416671	.45936358	.00448816	1.00000000
8C	.00051414	.01151103	.00385874	.02471073	.00680044	.00416634	.45929816	.00448747	1.00000000
8D	.00052475	.01174889	.00393847	.02522753	.00694206	.00425349	.46880430	.00458017	1.00000000
9	.00057523	.01287942	.00431739	.02767698	.00761389	.00466647	.51396901	.00502081	1.00000000
10A	.00058444	.01308595	.00438660	.02812958	.00773752	.00474279	.52223261	.00510129	1.00000000
11B	.00064401	.01442004	.00483371	.03104405	.00853455	.00523416	.57558975	.00562119	1.00000000
12D	.00067713	.01516215	.00508241	.03266922	.00897859	.00550818	.60527969	.00591035	1.00000000
12E	.00067804	.01518261	.00508926	.03271816	.00899156	.00551643	.60610827	.00591831	1.00000000
13B	.00073586	.01647710	.00552311	.03554404	.00976456	.00599288	.65787670	.00642277	1.00000000
14A	.00077287	.01730602	.00580090	.03736329	.01026124	.00629961	.69105032	.00674576	1.00000000
14B	.00078692	.01762073	.00590636	.03805925	.01045073	.00641694	.70365858	.00686838	1.00000000
14C	.00081102	.01816015	.00608712	.03924904	.01077498	.00661755	.72526113	.00707853	1.00000000
15A	.00082461	.01846415	.00618901	.03992156	.01095807	.00673092	.73744044	.00719696	1.00000000
16A	.00085571	.01916080	.00642247	.04145755	.01137675	.00698987	.76533786	.00746838	1.00000000
17E	.00089617	.02006742	.00672629	.04346097	.01192239	.00732766	.80165539	.00782162	1.00000000
17F	.00089809	.02011032	.00674067	.04355439	.01194796	.00734341	.80337045	.00783834	1.00000000
18A	.00221525	.04960424	.01662681	.10730448	.02944860	.01809191	.57469531		1.00000000
19	.00221522	.04960300	.01662640	.10730707	.02944876	.01809229	.57469557		1.00000000
19C									1.00000000
20A	.00237800	.05324853	.01784630	.11522152	.03161799	.01942666	.61700971		1.00000000
20B	.00249470	.05586075	.01872390	.12087843	.03316986	.02038045	.64729088		1.00000000
21	.00254199	.05692052		.12319480	.03380324	.02077093	.65963498		1.00000000
22A		.05773081		.12495766	.03428605	.02106816	.66905054		1.00000000
22B		.05842135		.12645207	.03469614	.02132008	.67705257		1.00000000
23				.14467451	.03969010	.02439237	.77446614		1.00000000
24				.22243002	.04339444	.02843498	.66607404		1.00000000
25				.14947726	.03997502	.02520426	.78534346		1.00000000
26A				.14947726	.03997502	.02520426	.78534346		1.00000000
28G				.05126137			.94873863		1.00000000
28H							1.00000000		1.00000000
28J							1.00000000		1.00000000
29A							.95944607	.01318829	1.00000000
29F							.95944608	.01318829	1.00000000
29G							.95944609	.01318829	1.00000000
29H							.96446829	.00906791	1.00000000
29J							.95944608	.01318829	1.00000000
30							.96499830	.00863039	1.00000000
31A									1.00000000
32A									1.00000000
34									1.00000000
35									1.00000000

TABLE B-2: FACTORS FOR DISTRIBUTING REACH

Reach No.	Reach Description	NORTH BAY AREA		SOUTH BAY AREA				TOTAL
		Napa County FC&WCD	Solano County FC&WCD	Alameda County FC&WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District	Future Contractor	
<u>North Bay Aqueduct</u>								
1	Barker Slough thru Fairfield/Vacaville Turnout	.27960540	.72039460					1.00000000
2	Fairfield/Vacaville Turnout to Cordelia Forebay	.38414551	.61585449					1.00000000
3A	Cordelia Forebay thru Benicia and Vallejo Turnouts		1.00000000					1.00000000
3B	Cordelia Forebay thru Napa Turnout Reservoir	1.00000000						1.00000000
<u>South Bay Aqueduct</u>								
1	Bethany Reservoir thru Altamont Turnout			.22599612	.20663022	.49237698	.07499668	1.00000000
2	Altamont Turnout thru Patterson Reservoir			.22599657	.20663060	.49237783	.07499500	1.00000000
4	Patterson Reservoir to Del Valle Junction			.19504794	.21450018	.51113249	.07931939	1.00000000
5	Del Valle Junction thru Lake Del Valle			.14436367	.12972254	.33715573	.38875806	1.00000000
6	Del Valle Junction thru South Livermore Turnout			.14599918	.21144710	.50574745	.13680627	1.00000000
7	South Livermore Turnout thru Vallecitos Turnout				.25176680	.60218448	.14604872	1.00000000
8	Vallecitos Turnout thru Alameda-Bayside Turnout				.06294980	.72065355	.21639665	1.00000000
9	Alameda-Bayside Turnout thru Santa Clara Terminal Facilities					1.00000000		1.00000000
<u>California Aqueduct</u>								
1	Delta Thru Bethany Reservoir			.00954802	.00872977	.02080260	.00342519	— — —

Reach No.	Reach Description	CENTRAL COASTAL AREA				SOUTHERN			
		San Luis Obispo County FC&WCD	Santa Barbara County FC&WCD	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	
California Aqueduct									
1	Delta Thru Bethany Reservoir	.00533047	.00983404	.02939503	.00890866	.00528393	.00133628	.00871425	
2A	Bethany Reservoir to Orestimba Creek	.00557252	.01028060	.03072975	.00931319	.00552151	.00139638	.00910607	
2B	Orestimba Creek to O'Neill Forebay	.00557864	.01029191	.03076360	.00932344	.00552915	.00139831	.00911867	
3	O'Neill Forebay to Dos Amigos Pumping Plant	.00557758	.01028995	.03075777	.00932168	.00552856	.00139816	.00911771	
4	Dos Amigos Pumping Plant to Panoche Creek	.00557646	.01028790	.03075165	.00931982	.00552794	.00139801	.00911670	
5	Panoche Creek to Five Points	.00557506	.01028534	.03074401	.00931751	.00552717	.00139781	.00911543	
6	Five Points to Arroyo Pasajero	.00557297	.01028147	.03073244	.00931400	.00552602	.00139750	.00911351	
7	Arroyo Pasajero to Kettleman City	.00557229	.01028022	.03072873	.00931287	.00552565	.00139740	.00911289	
8C	Kettleman City thru Milham Avenue	.00551634	.01017702	.03042012	.00921937	.00546665	.00138249	.00901561	
8D	Milham Avenue thru Avenal Gap	.00562864	.01038416	.03103938	.00940703	.00557923	.00141095	.00920128	
9	Avenal Gap thru Twisselman Road			.03398204	.01029883	.00611262	.00154585	.01008095	
10A	Twisselman Road thru Lost Hills			.03451663	.01046082	.00621065	.00157063	.01024262	
11B	Lost Hills to 7th Standard Road			.03796305	.01150525	.00684053	.00172992	.01128139	
12D	7th Standard Road thru Elk Hills Road			.03987187	.01208371	.00719023	.00181834	.01185809	
12E	Elk Hills Road thru Tupman Road			.03992308	.01209924	.00720053	.00182095	.01187505	
13B	Tupman Road to Buena Vista Pumping Plant			.04324825	.01310695	.00780757	.00197447	.01287616	
14A	Buena Vista Pumping Plant thru Santiago Creek			.04536499	.01374841	.00819606	.00207273	.01351685	
14B	Santiago Creek thru Old River Road			.04616419	.01399059	.00834387	.00211013	.01376063	
14C	Old River Road to Wheeler Ridge Pumping Plant			.04753264	.01440528	.00859629	.00217396	.01417689	
15A	Wheeler Ridge Pumping Plant to Wind Gap Pumping Plant			.04830162	.01463830	.00873856	.00220995	.01441151	
16A	Wind Gap Pumping Plant to A.D. Edmonston Pumping Plant			.05006206	.01517177	.00906311	.00229202	.01494676	
17E	A.D. Edmonston Pumping Plant to Carley V. Porter Tunnel			.05234459	.01586347	.00948480	.00239865	.01564222	
17F	Carley V. Porter Tunnel to Junction, West Branch, Calif. Aqueduct			.05245355	.01589650	.00950462	.00240367	.01567491	
18A	Junction, West Branch, Calif. Aqueduct thru Alamo Powerplant			.13238112		.02399390	.00606795	.03957043	
19	Alamo Powerplant to Fairmont			.13237766		.02399451	.00606811	.03957141	
19C	Buttes Junction thru Buttes Reservoir			1.00000000					
20A	Fairmont thru 70th Street West			.06847930		.02576425	.00651573	.04249001	
20B	70th Street West to Palmdale			.02276024		.02702917	.00683555	.04457607	
21	Palmdale to Littlerock Creek			.02318952		.02754717	.00696651	.04543034	
22A	Littlerock Creek to Pearlblossom Pumping Plant			.01181870		.02794143	.00706621	.04608044	
22B	Pearlblossom Pumping Plant to West Fork Mojave River					.02827552	.00715074	.04663153	
23	West Fork Mojave River to Silverwood Lake					.00324449	.00818122	.00535117	
24	Cedar Springs Dam and Silverwood Lake					.01024605	.01253569	.01690478	
25	Silverwood Lake to South Portal, San Bernardino Tunnel								
26A	South Portal, San Bernardino Tunnel thru Devil Canyon Pwp.								
28C	Devil Canyon Powerplant to Barton Road								
28H	Barton Road to Lake Perris								
28J	Perris Dam and Lake Perris								
29A	Junction, West Branch, Calif. Aqueduct thru Oso Pumping Plant			.00304299	.02728237				
29F	Oso Pumping Plant thru Quail Embankment			.00304379	.02728234				
29G	Quail Embankment thru Warner Powerplant				.02736564				
29H	Pyramid Dam and Lake				.02646380				
29J	Pyramid Lake thru Castaic Powerplant				.02736563				
30	Castaic Dam and Lake				.02637131				
31A	Avenal Gap to Devil's Den Pumping Plant	.10560302	.19482503						
33A	Devil's Den Pumping Plant thru San Luis Obispo Powerplant	.35150790	.64849210						
34	San Luis Obispo Powerplant to Arroyo Grande	.24688802	.75311198						
35	Arroyo Grande thru Santa Maria Terminus	.18022524	.81977476						

MINIMUM OMP&R COSTS AMONG CONTRACTORS

Reach No.	SAN JOAQUIN VALLEY AREA								
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District
					Municipal and Industrial	Agricultural			
California Aqueduct									
1	.00377824	.01707931	.00088687	.00254710	.02742073	.30633442	.00090702	.00167139	.03505306
2A	.00394038	.01781205	.00092491	.00266276	.02864588	.31948963	.00094755	.00174305	.03655686
2B	.00395099	.01786013	.00092740	.00266569	.02869070	.32034362	.00094904		.03665560
3	.00395208	.01786513	.00092766	.00266517	.02868917	.32043064	.00094899		.03665585
4	.00395323	.01787039	.00092794	.00266463	.02868756	.32052214	.00094893		.03667664
5	.00395466	.01787694	.00092828	.00266396	.02868556	.32063639	.00094886		.03669011
6	.00395684	.01788685	.00092879	.00266296	.02868253	.32080926	.00094875		.03671048
7	.00395753	.01789003	.00092896	.00266264	.02868156	.32086471	.00094872		.03671701
8C	.00390372	.01764648	.00091632	.00263593	.02836374	.31651560	.00093819		.03621709
8D	.00398843	.01802948		.00268958	.02895220	.32337797			.01795137
9					.03173493	.32315570			
10A					.03225002	.31237848			
11B					.03555316	.24304304			
12D					.03738966	.20458362			
12E					.03744664	.20348854			
13B					.01437747	.16288986			
14A					.00610657	.13050491			
14B					.00621833	.11497394			
14C					.00640883	.08842321			
15A					.00651639	.07347673			
16A					.00676126	.03933050			
17E					.00208231				
31A	.07364766			.05046239		.57546190			

CALIFORNIA AREA									
Reach No.	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	TOTAL
1	.00049187	.01101303	.00369180	.02363192	.00650449	.00398446	.43940271	.00429334	1.00000000
2A	.00051421	.01151300	.00385943	.02469456	.00679800	.00416362	.45932579	.00448830	1.00000000
2B	.00051477	.01152575	.00386368	.02472869	.00680672	.00416938	.45985088	.00449324	1.00000000
3	.00051469	.01152359	.00386296	.02472605	.00680580	.00416893	.45976950	.00449238	1.00000000
4	.00051459	.01152131	.00386218	.02472327	.00680482	.00416846	.45968394	.00449149	1.00000000
5	.00051448	.01151846	.00386122	.02471980	.00680361	.00416788	.45957709	.00449037	1.00000000
6	.00051427	.01151416	.00385978	.02471455	.00680178	.00416698	.45941542	.00448869	1.00000000
7	.00051421	.01151278	.00385931	.02471286	.00680118	.00416671	.45936358	.00448816	1.00000000
8C	.00050905	.01139703	.00382056	.02444913	.00673013	.00412224	.46619410	.00444309	1.00000000
8D	.00051940	.01162908	.00389834	.02495260	.00686817	.00420714	.47575203	.00453354	1.00000000
9	.00056864	.01273174	.00426793	.02733801	.00752279	.00460932	.52108733	.00496332	1.00000000
10A	.00057757	.01293209	.00433507	.02777636	.00764260	.00468324	.52938182	.00504140	1.00000000
11B	.00063524	.01422367	.00476794	.03059312	.00841338	.00515813	.58274744	.00554474	1.00000000
12D	.00066717	.01493906	.00500769	.03215687	.00884093	.00542180	.61234745	.00582351	1.00000000
12E	.00066803	.01495830	.00501414	.03220286	.00885312	.00542956	.61318897	.00583099	1.00000000
13B	.00072369	.01620441	.00543178	.03491750	.00959624	.00588725	.66464178	.00631662	1.00000000
14A	.00075911	.01699773	.00569765	.03665478	.01007092	.00618017	.69750337	.00662575	1.00000000
14B	.00077249	.01729729	.00579803	.03731574	.01025102	.00629159	.70996969	.00674247	1.00000000
14C	.00079541	.01781020	.00596992	.03844447	.01055888	.00648190	.73127981	.00694231	1.00000000
15A	.00080829	.01809845	.00606653	.03908064	.01073222	.00658915	.74327705	.00705461	1.00000000
16A	.00083775	.01875829	.00628766	.04053196	.01112817	.00683383	.77068316	.00731170	1.00000000
17E	.00087593	.01961383	.00657438	.04241764	.01164221	.00715176	.80626315	.00764506	1.00000000
17F	.00087775	.01965466	.00658807	.04250631	.01166651	.00716671	.80794577	.00766097	1.00000000
18A	.00221525	.04960424	.01662681	.10730448	.02944860	.01809191	.57469531		1.00000000
19	.00221522	.04960300	.01662640	.10730707	.02944876	.01809229	.57469557		1.00000000
19C									1.00000000
20A	.00237800	.05324853	.01784830	.11522152	.03161799	.01942666	.61700971		1.00000000
20B	.00249470	.05586075	.01872390	.12087843	.03316986	.02038045	.64729088		1.00000000
21	.00254199	.05692052		.12319480	.03380324	.02077093	.65963498		1.00000000
22A		.05773081		.12495766	.03428605	.02106816	.66905054		1.00000000
22B		.05842135		.12645207	.03469614	.02132008	.67705257		1.00000000
23				.14467451	.03969010	.02439237	.77446614		1.00000000
24				.22243002	.04339444	.02843498	.66607404		1.00000000
25				.11825184	.03722720	.01993915	.82458181		1.00000000
26A				.14947726	.03997502	.02520426	.78534346		1.00000000
28G				.05126137			.94873863		1.00000000
28H							1.00000000		1.00000000
28J							1.00000000		1.00000000
29A							.95652648	.01314816	1.00000000
29F							.95652573	.01314814	1.00000000
29G							.95944609	.01318827	1.00000000
29H							.96446829	.00906791	1.00000000
29J							.95944608	.01318829	1.00000000
30							.96499830	.00863039	1.00000000
31A									1.00000000
33A									1.00000000
34									1.00000000
35									1.00000000

TABLE B-3: POWER COSTS, CREDITS AND ANNUAL REPLACEMENT

(in dollars)

Calendar Year	NORTH BAY AQUEDUCT			SOUTH BAY AQUEDUCT	CALIFORNIA AQUEDUCT						
	Reach 1	Reach 3A	Reach 3B	Reach 1	Reach 1	Reach 4	Reach 14A	Reach 15A	Reach 16A	Reach 17E	
	Barker Slough Pumping Plant	Cordelia Pumping Plant (Solano)	Cordelia Pumping Plant (Napa) (b)	South Bay and Del Valle Pumping Plant (c)	Harvey O. Banks Delta Pumping Plant	Dos Amigos Pumping Plant	Buena Vista Pumping Plant	Wheeler Ridge Pumping Plant	Ira J. Chrisman Wind Gap Pumping Plant	A.D. Edmonston Pumping Plant	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1961	0	0	0	0	0	0	0	0	0	0	
1962	0	0	0	38,130	0	0	0	0	0	0	
1963	0	0	0	58,871	0	0	0	0	0	0	
1964	0	0	0	75,239	0	0	0	0	0	0	
1965	0	0	0	146,297	0	0	0	0	0	0	
1966	0	0	0	198,643	0	0	0	0	0	0	
1967	0	0	0	229,629	26,982	0	0	0	0	0	
1968	0	0	7,128	342,761	1,324,777	239,505	0	0	0	0	
1969	0	0	8,557	279,751	855,304	143,403	0	0	0	0	
1970	0	0	13,666	448,383	368,508	217,820	2,940	0	0	0	
1971	0	0	10,626	422,057	597,946	229,306	156,540	23,021	18,577	29,067	
1972	0	0	14,430	623,564	1,110,833	575,291	348,668	187,825	385,935	1,263,087	
1973	0	0	14,453	485,534	918,234	493,776	511,904	187,825	883,725	3,139,297	
1974	0	0	17,508	510,873	997,269	560,461	556,968	595,585	1,048,196	3,700,573	
1975	0	0	14,801	382,106	1,353,916	561,089	650,781	707,038	1,394,918	4,853,538	
1976	0	0	20,867	589,007	916,728	596,426	701,061	687,677	1,414,902	4,917,776	
1977	0	0	22,640	541,803	653,304	191,906	170,689	173,496	337,890	1,130,422	
1978	0	0	21,670	568,381	3,871,011	723,989	1,009,556	968,744	1,782,686	6,281,786	
1979	0	0	16,240	622,517	3,431,278	1,019,021	848,639	830,839	1,666,505	5,741,609	
1980	0	0	19,936	523,445	2,267,876	1,097,085	1,007,198	997,877	2,018,282	6,671,880	
1981	0	0	23,859	630,690	2,567,089	1,988,357	1,401,256	1,395,276	3,012,924	9,900,670	
1982	0	0	11,855	478,070	3,703,140	1,554,376	1,343,427	1,400,988	2,988,935	9,792,394	
1983	0	0	2,800	141,223	1,629,201	454,786	448,014	428,729	775,562	2,335,911	
1984	0	0	4,528	273,867	1,778,084	930,675	735,004	682,133	1,256,333	3,877,477	
1985	0	0	11,519	584,572	3,869,910	1,980,609	1,874,203	1,913,786	3,935,269	13,178,101	
1986	0	0	15,681	863,915	8,057,230	2,775,827	2,599,750	2,660,553	5,527,555	18,740,500	
1987	0	0	30,550	872,309	7,949,560	2,571,627	2,271,044	2,304,761	4,552,060	15,433,589	
1988	33,462	36,755	43,101	1,303,496	9,696,027	3,945,842	3,918,587	4,095,167	7,843,963	25,938,845	
1989	40,317	57,038	26,940	1,361,818	12,528,281	4,810,655	5,096,219	5,487,272	11,073,962	36,822,146	
1990	50,303	48,393	31,060	1,486,607	13,944,366	5,443,708	5,788,162	6,307,781	12,881,788	43,353,772	
1991	64,621	61,128	40,784	1,899,895	17,068,660	6,371,091	6,683,325	7,310,544	15,036,678	50,699,916	
1992	67,000	60,326	41,647	1,882,568	16,148,167	6,265,731	6,663,094	7,317,028	15,068,006	50,831,227	
1993	67,807	60,209	44,220	1,900,873	15,853,845	6,395,781	6,845,781	7,542,166	15,561,495	52,651,331	
1994	87,112	66,592	56,618	2,032,619	16,770,077	6,755,021	7,256,880	8,005,698	16,518,008	55,062,842	
1995	113,194	76,756	72,979	2,237,525	18,484,321	7,578,034	8,136,899	9,024,704	18,739,484	63,695,723	
1996	119,491	80,379	79,047	2,284,891	19,018,142	7,768,487	8,330,146	9,235,224	19,120,157	64,848,262	
1997	148,819	99,463	100,766	2,756,535	22,298,668	9,334,180	10,069,831	11,205,837	23,363,323	79,466,420	
1998	158,505	105,256	109,359	2,815,027	22,834,925	9,625,875	10,427,467	11,607,365	24,262,373	82,187,225	
1999	191,173	126,335	133,949	3,264,520	26,393,312	11,207,974	12,195,768	13,631,131	28,656,680	97,292,439	
2000	225,643	148,238	161,115	3,701,624	29,928,733	12,927,785	14,234,005	15,974,540	33,674,582	114,357,516	
2001	232,334	153,617	170,071	3,729,744	30,307,328	13,083,604	14,394,777	16,121,348	34,031,583	115,346,898	
2002	260,566	173,729	194,620	4,108,250	33,532,750	14,679,246	16,402,769	18,435,846	38,917,992	132,137,291	
2003	282,500	192,361	219,059	4,426,741	36,215,470	15,806,939	17,819,523	20,048,211	42,239,489	143,689,797	
2004	319,791	215,531	248,855	4,830,314	39,863,563	17,510,387	20,042,596	22,655,549	47,690,890	162,562,354	
2005	334,334	226,780	265,421	4,950,204	41,036,286	18,026,808	20,740,351	23,468,269	49,376,633	168,365,835	
2006	358,521	240,647	289,682	5,252,894	43,274,463	19,134,183	22,144,971	25,028,175	52,680,564	179,688,425	
2007	366,523	243,065	302,767	5,305,683	45,454,456	19,564,649	22,783,782	25,785,346	54,334,149	185,488,055	
2008	344,478	225,456	291,798	4,921,284	42,128,116	18,433,961	21,545,055	24,399,415	51,369,386	175,206,421	
2009	356,265	230,050	307,373	5,021,570	43,080,440	18,895,470	22,162,258	25,103,537	52,858,942	180,300,694	
2010	365,904	233,797	321,241	5,103,383	44,072,408	19,383,964	22,866,931	25,928,663	54,643,881	186,650,527	
2011	371,960	234,072	334,327	5,109,374	44,421,260	19,387,160	22,843,789	25,880,240	54,517,125	186,184,601	
2012	378,634	235,506	346,565	5,140,666	44,482,596	19,563,851	23,122,632	26,211,984	55,219,444	188,764,089	
2013	387,250	237,646	362,618	5,187,377	45,181,380	19,543,504	23,198,050	26,291,404	55,365,197	189,185,338	
2014	394,114	238,547	377,350	5,207,032	44,967,130	19,763,083	23,568,320	26,747,406	56,357,758	192,715,210	
2015	410,009	244,980	401,384	5,347,476	46,521,704	19,983,269	23,716,302	26,883,438	56,354,387	193,419,310	
2016	421,264	248,762	420,877	5,430,031	47,315,634	20,473,897	24,463,367	27,787,014	58,323,296	200,354,231	
2017	421,922	246,435	430,460	5,379,229	46,616,260	20,220,010	24,205,419	27,483,424	57,657,512	197,927,381	
2018	431,384	249,081	448,677	5,436,990	46,712,041	20,374,188	24,420,253	27,730,470	58,217,258	199,887,995	
2019	439,868	251,069	466,530	5,480,391	47,592,885	20,482,864	24,665,764	27,927,418	58,915,380	202,493,066	
2020	434,797	245,480	470,306	5,358,384	46,374,806	19,926,530	23,920,258	27,135,098	57,501,753	197,568,067	
2021	439,434	247,742	477,023	5,407,766	47,333,350	20,009,435	23,740,828	27,100,340	57,728,558	198,364,648	
2022	438,674	247,314	476,198	5,398,412	46,648,809	19,871,589	23,908,333	27,330,777	58,149,580	200,415,005	
2023	438,186	247,038	475,668	5,392,401	46,646,513	19,812,926	23,873,128	27,289,481	57,816,250	199,757,221	
2024	437,658	246,741	475,094	5,385,903	46,625,231	19,486,918	23,728,617	27,115,468	57,196,414	198,281,197	
2025	439,755	247,923	477,372	5,411,719	47,194,805	19,649,922	23,965,314	27,395,479	57,643,934	200,283,612	
2026	441,443	248,875	479,203	5,432,485	46,885,105	19,741,381	24,086,051	27,535,664	57,761,636	201,222,673	
2027	439,284	247,658	476,860	5,405,916	46,374,383	19,701,012	24,066,905	27,521,034	57,639,500	201,083,112	
2028	440,783	248,503	478,487	5,424,363	47,137,900	19,653,334	23,948,103	27,370,152	57,323,268	199,958,591	
2029	439,190	247,605	476,758	5,404,764	46,333,101	19,602,012	23,896,443	27,288,771	57,191,139	199,512,723	
2030	439,402	247,724	476,987	5,407,364	46,482,790	19,548,348	23,991,478	27,378,870	57,441,541	200,284,250	
2031	439,794	247,946	477,414	5,412,200	46,354,604	19,455,509	23,918,174	27,394,762	57,497,696	200,297,440	
2032	442,078	249,233	479,693	5,440,302	46,486,988	19,554,831	24,128,714	27,646,218	58,295,071	202,955,797	
2033	438,573	247,257	476,088	5,397,162	45,931,258	19,236,556	23,580,883	26,961,739	57,052,781	198,222,722	
2034	443,885	250,251	481,855	5,462,540	46,886,882	19,576,609	23,986,886	27,378,347	58,203,043	202,133,991	
2035	457,201	257,759	496,309	5,626,408	51,077,592	20,407,767	25,098,841	28,664,707	61,042,102	212,035,172	

a) Includes: the costs of electric capacity and energy used by pumping plants, exclusive of associated power transmission and station service charges; the value of electric capacity and energy produced by power recovery plants (treated as negative costs); the payments to sinking fund reserves that will finance periodic replacement of electro-mechanical equipment; and the plant capacity and energy costs associated with surplus water service prior to May 1, 1973.

DEPOSITS FOR EACH AQUEDUCT PUMPING AND POWER RECOVERY PLANT (A)

(in dollars)

CALIFORNIA AQUEDUCT										Calendar Year
Reach 18A Alamo Powerplant	Reach 22B Pear- blossom Pumping Plant	Reach 23 Mojave Siphon Powerplant	Reach 26A Devil Canyon Powerplant	Reach 29A Oso Pumping Plant	Reach 29G William E. Warne (Pyramid) Powerplant	Reach 29J Castaic Powerplant	Reach 31A Las Perillas and Badger Hill Pumping Plants	Reach 33A Devil's Den Sawtooth and Polonio PP's and San Luis Obispo Pwp.	Grand Total	
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
0	0	0	0	0	0	0	0	0	0	1961
0	0	0	0	0	0	0	0	0	38,130	1962
0	0	0	0	0	0	0	0	0	58,871	1963
0	0	0	0	0	0	0	0	0	75,239	1964
0	0	0	0	0	0	0	0	0	146,297	1965
0	0	0	0	0	0	0	0	0	198,643	1966
0	0	0	0	0	0	0	6,517	0	263,128	1967
0	0	0	0	0	0	0	120,278	0	2,034,449	1968
0	0	0	0	0	0	0	79,620	0	1,366,635	1969
0	0	0	0	0	0	0	137,449	0	1,188,766	1970
0	64,607	0	0	1,696	0	0	171,389	0	1,725,032	1971
0	103,584	0	-3,112	180,005	0	-385,696	240,651	0	4,645,065	1972
0	615,309	0	-931,697	274,450	0	-1,193,216	128,730	0	5,854,986	1973
0	595,646	0	-939,072	322,440	0	-1,823,397	129,345	0	6,272,395	1974
0	616,327	0	-1,101,445	457,487	0	-2,835,302	101,109	0	7,156,363	1975
0	914,440	0	-1,520,412	314,669	0	-2,512,021	151,211	0	7,192,331	1976
0	318,880	0	-1,216,060	53,119	0	-1,701,284	85,538	0	762,343	1977
0	1,801,373	0	-3,298,247	251,373	0	-2,361,377	197,217	0	11,818,144	1978
0	1,813,744	0	-3,335,069	157,934	0	-2,749,296	209,088	0	10,273,049	1979
0	1,866,161	0	-3,508,195	170,688	0	-2,721,871	182,996	0	10,593,358	1980
0	2,204,600	0	-3,771,112	514,367	0	-3,248,819	319,654	0	16,938,811	1981
0	1,705,122	0	-3,541,562	624,229	0	-3,476,126	180,400	0	15,792,467	1982
0	368,698	0	-4,761,821	239,085	-972,781	-3,476,126	14,675	0	-2,415,527	1983
0	681,134	0	-7,768,114	368,928	-2,305,364	3,271,941	111,042	0	3,897,668	1984
0	1,440,435	0	-10,375,283	1,247,269	-8,520,000	-17,093,027	186,322	0	-5,766,315	1985
-815,000	2,651,073	0	-12,055,163	1,399,373	-6,331,000	-11,563,100	323,035	0	14,850,229	1986
-1,053,377	1,898,889	0	-10,824,071	1,376,601	-6,737,121	-11,629,694	267,806	0	9,284,533	1987
-2,052,888	4,139,574	0	-16,331,338	1,930,760	-7,223,238	-13,050,600	372,733	0	24,640,228	1988
-2,617,370	6,106,942	0	-22,206,090	2,439,342	-8,435,238	-16,662,800	380,434	0	35,308,866	1989
-3,077,075	6,842,272	0	-23,936,981	2,893,819	-12,010,437	-19,145,200	386,943	0	41,289,281	1990
-3,086,977	8,250,136	0	-23,574,750	3,194,350	-11,033,304	-17,810,000	470,004	0	61,646,101	1991
-3,491,945	9,445,469	0	-30,110,944	2,730,973	-9,600,901	-15,408,150	449,006	0	58,338,302	1992
-3,610,877	9,697,756	0	-30,107,392	2,762,197	-10,075,539	-16,086,850	448,265	2,473	59,973,601	1993
-3,502,486	10,413,673	-2,228,140	-30,438,300	2,947,832	-9,934,596	-15,829,850	469,521	12,328	65,321,449	1994
-3,509,946	11,749,068	-3,461,979	-30,488,845	3,243,596	-10,726,804	-16,989,650	752,897	1,150,761	79,678,717	1995
-3,557,889	12,007,592	-3,510,375	-31,058,752	3,359,469	-10,580,705	-16,791,350	807,890	1,397,495	82,957,601	1996
-3,634,616	14,831,309	-3,520,069	-31,843,182	3,870,860	-10,768,826	-17,046,650	964,160	1,892,132	113,588,960	1997
-3,643,113	15,434,674	-3,538,902	-32,384,374	4,089,612	-10,670,853	-16,904,650	984,618	1,956,890	119,457,279	1998
-3,636,786	18,033,802	-3,502,605	-33,152,434	4,761,367	-11,156,150	-17,705,750	1,141,839	2,454,537	150,331,121	1999
-3,682,877	21,018,053	-3,581,045	-33,910,372	5,677,340	-11,735,175	-18,575,950	1,294,726	2,938,466	184,770,947	2000
-3,767,622	21,823,069	-3,700,925	-34,749,238	5,461,680	-11,124,401	-17,570,450	1,304,561	2,969,597	188,217,575	2001
-3,793,520	25,218,419	-3,749,987	-35,449,322	6,104,995	-11,378,001	-18,034,600	1,436,937	3,388,603	222,586,938	2002
-3,611,685	27,168,266	-3,248,341	-36,429,213	6,687,153	-11,631,059	-18,404,350	1,548,351	3,741,262	246,765,024	2003
-3,658,588	30,291,329	-3,443,442	-37,063,271	7,839,020	-12,356,288	-19,600,300	1,689,510	4,188,069	285,825,869	2004
-3,691,028	31,681,885	-3,543,416	-37,710,880	7,960,575	-12,315,915	-19,490,900	1,731,444	4,320,801	295,733,487	2005
-3,747,436	34,907,749	-3,520,550	-38,385,200	8,084,930	-11,722,783	-18,569,900	1,837,317	4,655,919	321,632,571	2006
-3,705,376	35,148,996	-3,474,744	-38,915,192	8,669,807	-12,573,157	-19,885,150	1,855,781	4,714,362	331,462,902	2007
-3,764,577	35,502,570	-3,779,143	-39,278,328	8,132,152	-12,677,381	-19,969,850	1,721,329	4,288,784	307,041,326	2008
-3,769,836	34,922,658	-3,595,438	-40,018,155	8,169,207	-12,497,438	-19,727,350	1,756,407	4,399,814	317,956,268	2009
-3,841,439	36,001,646	-3,727,861	-40,469,963	8,488,784	-12,877,871	-20,307,600	1,785,023	4,490,391	329,111,809	2010
-3,800,218	36,031,935	-3,522,511	-40,696,112	8,464,608	-12,694,247	-20,076,750	1,787,117	4,497,023	329,274,753	2011
-3,829,841	36,377,952	-3,576,901	-40,811,426	8,588,209	-12,928,119	-20,423,100	1,798,063	4,531,667	333,192,471	2012
-3,850,151	36,881,944	-3,653,676	-40,928,098	8,495,671	-12,546,439	-19,819,650	1,814,401	4,583,382	335,917,148	2013
-3,842,801	37,247,403	-3,583,154	-41,009,467	8,662,877	-12,920,681	-20,486,000	1,821,275	4,605,143	340,830,545	2014
-3,788,340	37,489,210	-3,593,884	-41,007,577	8,723,608	-12,558,001	-19,818,250	1,870,399	4,760,632	345,360,056	2015
-3,823,440	38,631,199	-3,654,527	-41,039,160	8,990,092	-12,965,480	-20,485,150	1,899,274	4,852,030	357,643,211	2016
-3,860,357	38,426,593	-3,847,704	-40,855,877	8,866,573	-12,689,222	-20,118,750	1,881,506	4,795,787	353,189,999	2017
-3,810,666	38,787,679	-3,758,682	-40,825,437	8,893,884	-12,769,189	-20,131,900	1,901,709	4,859,735	357,055,470	2018
-3,817,043	39,214,794	-3,754,057	-40,992,408	8,942,899	-12,892,994	-20,333,250	1,916,889	4,907,786	361,907,831	2019
-3,853,657	38,355,626	-3,730,636	-40,909,768	8,693,410	-12,801,299	-20,200,800	1,874,215	4,772,708	351,135,298	2020
-3,842,897	38,595,967	-3,602,209	-41,132,223	8,665,663	-12,679,700	-19,952,750	1,891,487	4,827,381	353,619,843	2021
-3,852,055	38,720,210	-3,688,678	-41,144,973	8,836,276	-12,998,201	-20,537,350	1,888,215	4,817,026	354,925,161	2022
-3,860,613	38,926,771	-3,756,055	-41,223,048	8,727,369	-12,794,075	-20,093,500	1,886,113	4,810,370	354,372,144	2023
-3,814,149	38,303,284	-3,676,394	-41,069,551	8,729,481	-12,808,875	-20,234,900	1,883,840	4,803,174	351,095,151	2024
-3,903,933	38,878,442	-3,860,321	-41,184,735	8,716,597	-12,834,875	-20,161,400	1,892,870	4,831,757	355,084,237	2025
-3,867,501	38,929,168	-3,661,742	-41,208,035	8,834,587	-12,925,725	-20,324,550	1,900,133	4,854,749	356,365,870	2026
-3,951,321	39,566,939	-3,783,361	-41,275,625	8,599,736	-12,535,225	-19,768,300	1,890,840	4,825,333	356,524,674	2027
-3,830,904	38,216,526	-3,606,353	-41,292,325	8,815,498	-13,063,200	-20,659,050	1,897,291	4,845,755	353,306,722	2028
-3,906,804	38,837,348	-3,767,821	-41,269,575	8,466,395	-12,706,250	-20,019,650	1,890,437	4,824,057	352,740,644	2029
-3,910,896	39,013,688	-3,804,044	-41,381,925	8,464,426	-12,702,050	-20,093,500	1,891,346	4,826,935	354,002,733	2030
-3,901,689	38,945,322	-3,732,005	-41,329,650	8,511,629	-12,773,550	-20,205,550	1,893,037	4,832,290	353,735,373	2031
-3,940,365	39,608,513	-3,776,146	-41,367,800	8,434,437	-12,822,425	-20,230,900	1,902,877	4,863,402	358,351,108	2032
-3,893,538	38,747,537	-3,741,884	-41,276,000	8,322,407	-12,831,075	-20,240,900	1,887,778	4,815,642	348,904,984	2033
-3,903,207	39,098,102	-3,775,369	-41,464,350	8,304,507	-12,960,000	-20,384,650	1,910,646	4,888,023	356,517,991	2034
-3,931,521	40,760,369	-3,792,056	-41,376,400	8,639,326	-13,338,700	-20,993,000	1,967,961	5,069,445	378,169,282	2035

- b) Power costs for the period 1968 through 1987 are for an interim facility.
c) The costs of Del Valle Pumping Plant are combined with those of South Bay Pumping Plant to simplify the cost allocations.

TABLE B-4. ANNUAL ENTITLEMENTS

(in acre-feet)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA ^(b)				CENTRAL COASTAL AREA		
	Napa County FC & WCD ^(c)	Solano County FC & WCD	Total	Alameda County FC & WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1967	0	0	0	507	5,248	5,783	11,538	0	0	0
1968	0	0	0	6,900	15,000	88,000	109,900	0	0	0
1969	0	0	0	8,200	15,500	75,000	98,700	0	0	0
1970	0	0	0	10,000	16,200	88,000	114,200	0	0	0
1971	0	0	0	11,200	17,000	88,000	116,200	0	0	0
1972	0	0	0	12,400	17,900	88,000	118,300	0	0	0
1973	0	0	0	13,600	18,800	88,000	120,400	0	0	0
1974	0	0	0	14,800	19,600	88,000	122,400	0	0	0
1975	0	0	0	16,000	20,500	88,000	124,500	0	0	0
1976	0	0	0	17,200	21,300	88,000	126,500	0	0	0
1977	0	0	0	18,400	22,200	88,000	128,600	0	0	0
1978	0	0	0	19,600	23,100	88,000	130,700	0	0	0
1979	0	0	0	20,800	23,900	88,000	132,700	0	0	0
1980	0	500	500	22,000	24,800	88,000	134,800	1,000	946	1,946
1981	0	650	650	23,000	26,000	88,000	137,000	1,000	1,813	2,813
1982	0	800	800	24,000	27,200	88,000	139,200	2,000	3,626	5,626
1983	0	950	950	25,000	28,400	88,000	141,400	3,000	5,439	8,439
1984	0	1,100	1,100	26,000	29,600	88,000	143,600	4,500	8,198	12,698
1985	0	1,250	1,250	27,000	30,800	88,000	145,800	7,500	13,638	21,138
1986	0	1,400	1,400	28,000	32,100	88,000	148,100	10,000	18,210	28,210
1987	0	1,550	1,550	29,000	33,300	88,000	150,300	12,500	22,704	35,204
1988	5,745	15,660	21,405	30,000	34,500	88,000	152,500	15,500	28,222	43,722
1989	6,195	18,420	24,615	31,000	35,700	90,000	156,700	20,000	36,342	56,342
1990	6,745	21,250	27,995	32,000	36,900	92,000	160,900	25,000	45,486	70,486
1991	7,290	22,300	29,590	34,000	38,400	94,000	166,400	25,000	45,486	70,486
1992	7,840	24,170	32,010	36,000	39,900	96,000	171,900	25,000	45,486	70,486
1993	8,490	26,130	34,620	38,000	41,400	98,000	177,400	25,000	45,486	70,486
1994	9,135	28,080	37,215	40,000	42,000	100,000	182,000	25,000	45,486	70,486
1995	9,780	34,250	44,030	42,000	42,000	100,000	184,000	25,000	45,486	70,486
1996	10,425	37,800	48,225	44,000	42,000	100,000	186,000	25,000	45,486	70,486
1997	11,065	38,250	49,315	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1998	11,710	38,710	50,420	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1999	12,330	39,170	51,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2000	13,050	39,620	52,670	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2001	13,665	40,080	53,745	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2002	14,185	40,540	54,725	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2003	14,800	41,000	55,800	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2004	15,400	41,450	56,850	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2005	16,000	41,500	57,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2006	16,450	41,550	58,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2007	17,000	41,600	58,600	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2008	17,650	41,650	59,300	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2009	18,200	41,700	59,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2010	18,750	41,750	60,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2011	19,400	41,800	61,200	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2012	19,950	41,850	61,800	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2013	20,600	41,900	62,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2014	21,250	41,950	63,200	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2015	21,900	42,000	63,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2016	22,500	42,000	64,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2017	23,100	42,000	65,100	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2018	23,700	42,000	65,700	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2019	24,300	42,000	66,300	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2020	24,900	42,000	66,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2021	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2022	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2023	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2024	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2025	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2026	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2027	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2028	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2029	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2030	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2031	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2032	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2033	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2034	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2035	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
TOTAL	878,500	1,854,330	2,732,830	2,494,607	2,459,248	6,510,783	11,464,638	1,227,000	2,231,494	3,458,494

- From Tables A and Article 6(a) of water supply contracts as of June 30, 1988.
- Entitlements for the South Bay area were supplied by non-Project water for the period June 1962 through November 1967. Actual delivery quantities of Project water are shown for 1967.
- District's Table A quantities exclude amounts during the period 1968 through 1987 that are assumed to be supplied by non-Project water.

TO PROJECT WATER (a

(in acre-feet)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA								
	Devil's Den	Dudley Ridge	Empire	Kern County Water Agency			County	Oak Flat	Tulare
	Water	Water	West Side				of	Water	Lake Basin
	District	District	Irrigation	M&I	Ag.	Total	Kings	District	Water Storage
	(1)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1967	0	0	0	0	0	0	0	0	0
1968	3,700	14,300	1,000	0	46,600	46,600	900	2,300	12,250
1969	5,000	14,325	3,000	0	95,700	95,700	1,200	2,500	46,350
1970	5,700	15,700	3,000	28,700	116,400	145,100	1,300	2,600	34,300
1971	6,700	17,900	3,000	35,700	154,600	190,300	1,300	2,800	36,500
1972	7,700	20,000	3,000	39,200	231,500	270,700	1,400	5,366	112,600
1973	8,700	22,000	3,000	43,500	267,000	310,500	1,500	3,100	43,552
1974	9,700	33,390	3,000	48,000	299,000	347,000	1,500	3,471	72,289
1975	10,700	40,555	3,000	52,700	358,120	410,820	1,600	3,576	86,258
1976	11,700	30,921	3,000	56,100	386,050	442,150	1,600	4,039	61,707
1977	12,700	30,400	3,000	60,600	423,000	483,600	1,700	3,700	59,000
1978	11,362	32,500	0	64,100	470,200	534,300	1,900	3,900	63,300
1979	12,700	38,544	3,000	67,600	516,300	583,900	2,000	4,000	71,241
1980	12,700	41,000	3,000	71,100	563,400	634,500	2,200	5,700	71,700
1981	12,700	41,000	3,000	74,800	616,600	691,400	2,300	4,300	76,000
1982	12,700	41,000	3,000	79,600	665,700	745,300	2,500	4,500	80,200
1983	12,700	42,900	3,000	83,500	721,600	805,100	2,800	4,600	9,548
1984	12,700	45,100	3,000	103,600	757,000	860,600	3,100	4,800	62,611
1985	12,700	47,200	3,000	108,900	806,100	915,000	3,400	4,900	45,549
1986	12,700	49,300	3,000	113,400	854,800	968,200	3,700	5,100	97,200
1987	12,700	51,400	3,000	119,100	904,400	1,023,500	4,000	5,200	101,400
1988	12,700	53,500	3,000	123,900	950,700	1,074,600	4,000	5,400	105,600
1989	12,700	55,600	3,000	128,200	984,100	1,112,300	4,000	5,600	109,900
1990	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1991	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1992	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1993	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1994	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1995	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1996	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1997	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1998	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1999	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2000	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2001	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2002	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2003	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2004	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2005	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2006	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2007	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2008	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2009	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2010	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2011	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2012	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2013	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2014	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2015	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2016	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2017	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2018	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2019	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2020	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2021	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2022	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2023	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2024	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2025	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2026	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2027	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2028	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2029	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2030	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2031	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2032	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2033	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2034	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2035	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
TOTAL	817,562	3,432,735	199,000	7,693,900	58,053,670	65,747,570	233,900	353,652	6,910,055
									77,694,474

TABLE B-4. ANNUAL ENTITLEMENTS

(in acre-feet)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	20,000	1,236	5,200	526	8,000	170	8,400	1,620	1,677	122
1973	25,000	3,700	5,800	870	9,000	290	10,700	2,940	48,000	11,500
1974	30,000	5,700	6,400	1,160	10,000	400	13,100	4,260	50,000	12,300
1975	35,000	7,500	7,000	1,450	11,000	520	15,400	5,580	52,500	13,100
1976	44,000	9,500	7,600	1,740	12,000	640	17,800	6,900	55,000	14,000
1977	50,000	11,400	8,421	2,030	13,000	730	20,200	8,220	57,500	14,800
1978	57,000	13,400	9,242	2,320	14,000	920	0	9,340	60,000	15,700
1979	63,000	15,300	10,063	2,610	15,000	1,040	24,900	10,260	62,500	16,600
1980	69,200	17,700	10,884	2,900	17,000	1,150	27,200	11,180	65,500	17,400
1981	75,000	20,100	12,105	3,190	19,000	1,270	23,100	11,700	68,500	18,300
1982	81,300	22,100	13,326	3,480	21,000	1,380	22,843	12,320	71,500	19,100
1983	87,700	24,600	14,547	3,770	23,000	1,500	34,300	12,940	74,500	19,900
1984	95,000	26,900	15,768	4,060	25,000	1,610	36,700	13,560	78,000	20,700
1985	40,000	29,100	16,989	4,350	27,000	1,730	39,000	14,180	81,500	21,800
1986	42,000	30,900	18,210	4,640	29,000	1,840	41,400	14,800	85,000	23,200
1987	44,000	32,900	19,431	4,930	31,500	1,960	43,700	15,420	89,000	24,600
1988	46,000	35,300	20,652	5,220	34,000	2,070	46,000	16,040	93,000	26,000
1989	125,700	37,400	21,873	5,510	36,500	2,190	48,500	16,660	97,000	27,400
1990	132,100	39,300	23,100	5,800	38,100	2,300	50,800	17,300	101,500	28,800
1991	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1992	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1993	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1994	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1995	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1996	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1997	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1998	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1999	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2000	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2001	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2002	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2003	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2004	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2005	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2006	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2007	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2008	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2009	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2010	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2011	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2012	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2013	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2014	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2015	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2016	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2017	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2018	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2019	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2020	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2021	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2022	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2023	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2024	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2025	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2026	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2027	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2028	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2029	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2030	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2031	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2032	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2033	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2034	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2035	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
TOTAL	7,330,000	2,251,536	1,286,111	321,556	2,107,600	127,210	2,810,043	983,728	5,909,177	1,641,322

TO PROJECT WATER (a

(in acre-feet)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1967	0	0	0	0	0	0	0	0	0	11,538
1968	0	0	0	0	0	300	250	550	0	191,500
1969	0	0	0	0	0	350	270	620	0	267,395
1970	0	0	0	0	0	400	300	700	0	322,600
1971	0	0	0	0	0	450	440	890	0	375,590
1972	0	154,772	0	201,723	0	500	470	970	0	741,759
1973	0	354,600	0	472,400	0	600	500	1,100	0	986,252
1974	0	454,900	0	588,220	0	700	530	1,230	0	1,182,200
1975	0	555,200	0	704,250	0	1,050	560	1,610	0	1,386,869
1976	0	655,600	0	824,780	0	1,400	590	1,990	0	1,508,387
1977	0	755,900	0	942,201	0	1,800	620	2,420	0	1,667,321
1978	0	856,300	0	1,038,222	0	1,200	650	1,850	0	1,818,034
1979	0	956,600	0	1,177,873	0	1,450	680	2,130	0	2,028,088
1980	6,800	1,057,000	1,000	1,304,914	0	1,100	710	1,810	0	2,214,770
1981	7,800	1,157,300	2,000	1,419,365	0	1,200	740	1,940	0	2,392,468
1982	8,800	1,257,600	3,000	1,537,749	0	1,200	770	1,970	0	2,574,545
1983	9,800	1,358,000	4,000	1,668,557	0	1,200	800	2,000	0	2,701,994
1984	10,800	1,458,300	5,000	1,731,398	1,600	1,200	830	3,630	0	2,884,337
1985	11,800	1,558,700	6,000	1,852,149	1,700	1,200	860	3,760	0	3,055,846
1986	12,900	1,659,300	8,000	1,971,190	2,100	1,200	890	4,190	0	3,292,290
1987	14,000	1,759,800	10,000	2,091,241	2,500	1,200	920	4,620	0	3,484,115
1988	15,100	1,860,400	13,000	2,212,782	2,900	1,200	960	5,060	0	3,694,269
1989	16,200	1,961,000	16,000	2,411,933	3,300	1,200	1,000	5,500	0	3,958,190
1990	17,300	2,011,500	20,000	2,487,900	3,800	1,200	1,040	6,040	0	4,108,321
1991	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,080	38,180	0	4,157,156
1992	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,120	38,220	0	4,165,116
1993	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,160	38,260	0	4,173,266
1994	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,200	38,300	0	4,180,501
1995	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,250	38,350	0	4,189,366
1996	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,300	38,400	0	4,195,611
1997	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,350	38,450	0	4,198,751
1998	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,400	38,500	0	4,199,906
1999	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,450	38,550	0	4,201,036
2000	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,510	38,610	0	4,202,266
2001	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,570	38,670	0	4,203,401
2002	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,630	38,730	0	4,204,441
2003	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,690	38,790	0	4,205,576
2004	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,750	38,850	0	4,206,686
2005	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,810	38,910	0	4,207,396
2006	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,880	38,980	0	4,207,966
2007	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,950	39,050	0	4,208,636
2008	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,020	39,120	0	4,209,406
2009	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,090	39,190	0	4,210,076
2010	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,160	39,260	0	4,210,746
2011	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,240	39,340	0	4,211,526
2012	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,320	39,420	0	4,212,206
2013	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,410	39,510	0	4,212,996
2014	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,500	39,600	0	4,213,786
2015	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,600	39,700	0	4,214,586
2016	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,215,286
2017	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,215,886
2018	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,216,486
2019	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,086
2020	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,686
2021	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2022	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2023	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2024	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2025	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2026	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2027	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2028	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2029	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2030	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2031	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2032	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2033	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2034	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2035	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
TOTAL	909,800	112,360,272	988,000	139,026,347	449,900	1,260,800	112,820	1,823,520	0	236,200,303

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED

(in acre-feet)

Sheet 1 of 7

Calendar Year	Grizzly Valley Pipeline PC FC&WCD	NORTH BAY AQUEDUCT				TOTAL NORTH BAY AQUEDUCT	SOUTH BAY AQUEDUCT (c)					
		Reach 1	Reach 2	Reach 3A	Reach 3B		Reach 1		Reach 2	Reach 4	Reach 5	
		SC FC&WCD	SC FC&WCD	SC FC&WCD	NC FC&WCD ^b		ACWD	AC FC&WCD	AC FC&WCD	AC FC&WCD	ACWD	AC FC&WCD
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1962	0	0	0	0	0	0	8,412	141	353	0	0	0
1963	0	0	0	0	0	0	10,914	814	917	0	0	0
1964	0	0	0	0	0	0	19,238	248	1,425	0	0	0
1965	0	0	0	0	0	0	15,280	637	1,830	138	0	0
1966	0	0	0	0	0	0	0	2,475	2,537	499	0	0
1967	0	0	0	0	0	0	0	1,527	2,391	862	0	0
1968	0	0	0	0	1,214	1,214	0	1,608	3,799	721	0	0
1969	0	0	0	0	2,687	2,687	0	1,165	3,459	1,851	0	160
1970	70	0	0	0	3,618	3,618	0	1,345	4,558	3,182	0	164
1971	64	0	0	0	2,521	2,521	0	546	1,908	2,403	0	160
1972	505	0	0	0	3,647	3,647	0	1,066	4,605	2,041	1,489	2,777
1973	679	0	0	0	3,792	3,792	0	430	1,123	1,193	0	229
1974	648	0	0	0	4,870	4,870	0	177	0	975	0	162
1975	405	0	0	0	6,840	6,840	0	137	1,783	1,864	0	120
1976	382	0	0	0	7,122	7,122	0	265	7,204	3,384	0	817
1977	303	0	0	0	8,226	8,226	0	210	4,491	2,213	0	524
1978	278	0	0	0	6,034	6,034	0	422	2,426	3,754	0	2,034
1979	329	0	0	0	6,561	6,561	0	197	4,283	5,567	0	3,937
1980	295	0	0	0	6,707	6,707	0	77	3,883	6,686	1,508	0
1981	355	0	0	0	9,001	9,001	0	1,250	4,648	5,273	5,752	1,157
1982	305	0	0	0	1,213	1,213	0	473	3,043	4,406	0	630
1983	262	0	0	0	2,287	2,287	0	179	2,712	1,714	0	50
1984	272	0	0	0	2,923	2,923	0	165	4,219	2,219	0	55
1985	254	0	0	0	4,039	4,039	0	213	5,199	2,060	0	63
1986	317	0	0	0	3,519	3,519	0	200	6,052	2,062	0	212
1987	452	0	0	0	7,693	7,693	0	218	7,538	2,372	0	285
1988	980	700	0	14,960	2,745	21,405	0	195	8,519	5,131	0	3,226
1989	1,000	1,200	0	17,220	5,007	23,427	0	195	8,906	5,132	0	3,263
1990	1,040	5,850	0	15,400	5,453	26,703	0	195	6,543	5,087	0	3,208
1991	1,080	6,500	0	15,800	5,885	28,185	0	195	6,731	5,743	0	3,874
1992	1,120	8,050	0	16,120	6,283	30,453	0	195	6,983	6,294	0	4,420
1993	1,160	11,000	0	16,527	6,884	34,211	0	195	7,250	6,817	0	4,947
1994	1,200	13,950	0	16,934	8,157	39,041	0	205	7,630	7,175	0	5,208
1995	1,250	16,900	0	17,340	9,630	43,870	0	214	8,015	7,535	0	5,467
1996	1,300	17,570	0	17,746	10,314	45,630	0	224	8,396	7,893	0	5,738
1997	1,350	18,240	0	18,152	10,998	47,390	0	236	8,774	8,252	0	5,987
1998	1,400	18,910	0	18,558	11,682	49,150	0	236	8,774	8,252	0	5,987
1999	1,450	19,580	0	18,964	12,330	50,874	0	236	8,774	8,252	0	5,987
2000	1,510	20,250	0	19,370	13,050	52,670	0	236	8,774	8,252	0	5,987
2001	1,570	20,300	0	19,696	13,665	53,661	0	236	8,774	8,252	0	5,987
2002	1,630	20,350	0	20,022	14,185	54,557	0	236	8,774	8,252	0	5,987
2003	1,690	20,400	0	20,348	14,800	55,548	0	236	8,774	8,252	0	5,987
2004	1,750	20,450	0	20,674	15,400	56,524	0	236	8,774	8,252	0	5,987
2005	1,810	20,500	0	21,000	16,000	57,500	0	236	8,774	8,252	0	5,987
2006	1,880	20,550	0	21,000	16,450	58,000	0	236	8,774	8,252	0	5,987
2007	1,950	20,600	0	21,000	17,000	58,600	0	236	8,774	8,252	0	5,987
2008	2,020	20,650	0	21,000	17,650	59,300	0	236	8,774	8,252	0	5,987
2009	2,090	20,700	0	21,000	18,200	59,900	0	236	8,774	8,252	0	5,987
2010	2,160	20,750	0	21,000	18,700	60,450	0	236	8,774	8,252	0	5,987
2011	2,240	20,800	0	21,000 ^a	19,400	61,200	0	236	8,774	8,252	0	5,987
2012	2,320	20,850	0	21,000	19,950	62,000	0	236	8,774	8,252	0	5,987
2013	2,410	20,900	0	21,000	20,600	62,500	0	236	8,774	8,252	0	5,987
2014	2,500	20,950	0	21,000	21,250	63,200	0	236	8,774	8,252	0	5,987
2015	2,600	21,000	0	21,000	21,900	63,900	0	236	8,774	8,252	0	5,987
2016	2,700	21,000	0	21,000	22,500	64,500	0	236	8,774	8,252	0	5,987
2017	2,700	21,000	0	21,000	23,100	65,100	0	236	8,774	8,252	0	5,987
2018	2,700	21,000	0	21,000	23,700	65,700	0	236	8,774	8,252	0	5,987
2019	2,700	21,000	0	21,000	24,300	66,300	0	236	8,774	8,252	0	5,987
2020	2,700	21,000	0	21,000	24,900	66,900	0	236	8,774	8,252	0	5,987
2021	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2022	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2023	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2024	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2025	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2026	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2027	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2028	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2029	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2030	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2031	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2032	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2033	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2034	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987
2035	2,700	21,000	0	21,000	25,000	67,000	0	236	8,774	8,252	0	5,987

- a) Includes entitlement water, surplus water delivered prior to May 1, 1973, and non-Project water.
- b) For the period 1968 through 1987, deliveries are non-Project water pumped through an interim facility.

FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR (a)

(in acre-feet)

Sheet 2 of 7

Calendar Year	SOUTH BAY AQUEDUCT (c) (continued)				TOTAL SOUTH BAY AQUEDUCT	NORTH SAN JOAQUIN DIVISION Reach 2A OFWD	CALIFORNIA AQUEDUCT				
	Reach 6 AC FC&WCD	Reach 7 ACWD	Reach 8 ACWD	Reach 9 SCVWD			SOUTH SAN JOAQUIN DIVISION				
							Reach 8C			Reach 8D	
							TLBWS	EWSID	CK	KCWA (Ag.)	DRWD
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
1962	0	0	0	0	8,906	0	0	0	0	0	0
1963	0	0	0	0	12,645	0	0	0	0	0	0
1964	0	0	0	0	20,911	0	0	0	0	0	0
1965	0	1,127	0	15,014	34,026	0	0	0	0	0	0
1966	0	14,864	0	34,538	54,913	0	0	0	0	0	0
1967	0	12,882	0	39,101	54,763	0	0	0	0	0	0
1968	0	24,817	0	70,105	101,055	3,084	25,100	1,978	900	0	26,360
1969	0	813	0	62,264	69,712	3,016	7,081	56	100	0	31,375
1970	0	0	0	80,311	89,560	5,911	0	3,942	0	0	40,407
1971	0	5,961	0	87,606	98,584	7,212	80,906	5,990	3,700	0	41,053
1972	0	26,182	0	100,286	138,426	8,164	144,843	5,795	1,400	0	42,443
1973	0	2,521	0	88,582	94,078	3,214	26,317	3,000	1,500	1,500	22,057
1974	0	0	4	88,000	89,318	3,471	32,603	3,000	1,500	0	33,390
1975	714	393	593	88,000	93,604	3,576	41,536	3,000	1,600	0	40,555
1976	5,461	13,774	7,526	88,000	126,431	4,112	26,595	3,000	1,600	0	41,421
1977	5,206	11,284	7,556	76,220	107,704	1,472	12,984	738	1,530	0	11,153
1978	2,348	854	5,009	95,727	112,574	3,906	3,934	454	2,070	0	51,747
1979	5,341	3,430	7,444	91,991	122,190	6,149	74,758	1,739	2,000	0	38,544
1980	6,144	2,824	6,702	88,000	115,824	5,700	35,140	894	2,200	0	41,000
1981	7,262	7,595	8,570	88,000	129,507	4,300	50,888	5,859	2,300	0	41,000
1982	4,571	1,776	4,540	87,261	106,700	3,838	4,405	361	1,536	0	41,000
1983	111	0	3,157	86,733	94,656	3,822	1,001	0	3,550	0	42,900
1984	126	0	3,338	88,000	98,122	5,700	3,677	0	3,100	0	45,100
1985	7,537	11,203	7,813	88,000	122,088	5,433	68,638	5,197	3,400	0	46,251
1986	2,083	5,311	7,068	88,000	110,988	5,107	40,017	1,170	3,700	0	50,249
1987	12,993	15,488	9,902	88,000	136,796	5,625(4)	30,359	2,525	4,000	0	46,288
1988	12,929	31,390	8,775	88,000	158,165	5,400	46,400	3,492	4,000	0	57,000
1989	13,504	31,680	8,775	90,000	161,455	5,600	62,500	3,000	4,000	0	55,600
1990	16,967	31,905	8,775	92,000	164,680	5,700	63,500	3,000	4,000	0	57,700
1991	17,457	32,545	8,775	94,000	169,320	5,700	63,500	3,000	4,000	0	57,700
1992	18,108	33,190	8,775	96,000	173,965	5,700	63,500	3,000	4,000	0	57,700
1993	18,791	33,225	8,775	98,000	178,000	5,700	63,500	3,000	4,000	0	57,700
1994	19,782	33,267	8,775	100,000	182,000	5,700	63,500	3,000	4,000	0	57,700
1995	20,769	33,225	8,775	100,000	184,000	5,700	63,500	3,000	4,000	0	57,700
1996	21,759	33,225	8,775	100,000	186,000	5,700	63,500	3,000	4,000	0	57,700
1997	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
1998	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
1999	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2000	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2001	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2002	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2003	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2004	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2005	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2006	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2007	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2008	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2009	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2010	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2011	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2012	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2013	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2014	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2015	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2016	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2017	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2018	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2019	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2020	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2021	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2022	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2023	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2024	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2025	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2026	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2027	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2028	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2029	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2030	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2031	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2032	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2033	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2034	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2035	22,751	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700

- c) For the period June 1962 through November 1967, deliveries were supplied by non-Project water.
- d) Includes 425 AF of 1988 advance entitlement.

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED FROM

(in acre-feet)

Sheet 3 of 7

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	SOUTH SAN JOAQUIN DIVISION (continued)											
	Reach 8D (cont)		Reach 9			Reach 10A			Reach 11B		Reach 12E	
	CK	TLBWS	KCWA (M&I)	KCWA (Ag.)	TLBWS	KCWA (M&I)	KCWA (Ag.)	TLBWS	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)
	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	30,951	0	0	0	0	0	24,776	0	0
1969	0	0	0	24,489	0	0	0	2,842	0	64,682	0	0
1970	0	3,408	0	46,114	1,855	0	158	4,315	0	72,279	0	9,279
1971	0	41,579	0	58,356	0	0	9,973	0	0	63,773	0	28,056
1972	0	113,550	0	75,464	0	0	5,876	0	0	72,358	0	62,342
1973	0	24,147	0	54,583	0	0	22,548	0	0	67,544	0	13,082
1974	0	39,686	0	63,814	0	10,019	22,719	0	0	87,476	2,651	4,248
1975	0	44,722	0	50,021	0	2,791	72,121	0	0	85,675	0	10,787
1976	0	32,216	0	53,465	0	74	50,444	0	0	85,067	37,519	20,555
1977	0	5,997	0	24,668	0	201	34,451	0	3,981	29,603	20,280	1,737
1978	0	8,119	0	72,231	0	0	161,889	0	0	88,753	47,133	15,011
1979	0	80,363	0	74,524	0	285	153,245	0	484	108,379	50,740	61,567
1980	0	40,304	0	79,946	0	3,780	131,836	0	3,112	103,207	32,039	22,252
1981	0	32,550	0	76,508	0	341	133,500	0	494	104,395	59,917	58,470
1982	214	14,146	0	76,877	0	4,700	164,832	0	798	99,081	36,139	75,587
1983	0	5	2,217	84,573	0	0	146,493	0	2,069	94,117	0	10,950
1984	0	2,066	0	152,125	0	33,005	98,267	0	2,829	90,010	51,315	48,153
1985	0	41,153	0	67,696	0	6,495	152,073	0	10,666	118,646	69,839	84,117
1986	0	39,338	0	79,943	0	5,065	198,099	0	8,673	124,836	62,109	51,540
1987	0	62,725	4,033	93,699	0	3,930	223,491	0	13,074	111,877	88,415	93,105
1988	0	61,100	4,033	121,833	0	4,767	211,029	0	15,000	148,668	96,800	108,632
1989	0	54,000	0	130,500	0	5,350	227,679	0	15,000	134,208	101,550	120,688
1990	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
1991	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
1992	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
1993	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
1994	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
1995	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
1996	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
1997	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
1998	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
1999	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2000	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2001	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2002	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2003	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2004	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2005	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2006	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2007	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2008	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2009	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2010	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2011	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2012	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2013	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2014	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2015	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2016	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2017	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2018	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2019	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2020	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2021	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2022	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2023	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2024	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2025	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2026	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2027	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2028	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2029	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2030	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2031	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2032	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2033	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2034	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721
2035	0	55,000	0	123,628	0	5,676	251,696	0	15,072	133,978	110,541	136,721

EACH AQUEDUCT REACH TO EACH CONTRACTOR (a)

(in acre-feet)

Sheet 4 of 7

Calendar Year	CALIFORNIA AQUEDUCT (continued)												TEHACHAPI DIVISION
	SOUTH SAN JOAQUIN DIVISION (continued)												
	Reach 13 B		Reach 14A		Reach 14B		Reach 14C		Reach 15A	Reach 16A		Reach 17E	
	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	
	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	
1962	0	0	0	0	0	0	0	0	0	0	0	0	
1963	0	0	0	0	0	0	0	0	0	0	0	0	
1964	0	0	0	0	0	0	0	0	0	0	0	0	
1965	0	0	0	0	0	0	0	0	0	0	0	0	
1966	0	0	0	0	0	0	0	0	0	0	0	0	
1967	0	0	0	0	0	0	0	0	0	0	0	0	
1968	0	0	0	0	0	0	0	0	0	0	0	0	
1969	0	0	0	0	0	0	0	0	0	0	0	0	
1970	0	4,891	0	0	0	3	0	0	0	0	0	0	
1971	0	0	0	23,844	0	49,929	0	24,187	3,552	0	0	0	
1972	0	17,388	0	26,621	0	77,034	0	35,016	6,064	0	4,768	0	
1973	0	9,297	0	15,328	0	47,040	0	19,043	19,916	0	1,961	0	
1974	8,038	4,246	0	7,794	0	32,356	0	12,601	18,000	3,000	1,564	0	
1975	8,538	7,059	0	10,306	0	27,736	0	12,783	35,420	3,200	9,867	0	
1976	5,626	8,855	0	268	0	35,296	0	9,005	39,551	3,500	11,667	0	
1977	0	5,024	0	8,299	0	13,539	0	3,757	6,158	3,420	685	0	
1978	21,773	7,601	0	34,029	0	72,351	0	24,542	31,148	7,989	1,655	0	
1979	5,663	17,766	3,012	27,356	0	59,413	0	22,372	38,602	2,813	15,808	0	
1980	0	22,515	4,312	16,876	0	40,513	0	19,953	37,817	2,700	16,145	0	
1981	7,844	14,037	4,511	13,007	8	42,753	7	18,729	39,033	2,636	18,156	0	
1982	0	25,553	5,373	22,602	184	57,739	0	26,479	47,782	1,289	17,209	0	
1983	0	3,491	1,168	20,302	0	57,922	0	26,613	37,426	1,400	17,907	0	
1984	0	46,125	91	35,415	0	79,189	0	34,998	49,848	1,360	24,224	0	
1985	0	67,711	206	33,103	0	72,855	0	31,758	44,078	1,309	16,820	0	
1986	0	66,551	180	26,384	0	70,864	0	34,566	42,461	1,213	15,559	0	
1987	5,609	40,374	526	30,182	0	67,719	0	31,029	34,748	1,617	10,218	0	
1988	0	31,875	500	39,300	0	97,300	0	56,000	47,200	2,800	17,400	0	
1989	3,000	33,625	500	36,300	0	84,700	0	46,800	42,600	2,800	15,800	0	
1990	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
1991	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
1992	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
1993	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
1994	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
1995	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
1996	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
1997	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
1998	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
1999	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2000	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2001	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2002	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2003	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2004	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2005	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2006	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2007	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2008	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2009	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2010	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2011	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2012	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2013	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2014	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2015	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2016	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2017	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2018	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2019	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2020	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2021	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2022	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2023	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2024	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2025	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2026	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2027	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2028	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2029	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2030	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2031	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2032	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2033	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2034	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	
2035	0	35,478	500	36,278	0	85,050	0	47,171	41,775	2,811	15,790	0	

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED FROM

(in acre-feet)

Sheet 5 of 7

Calendar Year	CALIFORNIA AQUEDUCT C(continued)										
	MOJAVE DIVISION										
	Reach 18A	Reach 19	Reach 20A		Reach 20B		Reach 21		Reach 22 A	Reach 22 B	
	AVEKWA	AVEKWA	PWD	AVEKWA	PWD	AVEKWA	LCID	PWD	AVEKWA	MWD-SC ^e	CVWD ^e
	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)
1962	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	338	0	0	0	0
1973	0	0	0	0	0	0	290	0	0	-14,800	5,800
1974	0	1,223	0	0	0	0	400	0	0	-16,400	6,400
1975	0	7,622	0	420	0	0	520	0	0	-18,000	7,000
1976	3,808	23,063	0	471	0	416	589	0	0	-19,600	7,600
1977	1,231	8,927	0	773	0	271	111	0	0	0	0
1978	1,321	36,333	0	5,549	0	934	208	0	0	-25,384	10,084
1979	2,098	49,910	0	7,355	0	930	133	0	0	-25,063	10,063
1980	2,610	61,534	0	7,605	0	655	191	0	3	-27,884	10,884
1981	2,340	65,690	0	10,333	0	966	1,270	0	46	-31,105	12,105
1982	1,669	41,127	0	7,313	0	8	0	0	174	-34,326	13,326
1983	43	26,377	0	6,253	0	20	38	0	268	-37,547	14,547
1984	90	22,462	0	9,558	0	2	1	0	550	-40,768	15,768
1985	8	23,440	0	11,613	1,558	217	0	0	1,786	-43,989	16,989
1986	8	16,898	3,041	13,808	45	0	163	10	1,735	-47,210	18,210
1987	0	15,958	2,389	15,493	1,624	273	1,075	1,366	2,161	-50,931	19,431
1988	0	24,650	0	18,150	6,210	0	1,953	0	3,200	-54,652	20,652
1989	0	23,650	0	19,450	8,190	700	0	0	4,200	-58,373	21,873
1990	0	23,150	0	20,550	10,440	1,100	1,600	0	5,200	-61,200	23,100
1991	0	25,150	0	22,450	13,050	1,200	1,700	0	6,200	-61,200	23,100
1992	0	24,650	0	24,650	16,110	1,300	1,800	0	7,200	-61,200	23,100
1993	0	25,650	0	28,750	17,300	1,400	1,900	0	8,200	-61,200	23,100
1994	0	27,255	0	30,543	17,300	1,488	2,000	0	8,714	-61,200	23,100
1995	0	28,848	0	32,345	17,300	1,577	2,100	0	9,230	-61,200	23,100
1996	0	30,698	0	34,408	17,300	1,677	2,200	0	9,817	-61,200	23,100
1997	0	32,543	0	36,476	17,300	1,777	2,300	0	10,404	-61,200	23,100
1998	0	34,389	0	38,542	17,300	1,878	2,300	0	10,991	-61,200	23,100
1999	0	36,231	0	40,610	17,300	1,978	2,300	0	11,581	-61,200	23,100
2000	0	38,072	0	42,675	17,300	2,078	2,300	0	12,175	-61,200	23,100
2001	0	40,080	0	44,919	17,300	2,188	2,300	0	12,813	-61,200	23,100
2002	0	42,084	0	47,166	17,300	2,300	2,300	0	13,450	-61,200	23,100
2003	0	44,084	0	49,410	17,300	2,408	2,300	0	14,098	-61,200	23,100
2004	0	46,090	0	51,656	17,300	2,517	2,300	0	14,737	-61,200	23,100
2005	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2006	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2007	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2008	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2009	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2010	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2011	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2012	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2013	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2014	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2015	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2016	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2017	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2018	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2019	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2020	0	48,095	0	53,904	17,300	2,626	2,300	0	15,375	-61,200	23,100
2021	0	49,699	0	55,700	17,300	2,713	2,300	0	15,888	-61,200	23,100
2022	0	49,699	0	57,188	17,300	2,713	2,300	0	16,400	-61,200	23,100
2023	0	52,905	0	59,294	17,300	2,888	2,300	0	16,913	-61,200	23,100
2024	0	54,508	0	61,091	17,300	2,976	2,300	0	17,425	-61,200	23,100
2025	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100
2026	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100
2027	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100
2028	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100
2029	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100
2030	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100
2031	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100
2032	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100
2033	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100
2034	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100
2035	0	55,470	0	62,169	17,300	3,028	2,300	0	17,733	-61,200	23,100

e) In accordance with the Exchange Agreement between the noted agencies, MWDSC assumed responsibility for payment of variable OMP&R costs on the exchange water in reaches beyond Reach 22B, and Desert Water Agency and Coachella Valley Water District for such costs from the Delta through Reach 22B. The adjustment in deliveries shown in Reach 22B provides for compliance with provisions for the repayment of costs under the agreement.

EACH AQUEDUCT REACH TO EACH CONTRACTOR (a)

(in acre-feet)

Sheet 6 of 7

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	MOJAVE DIVISION (continued)						SANTA ANA DIVISION					
	Reach 22 B (cont)			Reach 23	Reach 24	Reach 26 A				Reach 28 G	Reach 28 H	Reach 28 J
	(d DWA	MWA	AVEKWA	MWA	CLAWA	MWD-SC	SBVMWD	SGVMWD	SGPWA	MWD-SC	MWD-SC	MWD-SC
	(59)	(60)	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	55	0	0	464	0	1,275	0	0	0	0	0
1973	9,000	0	0	0	389	444	32,426	0	0	18,942	0	0
1974	10,000	0	0	14	627	84,981	16,605	612	0	0	0	0
1975	11,000	0	0	0	825	169,960	13,865	5,450	0	0	0	251
1976	12,000	0	0	0	1,002	215,312	12,273	6,071	0	0	55	2,000
1977	0	22	0	58	1,109	64,823	24,833	8,996	0	0	43	2,442
1978	15,300	0	0	0	1,209	297,708	4,055	7,771	0	0	48	64,054
1979	15,000	4,000	0	0	1,260	260,903	18	290	0	0	1,290	94,353
1980	17,000	4,000	0	0	1,239	300,345	0	1,085	0	0	3,013	91,532
1981	19,000	4,000	0	0	1,485	395,678	16,021	3,619	0	0	4,365	149,405
1982	21,000	10,500	0	0	1,238	214,566	8,409	12,599	0	0	3,961	155,629
1983	23,000	0	0	0	911	175,288	5,994	734	0	0	6,645	41,616
1984	25,000	0	0	0	1,128	122,311	5,556	7,656	0	0	37,791	74,513
1985	27,000	0	0	0	1,422	147,599	7,390	5,028	0	0	182,781	6,538
1986	29,000	0	0	0	1,506	215,265	6,421	9,454	0	0	131,439	30,071
1987	31,500	17	214(r	0	1,849	124,081	18,751(g	10,630	0	0	144,743	26,315
1988	34,000	0	0	0	2,000	283,800	23,000	10,500	0	0	238,600	42,600
1989	36,500	0	0	0	2,100	395,800	24,200	10,500	0	0	338,600	42,600
1990	38,100	300	0	0	2,200	381,600	24,700	10,500	0	0	352,800	42,600
1991	38,100	300	0	0	2,300	378,900	27,400	10,500	0	0	355,500	42,600
1992	38,100	300	0	0	2,400	505,600	27,400	11,700	0	0	420,800	42,600
1993	38,100	300	0	0	2,633	528,966	28,500	11,700	0	0	408,767	42,600
1994	38,100	25,250	0	0	2,866	541,332	30,800	11,700	0	0	396,734	42,600
1995	38,100	50,800	0	0	3,100	558,700	33,100	11,700	0	0	384,700	42,600
1996	38,100	50,800	0	0	3,250	576,104	35,400	11,980	0	0	389,040	42,600
1997	38,100	50,800	0	0	3,400	593,508	37,700	12,260	0	0	393,380	42,600
1998	38,100	50,800	0	0	3,550	610,912	40,000	12,540	0	0	397,720	42,600
1999	38,100	50,800	0	0	3,700	628,316	42,000	12,820	0	0	402,060	42,600
2000	38,100	50,800	0	0	3,850	645,700	44,000	13,100	17,300	0	406,400	42,600
2001	38,100	50,800	0	0	4,000	671,280	46,000	13,420	17,300	0	409,020	42,600
2002	38,100	50,800	0	0	4,150	696,860	47,998	13,740	17,300	0	411,640	42,600
2003	38,100	50,800	0	0	4,300	722,440	50,000	14,060	17,300	0	414,260	42,600
2004	38,100	50,800	0	0	4,450	748,020	54,000	14,380	17,300	0	416,880	42,600
2005	38,100	50,800	0	0	4,600	773,600	58,000	14,700	17,300	0	419,500	42,600
2006	38,100	50,800	0	0	4,750	792,580	62,000	15,040	17,300	0	421,260	42,600
2007	38,100	50,800	0	0	4,900	811,560	66,000	15,380	17,300	0	423,020	42,600
2008	38,100	50,800	0	0	5,050	830,540	70,000	15,720	17,300	0	424,780	42,600
2009	38,100	50,800	0	0	5,200	849,520	74,000	16,060	17,300	0	426,540	42,600
2010	38,100	50,800	0	0	5,350	868,500	78,000	16,400	17,300	0	428,300	42,600
2011	38,100	50,800	0	0	5,440	868,500	82,000	16,800	17,300	0	428,300	42,600
2012	38,100	50,800	0	0	5,530	868,500	86,000	17,200	17,300	0	428,300	42,600
2013	38,100	50,800	0	0	5,620	868,500	90,000	17,600	17,300	0	428,300	42,600
2014	38,100	50,800	0	0	5,710	868,500	94,000	18,000	17,300	0	428,300	42,600
2015	38,100	50,800	0	0	5,800	868,500	98,000	18,400	17,300	0	428,300	42,600
2016	38,100	50,800	0	0	5,800	868,500	96,000	18,840	17,300	0	428,300	42,600
2017	38,100	50,800	0	0	5,800	868,500	98,000	19,280	17,300	0	428,300	42,600
2018	38,100	50,800	0	0	5,800	868,500	100,000	19,720	17,300	0	428,300	42,600
2019	38,100	50,800	0	0	5,800	868,500	100,480	20,160	17,300	0	428,300	42,600
2020	38,100	50,800	0	0	5,800	868,500	100,960	20,600	17,300	0	428,300	42,600
2021	38,100	50,800	0	0	5,800	868,500	101,440	21,080	17,300	0	428,300	42,600
2022	38,100	50,800	0	0	5,800	868,500	101,920	21,560	17,300	0	428,300	42,600
2023	38,100	50,800	0	0	5,800	868,500	102,400	22,040	17,300	0	428,300	42,600
2024	38,100	50,800	0	0	5,800	868,500	102,600	22,520	17,300	0	428,300	42,600
2025	38,100	50,800	0	0	5,800	868,500	102,600	23,000	17,300	0	428,300	42,600
2026	38,100	50,800	0	0	5,800	868,500	102,600	23,540	17,300	0	428,300	42,600
2027	38,100	50,800	0	0	5,800	868,500	102,600	24,080	17,300	0	428,300	42,600
2028	38,100	50,800	0	0	5,800	868,500	102,600	24,620	17,300	0	428,300	42,600
2029	38,100	50,800	0	0	5,800	868,500	102,600	25,160	17,300	0	428,300	42,600
2030	38,100	50,800	0	0	5,800	868,500	102,600	25,700	17,300	0	428,300	42,600
2031	38,100	50,800	0	0	5,800	868,500	102,600	26,320	17,300	0	428,300	42,600
2032	38,100	50,800	0	0	5,800	868,500	102,600	26,940	17,300	0	428,300	42,600
2033	38,100	50,800	0	0	5,800	868,500	102,600	27,560	17,300	0	428,300	42,600
2034	38,100	50,800	0	0	5,800	868,500	102,600	28,180	17,300	0	428,300	42,600
2035	38,100	50,800	0	0	5,800	868,500	102,600	28,800	17,300	0	428,300	42,600

f) 1988 advance entitlement.

g) Includes 10,000 AF recaptured from ground water storage (Demonstration Ground Water Program).

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR (a)

(in acre-feet)

Sheet 7 of 7

Calendar Year	CALIFORNIA AQUEDUCT (continued)											Total California Aqueduct
	WEST BRANCH, CALIFORNIA AQUEDUCT					COASTAL BRANCH, CALIFORNIA AQUEDUCT						
	Reach 29F	Reach 29H	Reach 30			Reach 31A		Reach 33A	Reach 34	Reach 35		
			AVEKWA	VCFC	CLWA	KCWA (Ag.)	DDWD			SLQC FC&WCD	SLOC FC&WCD	
(71)	(72)	(73)	(74)	(75)	(76)	(77)	(78)	(79)	(80)	(81)	(82)	
1962	0	0	0	0	0	0	0	0	0	0	0	8,906
1963	0	0	0	0	0	0	0	0	0	0	0	- 12,645
1964	0	0	0	0	0	0	0	0	0	0	0	- 20,911
1965	0	0	0	0	0	0	0	0	0	0	0	- 34,026
1966	0	0	0	0	0	0	0	0	0	0	0	- 54,913
1967	0	0	0	0	0	0	0	0	0	0	0	- 45,225
1968	0	0	0	0	0	71,657	7,382	0	0	0	0	192,188
1969	0	0	0	0	0	52,094	9,970	0	0	0	0	195,705
1970	0	0	0	0	0	71,910	11,739	0	0	0	0	276,211
1971	0	0	0	0	0	98,481	12,490	0	0	0	0	553,081
1972	53	0	71,938	0	0	107,850	13,905	0	0	0	0	895,006
1973	20	0	155,297	0	0	69,227	9,418	0	0	0	0	638,930
1974	36	0	209,136	0	0	68,474	9,700	0	0	0	0	783,984
1975	26	0	374,280	0	0	74,516	10,700	0	0	0	0	1,129,728
1976	24	0	420,684	0	0	78,358	11,700	0	0	0	0	1,245,662
1977	0	0	122,447	0	0	35,504	5,075	0	0	0	0	465,442
1978	0	0	171,139	0	0	81,242	11,362	0	0	0	0	1,339,268
1979	0	0	145,591	0	7	104,017	19,138	0	0	0	0	1,537,075
1980	0	0	164,721	0	1,210	97,497	13,882	0	0	0	0	1,413,363
1981	0	0	277,503	0	5,761	97,054	12,700	0	0	0	0	1,779,479
1982	0	0	351,362	0	9,516	83,076	12,700	0	0	0	0	1,641,571
1983	0	0	157,519	0	9,476	87,859	12,659	0	0	0	0	1,089,626
1984	0	0	263,735	0	11,477	113,646	12,741	0	0	0	0	1,489,814
1985	0	0	390,696	0	12,401	111,524	12,099	0	0	0	0	1,863,544
1986	0	0	379,275	0	13,928	118,298	13,301	0	0	0	0	1,882,290
1987	0	0	417,285 ^h	0	16,167	116,259	11,821	0	0	0	0	1,933,639
1988	0	0	516,000	0	18,400	130,300	13,579	0	0	0	0	2,533,471
1989	0	0	654,000	0	22,100	111,200	12,700	0	0	0	0	2,857,790
1990	0	0	654,000	0	24,870	111,235	12,700	0	0	0	0	2,910,610
1991	0	0	654,000	0	28,600	111,235	12,700	0	0	0	0	2,924,850
1992	0	0	572,000	0	32,050	111,235	12,700	0	0	0	0	3,046,760
1993	0	250	575,996	15,000	36,775	111,235	12,700	0	0	0	0	3,084,687
1994	0	500	579,992	15,000	41,500	111,235	12,700	0	0	0	0	3,130,574
1995	0	750	584,000	15,000	41,500	111,235	12,700	8,360	4,180	8,360	38,134	3,231,384
1996	0	980	595,000	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,283,240
1997	0	1,210	606,000	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,323,644
1998	0	1,440	617,000	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,363,948
1999	0	1,670	628,000	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,403,952
2000	0	2,500	639,000	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,461,836
2001	0	2,840	648,420	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,507,266
2002	0	3,180	657,840	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,552,694
2003	0	3,520	667,260	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,598,126
2004	0	3,860	676,680	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,643,556
2005	0	4,200	686,100	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,692,986
2006	0	4,240	695,540	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,727,496
2007	0	4,280	704,980	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,762,406
2008	0	4,320	714,420	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,797,116
2009	0	4,360	723,860	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,831,826
2010	0	4,400	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,866,536
2011	0	4,400	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,871,026
2012	0	4,400	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,875,516
2013	0	4,400	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,880,006
2014	0	4,400	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,884,496
2015	0	4,400	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,884,986
2016	0	4,480	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,887,506
2017	0	4,560	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,890,026
2018	0	4,640	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,892,546
2019	0	4,720	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,895,066
2020	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,894,746
2021	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,899,704
2022	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,902,664
2023	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,905,624
2024	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,908,584
2025	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,917,186
2026	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,917,726
2027	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,918,266
2028	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,918,806
2029	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,919,346
2030	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,919,886
2031	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,920,506
2032	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,921,126
2033	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,921,746
2034	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,922,366
2035	0	5,000	733,300	15,000	41,500	111,235	12,700	10,000	5,000	10,000	45,486	3,922,986

h) Deliveries exclude 6,171 AF of 1982 exchange water.

Table B-5B starts on next page

TABLE B-5B. ANNUAL WATER QUANTITIES

(in acre-feet)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA ^(c)				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	494	8,412	0	8,906	0	0	0
1963	0	0	0	1,731	10,914	0	12,645	0	0	0
1964	0	0	0	1,673	19,238	0	20,911	0	0	0
1965	0	0	0	2,605	16,407	15,014	34,026	0	0	0
1966	0	0	0	5,511	14,864	34,538	54,913	0	0	0
1967	0	0	0	4,780	12,882	39,101	56,763	0	0	0
1968	1,214	0	1,214	6,133	24,817	70,105	101,055	0	0	0
1969	2,687	0	2,687	6,635	813	62,264	69,712	0	0	0
1970	3,618	0	3,618	9,249	0	80,311	89,560	0	0	0
1971	2,521	0	2,521	5,017	5,961	87,606	98,584	0	0	0
1972	3,647	0	3,647	10,489	27,671	100,266	138,426	0	0	0
1973	3,792	0	3,792	2,975	2,521	88,582	94,078	0	0	0
1974	4,870	0	4,870	1,314	4	88,000	89,318	0	0	0
1975	6,840	0	6,840	4,618	986	88,000	93,604	0	0	0
1976	7,122	0	7,122	17,131	21,300	88,000	126,431	0	0	0
1977	8,226	0	8,226	12,644	18,840	76,220	107,704	0	0	0
1978	6,034	0	6,034	10,984	5,863	95,727	112,574	0	0	0
1979	6,561	0	6,561	19,325	10,874	91,991	122,190	0	0	0
1980	6,707	0	6,707	16,790	11,034	88,000	115,824	0	0	0
1981	9,001	0	9,001	19,590	21,917	88,000	129,507	0	0	0
1982	1,213	0	1,213	13,123	6,316	87,261	106,700	0	0	0
1983	2,287	0	2,287	4,766	3,157	86,733	94,656	0	0	0
1984	2,923	0	2,923	6,784	3,338	88,000	98,122	0	0	0
1985	4,039	0	4,039	15,072	19,016	88,000	122,088	0	0	0
1986	3,519	0	3,519	10,609	12,379	88,000	110,988	0	0	0
1987	7,693	0	7,693	23,406	25,390	88,000	136,796	0	0	0
1988	5,745	15,660	21,405	30,000	40,165	88,000	158,165	0	0	0
1989	5,007	18,420	23,427	31,000	40,455	90,000	161,455	0	0	0
1990	5,453	21,250	26,703	32,000	40,680	92,000	164,680	0	0	0
1991	5,885	22,300	28,185	34,000	41,320	94,000	169,320	0	0	0
1992	6,283	24,170	30,453	36,000	41,965	96,000	173,965	0	0	0
1993	6,684	27,527	34,211	38,000	42,000	98,000	178,000	0	0	0
1994	8,157	30,884	39,041	40,000	42,000	100,000	182,000	0	0	0
1995	9,630	34,240	43,870	42,000	42,000	100,000	184,000	20,900	38,134	59,034
1996	10,314	35,316	45,630	44,000	42,000	100,000	186,000	25,000	45,486	70,486
1997	10,998	36,392	47,390	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1998	11,682	37,468	49,150	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1999	12,366	38,544	50,910	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2000	13,050	39,620	52,670	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2001	13,665	39,996	53,661	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2002	14,185	40,372	54,557	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2003	14,800	40,748	55,548	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2004	15,400	41,124	56,524	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2005	16,000	41,500	57,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2006	16,450	41,550	58,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2007	17,000	41,600	58,600	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2008	17,650	41,650	59,300	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2009	18,200	41,700	59,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2010	18,700	41,750	60,450	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2011	19,400	41,800	61,200	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2012	19,950	41,850	61,800	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2013	20,600	41,900	62,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2014	21,250	41,950	63,200	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2015	21,900	42,000	63,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2016	22,500	42,000	64,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2017	23,100	42,000	65,100	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2018	23,700	42,000	65,700	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2019	24,300	42,000	66,300	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2020	24,900	42,000	66,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2021	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2022	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2023	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2024	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2025	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2026	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2027	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2028	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2029	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2030	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2031	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2032	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2033	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2034	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2035	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
TOTAL	964,382	1,843,281	2,807,663	2,354,448	2,315,499	6,565,719	11,235,666	1,020,900	1,857,574	2,878,474

a) Includes entitlement water, surplus water delivered prior to May 1, 1973, and non-Project water.

b) For the period 1968 through 1987, deliveries are non-Project water pumped through an interim facility.

DELIVERED TO EACH CONTRACTOR (a)

(in acre-feet)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA								
	Devil's Den	Dudley Ridge	Empire	Kern County Water Agency			County	Oak Flat	Tulare
	Water	Water	West Side				of	Water	Lake Basin
	District	District	Irrigation	M&I	Ag.	Total	Kings	District	Water Storage
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
									(20)
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	7,382	26,360	1,978	0	127,384	127,384	900	3,084	25,100
1969	9,970	31,375	56	0	141,265	141,265	100	3,016	9,923
1970	11,739	40,407	3,942	0	204,634	204,634	0	5,911	9,578
1971	12,490	41,053	5,990	0	360,151	360,151	3,700	7,212	122,485
1972	13,905	42,443	5,795	0	490,781	490,781	1,400	8,166	258,393
1973	9,418	22,057	3,000	0	341,469	341,469	1,500	3,214	50,464
1974	9,700	33,390	3,000	23,708	323,292	347,000	1,500	3,471	72,289
1975	10,700	40,555	3,000	14,529	396,291	410,820	1,600	3,576	86,258
1976	11,700	41,421	3,000	46,719	392,531	439,250	1,600	4,112	58,811
1977	5,075	11,153	738	27,882	163,425	191,307	1,530	1,472	18,081
1978	11,362	51,747	454	76,895	590,452	667,347	2,070	3,906	12,053
1979	19,138	38,544	1,739	62,997	683,049	746,046	2,000	6,149	155,121
1980	13,882	41,000	894	45,943	588,557	634,500	2,200	5,700	75,444
1981	12,700	41,000	5,859	75,758	615,642	691,400	2,300	4,300	83,438
1982	12,700	41,000	361	48,483	696,817	745,300	1,750	3,838	18,551
1983	12,659	42,900	0	6,854	587,653	594,507	3,550	3,822	1,006
1984	12,741	45,100	0	88,600	772,000	860,600	3,100	5,700	5,743
1985	12,099	46,251	5,197	88,515	800,381	888,896	3,400	5,433	109,791
1986	13,301	50,249	1,170	77,240	829,101	906,341	3,700	5,107	79,355
1987	11,821	46,288	2,525	117,204	852,701	969,905	4,000	5,625	93,084
1988	13,579	57,000	3,492	123,900	1,009,537	1,133,437	4,000	5,400	127,500
1989	12,700	55,600	3,000	128,200	984,100	1,112,300	4,000	5,600	118,500
1990	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1991	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1992	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1993	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1994	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1995	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1996	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1997	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1998	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
1999	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2000	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2001	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2002	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2003	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2004	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2005	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2006	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2007	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2008	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2009	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2010	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2011	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2012	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2013	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2014	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2015	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2016	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2017	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2018	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2019	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2020	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2021	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2022	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2023	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2024	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2025	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2026	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2027	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2028	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2029	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2030	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2031	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2032	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2033	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2034	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
2035	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500
TOTAL	844,961	3,541,093	193,190	7,245,027	58,816,013	66,061,040	233,900	366,014	7,041,968
									78,282,166

c) For the period June 1962 through November 1967, deliveries were supplied by non-Project water.

TABLE B-5B. ANNUAL WATER QUANTITIES

(in acre-feet)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	53	0	0	464	0	338	55	0	1,275	0
1973	20	0	5,800	389	9,000	290	0	0	32,426	0
1974	1,259	0	6,400	627	10,000	400	14	0	16,605	612
1975	8,068	0	7,000	825	11,000	520	0	0	13,865	5,450
1976	27,782	0	7,600	1,002	12,000	589	0	0	12,273	6,071
1977	11,202	0	0	1,109	0	111	80	0	24,833	8,994
1978	44,137	0	10,084	1,209	15,300	208	0	0	4,055	7,771
1979	60,493	7	10,063	1,260	15,000	133	4,000	0	18	290
1980	72,407	1,210	10,884	1,239	17,000	191	4,000	0	0	1,085
1981	79,375	5,761	12,105	1,485	19,000	1,270	4,000	0	16,021	3,619
1982	50,291	9,516	13,326	1,238	21,000	0	10,500	0	8,409	12,599
1983	32,961	9,476	14,547	911	23,000	38	0	0	5,994	734
1984	32,662	11,477	15,768	1,128	25,000	1	0	0	5,556	7,656
1985	37,064	12,401	16,989	1,422	27,000	0	0	1,558	7,390	5,028
1986	32,449	13,928	18,210	1,506	29,000	163	0	3,096	6,421	9,454
1987	34,094	16,167	19,431	1,849	31,500	1,080	17	5,379	18,751	10,630
1988	46,000	18,400	20,652	2,000	34,000	1,953	0	6,210	23,000	10,500
1989	48,000	22,100	21,873	2,100	36,500	0	0	8,190	24,200	10,500
1990	50,000	24,870	23,100	2,200	38,100	1,600	300	10,440	24,700	10,500
1991	55,000	28,600	23,100	2,300	38,100	1,700	300	13,050	27,400	10,500
1992	58,000	32,050	23,100	2,400	38,100	1,800	300	16,110	27,400	11,700
1993	64,000	36,775	23,100	2,633	38,100	1,900	300	17,300	28,500	11,700
1994	68,000	41,500	23,100	2,866	38,100	2,000	25,250	17,300	30,800	11,700
1995	72,000	41,500	23,100	3,100	38,100	2,100	50,800	17,300	33,100	11,700
1996	76,600	41,500	23,100	3,250	38,100	2,200	50,800	17,300	35,400	11,980
1997	81,200	41,500	23,100	3,400	38,100	2,300	50,800	17,300	37,700	12,260
1998	85,800	41,500	23,100	3,550	38,100	2,300	50,800	17,300	40,000	12,540
1999	90,400	41,500	23,100	3,700	38,100	2,300	50,800	17,300	42,000	12,820
2000	95,000	41,500	23,100	3,850	38,100	2,300	50,800	17,300	44,000	13,100
2001	100,000	41,500	23,100	4,000	38,100	2,300	50,800	17,300	46,000	13,420
2002	105,000	41,500	23,100	4,150	38,100	2,300	50,800	17,300	47,998	13,740
2003	110,000	41,500	23,100	4,300	38,100	2,300	50,800	17,300	50,000	14,060
2004	115,000	41,500	23,100	4,450	38,100	2,300	50,800	17,300	54,000	14,380
2005	120,000	41,500	23,100	4,600	38,100	2,300	50,800	17,300	58,000	14,700
2006	120,000	41,500	23,100	4,750	38,100	2,300	50,800	17,300	62,000	15,040
2007	120,000	41,500	23,100	4,900	38,100	2,300	50,800	17,300	66,000	15,380
2008	120,000	41,500	23,100	5,050	38,100	2,300	50,800	17,300	70,000	15,720
2009	120,000	41,500	23,100	5,200	38,100	2,300	50,800	17,300	74,000	16,060
2010	120,000	41,500	23,100	5,350	38,100	2,300	50,800	17,300	78,000	16,400
2011	120,000	41,500	23,100	5,440	38,100	2,300	50,800	17,300	82,000	16,800
2012	120,000	41,500	23,100	5,530	38,100	2,300	50,800	17,300	86,000	17,200
2013	120,000	41,500	23,100	5,620	38,100	2,300	50,800	17,300	90,000	17,600
2014	120,000	41,500	23,100	5,710	38,100	2,300	50,800	17,300	92,000	18,000
2015	120,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	94,000	18,400
2016	120,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	96,000	18,840
2017	120,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	98,000	19,280
2018	120,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	100,000	19,720
2019	120,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	100,480	20,160
2020	120,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	100,960	20,600
2021	124,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	101,440	21,080
2022	126,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	101,920	21,560
2023	132,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,400	22,040
2024	136,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	22,520
2025	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	23,000
2026	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	23,540
2027	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	24,080
2028	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	24,620
2029	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	25,160
2030	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	25,700
2031	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	26,320
2032	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	26,940
2033	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	27,560
2034	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,180
2035	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
TOTAL	5,804,717	1,985,738	1,273,332	245,862	2,087,900	110,285	2,131,916	807,933	3,674,490	938,095

DELIVERED TO EACH CONTRACTOR (a)

(in acre-feet)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	8,906
1963	0	0	0	0	0	0	0	0	0	12,645
1964	0	0	0	0	0	0	0	0	0	20,911
1965	0	0	0	0	0	0	0	0	0	34,026
1966	0	0	0	0	0	0	0	0	0	54,913
1967	0	0	0	0	0	0	0	0	0	56,763
1968	0	0	0	0	0	0	0	0	0	294,457
1969	0	0	0	0	0	0	0	0	0	268,104
1970	0	0	0	0	0	0	70	70	0	369,459
1971	0	0	0	0	0	192	64	256	0	654,442
1972	0	71,938	0	74,123	0	186	505	691	0	1,037,770
1973	0	159,883	0	207,808	0	53	679	732	0	737,532
1974	0	277,717	0	313,634	0	127	648	775	0	878,947
1975	0	526,491	0	573,219	0	253	405	658	0	1,230,830
1976	0	618,451	0	685,768	0	527	382	909	0	1,380,124
1977	0	189,755	0	236,086	0	706	303	1,009	0	582,381
1978	0	507,565	0	590,329	0	579	278	857	0	1,458,733
1979	0	477,074	0	568,338	0	302	329	631	0	1,666,457
1980	0	531,727	0	639,743	0	267	295	562	0	1,536,456
1981	0	795,846	0	938,482	0	221	355	576	0	1,918,563
1982	0	691,192	0	818,071	0	334	305	639	0	1,750,123
1983	0	343,521	0	431,182	0	325	262	587	0	1,187,156
1984	0	457,582	0	556,830	108	177	272	557	0	1,591,416
1985	0	683,625	0	792,477	62	308	254	624	0	1,990,295
1986	0	708,840	0	823,067	328	313	317	958	0	1,997,755
1987	0	661,493	0	800,391	88	459	452	999	0	2,079,127
1988	0	1,026,348	0	1,189,063	1,400	1,200	960	3,560	0	2,716,601
1989	0	1,372,627	0	1,546,090	1,500	1,200	1,000	3,700	0	3,046,372
1990	0	1,369,800	0	1,555,610	1,800	1,200	1,040	4,040	0	3,106,033
1991	0	1,369,800	0	1,569,850	2,000	27,500	1,080	30,580	0	3,152,935
1992	0	1,480,800	0	1,691,760	2,200	27,500	1,120	30,820	0	3,281,998
1993	0	1,490,129	15,250	1,729,687	2,400	27,500	1,160	31,060	0	3,327,958
1994	0	1,499,458	15,500	1,775,574	2,550	27,500	1,200	31,250	0	3,382,865
1995	0	1,508,800	15,750	1,817,350	2,700	27,500	1,250	31,450	0	3,490,704
1996	0	1,541,544	15,980	1,857,754	3,000	27,500	1,300	31,800	0	3,546,670
1997	0	1,574,288	16,210	1,898,158	3,300	27,500	1,350	32,150	0	3,591,184
1998	0	1,607,032	16,440	1,938,462	3,600	27,500	1,400	32,500	0	3,633,598
1999	0	1,639,776	16,670	1,978,466	3,900	27,500	1,450	32,850	0	3,675,676
2000	17,300	1,672,500	17,500	2,036,350	4,200	27,500	1,510	33,210	0	3,735,716
2001	17,300	1,710,120	17,840	2,081,780	5,280	27,500	1,570	34,350	0	3,783,277
2002	17,300	1,747,740	18,180	2,127,208	6,360	27,500	1,630	35,490	0	3,830,741
2003	17,300	1,785,360	18,520	2,172,640	7,440	27,500	1,690	36,630	0	3,878,304
2004	17,300	1,822,980	18,860	2,220,070	8,520	27,500	1,750	37,770	0	3,927,850
2005	17,300	1,860,600	19,200	2,267,500	9,600	27,500	1,810	38,910	0	3,977,396
2006	17,300	1,890,780	19,240	2,302,210	9,600	27,500	1,880	38,980	0	4,012,676
2007	17,300	1,920,960	19,280	2,336,920	9,600	27,500	1,950	39,050	0	4,048,056
2008	17,300	1,951,140	19,320	2,371,630	9,600	27,500	2,020	39,120	0	4,083,536
2009	17,300	1,981,320	19,360	2,406,340	9,600	27,500	2,090	39,190	0	4,118,916
2010	17,300	2,011,500	19,400	2,441,050	9,600	27,500	2,160	39,260	0	4,154,246
2011	17,300	2,011,500	19,400	2,445,540	9,600	27,500	2,240	39,340	0	4,159,566
2012	17,300	2,011,500	19,400	2,450,030	9,600	27,500	2,320	39,420	0	4,164,736
2013	17,300	2,011,500	19,400	2,454,520	9,600	27,500	2,410	39,510	0	4,170,016
2014	17,300	2,011,500	19,400	2,457,010	9,600	27,500	2,500	39,600	0	4,173,296
2015	17,300	2,011,500	19,400	2,459,500	9,600	27,500	2,600	39,700	0	4,176,586
2016	17,300	2,011,500	19,480	2,462,020	9,600	27,500	2,700	39,800	0	4,179,806
2017	17,300	2,011,500	19,560	2,464,540	9,600	27,500	2,700	39,800	0	4,182,926
2018	17,300	2,011,500	19,640	2,467,060	9,600	27,500	2,700	39,800	0	4,186,046
2019	17,300	2,011,500	19,720	2,469,580	9,600	27,500	2,700	39,800	0	4,189,166
2020	17,300	2,011,500	20,000	2,469,260	9,600	27,500	2,700	39,800	0	4,189,446
2021	17,300	2,011,500	20,000	2,474,220	9,600	27,500	2,700	39,800	0	4,194,506
2022	17,300	2,011,500	20,000	2,477,180	9,600	27,500	2,700	39,800	0	4,197,466
2023	17,300	2,011,500	20,000	2,484,140	9,600	27,500	2,700	39,800	0	4,204,426
2024	17,300	2,011,500	20,000	2,488,820	9,600	27,500	2,700	39,800	0	4,209,106
2025	17,300	2,011,500	20,000	2,491,700	9,600	27,500	2,700	39,800	0	4,211,986
2026	17,300	2,011,500	20,000	2,492,240	9,600	27,500	2,700	39,800	0	4,212,526
2027	17,300	2,011,500	20,000	2,492,780	9,600	27,500	2,700	39,800	0	4,213,066
2028	17,300	2,011,500	20,000	2,493,320	9,600	27,500	2,700	39,800	0	4,213,606
2029	17,300	2,011,500	20,000	2,493,860	9,600	27,500	2,700	39,800	0	4,214,146
2030	17,300	2,011,500	20,000	2,494,400	9,600	27,500	2,700	39,800	0	4,214,686
2031	17,300	2,011,500	20,000	2,495,020	9,600	27,500	2,700	39,800	0	4,215,306
2032	17,300	2,011,500	20,000	2,495,640	9,600	27,500	2,700	39,800	0	4,215,926
2033	17,300	2,011,500	20,000	2,496,260	9,600	27,500	2,700	39,800	0	4,216,546
2034	17,300	2,011,500	20,000	2,496,880	9,600	27,500	2,700	39,800	0	4,217,166
2035	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
TOTAL	622,800	95,825,602	813,900	116,322,570	360,336	1,246,429	106,615	1,713,380	0	213,239,919

TABLE B-6. ANNUAL WATER QUANTITIES RECOVERY PLANT OF PROJECT

(in acre-feet)

Sheet 1 of 9

Calendar Year	NORTH BAY AQUEDUCT											
	BARKER SLOUGH PUMPING PLANT				CORDELIA PUMPING PLANT SOLANO COUNTY FC&WCD				CORDELIA PUMPING PLANT NAPA COUNTY FC&WCD			
	Initial Fill Water	Opera- tional Losses	Water Supply Delivery	Total	Initial Fill Water	Opera- tional Losses	Water Supply Delivery	Total	Initial Fill Water	Opera- tional Losses	Water Supply Delivery ^(b)	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	24	-10	1,214	1,228
1969	0	0	0	0	0	0	0	0	0	2	2,687	2,689
1970	0	0	0	0	0	0	0	0	0	18	3,618	3,636
1971	0	0	0	0	0	0	0	0	0	4	2,521	2,525
1972	0	0	0	0	0	0	0	0	0	-10	3,647	3,637
1973	0	0	0	0	0	0	0	0	0	1	3,792	3,793
1974	0	0	0	0	0	0	0	0	0	10	4,870	4,880
1975	0	0	0	0	0	0	0	0	0	10	6,840	6,850
1976	0	0	0	0	0	0	0	0	0	4	7,122	7,126
1977	0	0	0	0	0	0	0	0	0	2	8,226	8,228
1978	0	0	0	0	0	0	0	0	0	-6	6,034	6,028
1979	0	0	0	0	0	0	0	0	0	1	6,561	6,562
1980	0	0	0	0	0	0	0	0	0	-3	6,707	6,704
1981	0	0	0	0	0	0	0	0	0	8	9,001	9,009
1982	0	0	0	0	0	0	0	0	0	-8	1,213	1,205
1983	0	0	0	0	0	0	0	0	0	-12	2,287	2,275
1984	0	0	0	0	0	0	0	0	0	-15	2,923	2,908
1985	0	0	0	0	0	0	0	0	0	9	4,039	4,048
1986	0	0	0	0	0	0	0	0	0	-4	3,515	3,515
1987	0	0	0	0	0	0	0	0	0	0	1,550	1,550
1988	0	51	21,405	21,456	0	5	14,960	14,965	0	5	5,745	5,750
1989	0	51	23,427	23,478	0	5	17,220	17,225	0	5	5,007	5,012
1990	0	51	26,703	26,754	0	5	15,400	15,405	0	5	5,453	5,458
1991	0	51	28,185	28,236	0	5	15,800	15,805	0	5	5,885	5,890
1992	0	51	30,453	30,504	0	5	16,120	16,125	0	5	6,283	6,288
1993	0	51	34,211	34,262	0	5	16,527	16,532	0	5	6,684	6,689
1994	0	51	39,041	39,092	0	5	16,934	16,939	0	5	8,157	8,162
1995	0	51	43,870	43,921	0	5	17,340	17,345	0	5	9,630	9,635
1996	0	51	45,630	45,681	0	5	17,746	17,751	0	5	10,314	10,319
1997	0	51	47,390	47,441	0	5	18,152	18,157	0	5	10,998	11,003
1998	0	51	49,150	49,201	0	5	18,558	18,563	0	5	11,682	11,687
1999	0	51	50,874	50,925	0	5	18,964	18,969	0	5	12,330	12,335
2000	0	51	52,670	52,721	0	5	19,370	19,375	0	5	13,050	13,055
2001	0	51	53,661	53,712	0	5	19,696	19,701	0	5	13,665	13,670
2002	0	51	54,557	54,608	0	5	20,022	20,027	0	5	14,185	14,190
2003	0	51	55,548	55,599	0	5	20,348	20,353	0	5	14,800	14,805
2004	0	51	56,524	56,575	0	5	20,674	20,679	0	5	15,400	15,405
2005	0	51	57,500	57,551	0	5	21,000	21,005	0	5	16,000	16,005
2006	0	51	58,000	58,051	0	5	21,000	21,005	0	5	16,450	16,455
2007	0	51	58,600	58,651	0	5	21,000	21,005	0	5	17,000	17,005
2008	0	51	59,300	59,351	0	5	21,000	21,005	0	5	17,650	17,655
2009	0	51	59,900	59,951	0	5	21,000	21,005	0	5	18,200	18,205
2010	0	51	60,450	60,501	0	5	21,000	21,005	0	5	18,700	18,705
2011	0	51	61,200	61,251	0	5	21,000	21,005	0	5	19,400	19,405
2012	0	51	61,800	61,851	0	5	21,000	21,005	0	5	19,950	19,955
2013	0	51	62,500	62,551	0	5	21,000	21,005	0	5	20,600	20,605
2014	0	51	63,200	63,251	0	5	21,000	21,005	0	5	21,250	21,255
2015	0	51	63,900	63,951	0	5	21,000	21,005	0	5	21,900	21,905
2016	0	51	64,500	64,551	0	5	21,000	21,005	0	5	22,500	22,505
2017	0	51	65,100	65,151	0	5	21,000	21,005	0	5	23,100	23,105
2018	0	51	65,700	65,751	0	5	21,000	21,005	0	5	23,700	23,705
2019	0	51	66,300	66,351	0	5	21,000	21,005	0	5	24,300	24,305
2020	0	51	66,900	66,951	0	5	21,000	21,005	0	5	24,900	24,905
2021	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2022	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2023	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2024	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2025	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2026	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2027	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2028	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2029	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2030	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2031	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2032	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2033	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2034	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005
2035	0	51	67,000	67,051	0	5	21,000	21,005	0	5	25,000	25,005

Notes: "Reservoir Storage Changes" include projected net annual storage accretions (positive values) and withdrawals (negative values) for all down-aqueduct reservoirs of the project transportation facilities. Those variable OMP&R costs (Table B-12) that are allocable to storage accretions are assigned to the minimum OMP&R costs of the respective reservoirs.

"Water Supply Delivery" or "Deliveries, Water Supply", include certain hypothetical quantities to facilitate cost allocations for those years when deliveries are made from net annual storage withdrawals. The net annual amounts of storage withdrawals are hypothetically added to the actual amounts conveyed from the Delta to the reservoirs ... since deliveries made from storage withdrawals bear the same variable OMP&R costs per acre-foot as if the deliveries were actually conveyed that year, from the Delta. The hypothetical increases in the deliveries made from reservoir storage withdrawals are offset by equal credits to the minimum OMP&R costs of the respective reservoirs. Thus, the variable OMP&R components per acre-foot (Table B-17) may be applied to the total annual quantities delivered either from aqueduct reservoir storage or from the Delta.

"Conservation Water" includes initial fill water, operational losses, and net annual storage changes associated with San Luis Reservoir (and the portion of the aqueduct that is allocated to conservation). The same allocation procedure outlined above for transportation facilities applies also to conservation facilities ... expect that the hypothetical cost increases are added to the variable OMP&R cost to be reimbursed through the Transportation Charge, and deducted from the minimum OMP&R costs to be reimbursed through the Delta Water Charge.

CONVEYED THRU EACH PUMPING AND POWER TRANSPORTATION FACILITIES (a)

(in acre-feet)

Sheet 2 of 9

Calendar Year	SOUTH BAY AQUEDUCT						CALIFORNIA AQUEDUCT									
	SOUTH BAY PUMPING PLANT						NORTH SAN JOAQUIN DIVISION									
							BANKS DELTA PUMPING PLANT									
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Transportation Water		Conservation Water	Total			
Water ^c Supply				Recreation	Water Supply					Recreation						
(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)			
1962	9	272	0	8,906	0	9,187	0	0	0	0	0	0	0			
1963	71	185	0	12,645	0	12,901	0	0	0	0	0	0	0			
1964	171	152	0	20,911	0	21,234	0	0	0	0	0	0	0			
1965	93	729	0	34,026	0	34,848	0	0	0	0	0	0	0			
1966	0	1,746	0	54,913	0	56,659	0	0	0	0	0	0	0			
1967	0	1,677	0	56,763	0	58,440	5,746	1,183	0	11,538	0	18,467	2,957			
1968	0	1,847	0	101,055	0	102,902	11,079	74,464	0	293,243	0	378,786	531,275			
1969	3,449	2,668	0	69,712	0	75,829	7,336	44,287	0	265,417	0	317,040	531,185			
1970	16,279	1,086	-5,355	89,560	0	101,570	23,947	20,767	-5,355	365,771	0	405,130	-12,995			
1971	0	1,815	8,854	98,584	0	109,253	23,207	-10,754	8,854	651,665	8	672,980	7,708			
1972	0	3,557	2,273	138,426	0	144,256	145,066	9,057	-4,285	1,033,432	6,489	1,189,759	48,300			
1973	0	-33	-1,510	94,078	0	92,535	214,941	-4,951	2,902	733,008	1,155	947,055	55,846			
1974	0	1,287	-10,056	89,318	0	80,549	247,894	-11,526	-32,510	873,302	2,118	1,079,278	54,683			
1975	0	320	8,550	93,604	0	102,474	110,149	-8,092	16,101	1,223,332	3,377	1,344,867	-102,625			
1976	0	2,431	1,391	126,431	141	130,394	67,834	5,443	-244,124	1,372,093	1,745	1,202,991	-442,348			
1977	0	2,866	2,685	107,704	112	113,367	0	39,897	-157,543	573,146	1,111	456,611	-13,507			
1978	0	2,165	-11,249	112,574	126	103,616	67,457	-36,898	35,129	1,551,842	1,177	1,518,707	752,075			
1979	0	2,401	1,069	122,190	89	125,749	17,397	60,958	-32,307	1,659,265	1,398	1,688,259	-112,053			
1980	0	1,758	-6,563	115,824	123	111,142	3,159	58,484	-275,538	1,529,187	2,131	1,317,423	186,601			
1981	0	2,627	13,742	129,507	121	145,997	46,060	85,350	40,536	1,908,986	4,974	2,085,906	-931,878			
1982	0	2,344	-23,928	106,700	129	85,245	5,979	45,662	90,901	1,748,828	4,646	1,896,016	337,775			
1983	0	2,151	-22,886	94,656	132	74,053	6,071	47,022	-310,477	1,184,282	7,853	934,751	835,771			
1984	0	2,002	-9,815	98,122	158	90,467	38,649	62,633	-124,798	1,591,047	4,387	1,571,918	13,601			
1985	0	1,211	-1,608	120,246	152	120,001	0	68,360	137,208	1,971,543	2,597	2,179,708	-117,433			
1986	0	2,217	319	110,988	130	113,654	0	82,958	37,865	1,993,278	3,865	2,117,966	205,399			
1987	0	2,612	-610	136,796	137	138,935	0	43,658	-25,255	2,109,447	7,672	2,135,522	-457,466			
1988	0	230	0	158,165	400	158,795	0	51,275	-62,133	2,691,636	7,880	2,688,658	-203,064			
1989	0	230	0	161,455	400	162,085	0	51,275	-63,669	3,019,245	10,010	3,016,861	72,728			
1990	0	3,642	0	164,680	400	168,722	0	105,778	74,894	3,075,290	12,680	3,268,642	37,799			
1991	0	3,578	0	169,320	400	173,298	0	107,830	3,671	3,094,170	12,485	3,218,156	257,998			
1992	0	3,510	0	173,965	400	177,875	0	109,302	-37,337	3,220,725	12,485	3,305,175	94,829			
1993	0	3,452	0	178,000	400	181,852	0	109,093	-11,289	3,262,687	12,485	3,372,976	-47,074			
1994	0	3,390	0	182,000	400	185,790	0	108,933	-34,132	3,312,574	12,485	3,399,860	3,448			
1995	0	3,328	0	184,000	400	187,728	0	108,498	18,232	3,415,384	12,485	3,554,599	-36,782			
1996	0	3,293	0	186,000	400	189,693	0	108,566	-13,816	3,469,240	12,485	3,576,475	11,254			
1997	0	3,261	0	188,000	400	191,661	0	108,437	6,939	3,511,644	12,485	3,639,505	-9,230			
1998	0	3,261	0	188,000	400	191,661	0	108,251	-12,888	3,551,948	12,485	3,659,595	-15,124			
1999	0	3,261	0	188,000	400	191,661	0	108,314	-2,885	3,591,952	12,485	3,709,866	9,698			
2000	0	3,261	0	188,000	400	191,661	0	108,292	15,658	3,649,836	12,485	3,786,271	-19,110			
2001	0	3,261	0	188,000	400	191,661	0	108,141	-27,772	3,695,266	12,485	3,788,120	886			
2002	0	3,261	0	188,000	400	191,661	0	108,009	14,604	3,740,694	12,485	3,875,792	-33,898			
2003	0	3,261	0	188,000	400	191,661	0	107,840	-10,547	3,786,126	12,485	3,895,904	-15,261			
2004	0	3,261	0	188,000	400	191,661	0	107,810	26,185	3,833,556	12,485	3,980,036	-30,521			
2005	0	3,261	0	188,000	400	191,661	0	107,750	4,046	3,880,986	12,485	4,005,267	-27,392			
2006	0	3,261	0	188,000	400	191,661	0	107,528	-15,300	3,915,696	12,485	4,020,409	-50,821			
2007	0	3,261	0	188,000	400	191,661	0	109,000	2,390	3,950,406	12,485	4,074,281	69,605			
2008	0	3,261	0	188,000	400	191,661	0	108,575	10,491	3,985,116	12,485	4,116,667	-1,468			
2009	0	3,261	0	188,000	400	191,661	0	108,991	-3,303	4,019,826	12,485	4,137,999	-8,087			
2010	0	3,261	0	188,000	400	191,661	0	108,729	9,181	4,054,536	12,485	4,184,931	-19,945			
2011	0	3,261	0	188,000	400	191,661	0	108,570	-5,937	4,059,026	12,485	4,174,144	20,671			
2012	0	3,261	0	188,000	400	191,661	0	108,744	8,747	4,063,516	12,485	4,193,492	-19,251			
2013	0	3,261	0	188,000	400	191,661	0	108,560	-13,621	4,068,006	12,485	4,175,430	31,695			
2014	0	3,261	0	188,000	400	191,661	0	108,628	21,372	4,070,496	12,485	4,212,981	-43,762			
2015	0	3,261	0	188,000	400	191,661	0	108,511	-39,435	4,072,986	12,485	4,154,547	56,344			
2016	0	3,261	0	188,000	400	191,661	0	108,589	9,424	4,075,506	12,485	4,206,004	15,410			
2017	0	3,261	0	188,000	400	191,661	0	108,311	-1,639	4,078,026	12,485	4,197,129	-4,071			
2018	0	3,261	0	188,000	400	191,661	0	108,261	-5,800	4,080,546	12,485	4,195,492	-32,801			
2019	0	3,261	0	188,000	400	191,661	0	108,257	6,208	4,081,546	12,485	4,208,496	8,765			
2020	0	3,261	0	188,000	400	191,661	0	108,202	-474	4,082,746	12,485	4,202,959	1,037			
2021	0	3,261	0	188,000	400	191,661	0	108,251	-16,541	4,087,706	12,485	4,191,901	63,785			
2022	0	3,261	0	188,000	400	191,661	0	108,191	14,729	4,090,666	12,485	4,226,071	-22,397			
2023	0	3,261	0	188,000	400	191,661	0	108,170	5,199	4,097,626	12,485	4,223,480	-12,363			
2024	0	3,261	0	188,000	400	191,661	0	108,124	-12,898	4,102,306	12,485	4,210,017	11,710			
2025	0	3,261	0	188,000	400	191,661	0	108,218	-1,004	4,105,186	12,485	4,224,885	36,358			
2026	0	3,261	0	188,000	400	191,661	0	108,141	1,236	4,105,726	12,485	4,227,588	-5,422			
2027	0	3,261	0	188,000	400	191,661	0	108,312	11,075	4,106,266	12,485	4,238,138	-38,576			
2028	0	3,261	0	188,000	400	191,661	0	108,248	-12,192	4,106,806	12,485	4,215,347	54,208			
2029	0	3,261	0	188,000	400	191,661	0	108,198	-9,497	4,107,346	12,485	4,218,532	-268			
2030	0	3,261	0	188,000	400	191,661	0	108,239	-52	4,107,886	12,485	4,228,518	13,492			
2031	0	3,261	0	188,000	400	191,661	0	108,362	-743	4,108,506	12,485	4,228,610	9,368			
2032	0	3,261	0	188,000	400	191,661	0	108,209	22,325	4,109,126	12,485	4,252,145	-18,821			
2033	0	3,261	0	188,000	400	191,661	0	108,324	-14,579	4,109,746	12,485	4,215,976	-5,066			
2034	0	3,261	0	188,000	400	191,661	0	108,102	11,738	4,110,366	12,485	4,224,691	14,141			
2035	0	3,261	0	188,000	400	191,661	0	109,472	56,885	4,110,986	12,485	4,289,828	229,030			

TABLE B-6. ANNUAL WATER QUANTITIES RECOVERY PLANT OF PROJECT

(in acre-feet)

Sheet 3 of 9

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	SAN LUIS DIVISION						SOUTH SAN JOAQUIN DIVISION					
	DOS AMIGOS PUMPING PLANT						BUENA VISTA PUMPING PLANT					
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
Water Supply				Recrea- tion	Water Supply					Recrea- tion		
	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	11,079	25,126	0	189,104	0	225,309	0	0	0	0	0	0
1969	3,887	9,922	0	192,689	0	206,498	0	0	0	0	0	0
1970	7,668	1,901	0	270,300	0	279,869	4,779	1,012	0	3	0	5,794
1971	23,207	-12,030	0	545,869	0	557,046	7,853	8,399	0	101,512	0	117,764
1972	145,066	-6,635	-6,558	886,840	6,481	1,025,194	100,274	20,044	-6,558	223,626	6,481	343,867
1973	214,941	-6,778	1,329	635,716	1,147	846,355	204,638	35,695	1,329	311,096	1,147	553,905
1974	247,894	-16,765	-15,295	780,513	2,108	998,455	237,554	19,672	-15,295	388,949	2,108	632,988
1975	110,149	-12,144	-693	1,126,152	3,358	1,226,822	103,352	26,342	-693	672,531	3,358	804,890
1976	67,834	-456	-152,171	1,241,550	1,581	1,158,338	61,122	29,428	-152,171	785,055	1,581	725,015
1977	0	26,359	-116,219	463,970	737	374,847	0	25,173	-116,219	271,944	560	181,458
1978	67,457	1,905	79,308	1,335,362	680	1,484,712	65,027	17,751	121,904	762,043	674	967,399
1979	17,397	33,884	-51,299	1,530,926	685	1,531,593	12,302	46,157	-51,299	737,714	502	745,376
1980	3,159	34,391	-272,825	1,407,663	1,514	1,173,902	0	49,025	-134,009	778,059	1,262	694,337
1981	46,060	36,962	23,359	1,775,179	4,348	1,885,908	0	38,942	23,359	1,077,322	4,112	1,143,735
1982	5,979	33,526	108,407	1,638,290	4,205	1,790,407	0	29,424	108,407	997,285	4,045	1,139,161
1983	6,071	63,583	-101,155	1,085,804	7,475	1,061,778	0	40,205	-101,155	593,920	7,291	540,261
1984	38,649	63,337	-114,983	1,487,225	3,849	1,478,077	0	37,813	-114,983	785,066	3,702	711,598
1985	0	38,585	138,816	1,847,145	2,082	2,026,628	0	40,842	138,816	992,606	1,950	1,174,214
1986	0	49,378	37,546	1,877,183	3,426	1,967,533	0	45,343	37,546	1,014,294	3,285	1,100,468
1987	0	14,021	-24,645	1,967,026	7,121	1,963,523	0	34,311	-24,645	1,017,355	6,937	1,033,958
1988	0	37,984	-62,133	2,528,071	6,790	2,510,712	0	16,300	-62,133	1,449,563	6,680	1,410,410
1989	0	37,984	-63,669	2,852,190	8,920	2,835,425	0	16,300	-63,669	1,775,590	8,810	1,737,031
1990	0	62,278	74,894	2,904,910	11,590	3,053,672	0	40,594	74,894	1,784,985	11,480	1,911,953
1991	0	62,791	3,671	2,919,150	11,395	2,997,007	0	41,107	3,671	1,799,225	11,285	1,855,288
1992	0	62,557	-37,337	3,041,060	11,395	3,077,675	0	40,873	-37,337	1,921,135	11,285	1,935,956
1993	0	62,491	-11,289	3,078,987	11,395	3,141,584	0	40,769	-11,289	1,959,062	11,285	1,999,827
1994	0	62,529	-34,132	3,124,874	11,395	3,164,666	0	40,633	-34,132	2,004,949	11,285	2,022,735
1995	0	62,441	18,232	3,225,684	11,395	3,317,752	0	40,545	18,232	2,046,725	11,285	2,116,787
1996	0	62,392	-13,816	3,277,540	11,395	3,337,511	0	40,496	-13,816	2,087,129	11,285	2,125,094
1997	0	62,357	6,939	3,317,944	11,395	3,398,635	0	40,461	6,939	2,127,533	11,285	2,186,218
1998	0	62,304	-12,888	3,358,248	11,395	3,419,059	0	40,408	-12,888	2,167,837	11,285	2,206,642
1999	0	62,548	-2,885	3,398,252	11,395	3,469,310	0	40,652	-2,885	2,207,841	11,285	2,256,893
2000	0	62,604	15,658	3,456,136	11,395	3,545,793	0	40,708	15,658	2,265,725	11,285	2,333,376
2001	0	62,462	-27,772	3,501,566	11,395	3,547,651	0	40,566	-27,772	2,311,155	11,285	2,335,234
2002	0	62,425	14,604	3,546,994	11,395	3,635,418	0	40,529	14,604	2,356,583	11,285	2,423,001
2003	0	62,444	-10,547	3,592,426	11,395	3,655,718	0	40,548	-10,547	2,402,015	11,285	2,443,301
2004	0	62,480	26,185	3,639,856	11,395	3,739,916	0	40,584	26,185	2,449,445	11,285	2,527,499
2005	0	62,607	4,046	3,687,286	11,395	3,765,334	0	40,711	4,046	2,496,875	11,285	2,552,917
2006	0	62,567	-15,300	3,721,996	11,395	3,780,658	0	40,671	-15,300	2,531,585	11,285	2,568,241
2007	0	62,748	2,390	3,756,706	11,395	3,833,239	0	40,852	2,390	2,566,295	11,285	2,620,822
2008	0	62,355	10,491	3,791,416	11,395	3,875,657	0	40,459	10,491	2,601,005	11,285	2,663,240
2009	0	62,646	-3,303	3,826,126	11,395	3,896,864	0	40,750	-3,303	2,635,715	11,285	2,684,447
2010	0	62,531	9,181	3,860,836	11,395	3,943,943	0	40,635	9,181	2,670,425	11,285	2,731,526
2011	0	62,505	-5,937	3,865,326	11,395	3,933,289	0	40,609	-5,937	2,674,915	11,285	2,720,872
2012	0	62,592	8,747	3,869,816	11,395	3,952,550	0	40,696	8,747	2,679,405	11,285	2,740,133
2013	0	62,492	-13,621	3,874,306	11,395	3,934,572	0	40,596	-13,621	2,683,895	11,285	2,722,155
2014	0	62,505	21,372	3,876,796	11,395	3,972,068	0	40,609	21,372	2,686,385	11,285	2,759,651
2015	0	62,316	-39,435	3,879,286	11,395	3,913,562	0	40,420	-39,435	2,688,875	11,285	2,701,145
2016	0	62,448	9,424	3,881,806	11,395	3,965,073	0	40,552	9,424	2,691,395	11,285	2,752,656
2017	0	62,139	-1,693	3,884,326	11,395	3,956,167	0	40,243	-1,693	2,693,915	11,285	2,743,750
2018	0	62,087	-5,800	3,886,846	11,395	3,954,528	0	40,191	-5,800	2,696,435	11,285	2,742,111
2019	0	62,025	6,208	3,887,846	11,395	3,967,474	0	40,129	6,208	2,697,435	11,285	2,755,057
2020	0	62,031	-474	3,889,046	11,395	3,961,998	0	40,135	-474	2,698,635	11,285	2,749,581
2021	0	62,125	-16,541	3,894,006	11,395	3,950,985	0	40,229	-16,541	2,703,595	11,285	2,738,568
2022	0	62,083	14,729	3,896,966	11,395	3,985,173	0	40,187	14,729	2,706,555	11,285	2,772,756
2023	0	62,062	5,199	3,903,926	11,395	3,982,582	0	40,166	5,199	2,713,515	11,285	2,770,165
2024	0	61,989	-12,898	3,908,606	11,395	3,969,092	0	40,093	-12,898	2,718,195	11,285	2,756,675
2025	0	62,007	-1,004	3,911,486	11,395	3,983,884	0	40,111	-1,004	2,721,075	11,285	2,771,467
2026	0	62,013	1,236	3,912,026	11,395	3,986,670	0	40,117	1,236	2,721,615	11,285	2,774,253
2027	0	61,970	11,075	3,912,566	11,395	3,997,006	0	40,074	11,075	2,722,155	11,285	2,784,589
2028	0	61,963	-12,192	3,913,106	11,395	3,974,272	0	40,067	-12,192	2,722,695	11,285	2,761,855
2029	0	61,967	-9,497	3,913,646	11,395	3,977,511	0	40,071	-9,497	2,723,235	11,285	2,765,094
2030	0	61,953	-52	3,914,186	11,395	3,987,482	0	40,057	-52	2,723,775	11,285	2,775,065
2031	0	61,988	-743	3,914,806	11,395	3,987,446	0	40,092	-743	2,724,395	11,285	2,775,029
2032	0	61,982	22,325	3,915,426	11,395	4,011,128	0	40,086	22,325	2,725,015	11,285	2,798,711
2033	0	61,992	-14,579	3,916,046	11,395	3,974,854	0	40,096	-14,579	2,725,635	11,285	2,762,437
2034	0	61,997	11,738	3,916,666	11,395	4,001,796	0	40,101	11,738	2,726,255	11,285	2,789,379
2035	0	62,087	56,885	3,917,286	11,395	4,047,653	0	40,191	56,885	2,726,875	11,285	2,835,236

CONVEYED THRU EACH PUMPING AND POWER TRANSPORTATION FACILITIES (a

(in acre-feet)

Sheet 4 of 9

CALIFORNIA AQUEDUCT (continued)												
SOUTH SAN JOAQUIN DIVISION												
Calendar Year	WHEELER RIDGE PUMPING PLANT						CHRISMAN WIND GAP PUMPING PLANT					
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recrea- tion					Water Supply	Recrea- tion	
	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0
1970	198	2	0	0	0	200	0	0	0	0	0	0
1971	7,533	-112	0	3,552	0	10,973	7,366	-159	0	0	0	7,207
1972	100,274	12,765	-6,558	84,955	6,481	197,917	100,274	13,160	-6,558	78,891	6,481	192,248
1973	204,638	21,543	1,329	229,685	1,147	458,342	204,638	32,414	1,329	209,769	1,147	449,297
1974	237,554	11,843	-15,295	336,198	2,108	572,408	237,554	17,655	-15,295	318,198	2,108	560,220
1975	103,352	19,763	-693	621,706	3,358	747,486	103,352	25,326	-693	586,286	3,358	717,629
1976	61,122	18,552	-152,171	740,486	1,581	669,570	61,122	21,468	-152,171	700,935	1,581	632,935
1977	0	16,415	-116,219	246,349	560	147,105	0	15,698	-116,219	240,191	560	140,230
1978	65,027	28,820	121,904	631,121	674	847,546	65,027	26,705	121,904	599,973	674	814,283
1979	12,302	50,663	-51,299	625,561	502	637,729	12,302	50,580	-51,299	586,959	502	599,044
1980	0	48,825	-134,009	696,405	1,262	612,483	0	58,085	-134,009	658,588	1,262	583,926
1981	0	51,600	23,359	998,307	4,112	1,077,378	0	48,844	23,359	959,274	4,112	1,035,589
1982	0	44,876	108,407	884,908	4,045	1,042,236	0	34,009	108,407	837,126	4,045	983,587
1983	0	43,961	-101,155	487,915	7,291	438,012	0	34,698	-101,155	450,489	7,291	391,323
1984	0	45,226	-114,983	635,373	3,702	569,318	0	32,355	-114,983	585,525	3,702	506,599
1985	0	49,394	138,816	854,684	1,950	1,044,844	0	51,110	138,816	810,606	1,950	1,002,482
1986	0	47,369	37,546	882,300	3,285	970,500	0	50,047	37,546	839,839	3,285	930,717
1987	0	51,642	-24,645	887,899	6,937	921,833	0	36,422	-24,645	853,151	6,937	871,865
1988	0	12,670	-62,133	1,256,463	6,680	1,213,680	0	12,420	-62,133	1,209,263	6,680	1,166,230
1989	0	12,670	-63,669	1,607,290	8,810	1,565,101	0	12,420	-63,669	1,586,690	8,810	1,522,251
1990	0	36,964	74,894	1,615,986	11,480	1,739,324	0	36,714	74,894	1,574,211	11,480	1,697,299
1991	0	37,477	3,671	1,630,226	11,285	1,682,659	0	37,227	3,671	1,588,451	11,285	1,640,634
1992	0	37,243	-37,337	1,752,136	11,285	1,763,327	0	36,993	-37,337	1,710,361	11,285	1,721,302
1993	0	37,139	-11,289	1,790,063	11,285	1,827,198	0	36,889	-11,289	1,748,288	11,285	1,785,173
1994	0	37,003	-34,132	1,835,950	11,285	1,850,106	0	36,753	-34,132	1,794,175	11,285	1,808,081
1995	0	36,915	18,232	1,877,726	11,285	1,944,158	0	36,665	18,232	1,835,951	11,285	1,902,133
1996	0	36,866	-13,816	1,918,130	11,285	1,952,465	0	36,616	-13,816	1,876,355	11,285	1,910,440
1997	0	36,831	6,939	1,958,534	11,285	2,013,589	0	36,581	6,939	1,916,759	11,285	1,971,564
1998	0	36,778	-12,888	1,998,838	11,285	2,034,013	0	36,528	-12,888	1,957,063	11,285	1,991,988
1999	0	37,022	-2,885	2,038,842	11,285	2,084,264	0	36,772	-2,885	1,997,067	11,285	2,042,239
2000	0	37,078	15,658	2,096,726	11,285	2,160,747	0	36,828	15,658	2,054,951	11,285	2,118,722
2001	0	36,936	-27,772	2,142,156	11,285	2,162,605	0	36,686	-27,772	2,100,381	11,285	2,120,580
2002	0	36,899	14,604	2,187,584	11,285	2,250,372	0	36,649	14,604	2,145,809	11,285	2,208,347
2003	0	36,918	-10,547	2,233,016	11,285	2,270,672	0	36,668	-10,547	2,191,241	11,285	2,228,647
2004	0	36,954	26,185	2,280,446	11,285	2,354,870	0	36,704	26,185	2,238,671	11,285	2,312,845
2005	0	37,081	4,046	2,327,876	11,285	2,380,288	0	36,831	4,046	2,286,101	11,285	2,338,263
2006	0	37,041	-15,300	2,362,586	11,285	2,395,612	0	36,791	-15,300	2,320,811	11,285	2,353,587
2007	0	37,222	2,390	2,397,296	11,285	2,448,193	0	36,972	2,390	2,355,521	11,285	2,406,168
2008	0	36,829	10,491	2,432,006	11,285	2,490,611	0	36,579	10,491	2,390,231	11,285	2,448,586
2009	0	37,120	-3,303	2,466,716	11,285	2,511,818	0	36,870	-3,303	2,424,941	11,285	2,469,793
2010	0	37,005	9,181	2,501,426	11,285	2,558,897	0	36,755	9,181	2,459,651	11,285	2,516,872
2011	0	36,979	-5,937	2,505,916	11,285	2,548,243	0	36,729	-5,937	2,464,141	11,285	2,506,218
2012	0	37,066	8,747	2,510,406	11,285	2,567,504	0	36,816	8,747	2,468,631	11,285	2,525,479
2013	0	36,966	-13,621	2,514,896	11,285	2,549,526	0	36,716	-13,621	2,473,121	11,285	2,507,501
2014	0	36,979	21,372	2,517,386	11,285	2,587,022	0	36,729	21,372	2,475,611	11,285	2,544,997
2015	0	36,790	-39,435	2,519,876	11,285	2,528,516	0	36,540	-39,435	2,478,101	11,285	2,486,491
2016	0	36,922	9,424	2,522,396	11,285	2,580,027	0	36,672	9,424	2,480,621	11,285	2,538,002
2017	0	36,613	-1,693	2,524,916	11,285	2,571,121	0	36,363	-1,693	2,483,141	11,285	2,529,096
2018	0	36,561	-5,800	2,527,436	11,285	2,569,482	0	36,311	-5,800	2,485,661	11,285	2,527,457
2019	0	36,499	6,208	2,528,436	11,285	2,582,428	0	36,249	6,208	2,486,661	11,285	2,540,403
2020	0	36,505	-474	2,529,636	11,285	2,576,952	0	36,255	-474	2,487,861	11,285	2,534,927
2021	0	36,599	-16,541	2,534,596	11,285	2,565,939	0	36,349	-16,541	2,492,821	11,285	2,523,914
2022	0	36,557	14,729	2,537,556	11,285	2,600,127	0	36,307	14,729	2,495,781	11,285	2,558,102
2023	0	36,536	5,199	2,544,516	11,285	2,597,536	0	36,286	5,199	2,502,741	11,285	2,555,511
2024	0	36,463	-12,898	2,549,196	11,285	2,584,046	0	36,213	-12,898	2,507,421	11,285	2,542,021
2025	0	36,481	-1,004	2,552,076	11,285	2,598,838	0	36,231	-1,004	2,510,301	11,285	2,556,813
2026	0	36,487	1,236	2,552,616	11,285	2,601,624	0	36,237	1,236	2,510,841	11,285	2,559,599
2027	0	36,444	11,075	2,553,156	11,285	2,611,960	0	36,194	11,075	2,511,381	11,285	2,569,935
2028	0	36,437	-12,192	2,553,696	11,285	2,589,226	0	36,187	-12,192	2,511,921	11,285	2,547,201
2029	0	36,441	-9,497	2,554,236	11,285	2,592,465	0	36,191	-9,497	2,512,461	11,285	2,550,440
2030	0	36,427	-52	2,554,776	11,285	2,602,436	0	36,177	-52	2,513,001	11,285	2,560,411
2031	0	36,462	-743	2,555,396	11,285	2,602,400	0	36,212	-743	2,513,621	11,285	2,560,375
2032	0	36,456	22,325	2,556,016	11,285	2,626,082	0	36,206	22,325	2,514,241	11,285	2,584,057
2033	0	36,466	-14,579	2,556,636	11,285	2,589,808	0	36,216	-14,579	2,514,861	11,285	2,547,783
2034	0	36,471	11,738	2,557,256	11,285	2,616,750	0	36,221	11,738	2,515,481	11,285	2,574,725
2035	0	36,561	56,885	2,557,876	11,285	2,662,607	0	36,311	56,885	2,516,101	11,285	2,620,582

**TABLE B-6. ANNUAL WATER QUANTITIES
RECOVERY PLANT OF PROJECT**

(in acre-feet)

Sheet 5 of 9

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	TEHACHAPI DIVISION						MOJAVE DIVISION					
	A.D. EDMONSTON PUMPING PLANT						ALAMO POWERPLANT					
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recrea- tion					Water Supply	Recrea- tion	
(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	
1962	0	0	0	0	0	0	0	0	0	0	0	
1963	0	0	0	0	0	0	0	0	0	0	0	
1964	0	0	0	0	0	0	0	0	0	0	0	
1965	0	0	0	0	0	0	0	0	0	0	0	
1966	0	0	0	0	0	0	0	0	0	0	0	
1967	0	0	0	0	0	0	0	0	0	0	0	
1968	0	0	0	0	0	0	0	0	0	0	0	
1969	0	0	0	0	0	0	0	0	0	0	0	
1970	0	0	0	0	0	0	0	0	0	0	0	
1971	5,446	8	0	0	0	5,454	0	0	0	0	0	
1972	100,274	16,067	-6,558	74,123	6,481	190,387	0	0	0	0	0	
1973	204,638	34,051	1,329	207,808	1,147	448,973	0	0	0	0	0	
1974	237,554	18,181	-15,295	313,634	2,108	556,182	0	0	0	0	0	
1975	103,352	20,183	-693	573,219	3,358	699,419	0	0	0	0	0	
1976	61,122	21,096	-152,171	685,768	1,581	617,396	0	0	0	0	0	
1977	0	18,424	-116,219	236,086	560	138,851	0	0	0	0	0	
1978	65,027	20,887	121,904	590,329	674	798,821	0	0	0	0	0	
1979	12,302	46,332	-51,299	568,338	502	576,175	0	0	0	0	0	
1980	0	52,967	-134,009	639,743	1,262	559,963	0	0	0	0	0	
1981	0	40,602	23,359	938,482	4,112	1,006,555	0	0	0	0	0	
1982	0	37,731	108,407	818,628	4,045	968,811	0	0	0	0	0	
1983	0	40,690	-101,155	431,182	7,291	378,008	0	0	0	0	0	
1984	0	41,213	-114,983	559,941	3,702	489,873	0	0	0	0	0	
1985	0	47,521	138,816	792,477	1,950	980,764	0	0	0	0	0	
1986	0	38,514	37,546	823,067	3,285	902,412	0	14,898	12,258	429,864	1,508	
1987	0	33,397	-24,645	841,316	6,937	857,005	0	12,960	-15,181	407,864	1,239	
1988	0	10,870	-62,133	1,189,063	6,680	1,144,480	0	8,820	-13,051	654,663	1,630	
1989	0	10,870	-63,669	1,546,090	8,810	1,502,101	0	8,820	-26,236	869,990	3,130	
1990	0	35,164	74,894	1,555,610	11,480	1,677,148	0	20,493	9,368	876,740	5,630	
1991	0	35,677	3,671	1,569,850	11,285	1,620,483	0	20,789	2,624	887,250	5,435	
1992	0	35,443	-37,337	1,691,760	11,285	1,701,151	0	20,875	-21,753	1,087,710	5,435	
1993	0	35,339	-11,289	1,729,687	11,285	1,765,022	0	20,771	-17	1,101,666	5,435	
1994	0	35,203	-34,132	1,775,574	11,285	1,787,930	0	20,884	-4,415	1,138,582	5,435	
1995	0	35,115	18,232	1,817,350	11,285	1,881,982	0	20,795	4,216	1,176,100	5,435	
1996	0	35,066	-13,816	1,857,754	11,285	1,890,289	0	20,710	-8,364	1,205,274	5,435	
1997	0	35,031	6,939	1,898,158	11,285	1,951,413	0	20,749	10,792	1,234,448	5,435	
1998	0	34,978	-12,888	1,938,462	11,285	1,971,837	0	20,693	7,880	1,263,522	5,435	
1999	0	35,222	-2,885	1,978,466	11,285	2,022,088	0	20,779	-3,952	1,292,296	5,435	
2000	0	35,278	15,658	2,036,350	11,285	2,098,571	0	20,775	-10,339	1,338,350	5,435	
2001	0	35,136	-27,772	2,081,780	11,285	2,100,429	0	20,752	-3,012	1,374,020	5,435	
2002	0	35,099	14,604	2,127,208	11,285	2,188,196	0	20,624	29,379	1,409,688	5,435	
2003	0	35,118	-10,547	2,172,640	11,285	2,208,496	0	20,770	-2,113	1,445,360	5,435	
2004	0	35,154	26,185	2,220,070	11,285	2,292,694	0	20,727	-5,589	1,483,030	5,435	
2005	0	35,281	4,046	2,267,500	11,285	2,318,112	0	20,768	-12,559	1,520,700	5,435	
2006	0	35,241	-15,300	2,302,210	11,285	2,333,436	0	20,823	15,401	1,545,930	5,435	
2007	0	35,422	2,390	2,336,920	11,285	2,386,017	0	20,846	-12,472	1,571,160	5,435	
2008	0	35,029	10,491	2,371,630	11,285	2,428,435	0	20,704	1,293	1,596,390	5,435	
2009	0	35,320	-3,303	2,406,340	11,285	2,449,642	0	20,890	7,532	1,621,620	5,435	
2010	0	35,205	9,181	2,441,050	11,285	2,496,721	0	20,856	4,914	1,646,850	5,435	
2011	0	35,179	-5,937	2,445,540	11,285	2,486,067	0	20,827	-628	1,651,340	5,435	
2012	0	35,266	8,747	2,450,030	11,285	2,505,328	0	20,898	-263	1,655,830	5,435	
2013	0	35,166	-13,621	2,454,520	11,285	2,487,350	0	20,857	2,471	1,660,320	5,435	
2014	0	35,179	21,372	2,457,010	11,285	2,524,846	0	20,801	9,389	1,662,810	5,435	
2015	0	34,990	-39,435	2,459,500	11,285	2,466,340	0	20,750	-23,236	1,665,300	5,435	
2016	0	35,122	9,424	2,462,020	11,285	2,517,851	0	20,765	-2,354	1,667,740	5,435	
2017	0	34,813	-9,693	2,464,540	11,285	2,508,945	0	20,527	1,556	1,670,180	5,435	
2018	0	34,761	-5,800	2,467,060	11,285	2,507,306	0	20,385	-2,813	1,672,620	5,435	
2019	0	34,699	6,208	2,468,060	11,285	2,520,252	0	20,349	895	1,673,540	5,435	
2020	0	34,705	-474	2,469,260	11,285	2,514,776	0	20,353	-342	1,674,460	5,435	
2021	0	34,799	-16,541	2,474,220	11,285	2,503,763	0	20,440	-5,974	1,679,420	5,435	
2022	0	34,757	14,729	2,477,180	11,285	2,537,951	0	20,386	679	1,682,380	5,435	
2023	0	34,736	5,199	2,484,140	11,285	2,535,360	0	20,395	9,911	1,689,340	5,435	
2024	0	34,663	-12,898	2,488,820	11,285	2,521,870	0	20,327	-14,525	1,694,020	5,435	
2025	0	34,681	-1,004	2,491,700	11,285	2,536,662	0	20,323	877	1,696,900	5,435	
2026	0	34,687	1,236	2,492,240	11,285	2,539,448	0	20,351	-3,782	1,697,440	5,435	
2027	0	34,644	11,075	2,492,780	11,285	2,549,784	0	20,333	28,994	1,697,980	5,435	
2028	0	34,637	-12,192	2,493,320	11,285	2,527,050	0	20,344	-31,408	1,698,520	5,435	
2029	0	34,641	-9,497	2,493,860	11,285	2,530,289	0	20,376	-1,737	1,699,060	5,435	
2030	0	34,627	-52	2,494,400	11,285	2,540,260	0	20,360	4,237	1,699,600	5,435	
2031	0	34,662	-743	2,495,020	11,285	2,540,224	0	20,384	-1,158	1,700,220	5,435	
2032	0	34,656	22,325	2,495,640	11,285	2,563,906	0	20,376	21,148	1,700,840	5,435	
2033	0	34,666	-14,579	2,496,260	11,285	2,527,632	0	20,339	-13,881	1,701,460	5,435	
2034	0	34,671	11,738	2,496,880	11,285	2,554,574	0	20,332	1,662	1,702,080	5,435	
2035	0	34,761	56,885	2,497,500	11,285	2,600,431	0	20,349	24,790	1,702,700	5,435	

CONVEYED THRU EACH PUMPING AND POWER TRANSPORTATION FACILITIES (a

(in acre-feet)

Sheet 6 of 9

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	MOJAVE DIVISION											
	PEARBLOSSOM PUMPING PLANT						MOJAVE SIPHON POWERPLANT					
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0
1971	21	0	0	0	0	21	0	0	0	0	0	0
1972	35,243	5,282	-153	1,794	0	42,166	0	0	0	0	0	0
1973	80,177	21,522	-2,700	52,201	72	151,272	0	0	0	0	0	0
1974	76,694	10,847	-11,149	102,839	44	179,275	0	0	0	0	0	0
1975	10,000	2,364	-8,397	190,351	70	194,388	0	0	0	0	0	0
1976	4,168	7,040	-16,055	236,713	152	232,018	0	0	0	0	0	0
1977	0	11,398	-17,534	102,326	580	96,770	0	0	0	0	0	0
1978	19,922	5,696	69,130	374,845	498	470,091	0	0	0	0	0	0
1979	12,302	6,836	-32,518	362,114	502	349,236	0	0	0	0	0	0
1980	0	16,200	6,159	401,214	781	424,354	0	0	0	0	0	0
1981	0	4,992	-36,278	574,573	933	544,220	0	0	0	0	0	0
1982	0	4,891	48,383	407,459	1,919	462,652	0	0	0	0	0	0
1983	0	11,745	-26,847	231,188	1,180	217,266	0	0	0	0	0	0
1984	0	18,526	-24,236	252,066	1,494	296,322	0	0	0	0	0	0
1985	0	24,748	-2,676	350,758	1,076	373,906	0	0	0	0	0	0
1986	0	31,039	12,258	394,156	1,508	438,961	0	0	0	0	0	0
1987	0	29,064	15,181	367,525	1,239	382,647	0	0	0	0	0	0
1988	0	3,470	-13,051	600,500	1,430	592,349	0	0	0	0	0	0
1989	0	3,470	-26,236	813,800	1,430	792,464	0	0	0	0	0	0
1990	0	15,143	9,368	814,700	1,430	840,641	0	0	0	0	0	0
1991	0	15,439	2,624	817,500	1,430	836,993	0	0	0	0	0	0
1992	0	15,525	-21,753	1,011,800	1,430	1,007,002	0	0	0	0	0	0
1993	0	15,421	-17	1,018,466	1,430	1,035,300	0	0	0	0	0	0
1994	0	15,534	-4,415	1,051,282	1,430	1,063,831	0	12,064	-4,415	1,026,032	1,430	1,035,111
1995	0	15,445	4,216	1,084,700	1,430	1,105,791	0	11,975	4,216	1,033,900	1,430	1,051,521
1996	0	15,360	-8,364	1,109,174	1,430	1,117,600	0	11,890	-8,364	1,058,374	1,430	1,063,330
1997	0	15,399	10,792	1,133,648	1,430	1,161,269	0	11,929	10,792	1,082,848	1,430	1,106,999
1998	0	15,343	7,880	1,158,122	1,430	1,182,775	0	11,873	7,880	1,107,322	1,430	1,128,505
1999	0	15,429	-3,952	1,182,296	1,430	1,195,203	0	11,959	-3,952	1,131,496	1,430	1,140,933
2000	0	15,425	-10,339	1,223,750	1,430	1,230,266	0	11,955	-10,339	1,172,950	1,430	1,175,996
2001	0	15,402	-3,012	1,254,420	1,430	1,268,240	0	11,932	-3,012	1,203,620	1,430	1,213,970
2002	0	15,274	29,379	1,285,088	1,430	1,331,171	0	11,804	29,379	1,234,288	1,430	1,276,901
2003	0	15,420	-2,113	1,315,760	1,430	1,330,497	0	11,950	-2,113	1,264,960	1,430	1,276,227
2004	0	15,377	-5,589	1,348,430	1,430	1,359,648	0	11,907	-5,589	1,297,630	1,430	1,305,378
2005	0	15,418	-12,559	1,381,100	1,430	1,385,389	0	11,948	-12,559	1,330,300	1,430	1,331,119
2006	0	15,473	15,401	1,406,330	1,430	1,438,634	0	12,003	15,401	1,355,530	1,430	1,384,364
2007	0	15,496	-12,472	1,431,560	1,430	1,436,014	0	12,026	-12,472	1,380,760	1,430	1,381,744
2008	0	15,354	1,293	1,456,790	1,430	1,474,867	0	11,884	1,293	1,405,990	1,430	1,420,597
2009	0	15,540	7,532	1,482,020	1,430	1,506,522	0	12,070	7,532	1,431,220	1,430	1,452,252
2010	0	15,506	4,914	1,507,250	1,430	1,529,100	0	12,036	4,914	1,456,450	1,430	1,474,830
2011	0	15,477	-628	1,511,740	1,430	1,528,019	0	12,007	-628	1,460,940	1,430	1,473,749
2012	0	15,548	-263	1,516,230	1,430	1,532,945	0	12,078	-263	1,465,430	1,430	1,478,675
2013	0	15,507	2,471	1,520,720	1,430	1,540,128	0	12,037	2,471	1,469,920	1,430	1,485,858
2014	0	15,451	9,389	1,523,210	1,430	1,549,480	0	11,981	9,389	1,472,410	1,430	1,495,210
2015	0	15,400	-23,236	1,525,700	1,430	1,519,294	0	11,930	-23,236	1,474,900	1,430	1,465,024
2016	0	15,415	-2,354	1,528,140	1,430	1,542,631	0	11,945	-2,354	1,477,340	1,430	1,488,361
2017	0	15,177	1,556	1,530,580	1,430	1,548,743	0	11,707	1,556	1,479,780	1,430	1,494,473
2018	0	15,035	-2,813	1,533,020	1,430	1,546,672	0	11,565	-2,813	1,482,220	1,430	1,492,402
2019	0	14,999	895	1,533,940	1,430	1,551,264	0	11,529	895	1,483,140	1,430	1,496,994
2020	0	15,003	-342	1,534,860	1,430	1,550,951	0	11,533	-342	1,484,060	1,430	1,496,681
2021	0	15,090	-5,974	1,535,820	1,430	1,546,366	0	11,620	-5,974	1,485,020	1,430	1,492,096
2022	0	15,036	679	1,536,780	1,430	1,553,925	0	11,566	679	1,485,980	1,430	1,499,655
2023	0	15,045	9,911	1,537,740	1,430	1,564,126	0	11,575	9,911	1,486,940	1,430	1,509,856
2024	0	14,977	-14,525	1,538,420	1,430	1,540,302	0	11,507	-14,525	1,487,620	1,430	1,486,032
2025	0	14,973	877	1,538,900	1,430	1,556,180	0	11,503	877	1,488,100	1,430	1,501,910
2026	0	15,001	-3,782	1,539,440	1,430	1,552,089	0	11,531	-3,782	1,488,640	1,430	1,497,819
2027	0	14,983	28,994	1,539,980	1,430	1,585,387	0	11,513	28,994	1,489,180	1,430	1,531,117
2028	0	14,994	-31,408	1,540,520	1,430	1,525,536	0	11,524	-31,408	1,489,720	1,430	1,471,266
2029	0	15,026	-1,737	1,541,060	1,430	1,555,779	0	11,556	-1,737	1,490,260	1,430	1,501,509
2030	0	15,010	4,237	1,541,600	1,430	1,562,277	0	11,540	4,237	1,490,800	1,430	1,508,007
2031	0	15,034	-1,158	1,542,220	1,430	1,557,526	0	11,564	-1,158	1,491,420	1,430	1,503,256
2032	0	15,026	21,148	1,542,840	1,430	1,580,444	0	11,556	21,148	1,492,040	1,430	1,526,174
2033	0	14,989	-13,881	1,543,460	1,430	1,545,998	0	11,519	-13,881	1,492,660	1,430	1,491,728
2034	0	14,982	1,662	1,544,080	1,430	1,562,154	0	11,512	1,662	1,493,280	1,430	1,507,884
2035	0	14,999	24,790	1,544,700	1,430	1,585,919	0	11,529	24,790	1,493,900	1,430	1,531,649

**TABLE B-6. ANNUAL WATER QUANTITIES
RECOVERY PLANT OF PROJECT**

(in acre-feet)

Sheet 7 of 9

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	SANTA ANA DIVISION						WEST BRANCH, CALIFORNIA AQUEDUCT					
	DEVIL CANYON POWERPLANT						OSO PUMPING PLANT					
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
Water Supply				Recrea- tion	Water Supply					Recrea- tion		
	(75)	(76)	(77)	(78)	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	2,444	133	0	0	0	2,577
1972	37	0	0	1,275	0	1,312	63,883	6,557	-6,405	71,991	6,481	142,507
1973	40,848	14,745	0	51,812	0	107,405	124,461	16,995	4,029	155,317	1,075	301,877
1974	74,666	8,367	-4,925	102,198	0	180,306	160,860	12,702	-4,146	209,172	2,064	380,652
1975	10,000	1,995	-6,719	189,526	0	194,802	93,352	23,008	7,704	374,306	3,288	501,658
1976	4,168	5,180	-9,182	235,711	23	235,900	56,954	15,845	-136,116	420,708	1,429	358,820
1977	0	8,082	-5,235	101,137	469	104,453	0	4,407	-98,685	122,447	-20	28,149
1978	14,820	3,754	21,686	373,636	481	414,377	45,105	9,061	52,774	171,139	176	278,255
1979	12,302	5,620	-27,107	356,854	485	348,154	0	25,355	-18,781	145,598	0	152,172
1980	0	9,468	12,714	395,975	742	418,899	0	24,576	-140,168	165,931	481	50,820
1981	0	8,401	-23,448	569,088	807	554,848	0	15,254	59,637	283,264	3,179	361,334
1982	0	5,012	48,521	395,721	1,798	451,052	0	24,292	60,024	360,878	2,126	447,320
1983	0	8,597	5,188	230,277	1,078	245,140	0	23,601	-74,308	166,995	6,111	122,399
1984	0	12,904	-844	250,938	1,414	264,412	0	11,630	-139,219	275,212	2,208	149,831
1985	0	13,922	-8,793	349,336	956	342,021	0	29,403	141,492	403,097	874	574,866
1986	0	9,646	8,339	392,650	1,378	412,013	0	23,816	25,288	393,203	1,777	444,084
1987	0	9,204	-11,355	365,445	1,118	364,412	0	20,686	-9,464	433,452	5,698	450,372
1988	0	0	-17,635	598,500	1,250	582,115	0	2,000	-49,082	534,400	5,050	492,368
1989	0	0	-23,859	811,700	1,250	789,091	0	2,000	-37,433	676,100	5,680	646,347
1990	0	7,949	21,652	812,200	1,250	843,051	0	14,621	65,526	678,870	5,850	764,867
1991	0	8,294	1,680	814,900	1,250	826,124	0	14,838	1,047	682,600	5,850	704,335
1992	0	8,288	-3,225	1,009,100	1,250	1,015,413	0	14,518	-15,584	604,050	5,850	608,834
1993	0	8,306	-4,753	1,015,533	1,250	1,020,336	0	14,518	-11,272	628,021	5,850	637,117
1994	0	8,299	-2,323	1,023,166	1,250	1,030,392	0	14,269	-29,717	636,992	5,850	627,394
1995	0	8,276	-840	1,030,800	1,250	1,039,486	0	14,270	14,016	641,250	5,850	675,386
1996	0	8,279	-1,936	1,055,124	1,250	1,062,717	0	14,306	-5,452	652,480	5,850	667,184
1997	0	8,279	1,966	1,079,448	1,250	1,090,943	0	14,232	-3,853	663,710	5,850	679,939
1998	0	8,257	202	1,103,772	1,250	1,113,481	0	14,235	-20,768	674,940	5,850	674,257
1999	0	8,333	5,710	1,127,796	1,250	1,143,089	0	14,393	1,067	686,170	5,850	707,480
2000	0	8,326	-3,804	1,169,100	1,250	1,174,872	0	14,453	25,997	698,000	5,850	744,300
2001	0	8,281	-758	1,199,620	1,250	1,208,393	0	14,334	-24,760	707,760	5,850	703,184
2002	0	8,248	1,332	1,230,138	1,250	1,240,968	0	14,425	-14,775	717,520	5,850	723,020
2003	0	8,294	2,423	1,260,660	1,250	1,272,627	0	14,298	-8,434	727,280	5,850	738,994
2004	0	8,339	2,399	1,293,180	1,250	1,305,168	0	14,377	31,774	737,040	5,850	789,041
2005	0	8,356	969	1,325,700	1,250	1,336,275	0	14,463	16,605	746,800	5,850	783,718
2006	0	8,337	2,641	1,350,780	1,250	1,363,008	0	14,368	-30,701	756,280	5,850	745,797
2007	0	8,370	1,592	1,375,860	1,250	1,387,072	0	14,526	14,862	765,760	5,850	800,998
2008	0	8,404	1,318	1,400,940	1,250	1,411,912	0	14,275	9,198	775,240	5,850	804,563
2009	0	8,413	2,536	1,426,020	1,250	1,438,219	0	14,380	-10,835	784,720	5,850	794,115
2010	0	8,431	-952	1,451,100	1,250	1,459,829	0	14,299	4,267	794,200	5,850	818,616
2011	0	8,403	-563	1,455,500	1,250	1,464,590	0	14,302	-5,309	794,200	5,850	809,043
2012	0	8,413	-629	1,459,900	1,250	1,468,934	0	14,318	9,010	794,200	5,850	823,378
2013	0	8,363	-520	1,464,300	1,250	1,473,393	0	14,259	-16,092	794,200	5,850	798,217
2014	0	8,371	-442	1,466,700	1,250	1,475,879	0	14,328	11,983	794,200	5,850	826,361
2015	0	8,366	63	1,469,100	1,250	1,478,779	0	14,190	-16,199	794,200	5,850	798,041
2016	0	8,361	-434	1,471,540	1,250	1,480,717	0	14,307	11,778	794,280	5,850	826,215
2017	0	8,254	-7,210	1,473,980	1,250	1,476,274	0	14,236	-3,249	794,360	5,850	811,197
2018	0	8,065	-5,293	1,476,420	1,250	1,480,442	0	14,326	-2,987	794,440	5,850	811,629
2019	0	8,056	287	1,477,340	1,250	1,486,933	0	14,300	5,313	794,520	5,850	819,983
2020	0	8,059	-4,343	1,478,260	1,250	1,483,226	0	14,302	-132	794,800	5,850	814,820
2021	0	8,057	-1,000	1,479,220	1,250	1,487,527	0	14,309	-10,567	794,800	5,850	804,392
2022	0	8,054	1,854	1,480,180	1,250	1,491,338	0	14,321	14,050	794,800	5,850	829,021
2023	0	8,056	2,164	1,481,140	1,250	1,492,610	0	14,291	-4,712	794,800	5,850	810,229
2024	0	8,060	-4,016	1,481,820	1,250	1,487,114	0	14,286	1,627	794,800	5,850	816,563
2025	0	8,056	3,279	1,482,300	1,250	1,494,885	0	14,308	-1,881	794,800	5,850	813,077
2026	0	8,057	-387	1,482,840	1,250	1,491,760	0	14,286	5,018	794,800	5,850	819,954
2027	0	8,061	-446	1,483,380	1,250	1,492,245	0	14,261	-17,919	794,800	5,850	796,992
2028	0	8,064	-2,010	1,483,920	1,250	1,491,224	0	14,243	19,216	794,800	5,850	834,109
2029	0	8,059	-1,303	1,484,460	1,250	1,492,466	0	14,215	-7,760	794,800	5,850	807,105
2030	0	8,055	3,473	1,485,000	1,250	1,497,778	0	14,217	-4,289	794,800	5,850	810,578
2031	0	8,063	-700	1,485,620	1,250	1,494,233	0	14,228	415	794,800	5,850	815,293
2032	0	8,065	466	1,486,240	1,250	1,496,021	0	14,230	1,177	794,800	5,850	816,057
2033	0	8,059	-2,199	1,486,860	1,250	1,493,970	0	14,277	-698	794,800	5,850	814,229
2034	0	8,062	5,078	1,487,480	1,250	1,501,870	0	14,289	10,076	794,800	5,850	825,015
2035	0	8,069	994	1,488,100	1,250	1,498,413	0	14,362	32,095	794,800	5,850	847,107

CONVEYED THRU EACH PUMPING AND POWER TRANSPORTATION FACILITIES (a)

(in acre-feet)

Sheet 8 of 9

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	WEST BRANCH, CALIFORNIA AQUEDUCT											
	WILLIAM E. WARNE POWERPLANT						CASTAIC POWERPLANT					
	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Opera- tional Losses	Reservoir Storage Changes	Deliveries		Total
Water Supply				Recrea- tion	Water Supply					Recrea- tion		
	(87)	(88)	(89)	(90)	(91)	(92)	(93)	(94)	(95)	(96)	(97)	(98)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	57,364	1,788	-6,162	71,938	6,481	131,409
1973	0	0	0	0	0	0	37,198	6,430	4,542	155,297	1,075	204,542
1974	0	0	0	0	0	0	82,364	1,772	-950	209,136	541	292,863
1975	0	0	0	0	0	0	90,460	5,002	-1,534	374,280	1,563	469,771
1976	0	0	0	0	0	0	55,990	-7,695	-132,036	420,684	1,429	338,372
1977	0	0	0	0	0	0	0	-1,485	-102,532	122,447	-20	18,410
1978	0	0	0	0	0	0	45,105	-2,264	129,523	171,139	176	343,679
1979	0	0	0	0	0	0	0	-2,339	-20,400	145,598	0	122,859
1980	0	0	0	0	0	0	0	991	-118,026	165,931	481	49,377
1981	0	0	0	0	0	0	0	-44,416	47,244	283,264	2,704	288,796
1982	0	24,420	60,024	360,878	2,126	447,448	0	-60,135	59,069	360,878	1,187	360,999
1983	0	20,780	-74,308	166,995	6,111	119,578	0	-33,418	-46,904	166,995	2,618	89,291
1984	0	13,572	-139,219	275,212	2,208	151,773	0	-29,618	-139,545	275,212	2,201	108,250
1985	0	29,286	141,492	403,097	874	574,749	0	-4,622	135,007	403,097	844	534,326
1986	0	23,008	25,288	393,203	1,777	443,276	0	-5,440	25,120	393,203	1,777	411,060
1987	0	22,871	-9,464	433,452	5,698	452,557	0	1,467	-6,069	433,452	2,734	431,584
1988	0	90	-49,082	534,400	5,050	490,458	0	0	-49,082	534,400	4,730	490,048
1989	0	90	-37,433	676,100	5,680	644,437	0	0	-37,433	676,100	4,930	643,597
1990	0	12,711	65,526	678,870	5,850	762,957	0	6,423	60,624	678,870	5,100	751,017
1991	0	12,928	1,047	682,600	5,850	702,425	0	6,643	1,047	682,600	5,100	695,390
1992	0	12,608	-15,584	604,050	5,850	606,924	0	6,323	-15,584	604,050	5,100	599,889
1993	0	12,608	-11,272	628,021	5,850	635,207	0	6,323	-11,272	627,771	5,100	627,922
1994	0	12,359	-29,717	636,992	5,850	625,484	0	6,074	-29,717	636,492	5,100	617,949
1995	0	12,360	14,016	641,250	5,850	673,476	0	6,075	14,016	640,500	5,100	665,691
1996	0	12,396	-5,452	652,480	5,850	665,274	0	6,111	-5,452	651,500	5,100	657,259
1997	0	12,322	-3,853	663,710	5,850	678,029	0	6,037	-3,853	662,500	5,100	669,784
1998	0	12,325	-20,768	674,940	5,850	672,347	0	6,040	-20,768	673,500	5,100	663,872
1999	0	12,483	1,067	686,170	5,850	705,570	0	6,198	1,067	684,500	5,100	696,865
2000	0	12,543	25,997	698,000	5,850	742,390	0	6,258	25,997	695,500	5,100	732,855
2001	0	12,424	-24,760	707,760	5,850	701,274	0	6,139	-24,760	704,920	5,100	691,399
2002	0	12,515	-14,775	717,520	5,850	721,110	0	6,246	-14,775	714,340	5,100	710,911
2003	0	12,388	-8,434	727,280	5,850	737,084	0	6,178	-8,434	723,760	5,100	726,604
2004	0	12,467	31,774	737,040	5,850	787,131	0	6,182	31,774	733,180	5,100	776,236
2005	0	12,553	16,605	746,800	5,850	781,808	0	6,322	16,605	742,600	5,100	770,627
2006	0	12,458	-30,701	756,280	5,850	743,887	0	6,268	-30,701	752,040	5,100	732,707
2007	0	12,616	14,862	765,760	5,850	799,088	0	6,331	14,862	761,480	5,100	787,773
2008	0	12,365	9,198	775,240	5,850	802,653	0	6,080	9,198	770,920	5,100	791,298
2009	0	12,470	-10,835	784,720	5,850	792,205	0	6,185	-10,835	780,360	5,100	780,810
2010	0	12,389	4,267	794,200	5,850	816,706	0	6,104	4,267	789,800	5,100	805,271
2011	0	12,392	-5,309	794,200	5,850	807,133	0	6,107	-5,309	789,800	5,100	795,698
2012	0	12,408	9,010	794,200	5,850	821,468	0	6,123	9,010	789,800	5,100	810,033
2013	0	12,349	-16,092	794,200	5,850	796,307	0	6,064	-16,092	789,800	5,100	784,872
2014	0	12,418	-11,983	794,200	5,850	824,451	0	6,133	-11,983	789,800	5,100	813,016
2015	0	12,280	-16,199	794,200	5,850	796,131	0	5,995	-16,199	789,800	5,100	784,696
2016	0	12,397	11,778	794,280	5,850	824,305	0	6,112	11,778	789,800	5,100	812,790
2017	0	12,326	-3,249	794,360	5,850	809,287	0	6,041	-3,249	789,800	5,100	797,692
2018	0	12,416	-2,987	794,440	5,850	809,719	0	6,131	-2,987	789,800	5,100	798,044
2019	0	12,390	5,313	794,520	5,850	818,073	0	6,105	5,313	789,800	5,100	806,318
2020	0	12,392	-132	794,800	5,850	812,910	0	6,107	-132	789,800	5,100	800,875
2021	0	12,399	-10,567	794,800	5,850	802,482	0	6,114	-10,567	789,800	5,100	790,447
2022	0	12,411	14,050	794,800	5,850	827,111	0	6,126	14,050	789,800	5,100	815,076
2023	0	12,381	-4,712	794,800	5,850	808,319	0	6,096	-4,712	789,800	5,100	796,284
2024	0	12,376	1,627	794,800	5,850	814,653	0	6,091	1,627	789,800	5,100	802,618
2025	0	12,398	-1,881	794,800	5,850	811,167	0	6,113	-1,881	789,800	5,100	799,132
2026	0	12,376	5,018	794,800	5,850	818,044	0	6,091	5,018	789,800	5,100	806,009
2027	0	12,351	-17,919	794,800	5,850	795,082	0	6,066	-17,919	789,800	5,100	783,047
2028	0	12,333	19,216	794,800	5,850	832,199	0	6,048	19,216	789,800	5,100	820,164
2029	0	12,305	-7,760	794,800	5,850	805,195	0	6,020	-7,760	789,800	5,100	793,160
2030	0	12,307	-4,289	794,800	5,850	808,668	0	6,022	-4,289	789,800	5,100	796,633
2031	0	12,318	415	794,800	5,850	813,383	0	6,033	415	789,800	5,100	801,348
2032	0	12,320	1,177	794,800	5,850	814,147	0	6,035	1,177	789,800	5,100	802,112
2033	0	12,367	-698	794,800	5,850	812,319	0	6,082	-698	789,800	5,100	800,284
2034	0	12,379	10,076	794,800	5,850	823,105	0	6,094	10,076	789,800	5,100	811,070
2035	0	12,452	32,095	794,800	5,850	845,197	0	6,167	32,095	789,800	5,100	833,162

**TABLE B-6. ANNUAL WATER QUANTITIES CONVEYED THRU
EACH PUMPING AND POWER RECOVERY PLANT OF
PROJECT TRANSPORTATION FACILITIES (a**

(in acre-feet)

Sheet 9 of 9

Calendar Year	CALIFORNIA AQUEDUCT (continued)						
	COASTAL BRANCH, CALIFORNIA AQUEDUCT						
	LAS PERILLAS AND BADGER HILL PUMPING PLANTS				DEVIL'S DEN, SAWTOOTH, AND POLONIO PUMPING PLANTS AND SAN LUIS OBISPO POWERPLANT		
	Initial Fill Water	Opera- tional Losses	Water Supply Delivery	Total	Opera- tional Losses	Water Supply Delivery	Total
	(99)	(100)	(101)	(102)	(103)	(104)	(105)
1962	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0
1968	210	873	79,039	80,122	0	0	0
1969	0	1,042	62,064	63,106	0	0	0
1970	0	638	83,649	84,287	0	0	0
1971	0	3,455	110,971	114,426	0	0	0
1972	0	1,745	121,755	123,500	0	0	0
1973	0	5,479	78,645	84,124	0	0	0
1974	0	7,344	78,174	85,518	0	0	0
1975	0	5,819	85,216	91,035	0	0	0
1976	0	6,562	90,058	96,620	0	0	0
1977	0	5,777	40,579	46,356	0	0	0
1978	0	9,085	92,604	101,689	0	0	0
1979	0	10,896	123,155	134,051	0	0	0
1980	0	9,449	111,379	120,828	0	0	0
1981	0	13,232	109,754	122,986	0	0	0
1982	0	7,984	95,776	103,760	0	0	0
1983	0	5,710	100,518	106,228	0	0	0
1984	0	5,740	126,387	132,127	0	0	0
1985	0	7,563	120,823	128,386	0	0	0
1986	0	8,562	131,599	140,161	0	0	0
1987	0	11,363	128,080	139,443	0	0	0
1988	0	590	143,879	144,469	0	0	0
1989	0	590	123,900	124,490	0	0	0
1990	0	590	123,935	124,525	0	0	0
1991	0	590	123,935	124,525	0	0	0
1992	0	590	123,935	124,525	0	0	0
1993	0	628	123,935	124,563	0	0	0
1994	0	802	123,935	124,737	0	0	0
1995	0	802	182,969	183,771	212	59,034	59,246
1996	0	802	194,421	195,223	212	70,486	70,698
1997	0	802	194,421	195,223	212	70,486	70,698
1998	0	802	194,421	195,223	212	70,486	70,698
1999	0	802	194,421	195,223	212	70,486	70,698
2000	0	802	194,421	195,223	212	70,486	70,698
2001	0	802	194,421	195,223	212	70,486	70,698
2002	0	802	194,421	195,223	212	70,486	70,698
2003	0	802	194,421	195,223	212	70,486	70,698
2004	0	802	194,421	195,223	212	70,486	70,698
2005	0	802	194,421	195,223	212	70,486	70,698
2006	0	802	194,421	195,223	212	70,486	70,698
2007	0	802	194,421	195,223	212	70,486	70,698
2008	0	802	194,421	195,223	212	70,486	70,698
2009	0	802	194,421	195,223	212	70,486	70,698
2010	0	802	194,421	195,223	212	70,486	70,698
2011	0	802	194,421	195,223	212	70,486	70,698
2012	0	802	194,421	195,223	212	70,486	70,698
2013	0	802	194,421	195,223	212	70,486	70,698
2014	0	802	194,421	195,223	212	70,486	70,698
2015	0	802	194,421	195,223	212	70,486	70,698
2016	0	802	194,421	195,223	212	70,486	70,698
2017	0	802	194,421	195,223	212	70,486	70,698
2018	0	802	194,421	195,223	212	70,486	70,698
2019	0	802	194,421	195,223	212	70,486	70,698
2020	0	802	194,421	195,223	212	70,486	70,698
2021	0	802	194,421	195,223	212	70,486	70,698
2022	0	802	194,421	195,223	212	70,486	70,698
2023	0	802	194,421	195,223	212	70,486	70,698
2024	0	802	194,421	195,223	212	70,486	70,698
2025	0	802	194,421	195,223	212	70,486	70,698
2026	0	802	194,421	195,223	212	70,486	70,698
2027	0	802	194,421	195,223	212	70,486	70,698
2028	0	802	194,421	195,223	212	70,486	70,698
2029	0	802	194,421	195,223	212	70,486	70,698
2030	0	802	194,421	195,223	212	70,486	70,698
2031	0	802	194,421	195,223	212	70,486	70,698
2032	0	802	194,421	195,223	212	70,486	70,698
2033	0	802	194,421	195,223	212	70,486	70,698
2034	0	802	194,421	195,223	212	70,486	70,698
2035	0	802	194,421	195,223	212	70,486	70,698

Table B-7 starts on next page

TABLE B-7. RECONCILIATION OF CAPITAL COSTS ALLOCATED TO WATER SUPPLY AND POWER GENERATION

(in thousands of dollars)

ITEM	Project Costs Allocated to Water Supply and Power Generation							CAPITAL COSTS ALLOCATED TO OTHER PURPOSES	TOTAL STATE WATER PROJECT CAPITAL COST
	MISC. INCOME CREDITED TO CONSTRUCTION (a)	ALLOWANCE FOR FUTURE PRICE ESCALATION (b)	COSTS OF CONSTRUCTION OF DELIVERY STRUCTURES (c)	COSTS OF REQUESTED EXCESS CAPACITY AND FUTURE ENLARGEMENT (d)	CAPITAL COST COMPONENT OF DELTA WATER CHARGE (e)	CAPITAL COST COMPONENT OF TRANSPORTATION WATER CHARGE (f)	WATER SUPPLY AND POWER TOTAL (g)		
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
CONSERVATION FACILITIES									
Upper Feather Division									
Frenchman Dam and Lake	173	0	0	0	603	0	776	2,888	3,664
Grizzly Valley Dam and Lake Davis	28	0	0	0	25	0	53	5,874	5,927
Antelope Dam and Lake	0	0	0	0	0	0	0	5,402	5,402
Abbey Bridge Dam and Reservoir	0	0	0	0	0	0	0	518	518
Dixie Refuge Dam and Reservoir	0	0	0	0	0	0	0	235	235
TOTAL, Upper Feather Division	201	0	0	0	628	0	829	14,917	15,746
Oroville Division									
Multipurpose Facilities	2,525	202	149	0	366,391	0	369,267	87,417	456,684
Specific Power Facilities	218	50	0	0	105,343	0	105,611	1,629	107,240
TOTAL, Oroville Division	2,743	252	149	0	471,734	0	474,878	89,046	563,924
California Aqueduct									
North San Joaquin Division	196	691	0	0	76,742	0	77,629	2,879	80,508
San Luis Division	395	247	0	0	99,014	0	99,656	4,369	104,025
TOTAL, California Aqueduct	591	938	0	0	175,756	0	177,285	7,248	184,533
Delta Facilities	2,840	2,280	0	0	129,045	0	134,165	20,792	154,957
Planning and Preoperation	3	23,909	0	0	101,613 (g)	0	125,525	2,321	127,846
TOTAL CONSERVATION FACILITIES	6,378	27,379	149	0	878,776	0	912,682	134,324	1,047,006
TRANSPORTATION FACILITIES									
Upper Feather Division									
Grizzly Valley Pipeline	0	0	0	0	0	341	341	0	341
North Bay Aqueduct	189	187	645	0	0	96,141	97,162	(476)	96,686
South Bay Aqueduct	1,609	72	382	0	0	51,259	53,322	21,544	74,866
California Aqueduct									
North San Joaquin Division	437	1,539	15	0	0	170,792	172,783	6,413	179,196
San Luis Division	84	1,252	0	0	0	118,874	120,210	7,456	127,666
South San Joaquin Division	293	352	3,259	2,093	0	265,846	271,843	16,218	288,061
Tehachapi Division	25	147	4	5,230	0	294,950	300,356	17,783	318,139
Mojave Division	558	1,388	466	0	0	305,020	307,432	23,103	330,535
Santa Ana Division	340	79	3,017	9,709	0	171,663	184,808	17,368	202,176
West Branch	35,229	908	2,729	37	0	456,240	495,143	33,456	528,599
Coastal Branch	10	41,376	93	0	0	280,086	321,565	105	321,670
TOTAL, California Aqueduct	36,976	47,041	9,583	17,069	0	2,063,471	2,174,140	121,902	2,296,042
TOTAL TRANSPORTATION FACILITIES	38,774	47,300	10,610	17,069	0	2,211,212	2,324,965	142,970	2,467,935
EAST BRANCH ENLARGEMENT	0	9,522	0	0	0	319,857	329,379	0	329,379
SAN JOAQUIN DRAINAGE FACILITIES	0	0	0	0	0	0	0	48,918	48,918
OFF-AQUEDUCT POWER GENERATION FACILITIES	0	100	0	0	0	435,462	435,562	0	435,562
LAND PURCHASE - KERN WATER BANK	0	0	0	0	30,500	0	30,500	0	30,500
UNASSIGNED AND DAVIS-GRUNSKY	0	0	0	0	0	0	0	136,278	136,278
SUBTOTAL	45,152	84,301	10,759	17,069	909,276	2,997,031	4,033,088	462,490	4,495,578
LESS:									
2001-2035 COSTS	0	12,485	0	0	14,690	0	27,175	0	27,175
TOTAL	45,152	96,786	10,759	17,069	923,966	2,997,031	4,005,913	462,490	4,468,403 (h)

a) Miscellaneous project receipts that are applied for accounting purposes to reduce the capital costs of the particular facilities.

b) These allowances are included for planning the future financial program, but not for determining current water charges.

The costs shown in this appendix are based on prices prevailing on December 31, 1987.

c) See Table B-8.

d) See Table B-9.

e) See Table B-13. A portion of these costs will be offset by power generation sales and credits.

f) See Table B-10.

g) Includes \$38,578,000 of planning costs financed from Systems Revenue and not included in Table 21.

h) See Table 21, Chapter VII.

**TABLE B-8. CAPITAL COSTS OF REQUESTED
DELIVERY STRUCTURES**

Project Service Area and Water Supply Contractor	Calendar Year Capital Costs (dollars)(a)						
	1952-1987	1988	1989	1990	1991	1992	Total
FEATHER RIVER AREA							
County of Butte	104,924	0	0	0	0	0	104,924
Thermalito Irrigation District(b)	<u>43,939</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>43,939</u>
Total	148,863	0	0	0	0	0	148,863
NORTH BAY AREA							
Napa County Flood Control and Water Conservation District	13,590	200	0	0	0	0	13,790
Solano County Flood Control and Water Conservation District	<u>588,280</u>	<u>43,065</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>631,345</u>
Total	601,870	43,265	0	0	0	0	645,135
SOUTH BAY AREA							
Alameda County Flood Control and Water Conservation District, Zone 7	224,357	0	0	0	0	0	224,357
Alameda County Water District	143,789	0	0	0	0	0	143,789
Santa Clara Valley Water District(c)	<u>14,198</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>14,198</u>
Total	382,344	0	0	0	0	0	382,344
SAN JOAQUIN VALLEY AREA							
Devil's Den Water District	77,557	0	0	0	0	0	77,557
Dudley Ridge Water District	287,669	0	0	0	0	0	287,669
Empire West Side Irrigation District	6,358	0	0	0	0	0	6,358
Green Valley Water District(c)	5,292	0	0	0	0	0	5,292
Kern County Water Agency	2,709,182	0	0	0	0	0	2,709,182
Oak Flat Water District	13,753	0	0	0	0	0	13,753
Tracy Golf and Country Club(c)	1,028	0	0	0	0	0	1,028
Tulare Lake Basin Water Storage District	<u>277,483</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>277,483</u>
Total	3,378,322	0	0	0	0	0	3,378,322
SOUTHERN CALIFORNIA AREA							
Antelope Valley-East Kern Water Agency	341,495	10,977	9,420	0	0	0	361,892
Castaic Lake Water Agency	346,978	0	0	0	0	0	346,978
Coachella Valley Water District	14,206	0	0	0	0	0	14,206
Crestline-Lake Arrowhead Water Agency	12,097	0	0	0	0	0	12,097
Desert Water Agency	23,438	0	0	0	0	0	23,438
Littlerock Creek Irrigation District	23,732	0	0	0	0	0	23,732
Mojave Water Agency	65,377	0	0	0	0	0	65,377
Palmdale Water District	30,806	4,071	0	0	0	0	34,877
San Bernardino Valley Municipal Water District	613,173	119,380	50,000	0	0	0	782,553
San Gabriel Valley Municipal Water District	131,052	0	0	0	0	0	131,052
San Geronimo Pass Water Agency	66,530	0	0	0	0	0	66,530
The Metropolitan Water District of Southern California	4,261,525	0	0	0	0	0	4,261,525
Ventura County Flood Control District	<u>79,699</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>79,699</u>
Total	6,010,108	134,428	59,420	0	0	0	6,203,956
TOTAL ALL AREAS	10,521,507	177,693	59,420	0	0	0	10,758,620

a) Approximate only, not to be construed as invoice amounts.

b) Not an SWP contractor. A delivery structure was constructed on the Thermalito Power Canal at the District's expense as part of a water exchange agreement.

c) Not an SWP water supply contractor, but has contracted for surplus water.

TABLE B-9: CAPITAL COSTS OF

(in dollars unless otherwise indicated)

Calendar Year	Total Advance Payments and Credits for Excess Capacity	Total Incremental Costs for Excess Capacity	Overpayment (+) or Underpayment (-) ^a	Annual Surplus Money Investment Fund Interest Rate ^b		Net Over or Underpayment With Interest ^c
				Jan-Jun	Jul-Dec	
	(1)	(2)	(3)	(4)	(5)	(6)
<u>THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA</u>						
1965	0	158,000	-158,000	3.968%	4.184%	-163,412
1966	8,056,000	435,800	7,620,200	4.540%	5.057%	7,701,103
1967	9,094,963	1,878,270	7,216,693	4.815%	4.744%	15,524,533
1968	1,523,252	2,887,351	-1,364,099	5.330%	5.540%	14,959,187
1969	8,310,651	3,059,310	5,251,341	5.946%	6.389%	21,369,973
1970	3,426,736	2,397,102	1,029,634	7.071%	7.125%	23,986,083
1971	1,086,045	1,146,648	-60,603	5.154%	5.580%	25,238,017
1972	-4,244,807	487,394	-4,732,201	4.477%	4.977%	21,532,965
1973	-15,913,829	25,041	-15,938,870	6.023%	8.717%	6,014,116
1974	0	37,775	-37,775	9.222%	10.351%	6,576,393
1975	0	2,085	-2,085	7.089%	6.791%	7,038,515
1976	0	0	0	6.048%	6.021%	7,469,662
1977	0	0	0	5.788%	6.182%	7,923,403
1978	0	0	0	7.171%	8.096%	8,539,736
1979	0	0	0	8.979%	9.671%	9,354,605
1980	0	0	0	11.500%	11.500%	10,461,314
Totals	11,339,011	12,514,776	-1,175,765	-	-	10,461,314
<u>SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT</u>						
1967	0	25,730	-25,730	4.815%	4.744%	-26,611
1968	184,422	44,053	140,369	5.330%	5.540%	117,587
1969	49,052	38,075	10,977	5.946%	6.389%	136,751
1970	44,911	17,959	26,952	7.071%	7.125%	175,186
1971	61,588	5,900	55,688	5.154%	5.580%	242,927
1972	-20,263	6,835	-27,098	4.477%	4.977%	226,230
1973	-180,465	0	-180,465	6.023%	8.717%	49,198
1974	0	0	0	9.222%	10.351%	54,130
1975	0	0	0	7.089%	6.791%	57,952
1976	0	0	0	6.048%	6.021%	61,501
1977	0	0	0	5.788%	6.182%	65,237
1978	0	0	0	7.171%	8.096%	70,312
1979	0	0	0	8.979%	9.671%	77,021
1980	0	0	0	11.500%	11.500%	86,133
Totals	139,245	138,552	693	-	-	86,133
<u>ANTELOPE VALLEY-EAST KERN WATER AGENCY</u>						
1968	85,495	1,645	83,850	5.330%	5.540%	86,962
1969	52,625	6,326	46,299	5.946%	6.389%	140,964
1970	101,648	15,076	86,572	7.071%	7.125%	243,222
1971	34,062	11,748	22,314	5.154%	5.580%	279,673
1972	-12,794	2,018	-14,812	4.477%	4.977%	277,552
1973	-205,354	308	-205,662	6.023%	8.717%	77,288
1974	0	96	-96	9.222%	10.351%	84,933
1975	0	0	0	7.089%	6.791%	90,929
1976	0	190	-190	6.048%	6.021%	96,300
1977	0	0	0	5.788%	6.182%	102,150
1978	0	0	0	7.171%	8.096%	110,096
1979	0	0	0	8.979%	9.671%	120,601
1980	0	0	0	11.500%	11.500%	134,869
Totals	55,682	37,407	18,275	-	-	134,869

- a) Overpayment or underpayment for each calendar year - column (1) minus column (2).
b) Interest rates shown are annual rates. Interest is credited daily at applicable rates on funds deposited in the State's Surplus Money Investment Fund.
c) Amounts shown are end-of-year balances. Interest on overpayments is credited at applicable Surplus Money Investment Fund Interest Rates shown in columns (4) and (5). Interest on underpayments is charged at the 1980 Project Interest Rate of 4.584 percent.

REQUESTED EXCESS PEAKING CAPACITY

(in dollars)

Reach Number	Item	ANNUAL REQUIRED ADVANCE OF FUNDS														Reach Totals
		Incremental Costs and Advance Payments by Calendar Year														
		1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1981		
		(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA																
8C	Incremental Costs		1,000	1,000											2,000	
8D	Incremental Costs		43,500	43,500											87,000	
9	Incremental Costs	13,500	27,000	27,000	13,500										81,000	
10A	Incremental Costs	14,800	29,700	29,700	14,800										89,000	
11B	Incremental Costs	10,100	18,300	18,300	9,200										55,900	
12D	Incremental Costs	1,800		19,300	25,800	12,900									59,800	
12E	Incremental Costs	1,800		12,400	18,800	10,800									43,800	
13B	Incremental Costs			12,600	37,800	31,600									82,000	
14A	Incremental Costs	2,500	500	11,100	80,216	107,504	124,069	37,519	6,413	381	87				370,289	
14B	Incremental Costs	1,200	1,800		19,100	19,100	12,800								54,000	
14C	Incremental Costs	1,800	900		13,500	13,500	9,000								38,700	
15A	Incremental Costs	700		14,000	66,947	133,357	128,099	54,821	5,327	946	2,076				406,273	
16A	Incremental Costs	700		18,900	137,894	182,000	211,608	133,927	26,203	5,767	6,156				723,155	
17E	Incremental Costs		51,500	444,600	537,247	860,024	998,985	699,281	193,286	17,947	29,456	2,085			3,834,411	
17F	Incremental Costs	109,100	261,600	261,600	261,600	261,600	239,500								1,395,000	
25	Incremental Costs			964,270	1,650,947	1,426,925	673,041	221,100	256,165						5,192,448	
28J	Incremental Costs		304,612	13,706	296,668	65,966	230,169	1,209,586	2,017,134	235,900	4,900				4,378,641	
Totals Unadjusted for past payments	Incremental Costs	158,000	740,412	1,891,976	3,184,019	3,125,276	2,627,271	2,356,234	2,504,528	260,941	42,675	2,085			16,893,417	
Current Adjustments	8C thru 25 1. Advance Payments Applied to Incremental Costs Amendment 2 (d) 8C thru 25 2. Interest Credits-Amendment 2 (e) 28J 3. Advance Payments Applied to Incremental Costs Amendment 5 (f) 28J 4. Interest Credits-Amendment 5 (g) 5. Net Required Advance of Funds	0	8,056,000	9,094,963	1,523,252	8,310,651	3,426,736	1,086,045	-4,244,807	-14,381,396			-356,668		12,514,776	
										-1,532,433			-10,104,646		-11,637,079	
		0	1,240,000	1,483,180	2,469,325	-927,035	1,729,160	3,215,258	2,967,475	1,690,000	-9,488,722				4,378,641	
											-2,721,803				-2,721,803	
		0	9,296,000	10,578,143	3,992,577	7,383,616	5,155,896	4,301,303	-1,277,332	-14,223,829	-12,210,525			-10,461,314	2,534,535	
SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT																
25	Incremental Costs			25,730	44,053	38,075	17,959	5,900	6,835						138,552	
Totals Unadjusted for past payments	Incremental Costs			25,730	44,053	38,075	17,959	5,900	6,835						138,552	
Current Adjustments	25 1. Advance Payments Applied to Incremental Costs (d) 2. Interest Credit 3. Net Required Advance of Funds			0	184,422	49,052	44,911	61,588	-20,263	-174,133			-7,025		138,552	
										-6,332			-79,108		-85,440	
				0	184,422	49,052	44,911	61,588	-20,263	-180,465			-86,133		53,112	
ANTELOPE VALLEY-EAST KERN WATER AGENCY																
29A	Incremental Costs				1,645	6,326	13,376	10,048	2,018	308	96	190			34,007	
29F	Incremental Costs						1,700	1,700							3,400	
Totals Unadjusted for past payments	Incremental Costs				1,645	6,326	15,076	11,748	2,018	308	96	190			37,407	
Current Adjustments	29A and 29F 1. Advance Payments Applied to Incremental Costs (d) 2. Interest Credit 3. Net Required Advance of Funds				85,495	52,625	101,648	34,062	-12,794	-189,120	0	0	-34,509		37,407	
										-16,234			-100,360		-116,594	
					85,495	52,625	101,648	34,062	-12,794	-205,354	0	0	-134,869		-79,187	

- Actual payments are shown for 1965 through 1976 with 1981 adjusted to reflect overpayments and underpayments without interest for prior years.
- Interest for overpayments and underpayments under provisions of Amendment 2 of the contract.
- Actual payments are shown for 1965 through 1973 with 1974 adjusted to reflect overpayments and underpayments without interest for prior years.
- Interest for overpayments and underpayments under provisions of Amendment 5 of the contract.
- Amounts in excess of incremental costs, under the provisions of the contract, reduce the Transportation Charge capital cost component of the Agency's Statement of Charges for January 1981.

TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH TRANSPORTATION CHARGE

(in dollars)

Sheet 1 of 8

Calendar Year	UPPER FEATHER DIV.	NORTH BAY AQUEDUCT					SOUTH BAY AQUEDUCT			
		Reach 1	Reach 2	Reach 3A	Reach 3B	Total	Reach 1	Reach 2	Reach 4	Reach 5
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1952	0	0	0	0	0	0	97	34	30	57
1953	0	0	0	0	0	0	477	166	144	297
1954	0	0	0	0	0	0	1,466	508	437	959
1955	0	0	0	0	0	0	1,944	674	560	1,266
1956	0	0	0	0	0	0	18,789	6,515	5,090	12,545
1957	0	13,290	3,391	0	9,953	26,634	45,090	15,639	12,285	33,218
1958	2	19,202	5,011	0	25,798	50,011	195,985	80,961	7,714	21,930
1959	14	7,517	2,118	0	17,653	27,288	496,140	148,516	24,945	17,118
1960	28	8,797	4,292	0	4,838	17,927	1,130,378	67,351	71,779	68,028
1961	10	1,551	10,318	0	2,526	14,395	3,273,247	180,596	307,885	74,398
1962	32	217	(1,751)	0	414	(1,120)	1,548,884	203,535	695,446	35,102
1963	51	2,510	(1,063)	0	983	2,430	480,716	69,182	2,284,291	206,587
1964	7,791	39,879	12,046	0	21,934	73,859	2,549,118	15,903	181,900	264,410
1965	3,139	72,793	17,900	0	170,361	261,054	807,505	153,454	85,425	447,830
1966	(48)	59,615	12,972	0	438,949	511,536	898,074	149,529	142,096	1,690,200
1967	47	47,257	11,597	0	1,551,023	1,609,877	607,614	50,423	293,304	3,496,284
1968	51,573	70,586	19,560	0	831,158	921,304	965,119	19,543	89,300	2,931,101
1969	234,232	63,650	23,628	0	46,428	133,706	455,173	9,618	3,860	896,727
1970	16,227	59,090	42,733	0	9,415	111,238	52,481	3,380	10,517	154,358
1971	27,204	20,819	31,516	0	8,480	60,815	24,505	4,645	5,035	20,395
1972	9	15,538	12,952	0	10,058	38,548	26,918	825	2,945	26,090
1973	25	18,488	29,018	0	39,878	87,384	24,468	4,010	6,016	12,708
1974	45	67,352	29,978	0	134,332	231,662	17,108	1,192	1,765	65,587
1975	21	62,855	73,112	0	45,091	181,058	57,619	561	1,165	7,291
1976	51	52,418	75,611	216	13,170	141,415	104,246	2,846	8,915	12,700
1977	28	53,228	65,662	2,171	23,239	144,300	176,180	3,625	3,225	16,132
1978	38	60,342	57,158	1,867	26,996	146,363	237,250	4,494	3,668	12,903
1979	23	314,974	91,367	1,524	65,804	473,669	115,031	17,151	8,515	30,805
1980	26	410,435	111,600	1,518	123,282	646,835	399,822	17,708	8,249	31,085
1981	34	439,505	147,295	2,149	23,781	612,730	(169,021)	3,589	6,520	17,295
1982	11	944,245	357,720	2,579	123,372	1,427,916	(41,745)	17,110	4,427	40,027
1983	19	1,151,080	1,125,485	2,623	536,200	2,815,388	524,988	73,084	29,490	71,644
1984	26	1,819,464	2,231,483	2,337	1,073,348	5,126,632	533,098	35,329	9,148	91,060
1985	29	2,222,156	7,775,742	6,996	3,399,156	13,404,050	5,836	1,375	3,175	26,003
1986	31	16,389,701	9,928,751	1,176,852	1,724,789	29,220,093	(69,150)	10,178	11,134	10,249
1987	33	12,531,450	7,396,219	1,818,822	1,718,779	23,465,270	155,625	14,381	20,935	27,500
1988	0	5,606,719	4,330,442	632,317	445,000	11,014,478	61,900	21,000	7,000	20,916
1989	0	1,986,000	185,000	168,500	130,000	2,469,500	93,300	15,000	22,000	16,632
1990	0	462,500	47,000	79,000	82,000	670,500	107,500	13,000	24,000	14,112
1991	0	0	0	0	2,000	2,000	36,000	4,000	5,000	3,276
1992	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	340,751	45,095,223	3,899,471		96,140,745		1,440,630		10,926,825	
			34,265,863		12,880,188		15,949,775		4,409,335	

TO BE REIMBURSED THRU CAPITAL COST COMPONENT OF

(in dollars)

Sheet 2 of 8

Calendar Year	SOUTH BAY AQUEDUCT (con't.)					CALIFORNIA AQUEDUCT			
						NORTH SAN JOAQUIN DIVISION			
	Reach 6	Reach 7	Reach 8	Reach 9	Total	Reach 1	Reach 2A	Reach 2B	Subtotal
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1952	8	66	72	132	496	4,012	3,279	1,499	8,790
1953	38	327	336	640	2,425	10,559	8,589	3,964	23,112
1954	123	1,005	1,003	1,954	7,455	13,796	11,163	5,179	30,138
1955	160	1,293	1,149	2,454	9,500	7,370	5,952	2,760	16,082
1956	1,559	11,959	11,043	28,372	95,872	9,880	5,020	2,398	17,298
1957	3,659	28,675	27,385	563,114	729,065	11,953	5,456	2,612	20,021
1958	2,243	17,872	17,385	560,904	904,994	18,585	17,191	7,994	43,770
1959	357	3,200	3,568	149,874	843,718	123,170	100,306	45,510	268,986
1960	1,102	2,944	4,498	359,749	1,705,829	191,408	102,136	48,968	342,512
1961	4,726	18,325	22,765	-1,367	3,880,575	153,765	195,947	42,843	392,555
1962	17,295	160,939	178,242	209,042	3,048,485	612,258	491,225	168,218	1,271,701
1963	265,414	1,250,386	939,832	129,902	5,626,310	1,993,284	1,525,734	684,095	4,203,113
1964	100,603	1,716,371	2,327,770	2,947,522	10,103,597	4,674,280	2,369,858	700,074	7,744,212
1965	42,345	368,476	637,266	1,921,844	4,464,145	5,877,189	6,873,699	2,975,719	15,726,607
1966	17,663	34,915	140,350	777,887	3,850,714	8,553,362	14,112,820	5,677,099	28,343,281
1967	-41,567	137,856	147,183	379,764	5,070,861	9,678,607	10,672,113	6,646,739	26,997,459
1968	84,553	2,130	68,057	253,152	4,412,955	6,392,664	891,681	1,303,186	8,587,531
1969	4,279	11,572	162,300	32,000	1,575,529	3,542,767	792,259	443,924	4,778,950
1970	2,487	6,820	20,086	-15,718	234,411	2,236,607	149,692	115,578	2,501,877
1971	4,350	6,923	17,750	39,084	122,687	98,138	215,512	69,410	383,060
1972	1,084	203	4,800	32,199	95,064	159,608	43,721	7,744	211,073
1973	288	989	7,449	9,693	65,621	105,581	25,496	22,418	153,495
1974	527	6,020	30,628	11,433	134,260	177,700	16,627	45,707	240,034
1975	126	679	1,086	3,464	71,991	239,144	14,680	169,676	423,500
1976	701	3,529	8,362	26,186	167,485	641,806	45,533	65,943	753,282
1977	270	1,310	8,651	24,938	234,331	272,223	20,283	22,568	315,074
1978	231	1,204	1,631	17,123	278,504	442,321	36,221	9,714	488,256
1979	1,367	1,721	2,134	7,322	184,046	975,174	59,695	26,106	1,060,975
1980	1,321	1,718	2,182	7,102	469,187	3,603,812	96,760	38,789	3,739,361
1981	308	1,461	1,397	5,070	-133,381	-120,820	1,487,444	202,275	1,568,899
1982	670	1,286	1,352	3,701	26,828	1,408,839	38,356	28,501	1,475,696
1983	355	4,114	6,124	19,079	728,878	1,807,850	69,481	258,668	2,135,999
1984	179	1,508	1,589	9,768	681,679	1,951,943	32,372	35,889	2,020,204
1985	267	1,323	1,824	5,083	44,886	488,922	16,985	140,201	646,108
1986	392	1,874	2,283	8,603	-24,437	-857,864	87,890	120,327	-649,647
1987	968	3,740	3,813	16,869	243,831	645,462	26,288	4,692,028	5,363,778
1988	0	2,000	2,000	373,500	488,316	8,848,385	43,924	47,991	8,940,300
1989	2,000	6,000	12,000	379,000	545,932	13,621,611	43,192	49,324	13,714,127
1990	3,000	7,000	12,000	30,000	210,612	12,555,548	55,990	23,329	12,634,867
1991	1,000	1,000	1,000	4,000	55,276	6,484,768	47,324	18,663	6,550,755
1992	0	0	0	0	0	2,141,593	59,322	19,996	2,220,911
1993	0	0	0	0	0	1,013,141	45,991	15,330	1,074,462
1994	0	0	0	0	0	1,001,810	6,665	2,000	1,010,475
1995	0	0	0	0	0	999,810	0	0	999,810
1996	0	0	0	0	0	999,810	0	0	999,810
1997	0	0	0	0	0	999,810	0	0	999,810
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	526,451	3,830,733	4,840,345	9,334,438	51,258,532	104,811,641	40,969,872	25,010,956	170,792,469

TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH TRANSPORTATION CHARGE

(in dollars)

Sheet 3 of 8

Calendar Year	CALIFORNIA AQUEDUCT (con't)								
	SAN LUIS DIVISION						SOUTH SAN JOAQUIN DIVISION		
	Reach 3	Reach 4	Reach 5	Reach 6	Reach 7	Subtotal	Reach 8C	Reach 8D	Reach 9
	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1952	2,492	3,549	3,987	1,010	1,390	12,428	13	727	1,109
1953	6,999	10,144	10,986	2,834	3,869	34,832	45	2,671	4,185
1954	8,704	12,545	13,693	3,520	4,766	43,228	50	2,719	4,026
1955	4,273	6,055	6,813	1,728	2,325	21,194	19	888	1,100
1956	3,295	5,600	5,857	1,445	3,556	19,753	98	3,850	4,376
1957	3,543	6,115	6,357	1,565	3,998	21,578	234	10,604	13,209
1958	11,927	19,393	22,037	5,509	7,512	66,378	375	19,033	25,073
1959	21,979	37,358	39,689	9,813	19,679	128,518	436	20,578	25,697
1960	207,025	45,419	41,044	12,074	37,633	343,195	1,673	44,565	25,290
1961	184,443	292,639	170,559	38,338	70,068	756,047	3,949	75,726	30,852
1962	495,836	549,984	252,698	22,397	26,967	1,347,882	6,131	159,481	62,375
1963	2,772,189	2,034,351	2,498,712	66,353	30,647	7,402,252	5,861	161,252	81,343
1964	4,348,311	4,932,301	1,053,227	161,422	251,461	10,746,722	4,014	90,622	117,907
1965	3,860,997	5,688,252	2,869,931	1,072,111	667,768	14,159,059	15,049	491,042	564,036
1966	2,312,372	8,527,843	5,765,798	4,230,221	7,708,334	28,544,568	201,274	5,197,322	2,539,278
1967	-44,527	2,062,305	6,942,522	222,885	6,675,398	15,858,583	212,285	4,982,844	3,363,650
1968	119,884	395,689	973,956	179,917	461,031	2,130,477	64,234	611,192	940,074
1969	-6,065	126,946	98,492	107,486	160,668	487,527	58,960	116,146	85,130
1970	32,387	-20,243	105,385	-827,457	1,215,966	506,038	23,011	106,810	84,116
1971	99,945	230,624	305,227	26,995	341,010	1,003,801	8,813	33,099	23,088
1972	15,990	90,852	17,053	14,621	281,343	419,859	10,818	13,349	16,603
1973	6,753	103,707	41,549	13,810	41,427	207,246	5,145	11,089	13,249
1974	6,618	117,165	55,978	16,199	71,796	267,756	5,434	24,433	16,567
1975	18,921	107,275	23,671	8,797	152,574	311,238	5,424	15,960	12,966
1976	17,485	79,381	13,041	5,138	41,687	156,732	19,931	76,280	62,164
1977	35,707	77,851	9,412	4,028	9,655	136,653	21,096	70,005	97,952
1978	8,539	78,584	7,006	3,536	6,994	104,659	7,584	40,453	17,395
1979	-35,394	306,075	19,463	9,485	-242,253	57,376	10,474	6,181	6,227
1980	66,622	1,659,006	191,307	75,209	185,384	2,177,528	2,158	17,492	17,706
1981	29,113	-996,700	-40,312	-14,168	850,288	-171,779	1,145	9,667	9,527
1982	95,240	-550,294	14,987	7,560	3,490,841	3,058,334	1,678	4,945	4,208
1983	87,549	551,291	21,287	10,232	1,832,544	2,502,903	7,476	8,711	8,216
1984	35,379	274,958	29,714	15,076	3,070,726	3,425,853	26,303	8,669	5,320
1985	63,717	16,086	20,715	9,704	575,091	685,313	6,628	6,910	5,789
1986	83,654	-412,550	66,015	25,110	1,406,933	1,169,162	7,838	35,621	33,765
1987	6,862	-177,133	8,040	4,566	903,994	746,329	10,441	2,902	40,101
1988	323,325	83,361	5,658	1,886	4,832,875	5,247,105	943	3,772	797,778
1989	261,975	236,221	20,746	7,544	9,024,981	9,551,467	4,715	16,031	760,529
1990	162,544	297,516	33,948	12,259	4,534,887	5,041,154	8,487	32,062	22,632
1991	16,924	92,414	17,917	6,601	11,316	145,172	4,715	31,119	25,461
1992	0	0	0	0	0	0	0	17,917	17,917
1993	0	0	0	0	0	0	0	6,601	6,601
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	15,753,532	27,001,935	21,764,165	5,577,359	48,777,129	118,874,120	774,957	12,591,340	9,994,587

TO BE REIMBURSED THRU CAPITAL COST COMPONENT OF

(in dollars)

Sheet 4 of 8

Calendar Year	CALIFORNIA AQUEDUCT (con't)								
	SOUTH SAN JOAQUIN DIVISION (con't.)								
	Reach 10A	Reach 11B	Reach 12D	Reach 12E	Reach 13B	Reach 14A	Reach 14B	Reach 14C	Reach 15A
	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
1952	695	1,279	1,980	995	1,663	794	212	212	1,911
1953	2,569	4,790	7,480	3,745	6,236	2,599	733	741	7,016
1954	2,821	4,855	7,565	3,792	6,319	2,880	810	817	7,073
1955	1,097	1,557	2,404	1,211	2,025	1,183	325	327	2,253
1956	4,428	6,223	9,233	4,737	8,054	7,026	1,638	1,584	9,939
1957	13,269	18,772	29,082	14,615	24,411	15,651	3,834	3,864	26,871
1958	25,086	48,191	78,564	39,087	61,715	33,726	12,330	11,813	49,499
1959	25,787	67,246	107,781	53,836	86,478	64,824	22,102	21,828	70,838
1960	47,492	66,317	77,936	39,867	63,517	84,363	23,260	22,305	73,305
1961	68,505	46,073	88,274	51,457	28,015	242,753	91,290	65,565	150,205
1962	57,705	56,056	69,189	44,851	49,179	208,180	61,489	47,608	133,653
1963	52,585	91,914	173,985	86,405	67,733	425,626	104,436	77,970	102,072
1964	124,014	333,621	291,013	174,469	86,271	1,093,795	684,005	485,033	571,173
1965	622,257	1,053,029	1,524,848	1,044,851	196,487	3,385,205	1,655,024	1,436,258	476,830
1966	2,800,056	3,709,779	673,429	466,228	418,141	4,916,319	974,862	724,354	1,829,852
1967	3,652,342	4,636,627	1,881,333	1,244,265	1,238,428	2,788,299	525,653	400,183	1,721,304
1968	1,025,969	1,323,302	4,726,074	3,145,775	8,343,706	10,210,266	1,330,361	1,405,117	7,522,015
1969	145,111	229,185	706,272	529,080	3,704,065	15,112,041	1,223,457	1,134,395	9,523,012
1970	74,366	85,151	70,725	72,798	320,797	11,031,255	987,213	738,955	8,836,897
1971	15,595	45,006	43,988	42,624	339,078	2,925,191	193,255	36,514	3,275,227
1972	19,736	32,657	43,939	24,748	81,937	1,388,348	101,784	20,165	1,003,380
1973	14,283	16,448	9,980	16,320	25,090	680,834	19,584	13,469	798,805
1974	22,111	14,951	19,555	32,240	29,582	524,504	30,735	16,333	778,696
1975	15,865	13,479	10,793	13,678	25,827	269,197	25,164	21,048	370,265
1976	76,202	54,217	37,464	59,842	105,332	507,535	59,753	42,776	434,578
1977	75,628	52,919	22,826	54,444	81,293	302,126	49,972	30,152	235,700
1978	48,754	16,469	-2,816	27,331	43,126	205,261	653	1,500	145,512
1979	241	6,906	13,401	14,229	25,411	313,965	9,846	7,856	251,091
1980	18,165	18,813	15,608	27,498	34,190	1,835,100	29,169	23,023	1,767,244
1981	10,290	15,324	28,246	21,872	25,503	-1,195,845	28,974	34,604	-1,185,224
1982	4,998	4,720	6,062	5,698	13,728	-676,108	7,425	28,895	-681,447
1983	10,301	8,187	12,623	10,605	32,654	1,156,140	14,293	20,746	637,920
1984	6,481	28,394	93,295	50,829	21,606	823,846	78,161	65,239	250,068
1985	7,068	5,467	4,189	5,530	6,800	9,563	6,954	4,498	-45,713
1986	38,024	23,358	31,400	27,988	31,774	-514,553	31,571	22,077	-497,744
1987	1,457	2,054	-608	2,404	1,772	83,608	1,836	2,975	203,673
1988	3,772	1,886	87,227	1,886	1,886	2,310,161	2,829	1,886	2,676,045
1989	13,202	7,544	90,999	7,544	7,544	208,497	11,316	7,544	198,124
1990	28,290	16,974	12,259	16,974	17,917	253,195	22,632	16,031	231,506
1991	30,176	16,974	19,803	18,860	21,689	82,041	21,689	16,974	60,352
1992	18,860	10,373	16,974	12,259	16,031	16,974	12,259	10,373	3,772
1993	6,601	3,772	6,601	4,715	5,658	6,601	4,715	3,772	1,886
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	9,232,254	12,200,859	11,150,975	7,522,182	15,708,668	61,142,966	8,466,297	7,027,379	42,029,434

**TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH
TRANSPORATION CHARGE**

(in dollars)

Sheet 5 of 8

Calendar Year	CALIFORNIA AQUEDUCT (con't.)								
	SOUTH SAN JOAQUIN DIV. (con't.)		TEHACHAPI DIVISION			MOJAVE DIVISION			
	Reach 16A	Subtotal	Reach 17E	Reach 17F	Subtotal	Reach 18A	Reach 19	Reach 19C	Reach 20A
	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)
1952	4,440	16,030	9,703	4,072	13,775	4,090	1,520	0	2,561
1953	16,513	59,323	31,337	13,284	44,621	12,610	4,685	0	7,246
1954	16,601	60,328	46,243	20,010	66,253	16,642	6,184	0	9,506
1955	5,223	19,612	25,880	11,362	37,242	5,612	2,086	0	2,529
1956	21,754	82,940	47,487	17,609	65,096	6,038	2,244	0	2,440
1957	62,657	237,073	119,673	49,130	168,803	22,348	8,304	0	9,035
1958	133,083	537,575	164,056	72,091	236,147	37,917	14,166	123	15,391
1959	205,748	773,179	151,389	57,883	209,272	38,620	23,450	1,102	23,605
1960	204,788	774,678	203,222	45,323	248,545	21,356	26,093	5,318	40,523
1961	206,305	1,148,969	387,819	85,558	473,377	35,664	32,281	2,262	34,918
1962	171,396	1,127,293	353,119	82,610	435,729	68,508	266,284	1,841	10,323
1963	481,941	1,913,123	1,191,633	124,757	1,316,390	37,379	435,881	4,137	39,706
1964	1,778,952	5,834,889	1,866,000	775,005	2,641,005	95,693	706,369	8,564	43,342
1965	1,268,176	13,733,092	2,574,824	2,284,869	4,859,693	121,060	716,092	9,156	108,519
1966	2,896,274	27,347,168	5,537,412	9,323,517	14,860,929	366,116	1,644,699	13,373	159,282
1967	3,442,021	30,089,234	26,239,390	12,398,708	38,638,098	1,312,022	903,880	24,103	645,078
1968	7,578,498	48,226,583	33,363,479	7,416,464	40,779,943	136,804	7,109,653	71,388	1,889,601
1969	13,136,056	45,702,910	40,368,425	6,883,206	47,251,631	213,805	2,465,641	7,423	5,939,151
1970	13,890,751	36,322,845	35,446,706	6,786,231	42,232,937	2,211,077	1,210,665	6,217	3,652,478
1971	7,903,937	14,885,415	20,141,395	6,835,303	26,976,698	1,496,843	284,738	6,994	1,074,759
1972	3,025,555	5,783,019	10,002,935	34,791	10,037,726	129,417	409,903	3,620	471,963
1973	1,472,313	3,096,609	3,090,140	36,207	3,126,347	23,931	75,638	2,539	88,416
1974	1,031,843	2,546,984	4,798,348	152,494	4,950,842	28,399	205,581	2,703	138,673
1975	489,545	1,289,211	2,144,178	411,404	2,555,582	44,774	70,652	5,066	68,157
1976	618,072	2,154,146	1,124,500	174,629	1,299,129	121,043	84,593	6,786	59,967
1977	581,088	1,675,201	660,735	31,512	692,247	261,400	133,767	7,521	117,878
1978	252,220	802,136	752,967	27,956	780,923	553,014	57,150	5,872	51,615
1979	570,804	1,236,632	2,288,392	61,381	2,349,773	743,615	339,536	10,831	37,085
1980	3,999,626	7,805,792	18,914,107	6,046	18,920,153	1,078,429	1,073,430	3,604	308,188
1981	-2,707,064	-4,902,981	-4,966,608	6,903	-4,959,705	1,077,813	845,669	4,498	48,603
1982	-1,620,219	-2,895,417	11,944,444	5,317	11,949,761	6,845,321	741,321	3,920	30,521
1983	1,360,623	3,288,495	13,331,067	6,584	13,337,651	11,054,684	60,585	2,732	35,317
1984	543,273	2,001,484	4,827,885	31,065	4,858,950	8,371,895	307,265	3,415	15,856
1985	-135,029	-111,346	1,178,572	9,335	1,187,907	5,314,422	319,473	4,300	139,878
1986	-1,247,189	-1,976,070	-3,594,466	38,693	-3,555,773	1,772,993	2,014,098	4,720	-11,765
1987	191,530	544,145	1,248,750	7,036	1,255,786	1,333,407	14,155	5,187	579,933
1988	5,502,688	11,392,759	3,056,829	943	3,057,772	611,064	412,091	0	111,274
1989	230,658	1,564,247	1,099,161	1,886	1,101,047	39,606	586,546	0	-136,735
1990	290,444	969,403	315,339	3,772	319,111	8,487	444,153	0	2,829
1991	102,787	452,640	126,362	1,886	128,248	4,715	70,725	0	84,870
1992	18,860	172,569	0	0	0	943	5,658	0	4,715
1993	6,601	64,124	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	68,004,143	265,846,041	240,612,829	54,336,832	294,949,661	45,679,576	24,136,904	239,315	15,957,231

TO BE REIMBURSED THRU CAPITAL COST COMPONENT OF

(in dollars)

Sheet 6 of 8

Calendar Year	CALIFORNIA AQUEDUCT (con't.)								
	MOJAVE DIVISION (con't.)						SANTA ANA DIVISION		
	Reach 20B	Reach 21	Reach 22A	Reach 22B	Reach 23	Reach 24	Subtotal	Reach 25	Reach 26A
	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)
1952	892	5,788	35	2,013	2,074	2,413	21,386	3,334	5,599
1953	3,402	17,846	71	5,752	6,886	7,438	65,936	10,275	17,264
1954	4,548	23,558	369	8,560	7,849	9,820	87,036	13,566	22,790
1955	2,213	7,947	178	2,754	2,725	3,313	29,357	4,575	7,687
1956	2,655	8,542	216	2,905	2,961	3,561	31,562	4,917	8,264
1957	9,826	31,616	800	10,757	10,962	13,177	116,825	18,205	30,586
1958	16,752	53,569	1,397	18,717	18,578	22,627	199,237	31,001	52,019
1959	18,604	56,724	1,844	25,421	20,372	45,646	255,368	39,325	58,137
1960	37,179	43,893	11,029	136,751	17,152	109,816	449,110	65,655	93,700
1961	37,102	21,532	14,517	215,859	9,546	373,473	777,154	26,979	56,734
1962	10,730	8,197	4,186	164,168	4,336	279,421	817,994	9,964	36,235
1963	40,865	26,670	17,081	237,695	7,228	358,503	1,205,145	31,013	112,271
1964	71,116	33,912	22,793	262,996	6,863	244,003	1,495,651	69,669	202,642
1965	343,506	91,095	65,689	827,655	11,836	621,566	2,916,174	279,237	206,356
1966	1,311,628	160,388	178,538	1,746,245	31,078	1,018,628	6,629,975	415,066	364,004
1967	1,718,942	498,257	367,961	3,146,128	62,135	2,331,106	11,009,612	3,184,296	638,539
1968	2,291,691	1,141,929	1,145,768	4,588,850	102,207	2,600,293	21,078,184	8,264,126	1,268,194
1969	5,626,284	2,358,737	1,515,147	7,750,478	260,659	11,131,406	37,268,731	6,807,783	1,768,456
1970	5,304,372	3,232,911	2,081,810	23,451,612	1,240,798	16,885,193	59,277,133	2,169,051	7,229,429
1971	1,091,123	825,070	432,464	16,772,680	1,922,115	5,385,721	29,292,507	1,135,248	9,811,736
1972	635,507	484,772	324,865	3,788,894	48,049	788,479	7,085,469	1,095,740	5,528,987
1973	83,840	63,774	36,179	1,623,274	24,333	4,225,877	6,247,801	136,994	1,810,729
1974	118,639	103,545	54,198	5,699,605	130,567	766,562	7,248,472	68,180	1,922,999
1975	169,294	167,240	19,453	4,793,580	19,467	373,783	5,731,466	166,653	3,787,797
1976	102,909	44,896	24,732	3,103,929	84,188	204,705	3,837,748	475,176	1,494,750
1977	120,160	71,389	49,445	1,654,593	60,112	232,230	2,708,495	76,255	776,085
1978	68,838	32,855	18,183	565,337	36,484	210,198	1,599,546	57,463	131,076
1979	36,225	18,948	10,675	576,019	10,634	103,615	1,887,183	29,960	80,482
1980	284,545	133,526	121,171	2,361,399	75,229	559,963	5,999,484	31,462	181,638
1981	32,194	13,211	6,458	-868,131	214,908	203,929	1,579,152	5,861	68,934
1982	74,087	10,928	12,990	466,227	854,170	73,079	9,112,564	8,887	139,927
1983	54,717	22,913	8,506	849,770	2,240,722	18,215	14,348,161	4,171	510,747
1984	33,960	843,357	5,499	193,755	1,385,689	37,822	11,198,513	3,814	175,655
1985	307,972	370,625	680,903	818,475	992,341	45,915	8,994,304	5,221	-11,778
1986	206,511	233,520	1,625,065	172,582	256,231	44,911	6,318,866	21,934	114,325
1987	-332,570	51,924	68,200	59,281	144,919	82,188	2,006,624	15,224	-92,735
1988	868,503	-69,782	-16,031	3,465,336	522,422	66,481	5,971,358	4,715	2,824,096
1989	-95,337	-148,994	-30,176	6,064,622	1,135,372	49,036	7,463,940	6,601	1,646,949
1990	11,316	-5,658	8,487	5,414,234	2,360,329	66,953	8,311,130	6,601	1,676,654
1991	67,896	80,155	25,461	2,150,040	3,968,144	35,834	6,487,840	5,658	993,922
1992	3,772	2,829	1,886	957,145	3,837,067	5,658	4,819,673	0	281,957
1993	0	0	0	0	1,702,115	0	1,702,115	0	0
1994	0	0	0	0	1,336,231	0	1,336,231	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	20,796,408	11,174,154	8,918,042	103,287,962	25,188,083	49,642,557	305,020,232	24,809,855	46,033,838

TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH TRANSPORTATION CHARGE

(in dollars)

Sheet 7 of 8

Calendar Year	CALIFORNIA AQUEDUCT (con't.)								
	SANTA ANA DIVISION (con't.)				WEST BRANCH				
	Reach 28G ^(a)	Reach 28H	Reach 28J	Subtotal	Reach 29A	Reach 29F	Reach 29G	Reach 29H	Reach 29J
	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)	(64)
1952	4,785	4,055	3,020	20,793	2,924	136	175	459	553
1953	15,580	11,511	9,476	64,106	9,093	344	237	1,754	1,683
1954	18,015	18,100	12,160	84,631	7,389	1,201	2,229	2,350	4,162
1955	6,052	6,081	4,151	28,546	1,019	585	1,086	1,147	2,029
1956	6,496	6,525	4,480	30,682	490	698	1,297	1,366	2,420
1957	24,044	24,156	16,585	113,576	1,809	2,583	4,792	5,057	8,952
1958	40,844	41,033	28,470	193,367	3,256	4,516	8,714	8,878	15,847
1959	45,746	45,946	44,331	233,485	7,953	9,150	19,414	18,243	35,583
1960	59,102	58,548	118,969	395,974	21,753	14,990	34,447	29,764	69,752
1961	32,226	34,382	674,787	825,108	22,442	12,775	21,559	20,086	39,761
1962	21,383	20,530	47,484	135,596	40,237	28,729	86,938	58,215	108,962
1963	43,884	41,698	1,506,440	1,735,306	91,959	69,162	163,347	110,015	211,592
1964	89,710	45,762	98,569	506,352	150,670	66,420	207,977	143,340	291,404
1965	96,956	76,899	146,095	805,543	361,811	77,914	403,115	127,430	589,638
1966	170,878	308,756	589,107	1,847,811	489,512	203,497	1,233,640	348,918	3,231,797
1967	233,968	283,126	987,832	5,327,761	1,589,715	882,096	1,117,243	891,607	31,088,491
1968	871,337	266,295	780,587	11,450,539	3,899,363	300,921	396,190	1,104,832	36,157,768
1969	1,117,873	1,444,654	756,442	11,895,208	6,592,580	336,480	693,348	1,184,454	9,655,871
1970	1,843,621	1,013,468	2,829,523	15,085,092	7,986,733	6,089,401	2,624,747	3,002,968	8,463,475
1971	16,095,702	6,401,303	12,111,623	45,555,612	4,247,037	3,768,699	1,120,231	8,244,651	5,844,024
1972	1,537,880	11,960,791	21,542,747	41,666,145	1,871,831	426,932	985,512	18,787,722	-23,015,734
1973	209,664	247,769	3,673,344	6,078,500	775,824	168,064	399,856	9,408,706	1,821,206
1974	162,178	101,638	1,980,991	4,235,986	560,657	168,878	169,717	3,901,261	-3,454,239
1975	157,365	124,399	1,626,274	5,862,488	353,670	421,176	925,693	664,113	609,891
1976	178,287	118,748	1,497,465	3,764,426	396,828	650,417	1,274,484	706,244	650,209
1977	127,106	89,036	323,091	1,391,573	420,682	3,018,637	2,152,961	196,012	1,135,148
1978	147,112	153,867	347,482	837,000	1,337,521	2,219,135	6,694,615	57,817	149,932
1979	29,723	19,225	225,947	385,337	966,393	2,168,382	19,813,742	597,858	331,313
1980	137,833	154,821	1,077,900	1,583,654	1,543,584	4,108,143	24,537,814	550,337	204,751
1981	28,804	22,647	61,323	187,569	-854,536	2,699,859	19,806,507	94,795	28,838
1982	13,697	57,386	37,860	257,757	-474,528	348,325	17,953,359	188,981	40,158
1983	14,737	88,073	-259,965	357,763	468,810	180,518	7,519,609	251,239	19,926
1984	13,689	11,669	53,325	258,152	204,035	66,590	3,468,237	354,681	17,235
1985	16,529	11,009	47,719	68,700	117,441	21,936	2,713,022	79,163	36,246
1986	68,256	71,303	86,648	362,466	-288,519	66,528	884,754	90,794	102,332
1987	48,616	47,264	44,167	62,536	185,064	458,702	1,296,631	180,759	67,025
1988	16,974	20,746	21,689	2,888,220	41,303	158,895	1,249,286	309,304	8,487
1989	22,632	23,575	115,046	1,814,803	81,098	194,258	528,457	59,409	13,202
1990	26,404	23,575	150,880	1,884,114	119,761	166,911	2,488,577	2,856,347	16,031
1991	20,746	20,746	57,523	1,098,595	62,238	13,202	4,620,700	337,594	10,373
1992	0	0	0	281,957	0	943	294,216	1,886	943
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	23,816,434	53,481,587	171,662,829	33,416,902	127,918,475	29,596,728	54,980,556	74,617,037	

(a) Includes excess capacity costs (not shown in Table B-9) in the following years allocated to MWDSC and repaid under Article 24(c) of its contract: 1970 - \$362,000; 1971 - \$6,198,000; 1972 - \$139,000.

TO BE REIMBURSED THRU CAPITAL COST COMPONENT OF

(in dollars)

Sheet 8 of 8

Calendar Year	CALIFORNIA AQUEDUCT (con't.)								GRAND TOTAL
	WEST BRANCH (con't.)		COASTAL BRANCH					TOTAL	
	Reach 30	Subtotal	Reach 31A	Reach 33A	Reach 34	Reach 35	Subtotal		
	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)
1952	1,408	5,655	0	0	0	0	0	98,857	99,353
1953	4,346	17,457	0	0	0	0	0	309,387	311,812
1954	5,743	23,074	0	0	0	0	0	394,688	402,143
1955	1,943	7,809	0	0	0	0	0	159,842	169,342
1956	2,077	8,348	0	0	0	0	0	255,679	351,551
1957	7,684	30,877	0	0	0	0	0	708,753	1,464,452
1958	13,931	55,142	0	0	0	0	0	1,331,616	2,286,623
1959	44,384	134,727	28,046	49,114	7,441	8,236	92,837	2,096,392	2,967,412
1960	84,703	255,409	34,404	70,450	8,507	14,265	127,626	2,937,049	4,660,833
1961	123,330	239,953	13,801	17,868	1,501	3,931	37,101	4,650,264	8,545,244
1962	348,366	671,447	10,121	7,798	524	1,689	20,132	5,827,774	8,875,171
1963	521,491	1,167,566	20,470	14,299	880	2,943	38,592	18,981,487	24,610,278
1964	1,372,464	2,232,275	315,418	26,963	1,687	5,639	349,707	31,550,813	41,736,060
1965	3,383,950	4,943,858	747,023	36,178	2,118	7,060	792,379	57,936,405	62,664,743
1966	9,364,753	14,872,117	2,258,915	35,864	1,736	5,764	2,302,279	124,748,128	129,110,330
1967	17,618,827	53,187,979	6,310,419	38,331	1,891	6,213	6,356,854	187,465,580	194,146,365
1968	15,736,691	57,595,765	2,707,580	30,784	1,324	4,369	2,744,057	192,593,079	197,978,911
1969	16,228,175	34,690,908	423,797	26,549	907	2,905	454,158	182,530,023	184,473,490
1970	22,330,328	50,497,652	269,194	24,368	851	2,787	297,200	206,720,774	207,082,650
1971	16,890,503	40,115,145	164,446	32,230	1,315	3,804	201,795	158,414,033	158,624,739
1972	3,818,001	2,874,264	131,332	17,601	522	1,660	151,115	68,228,670	68,362,291
1973	13,426,222	25,999,878	182,493	16,154	542	1,758	200,947	45,110,823	45,263,853
1974	2,988,318	4,334,592	190,866	18,799	463	1,405	211,533	24,036,199	24,402,166
1975	1,808,235	4,782,778	64,582	36,012	2,255	6,656	109,505	21,065,768	21,318,838
1976	1,253,067	4,931,249	198,266	68,903	5,088	14,988	287,245	17,183,957	17,492,908
1977	345,023	7,268,463	918,515	81,543	1,834	5,387	1,007,279	15,194,985	15,573,644
1978	763,445	11,222,465	37,342	81,120	1,302	3,852	123,616	15,958,601	16,383,506
1979	282,145	24,159,833	39,511	117,027	1,505	4,433	162,476	31,299,585	31,957,323
1980	2,055,206	32,999,835	199,745	404,607	1,059	3,113	608,524	73,834,331	74,950,379
1981	275,379	22,050,842	11,316	(255,590)	1,284	3,778	(239,212)	15,112,785	15,592,168
1982	338,464	18,394,759	(16,332)	(157,910)	472	1,381	(172,389)	41,181,065	42,635,820
1983	496,506	8,936,608	134,712	133,852	684	2,006	271,254	45,178,834	48,723,119
1984	1,042,110	5,152,888	45,227	53,728	601	1,761	101,317	29,017,361	34,825,698
1985	268,148	3,235,956	17,902	1,483	1,483	4,361	25,229	14,732,171	28,181,136
1986	213,956	1,069,845	(5,096)	18,708	13,479	39,760	66,851	2,805,700	32,001,387
1987	154,838	2,343,019	37,126	1,007,261	89,146	263,027	1,396,560	13,718,777	37,427,911
1988	658,214	2,425,489	23,400	1,723,989	100,978	302,920	2,151,287	42,074,290	53,577,084
1989	1,259,848	2,136,272	143,300	1,420,359	76,928	230,770	1,871,357	39,217,260	42,232,692
1990	108,445	5,756,072	177,000	2,229,122	151,449	337,863	2,895,434	37,811,285	38,692,397
1991	66,010	5,110,117	65,000	7,887,406	687,846	1,344,356	9,984,608	29,957,975	30,015,251
1992	3,772	301,760	32,000	50,073,165	4,993,037	14,061,108	69,159,310	76,956,180	76,956,180
1993	0	0	320,000	62,474,825	6,361,150	18,695,683	87,851,658	90,692,359	90,692,359
1994	0	0	304,000	59,725,995	2,491,325	6,064,446	68,585,766	70,932,472	70,932,472
1995	0	0	0	16,486,118	433,553	439,877	17,359,548	18,359,358	18,359,358
1996	0	0	0	300,000	300,000	300,000	900,000	1,899,810	1,899,810
1997	0	0	0	234,000	233,000	233,000	700,000	1,699,810	1,699,810
1998	0	0	0	166,000	167,000	167,000	500,000	500,000	500,000
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	135,710,449	456,240,147	16,555,841	204,775,073	16,148,667	42,605,954	280,085,535	2,063,471,034	2,211,211,062

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT COMPONENT OF

(in dollars)

Sheet 1 of 8

Calendar Year	UPPER FEATHER DIVISION	NORTH BAY AQUEDUCT					SOUTH BAY AQUEDUCT			
		Reach 1	Reach 2	Reach 3A	Reach 3B	Total	Reach 1	Reach 2	Reach 4	Reach 5
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1952	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	37,396	5,522	0	0
1963	0	0	0	0	0	0	147,719	20,639	0	0
1964	0	0	0	0	0	0	149,750	15,574	19,405	0
1965	0	0	0	0	0	0	259,939	45,718	46,485	0
1966	0	0	0	0	0	0	270,890	23,799	63,921	0
1967	0	0	0	0	0	0	438,050	32,798	108,127	0
1968	0	0	0	0	130	130	410,919	44,277	66,973	706
1969	0	0	0	0	80,875	80,875	487,377	48,339	75,644	706
1970	0	0	0	0	94,872	94,872	381,734	44,852	64,833	71,376
1971	54	0	0	0	45,579	45,579	357,850	25,666	50,344	38,735
1972	40	0	0	0	37,895	37,895	347,941	30,606	56,800	100,106
1973	1	0	0	0	32,993	32,993	386,897	36,172	58,288	28,810
1974	143	0	0	0	46,498	46,498	456,381	57,081	83,120	61,623
1975	1,069	0	0	0	37,707	37,707	624,989	46,111	81,361	36,682
1976	139	0	0	0	60,786	60,786	614,362	47,862	123,838	91,096
1977	892	0	0	0	78,400	78,400	511,065	48,926	104,280	102,083
1978	39	0	0	0	58,235	58,235	690,481	125,224	176,855	50,914
1979	3,235	0	0	0	73,852	73,852	650,826	76,849	212,826	91,380
1980	416	0	0	0	81,770	81,770	1,128,863	212,974	242,118	110,792
1981	3,847	0	0	0	100,783	100,783	882,773	130,119	167,077	201,915
1982	10,956	0	0	0	194,252	194,252	1,170,233	143,561	252,417	118,501
1983	(422)	0	0	0	108,774	108,774	1,253,680	91,800	353,607	168,996
1984	643	0	0	0	97,111	97,111	1,905,622	108,736	335,380	24,815
1985	2,599	0	0	0	219,489	219,489	1,993,850	199,535	428,637	253,876
1986	2,595	0	0	0	193,718	193,718	1,761,401	266,121	286,688	201,496
1987	2,595	0	0	0	271,057	271,057	2,029,894	178,580	365,329	251,326
1988	2,600	0	0	0	168,530	168,530	2,597,113	275,133	371,218	293,861
1989	2,672	550,393	130,840	262,521	227,492	1,171,246	2,979,831	283,284	395,528	318,571
1990	2,714	577,600	142,413	244,877	247,038	1,211,928	2,866,024	281,871	404,686	335,778
1991	2,709	564,865	145,282	250,475	251,152	1,211,774	2,490,680	286,642	411,454	334,645
1992	2,712	564,108	145,088	250,164	250,826	1,210,186	2,487,287	286,224	410,869	333,106
1993	2,717	564,624	145,249	250,344	250,988	1,211,205	2,488,770	286,428	411,164	333,407
1994	2,728	566,439	145,716	251,083	251,569	1,214,807	2,493,218	287,026	412,056	334,964
1995	2,728	569,756	146,624	252,408	252,434	1,221,222	2,500,524	288,189	413,798	338,176
1996	2,728	569,810	146,625	252,444	252,453	1,221,332	2,500,571	288,193	413,811	338,106
1997	2,728	571,724	146,636	253,720	253,104	1,225,184	2,502,233	288,350	414,251	340,159
1998	2,728	571,919	146,638	253,850	253,171	1,225,578	2,502,403	288,367	414,298	340,390
1999	2,728	574,021	146,650	255,253	253,890	1,229,814	2,504,230	288,538	414,779	342,772
2000	2,728	575,799	146,661	256,439	254,497	1,233,396	2,505,776	288,685	415,190	344,811
2001	2,731	577,201	147,082	256,947	254,941	1,236,171	2,509,603	289,207	415,945	346,135
2002	2,731	578,852	147,092	258,049	255,504	1,239,497	2,511,038	289,342	416,326	348,024
2003	2,731	580,392	147,101	259,077	256,031	1,242,601	2,595,078	296,207	431,555	356,350
2004	2,731	593,751	148,470	260,259	259,761	1,262,241	2,600,182	296,643	432,603	358,652
2005	2,731	594,210	148,473	260,564	259,918	1,263,165	2,600,580	296,679	432,707	359,171
2006	2,731	595,601	148,481	261,493	260,394	1,265,969	2,601,790	296,795	433,029	360,764
2007	2,731	595,812	148,483	261,634	260,466	1,266,395	2,601,973	296,811	433,074	360,984
2008	2,731	597,148	148,491	262,525	260,922	1,269,086	2,603,133	296,921	433,382	362,511
2009	2,731	598,527	148,500	263,445	261,393	1,271,865	2,604,332	297,035	433,701	364,091
2010	2,731	598,591	148,500	263,487	261,414	1,271,992	2,604,388	297,039	433,714	364,157
2011	2,726	596,074	147,664	262,659	260,629	1,267,026	2,596,996	296,022	432,271	361,835
2012	2,726	597,384	147,672	263,533	261,076	1,269,665	2,598,134	296,131	432,573	363,336
2013	2,726	597,444	147,673	263,573	261,097	1,269,787	2,598,185	296,135	432,586	363,401
2014	2,726	597,574	147,675	263,659	261,141	1,270,049	2,598,298	296,146	432,617	363,554
2015	2,726	598,015	147,678	263,953	261,293	1,270,939	2,598,682	296,182	432,719	364,052
2016	2,726	599,287	147,686	264,801	261,728	1,273,502	2,599,787	296,287	433,012	365,508
2017	2,726	599,282	147,686	264,799	261,726	1,273,493	2,599,784	296,287	433,011	365,507
2018	2,726	598,245	147,680	264,107	261,373	1,271,405	2,598,881	296,201	432,771	364,317
2019	2,726	598,216	147,680	264,087	261,364	1,271,347	2,598,855	296,198	432,761	364,271
2020	2,726	597,885	147,678	263,865	261,253	1,270,681	2,598,566	296,169	432,683	363,879
2021	2,726	597,902	147,678	263,877	261,259	1,270,716	2,501,503	288,262	415,227	356,181
2022	2,726	585,279	146,205	263,849	257,957	1,253,290	2,501,466	288,257	415,216	356,127
2023	2,726	585,282	146,205	263,851	257,958	1,253,296	2,501,469	288,258	415,216	356,127
2024	2,726	584,183	146,078	263,845	257,531	1,251,637	2,496,350	287,840	414,292	355,697
2025	2,726	584,189	146,078	263,849	257,532	1,251,648	2,496,353	287,839	414,290	355,691
2026	2,726	584,186	146,078	263,847	257,532	1,251,643	2,496,351	287,838	414,289	355,681
2027	2,726	584,157	146,078	263,827	257,521	1,251,583	2,496,325	287,836	414,280	355,639
2028	2,726	584,191	146,078	263,851	257,533	1,251,653	2,496,353	287,837	414,283	355,654
2029	2,726	584,154	146,078	263,826	257,519	1,251,577	2,496,321	287,832	414,271	355,600
2030	2,726	584,159	146,078	263,829	257,522	1,251,588	2,496,324	287,832	414,268	355,584
2031	2,726	584,161	146,078	263,831	257,522	1,251,592	2,496,324	287,830	414,265	355,568
2032	2,726	585,294	146,085	264,587	257,910	1,253,876	2,497,310	287,923	414,525	356,857
2033	2,726	585,324	146,085	264,607	257,919	1,253,935	2,497,335	287,926	414,533	356,895
2034	2,726	585,333	146,085	264,613	257,922	1,253,953	2,497,342	287,925	414,532	356,892
2035	2,726	585,314	146,085	264,599	257,916	1,253,914	2,497,325	287,923	414,524	356,853

REACH TO BE REIMBURSED THRU MINIMUM OMP&R TRANSPORTATION CHARGE

(in dollars)

Sheet 2 of 8

Calendar Year	SOUTH BAY AQUEDUCT (continued)					CALIFORNIA AQUEDUCT			
						NORTH SAN JOAQUIN DIVISION			
	Reach 6	Reach 7	Reach 8	Reach 9	Total	Reach 1	Reach 2A	Reach 2B	Subtotal
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	42,918	0	0	0	0
1963	0	0	0	0	168,358	0	0	0	0
1964	0	0	0	0	184,729	0	0	0	0
1965	2,634	6,490	4,704	12,904	378,874	0	0	0	0
1966	4,707	10,328	9,233	25,519	408,397	0	0	0	0
1967	2,712	7,659	10,812	34,347	634,505	0	0	0	0
1968	3,109	7,960	10,166	40,372	584,482	1,001,998	228,359	103,116	1,333,473
1969	3,944	5,975	8,795	38,566	669,346	933,116	301,596	188,194	1,422,906
1970	2,464	-1,991	6,870	28,210	598,348	971,602	306,198	151,539	1,429,339
1971	3,116	9,394	9,895	31,068	526,068	1,103,021	254,786	113,694	1,471,501
1972	5,125	10,247	12,054	44,699	607,578	1,107,855	230,906	110,109	1,448,870
1973	4,178	7,500	4,890	43,816	570,551	1,150,864	221,445	100,221	1,472,530
1974	7,812	7,564	5,523	48,054	727,158	1,272,034	231,383	117,156	1,620,573
1975	18,120	14,683	18,325	68,377	908,648	1,434,736	455,110	201,075	2,090,921
1976	10,873	5,557	19,920	49,921	963,429	1,519,801	217,348	453,400	2,190,549
1977	-240	2,228	8,391	89,579	866,312	1,917,994	292,380	196,564	2,406,938
1978	-1,404	16,766	-5,313	104,078	1,157,601	2,016,026	306,503	188,214	2,510,743
1979	1,269	29,294	7,351	106,835	1,176,630	1,848,109	231,339	145,205	2,224,653
1980	3,621	24,270	17,404	110,852	1,850,894	2,365,408	472,660	247,608	3,085,676
1981	4,038	20,110	17,587	98,150	1,521,769	2,651,827	434,141	153,898	3,239,866
1982	2,282	23,145	22,313	204,963	1,937,415	3,228,037	608,168	247,763	4,083,968
1983	4,288	48,724	70,334	206,396	2,197,825	4,220,202	760,377	262,729	5,243,308
1984	4,223	40,963	23,446	417,066	2,860,251	4,759,294	747,746	276,438	5,783,478
1985	19,313	73,191	63,425	221,740	3,253,567	5,835,407	755,122	267,305	6,857,834
1986	19,122	46,645	55,337	332,553	2,969,363	5,764,687	914,048	368,128	7,046,863
1987	16,962	30,481	41,838	379,120	3,293,530	6,107,649	1,017,733	402,232	7,527,614
1988	59,140	52,604	59,385	255,700	3,964,154	7,211,582	1,175,215	297,354	8,684,151
1989	57,605	52,458	59,935	227,800	4,375,012	8,043,846	1,362,573	303,384	9,709,803
1990	54,903	49,663	57,508	231,169	4,281,602	8,478,894	1,243,799	326,092	10,048,785
1991	55,779	50,253	58,024	234,026	3,921,503	8,064,381	1,275,450	340,649	9,680,480
1992	55,691	50,169	57,933	233,664	3,914,943	7,994,279	1,274,620	340,338	9,609,237
1993	55,729	50,205	57,974	233,828	3,917,505	7,997,590	1,275,126	340,431	9,613,147
1994	55,840	50,303	58,089	234,289	3,925,785	8,010,959	1,276,711	340,751	9,628,421
1995	56,056	50,492	58,312	235,187	3,940,734	8,215,682	1,282,771	342,398	9,840,851
1996	56,056	50,492	58,312	235,187	3,940,728	8,215,914	1,282,904	342,438	9,841,256
1997	56,056	50,492	58,312	235,187	3,945,040	8,224,143	1,287,263	343,771	9,855,177
1998	56,056	50,492	58,312	235,187	3,945,505	8,224,983	1,287,770	343,926	9,856,679
1999	56,056	50,492	58,312	235,187	3,950,366	8,234,023	1,292,484	345,367	9,871,874
2000	56,056	50,492	58,312	235,187	3,954,509	8,241,675	1,296,663	346,645	9,884,983
2001	56,155	50,581	58,417	235,604	3,961,647	8,253,204	1,299,125	347,301	9,899,630
2002	56,155	50,581	58,417	235,604	3,965,487	8,355,274	1,302,972	348,475	10,006,721
2003	57,846	52,413	61,087	242,320	4,092,856	8,361,899	1,306,510	349,557	10,017,966
2004	57,919	52,492	61,203	242,610	4,102,304	8,484,484	1,337,362	364,282	10,186,128
2005	57,919	52,492	61,203	242,610	4,103,361	8,486,451	1,338,386	364,595	10,189,432
2006	57,919	52,492	61,203	242,610	4,106,602	8,492,440	1,341,641	365,590	10,199,671
2007	57,919	52,492	61,203	242,610	4,107,066	8,493,342	1,341,955	365,686	10,200,983
2008	57,919	52,492	61,203	242,610	4,110,171	8,499,085	1,345,078	366,642	10,210,805
2009	57,919	52,492	61,203	242,610	4,113,383	8,505,020	1,348,284	367,622	10,220,926
2010	57,919	52,492	61,203	242,610	4,113,522	8,505,293	1,348,398	367,656	10,221,347
2011	57,720	52,315	60,995	241,777	4,099,931	8,483,496	1,344,122	366,544	10,194,162
2012	57,720	52,315	60,995	241,777	4,102,981	8,489,131	1,347,194	367,483	10,203,808
2013	57,720	52,315	60,995	241,777	4,103,114	8,489,384	1,347,297	367,514	10,204,195
2014	57,720	52,315	60,995	241,777	4,103,422	8,489,945	1,347,643	367,620	10,205,208
2015	57,720	52,315	60,995	241,777	4,104,442	8,491,839	1,348,629	367,922	10,208,390
2016	57,720	52,315	60,995	241,777	4,107,401	8,497,312	1,351,589	368,825	10,217,726
2017	57,720	52,315	60,995	241,777	4,107,396	8,497,296	1,351,613	368,834	10,217,743
2018	57,720	52,315	60,995	241,777	4,104,977	8,492,827	1,349,172	368,087	10,210,086
2019	57,720	52,315	60,995	241,777	4,104,892	8,492,695	1,349,001	368,035	10,209,731
2020	57,720	52,315	60,995	241,777	4,104,104	8,378,430	1,348,128	367,769	10,094,327
2021	55,736	50,165	57,861	233,894	3,958,829	8,378,505	1,348,150	367,775	10,094,430
2022	55,736	50,165	57,861	233,894	3,958,722	8,255,807	1,319,130	355,397	9,930,334
2023	55,736	50,165	57,861	233,894	3,958,726	8,255,818	1,319,092	355,384	9,930,294
2024	55,632	50,052	57,696	233,479	3,951,038	8,242,092	1,316,161	351,227	9,909,480
2025	55,632	50,052	57,696	233,479	3,951,032	8,242,112	1,316,077	351,202	9,909,391
2026	55,632	50,052	57,696	233,479	3,951,018	8,242,100	1,316,016	351,182	9,909,298
2027	55,632	50,052	57,696	233,479	3,950,939	8,241,969	1,315,890	351,144	9,909,003
2028	55,632	50,052	57,696	233,479	3,950,986	8,242,106	1,315,775	351,108	9,908,987
2029	55,632	50,052	57,696	233,479	3,950,883	8,241,943	1,315,588	351,052	9,908,583
2030	55,632	50,052	57,696	233,479	3,950,867	8,241,957	1,315,435	351,005	9,908,397
2031	55,632	50,052	57,696	233,479	3,950,846	8,241,959	1,315,288	350,960	9,908,207
2032	55,632	50,052	57,696	233,479	3,953,474	8,246,835	1,317,864	351,747	9,916,446
2033	55,632	50,052	57,696	233,479	3,953,548	8,246,961	1,317,985	351,785	9,916,731
2034	55,632	50,052	57,696	233,479	3,953,550	8,246,998	1,317,894	351,757	9,916,649
2035	55,632	50,052	57,696	233,479	3,953,484	8,246,908	1,317,723	351,705	9,916,336

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT COMPONENT OF

(in dollars)

Sheet 3 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SAN LUIS DIVISION						SOUTH SAN JOAQUIN DIVISION		
	Reach 3	Reach 4	Reach 5	Reach 6	Reach 7	Subtotal	Reach 8C	Reach 8D	Reach 9
	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	120,038	428,308	130,105	44,591	104,033	827,075	0	0	0
1969	90,033	460,907	184,467	35,696	235,322	1,006,425	22,013	134,760	86,103
1970	89,547	484,300	226,002	66,070	192,582	1,058,501	26,207	156,981	128,273
1971	99,917	541,574	175,592	64,193	158,170	1,039,446	32,312	190,753	118,372
1972	116,708	647,979	174,519	73,670	154,783	1,167,659	35,031	187,242	130,396
1973	116,791	611,705	158,145	58,344	153,955	1,098,940	51,150	225,747	127,530
1974	120,309	671,455	150,835	63,905	150,230	1,156,734	34,752	199,127	131,298
1975	133,593	839,285	178,974	81,478	157,586	1,390,916	78,523	250,377	159,006
1976	54,938	883,956	220,832	90,305	174,835	1,424,866	39,348	133,933	123,424
1977	73,331	1,114,465	270,734	98,132	196,311	1,752,973	38,086	121,348	178,078
1978	45,867	974,264	203,261	106,938	203,079	1,533,409	45,552	178,805	129,928
1979	224,096	843,154	144,213	99,760	180,894	1,492,117	69,973	150,679	129,756
1980	243,507	1,176,613	222,942	127,625	281,860	2,052,547	57,726	274,848	185,155
1981	257,688	1,070,562	198,284	92,401	1,614,778	3,233,713	80,108	196,993	142,947
1982	281,768	1,254,591	212,405	116,036	1,452,831	3,317,631	60,236	272,429	236,231
1983	192,011	1,916,617	311,455	122,035	2,184,929	4,727,047	48,527	359,483	210,284
1984	183,578	2,331,472	300,173	145,516	2,030,221	4,990,960	39,961	427,112	285,719
1985	320,739	3,399,745	321,280	157,400	1,525,696	5,724,860	58,305	484,259	232,749
1986	403,908	3,036,244	411,018	214,285	607,416	4,672,871	81,233	445,871	519,251
1987	362,666	3,079,707	244,622	154,063	446,666	4,287,724	103,589	468,398	472,126
1988	404,509	2,863,576	545,160	260,089	362,899	4,436,233	156,187	587,025	471,453
1989	429,676	3,167,790	609,678	308,290	449,392	4,964,826	165,246	629,476	508,420
1990	420,545	3,218,197	625,140	341,888	491,365	5,097,135	165,248	637,420	516,818
1991	435,344	3,255,809	646,491	332,561	480,467	5,150,672	171,095	660,495	534,309
1992	433,487	3,248,402	644,718	331,805	479,339	5,137,751	170,746	659,199	533,369
1993	434,473	3,251,175	645,508	332,192	479,881	5,143,229	171,240	661,374	534,753
1994	437,622	3,260,761	648,277	333,454	481,623	5,161,737	171,578	662,822	535,942
1995	443,800	3,273,892	653,525	335,866	484,953	5,192,036	172,237	666,132	538,744
1996	443,944	3,274,265	653,749	335,938	485,043	5,192,939	172,239	666,251	538,855
1997	448,561	3,285,353	658,432	337,432	486,929	5,216,707	172,287	668,713	541,161
1998	449,100	3,286,548	659,010	337,616	487,162	5,219,436	172,293	669,018	541,446
1999	454,098	3,298,682	664,071	339,231	489,202	5,245,284	172,346	671,682	543,940
2000	458,527	3,309,059	668,534	340,654	491,000	5,267,774	172,392	674,030	546,138
2001	461,253	3,317,622	670,828	341,793	492,596	5,284,092	172,694	675,331	547,222
2002	465,332	3,327,219	674,912	343,096	494,242	5,304,801	172,736	677,481	549,236
2003	469,081	3,336,122	678,648	344,288	495,747	5,323,886	172,776	679,447	551,076
2004	483,564	3,415,656	695,199	349,546	505,221	5,449,186	173,132	682,797	554,092
2005	484,650	3,418,284	696,283	349,892	505,657	5,454,766	173,143	683,367	554,626
2006	488,099	3,426,362	699,707	350,983	507,037	5,472,188	175,215	696,839	564,156
2007	488,432	3,427,495	700,081	351,103	507,187	5,474,298	175,219	697,035	564,341
2008	491,743	3,435,228	703,344	352,144	508,502	5,490,961	175,252	698,752	565,948
2009	495,142	3,443,225	706,726	353,223	509,866	5,508,182	175,288	700,532	567,615
2010	495,264	3,443,561	706,831	353,256	509,908	5,508,820	175,289	700,587	567,666
2011	490,497	3,428,210	703,098	351,255	507,064	5,480,124	175,139	700,979	567,631
2012	493,752	3,435,788	706,290	352,273	508,351	5,496,454	175,171	702,658	569,204
2013	493,860	3,436,055	706,318	352,282	508,362	5,496,877	175,171	702,673	569,217
2014	494,229	3,436,806	706,632	352,382	508,489	5,498,538	175,174	702,839	569,372
2015	495,274	3,439,355	707,701	352,723	508,919	5,503,972	175,185	703,401	569,899
2016	498,412	3,446,681	710,751	353,696	510,147	5,519,687	175,218	705,005	571,402
2017	498,437	3,446,658	710,739	353,692	510,143	5,519,669	175,217	704,999	571,395
2018	495,850	3,440,604	708,140	352,864	509,097	5,506,555	175,189	703,633	570,116
2019	495,669	3,440,314	707,889	352,783	508,994	5,505,649	175,187	703,499	569,992
2020	494,742	3,438,287	706,914	352,474	508,602	5,501,019	175,177	702,987	569,511
2021	494,766	3,438,354	706,909	352,472	508,600	5,501,101	175,177	702,984	569,509
2022	483,979	3,363,179	693,604	348,288	500,221	5,389,271	175,174	702,777	569,315
2023	483,940	3,363,158	693,556	348,272	500,202	5,389,128	175,174	702,753	569,292
2024	482,313	3,355,744	691,550	347,591	499,094	5,376,292	171,433	682,152	555,156
2025	482,226	3,355,730	691,494	347,572	499,072	5,376,094	171,432	682,122	555,128
2026	482,161	3,355,692	691,451	347,559	499,054	5,375,917	171,432	682,099	555,107
2027	482,027	3,355,495	691,342	347,524	499,010	5,375,398	171,431	682,042	555,054
2028	481,902	3,355,599	691,282	347,504	498,988	5,375,275	171,430	682,010	555,024
2029	481,705	3,355,340	691,124	347,455	498,922	5,374,546	170,344	675,706	550,765
2030	481,545	3,355,220	690,912	347,387	498,838	5,373,902	170,342	675,595	550,661
2031	481,388	3,355,092	690,704	347,321	498,754	5,373,259	170,339	675,486	550,559
2032	484,117	3,361,559	693,323	348,156	499,809	5,386,964	170,365	676,863	551,849
2033	484,247	3,361,760	693,447	348,196	499,858	5,387,508	170,366	676,929	551,909
2034	484,150	3,361,742	693,360	348,168	499,824	5,387,244	170,365	676,884	551,866
2035	483,970	3,361,581	693,238	348,128	499,775	5,386,692	170,364	676,819	551,805

REACH TO BE REIMBURSED THRU MINIMUM OMP&R TRANSPORTATION CHARGE

(in dollars)

Sheet 4 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SOUTH SAN JOAQUIN DIVISION (continued)								
	Reach 10A	Reach 11B	Reach 12D	Reach 12E	Reach 13B	Reach 14A	Reach 14B	Reach 14C	Reach 15A
	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	83,706	59,077	0	0	0	0	0	0	0
1970	118,046	85,758	94,171	123,374	152,424	0	0	0	0
1971	129,811	80,282	95,075	91,389	167,142	691,791	151,979	111,623	529,723
1972	117,625	84,287	98,647	115,592	146,096	877,535	124,831	101,479	609,058
1973	117,706	92,257	74,238	114,843	221,385	961,855	120,106	99,429	692,748
1974	141,658	98,103	74,914	193,523	141,540	898,272	143,866	115,649	853,098
1975	207,908	124,105	61,799	117,194	108,154	1,156,757	180,614	119,889	988,045
1976	139,134	69,715	33,655	147,908	134,063	1,124,051	177,086	114,133	1,037,799
1977	194,086	108,644	91,547	175,039	137,975	1,397,006	203,837	119,467	1,339,196
1978	168,634	106,702	72,585	170,578	151,120	1,352,040	139,662	132,224	1,367,461
1979	175,107	85,942	56,331	174,147	150,029	1,490,461	201,935	260,981	1,216,126
1980	284,207	120,896	123,120	167,249	164,749	1,988,704	189,132	238,607	1,437,678
1981	198,598	76,176	32,179	112,398	170,391	1,737,827	165,966	162,627	1,791,597
1982	268,184	160,062	144,214	226,837	226,648	1,813,516	197,706	16,342	1,954,512
1983	288,910	129,891	117,064	193,482	205,394	2,428,166	186,083	160,313	2,571,557
1984	370,794	155,527	106,015	202,434	229,841	3,177,511	275,190	178,496	3,175,249
1985	314,554	238,057	197,617	281,912	333,424	3,535,743	205,521	156,212	3,556,653
1986	385,302	239,578	234,112	321,441	308,191	3,620,959	272,844	334,924	3,481,739
1987	480,068	340,927	331,511	447,179	307,192	3,642,042	365,370	219,375	4,239,372
1988	570,941	434,392	323,507	528,046	540,245	4,201,230	440,986	318,047	4,169,912
1989	520,515	384,206	349,449	544,845	583,644	4,205,708	476,523	333,980	3,980,061
1990	530,565	389,798	356,113	557,989	596,491	4,256,660	481,787	339,764	4,019,228
1991	550,262	402,672	367,192	573,851	613,473	4,187,747	499,060	352,018	4,097,989
1992	549,134	401,950	366,603	572,982	612,573	4,181,565	498,043	351,301	4,092,610
1993	550,462	402,957	367,513	574,274	614,704	4,191,827	499,266	352,262	4,100,709
1994	551,709	403,833	368,358	575,457	616,035	4,199,484	500,491	353,119	4,107,551
1995	554,623	405,821	370,501	578,125	619,045	4,208,062	503,151	355,009	4,113,486
1996	554,741	405,886	370,606	578,194	619,139	4,208,400	503,293	355,113	4,113,655
1997	557,217	407,250	372,816	579,619	621,157	4,217,112	505,587	356,792	4,118,760
1998	557,522	407,420	373,090	579,795	621,406	4,218,081	505,888	357,011	4,119,299
1999	560,199	408,893	375,478	581,335	623,588	4,227,611	508,369	358,827	4,124,900
2000	562,558	410,195	377,585	582,693	625,508	4,235,784	510,565	360,434	4,129,665
2001	563,676	410,987	378,371	583,796	626,716	4,241,927	511,599	361,166	4,135,302
2002	565,835	412,179	380,299	585,039	628,475	4,249,497	513,620	362,645	4,139,722
2003	567,809	413,268	382,063	586,176	630,084	4,256,549	515,500	364,018	4,143,848
2004	571,143	415,178	384,480	588,496	632,727	4,417,491	518,703	366,298	4,300,871
2005	571,716	415,494	384,992	588,824	633,194	4,419,575	519,254	366,700	4,302,094
2006	581,223	421,805	392,282	596,284	646,113	4,471,939	527,346	373,310	4,338,811
2007	581,421	421,913	392,459	596,397	646,275	4,472,833	527,541	373,451	4,339,361
2008	583,147	422,864	393,999	597,391	647,680	4,478,921	529,150	374,631	4,342,923
2009	584,935	423,851	395,595	598,421	649,137	4,485,231	530,827	375,857	4,346,612
2010	584,989	423,880	395,645	598,452	649,182	4,485,483	530,873	375,890	4,346,773
2011	584,888	423,705	395,715	597,908	649,636	4,484,695	530,659	375,934	4,343,508
2012	586,576	424,635	397,223	598,880	651,011	4,490,657	532,228	377,083	4,347,001
2013	586,590	424,643	397,235	598,887	651,023	4,490,896	532,274	377,118	4,347,160
2014	586,756	424,735	397,383	598,983	651,159	4,491,472	532,415	377,220	4,347,499
2015	587,322	425,047	397,888	599,309	651,620	4,493,509	532,968	377,625	4,348,688
2016	588,933	425,934	399,327	600,237	652,933	4,499,255	534,457	378,714	4,352,069
2017	588,928	425,931	399,321	600,234	652,928	4,499,257	534,458	378,723	4,352,067
2018	587,554	425,175	398,095	599,443	651,809	4,494,487	533,188	377,786	4,349,286
2019	587,421	425,102	397,976	599,367	651,700	4,494,253	533,072	377,700	4,349,174
2020	586,905	424,818	397,516	599,069	651,280	4,492,587	532,546	377,316	4,348,253
2021	586,903	424,815	397,515	599,069	651,279	4,492,492	532,422	377,226	4,348,255
2022	586,696	424,702	397,329	598,949	651,110	4,492,413	532,241	377,094	4,347,384
2023	586,671	424,687	397,306	598,934	651,088	4,492,414	532,233	377,088	4,347,391
2024	572,527	415,055	387,412	587,010	631,314	4,238,233	520,280	367,324	4,116,127
2025	572,498	415,039	387,384	586,992	631,290	4,238,230	520,263	367,312	4,116,139
2026	572,475	415,027	387,365	586,979	631,271	4,238,210	520,251	367,303	4,116,131
2027	572,416	414,995	387,313	586,946	631,224	4,238,063	520,207	367,270	4,116,050
2028	572,385	414,977	387,286	586,929	631,200	4,238,162	520,202	367,266	4,116,132
2029	568,198	412,099	384,186	583,458	625,030	4,213,463	516,738	364,365	4,098,440
2030	568,086	412,038	384,087	583,394	624,939	4,213,399	516,673	364,318	4,098,436
2031	567,976	411,977	383,989	583,330	624,848	4,213,275	516,568	364,241	4,098,420
2032	569,360	412,740	385,225	584,128	625,977	4,218,330	517,836	365,170	4,101,415
2033	569,427	412,777	385,283	584,165	626,030	4,218,442	517,856	365,185	4,101,481
2034	569,381	412,752	385,242	584,138	625,993	4,218,396	517,795	365,139	4,101,474
2035	569,316	412,715	385,184	584,101	625,940	4,218,276	517,746	365,104	4,101,416

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT COMPONENT OF

(in dollars)

Sheet 5 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SOUTH SAN JOAQUIN DIVISION (continued)		TEHACHAPI DIVISION			MOJAVE DIVISION			
	Reach 16A	Subtotal	Reach 17E	Reach 17F	Subtotal	Reach 18A	Reach 19	Reach 19C	Reach 20A
	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	385,659	0	0	0	0	0	0	0
1970	0	885,234	0	0	0	0	0	0	0
1971	10,291	2,400,543	3,471	0	3,471	0	0	0	0
1972	1,106,884	3,734,703	1,424,782	28,127	1,452,909	36,699	135,675	0	130,711
1973	1,243,941	4,142,935	1,777,260	49,949	1,827,209	36,207	146,739	0	161,838
1974	1,343,972	4,369,772	2,298,091	16,259	2,314,350	30,525	90,404	0	115,571
1975	1,537,862	5,090,233	2,403,430	35,193	2,438,623	40,588	122,584	0	137,684
1976	1,727,428	5,001,677	2,776,194	126,653	2,902,847	118,610	201,215	0	182,927
1977	1,961,081	6,065,390	3,845,464	83,936	3,929,400	93,565	226,906	0	180,884
1978	2,146,047	6,161,338	3,742,853	42,637	3,785,490	91,815	200,759	0	215,673
1979	1,798,566	5,960,033	3,539,402	45,997	3,585,399	99,670	307,386	0	261,205
1980	2,231,541	7,463,612	4,749,456	54,806	4,804,262	116,487	446,175	0	290,719
1981	2,739,627	7,607,434	5,469,468	64,331	5,533,799	313,889	573,869	0	316,664
1982	2,992,231	8,569,148	6,403,866	56,754	6,460,620	451,189	644,324	0	279,183
1983	4,370,173	11,269,327	14,529,335	90,920	14,620,255	513,528	559,563	0	354,160
1984	5,059,676	13,683,525	19,527,345	77,911	19,605,256	586,381	643,592	0	460,614
1985	6,179,978	15,774,984	20,982,643	124,006	21,106,649	531,043	499,206	0	425,022
1986	5,853,600	16,099,045	20,806,975	95,908	20,902,883	838,248	341,346	1	289,131
1987	5,828,287	17,245,436	19,411,487	85,616	19,497,103	1,251,092	511,455	1	628,984
1988	6,652,220	19,394,191	19,319,953	104,152	19,424,105	898,075	877,194	0	726,799
1989	6,269,728	18,952,001	19,432,993	229,996	19,662,989	974,811	945,888	0	760,813
1990	6,125,459	18,973,340	19,645,571	241,082	19,886,653	928,346	911,656	0	771,080
1991	6,251,378	19,261,541	19,422,202	188,440	19,610,642	948,556	944,115	0	795,049
1992	6,243,289	19,233,364	19,409,348	188,156	19,597,504	947,297	941,356	0	792,955
1993	6,256,069	19,277,410	19,414,627	188,288	19,602,915	947,936	941,810	0	793,332
1994	6,266,257	19,313,636	19,432,103	188,770	19,620,873	950,594	947,943	0	797,642
1995	6,270,634	19,355,570	19,411,611	189,678	19,601,289	955,728	958,584	0	805,199
1996	6,271,248	19,357,620	19,412,029	189,706	19,601,735	955,870	959,630	0	805,869
1997	6,284,030	19,402,501	19,426,863	190,235	19,617,098	959,844	978,649	0	818,090
1998	6,285,595	19,407,864	19,428,373	190,303	19,618,676	960,283	981,173	0	819,711
1999	6,299,588	19,456,756	19,444,680	190,882	19,635,562	964,649	1,001,962	0	833,068
2000	6,311,689	19,499,236	19,458,464	191,386	19,649,850	968,367	1,020,065	0	844,697
2001	6,319,589	19,528,376	19,472,454	191,751	19,664,205	970,261	1,022,895	0	846,850
2002	6,330,740	19,567,504	19,485,253	192,214	19,677,467	973,710	1,039,621	0	857,595
2003	6,341,162	19,603,776	19,497,193	192,648	19,689,841	974,138	1,055,423	0	867,751
2004	6,509,371	20,114,779	19,525,885	193,848	19,719,733	978,088	1,074,717	0	880,055
2005	6,512,453	20,125,432	19,529,433	193,975	19,723,408	979,042	1,079,328	0	883,019
2006	6,579,055	20,364,378	19,830,837	194,366	20,025,203	981,947	1,093,373	0	892,040
2007	6,580,347	20,368,593	19,832,480	197,511	20,029,991	984,911	1,109,406	0	905,608
2008	6,589,280	20,399,938	19,842,828	197,879	20,040,707	987,688	1,122,691	0	914,143
2009	6,598,569	20,432,470	19,853,519	198,267	20,051,786	990,562	1,136,573	0	923,062
2010	6,598,889	20,433,598	19,854,016	198,278	20,052,294	990,685	1,137,011	0	923,343
2011	6,597,822	20,428,219	19,828,286	197,641	20,025,927	987,526	1,134,798	0	921,252
2012	6,606,556	20,458,883	19,838,433	198,006	20,036,439	990,246	1,147,784	0	929,597
2013	6,606,977	20,459,864	19,838,894	198,026	20,036,920	990,376	1,148,464	0	930,034
2014	6,607,788	20,462,795	19,839,903	198,059	20,037,962	990,643	1,149,693	0	930,824
2015	6,610,719	20,473,180	19,843,321	198,181	20,041,502	991,566	1,154,155	0	933,689
2016	6,619,124	20,502,608	19,853,179	198,530	20,051,709	994,199	1,166,634	0	941,708
2017	6,619,182	20,502,650	19,853,147	198,535	20,051,682	994,199	1,166,758	0	941,789
2018	6,612,170	20,477,931	19,845,099	198,243	20,043,342	992,038	1,156,387	0	935,123
2019	6,611,744	20,476,187	19,844,870	198,227	20,043,097	991,962	1,155,825	0	934,763
2020	6,609,281	20,467,246	19,842,303	198,127	20,040,430	991,254	1,152,178	0	932,419
2021	6,609,099	20,466,745	19,842,438	198,119	20,040,557	991,265	1,151,924	0	932,257
2022	6,438,725	19,954,909	19,842,108	198,091	20,040,199	991,142	1,150,877	0	931,582
2023	6,438,615	19,954,646	19,842,132	198,082	20,040,214	991,133	1,150,625	0	931,421
2024	6,331,229	19,575,252	19,351,308	197,058	19,548,366	990,724	1,147,878	0	929,786
2025	6,331,143	19,574,972	19,351,351	197,741	19,543,092	986,365	1,123,470	0	908,490
2026	6,331,022	19,574,672	19,351,333	191,736	19,543,069	986,353	1,123,322	0	908,395
2027	6,330,773	19,573,784	19,351,103	191,727	19,542,830	986,289	1,122,976	0	908,173
2028	6,330,941	19,573,944	19,351,368	191,734	19,543,102	986,353	1,123,276	0	908,335
2029	6,300,177	19,462,969	19,351,081	191,722	19,542,803	986,277	1,122,824	0	908,075
2030	6,300,104	19,462,072	19,351,120	191,719	19,542,839	986,277	1,122,684	0	907,986
2031	6,299,979	19,460,987	19,351,135	191,712	19,542,847	986,267	1,122,435	0	907,826
2032	6,307,365	19,486,623	19,359,929	192,018	19,551,947	988,603	1,133,336	0	914,827
2033	6,307,515	19,487,365	19,360,149	192,019	19,552,168	988,648	1,133,385	0	914,860
2034	6,307,265	19,486,690	19,360,222	191,998	19,552,220	988,621	1,132,655	0	914,391
2035	6,307,116	19,485,902	19,360,072	191,995	19,552,067	988,586	1,132,561	0	914,333

REACH TO BE REIMBURSED THRU MINIMUM OMP&R TRANSPORTATION CHARGE

(in dollars)

Sheet 6 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)									
	MOJAVE DIVISION (continued)							SANTA ANA DIVISION		
	Reach 20B	Reach 21	Reach 22A	Reach 22B	Reach 23	Reach 24	Subtotal	Reach 25	Reach 26A	
	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	
1952	0	0	0	0	0	0	0	0	0	
1953	0	0	0	0	0	0	0	0	0	
1954	0	0	0	0	0	0	0	0	0	
1955	0	0	0	0	0	0	0	0	0	
1956	0	0	0	0	0	0	0	0	0	
1957	0	0	0	0	0	0	0	0	0	
1958	0	0	0	0	0	0	0	0	0	
1959	0	0	0	0	0	0	0	0	0	
1960	0	0	0	0	0	0	0	0	0	
1961	0	0	0	0	0	0	0	0	0	
1962	0	0	0	0	0	0	0	0	0	
1963	0	0	0	0	0	0	0	0	0	
1964	0	0	0	0	0	0	0	0	0	
1965	0	0	0	0	0	0	0	0	0	
1966	0	0	0	0	0	0	0	0	0	
1967	0	0	0	0	0	0	0	0	0	
1968	0	0	0	0	0	0	0	0	0	
1969	0	0	0	0	0	0	0	0	0	
1970	0	0	0	0	0	0	0	0	0	
1971	0	0	0	0	0	0	0	0	0	
1972	120,271	75,768	80,436	1,036,831	51,520	362,153	2,030,064	26	578	
1973	148,631	60,641	66,539	1,283,816	65,475	353,262	2,323,148	20,541	679,328	
1974	88,200	65,007	77,667	1,477,946	96,340	334,302	2,375,962	24,380	799,400	
1975	118,898	135,462	77,825	1,630,554	111,141	419,450	2,794,186	29,337	885,021	
1976	151,555	106,314	131,007	1,598,071	107,787	304,638	2,902,124	51,356	1,103,139	
1977	112,589	98,757	86,279	1,882,080	71,228	48,359	2,800,647	62,584	1,412,740	
1978	120,584	109,271	71,763	2,288,531	72,179	637,401	3,807,976	67,186	1,262,917	
1979	194,104	203,078	121,586	2,104,832	76,960	202,566	3,571,387	84,462	1,235,189	
1980	237,250	156,794	117,274	2,685,018	147,009	688,605	4,885,331	72,651	1,532,581	
1981	283,417	176,030	115,762	2,995,824	134,904	111,242	5,021,601	35,665	1,571,064	
1982	334,494	188,388	126,932	3,286,315	302,522	630,699	6,244,046	27,198	1,842,093	
1983	321,970	213,476	136,618	3,916,798	305,176	85,551	6,406,840	19,363	1,629,975	
1984	391,749	309,760	171,742	5,383,278	162,807	1,709,785	9,819,708	12,448	2,249,435	
1985	382,837	577,203	163,519	5,661,890	284,924	687,333	9,212,977	18,467	2,621,699	
1986	299,402	292,801	200,003	6,265,205	184,850	421,017	9,132,004	28,808	2,642,950	
1987	334,598	357,456	258,172	5,503,831	180,166	626,198	9,651,953	21,520	2,605,780	
1988	626,336	449,751	358,680	6,912,564	663,257	1,274,179	12,786,835	38,773	3,454,211	
1989	666,890	476,930	384,160	7,107,992	975,601	1,103,565	13,396,650	40,645	3,593,416	
1990	667,913	478,562	387,150	7,084,361	633,721	813,375	12,676,164	41,860	3,710,273	
1991	690,099	492,822	398,574	7,131,213	402,745	1,482,062	13,285,235	42,509	3,779,840	
1992	688,134	491,503	397,559	7,117,558	368,256	304,154	12,048,772	42,227	3,774,226	
1993	688,478	491,732	397,765	7,120,922	328,135	1,703,438	13,413,548	42,256	3,776,796	
1994	692,581	494,226	399,774	7,142,786	334,922	1,301,383	13,061,851	42,338	3,784,788	
1995	699,736	498,611	403,304	7,174,305	319,757	1,773,253	13,588,477	42,495	3,800,382	
1996	700,406	498,990	403,601	7,176,772	319,849	1,018,262	12,839,249	42,495	3,800,505	
1997	712,627	505,898	409,020	7,227,699	323,131	2,181,736	14,116,694	42,495	3,804,876	
1998	714,248	506,814	409,741	7,234,061	323,465	2,107,822	14,057,318	42,495	3,805,321	
1999	727,605	514,365	415,662	7,289,811	327,071	636,696	12,710,889	42,495	3,810,125	
2000	739,234	520,937	420,821	7,338,004	330,120	895,837	13,078,082	42,495	3,814,186	
2001	741,199	522,208	421,863	7,350,743	330,813	1,354,591	13,561,423	42,568	3,820,886	
2002	751,944	528,284	426,626	7,395,361	333,643	4,929,392	17,236,176	42,568	3,824,658	
2003	762,100	534,021	431,131	7,437,411	336,284	1,092,356	13,490,615	42,568	3,828,176	
2004	774,268	541,032	436,874	7,493,206	339,975	587,320	13,105,535	42,791	3,837,762	
2005	777,232	542,706	438,187	7,505,654	340,760	216,849	12,329,079	42,791	3,838,808	
2006	786,253	547,807	442,189	7,543,187	343,146	3,716,138	16,346,080	42,791	3,841,987	
2007	798,485	553,918	447,516	7,739,204	347,311	372,979	12,513,380	44,749	3,886,645	
2008	807,020	558,742	451,299	7,774,747	349,599	1,792,275	14,758,204	44,749	3,889,694	
2009	815,939	563,786	455,256	7,811,832	351,964	2,718,717	15,767,691	44,749	3,892,844	
2010	816,220	563,943	455,378	7,813,122	352,073	2,861,803	15,913,578	44,749	3,892,991	
2011	814,503	562,654	454,282	7,796,426	351,172	1,837,977	14,860,590	44,603	3,880,265	
2012	822,848	567,368	457,984	7,831,256	353,416	1,957,596	15,058,095	44,603	3,883,256	
2013	823,285	567,616	458,175	7,833,024	353,518	2,438,349	15,542,841	44,603	3,883,391	
2014	824,075	568,063	458,527	7,836,370	353,741	3,682,739	16,794,675	44,603	3,883,689	
2015	826,940	569,682	459,796	7,848,251	354,497	2,438,064	10,700,512	44,603	3,884,696	
2016	834,959	574,215	463,352	7,881,773	356,678	1,548,683	14,762,201	44,603	3,887,601	
2017	835,040	574,260	463,387	7,881,992	356,670	3,594,925	16,809,020	44,603	3,887,591	
2018	828,374	570,491	460,434	7,854,252	354,890	2,344,714	15,496,703	44,603	3,885,220	
2019	828,014	570,290	460,273	7,852,959	354,839	1,988,113	15,137,038	44,603	3,885,152	
2020	825,670	568,965	459,234	7,843,477	354,272	2,604,330	15,731,799	44,603	3,884,396	
2021	825,508	568,874	459,163	7,843,125	354,302	965,882	14,092,300	44,603	3,884,436	
2022	824,833	568,494	458,864	7,840,784	354,229	1,655,251	14,776,056	44,603	3,884,339	
2023	824,672	568,401	458,792	7,840,308	354,234	3,293,423	16,413,009	44,603	3,884,346	
2024	823,232	567,396	457,657	7,827,379	353,285	70,597	13,026,740	44,284	3,876,385	
2025	804,231	558,035	449,404	7,499,167	346,763	1,375,341	14,051,266	40,919	3,800,488	
2026	804,136	557,980	449,360	7,498,881	346,759	1,198,533	13,873,719	40,919	3,800,483	
2027	803,914	557,856	449,262	7,497,980	346,708	7,197,426	19,870,584	40,919	3,800,415	
2028	804,076	557,947	449,333	7,498,750	346,767	3,563,238	9,111,549	40,919	3,800,493	
2029	803,816	557,800	449,219	7,497,698	346,703	1,743,697	14,416,109	40,919	3,800,409	
2030	803,727	557,749	449,179	7,497,459	346,712	1,960,018	14,631,791	40,919	3,800,420	
2031	803,567	557,658	449,108	7,497,021	346,716	1,739,508	14,410,106	40,919	3,800,424	
2032	810,568	561,617	452,215	7,526,263	348,660	5,770,060	18,506,149	40,919	3,803,015	
2033	810,601	561,634	452,227	7,526,358	348,709	375,471	12,360,951	40,919	3,803,080	
2034	810,132	561,370	452,020	7,524,771	348,725	1,190,502	13,923,187	40,919	3,803,101	
2035	810,074	561,336	451,993	7,524,200	348,692	6,338,144	19,069,919	40,919	3,803,058	

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT COMPONENT OF

(in dollars)

Sheet 7 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SANTA ANA DIVISION (continued)				WEST BRANCH				
	Reach 28G	Reach 28H	Reach 28J	Subtotal	Reach 29A	Reach 29 F	Reach 29G	Reach 29H	Reach 29J
	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)	(64)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	109	30	0	743	719,255	159,249	199,145	234,196	88,198
1973	136,352	79	0	836,300	779,949	339,363	122,664	264,850	119,743
1974	155,262	34,693	854,637	1,868,372	883,312	158,366	112,458	350,160	4,525
1975	110,729	69,082	723,814	1,817,983	1,049,990	176,676	194,724	801,457	75,870
1976	138,575	100,400	635,853	2,029,323	1,220,429	215,588	202,591	624,614	98,268
1977	127,543	92,647	825,880	2,521,394	1,268,813	116,939	218,129	684,679	184
1978	166,919	68,363	835,082	2,400,467	1,238,073	342,479	267,308	415,641	17,764
1979	142,586	92,812	265,525	1,820,574	1,366,942	285,575	284,188	972,584	29,850
1980	158,340	129,897	1,120,131	3,013,600	1,698,257	224,472	455,619	874,259	288,303
1981	160,064	111,730	336,331	2,214,854	1,779,876	124,959	615,150	2,147,593	8,808
1982	207,789	137,018	1,493,239	3,707,337	1,943,201	193,508	713,832	2,234,746	416,726
1983	231,108	121,840	560,583	2,562,869	2,728,026	159,503	816,201	1,214,661	565,120
1984	235,153	181,827	1,209,026	3,887,889	3,588,673	39,481	1,841,560	1,576,456	801,956
1985	394,492	172,771	690,371	3,897,800	4,123,323	284,059	2,479,208	1,130,671	710,367
1986	264,814	232,658	968,231	4,137,461	3,901,022	477,749	2,297,678	1,488,148	1,091,359
1987	275,657	209,258	964,721	4,076,936	3,824,479	236,288	2,354,274	946,216	1,004,001
1988	355,027	245,428	797,798	4,891,237	4,374,154	470,472	2,226,697	2,019,322	786,984
1989	422,005	255,491	738,376	5,050,833	4,430,158	463,221	2,240,765	2,074,551	852,559
1990	421,559	265,514	1,925,798	6,365,004	4,272,098	422,918	2,094,997	2,308,205	799,335
1991	370,776	270,012	1,592,546	6,055,683	4,331,760	391,600	2,139,885	2,226,208	743,122
1992	369,565	268,881	1,412,259	5,867,158	4,326,172	389,132	2,101,595	2,214,949	742,426
1993	369,823	269,071	1,366,076	5,824,022	4,328,339	389,207	2,102,636	2,215,724	742,627
1994	370,543	269,602	1,450,417	5,917,688	4,335,217	394,506	2,106,863	2,235,758	743,303
1995	371,948	270,636	1,532,615	6,018,076	4,343,671	402,977	2,115,031	2,268,447	744,621
1996	371,948	270,636	1,497,273	5,982,857	4,343,836	404,409	2,115,249	2,273,485	744,621
1997	371,948	270,636	1,773,585	6,263,540	4,347,933	424,691	2,121,363	2,343,034	744,621
1998	371,948	270,636	1,698,966	6,189,366	4,348,409	427,765	2,122,037	2,353,622	744,621
1999	371,948	270,636	2,183,834	6,679,038	4,352,915	449,993	2,128,756	2,430,065	744,621
2000	371,948	270,636	1,612,141	6,111,406	4,356,773	469,706	2,134,478	2,497,561	744,621
2001	372,602	271,118	1,855,156	6,362,330	4,362,483	471,715	2,134,065	2,505,935	745,236
2002	372,602	271,118	2,125,859	6,636,805	4,366,045	489,635	2,139,368	2,566,224	745,236
2003	372,602	271,118	2,343,500	6,857,964	4,369,382	506,567	2,144,317	2,617,704	745,236
2004	373,352	271,636	2,476,761	7,002,302	4,526,364	527,173	2,151,071	2,696,979	745,698
2005	373,352	271,636	2,347,568	6,874,155	4,527,352	532,132	2,152,533	2,707,119	745,698
2006	373,352	271,636	2,643,084	7,172,850	4,530,371	547,514	2,157,009	2,753,989	745,698
2007	381,686	273,943	2,553,111	7,140,134	4,582,440	569,315	2,165,910	2,787,369	764,979
2008	381,686	273,943	2,608,818	7,198,890	4,585,313	583,662	2,170,179	2,836,110	764,979
2009	381,686	273,943	2,877,612	7,470,834	4,588,287	598,636	2,174,600	2,887,472	764,979
2010	381,686	273,943	2,376,897	6,970,266	4,588,410	599,030	2,174,793	2,888,871	764,979
2011	380,381	272,982	2,429,607	7,007,838	4,577,676	599,031	2,169,657	2,885,441	763,754
2012	380,381	272,982	2,488,151	7,069,373	4,580,487	612,989	2,173,842	2,933,150	763,754
2013	380,381	272,982	2,500,481	7,081,838	4,580,633	613,948	2,174,045	2,936,326	763,754
2014	380,381	272,982	2,520,738	7,102,393	4,580,890	614,914	2,174,449	2,940,134	763,754
2015	380,381	272,982	2,623,427	7,206,089	4,581,864	620,102	2,175,872	2,957,277	763,754
2016	380,381	272,982	2,609,285	7,194,852	4,584,573	633,287	2,179,922	3,002,675	763,754
2017	380,381	272,982	1,459,378	6,044,935	4,584,588	633,679	2,179,936	3,004,319	763,754
2018	380,381	272,982	1,729,473	6,312,559	4,582,339	622,246	2,176,594	2,964,649	763,754
2019	380,381	272,982	2,620,115	7,203,233	4,582,248	621,425	2,176,474	2,961,893	763,754
2020	380,381	272,982	1,870,851	6,453,213	4,581,516	617,504	2,175,396	2,948,547	763,754
2021	380,381	272,982	2,396,827	6,979,229	4,581,528	617,278	2,175,426	2,947,454	763,754
2022	380,381	272,982	2,839,958	7,422,263	4,411,667	616,004	2,175,258	2,943,609	763,754
2023	380,381	272,982	2,886,935	7,469,247	4,411,669	615,940	2,175,252	2,942,716	763,754
2024	379,305	272,239	1,912,379	6,484,592	4,401,441	613,648	2,173,701	2,935,150	763,092
2025	364,985	268,275	3,011,356	7,486,023	4,312,706	579,241	2,159,539	2,908,948	729,960
2026	364,985	268,275	2,438,169	6,912,831	4,312,695	579,090	2,159,527	2,908,573	729,960
2027	364,985	268,275	2,427,372	6,901,966	4,312,634	578,842	2,159,435	2,907,924	729,960
2028	364,985	268,275	2,184,894	6,659,566	4,312,677	578,688	2,159,526	2,907,812	729,960
2029	364,985	268,275	2,222,628	6,767,216	4,312,594	578,186	2,159,395	2,905,587	729,960
2030	364,985	268,275	3,035,894	7,510,493	4,312,590	577,942	2,159,402	2,905,208	729,960
2031	364,985	268,275	2,385,912	6,860,515	4,312,579	577,673	2,159,394	2,904,302	729,960
2032	364,985	268,275	2,629,170	7,106,364	4,314,984	589,244	2,162,992	2,943,634	729,960
2033	364,985	268,275	2,193,934	6,671,193	4,315,030	589,297	2,163,066	2,943,531	729,960
2034	364,985	268,275	3,374,037	7,851,317	4,314,973	588,033	2,163,030	2,939,504	729,960
2035	364,985	268,275	2,710,591	7,187,828	4,314,921	587,624	2,162,958	2,937,888	729,960

REACH TO BE REIMBURSED THRU MINIMUM OMP&R TRANSPORTATION CHARGE

(in dollars)

Sheet 8 of 8

Calendar Year	CALIFORNIA AQUEDUCT (continued)								GRAND TOTAL
	WEST BRANCH (continued)		COASTAL BRANCH					TOTAL	
	Reach 30	Subtotal	Reach 31A ^(a)	Reach 33A	Reach 34	Reach 35	Subtotal		
	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	42,918
1963	0	0	0	0	0	0	0	0	168,358
1964	0	0	0	0	0	0	0	0	184,729
1965	0	0	0	0	0	0	0	0	378,874
1966	0	0	0	0	0	0	0	0	408,397
1967	0	0	0	0	0	0	0	0	634,505
1968	0	0	0	0	0	0	0	2,160,548	2,745,160
1969	0	0	509,728	0	0	0	509,728	3,324,718	4,074,939
1970	0	0	609,988	0	0	0	609,988	3,983,062	4,676,282
1971	0	0	699,052	0	0	0	699,052	5,614,013	6,185,714
1972	420,789	1,820,832	697,576	0	0	0	697,576	12,353,356	12,998,869
1973	621,431	2,248,000	641,626	0	0	0	641,626	14,590,688	15,194,233
1974	723,949	2,223,720	669,279	0	0	0	669,279	16,598,762	17,372,561
1975	841,991	3,140,708	806,429	0	0	0	806,429	19,569,999	20,517,423
1976	-650,944	1,710,546	840,927	0	0	0	840,927	19,002,859	20,027,213
1977	634,581	2,923,325	872,169	0	0	0	872,169	23,272,236	24,217,840
1978	3,088,954	5,370,219	945,018	0	0	0	945,018	26,514,660	27,730,535
1979	958,068	3,897,207	871,688	0	0	0	871,688	23,423,058	24,676,775
1980	222,549	3,763,459	1,047,440	0	0	0	1,047,440	30,115,927	32,049,007
1981	1,077,464	5,753,850	1,024,935	0	0	0	1,024,935	33,630,052	35,256,451
1982	987,460	6,489,473	1,027,551	0	0	0	1,027,551	39,899,774	42,042,397
1983	3,988,682	9,472,193	1,151,988	0	0	0	1,151,988	55,453,827	57,760,004
1984	-3,589,512	4,258,614	1,302,381	0	0	0	1,302,381	63,331,811	66,289,816
1985	67,240	8,794,868	1,730,495	0	0	0	1,730,495	73,100,467	76,576,122
1986	1,209,967	10,465,923	1,578,335	0	0	0	1,578,335	74,035,385	77,201,061
1987	1,194,773	9,560,031	1,675,726	0	0	0	1,675,726	73,522,523	77,089,705
1988	1,132,468	11,010,097	2,247,106	0	0	0	2,247,106	82,873,955	87,009,239
1989	1,148,157	11,209,411	2,393,669	0	0	0	2,393,669	85,340,182	90,889,112
1990	2,464,972	12,362,525	2,401,286	0	0	0	2,401,286	87,810,892	93,307,136
1991	2,018,222	11,850,797	2,385,165	0	0	0	2,385,165	87,280,215	92,416,201
1992	1,678,759	11,453,033	2,381,579	0	0	0	2,381,579	85,328,398	90,456,239
1993	1,763,413	11,541,946	2,395,443	0	0	0	2,395,443	86,811,660	91,943,087
1994	1,345,541	11,161,188	2,400,557	0	0	0	2,400,557	86,264,951	91,408,271
1995	2,390,512	12,265,259	2,396,284	0	0	0	2,396,284	88,257,842	93,422,526
1996	1,887,004	11,768,604	2,396,418	1,412,447	32,662	34,998	3,876,525	88,460,785	93,625,573
1997	1,952,339	11,933,981	2,400,664	1,415,737	33,002	35,903	3,885,306	90,291,004	95,463,956
1998	1,284,850	11,281,304	2,401,112	1,416,075	33,037	35,998	3,886,222	89,516,865	94,690,676
1999	2,247,459	12,353,809	2,405,768	1,419,688	33,410	36,992	3,895,858	89,849,070	95,031,978
2000	3,899,969	14,103,108	2,409,734	1,422,748	33,728	37,834	3,904,044	91,498,483	96,689,116
2001	686,085	10,905,519	2,413,892	1,427,676	33,863	38,012	3,913,443	89,119,018	94,319,567
2002	1,243,964	11,550,472	2,417,562	1,430,516	34,157	38,794	3,921,029	93,900,975	99,108,690
2003	1,685,257	12,068,463	2,420,977	1,433,162	34,430	39,521	3,928,090	90,980,601	96,318,789
2004	5,439,960	16,087,245	2,430,216	1,437,054	34,750	40,371	3,942,391	95,607,299	100,974,575
2005	4,088,791	14,753,625	2,431,226	1,437,842	34,832	40,587	3,944,487	93,394,384	98,763,641
2006	-693,308	10,041,273	2,463,097	1,446,971	35,121	41,352	3,986,541	93,608,184	98,983,486
2007	4,159,152	15,029,165	2,463,546	1,447,332	35,157	41,447	3,987,482	94,744,026	100,120,218
2008	3,651,299	14,591,542	2,466,508	1,449,628	35,396	42,077	3,993,609	96,684,656	102,066,644
2009	1,339,934	12,353,908	2,469,571	1,451,999	35,641	42,730	3,999,941	95,805,738	101,193,717
2010	3,180,008	14,196,091	2,469,703	1,452,107	35,651	42,760	4,000,221	97,296,215	102,684,460
2011	2,000,377	12,995,936	2,462,058	1,442,760	35,432	42,544	3,982,794	94,975,590	100,345,273
2012	3,882,307	14,946,529	2,464,962	1,445,012	35,665	43,162	3,988,801	97,258,382	102,633,754
2013	584,932	11,653,638	2,465,076	1,445,110	35,674	43,187	3,989,047	94,465,220	99,840,847
2014	4,293,278	15,367,419	2,465,365	1,445,334	35,697	43,249	3,989,645	99,458,635	104,834,832
2015	527,340	11,626,209	2,466,343	1,446,093	35,775	43,455	3,991,666	89,751,520	95,129,627
2016	4,443,958	15,608,169	2,469,153	1,448,276	36,001	44,057	3,997,487	97,854,439	103,238,068
2017	2,299,527	13,465,803	2,469,145	1,448,269	36,001	44,052	3,997,467	96,608,969	101,992,584
2018	2,329,488	13,439,070	2,466,832	1,446,483	35,815	43,560	3,992,690	95,479,036	100,858,144
2019	3,449,149	14,554,943	2,466,738	1,446,430	35,808	43,543	3,992,519	97,122,397	102,501,362
2020	2,698,793	13,785,510	2,465,976	1,445,858	35,748	43,381	3,990,963	96,064,507	101,442,018
2021	1,309,190	12,394,630	2,466,009	1,445,885	35,750	43,389	3,991,033	93,560,025	98,792,296
2022	4,576,480	15,486,772	2,465,868	1,445,807	35,739	43,362	3,990,776	96,990,580	102,205,318
2023	2,085,332	12,994,663	2,465,865	1,445,813	35,741	43,360	3,990,779	96,181,980	101,396,728
2024	2,920,087	13,807,119	2,411,702	1,433,700	35,659	43,159	3,924,220	91,652,061	96,857,462
2025	2,398,908	13,089,302	2,411,703	1,433,707	35,659	43,161	3,924,230	92,954,370	98,159,776
2026	3,305,629	13,995,474	2,411,692	1,433,704	35,659	43,157	3,924,212	93,109,192	98,314,579
2027	278,718	10,967,513	2,411,621	1,433,651	35,654	43,143	3,924,069	96,065,147	101,270,395
2028	5,169,654	15,858,317	2,411,673	1,433,707	35,659	43,155	3,924,194	89,954,934	95,160,299
2029	1,611,946	12,297,668	2,411,581	1,433,642	35,651	43,135	3,924,009	91,693,903	96,899,089
2030	2,068,170	12,753,272	2,411,557	1,433,646	35,649	43,132	3,923,984	93,106,750	98,311,931
2031	2,686,521	13,370,429	2,411,528	1,433,646	35,647	43,128	3,923,949	92,850,299	98,055,463
2032	2,832,483	13,573,297	2,414,022	1,435,593	35,848	44,052	3,929,123	97,456,913	102,666,989
2033	2,580,619	13,321,503	2,414,092	1,435,642	35,853	43,674	3,929,261	90,626,680	95,836,889
2034	4,055,044	14,790,544	2,414,096	1,435,657	35,853	43,676	3,929,282	94,837,133	100,047,362
2035	7,067,478	17,800,829	2,414,041	1,435,622	35,850	43,664	3,929,177	102,328,750	107,538,874

a) Includes certain costs to be assigned directly to Kern County Water Agency. Refer to Appendix B text discussion of Table B-16A under "Project Water Charges".

TABLE B-12: VARIABLE OMP&R COSTS TO BE REIMBURSED THRU

(in dollars)

Sheet 1 of 3

	NORTH BAY AQUEDUCT				SOUTH BAY AQUEDUCT	CALIFORNIA AQUEDUCT				
Calendar	Reach 1	Reach 3A	Reach 3B		Reach 1	Reach 1	Reach 4	Reach 14A	Reach 15A	
Year	Barker Slough Pumping Plant	Cordelia Pumping Plant (Solano)	Cordelia Pumping Plant (Napa) (a)	Total	South Bay and Del Valle Pumping Plants (b)	Harvey O. Banks Delta Pumping Plant	Dos Amigos Pumping Plant (c)	Buena Vista Pumping Plant	Wheeler Ridge Pumping Plant	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
1962	0	0	0	0	36,970	0	0	0	0	
1963	0	0	0	0	57,711	0	0	0	0	
1964	0	0	0	0	74,134	0	0	0	0	
1965	0	0	0	0	142,609	0	0	0	0	
1966	0	0	0	0	192,605	0	0	0	0	
1967	0	0	0	0	223,117	13,881	0	0	0	
1968	0	6,989	6,989	6,989	336,671	452,630	202,947	0	0	
1969	0	0	8,551	8,551	257,579	293,741	135,425	0	0	
1970	0	0	13,598	13,598	396,358	346,215	211,198	0	0	
1971	0	0	10,609	10,609	381,662	574,015	225,188	138,001	17,664	
1972	0	0	14,434	14,434	598,702	927,369	498,482	234,626	89,516	
1973	0	0	14,449	14,449	493,490	685,014	379,305	303,105	275,021	
1974	0	0	17,473	17,473	565,575	769,839	438,997	344,632	350,558	
1975	0	0	14,779	14,779	349,758	1,330,133	514,241	542,726	585,744	
1976	0	0	20,856	20,856	571,361	1,456,742	562,537	609,257	600,780	
1977	0	0	22,635	22,635	512,996	801,033	211,120	166,598	173,208	
1978	0	0	21,692	21,692	586,355	2,215,828	574,813	658,309	578,337	
1979	0	0	16,237	16,237	605,136	3,431,968	973,702	760,080	724,534	
1980	0	0	19,945	19,945	523,369	1,883,443	1,011,459	853,317	826,802	
1981	0	0	23,841	23,841	567,692	3,927,256	1,900,825	1,298,155	1,273,997	
1982	0	0	11,934	11,934	523,766	3,050,244	1,445,706	1,198,168	1,216,356	
1983	0	0	2,804	2,804	150,034	973,230	408,991	377,487	344,613	
1984	0	0	4,528	4,528	246,965	1,581,335	827,305	622,331	548,133	
1985	0	0	11,483	11,483	578,122	3,621,510	1,801,454	1,605,479	1,592,663	
1986	0	0	15,698	15,698	843,971	7,187,966	2,675,689	2,434,774	2,463,799	
1987	0	0	30,550	30,550	856,606	9,225,538	2,554,617	2,200,324	2,182,229	
1988	33,382	36,743	43,064	113,189	1,298,325	10,239,519	3,868,271	3,842,005	4,014,410	
1989	40,229	57,021	26,913	124,163	1,356,525	11,984,858	4,731,076	5,022,550	5,411,963	
1990	50,207	48,377	31,032	129,616	1,450,993	12,917,719	5,156,614	5,366,598	5,815,938	
1991	64,504	61,109	40,749	166,362	1,856,284	15,193,038	6,205,581	6,481,368	7,082,742	
1992	66,888	60,307	41,614	168,809	1,821,626	15,119,358	6,115,174	6,483,579	7,115,558	
1993	67,706	60,191	44,187	172,084	1,860,609	15,476,127	6,235,719	6,651,378	7,322,737	
1994	86,998	66,572	56,583	210,153	1,991,155	16,154,790	6,597,229	7,070,616	7,796,748	
1995	113,063	76,734	72,941	262,738	2,193,091	17,941,674	7,365,824	7,864,354	8,712,429	
1996	119,358	80,356	79,009	278,723	2,240,408	18,316,808	7,596,739	8,127,170	9,007,469	
1997	148,659	99,436	100,720	348,815	2,703,881	21,546,321	9,101,984	9,781,779	10,878,008	
1998	158,341	105,228	109,312	372,881	2,761,256	22,123,865	9,396,201	10,145,955	11,288,118	
1999	190,982	126,302	133,915	451,199	3,202,163	25,419,243	10,947,199	11,878,489	13,270,880	
2000	225,425	148,200	161,053	534,678	3,630,918	28,914,488	12,557,374	13,758,253	15,424,792	
2001	232,113	153,578	170,009	555,700	3,658,501	29,335,384	12,811,222	14,075,158	15,761,880	
2002	260,722	173,686	194,551	628,959	4,029,732	32,520,500	14,262,546	15,853,125	17,800,422	
2003	286,787	192,314	218,985	698,086	4,342,184	35,212,366	15,477,190	17,423,823	19,601,225	
2004	319,503	215,479	248,774	783,756	4,738,048	38,612,530	17,004,503	19,360,298	21,862,686	
2005	334,038	226,726	265,338	826,102	4,855,648	39,897,210	17,588,381	20,175,153	22,818,138	
2006	358,206	240,590	289,594	888,390	5,152,556	42,352,273	18,681,911	21,564,177	24,362,387	
2007	366,204	243,007	302,678	911,889	5,204,337	43,177,898	19,102,248	22,187,494	25,101,150	
2008	344,582	225,402	291,715	861,699	4,827,280	40,796,174	18,033,162	21,041,385	23,825,043	
2009	355,962	229,995	307,289	893,246	4,925,651	41,818,880	18,499,931	21,670,484	24,544,493	
2010	365,596	233,741	321,155	920,492	5,005,901	42,893,591	18,970,824	22,347,456	25,336,678	
2011	371,650	234,016	334,241	939,907	5,011,778	42,920,443	19,022,907	22,408,100	25,390,065	
2012	378,322	235,450	346,478	960,250	5,042,472	43,295,957	19,151,230	22,604,871	25,622,641	
2013	386,934	237,589	362,530	987,053	5,088,991	43,508,946	19,161,642	22,730,434	25,762,983	
2014	393,796	238,490	377,261	1,009,547	5,107,570	43,897,585	19,286,856	22,938,829	26,022,865	
2015	409,682	244,922	401,292	1,055,896	5,245,332	44,561,764	19,606,567	23,261,775	26,371,630	
2016	420,931	248,703	420,783	1,090,417	5,326,309	45,653,842	20,031,788	23,898,009	27,140,972	
2017	421,592	246,376	430,367	1,098,335	5,276,478	45,220,964	19,799,374	23,673,503	26,877,728	
2018	431,049	249,022	448,582	1,128,653	5,333,136	45,697,327	19,982,824	23,939,740	27,187,340	
2019	439,530	251,009	466,434	1,156,973	5,375,707	46,061,287	20,071,769	24,149,880	27,343,526	
2020	434,466	245,422	470,212	1,150,100	5,256,031	44,987,916	19,537,117	23,438,118	26,589,743	
2021	439,100	247,683	476,928	1,163,711	5,304,470	45,281,037	19,637,099	23,294,250	26,594,610	
2022	438,340	247,255	476,103	1,161,698	5,295,294	45,381,703	19,425,896	23,327,378	26,660,723	
2023	437,853	246,979	475,573	1,160,405	5,289,998	45,337,180	19,398,178	23,344,314	26,682,954	
2024	437,325	246,682	474,999	1,159,006	5,283,025	45,145,915	19,118,639	23,272,366	26,597,356	
2025	439,421	247,864	477,277	1,164,562	5,308,348	45,418,982	19,271,705	23,492,531	26,857,392	
2026	441,107	248,816	479,107	1,169,030	5,328,716	45,550,099	19,353,028	23,596,213	26,976,933	
2027	438,950	247,599	476,765	1,163,314	5,302,655	45,141,347	19,194,292	23,368,568	26,707,939	
2028	440,448	248,444	478,391	1,167,283	5,320,750	44,994,315	19,195,542	23,336,207	26,662,565	
2029	438,856	247,546	476,663	1,163,065	5,301,525	45,010,472	19,240,469	23,452,615	26,786,398	
2030	439,068	247,665	476,892	1,163,625	5,304,076	44,965,673	19,167,994	23,510,977	26,832,341	
2031	439,459	247,887	477,319	1,164,665	5,308,820	44,925,786	19,095,435	23,471,775	26,887,773	
2032	441,742	249,174	479,797	1,170,713	5,336,384	45,123,345	19,088,270	23,493,354	26,908,595	
2033	438,239	247,198	475,993	1,161,430	5,294,068	44,668,770	18,881,393	23,112,840	26,464,617	
2034	443,547	250,191	481,759	1,175,497	5,358,198	45,236,005	19,143,446	23,414,684	26,720,137	
2035	456,853	257,698	496,210	1,210,761	5,518,936	46,467,330	19,750,473	24,139,579	27,537,209	

- Costs for the period 1968 through 1987 are for an interim facility.
- The relatively minor costs of Del Valle Pumping Plant have been combined with those of South Bay Pumping Plant to simplify the allocation procedures.
- Includes extra peaking costs assigned directly to Kern County Water Agency and to Tulare Lake Basin Water Storage District. Refer to Appendix B text discussion of Table B-17 under "Project Water Charges".

VARIABLE OMP&R COMPONENTS OF TRANSPORTATION CHARGE

(in dollars)

Sheet 2 of 3

Calendar Year	CALIFORNIA AQUEDUCT (Continued)								
	Reach 16A	Reach 17E	Reach 18A	Reach 22B	Reach 23	Reach 24	Reach 26A	Reach 28J	Reach 29A
	Ira J. Chrisman Wind Gap Pumping Plant	A.D. Edmonston Pumping Plant	Alamo Powerplant	Pear-blossom Pumping Plant	Mojave Siphon Powerplant	Silver-wood Lake (d)	Devil Canyon Powerplant	Lake Perris (d)	Oso Pumping Plant
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	165,589	494,616	0	23,387	0	4,216	-3,024	0	93,212
1973	434,834	1,524,487	0	219,421	0	47,861	-436,768	0	158,063
1974	589,117	2,058,680	0	315,705	0	98,179	-496,517	52,549	189,479
1975	1,130,256	3,940,915	0	577,509	0	25,950	-1,033,054	65,938	349,000
1976	1,222,413	4,235,934	0	869,201	0	122,336	-1,459,978	104,257	245,397
1977	351,987	1,160,085	0	296,678	0	261,704	-1,115,096	50,523	18,075
1978	1,034,893	3,636,671	0	1,551,015	0	0	-3,038,194	0	69,043
1979	1,438,690	4,965,847	0	1,712,620	0	122,803	-3,159,826	355,442	118,995
1980	1,634,049	5,416,332	0	1,733,275	0	154,636	-3,318,152	0	36,761
1981	2,736,705	9,009,228	0	2,165,036	0	291,681	-3,675,067	375,144	443,282
1982	2,602,927	8,336,823	0	1,510,505	0	3,067	-3,100,063	0	537,870
1983	623,009	1,843,662	0	333,738	0	389,529	-4,483,255	0	138,516
1984	1,010,565	3,061,474	0	536,244	0	386,038	-7,342,701	-11,163	233,148
1985	3,197,013	10,664,921	0	1,323,061	0	0	-9,858,594	-10,234	979,549
1986	5,069,249	17,195,121	-762,567	2,394,594	0	0	-11,484,696	0	1,281,916
1987	4,367,564	14,851,010	-1,030,884	1,783,746	0	146,551	-10,761,870	44,729	1,307,302
1988	7,684,666	25,437,193	-2,005,556	4,073,296	0	0	-16,296,269	296,271	1,903,114
1989	10,919,520	36,339,715	-2,580,818	6,069,181	0	115,588	-22,170,913	488,780	2,409,369
1990	11,854,371	39,894,513	-2,915,923	6,531,146	0	624,757	-23,061,020	0	2,568,456
1991	14,558,412	49,115,766	-2,989,768	8,057,996	0	0	-23,254,456	0	3,095,777
1992	14,645,388	49,434,972	-3,407,832	9,286,435	0	1,096,744	-29,828,106	95,267	2,639,610
1993	15,100,275	51,119,241	-3,511,815	9,495,548	0	0	-29,825,361	140,495	2,693,253
1994	16,079,149	54,410,352	-3,423,053	10,247,615	-2,199,093	125,467	-30,156,217	70,699	2,853,303
1995	18,079,195	61,479,822	-3,418,933	11,516,050	-3,401,199	0	-30,209,441	29,244	3,079,655
1996	18,640,752	63,258,145	-3,481,832	11,827,199	-3,466,402	418,633	-30,780,260	69,504	3,257,978
1997	22,668,218	77,140,840	-3,528,913	14,478,545	-3,443,273	0	-31,507,658	0	3,756,534
1998	23,584,034	79,930,516	-3,547,628	15,112,964	-3,472,474	0	-32,101,998	0	3,967,790
1999	27,887,250	94,728,687	-3,548,467	17,693,270	-3,443,972	905,031	-32,708,899	0	4,617,950
2000	32,496,690	110,403,500	-3,611,597	20,730,100	-3,540,286	697,863	-33,633,979	296,428	5,324,175
2001	33,261,733	112,797,648	-3,697,007	21,533,434	-3,660,189	242,827	-34,475,159	59,863	5,304,910
2002	37,555,495	127,562,235	-3,649,979	24,345,398	-3,624,841	0	-35,139,954	0	5,933,798
2003	41,284,714	140,513,066	-3,541,323	26,774,718	-3,208,118	586,098	-36,086,655	0	6,504,833
2004	45,986,709	156,846,600	-3,589,093	29,863,442	-3,401,933	1,126,771	-36,722,844	0	7,322,396
2005	47,989,471	163,707,309	-3,625,663	31,274,435	-3,505,225	1,956,632	-37,412,444	0	7,585,583
2006	51,259,753	174,919,678	-3,649,102	34,123,908	-3,447,222	0	-38,040,833	0	7,865,753
2007	52,872,897	180,577,943	-3,640,214	34,694,847	-3,436,903	2,183,342	-38,600,631	0	8,288,399
2008	50,144,620	171,106,257	-3,700,922	33,091,372	-3,740,219	3,593	-38,973,095	0	7,835,769
2009	51,667,119	176,316,055	-3,692,736	34,354,678	-3,543,367	0	-39,678,720	0	7,961,097
2010	53,380,885	182,417,489	-3,767,824	35,464,789	-3,678,996	0	-40,201,582	115,645	8,235,598
2011	53,472,688	182,704,856	-3,740,706	35,633,254	-3,490,394	9,727	-40,427,887	68,603	8,253,767
2012	53,962,712	184,550,266	-3,769,045	35,966,366	-3,543,340	0	-40,542,958	77,188	8,283,870
2013	54,239,302	185,424,829	-3,783,402	36,404,722	-3,613,206	0	-40,661,067	64,537	8,281,645
2014	54,811,450	187,503,720	-3,761,198	36,605,283	-3,527,456	0	-40,742,133	55,120	8,325,727
2015	55,269,042	189,785,316	-3,728,735	37,072,368	-3,600,955	3,648,753	-40,739,172	0	8,504,545
2016	56,950,586	195,724,246	-3,764,221	38,209,359	-3,621,686	305,105	-40,772,784	56,936	8,642,606
2017	56,371,404	193,599,232	-3,781,389	37,799,804	-3,791,312	0	-40,592,854	935,251	8,647,028
2018	57,063,811	196,019,395	-3,747,067	38,312,573	-3,719,707	0	-40,568,561	696,366	8,672,794
2019	57,669,031	198,299,629	-3,757,148	38,776,856	-3,719,314	0	-40,727,944	0	8,665,194
2020	56,332,607	193,640,630	-3,786,106	37,850,286	-3,688,352	0	-40,653,011	559,926	8,478,406
2021	56,639,043	194,713,569	-3,784,382	38,183,642	-3,570,704	784,898	-40,874,872	130,150	8,448,491
2022	56,706,219	195,523,300	-3,789,672	38,263,719	-3,652,152	184,617	-40,837,131	0	8,471,525
2023	56,515,769	195,350,423	-3,780,627	38,270,097	-3,699,048	0	-40,906,268	0	8,510,421
2024	56,091,083	194,540,629	-3,756,528	37,895,285	-3,644,388	1,642,942	-40,812,437	516,938	8,496,823
2025	56,498,749	196,395,445	-3,838,162	38,386,722	-3,818,652	376,742	-40,838,013	0	8,500,493
2026	56,575,982	197,182,290	-3,809,501	38,517,049	-3,630,056	534,767	-40,950,940	50,268	8,563,827
2027	55,914,331	195,139,301	-3,826,862	38,422,567	-3,678,633	0	-41,018,082	57,541	8,382,733
2028	55,822,494	194,804,398	-3,772,568	37,805,085	-3,574,600	4,621,255	-41,034,418	260,307	8,400,051
2029	56,126,536	195,891,468	-3,848,283	38,426,553	-3,735,235	67,939	-41,012,163	167,943	8,255,917
2030	56,281,700	196,330,303	-3,842,991	38,497,335	-3,760,639	0	-41,028,883	0	8,254,877
2031	56,421,748	196,641,782	-3,843,286	38,533,646	-3,699,746	71,691	-41,072,058	90,209	8,297,682
2032	56,720,055	197,551,941	-3,834,497	38,666,485	-3,691,689	0	-41,097,337	0	8,214,733
2033	55,989,086	194,619,138	-3,834,967	37,940,274	-3,709,402	1,816,812	-41,018,808	281,238	8,116,685
2034	56,786,581	197,298,583	-3,833,595	38,560,243	-3,730,252	536,204	-41,067,063	0	8,000,367
2035	58,608,391	203,642,336	-3,818,115	39,700,982	-3,698,598	0	-41,097,622	0	8,105,866

- d) These values represent a proportionate allocation of the total variable OMP&R costs of pumping and power recovery plants (Table B-3) associated with net annual withdrawals from reservoir storage for the Project transportation facilities. The allocation is determined annually by applying the following ratio, calculated from the data shown in Table B-6: "Reservoir Storage Changes" (withdrawals, as a positive value) conveyed through each plant, in acre-feet, divided by "Total" annual quantity conveyed through each plant, in acre-feet. The costs so determined are accumulated for all upstream plants for each year, for each respective reservoir.

**TABLE B-12: VARIABLE OMP&R COSTS TO BE REIMBURSED THRU
VARIABLE OMP&R COMPONENTS OF TRANSPORTATION CHARGE**

(in dollars)

Sheet 3 of 3

	CALIFORNIA AQUEDUCT (Continued)							
Calendar	Reach 29G	Reach 29H	Reach 29J	Reach 30	Reach 31A	Reach 33A		GRAND
Year	William E. Warne Powerplant	Pyramid Lake (d)	Castaic Powerplant	Castaic Lake (d)	Las Perillas and Badger Hill Pumping Plants (e)	Devil's Den Sawtooth and Polonio PP's and San Luis Obispo Pwp.	Total	TOTAL
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
1962	0	0	0	0	0	0	0	36,970
1963	0	0	0	0	0	0	0	57,711
1964	0	0	0	0	0	0	0	74,134
1965	0	0	0	0	0	0	0	142,609
1966	0	0	0	0	0	0	0	192,605
1967	0	0	0	0	0	0	13,881	236,998
1968	0	0	0	118,676	0	0	774,253	1,117,913
1969	0	0	0	78,350	0	0	507,516	773,646
1970	0	0	0	136,429	0	0	693,842	1,103,798
1971	0	0	0	166,296	0	0	1,121,164	1,513,435
1972	3,578	-193,058	72,639	237,638	0	0	2,648,786	3,261,922
1973	0	7,344	-1,057,564	0	120,913	0	2,661,036	3,168,975
1974	0	42,364	-1,540,853	5,561	118,582	0	3,336,872	3,919,920
1975	0	0	-2,445,397	10,225	94,848	0	5,689,034	6,053,571
1976	0	60,068	-1,940,099	1,056,464	141,260	0	7,886,569	8,478,786
1977	0	0	-607,380	-1,211,050	71,311	0	628,796	1,164,427
1978	0	1,061,100	-1,542,479	0	179,925	0	6,979,261	7,587,308
1979	0	0	-2,384,748	-12,206	192,126	0	9,240,027	9,861,400
1980	0	456,691	-984,154	9,643	168,458	0	9,882,560	10,425,874
1981	0	0	-3,201,635	0	301,878	0	16,846,485	17,438,018
1982	-782,509	0	-3,454,406	0	166,519	0	12,731,207	13,266,907
1983	-694,194	123,003	-5,117,383	-1,788,171	13,890	0	-6,513,335	-6,360,497
1984	-2,032,940	0	-2,052,551	-1,992,544	106,354	0	-4,518,972	-4,267,479
1985	-5,960,572	0	-14,628,458	0	175,347	0	-5,496,861	-4,907,256
1986	-5,634,005	0	-11,169,082	0	302,963	0	11,955,721	12,815,390
1987	-6,309,389	80,493	-11,512,976	-19,598	241,569	0	9,350,955	10,238,111
1988	-7,147,559	0	-12,932,941	261,797	371,211	0	23,609,428	25,020,942
1989	-9,350,759	0	-16,541,120	315,555	378,631	0	33,543,176	35,023,864
1990	-10,686,744	0	-17,372,874	0	385,110	0	37,078,661	38,659,270
1991	-10,721,903	0	-17,495,231	0	467,777	0	55,797,099	57,819,745
1992	-9,308,915	0	-15,126,815	265,689	446,879	0	55,073,085	57,063,520
1993	-9,782,761	0	-15,805,728	189,323	446,005	0	55,944,436	57,977,129
1994	-9,645,381	0	-15,555,066	581,888	466,502	0	61,475,548	63,676,856
1995	-10,213,524	0	-16,370,706	0	749,611	1,146,643	74,350,698	76,806,527
1996	-10,290,516	0	-16,515,744	137,063	804,571	1,393,304	78,320,581	80,839,712
1997	-10,480,208	0	-16,773,079	142,095	960,199	1,886,458	106,607,850	109,660,546
1998	-10,382,396	0	-16,630,951	809,923	980,573	1,951,022	113,155,514	116,289,651
1999	-10,849,406	0	-17,402,123	0	1,137,148	2,447,177	142,979,457	146,632,819
2000	-11,033,489	0	-17,659,376	0	1,289,407	2,929,655	175,343,998	179,509,594
2001	-10,834,518	0	-17,294,490	1,575,226	1,299,202	2,960,692	181,057,816	185,272,017
2002	-11,088,230	0	-17,756,141	1,091,286	1,431,034	3,378,442	210,475,136	215,133,827
2003	-11,343,266	0	-18,127,800	696,157	1,541,990	3,730,043	237,039,061	242,079,331
2004	-11,569,966	0	-18,545,682	0	1,682,569	4,175,510	270,024,496	275,546,300
2005	-11,764,429	0	-18,803,386	0	1,724,331	4,307,844	283,913,340	289,595,090
2006	-11,434,271	0	-18,290,896	3,222,395	1,829,769	4,641,957	309,961,637	316,002,583
2007	-12,048,762	0	-19,240,898	0	1,848,157	4,700,225	317,767,192	323,883,418
2008	-12,244,411	0	-19,470,575	0	1,714,258	4,275,923	293,738,334	299,427,313
2009	-12,208,430	0	-19,450,161	1,067,548	1,749,191	4,386,620	305,662,192	311,281,089
2010	-12,522,995	0	-19,928,639	0	1,777,690	4,476,926	315,317,535	321,243,928
2011	-12,407,345	0	-19,802,183	535,942	1,779,775	4,483,538	316,815,150	322,766,835
2012	-12,498,980	0	-19,927,522	0	1,790,676	4,518,078	319,542,010	325,544,732
2013	-12,259,700	0	-19,546,021	1,658,393	1,806,947	4,569,638	323,750,622	329,825,966
2014	-12,446,592	0	-19,917,648	0	1,813,793	4,591,334	325,457,535	331,574,652
2015	-12,272,022	0	-19,546,271	1,738,121	1,862,715	4,746,356	336,581,797	342,883,025
2016	-12,493,217	0	-19,922,197	0	1,891,472	4,837,480	342,768,296	349,185,022
2017	-12,404,231	0	-19,845,896	351,496	1,873,777	4,781,406	339,515,285	345,890,098
2018	-12,481,136	0	-19,856,778	327,133	1,893,897	4,845,162	344,265,113	350,726,902
2019	-12,521,794	0	-19,928,642	0	1,909,014	4,893,069	347,184,413	353,717,093
2020	-12,514,033	0	-19,926,272	14,118	1,866,515	4,758,396	337,486,004	343,892,135
2021	-12,391,354	0	-19,677,946	1,141,063	1,883,717	4,812,905	341,245,216	347,713,397
2022	-12,490,428	0	-19,918,538	0	1,880,458	4,802,581	339,940,198	346,397,190
2023	-12,505,515	0	-19,819,169	504,322	1,878,365	4,795,945	339,877,341	346,327,144
2024	-12,496,725	0	-19,921,047	0	1,876,101	4,788,771	339,351,723	345,793,754
2025	-12,546,142	0	-19,886,679	201,444	1,885,094	4,817,268	341,174,919	347,647,829
2026	-12,558,452	0	-19,927,534	0	1,892,327	4,840,191	342,756,491	349,254,237
2027	-12,248,269	0	-19,494,717	1,916,707	1,883,072	4,810,863	340,672,698	347,138,667
2028	-12,476,139	0	-19,921,719	0	1,769,497	4,831,224	341,849,436	348,337,469
2029	-12,419,758	0	-19,747,144	826,888	1,882,671	4,809,591	340,182,877	346,647,467
2030	-12,416,851	0	-19,821,102	456,984	1,883,576	4,812,461	340,123,755	346,591,456
2031	-12,481,718	0	-19,922,768	0	1,885,260	4,817,800	340,121,011	346,594,496
2032	-12,517,719	0	-19,929,307	0	1,895,050	4,848,818	341,439,897	347,946,994
2033	-12,543,927	0	-19,966,222	73,542	1,880,023	4,801,201	337,572,893	344,028,391
2034	-12,514,330	0	-19,865,346	0	1,902,797	4,873,365	341,461,826	347,995,521
2035	-12,543,346	0	-19,930,733	0	1,959,876	5,054,243	353,883,871	360,613,568

e) Includes extra peaking costs assigned directly to Kern County Water Agency. Refer to Appendix B test discussion of Table B-16A under "Project Water Charges".

**TABLE B-13. CAPITAL AND OPERATION COSTS OF PROJECT
CONSERVATION FACILITIES TO BE REIMBURSED THRU
DELTA WATER CHARGE**

(in dollars)

Calendar Year	Initial Project Conservation Facilities (Portions of Upper Feather Lakes, Oroville-Thermalito Facilities and California Aqueduct)					Planning and Pre-Operating Costs	Total
	Capital Costs (a)	Capital Cost Credits (b)	Operating Costs (c)	Application of Oroville Power Revenues to			
				Capital Costs (d)	Operating Costs (e)		
	(1)	(2)	(3):	(4)	(5):	(6)	(7)
1952	171,322	0	0	0	0	0	171,322
1953	312,190	0	0	0	0	0	312,190
1954	308,624	0	0	0	0	0	308,624
1955	194,645	0	0	0	0	0	194,645
1956	1,357,077	0	0	0	0	0	1,357,077
1957	6,210,709	0	0	0	0	0	6,210,709
1958	9,510,916	0	0	0	0	0	9,510,916
1959	11,390,586	0	0	0	0	0	11,390,586
1960	14,456,356	-4,850,000	0	0	0	0	9,606,356
1961	18,682,616	-431,527	0	0	0	0	18,251,089
1962	9,012,960	-479,280	0	0	0	0	8,533,680
1963	72,965,728	-478,743	-14,000	0	0	0	72,472,985
1964	62,490,522	-751,330	-14,000	0	0	107,780	61,832,972
1965	70,913,845	-763,541	-14,000	0	0	551,850	70,688,154
1966	125,205,400	-748,649	-14,000	0	0	1,081,023	125,523,774
1967	94,296,914	-812,145	-13,446	0	0	1,189,212	94,660,535
1968	39,888,442	-431,574	1,303,821	-951,000	0	793,399	40,603,088
1969	5,279,787	-259,015	2,890,772	-11,007,000	0	601,867	-2,493,589
1970	4,130,490	-203,733	4,818,634	-14,650,000	-1,500,000	516,659	-6,887,950
1971	3,877,493	-193,631	6,026,480	-14,650,000	-1,500,000	408,754	-6,030,904
1972	4,569,025	-196,361	5,735,401	-14,650,000	-1,500,000	287,374	-6,111,561
1973	3,985,415	-136,997	6,083,392	-14,650,000	-1,500,000	203,384	-6,014,806
1974	6,659,999	-137,503	6,873,552	-17,950,000	-1,500,000	201,907	-5,852,045
1975	8,084,449	-234,567	7,622,422	-14,650,000	-1,500,000	146,188	-531,508
1976	5,870,528	-204,944	6,956,842	-14,650,000	-1,500,000	205,234	-3,322,340
1977	21,282,912	-150,214	10,413,893	-14,650,000	-1,500,000	860,353	16,256,944
1978	7,617,057	-64,566	13,705,526	-14,650,000	-1,500,000	2,227,479	7,335,496
1979	9,011,359	0	9,467,690	-14,650,000	-1,500,000	2,151,325	4,480,374
1980	10,352,862	0	13,151,322	-14,650,000	-1,500,000	3,669,698	11,023,882
1981	11,081,930	0	10,425,390	-14,650,000	-1,500,000	4,543,858	9,901,178
1982	16,884,099	0	16,196,569	-14,650,000	-1,500,000	4,427,659	21,358,327
1983	12,927,583	0	23,244,324	-14,079,000	0	3,734,801	2,908,292
1984	10,513,515	0	24,103,643	-14,650,000	-10,348,000	3,745,141	13,362,299
1985	11,247,156	0	23,789,425	-14,650,000	-8,079,000	3,725,512	16,033,093
1986	18,001,492	0	26,479,605	-14,650,000	-9,107,000	3,925,758	24,649,855
1987	23,514,324	0	21,272,740	-14,650,000	-9,451,000	5,489,842	26,175,906
1988	13,106,046	0	31,969,444	-14,650,000	-8,677,000	6,930,572	28,679,062
1989	10,709,843	0	35,514,288	-14,650,000	-8,104,000	6,442,500	29,912,631
1990	9,528,774	0	36,730,852	-16,026,000	-8,310,000	5,103,500	27,027,126
1991	4,068,715	0	37,265,810	-16,126,000	-8,360,000	3,753,500	20,602,025
1992	1,781,870	0	34,060,481	-16,126,000	-8,356,000	2,558,500	13,918,851
1993	1,733,711	0	32,515,092	-16,126,000	-8,356,000	2,368,500	12,135,303
1994	635,441	0	33,143,412	-16,126,000	-8,362,000	2,138,500	11,429,353
1995	630,650	0	33,283,930	-16,126,000	-8,377,000	2,138,500	11,550,080
1996	630,650	0	33,824,469	-16,126,000	-8,399,000	2,138,500	12,068,619
1997	1,372,830	0	34,460,794	-16,126,000	-8,427,000	2,138,500	13,419,124
1998	181,460	0	34,561,624	-16,126,000	-8,427,000	2,138,500	12,328,584
1999	181,460	0	35,880,371	-16,126,000	-8,477,000	2,138,500	13,597,331
2000	341,420	0	36,237,434	-16,126,000	-8,532,000	2,138,500	14,059,354
2001	0	0	37,208,524	-16,126,000	-8,717,000	1,469,000	13,834,524
2002	0	0	37,895,095	-16,126,000	-8,858,000	1,469,000	14,380,095
2003	0	0	39,683,594	-16,126,000	-9,552,000	1,469,000	15,474,594
2004	0	0	40,347,952	-16,126,000	-9,708,000	1,469,000	15,982,952
2005	0	0	40,875,407	-16,126,000	-9,633,000	1,469,000	16,585,407
2006	0	0	41,387,948	-16,126,000	-9,562,000	1,469,000	17,168,948
2007	0	0	43,315,962	-16,126,000	-9,709,000	1,469,000	18,949,962
2008	0	0	42,631,765	-16,126,000	-9,703,000	1,469,000	18,271,765
2009	0	0	43,062,714	-16,126,000	-9,670,000	1,469,000	18,735,714
2010	0	0	42,634,709	-16,126,000	-9,626,000	1,469,000	18,351,709
2011	0	0	43,068,710	-16,126,000	-9,579,000	0	17,363,710
2012	0	0	42,591,448	-16,126,000	-9,531,000	0	16,934,448
2013	0	0	43,962,025	-16,126,000	-9,531,000	0	18,305,025
2014	0	0	42,158,263	-16,126,000	-9,545,000	0	16,487,263
2015	0	0	44,971,518	-16,126,000	-9,556,000	0	19,289,518
2016	0	0	44,283,063	-16,126,000	-9,394,000	0	18,763,063
2017	0	0	43,619,640	-16,126,000	-9,224,000	0	18,269,640
2018	0	0	41,917,710	-16,126,000	-8,797,000	0	16,994,710
2019	0	0	42,603,873	-16,126,000	-8,481,000	0	17,996,873
2020	0	0	42,143,937	-16,126,000	-8,414,000	0	17,603,937
2021	0	0	42,904,786	-16,126,000	-7,819,000	0	18,959,786
2022	0	0	40,495,868	-16,126,000	-7,487,000	0	16,882,868
2023	0	0	40,681,943	-16,126,000	-7,487,000	0	17,068,943
2024	0	0	41,266,924	-16,126,000	-7,441,000	0	17,699,924
2025	0	0	41,710,955	-16,126,000	-7,441,000	0	18,143,955
2026	0	0	40,712,532	-16,126,000	-7,441,000	0	17,145,532
2027	0	0	39,620,548	-16,126,000	-7,376,000	0	16,118,548
2028	0	0	41,602,621	-16,126,000	-7,310,000	0	18,166,621
2029	0	0	40,096,028	-16,126,000	-7,158,000	0	16,812,028
2030	0	0	40,057,959	-16,126,000	-7,005,000	0	16,926,959
2031	0	0	39,574,416	-16,126,000	-6,852,000	0	16,596,416
2032	0	0	39,220,382	-16,126,000	-6,747,000	0	16,347,382
2033	0	0	39,094,357	-16,126,000	-6,747,000	0	16,221,357
2034	0	0	39,727,026	-16,126,000	-6,747,000	0	16,854,026
2035	0	0	43,444,246	-16,126,000	-6,747,000	0	20,571,246
TOTAL	777,163,197	-11,528,320	2,140,155,446	-1,069,383,000	-468,980,000	101,612,629	1,469,039,952

- Reimbursed through the capital cost component of the Delta Water Charge.
- Negotiated settlements as to the magnitude of SWP planning costs from 1952 through 1978.
- Reimbursed through the minimum OMP&R component of the Delta Water Charge. Credits for San Luis power generation are reflected in these net costs.
- Revenues credited through the capital cost component of the Delta Water Charge.
- Revenue credits through the minimum OMP&R component of the Delta Water Charge.
- Under amendments of Articles 22(e) and 22(g), planning and preoperating costs of additional Project conservation facilities incurred through the previous year (1987) are reflected in the Delta Water Charge.

TABLE B-14. CAPITAL COSTS OF TRANSPORTATION

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD (a)	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1952	0	0	0	83	99	409	591	121	224	345
1953	0	0	0	324	406	1,808	2,538	336	619	955
1954	0	0	0	819	1,088	5,150	7,057	422	779	1,201
1955	0	0	0	976	1,321	6,297	8,594	211	388	599
1956	0	0	0	8,844	12,069	63,816	84,729	227	419	646
1957	15,199	11,435	26,634	21,563	29,313	649,598	700,474	290	535	825
1958	33,420	16,591	50,011	67,764	67,955	733,415	869,134	721	1,330	2,051
1959	20,697	6,591	27,288	154,254	142,959	493,049	790,262	25,853	53,921	79,774
1960	9,097	8,830	17,927	296,492	274,637	1,018,662	1,589,791	37,106	77,941	115,047
1961	6,950	7,445	14,395	853,505	797,749	1,914,710	3,565,964	15,637	31,208	46,845
1962	-195	-925	-1,120	545,123	576,571	1,686,044	2,807,738	19,640	37,213	56,853
1963	1,320	1,110	2,430	657,427	1,077,895	3,243,842	4,979,164	73,105	136,569	209,674
1964	38,392	35,467	73,859	712,653	1,244,064	7,251,805	9,208,522	146,715	273,922	420,637
1965	198,833	62,221	261,054	360,783	468,128	3,414,466	4,243,377	261,459	486,434	747,893
1966	461,619	49,917	511,536	592,720	562,232	2,245,228	3,400,180	598,330	1,107,174	1,705,504
1967	1,569,498	40,379	1,609,877	797,000	772,107	2,401,877	3,970,984	947,517	1,751,645	2,699,162
1968	859,613	61,691	921,304	736,474	681,350	1,997,934	3,415,758	359,891	666,475	1,026,366
1969	74,389	59,317	133,706	269,700	258,156	764,957	1,292,813	84,315	157,239	241,554
1970	43,362	67,876	111,238	58,678	56,854	135,572	251,104	54,663	102,458	157,121
1971	26,764	34,051	60,815	12,086	14,386	84,090	110,562	37,649	71,704	109,353
1972	19,643	18,905	38,548	12,291	11,723	63,612	87,626	24,098	45,422	69,520
1973	56,510	30,874	87,384	10,494	10,525	39,380	60,399	27,479	51,710	79,189
1974	165,830	65,832	231,662	15,721	17,774	73,122	106,617	30,087	56,332	86,419
1975	91,825	89,233	181,058	16,730	15,572	41,395	73,697	25,396	50,761	76,157
1976	57,767	83,648	141,415	34,004	32,852	109,615	176,471	54,577	109,506	164,083
1977	64,255	80,045	144,300	46,231	43,246	133,880	222,857	130,052	243,101	373,153
1978	66,855	79,508	146,363	61,469	56,729	153,593	271,791	36,942	70,420	107,362
1979	194,348	279,321	473,669	45,492	42,504	110,696	198,692	52,571	99,595	152,166
1980	287,920	358,915	646,835	135,059	124,384	305,626	565,069	196,357	364,090	560,447
1981	210,756	401,974	612,730	-34,727	-31,074	-67,693	-133,494	-79,777	-144,954	-224,731
1982	540,927	886,989	1,427,916	14,624	13,901	38,725	67,250	-31,906	-58,049	-89,955
1983	1,310,051	1,505,337	2,815,388	168,570	156,478	397,462	722,510	87,315	162,264	249,579
1984	2,470,359	2,656,273	5,126,632	162,055	148,787	367,775	678,617	54,199	101,030	155,229
1985	7,045,439	6,358,611	13,404,050	10,710	10,316	31,440	52,466	10,942	22,754	33,696
1986	10,401,353	16,716,040	27,117,393	-17,810	-15,257	-26,162	-59,229	19,881	60,063	79,944
1987	8,277,821	13,363,949	21,641,770	52,778	50,209	139,464	242,451	461,388	1,005,910	1,467,298
1988	3,771,916	7,242,562	11,014,478	107,605	99,218	611,663	818,486	764,937	1,588,882	2,353,819
1989	790,271	1,679,229	2,469,500	161,518	150,858	745,814	1,058,190	701,453	1,429,443	2,130,896
1990	237,269	433,231	670,500	154,270	144,636	381,926	680,832	996,219	2,047,622	3,043,841
1991	2,000	0	2,000	72,551	66,901	164,082	303,534	3,227,405	6,813,995	10,041,400
1992	0	0	0	20,448	18,696	44,551	83,695	21,383,341	47,787,608	69,170,949
1993	0	0	0	9,673	8,844	21,076	39,593	26,939,894	60,704,345	87,644,239
1994	0	0	0	9,565	8,746	20,840	39,151	22,739,695	45,648,731	68,388,426
1995	0	0	0	9,546	8,728	20,799	39,073	5,986,646	11,388,063	17,374,709
1996	0	0	0	9,546	8,728	20,799	39,073	238,915	676,246	915,161
1997	0	0	0	9,546	8,728	20,799	39,073	187,099	528,062	715,161
1998	0	0	0	0	0	0	0	129,678	370,322	500,000
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	39,422,073	52,792,472	92,214,545	7,445,227	8,252,091	32,076,508	47,773,826	87,059,091	186,181,471	273,240,562

a) Costs from Table B-10 allocated to Solano County Flood Control and Water Conservation District are reduced herein by \$2,102,700 in 1986 and \$1,823,500 in 1987 under provisions of Amendment No. 10 to its water supply contract.

FACILITIES ALLOCATED TO EACH CONTRACTOR

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA										Total
	Devil's Den Water District (b)	Dudley Ridge Water District	Empire West Side Irrigation District (c)	Future Contractor San Joaquin Valley	Kern County Water Agency			County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	
					Municipal and Industrial	Municipal and Industrial(d)	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1952	87	389	19	59	938	120	9,137	19	13	784	11,565
1953	238	1,076	53	161	2,892	344	27,416	56	33	2,158	34,427
1954	298	1,350	67	200	3,379	416	32,404	70	42	2,719	40,945
1955	150	676	36	100	1,499	198	14,730	36	22	1,371	18,818
1956	160	727	33	107	2,709	272	24,300	34	26	1,417	29,785
1957	205	932	38	139	6,067	496	50,055	38	30	1,707	59,707
1958	511	2,308	100	345	14,412	1,155	119,338	103	61	4,368	142,701
1959	3,700	7,387	363	2,517	26,276	2,599	254,305	372	381	14,758	312,658
1960	5,396	12,942	629	3,666	34,105	4,158	352,574	644	498	25,699	440,311
1961	5,850	21,851	1,063	3,957	51,474	6,503	539,300	1,087	599	43,381	675,065
1962	11,657	49,324	2,410	7,867	95,002	13,840	1,017,765	2,466	1,849	98,151	1,300,361
1963	47,693	208,777	10,688	32,174	364,163	55,723	3,935,959	10,933	5,991	425,371	5,097,472
1964	95,861	328,316	16,963	64,894	600,500	88,923	6,639,524	17,352	11,944	672,079	8,536,356
1965	174,091	538,267	27,484	118,001	1,099,973	152,986	12,008,694	28,118	21,804	1,095,233	15,264,651
1966	411,444	1,107,866	52,591	279,183	2,220,602	339,414	24,873,716	53,793	38,895	2,173,302	31,550,806
1967	653,361	852,622	39,542	445,568	2,015,228	287,218	23,647,648	40,446	34,779	1,653,590	29,670,002
1968	243,377	198,757	9,740	166,270	1,107,258	70,150	11,570,326	9,962	12,239	396,114	13,784,193
1969	52,105	94,447	4,794	35,474	618,548	27,226	6,435,031	4,902	7,302	191,593	7,471,422
1970	31,849	54,350	2,720	21,686	416,140	15,528	4,158,051	2,784	3,999	109,482	4,816,589
1971	17,745	25,466	1,290	12,095	191,239	7,116	1,626,959	1,321	540	51,624	1,935,395
1972	12,235	11,591	589	8,354	83,179	3,412	725,530	601	343	23,528	869,362
1973	14,913	6,657	336	10,202	40,105	1,979	459,546	341	220	13,450	547,749
1974	16,154	9,478	469	11,044	45,558	2,767	484,755	478	326	18,982	590,011
1975	7,706	13,329	678	5,245	36,537	3,710	383,230	692	426	27,051	478,604
1976	18,475	17,505	837	12,616	53,182	5,624	654,897	856	1,152	34,450	799,594
1977	69,751	9,512	428	47,768	36,329	3,715	884,751	437	490	18,172	1,071,353
1978	-8,877	11,119	-31,049	3,543	27,772	3,351	303,824	551	802	22,040	333,076
1979	7,224	19,506	1,007	4,906	45,788	5,163	467,188	1,030	1,734	39,915	593,461
1980	37,551	103,245	-6,785	25,476	261,343	27,239	2,516,666	5,466	6,192	211,559	3,187,952
1981	6,406	25,187	-13,873	4,333	-319	6,768	123,976	1,330	2,391	51,506	207,705
1982	16,516	80,095	4,153	11,102	135,348	20,974	1,211,130	4,244	2,422	164,293	1,650,277
1983	28,013	81,792	-33,765	18,987	183,069	21,486	1,802,721	4,333	3,143	167,700	2,277,479
1984	24,672	96,468	5,001	16,653	183,745	25,400	1,941,482	5,110	3,318	197,818	2,499,667
1985	6,552	23,659	1,222	4,429	40,458	6,273	430,637	1,248	847	48,425	563,750
1986	2,008	10,775	-42,508	1,344	658	3,331	82,465	536	-1,281	21,428	78,756
1987	26,823	108,888	5,650	18,116	182,267	28,639	1,995,346	5,782	1,125	223,421	2,596,057
1988	56,299	246,710	12,808	37,949	502,014	68,589	5,386,604	13,093	14,866	506,270	6,845,202
1989	100,267	405,539	21,043	67,662	686,416	109,917	7,578,043	21,509	22,842	832,009	9,845,247
1990	80,899	306,768	15,900	54,656	502,019	80,407	5,620,506	18,253	21,083	628,983	7,327,474
1991	30,267	115,177	5,952	20,458	191,268	30,447	2,130,424	6,087	10,921	235,789	2,776,790
1992	10,833	38,319	1,973	7,330	64,843	10,254	724,350	2,017	3,682	78,297	941,898
1993	27,664	18,518	956	18,910	30,964	4,923	522,043	978	1,773	37,877	664,606
1994	26,408	17,265	896	17,916	27,718	4,504	480,095	917	1,686	35,434	612,639
1995	3,778	17,076	887	2,547	27,416	4,455	301,821	907	1,671	35,046	395,604
1996	3,778	17,076	887	2,547	27,416	4,455	301,821	907	1,671	35,046	395,604
1997	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2,385,671	5,336,160	125,202	1,631,103	12,314,913	1,566,622	135,152,904	271,146	246,593	10,708,436	169,738,750

- Costs from Table B-10 allocated to Devil's Den Water District are reduced herein by \$14,088 in 1978 in accordance with a letter of agreement with the District.
- Costs from Table B-10 allocated to Empire West Side Irrigation District are reduced herein by \$31,588 in 1978; \$12,129 in 1980; \$15,173 in 1981; and \$38,004 in 1983 in accordance with letters of agreement with the District.
- Costs related to maximum annual entitlement of 15,000 acre-feet under Amendment No. 18 of the water supply contract with Kern County Water Agency.

TABLE B-14. CAPITAL COSTS OF TRANSPORTATION

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
1952	3,163	786	851	252	1,406	72	1,697	419	6,086	1,550
1953	10,047	2,522	2,674	801	4,406	222	5,329	1,330	19,079	4,859
1954	12,772	3,183	3,468	1,034	5,721	286	6,922	1,695	24,631	6,296
1955	5,423	1,422	1,380	399	2,270	115	2,757	717	9,239	2,379
1956	9,806	2,733	2,202	616	3,631	193	4,463	1,272	13,162	3,445
1957	26,389	7,121	6,358	1,822	10,488	542	12,802	3,462	40,719	10,556
1958	49,361	13,504	11,610	3,298	19,147	994	23,418	6,434	72,837	18,930
1959	70,442	21,126	15,907	4,625	26,227	1,350	31,831	9,054	98,754	25,564
1960	84,754	27,606	22,105	6,806	36,457	1,550	43,336	10,797	147,332	37,513
1961	126,875	40,281	34,676	12,547	57,185	2,256	63,834	16,480	236,434	57,782
1962	198,861	63,895	43,774	13,875	72,194	3,351	84,823	24,980	253,680	64,395
1963	580,866	185,778	116,929	33,183	192,841	9,842	235,199	73,346	610,869	160,783
1964	1,096,289	355,355	209,810	55,533	346,024	18,471	430,329	138,008	1,027,622	276,545
1965	1,911,872	669,374	386,224	103,929	636,955	32,882	788,408	245,063	1,916,155	513,707
1966	3,968,188	1,501,127	814,084	216,216	1,342,588	69,454	1,667,540	518,255	3,949,958	1,064,169
1967	4,990,835	2,823,458	1,080,013	296,716	1,781,155	88,543	2,187,593	655,042	5,833,249	1,553,415
1968	5,944,187	2,981,439	1,354,311	369,053	2,233,522	107,682	2,745,395	786,414	7,998,770	2,127,321
1969	5,844,553	2,409,152	1,694,216	540,851	2,794,153	121,673	3,264,694	868,198	10,915,869	2,774,503
1970	5,051,804	2,606,250	2,054,203	696,207	3,387,877	106,696	3,879,429	739,143	13,811,071	3,461,296
1971	2,587,829	1,747,033	1,073,393	339,055	1,770,260	48,511	2,091,089	348,354	8,145,412	1,989,414
1972	977,313	312,618	332,460	92,254	548,296	19,199	670,003	134,851	2,694,275	698,820
1973	355,900	789,769	158,851	82,290	262,003	6,329	238,654	46,292	1,761,778	403,916
1974	453,284	234,678	259,509	74,195	427,981	8,174	519,141	59,375	1,618,881	426,335
1975	254,377	195,585	193,804	52,864	319,618	4,969	392,464	34,115	1,534,426	408,124
1976	238,300	192,619	136,888	37,269	225,758	4,259	278,095	31,098	962,897	256,073
1977	200,162	236,962	91,508	25,889	150,918	3,764	183,867	26,911	592,001	155,691
1978	189,097	335,505	54,940	16,253	90,611	3,345	108,917	24,461	323,296	82,755
1979	377,210	726,721	85,802	22,804	141,503	6,291	175,157	46,860	421,435	113,305
1980	1,895,560	1,377,832	432,461	115,479	713,214	32,905	881,754	244,419	2,081,646	559,253
1981	-203,218	461,613	-57,656	-10,974	-95,082	-3,319	-124,707	-25,176	-181,189	-53,757
1982	1,645,703	694,795	316,920	87,163	522,660	27,690	647,994	207,611	1,564,352	427,683
1983	2,492,843	551,248	485,224	139,383	800,219	41,877	987,831	313,865	2,542,583	696,710
1984	1,693,185	297,045	337,246	95,860	556,177	30,185	687,497	210,452	1,722,787	471,816
1985	880,837	117,760	220,797	63,600	364,136	16,154	448,867	114,179	1,124,582	307,583
1986	260,290	-54,140	104,379	28,728	172,140	4,881	213,177	32,173	531,957	144,101
1987	498,034	148,752	95,146	25,947	156,908	8,356	194,524	61,732	449,790	121,501
1988	1,300,588	410,798	354,761	94,222	585,069	23,590	729,727	178,384	2,090,020	569,457
1989	887,227	305,571	327,158	91,581	539,548	14,161	669,637	109,131	1,867,911	510,109
1990	649,313	333,332	278,724	88,525	459,666	10,881	560,377	81,759	1,818,526	496,026
1991	243,568	207,377	123,098	60,695	203,011	4,492	227,641	32,181	1,223,839	333,955
1992	73,899	30,233	53,129	41,736	87,618	1,254	84,151	9,372	780,193	213,703
1993	34,324	10,401	11,693	15,483	19,287	574	12,859	4,309	273,857	75,153
1994	29,715	9,006	9,677	12,283	15,959	497	11,133	3,732	217,208	59,610
1995	29,389	8,907	5,283	1,336	8,713	492	11,011	3,691	23,627	6,503
1996	29,389	8,907	5,283	1,336	8,713	492	11,011	3,691	23,627	6,503
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	48,089,994	23,416,356	13,350,556	4,054,355	22,017,864	886,669	26,402,681	6,441,622	83,218,860	21,651,853

FACILITIES ALLOCATED TO EACH CONTRACTOR

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California ^e	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)
1952	963	69,159	373	86,777	0	0	0	0	75	99,353
1953	3,014	218,082	1,191	273,556	0	0	0	0	336	311,812
1954	3,907	280,542	1,499	351,956	0	0	0	0	984	402,143
1955	1,475	111,865	672	140,113	0	0	0	0	1,218	169,342
1956	2,128	179,874	1,303	224,828	0	0	0	0	11,563	351,551
1957	6,540	517,533	3,381	647,713	0	0	0	0	29,099	1,464,452
1958	11,720	948,401	6,420	1,186,074	0	0	2	2	36,650	2,286,623
1959	15,842	1,368,069	9,934	1,698,725	0	0	14	14	58,691	2,967,412
1960	23,334	1,919,115	12,849	2,373,554	0	0	28	28	124,175	4,660,833
1961	36,199	3,218,434	18,835	3,921,818	0	0	10	10	321,147	8,545,244
1962	40,053	3,551,496	29,158	4,444,535	0	0	32	32	266,772	8,875,171
1963	99,364	11,203,615	87,001	13,589,616	0	0	51	51	731,871	24,610,278
1964	170,271	18,105,750	165,131	22,395,138	0	0	7,791	7,791	1,093,757	41,736,060
1965	316,599	33,844,559	308,320	41,674,047	0	0	3,139	3,139	470,582	62,664,743
1966	655,265	74,677,453	683,955	91,128,252	0	0	-48	-48	814,100	129,110,330
1967	960,354	131,149,091	1,285,557	154,685,021	0	0	47	47	1,511,272	194,146,365
1968	1,317,528	148,176,589	1,368,586	177,510,797	0	0	51,573	51,573	1,268,920	197,978,911
1969	1,729,871	140,617,637	1,090,679	174,666,459	0	0	234,232	234,232	433,304	184,473,490
1970	2,162,695	162,541,445	1,153,880	201,651,996	0	0	16,227	16,227	78,375	207,082,650
1971	1,238,982	134,243,112	742,669	156,365,113	0	0	27,204	27,204	16,297	158,624,739
1972	435,035	43,874,003	65,840	50,854,967	0	0	9	9	14,222	51,934,254
1973	256,915	39,825,525	291,175	44,479,397	0	0	25	25	9,710	45,263,853
1974	264,599	18,919,535	86,528	23,352,215	0	0	45	45	35,197	24,402,166
1975	253,968	16,772,093	84,435	20,500,842	0	0	21	21	8,459	21,318,838
1976	158,951	13,585,680	85,113	16,193,000	0	0	51	51	18,294	17,492,908
1977	96,611	11,862,557	112,068	13,738,909	0	0	28	28	23,044	15,573,644
1978	51,331	14,014,813	158,363	15,453,687	0	0	38	38	25,513	16,337,830
1979	69,859	27,978,690	346,871	30,512,508	0	0	23	23	26,804	31,957,323
1980	344,702	60,587,792	653,604	69,920,621	0	0	26	26	57,300	74,938,250
1981	-32,648	15,224,896	220,991	15,119,774	0	0	34	34	-5,023	15,576,995
1982	262,974	32,822,545	332,768	39,560,858	0	0	11	11	19,463	42,635,820
1983	428,397	32,794,034	262,715	42,536,929	0	0	19	19	83,211	48,685,115
1984	290,006	19,749,645	137,596	26,279,497	0	0	26	26	86,030	34,825,698
1985	189,051	10,211,029	55,368	14,113,943	0	0	29	29	13,202	28,183,136
1986	88,692	1,141,351	-27,298	2,640,431	0	0	31	31	-1,672	29,855,654
1987	74,675	7,722,236	70,385	9,627,986	0	0	33	33	28,816	35,604,411
1988	351,637	25,616,762	194,149	32,499,164	0	0	0	0	45,935	53,577,084
1989	314,297	20,883,885	141,906	26,662,122	0	0	0	0	66,737	42,232,692
1990	305,777	21,673,716	149,667	26,906,289	0	0	0	0	63,461	38,692,397
1991	205,840	13,900,021	98,427	16,864,145	0	0	0	0	27,382	30,015,251
1992	131,491	5,230,977	14,547	6,752,303	0	0	0	0	7,335	76,956,180
1993	46,173	1,831,325	5,013	2,340,451	0	0	0	0	3,470	90,692,359
1994	36,622	1,479,043	4,340	1,888,825	0	0	0	0	3,431	70,932,472
1995	3,984	439,318	4,293	546,547	0	0	0	0	3,425	18,359,358
1996	3,984	439,318	4,293	546,547	0	0	0	0	3,425	1,899,810
1997	3,984	439,318	4,293	546,547	0	0	0	0	3,425	1,699,810
1998	0	0	0	0	0	0	0	0	0	500,000
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	13,433,011	1,325,961,928	10,528,843	1,599,454,592	0	0	340,751	340,751	7,939,784	2,190,702,810

e) Costs from Table B-10 allocated to MWDSC are reduced herein by \$16,428,037 in 1972 under provisions of Amendment No. 7 to its water supply contract.

TABLE B-15: CAPITAL COST COMPONENT OF

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1963	0	0	0	106,865	104,348	372,613	583,826	0	0	0
1964	0	0	0	126,303	160,144	540,525	826,972	9,067	17,954	27,021
1965	0	0	0	159,504	224,541	915,903	1,299,948	14,938	28,953	43,891
1966	18,399	0	18,399	176,312	248,773	1,092,647	1,517,732	24,388	46,598	70,986
1967	42,294	0	42,294	203,925	277,876	1,208,868	1,690,669	43,012	81,129	124,141
1968	123,537	0	123,537	241,055	317,843	1,333,197	1,892,095	57,563	108,161	165,724
1969	168,033	0	168,033	275,366	353,112	1,436,617	2,065,095	61,392	115,354	176,746
1970	171,884	0	171,884	287,930	366,475	1,476,213	2,130,618	63,440	119,220	182,660
1971	174,129	0	174,129	290,664	369,418	1,483,231	2,143,313	64,798	121,808	186,606
1972	175,514	0	175,514	336,763	370,162	1,487,584	2,194,509	65,848	123,862	189,710
1973	176,531	32,062	208,593	337,399	370,769	1,490,877	2,199,045	66,377	124,888	191,265
1974	179,456	33,660	213,116	337,942	371,314	1,492,915	2,202,171	66,802	125,725	192,527
1975	188,040	37,068	225,108	338,756	372,234	1,496,700	2,207,690	67,316	126,716	194,032
1976	192,793	41,687	234,480	339,622	373,040	1,498,843	2,211,505	177,078	329,416	506,494
1977	195,783	46,017	241,800	341,382	374,741	1,504,517	2,220,640	179,903	335,084	514,987
1978	199,109	50,160	249,269	343,775	376,979	1,511,421	2,232,175	186,635	347,668	534,303
1979	202,570	54,276	256,846	346,957	379,916	1,519,372	2,246,245	188,547	351,313	539,860
1980	212,630	68,734	281,364	349,312	382,116	1,525,102	2,256,530	191,269	356,469	547,738
1981	227,534	87,313	314,847	356,303	388,554	1,540,922	2,285,779	201,433	375,315	576,748
1982	238,443	108,120	346,563	354,506	386,946	1,537,418	2,278,870	197,303	367,812	565,115
1983	266,443	154,034	420,477	355,263	387,665	1,539,422	2,282,350	195,652	364,807	560,459
1984	334,256	231,955	566,211	363,988	395,765	1,559,996	2,319,749	200,171	373,206	573,377
1985	462,130	369,453	831,583	372,377	403,467	1,579,034	2,354,878	202,977	378,436	581,413
1986	826,826	698,596	1,525,422	372,931	404,001	1,580,661	2,357,593	203,543	379,614	583,157
1987	1,368,069	1,568,430	2,936,499	372,004	403,207	1,579,300	2,354,511	204,578	382,739	587,317
1988	1,801,200	2,267,689	4,068,889	374,766	405,834	1,586,597	2,367,197	228,720	435,373	664,093
1989	1,999,715	2,648,862	4,648,577	380,429	411,056	1,618,789	2,410,274	268,978	518,995	787,973
1990	2,041,563	2,737,783	4,779,346	388,982	419,044	1,658,282	2,466,308	306,122	594,689	900,811
1991	2,054,208	2,760,873	4,815,081	397,204	426,753	1,678,637	2,502,594	359,217	703,820	1,063,037
1992	2,054,315	2,760,873	4,815,188	401,097	430,343	1,687,442	2,518,882	532,403	1,069,465	1,601,868
1993	2,054,315	2,760,873	4,815,188	402,203	431,353	1,689,850	2,523,406	1,688,121	3,652,271	5,340,392
1994	2,054,315	2,760,873	4,815,188	402,729	431,835	1,690,998	2,525,562	3,155,230	6,958,145	10,113,375
1995	2,054,315	2,760,873	4,815,188	403,254	432,315	1,692,142	2,527,711	4,403,543	9,464,066	13,867,609
1996	2,054,315	2,760,873	4,815,188	403,783	432,798	1,693,293	2,529,874	4,734,970	10,094,521	14,829,491
1997	2,054,315	2,760,873	4,815,188	404,316	433,286	1,694,455	2,532,057	4,748,315	10,132,294	14,880,609
1998	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,758,864	10,162,069	14,920,933
1999	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2000	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2001	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2002	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2003	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2004	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2005	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2006	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2007	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2008	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2009	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2010	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2011	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2012	2,054,315	2,760,873	4,815,188	404,854	433,778	1,695,628	2,534,260	4,766,250	10,183,159	14,949,409
2013	2,054,315	2,760,873	4,815,188	292,116	329,430	1,323,015	1,944,561	4,766,250	10,183,159	14,949,409
2014	2,054,315	2,760,873	4,815,188	256,314	273,634	1,155,103	1,685,051	4,757,182	10,165,205	14,922,387
2015	2,054,315	2,760,873	4,815,188	217,796	209,237	779,725	1,206,758	4,751,312	10,154,206	14,905,518
2016	2,035,916	2,760,873	4,796,789	198,436	185,005	602,981	986,422	4,741,861	10,136,560	14,878,421
2017	2,012,021	2,760,873	4,772,894	166,847	155,902	486,760	809,509	4,723,238	10,102,030	14,825,268
2018	1,930,779	2,760,873	4,691,652	124,643	115,935	362,431	603,009	4,708,686	10,074,998	14,783,684
2019	1,886,282	2,760,873	4,647,155	85,882	80,666	259,011	425,559	4,704,858	10,067,805	14,772,663
2020	1,882,431	2,760,873	4,643,304	71,770	67,303	219,414	358,487	4,702,810	10,063,939	14,766,749
2021	1,880,187	2,760,873	4,641,060	68,717	64,360	212,397	345,474	4,701,452	10,061,351	14,762,803
2022	1,878,802	2,760,873	4,639,675	68,091	63,616	208,044	339,751	4,700,402	10,059,297	14,759,699
2023	1,877,785	2,728,811	4,606,596	67,455	63,009	204,751	335,215	4,699,872	10,058,271	14,758,143
2024	1,874,860	2,727,213	4,602,073	66,912	62,464	202,713	332,089	4,699,448	10,057,434	14,756,882
2025	1,866,276	2,723,805	4,590,081	66,098	61,544	198,928	326,570	4,698,934	10,056,443	14,755,377
2026	1,861,523	2,719,186	4,580,709	65,232	60,738	196,785	322,755	4,589,171	9,853,743	14,442,914
2027	1,858,532	2,714,856	4,573,388	63,472	59,037	191,111	313,620	4,586,346	9,848,075	14,434,421
2028	1,855,206	2,710,713	4,565,919	61,079	56,799	184,207	302,085	4,579,614	9,835,491	14,415,105
2029	1,851,746	2,706,597	4,558,343	57,897	53,862	176,256	288,015	4,577,702	9,831,846	14,409,548
2030	1,841,685	2,692,159	4,533,824	55,542	51,662	170,526	277,730	4,574,981	9,826,690	14,401,671
2031	1,826,782	2,673,560	4,500,342	48,551	45,224	154,706	248,481	4,564,817	9,807,844	14,372,661
2032	1,815,872	2,652,753	4,468,625	50,349	46,832	158,210	255,391	4,568,946	9,815,347	14,384,293
2033	1,787,872	2,606,839	4,394,711	49,592	46,113	156,206	251,911	4,570,598	9,818,352	14,388,950
2034	1,720,059	2,528,918	4,248,977	40,866	38,013	135,632	214,511	4,566,078	9,809,953	14,376,031
2035	1,592,185	2,391,420	3,983,605	32,478	30,311	116,594	179,383	4,563,273	9,804,723	14,367,996
TOTAL	100,481,450	134,160,645	234,642,095	19,794,412	21,545,389	84,284,309	125,624,610	201,943,844	431,324,943	633,268,787

a) Unadjusted for prior overpayments or underpayments of charges.

b) Determined at the current Project Interest Rate of 4.713 percent per annum.

TRANSPORTATION CHARGE FOR EACH CONTRACTOR (a (b

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA										
	Devil's Den Water District (a)	Dudley Ridge Water District	Empire West Side Irrigation District (b)	Future Contractor San Joaquin Valley	Kern County Water Agency			County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Municipal and Industrial (c)	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1963	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	2,772	0	0	0	0	0	0	2,772
1965	0	0	0	6,131	65,456	9,448	0	0	0	0	81,035
1966	0	0	0	12,239	122,394	17,367	0	0	0	0	152,000
1967	0	0	0	26,691	237,340	34,936	0	0	0	0	298,967
1968	34,706	76,610	2,497	49,755	341,655	49,804	423,482	8,657	4,687	65,458	1,057,311
1969	46,900	76,744	7,491	58,362	398,970	53,435	869,684	9,173	5,094	247,673	1,773,526
1970	53,466	84,110	7,491	60,198	430,989	54,844	1,057,797	9,427	5,298	183,283	1,946,903
1971	62,846	95,897	7,491	61,320	452,529	55,648	1,404,944	9,571	5,706	195,039	2,350,991
1972	72,226	107,147	7,491	61,946	462,429	56,016	2,103,780	9,639	10,935	601,682	3,493,291
1973	81,606	117,862	7,491	62,379	466,734	56,193	2,426,390	9,670	6,317	232,722	3,467,364
1974	90,986	178,882	7,491	62,907	468,810	56,295	2,717,194	9,688	7,073	386,279	3,985,605
1975	100,366	217,267	7,491	63,479	471,168	56,439	3,254,453	9,713	7,287	460,923	4,648,586
1976	109,746	165,655	7,491	63,750	473,060	56,631	3,508,270	9,748	8,231	329,734	4,732,316
1977	119,126	162,863	7,491	64,403	475,813	56,922	3,844,056	9,793	7,540	315,269	5,063,276
1978	119,126	174,114	7,491	66,876	477,693	57,114	4,272,991	9,815	7,947	338,246	5,531,413
1979	119,126	206,494	7,491	67,059	479,131	57,288	4,691,930	9,844	8,151	380,679	6,027,193
1980	119,126	219,651	7,491	67,313	481,501	57,555	5,119,956	9,897	11,615	383,132	6,477,237
1981	119,126	219,651	7,491	68,632	495,029	58,965	5,603,417	10,180	8,763	406,109	6,997,363
1982	119,126	219,651	7,491	68,856	495,012	59,315	6,049,618	10,249	9,170	428,552	7,467,040
1983	119,126	229,830	7,491	69,431	502,018	60,401	6,557,615	10,469	9,374	51,020	7,616,775
1984	119,126	241,616	7,491	70,414	511,495	61,513	6,879,316	10,693	9,781	334,564	8,246,009
1985	119,126	252,867	7,491	71,276	521,006	62,828	7,325,518	10,957	9,985	243,393	8,624,447
1986	119,126	264,117	7,491	71,505	523,100	63,153	7,768,084	11,022	10,393	519,392	9,357,383
1987	119,126	275,368	7,491	71,575	523,134	63,326	8,218,829	11,050	10,597	541,835	9,842,331
1988	119,126	286,618	7,491	72,523	532,671	64,824	8,639,585	11,352	11,004	564,278	10,309,472
1989	119,126	297,869	7,491	74,520	559,092	68,434	8,943,111	12,041	11,412	587,255	10,680,351
1990	119,126	309,119	7,491	78,103	595,440	74,255	9,258,451	13,180	11,615	633,209	11,099,989
1991	119,126	309,119	7,491	81,016	622,196	78,540	9,258,451	14,047	11,615	633,209	11,134,810
1992	119,126	309,119	7,491	82,114	632,460	80,174	9,258,451	14,373	11,615	633,209	11,148,132
1993	119,126	309,119	7,491	82,510	635,964	80,728	9,258,451	14,482	11,615	633,209	11,152,695
1994	119,126	309,119	7,491	83,540	637,651	80,996	9,258,451	14,536	11,615	633,209	11,155,734
1995	119,126	309,119	7,491	84,523	639,172	81,243	9,258,451	14,586	11,615	633,209	11,158,535
1996	119,126	309,119	7,491	84,664	640,690	81,490	9,258,451	14,636	11,615	633,209	11,160,491
1997	119,126	309,119	7,491	84,807	642,221	81,739	9,258,451	14,687	11,615	633,209	11,162,465
1998	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
1999	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2000	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2001	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2002	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2003	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2004	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2005	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2006	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2007	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2008	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2009	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2010	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2011	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2012	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2013	119,126	309,119	7,491	84,950	643,767	81,990	9,258,451	14,738	11,615	633,209	11,164,456
2014	119,126	309,119	7,491	82,178	643,767	81,990	9,258,451	14,738	11,615	633,209	11,161,684
2015	119,126	309,119	7,491	78,819	578,311	72,542	9,258,451	14,738	11,615	633,209	11,083,421
2016	119,126	309,119	7,491	72,711	521,373	64,623	9,258,451	14,738	11,615	633,209	11,012,456
2017	119,126	309,119	7,491	58,259	406,427	47,054	9,258,451	14,738	11,615	633,209	10,865,489
2018	119,126	309,119	7,491	35,195	302,112	32,186	9,258,451	6,081	11,615	633,209	10,714,585
2019	119,126	309,119	7,491	26,589	244,797	28,555	9,258,451	5,565	11,615	633,209	10,644,517
2020	119,126	309,119	7,491	24,752	212,779	27,146	9,258,451	5,311	11,615	633,209	10,608,999
2021	119,126	309,119	7,491	23,630	191,238	26,342	9,258,451	5,167	11,615	633,209	10,585,388
2022	119,126	309,119	7,491	23,004	181,339	25,974	9,258,451	5,099	11,615	633,209	10,574,427
2023	119,126	309,119	7,491	22,571	177,033	25,797	9,258,451	5,068	11,615	633,209	10,569,480
2024	119,126	309,119	7,491	22,043	174,957	25,695	9,258,451	5,050	11,615	633,209	10,566,756
2025	119,126	309,119	7,491	21,472	172,599	25,551	9,258,451	5,025	11,615	633,209	10,563,658
2026	119,126	309,119	7,491	21,200	170,708	25,359	9,258,451	4,990	11,615	633,209	10,561,268
2027	119,126	309,119	7,491	20,547	167,955	25,068	9,258,451	4,945	11,615	633,209	10,557,526
2028	119,126	309,119	7,491	18,074	166,074	24,876	9,258,451	4,923	11,615	633,209	10,552,958
2029	119,126	309,119	7,491	17,891	164,637	24,703	9,258,451	4,894	11,615	633,209	10,551,136
2030	119,126	309,119	7,491	17,637	162,266	24,435	9,258,451	4,841	11,615	633,209	10,548,190
2031	119,126	309,119	7,491	16,318	148,738	23,025	9,258,451	4,558	11,615	633,209	10,531,650
2032	119,126	309,119	7,491	16,094	148,755	22,675	9,258,451	4,489	11,615	633,209	10,531,024
2033	119,126	309,119	7,491	15,519	141,749	21,589	9,258,451	4,269	11,615	633,209	10,522,137
2034	119,126	309,119	7,491	14,536	132,273	20,777	9,258,451	4,045	11,615	633,209	10,510,342
2035	119,126	309,119	7,491	13,674	122,761	19,162	9,258,451	3,781	11,615	633,209	10,498,389
TOTAL	7,681,282	18,390,357	504,394	4,179,502	31,646,943	4,014,523	527,568,766	720,036	720,650	36,924,131	632,350,584

c) Charges under Amendment No. 18 of the water supply contract with Kern County Water Agency.

TABLE B-15: CAPITAL COST COMPONENT OF

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
1963	34,018	0	0	0	0	0	0	0	52,760	0
1964	64,086	20,513	14,712	4,456	37,901	1,166	29,002	8,369	84,381	35,680
1965	120,833	38,907	25,573	7,330	41,532	2,122	51,277	15,513	137,574	36,001
1966	219,798	73,556	45,565	12,710	74,503	3,824	92,088	28,198	236,760	62,592
1967	425,205	151,260	87,705	23,902	144,000	7,420	178,406	55,025	441,224	117,677
1968	683,548	297,411	143,610	39,261	236,198	12,003	291,643	88,932	743,172	198,087
1969	991,239	451,741	213,714	58,365	351,813	17,577	433,754	129,639	1,157,216	308,205
1970	1,293,773	576,468	301,412	86,361	496,448	23,875	602,745	174,580	1,722,258	451,822
1971	1,555,271	711,376	407,745	122,399	671,816	29,398	803,558	212,841	2,437,166	630,991
1972	1,689,226	801,808	463,307	139,949	763,450	31,909	911,799	230,873	2,858,800	733,970
1973	1,739,815	817,991	480,516	144,725	791,832	32,903	946,481	237,853	2,998,265	770,143
1974	1,758,238	858,872	488,739	148,984	805,394	33,231	958,835	240,249	3,089,460	791,051
1975	1,781,701	871,020	502,172	152,825	827,548	33,654	985,707	243,323	3,173,259	813,120
1976	1,794,869	881,144	512,204	155,561	844,092	33,911	1,006,022	245,089	3,252,686	834,245
1977	1,807,204	891,114	519,290	157,491	855,778	34,131	1,020,418	246,698	3,302,529	847,501
1978	1,817,565	903,380	524,027	158,831	863,590	34,326	1,029,935	248,091	3,333,173	855,560
1979	1,827,353	920,747	526,870	159,672	868,281	34,499	1,035,573	249,358	3,349,908	859,843
1980	1,846,879	958,365	531,312	160,852	875,605	34,825	1,044,640	251,783	3,371,723	865,708
1981	1,944,999	1,029,686	553,697	166,830	912,524	36,528	1,090,282	264,435	3,479,476	894,657
1982	1,934,480	1,053,581	550,713	166,262	907,602	36,356	1,083,827	263,132	3,470,097	891,875
1983	2,019,667	1,089,545	567,118	170,774	934,657	37,790	1,117,369	273,879	3,551,073	914,013
1984	2,148,705	1,118,080	592,235	177,989	976,079	39,957	1,168,503	290,125	3,682,685	950,077
1985	2,236,350	1,133,456	609,692	182,951	1,004,868	41,520	1,204,090	301,019	3,771,863	974,500
1986	2,281,945	1,139,552	621,121	186,243	1,023,717	42,356	1,227,325	306,929	3,830,075	990,421
1987	2,295,490	1,136,734	626,552	187,738	1,032,675	42,610	1,238,418	308,604	3,857,756	997,920
1988	2,321,549	1,144,518	631,531	189,096	1,040,885	43,047	1,248,596	311,834	3,881,291	1,004,277
1989	2,389,999	1,166,138	650,202	194,054	1,071,677	44,289	1,287,001	321,222	3,991,288	1,034,248
1990	2,436,980	1,182,319	667,526	198,904	1,100,248	45,039	1,322,461	327,001	4,090,200	1,061,260
1991	2,471,586	1,200,084	682,381	203,622	1,124,746	45,619	1,352,327	331,358	4,187,121	1,087,696
1992	2,484,656	1,211,212	688,986	206,879	1,135,640	45,860	1,364,543	333,085	4,252,794	1,105,616
1993	2,488,651	1,212,846	691,858	209,135	1,140,375	45,927	1,369,091	333,592	4,294,961	1,117,167
1994	2,490,520	1,213,413	692,495	209,978	1,141,426	45,959	1,369,791	333,826	4,309,875	1,121,259
1995	2,492,151	1,213,907	693,026	210,652	1,142,302	45,986	1,370,402	334,031	4,321,799	1,124,532
1996	2,493,778	1,214,400	693,318	210,726	1,142,784	46,013	1,371,012	334,236	4,323,107	1,124,892
1997	2,495,420	1,214,898	693,614	210,801	1,143,271	46,041	1,371,627	334,442	4,324,427	1,125,255
1998	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
1999	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2000	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2001	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2002	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2003	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2004	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2005	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2006	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2007	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2008	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2009	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2010	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2011	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2012	2,497,077	1,215,400	693,911	210,876	1,143,762	46,068	1,372,248	334,650	4,325,759	1,125,621
2013	2,463,058	1,215,400	693,911	210,876	1,130,124	46,068	1,372,248	334,650	4,272,999	1,112,258
2014	2,432,991	1,194,887	679,199	206,420	1,120,142	44,902	1,343,246	326,281	4,241,378	1,103,935
2015	2,376,243	1,176,493	668,338	203,546	1,102,231	43,946	1,320,970	319,137	4,188,185	1,089,620
2016	2,277,278	1,141,844	648,346	198,166	1,069,260	42,244	1,280,160	306,452	4,088,998	1,063,029
2017	2,071,872	1,064,140	606,206	186,974	999,763	38,649	1,193,842	279,625	3,884,535	1,007,944
2018	1,813,529	917,989	550,301	171,615	907,564	34,066	1,080,605	245,718	3,582,586	927,534
2019	1,505,838	763,659	480,198	152,512	791,949	28,492	938,494	205,010	3,168,543	817,417
2020	1,203,304	638,932	392,499	124,515	647,315	22,193	769,502	160,070	2,603,501	673,799
2021	941,806	504,024	286,167	88,477	471,947	16,670	568,690	121,809	1,888,593	494,631
2022	807,851	413,592	230,604	70,927	380,312	14,159	460,448	103,777	1,466,959	391,652
2023	757,262	397,409	213,395	66,151	351,930	13,166	425,767	96,797	1,327,494	355,479
2024	738,839	356,528	205,172	61,892	338,368	12,838	413,413	94,400	1,236,299	334,571
2025	715,376	344,381	191,739	58,051	316,214	12,415	386,541	91,327	1,152,500	312,502
2026	702,208	334,256	181,707	55,315	299,670	12,158	366,225	89,561	1,073,073	291,376
2027	689,873	324,286	174,622	53,385	287,984	11,937	351,830	87,951	1,023,230	278,121
2028	679,512	312,020	169,885	52,045	280,172	11,742	342,313	86,558	992,586	270,062
2029	669,724	294,653	167,041	51,204	275,482	11,569	336,675	85,292	975,851	265,778
2030	650,198	257,035	162,600	50,024	268,157	11,244	327,608	82,867	954,036	259,913
2031	552,077	185,714	140,214	44,046	231,239	9,540	281,965	70,215	846,283	230,964
2032	562,597	161,820	143,198	44,614	236,160	9,712	288,421	71,518	855,662	233,747
2033	477,409	125,855	126,794	40,102	209,106	8,279	254,878	60,771	774,686	211,609
2034	348,372	97,320	101,677	32,887	167,684	6,111	203,745	44,524	643,073	175,545
2035	260,727	81,944	84,220	27,925	138,894	4,549	168,158	33,631	553,896	151,122
TOTAL	124,031,646	60,435,223	34,401,236	10,431,117	56,703,354	2,289,340	68,038,012	16,626,855	214,043,533	55,668,784

TRANSPORTATION CHARGE FOR EACH CONTRACTOR (a (b

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR South Bay	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total		
	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)
1963	0	705,285	0	792,063	0	0	0	0	47,078	1,422,967
1964	22,165	1,285,222	9,574	1,617,227	0	0	0	0	84,962	2,558,954
1965	22,272	2,222,437	18,122	2,739,493	0	0	411	411	141,579	4,306,357
1966	38,660	3,974,345	34,082	4,896,681	0	0	574	574	165,938	6,822,310
1967	72,579	7,839,903	69,486	9,613,792	0	0	571	571	208,078	11,978,512
1968	122,290	14,628,623	136,030	17,620,808	0	0	574	574	286,307	21,146,356
1969	190,490	22,298,744	206,873	26,809,370	0	0	3,243	3,243	351,990	31,348,003
1970	280,034	29,577,589	263,330	35,850,695	0	0	15,368	15,368	374,420	40,672,548
1971	391,982	37,991,283	323,059	46,288,885	0	0	16,208	16,208	378,477	51,538,609
1972	456,116	44,940,160	361,502	54,382,869	0	0	17,616	17,616	379,320	60,832,829
1973	478,635	47,211,227	364,910	57,015,296	0	0	17,617	17,617	380,056	63,479,236
1974	491,934	49,272,731	379,982	59,317,700	0	0	17,618	17,618	380,559	66,309,296
1975	505,630	50,252,070	384,461	60,526,490	0	0	17,620	17,620	382,381	68,201,907
1976	518,777	51,120,250	388,832	61,587,682	0	0	17,621	17,621	382,819	69,672,917
1977	527,004	51,823,491	393,238	62,425,887	0	0	17,624	17,624	383,766	70,867,980
1978	532,005	52,437,537	399,039	63,137,059	0	0	17,625	17,625	384,959	72,086,803
1979	534,662	53,162,991	407,236	63,936,993	0	0	17,627	17,627	386,279	73,411,043
1980	538,279	54,611,263	425,191	65,516,425	0	0	17,628	17,628	387,667	75,484,589
1981	556,122	57,747,492	459,024	69,135,752	0	0	17,630	17,630	390,633	79,718,752
1982	554,432	58,535,584	470,463	69,918,404	0	0	17,632	17,632	390,373	80,983,997
1983	568,044	60,234,590	487,689	71,966,208	0	0	17,632	17,632	391,380	83,255,281
1984	590,219	61,932,120	501,288	74,168,062	0	0	17,633	17,633	395,688	86,286,729
1985	605,231	62,954,428	508,410	75,528,378	0	0	17,634	17,634	400,141	88,338,474
1986	615,017	63,482,985	511,276	76,258,962	0	0	17,636	17,636	400,824	90,500,977
1987	619,632	63,542,377	509,856	76,396,362	0	0	17,638	17,638	400,737	92,535,395
1988	623,539	63,946,437	513,538	76,900,138	0	0	17,639	17,639	402,245	94,729,673
1989	642,046	65,294,640	523,756	78,610,560	0	0	17,639	17,639	404,662	97,560,036
1990	658,689	66,400,512	531,271	80,022,410	0	0	17,639	17,639	408,196	99,694,699
1991	674,986	67,555,648	539,248	81,456,422	0	0	17,639	17,639	411,579	101,401,162
1992	686,031	68,301,535	544,529	82,361,366	0	0	17,639	17,639	413,048	102,876,123
1993	693,138	68,584,257	545,316	82,726,314	0	0	17,639	17,639	413,444	106,989,078
1994	695,653	68,683,989	545,589	82,853,773	0	0	17,639	17,639	413,633	111,894,904
1995	697,663	68,765,182	545,827	82,957,460	0	0	17,639	17,639	413,822	115,757,964
1996	697,884	68,789,503	546,064	82,987,717	0	0	17,639	17,639	414,011	116,754,411
1997	698,106	68,814,042	546,304	83,018,248	0	0	17,639	17,639	414,203	116,840,409
1998	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,915,934
1999	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2000	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2001	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2002	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2003	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2004	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2005	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2006	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2007	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2008	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2009	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2010	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2011	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2012	698,331	68,838,813	546,546	83,049,062	0	0	17,639	17,639	414,396	116,944,410
2013	690,016	68,133,528	546,546	82,221,682	0	0	17,639	17,639	367,318	115,480,253
2014	684,873	67,553,591	536,972	81,468,817	0	0	17,639	17,639	329,434	114,400,200
2015	676,059	66,616,376	528,424	80,309,568	0	0	17,228	17,228	272,817	112,610,498
2016	659,671	64,864,468	512,464	78,152,380	0	0	17,066	17,066	248,458	110,091,992
2017	625,752	60,998,910	477,061	73,435,273	0	0	17,068	17,068	206,317	104,931,818
2018	576,041	54,210,190	410,516	65,428,254	0	0	17,066	17,066	128,089	96,366,339
2019	507,841	46,540,069	339,673	56,239,695	0	0	14,396	14,396	62,405	86,806,390
2020	418,297	39,261,224	283,216	47,198,367	0	0	2,271	2,271	39,976	77,618,153
2021	306,349	30,847,530	223,487	36,760,180	0	0	1,431	1,431	35,919	67,132,255
2022	242,215	23,898,653	185,044	28,666,193	0	0	23	23	35,076	59,014,844
2023	219,696	21,627,586	181,636	26,033,768	0	0	23	23	34,339	56,337,564
2024	206,397	19,566,082	166,564	23,731,363	0	0	22	22	33,837	54,023,022
2025	192,700	18,586,743	162,085	22,522,574	0	0	19	19	32,015	52,790,294
2026	179,554	17,718,563	157,714	21,461,380	0	0	18	18	31,577	51,400,621
2027	171,326	17,015,322	153,309	20,623,176	0	0	15	15	30,630	50,532,776
2028	166,325	16,401,276	147,507	19,912,003	0	0	14	14	29,437	49,777,521
2029	163,668	15,675,822	139,310	19,112,069	0	0	12	12	28,117	48,947,240
2030	160,052	14,227,550	121,355	17,532,639	0	0	11	11	26,729	47,320,794
2031	142,209	11,091,321	87,522	13,913,309	0	0	10	10	23,763	43,590,216
2032	143,899	10,303,229	76,083	13,130,660	0	0	8	8	24,023	42,794,024
2033	130,287	8,604,223	58,858	11,082,857	0	0	7	7	23,016	40,663,589
2034	108,112	6,906,693	45,259	8,881,002	0	0	6	6	18,708	38,249,577
2035	93,100	5,884,385	38,136	7,520,687	0	0	5	5	14,255	36,564,320
TOTAL	34,539,350	3,418,036,001	27,171,326	4,122,415,777	0	0	881,952	881,952	20,657,449	5,769,841,254

TABLE B-16A: MINIMUM OMP&R COMPONENT OF

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	9,699	8,868	0	18,567	0	0	0
1963	0	0	0	38,048	34,788	82,896	155,732	0	0	0
1964	0	0	0	41,148	38,323	91,320	170,791	0	0	0
1965	0	0	0	78,529	75,616	195,792	349,937	0	0	0
1966	0	0	0	79,753	78,779	218,544	377,076	0	0	0
1967	0	0	0	127,896	123,666	335,224	586,786	0	0	0
1968	130	0	130	126,058	120,563	333,506	580,127	11,801	21,769	33,570
1969	80,875	0	80,875	145,410	138,051	372,584	656,045	63,112	116,434	179,546
1970	94,872	0	94,872	128,993	120,246	320,663	569,902	74,187	136,867	211,054
1971	45,579	0	45,579	113,071	108,346	296,004	517,421	74,011	136,541	210,552
1972	37,895	0	37,895	122,407	117,483	334,366	574,256	79,195	146,107	225,302
1973	32,993	0	32,993	122,738	116,785	325,727	565,250	75,714	139,685	215,399
1974	46,498	0	46,498	154,434	146,929	403,081	704,444	76,531	141,190	217,721
1975	37,707	0	37,707	189,176	182,087	513,823	885,086	92,605	170,845	263,450
1976	60,786	0	60,786	203,063	193,436	524,814	921,313	94,933	175,142	270,075
1977	78,400	0	78,400	179,911	169,103	500,192	849,206	102,969	189,966	292,935
1978	58,235	0	58,235	245,235	234,278	660,772	1,140,285	106,240	196,002	302,242
1979	73,852	0	73,852	236,986	232,104	666,743	1,135,833	100,757	185,884	286,641
1980	81,770	0	81,770	389,583	372,191	1,010,846	1,772,620	124,630	229,928	354,558
1981	100,783	0	100,783	316,556	301,500	832,342	1,450,398	137,330	253,359	390,689
1982	194,252	0	194,252	394,406	376,879	1,119,143	1,890,428	142,118	262,190	404,308
1983	108,774	0	108,774	438,361	430,232	1,276,582	2,145,175	169,123	312,013	481,136
1984	97,111	0	97,111	570,293	545,615	1,731,385	2,847,293	188,073	346,974	535,047
1985	219,489	0	219,489	674,488	655,542	1,827,341	3,157,371	238,030	439,134	677,164
1986	193,718	0	193,718	601,052	576,176	1,742,887	2,920,115	219,469	404,893	624,362
1987	271,057	0	271,057	667,437	634,516	1,922,128	3,224,081	231,495	427,081	658,576
1988	168,530	0	168,530	841,434	803,681	2,213,150	3,858,265	294,620	543,540	838,160
1989	431,647	739,599	1,171,246	945,801	899,806	2,415,308	4,260,915	317,570	585,881	903,451
1990	463,245	748,683	1,211,928	927,792	882,564	2,376,680	4,187,036	320,883	591,991	912,874
1991	464,900	746,874	1,211,774	841,371	804,046	2,192,697	3,838,114	317,867	586,426	904,293
1992	464,289	745,897	1,210,186	839,491	802,276	2,188,022	3,829,789	317,056	584,931	901,987
1993	464,657	746,548	1,211,205	840,010	802,775	2,189,410	3,832,195	318,466	587,531	905,997
1994	465,924	748,883	1,214,807	841,695	804,383	2,193,810	3,839,888	319,162	588,816	907,978
1995	468,066	753,156	1,221,222	846,396	808,819	2,205,494	3,860,709	339,554	626,439	965,993
1996	468,100	753,232	1,221,332	846,403	808,825	2,205,508	3,860,736	850,436	1,595,728	2,446,164
1997	469,291	755,893	1,225,184	847,275	809,633	2,207,491	3,864,399	852,510	1,600,097	2,452,607
1998	469,413	756,165	1,225,578	847,367	809,718	2,207,704	3,864,789	852,728	1,600,555	2,453,283
1999	470,724	759,090	1,229,814	848,344	810,623	2,209,923	3,868,890	855,003	1,605,347	2,460,350
2000	471,833	761,563	1,233,396	849,174	811,392	2,211,813	3,872,379	856,936	1,609,420	2,466,356
2001	472,831	763,340	1,236,171	850,620	812,776	2,215,623	3,879,019	859,351	1,614,006	2,473,357
2002	473,859	765,638	1,239,497	852,296	814,318	2,219,352	3,885,966	861,652	1,618,715	2,480,367
2003	474,820	767,781	1,242,601	877,323	838,492	2,285,438	4,001,253	863,319	1,622,228	2,485,547
2004	482,811	779,430	1,262,241	880,291	841,274	2,292,487	4,014,052	867,520	1,630,492	2,498,012
2005	483,097	780,068	1,263,165	880,504	841,471	2,292,969	4,014,944	868,018	1,631,533	2,499,551
2006	483,965	782,004	1,265,969	881,153	842,072	2,294,449	4,017,674	875,040	1,644,952	2,519,992
2007	484,097	782,298	1,266,395	881,248	842,159	2,294,665	4,018,072	875,262	1,645,415	2,520,677
2008	484,930	784,156	1,269,086	881,869	842,737	2,296,079	4,020,685	876,709	1,648,465	2,525,174
2009	485,790	786,075	1,271,865	882,514	843,334	2,297,545	4,023,393	878,205	1,651,619	2,529,824
2010	485,829	786,163	1,271,992	882,543	843,358	2,297,610	4,023,511	878,271	1,651,756	2,530,027
2011	484,019	783,007	1,267,026	879,789	840,720	2,290,306	4,010,815	873,784	1,643,299	2,517,083
2012	484,836	784,829	1,269,665	880,399	841,287	2,291,697	4,013,383	875,201	1,646,292	2,521,493
2013	484,874	784,913	1,269,787	880,426	841,312	2,291,757	4,013,495	875,258	1,646,415	2,521,673
2014	484,955	785,094	1,270,049	880,487	841,368	2,291,898	4,013,753	875,401	1,646,712	2,522,113
2015	485,231	785,708	1,270,939	880,692	841,558	2,292,365	4,014,615	875,876	1,647,717	2,523,593
2016	486,025	787,477	1,273,502	881,286	842,109	2,293,714	4,017,109	877,254	1,650,616	2,527,870
2017	486,021	787,472	1,273,493	881,284	842,106	2,293,712	4,017,102	877,250	1,650,604	2,527,854
2018	485,377	786,028	1,271,405	880,799	841,656	2,292,610	4,015,065	876,119	1,648,227	2,524,346
2019	485,359	785,988	1,271,347	880,782	841,642	2,292,572	4,014,996	876,081	1,648,140	2,524,221
2020	485,155	785,526	1,270,681	879,548	840,512	2,289,864	4,009,924	875,108	1,646,256	2,521,364
2021	485,166	785,550	1,270,716	851,020	812,920	2,214,225	3,878,165	875,126	1,646,289	2,521,415
2022	477,768	775,522	1,253,290	849,830	811,831	2,211,626	3,873,287	873,567	1,643,394	2,516,961
2023	477,770	775,526	1,253,296	849,830	811,832	2,211,629	3,873,291	873,569	1,643,395	2,516,964
2024	476,987	774,650	1,251,637	848,191	810,254	2,207,346	3,865,791	863,211	1,624,172	2,487,383
2025	476,989	774,659	1,251,648	848,190	810,252	2,207,346	3,865,788	863,213	1,624,173	2,487,386
2026	476,989	774,654	1,251,643	848,187	810,251	2,207,340	3,865,778	863,209	1,624,161	2,487,370
2027	476,969	774,614	1,251,583	848,183	810,235	2,207,305	3,865,711	863,176	1,624,090	2,487,266
2028	476,991	774,662	1,251,653	848,183	810,246	2,207,328	3,865,757	863,203	1,624,149	2,487,352
2029	476,967	774,610	1,251,577	848,163	810,226	2,207,282	3,865,671	863,115	1,623,977	2,487,092
2030	476,971	774,617	1,251,588	848,160	810,225	2,207,277	3,865,662	863,109	1,623,963	2,487,072
2031	476,972	774,620	1,251,592	848,158	810,221	2,207,268	3,865,647	863,101	1,623,941	2,487,042
2032	477,679	776,197	1,253,876	848,684	810,711	2,208,469	3,867,864	864,321	1,626,517	2,490,838
2033	477,697	776,238	1,253,935	848,699	810,723	2,208,502	3,867,924	864,353	1,626,586	2,490,939
2034	477,702	776,251	1,253,953	848,701	810,724	2,208,505	3,867,930	864,359	1,626,592	2,490,951
2035	477,691	776,223	1,253,914	848,689	810,714	2,208,475	3,867,878	864,332	1,626,540	2,490,872
TOTAL	24,486,584	36,287,171	60,773,755	47,843,993	45,728,269	125,492,350	219,064,612	39,660,757	74,404,104	114,064,861

a) Unadjusted for prior overpayments or underpayments of charges. Excludes charges for Off-Aqueduct power facilities, which are shown separately in Table B-16B.

TRANSPORTATION CHARGE FOR EACH CONTRACTOR(a)

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
	(11)	(12)	(13)	(14)	Municipal and Industrial (15)	Agricultural (16)	(17)	(18)	(19)	(20)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	8,363	37,806	1,963	5,639	60,702	678,085	2,007	2,073	77,592	874,230
1969	44,176	45,479	2,237	30,159	80,553	1,197,126	2,286	2,086	90,772	1,494,874
1970	51,905	46,969	2,292	35,450	96,672	1,381,493	2,345	2,158	93,407	1,712,691
1971	51,785	47,997	2,315	35,365	106,654	1,643,161	2,366	2,288	94,874	1,986,805
1972	55,410	49,867	2,414	37,845	122,312	1,729,170	2,470	2,254	98,776	2,100,518
1973	52,980	50,005	2,386	36,180	125,553	1,719,871	2,439	2,310	98,329	2,090,053
1974	53,560	52,816	2,557	36,571	135,661	1,823,063	2,615	2,529	104,610	2,213,982
1975	64,819	66,962	3,242	44,250	162,739	2,235,242	3,317	3,191	132,663	2,716,425
1976	66,442	66,504	3,327	45,365	159,304	2,215,996	3,404	2,919	133,940	2,697,201
1977	72,081	75,670	3,814	49,203	189,781	2,523,621	3,904	3,716	152,989	3,074,779
1978	74,358	74,690	3,712	50,767	185,734	2,535,133	3,797	3,904	149,887	3,081,982
1979	70,514	68,899	3,437	48,147	173,711	2,378,682	3,516	3,492	138,537	2,888,935
1980	87,255	95,903	4,724	59,554	235,749	3,146,693	4,830	4,778	191,591	3,831,077
1981	96,206	118,560	5,972	65,624	266,082	3,431,617	6,106	5,189	239,574	4,234,930
1982	99,603	135,684	6,791	67,909	315,498	3,893,765	6,944	6,455	273,282	4,805,931
1983	118,606	182,171	9,123	80,815	421,173	4,967,858	9,329	8,379	367,035	6,164,489
1984	131,877	197,181	9,839	89,871	475,744	5,570,951	10,060	9,258	396,551	6,891,332
1985	166,828	229,988	11,488	113,741	550,464	6,573,856	11,749	11,069	462,793	8,131,976
1986	153,817	214,308	10,710	104,870	538,270	6,338,236	10,953	11,228	431,343	7,813,735
1987	162,209	216,534	10,805	110,620	557,184	6,572,230	11,051	11,982	435,482	8,088,097
1988	206,324	242,043	12,019	140,784	619,901	7,600,742	12,293	14,101	485,578	9,333,785
1989	222,429	270,075	13,434	151,751	661,663	8,169,944	13,740	15,819	542,302	10,061,157
1990	224,769	278,306	13,853	153,332	676,682	8,340,439	14,170	16,340	559,042	10,276,933
1991	222,650	273,524	13,585	151,891	672,574	8,272,722	13,896	15,702	548,791	10,185,335
1992	222,078	272,047	13,508	151,505	669,877	8,241,055	13,818	15,584	545,783	10,145,255
1993	223,060	272,261	13,519	152,177	670,682	8,257,908	13,825	15,590	546,180	10,165,202
1994	223,551	272,885	13,550	152,511	672,099	8,275,949	13,857	15,614	547,435	10,187,451
1995	237,787	277,133	13,768	162,256	679,500	8,277,164	14,081	15,968	556,087	10,233,744
1996	237,803	277,156	13,769	162,267	679,570	8,277,942	14,082	15,968	556,136	10,234,693
1997	238,273	277,872	13,803	162,588	681,308	8,298,505	14,118	15,990	557,551	10,260,008
1998	238,323	277,950	13,808	162,621	681,509	8,300,849	14,120	15,992	557,712	10,262,884
1999	238,838	278,726	13,843	162,973	683,398	8,323,240	14,160	16,015	559,252	10,290,445
2000	239,278	279,397	13,876	163,272	685,048	8,342,667	14,193	16,035	560,588	10,314,354
2001	239,711	279,971	13,907	163,567	686,318	8,358,519	14,223	16,058	561,738	10,334,012
2002	240,478	282,214	14,020	164,087	690,439	8,405,513	14,340	16,236	566,301	10,393,628
2003	240,855	282,786	14,048	164,346	691,835	8,422,051	14,368	16,253	567,437	10,413,979
2004	242,689	287,997	14,317	165,587	703,931	8,564,462	14,642	16,512	578,071	10,588,208
2005	242,802	288,165	14,324	165,664	704,336	8,569,310	14,650	16,517	578,404	10,594,172
2006	245,318	288,935	14,352	167,389	708,871	8,627,802	14,677	16,533	579,726	10,663,603
2007	245,366	289,999	14,354	167,420	709,028	8,629,686	14,681	16,535	579,854	10,665,923
2008	245,694	289,501	14,379	167,645	710,246	8,644,093	14,706	16,550	580,848	10,683,662
2009	246,035	290,017	14,404	167,877	711,507	8,658,991	14,732	16,565	581,874	10,702,002
2010	246,048	290,036	14,404	167,885	711,553	8,659,552	14,733	16,566	581,912	10,702,689
2011	245,271	289,059	14,353	167,351	709,878	8,637,119	14,680	16,522	579,901	10,674,134
2012	245,592	289,548	14,378	167,575	711,070	8,651,238	14,705	16,537	580,875	10,691,518
2013	245,605	289,565	14,378	167,583	711,101	8,651,650	14,706	16,537	580,905	10,692,030
2014	245,633	289,613	14,379	167,602	711,222	8,653,072	14,707	16,539	581,004	10,693,771
2015	245,744	289,778	14,389	167,679	711,622	8,657,789	14,717	16,544	581,330	10,699,592
2016	246,057	290,251	14,412	167,889	712,767	8,671,383	14,740	16,558	582,270	10,716,327
2017	246,056	290,249	14,412	167,887	712,766	8,671,375	14,740	16,558	582,269	10,716,312
2018	245,796	289,857	14,393	167,714	711,812	8,660,046	14,720	16,547	581,489	10,702,374
2019	245,784	289,831	14,392	167,705	711,742	8,659,312	14,719	16,546	581,441	10,701,472
2020	245,273	287,768	14,285	167,361	708,309	8,620,766	14,610	16,354	577,213	10,651,939
2021	245,277	287,771	14,285	167,362	708,312	8,620,802	14,610	16,354	577,219	10,651,992
2022	244,195	282,934	14,035	166,633	697,214	8,492,323	14,352	16,098	567,298	10,495,082
2023	239,978	281,904	14,000	163,745	690,401	8,401,597	14,319	16,070	565,574	10,387,588
2024	239,978	281,898	14,000	163,745	690,386	8,401,454	14,318	16,070	565,564	10,387,413
2025	239,978	281,898	14,000	163,745	690,386	8,401,454	14,318	16,070	565,564	10,387,413
2026	239,976	281,893	14,000	163,744	690,372	8,401,317	14,318	16,070	565,554	10,387,244
2027	239,965	281,876	14,000	163,738	690,337	8,400,887	14,317	16,070	565,522	10,386,712
2028	239,970	281,874	14,000	163,739	690,330	8,400,849	14,317	16,069	565,516	10,386,664
2029	239,928	281,722	13,998	163,712	688,861	8,385,936	14,316	16,069	565,322	10,369,864
2030	239,924	281,705	13,996	163,707	688,816	8,385,465	14,315	16,069	565,290	10,369,287
2031	239,916	281,688	13,995	163,705	688,770	8,384,971	14,314	16,069	565,259	10,368,687
2032	240,194	282,099	14,014	163,891	689,770	8,396,859	14,334	16,081	566,080	10,383,322
2033	240,201	282,116	14,015	163,898	689,812	8,397,291	14,335	16,081	566,110	10,383,859
2034	240,201	282,109	14,014	163,897	689,788	8,397,081	14,334	16,081	566,097	10,383,602
2035	240,192	282,092	14,014	163,892	689,748	8,396,643	14,334	16,081	566,064	10,383,060
TOTAL	13,163,854	15,624,121	776,164	8,981,726	38,213,825	467,964,398	793,822	876,973	31,351,086	577,745,969

TABLE B-16A: MINIMUM OMP&R COMPONENT OF

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Little Rock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	65,073	19,721	11,697	2,958	19,290	1,088	24,380	8,171	52,314	14,399
1969	86,340	26,169	15,522	3,924	25,595	1,444	32,346	10,843	69,418	19,106
1970	107,806	32,675	19,391	4,902	31,979	1,802	40,392	13,540	86,726	23,866
1971	178,822	54,193	32,230	8,152	53,149	2,991	66,998	22,459	144,137	39,636
1972	363,554	147,218	106,741	30,966	176,039	6,603	213,029	48,104	548,122	144,113
1973	404,662	169,787	121,341	34,673	200,118	7,347	243,320	53,976	724,532	190,155
1974	434,864	181,966	130,629	37,060	215,431	7,678	262,736	56,382	786,108	207,020
1975	504,790	224,685	151,033	43,179	249,085	9,082	303,109	65,579	905,424	238,842
1976	559,011	195,976	160,688	44,454	265,002	10,030	325,512	73,253	964,525	256,572
1977	675,631	263,725	184,833	47,750	304,832	11,888	381,208	87,370	1,069,549	289,821
1978	669,223	326,671	201,623	57,846	332,520	11,859	403,403	86,932	1,228,943	322,789
1979	661,159	278,576	196,271	52,214	323,690	12,125	401,480	87,130	1,125,481	302,518
1980	858,071	328,330	253,508	72,027	418,090	15,433	509,243	112,859	1,520,287	401,739
1981	996,216	408,653	283,159	73,705	466,984	17,915	582,934	131,136	1,550,808	420,081
1982	1,140,131	464,143	324,369	90,516	534,948	20,403	656,140	149,529	1,890,622	503,203
1983	1,780,411	736,211	453,627	117,816	748,116	31,200	935,229	230,067	2,341,319	636,443
1984	2,211,723	720,925	595,110	168,668	981,462	38,853	1,194,425	285,717	3,334,371	879,601
1985	2,423,383	912,156	636,072	169,777	1,049,007	42,871	1,300,182	310,768	3,425,661	917,492
1986	2,397,802	947,973	636,051	166,393	1,048,970	41,480	1,306,402	305,753	3,355,000	907,298
1987	2,479,979	917,563	640,003	169,394	1,055,492	43,494	1,310,336	319,626	3,402,446	916,567
1988	2,631,898	996,034	727,771	201,577	1,200,241	46,912	1,474,977	343,523	4,105,215	1,096,099
1989	2,691,733	1,012,404	745,987	206,793	1,230,286	48,093	1,514,287	351,859	4,221,719	1,130,016
1990	2,706,786	1,050,196	744,328	200,975	1,227,544	48,375	1,519,344	353,926	4,136,081	1,111,553
1991	2,705,715	1,033,456	753,010	208,104	1,241,862	48,457	1,524,655	354,297	4,270,806	1,137,367
1992	2,700,472	1,021,568	739,373	192,713	1,219,365	48,358	1,521,635	353,597	3,996,363	1,082,861
1993	2,703,226	1,024,689	754,196	210,056	1,243,816	48,411	1,522,912	353,947	4,304,953	1,142,849
1994	2,708,454	1,015,747	751,913	205,535	1,240,056	48,515	1,526,668	354,698	4,225,878	1,128,228
1995	2,719,404	1,047,309	760,013	212,155	1,253,414	48,727	1,533,544	356,230	4,345,878	1,152,800
1996	2,719,792	1,034,262	752,454	202,752	1,240,948	48,737	1,533,917	356,293	4,178,786	1,120,267
1997	2,728,194	1,039,854	768,082	218,273	1,266,722	48,935	1,541,549	357,619	4,455,205	1,175,591
1998	2,729,224	1,022,781	767,789	217,469	1,266,234	48,959	1,542,506	357,783	4,440,952	1,172,982
1999	2,738,405	1,052,408	756,762	200,110	1,248,041	49,171	1,550,856	359,230	4,133,020	1,114,434
2000	2,746,357	1,099,699	762,923	204,261	1,258,210	49,354	1,558,083	360,487	4,207,346	1,130,252
2001	2,750,240	1,016,293	768,812	210,309	1,267,928	49,427	1,560,544	361,016	4,315,840	1,151,917
2002	2,760,378	1,035,217	809,185	256,016	1,334,532	49,645	1,568,274	362,525	5,128,660	1,311,892
2003	2,766,887	1,049,870	772,851	208,767	1,274,587	49,797	1,574,423	363,565	4,289,394	1,149,285
2004	2,806,546	1,166,540	777,086	204,853	1,281,572	50,509	1,593,902	368,757	4,221,131	1,139,453
2005	2,808,562	1,131,663	769,747	195,021	1,269,453	50,552	1,595,754	369,076	4,046,527	1,105,725
2006	2,839,179	1,015,702	817,196	246,068	1,347,732	51,106	1,610,533	373,124	4,954,106	1,285,388
2007	2,843,876	1,147,501	782,403	196,720	1,290,330	51,236	1,625,190	373,977	4,084,224	1,118,672
2008	2,849,750	1,136,822	807,175	224,492	1,331,192	51,371	1,630,523	374,902	4,578,158	1,216,009
2009	2,855,857	1,078,704	819,361	236,785	1,351,298	51,512	1,636,080	375,870	4,797,054	1,259,730
2010	2,856,071	1,127,320	820,920	238,599	1,353,874	51,517	1,636,270	375,901	4,829,332	1,266,061
2011	2,851,779	1,094,645	809,060	225,436	1,334,304	51,436	1,633,440	375,326	4,593,367	1,219,402
2012	2,857,527	1,146,930	812,820	227,585	1,340,499	51,571	1,638,659	376,229	4,632,033	1,227,898
2013	2,857,781	1,060,120	817,863	233,634	1,348,828	51,575	1,638,909	376,271	4,739,544	1,248,920
2014	2,858,334	1,158,140	830,855	249,274	1,370,264	51,588	1,639,407	376,357	5,017,495	1,303,238
2015	2,860,290	1,059,763	769,006	172,888	1,268,220	51,631	1,641,193	376,665	3,660,155	1,038,755
2016	2,865,823	1,165,584	812,290	223,418	1,339,627	51,761	1,646,215	377,538	4,558,537	1,214,945
2017	2,865,853	1,109,090	833,272	249,032	1,374,246	51,763	1,646,244	377,542	5,013,748	1,303,759
2018	2,861,254	1,107,708	818,439	232,863	1,349,780	51,654	1,642,079	376,816	4,726,044	1,246,868
2019	2,861,000	1,137,098	814,685	228,372	1,343,579	51,648	1,641,866	376,779	4,646,246	1,231,262
2020	2,856,081	1,115,566	819,700	235,754	1,351,860	51,555	1,639,180	376,111	4,777,328	1,256,352
2021	2,856,020	1,078,882	802,883	215,240	1,324,109	51,555	1,639,113	376,100	4,412,758	1,185,220
2022	2,822,422	1,150,312	803,868	222,329	1,325,738	50,998	1,626,498	371,931	4,538,879	1,207,661
2023	2,822,354	1,084,588	820,616	242,822	1,353,372	50,997	1,626,424	371,917	4,903,098	1,278,704
2024	2,777,925	1,092,729	777,636	198,559	1,282,469	50,248	1,608,815	366,308	4,115,370	1,121,909
2025	2,771,239	1,073,546	780,858	213,675	1,287,789	50,057	1,584,898	365,056	4,371,806	1,167,032
2026	2,771,185	1,097,439	779,022	211,457	1,284,757	50,055	1,584,848	365,049	4,332,372	1,159,331
2027	2,771,029	1,017,563	840,414	286,518	1,386,057	50,055	1,584,710	365,025	5,666,391	1,419,563
2028	2,771,107	1,146,547	730,210	151,855	1,204,228	50,055	1,584,804	365,038	3,273,116	952,672
2029	2,765,991	1,051,120	783,615	218,027	1,292,343	49,967	1,582,796	364,390	4,449,184	1,181,761
2030	2,765,905	1,063,124	785,804	220,730	1,295,952	49,966	1,582,740	364,377	4,497,179	1,191,123
2031	2,765,782	1,079,374	783,499	217,959	1,292,150	49,963	1,582,644	364,357	4,447,935	1,181,495
2032	2,770,630	1,085,438	826,924	268,957	1,363,799	50,075	1,587,039	365,120	5,354,613	1,359,183
2033	2,770,715	1,078,817	763,980	192,050	1,259,943	50,076	1,587,077	365,134	3,987,765	1,092,536
2034	2,770,523	1,117,546	779,915	211,620	1,286,235	50,070	1,586,853	365,096	4,335,606	1,160,357
2035	2,770,427	1,196,908	832,624	276,039	1,373,201	50,070	1,586,779	365,085	5,480,426	1,383,689
TOTAL	152,704,633	59,281,932	42,913,093	11,920,890	70,772,385	2,743,651	86,732,460	20,037,013	243,323,416	64,664,327

TRANSPORTATION CHARGE FOR EACH CONTRACTOR(a)

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR		GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay		
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	
1960	0	0	0	0	0	0	0	0	0	0	
1961	0	0	0	0	0	0	0	0	0	0	
1962	0	0	0	0	0	0	0	0	0	18,567	
1963	0	0	0	0	0	0	0	0	12,626	168,358	
1964	0	0	0	0	0	0	0	0	13,938	184,729	
1965	0	0	0	0	0	0	0	0	28,937	378,874	
1966	0	0	0	0	0	0	0	0	31,321	408,397	
1967	0	0	0	0	0	0	0	0	47,719	634,505	
1968	8,819	972,744	9,504	1,210,158	0	0	0	0	46,945	2,745,160	
1969	11,706	1,295,613	12,610	1,610,636	0	0	0	0	52,963	4,074,939	
1970	14,621	1,624,573	15,745	2,018,018	0	0	0	0	69,745	4,676,282	
1971	24,302	2,716,582	26,120	3,369,771	0	0	54	54	55,532	6,185,714	
1972	89,132	8,038,457	68,368	9,980,446	0	0	40	40	80,412	12,998,869	
1973	117,781	9,890,314	78,312	12,236,318	0	0	1	1	54,219	15,194,233	
1974	128,166	11,581,499	83,451	14,112,990	0	0	143	143	76,783	17,372,561	
1975	147,900	13,584,540	101,892	16,529,140	0	0	1,069	1,069	84,546	20,517,423	
1976	158,663	12,862,497	94,799	15,970,982	0	0	139	139	106,717	20,027,213	
1977	178,791	16,205,614	121,985	19,822,997	0	0	892	892	98,631	24,217,840	
1978	199,987	19,059,647	143,301	23,044,744	0	0	39	39	103,008	27,730,535	
1979	186,691	16,414,828	126,764	20,168,927	0	0	3,235	3,235	119,352	24,676,775	
1980	248,717	20,937,344	154,101	25,829,749	0	0	416	416	178,817	32,049,007	
1981	259,081	23,516,414	184,629	28,891,715	0	0	3,847	3,847	184,089	35,256,451	
1982	311,255	28,255,646	211,420	34,552,325	0	0	10,956	10,956	184,197	42,042,397	
1983	391,982	39,892,342	334,057	48,628,820	0	0	-422	-422	232,032	57,760,004	
1984	544,653	44,391,365	356,262	55,703,135	0	0	643	643	215,255	66,289,816	
1985	566,303	51,854,464	435,153	64,043,289	0	0	2,599	2,599	344,234	76,576,122	
1986	559,564	53,233,137	446,435	65,352,258	0	0	2,595	2,595	294,278	77,201,061	
1987	565,610	52,261,893	433,838	64,516,241	0	0	2,595	2,595	329,058	77,089,705	
1988	677,537	58,425,739	467,955	72,395,478	0	0	2,600	2,600	412,421	87,009,239	
1989	698,138	59,706,773	475,577	74,033,665	0	0	2,672	2,672	456,006	90,889,112	
1990	686,348	61,987,667	487,561	76,260,684	0	0	2,714	2,714	454,967	93,307,136	
1991	703,435	61,385,027	481,615	75,847,806	0	0	2,709	2,709	426,170	92,416,201	
1992	667,854	59,919,886	477,309	73,941,354	0	0	2,712	2,712	424,956	90,456,239	
1993	707,193	60,905,802	478,466	75,400,519	0	0	2,717	2,717	425,252	91,943,087	
1994	697,503	60,450,027	475,789	74,829,011	0	0	2,728	2,728	426,408	91,408,271	
1995	713,443	62,079,358	486,618	76,708,893	0	0	2,728	2,728	429,237	93,422,526	
1996	692,118	61,068,018	482,362	75,430,706	0	0	2,728	2,728	429,214	93,625,573	
1997	728,171	62,416,086	484,536	77,228,817	0	0	2,728	2,728	430,213	95,463,956	
1998	726,440	61,678,981	478,991	76,451,091	0	0	2,728	2,728	430,323	94,690,676	
1999	687,857	62,368,924	489,065	76,748,283	0	0	2,728	2,728	431,468	95,031,978	
2000	698,044	63,787,575	504,865	78,367,456	0	0	2,728	2,728	432,447	96,689,116	
2001	712,170	61,318,599	477,746	75,960,841	0	0	2,731	2,731	433,436	94,319,567	
2002	816,799	64,754,345	484,367	80,671,835	0	0	2,731	2,731	434,666	99,108,690	
2003	710,088	63,026,696	489,438	77,725,648	0	0	2,731	2,731	447,030	96,318,789	
2004	703,152	67,316,880	530,060	82,160,441	0	0	2,731	2,731	448,890	100,974,575	
2005	681,004	65,398,129	518,726	79,939,939	0	0	2,731	2,731	449,139	98,763,641	
2006	798,361	64,242,946	482,172	80,063,613	0	0	2,731	2,731	449,904	98,983,486	
2007	688,702	66,467,803	525,777	81,196,411	0	0	2,731	2,731	450,009	100,120,218	
2008	752,347	67,639,300	522,521	83,114,562	0	0	2,731	2,731	450,744	102,066,644	
2009	780,853	66,465,547	503,750	82,212,401	0	0	2,731	2,731	451,501	101,193,717	
2010	784,999	67,841,441	519,672	83,701,977	0	0	2,731	2,731	451,533	102,684,460	
2011	754,508	65,972,327	508,746	81,423,776	0	0	2,726	2,726	449,713	100,345,273	
2012	759,946	68,086,746	526,093	83,684,536	0	0	2,726	2,726	450,433	102,633,754	
2013	773,713	65,245,818	497,695	80,890,671	0	0	2,726	2,726	450,465	99,840,847	
2014	809,293	69,687,844	529,792	85,881,881	0	0	2,726	2,726	450,539	104,834,832	
2015	635,940	62,135,199	497,680	76,167,385	0	0	2,726	2,726	450,777	95,129,627	
2016	751,261	68,709,521	532,538	84,249,058	0	0	2,726	2,726	451,476	103,238,068	
2017	809,458	66,855,563	514,051	83,003,621	0	0	2,726	2,726	451,476	101,992,584	
2018	772,284	66,192,127	513,407	81,891,323	0	0	2,726	2,726	450,905	100,858,144	
2019	762,063	67,918,104	523,016	83,535,718	0	0	2,726	2,726	450,882	102,501,362	
2020	778,580	66,761,258	515,749	82,535,074	0	0	2,726	2,726	450,310	101,442,018	
2021	731,966	64,852,897	503,742	80,030,485	0	0	2,726	2,726	436,797	98,792,296	
2022	746,979	68,235,149	524,855	83,627,619	0	0	2,726	2,726	436,353	102,205,318	
2023	793,534	66,967,371	503,343	82,819,140	0	0	2,726	2,726	436,353	101,396,728	
2024	691,233	63,839,666	503,887	78,426,754	0	0	2,726	2,726	435,583	96,857,462	
2025	721,481	64,844,932	496,866	79,729,235	0	0	2,726	2,726	435,580	98,159,776	
2026	716,435	65,027,608	504,684	79,884,242	0	0	2,726	2,726	435,576	98,314,579	
2027	886,962	66,088,017	478,537	82,840,841	0	0	2,726	2,726	435,556	101,270,395	
2028	581,022	63,399,176	520,752	76,730,582	0	0	2,726	2,726	435,565	95,160,299	
2029	731,191	63,526,951	489,283	78,486,619	0	0	2,726	2,726	435,540	96,899,089	
2030	737,319	64,852,638	493,206	79,900,063	0	0	2,726	2,726	435,533	98,311,931	
2031	731,016	64,649,548	498,520	79,644,242	0	0	2,726	2,726	435,527	98,055,463	
2032	847,341	67,852,398	500,699	84,232,216	0	0	2,726	2,726	436,147	102,666,989	
2033	672,610	63,082,099	498,539	77,401,341	0	0	2,726	2,726	436,165	95,836,889	
2034	717,057	66,719,955	511,203	81,612,036	0	0	2,726	2,726	436,164	100,047,362	
2035	863,397	72,388,462	537,171	89,104,278	0	0	2,726	2,726	436,146	107,538,874	
TOTAL	40,002,869	3,533,132,436	27,487,741	4,355,716,826	0	0	159,521	159,521	24,166,849	5,351,692,393	

TABLE B-16B: MINIMUM OMP&R COMPONENT OF FOR OFF-AQUEDUCT

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0
1983	10,063	0	10,063	47,437	31,423	863,281	942,141	0	0	0
1984	29,785	0	29,785	156,375	76,943	2,028,458	2,261,776	0	0	0
1985	53,600	0	53,600	452,462	570,860	2,641,761	3,665,083	0	0	0
1986	45,693	0	45,693	311,621	363,611	2,584,842	3,260,074	0	0	0
1987	103,519	0	103,519	712,474	772,868	2,678,704	4,164,046	0	0	0
1988	93,007	183,869	276,876	719,862	963,775	2,111,594	3,795,231	0	0	0
1989	66,725	170,107	236,832	612,315	799,070	1,777,688	3,189,073	0	0	0
1990	75,872	184,843	260,715	659,930	838,935	1,897,298	3,396,163	0	0	0
1991	81,160	190,367	271,527	694,990	844,618	1,921,444	3,461,052	0	0	0
1992	80,435	185,768	266,203	683,097	796,282	1,821,593	3,300,972	0	0	0
1993	83,465	195,900	279,365	703,319	777,353	1,813,823	3,294,495	0	0	0
1994	99,373	205,461	304,834	722,270	758,383	1,805,676	3,286,329	0	0	0
1995	112,476	210,722	323,198	727,090	727,090	1,731,166	3,185,346	975,500	1,779,889	2,755,389
1996	117,625	211,793	329,418	743,756	709,949	1,690,354	3,144,059	1,139,356	2,072,992	3,212,348
1997	123,117	213,821	336,938	763,249	696,879	1,659,237	3,119,365	1,118,382	2,034,830	3,153,212
1998	126,562	212,670	339,232	738,666	674,434	1,605,796	3,018,896	1,082,361	1,969,292	3,051,653
1999	126,028	206,055	332,083	696,892	636,293	1,514,984	2,848,169	1,021,150	1,857,923	2,879,073
2000	124,583	197,508	322,091	650,891	594,293	1,414,982	2,660,166	953,747	1,735,285	2,689,032
2001	122,437	187,939	310,376	610,893	557,772	1,328,028	2,496,693	895,137	1,628,647	2,523,784
2002	119,021	178,403	297,424	572,077	522,331	1,243,645	2,338,053	838,260	1,525,163	2,363,423
2003	116,252	169,264	285,516	535,549	488,981	1,164,238	2,188,768	784,737	1,427,781	2,212,518
2004	113,409	160,801	274,210	502,096	458,435	1,091,512	2,052,043	735,717	1,338,593	2,074,310
2005	109,628	151,576	261,204	467,156	426,535	1,015,557	1,909,248	684,520	1,245,445	1,929,965
2006	105,134	141,476	246,610	435,749	397,858	947,281	1,780,888	638,500	1,161,712	1,800,212
2007	101,031	131,641	232,672	405,196	369,962	880,862	1,656,020	593,731	1,080,258	1,673,989
2008	97,099	121,936	219,035	375,084	342,469	815,401	1,532,954	549,608	999,980	1,549,588
2009	92,388	112,585	204,973	346,102	316,005	752,394	1,414,501	507,139	922,710	1,429,849
2010	88,899	105,506	194,405	324,128	295,943	704,626	1,324,697	474,942	864,129	1,339,071
2011	85,354	97,706	183,060	299,974	273,890	652,119	1,225,983	439,550	799,735	1,239,285
2012	81,061	90,291	171,352	277,033	252,943	602,246	1,132,222	405,934	738,573	1,144,507
2013	32,377	34,949	67,326	107,160	97,843	232,958	437,961	157,021	285,692	442,713
2014	52,283	54,743	107,026	167,749	153,162	364,673	685,584	245,801	447,222	693,023
2015	12,956	13,171	26,127	40,335	36,827	87,684	164,846	59,102	107,533	166,635
2016	4,497	4,449	8,946	13,627	12,441	29,622	55,690	19,966	36,328	56,294
2017	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0
TOTAL	2,886,914	4,325,320	7,212,234	16,276,604	16,636,456	45,475,527	78,388,587	14,320,161	26,059,712	40,379,873

a) Unadjusted for prior overpayments or underpayments of charges.

TRANSPORTATION CHARGE FOR EACH CONTRACTOR POWER FACILITIES (a)

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA								Total
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	
				Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0
1983	76,897	159,070	0	34,351	2,962,830	13,164	9,665	3,730	3,259,707
1984	178,661	387,278	0	813,870	9,070,633	26,620	33,383	49,316	10,559,761
1985	221,669	517,244	24,604	1,030,852	11,715,463	38,024	41,439	1,227,839	14,817,134
1986	238,440	549,848	12,803	882,261	11,739,105	40,487	38,114	868,340	14,369,398
1987	219,604	524,897	28,633	1,381,142	12,128,615	45,360	43,504	1,055,556	15,427,311
1988	198,857	509,526	31,215	1,177,863	11,671,239	35,756	32,922	1,139,730	14,797,108
1989	153,095	409,121	22,074	1,001,212	9,154,902	29,433	28,104	871,957	11,669,898
1990	159,843	443,289	23,048	1,094,746	9,820,176	30,731	29,867	910,395	12,512,095
1991	158,434	439,379	22,845	1,085,089	9,733,552	30,459	29,604	902,364	12,401,726
1992	147,071	407,868	21,206	1,007,269	9,035,485	28,275	27,480	837,649	11,512,303
1993	143,456	397,840	20,684	982,505	8,813,339	27,580	26,805	817,054	11,229,263
1994	139,954	388,132	20,180	958,529	8,598,274	26,907	26,151	797,116	10,955,243
1995	134,180	372,116	19,347	918,976	8,243,476	25,797	25,071	764,225	10,503,188
1996	131,016	363,344	18,891	897,312	8,049,137	25,188	24,480	746,208	10,255,576
1997	128,604	356,655	18,544	880,793	7,900,961	24,725	24,030	732,471	10,066,783
1998	124,462	345,168	17,946	852,424	7,646,486	23,928	23,255	708,880	9,742,549
1999	117,424	325,647	16,932	804,217	7,214,056	22,575	21,940	668,791	9,191,582
2000	109,673	304,152	15,814	751,132	6,737,870	21,085	20,493	624,644	8,584,863
2001	102,933	285,461	14,842	704,974	6,323,810	19,789	19,234	586,258	8,057,301
2002	96,393	267,323	13,899	660,179	5,921,998	18,532	18,011	549,008	7,545,343
2003	90,238	250,254	13,012	618,027	5,543,877	17,349	16,861	513,954	7,063,572
2004	84,601	234,622	12,198	579,421	5,197,570	16,265	15,807	481,849	6,622,333
2005	78,714	218,295	11,350	539,101	4,835,886	15,133	14,708	448,318	6,161,505
2006	73,422	203,619	10,587	502,857	4,510,767	14,115	13,719	418,177	5,747,263
2007	68,274	189,343	9,844	467,599	4,194,492	13,126	12,757	388,858	5,344,293
2008	63,200	175,271	9,113	432,850	3,882,781	12,151	11,809	359,960	4,947,135
2009	58,317	161,728	8,409	399,402	3,582,753	11,211	10,896	332,145	4,564,861
2010	54,614	151,460	7,875	374,046	3,355,292	10,500	10,205	311,057	4,275,049
2011	50,545	140,173	7,288	346,172	3,105,261	9,717	9,444	287,878	3,956,478
2012	46,679	129,453	6,731	319,698	2,867,775	8,974	8,722	265,862	3,653,894
2013	18,056	50,075	2,603	123,664	1,109,300	3,471	3,374	102,840	1,413,383
2014	28,265	78,386	4,076	193,583	1,736,499	5,434	5,281	160,985	2,212,509
2015	6,796	18,848	980	46,546	417,536	1,307	1,270	38,708	531,991
2016	2,296	6,368	331	15,725	141,055	441	429	13,076	179,721
2017	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0
TOTAL	3,704,683	9,761,253	467,904	22,878,387	216,962,251	693,609	678,834	18,985,198	274,132,119

TABLE B-16B: MINIMUM OMP&R COMPONENT OF FOR OFF-AQUEDUCT

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0
1983	1,083,059	334,038	565,368	35,406	893,894	1,249	0	0	232,956	28,527
1984	2,485,474	936,947	1,419,220	101,527	2,250,159	76	0	0	500,075	689,089
1985	3,673,217	1,318,471	1,991,447	166,687	3,164,934	0	0	154,405	866,254	589,381
1986	3,146,560	1,448,917	2,088,581	172,730	3,326,131	15,806	0	300,217	736,452	1,084,319
1987	3,429,555	1,742,910	2,309,550	219,771	3,744,059	109,032	2,021	540,539	2,228,726	1,263,471
1988	3,643,921	1,563,684	1,934,996	187,391	3,185,640	154,709	0	491,929	2,154,992	983,801
1989	3,129,951	1,545,996	1,686,985	161,966	2,815,112	0	0	534,048	1,866,459	809,826
1990	3,404,090	1,816,464	1,860,157	177,158	3,068,051	108,931	24,158	710,774	1,988,999	845,526
1991	3,711,469	2,070,471	1,843,749	183,577	3,040,988	114,718	23,945	880,631	2,186,957	838,068
1992	3,633,216	2,153,829	1,711,520	177,820	2,822,896	112,755	22,228	1,009,157	2,030,114	866,873
1993	3,910,500	2,410,598	1,669,440	190,288	2,753,492	116,093	21,681	1,057,057	2,059,699	845,561
1994	4,053,517	2,653,940	1,628,702	202,072	2,686,301	119,221	1,780,291	1,031,262	2,171,603	824,927
1995	4,114,855	2,544,428	1,561,496	209,551	2,575,454	120,016	3,433,938	988,709	2,237,467	790,888
1996	4,274,545	2,484,443	1,524,684	214,511	2,514,738	122,768	3,352,983	965,400	2,336,528	790,723
1997	4,447,826	2,438,708	1,496,615	220,282	2,468,444	125,985	3,291,259	947,628	2,442,529	794,308
1998	4,548,423	2,360,162	1,448,412	222,592	2,388,940	121,927	3,185,253	917,107	2,508,073	786,281
1999	4,521,262	2,226,687	1,366,501	218,877	2,253,839	115,032	3,005,119	865,241	2,484,547	758,378
2000	4,437,701	2,079,708	1,276,301	212,717	2,105,067	107,439	2,806,757	808,129	2,431,049	723,789
2001	4,384,203	1,951,905	1,197,869	207,423	1,975,706	100,836	2,634,275	758,467	2,385,366	695,905
2002	4,310,913	1,827,881	1,121,756	201,528	1,850,170	94,429	2,466,893	710,275	2,330,825	667,227
2003	4,227,835	1,711,170	1,050,133	195,479	1,732,036	88,400	2,309,382	664,923	2,273,013	639,172
2004	4,143,906	1,604,280	984,534	189,661	1,623,841	82,879	2,165,122	623,387	2,301,508	612,883
2005	4,023,176	1,492,643	916,023	182,412	1,510,843	77,111	2,014,458	580,008	2,299,972	582,924
2006	3,752,696	1,392,292	854,438	175,696	1,409,269	71,926	1,879,025	541,014	2,293,298	556,309
2007	3,489,574	1,294,670	794,529	168,537	1,310,457	66,883	1,747,277	503,080	2,270,083	528,998
2008	3,230,248	1,198,458	735,485	160,787	1,213,072	61,913	1,617,428	465,694	2,228,741	500,511
2009	2,980,642	1,105,852	678,652	152,770	1,119,335	57,129	1,492,447	429,710	2,174,037	471,825
2010	2,791,409	1,035,643	635,566	147,198	1,048,272	53,502	1,397,695	402,428	2,146,068	451,224
2011	2,583,396	958,469	588,205	138,520	970,156	49,515	1,293,541	372,440	2,087,999	427,785
2012	2,385,823	885,166	543,220	130,044	895,960	45,728	1,194,613	343,956	2,022,377	404,475
2013	922,873	342,396	210,126	51,122	346,571	17,688	462,095	133,048	818,672	160,096
2014	1,444,666	535,986	328,931	81,308	542,522	27,689	723,364	208,272	1,310,028	256,310
2015	347,365	128,876	79,091	19,858	130,447	6,658	173,931	50,078	321,840	62,998
2016	117,350	43,538	26,719	6,709	44,069	2,249	58,758	16,918	111,040	21,792
2017	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0
TOTAL	110,785,216	51,639,626	40,129,001	5,483,975	65,780,865	2,470,292	44,579,937	19,005,931	62,838,346	21,354,170

TRANSPORTATION CHARGE FOR EACH CONTRACTOR POWER FACILITIES (a)

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				TOTAL STATE WATER PROJECT
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	
	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0
1983	0	12,781,660	0	15,956,157	0	0	0	0	20,168,068
1984	0	39,004,005	0	47,386,572	0	0	0	0	60,237,894
1985	0	75,875,793	0	87,800,589	0	0	0	0	106,336,406
1986	0	77,254,816	0	89,574,529	0	0	0	0	107,249,694
1987	0	80,066,028	0	95,655,662	0	0	0	0	115,350,538
1988	0	91,668,356	0	105,969,419	0	0	0	0	124,838,634
1989	0	101,175,394	0	113,725,737	0	0	0	0	128,821,540
1990	0	105,407,801	0	119,412,109	0	0	0	0	135,581,082
1991	0	104,478,006	0	119,372,579	0	0	0	0	135,506,884
1992	0	105,774,221	0	120,314,629	0	0	0	0	135,394,107
1993	0	103,821,016	999,636	119,855,061	0	0	0	0	134,658,184
1994	0	101,919,106	991,231	120,062,173	0	0	0	0	134,608,579
1995	0	98,319,823	965,656	117,862,281	0	0	0	0	134,629,402
1996	0	98,095,661	956,660	117,633,644	0	0	0	0	134,575,045
1997	0	98,345,000	952,565	117,971,149	0	0	0	0	134,647,447
1998	0	97,166,450	934,965	116,588,585	0	0	0	0	132,740,915
1999	0	93,547,915	894,431	112,257,829	0	0	0	0	127,508,736
2000	955,845	89,124,524	876,985	107,946,011	0	0	0	0	122,202,163
2001	897,105	85,552,986	839,084	103,581,130	0	0	0	0	116,969,284
2002	840,103	81,901,293	800,744	99,124,037	0	0	0	0	111,668,280
2003	786,462	78,342,279	763,636	94,783,920	0	0	0	0	106,534,294
2004	737,335	75,014,546	729,077	90,812,959	0	0	0	0	101,835,855
2005	686,026	71,251,587	690,572	86,307,755	0	0	0	0	96,569,677
2006	639,904	67,545,150	645,486	81,756,503	0	0	0	0	91,331,476
2007	595,037	63,817,051	601,476	77,187,652	0	0	0	0	86,094,626
2008	550,817	60,007,486	557,933	72,528,573	0	0	0	0	80,777,285
2009	508,254	56,231,477	515,886	67,918,016	0	0	0	0	75,532,200
2010	475,987	53,467,686	484,132	64,536,810	0	0	0	0	71,670,032
2011	440,517	49,483,344	448,055	59,841,942	0	0	0	0	66,446,748
2012	406,827	45,698,948	413,789	55,370,926	0	0	0	0	61,472,901
2013	157,367	17,677,063	160,060	21,459,177	0	0	0	0	23,820,560
2014	246,343	27,671,669	250,558	33,627,646	0	0	0	0	37,325,788
2015	59,232	6,653,561	60,246	8,094,181	0	0	0	0	8,983,780
2016	20,010	2,247,760	20,437	2,737,349	0	0	0	0	3,038,000
2017	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0
TOTAL	9,003,171	2,416,389,461	15,553,300	2,865,013,291	0	0	0	0	3,265,126,104

TABLE B-17: UNIT VARIABLE OMP&R COMPONENT

(in dollars per acre-foot)

Sheet 1 of 4

Calendar Year	NORTH BAY AQUEDUCT						SOUTH BAY AQUEDUCT		CALIFORNIA AQUEDUCT	
	Reach 1		Reach 3A		Reach 3B		Reach 1		Reach 1	
	Barker Slough Pumping Plant		Cordelia Pumping Plant Solano County FC&WCD		Cordelia Pumping Plant Napa County FC&WCD ^(b)		South Bay and Del Valle Pumping Plant ^(c)		Harvey O. Banks Delta Pumping Plant	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1961	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1962	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	4.1511341	4.1511341	0.0000000	0.0000000
1963	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	4.5639383	4.5639383	0.0000000	0.0000000
1964	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.5452154	3.5452154	0.0000000	0.0000000
1965	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	4.1911773	4.1911773	0.0000000	0.0000000
1966	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.5074573	3.5074573	0.0000000	0.0000000
1967	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.9306767	5.1337448	1.2030681	1.2030681
1968	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.3315620	4.8750942	1.5435322	1.5435322
1969	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.6949019	4.8016170	1.0671511	1.0671511
1970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	4.4256141	5.3721490	0.9465349	0.9465349
1971	0.0000000	0.0000000	0.0000000	0.0000000	4.2082507	4.2082507	3.8714396	4.7522833	0.8808437	0.8808437
1972	0.0000000	0.0000000	0.0000000	0.0000000	3.9577735	3.9577735	4.3250690	5.2281686	0.9030996	0.9030996
1973	0.0000000	0.0000000	0.0000000	0.0000000	3.8103903	3.8103903	5.2455409	6.1841800	0.9386391	0.9386391
1974	0.0000000	0.0000000	0.0000000	0.0000000	3.5878850	3.5878850	6.3321503	7.2293909	0.8972406	0.8972406
1975	0.0000000	0.0000000	0.0000000	0.0000000	-2.1606725	3.5878850	3.7365711	4.8327731	1.0962020	1.0962020
1976	0.0000000	0.0000000	0.0000000	0.0000000	2.9283909	2.9283909	4.5191527	5.7132795	1.1941268	1.1941268
1977	0.0000000	0.0000000	0.0000000	0.0000000	2.7516411	2.7516411	4.7630172	6.5309908	1.7679736	1.7679736
1978	0.0000000	0.0000000	0.0000000	0.0000000	3.5949619	3.5949619	5.2086183	6.8200209	1.6114026	1.6114026
1979	0.0000000	0.0000000	0.0000000	0.0000000	2.4747752	2.4747752	4.9524184	7.0889234	2.1365050	2.1365050
1980	0.0000000	0.0000000	0.0000000	0.0000000	2.9737588	2.9737588	4.5186576	5.8810390	1.3623814	1.3623814
1981	0.0000000	0.0000000	0.0000000	0.0000000	2.6487057	2.6487057	4.3834851	6.4805853	2.0971002	2.0971002
1982	0.0000000	0.0000000	0.0000000	0.0000000	9.8384171	9.8384171	6.6536723	6.4536305	1.7448582	1.7448582
1983	0.0000000	0.0000000	0.0000000	0.0000000	1.2260603	1.2260603	4.5850448	2.4879066	0.9028618	0.9028618
1984	0.0000000	0.0000000	0.0000000	0.0000000	1.2260603	1.2260603	2.5169177	3.6272849	1.1103672	1.1103672
1985	0.0000000	0.0000000	0.0000000	0.0000000	2.8430305	2.8430305	4.7352893	6.5672597	1.8319704	1.8319704
1986	0.0000000	0.0000000	0.0000000	0.0000000	4.4609264	4.4609264	7.6041644	11.2102675	3.6061031	3.6061031
1987	0.0000000	0.0000000	0.0000000	0.0000000	3.9711426	3.9711426	6.2619229	10.7714463	4.5095234	4.5095234
1988	1.5595422	1.5595422	2.4560829	4.0156251	7.4959095	9.0554517	8.2086745	12.1095638	3.9008893	3.9008893
1989	1.7172066	1.7172066	3.9113240	5.0285306	5.3750749	9.0554517	8.4018767	12.4568759	4.0549992	4.0549992
1990	1.8802007	1.8802007	3.1413636	5.0215643	5.6908124	7.0922815	8.8109849	13.0283189	4.2173340	4.2173340
1991	2.2885932	2.2885932	3.8676582	6.1562514	6.9242141	9.2128073	10.9631703	15.8733847	4.9102144	4.9102144
1992	2.1964338	2.1964338	3.7411290	5.9375079	6.632691	8.8197029	10.4712212	15.2206744	4.7494552	4.7494552
1993	2.15870	2.15870	3.6419798	5.6210509	6.6108618	8.5899329	10.4528596	15.2196408	4.7667812	4.7667812
1994	2.2283753	2.2283753	3.9312625	6.1596378	6.9367414	9.1651167	10.9404121	15.8679998	4.9275817	4.9275817
1995	2.5772282	2.5772282	4.4252595	7.0024877	7.5743510	10.1515792	11.9189728	17.1734590	5.2544862	5.2544862
1996	2.6157791	2.6157791	4.5281190	7.1438981	7.6603646	10.2761437	12.0452043	17.3460901	5.3008858	5.3008858
1997	3.1392726	3.1392726	5.4779639	8.6148915	9.1580887	12.2949553	14.3823457	20.5247645	6.1424188	6.1424188
1998	3.2215870	3.2215870	5.6702231	8.8918101	9.3573018	12.5788888	14.6875919	20.9528215	6.2652896	6.2652896
1999	3.7540197	3.7540197	6.6600928	10.4141123	10.8609084	12.5788888	17.0327819	24.1285939	7.0958084	7.0958084
2000	4.2799506	4.2799506	7.6510067	11.9309573	12.3412261	14.6149281	19.3133936	27.2580319	7.9446383	7.9446383
2001	4.3255437	4.3255437	7.7974208	12.1229645	12.4412001	16.7667438	19.4601117	27.4588661	7.9987544	7.9987544
2002	4.7788918	4.7788918	8.6747578	13.4536496	13.7152626	18.4941544	21.4347447	30.1629270	8.7281823	8.7281823
2003	5.1628682	5.1628682	9.4512483	14.6141165	14.7962838	19.9591520	23.0967234	32.4290610	9.3323376	9.3323376
2004	5.6251933	5.6251933	10.4227048	16.0752241	16.1541558	21.8066751	25.2023830	35.2956632	10.0932802	10.0932802
2005	5.8093565	5.8093565	10.7964762	16.6058327	16.5836250	22.3929615	25.8279139	36.1440477	10.3161328	10.3161328
2006	6.1759655	6.1759655	11.4566667	17.6326322	17.6044985	23.7804640	27.4072128	38.3087128	10.9015000	10.9015000
2007	6.2492150	6.2492150	11.5717619	17.8209769	17.8045882	24.0530837	27.6826346	38.6516850	10.9690414	10.9690414
2008	5.8108263	5.8108263	10.7334286	16.5442549	16.5277620	22.3358883	25.6770213	35.9142214	10.2372001	10.2372001
2009	5.9426043	5.9426043	10.9521429	16.8947472	16.8840110	22.8266153	26.2002713	36.6315444	10.4312731	10.4312731
2010	6.0479074	6.0479074	11.1305238	17.1784312	17.1740642	23.2219716	26.6271330	37.2087791	10.5816461	10.5816461
2011	6.0727124	6.0727124	11.1436190	17.2163314	17.2289175	23.3016299	26.6583936	37.2479570	10.5895634	10.5895634
2012	6.1217152	6.1217152	11.2190488	17.3336200	17.3673183	23.4890335	26.8216596	37.4781108	10.6564512	10.6564512
2013	6.1904440	6.1904440	11.3137619	17.5047059	17.5985437	23.7894877	27.0653777	37.8046308	10.7392531	10.7392531
2014	6.2309494	6.2309494	11.3566667	17.5876161	17.7534588	23.9844082	27.1679255	37.954298	10.7855043	10.7855043
2015	6.4112989	6.4112989	11.6629524	18.0742513	18.3238356	24.7351345	27.9007021	38.9486497	11.0479476	11.0479476
2016	6.5260620	6.5260620	11.8430000	18.3690620	18.7014667	25.2275287	28.3314309	39.5399105	11.2084796	11.2084796
2017	6.4760676	6.4760676	11.7321905	18.2082581	18.6306061	25.1066737	28.0663723	39.1832033	11.1174480	11.1174480
2018	6.5608676	6.5608676	11.8581905	18.4190581	18.9275105	25.4883781	28.3677447	39.5893415	11.2215968	11.2215968
2019	6.6294118	6.6294118	11.9528095	18.5822213	19.1948148	25.8242266	28.5941862	39.8794411	11.2852549	11.2852549
2020	6.4942601	6.4942601	11.6867619	18.1810220	18.8840161	25.3782762	27.9576117	38.9887363	11.0311246	11.0311246
2021	6.5537313	6.5537313	11.7944286	18.3481599	19.0771200	25.6308513	28.2152660	39.3376442	11.1223782	11.1223782
2022	6.5423881	6.5423881	11.7740476	18.3164357	19.0441200	25.580394	28.1664574	39.2636093	11.0971519	11.0971519
2023	6.5351194	6.5351194	11.7609048	18.2860242	19.0229200	25.5580394	28.1350987	39.2120888	11.0789931	11.0789931
2024	6.5272388	6.5272388	11.7467619	18.2740007	18.9999600	25.5271988	28.1011968	39.1453098	11.0441130	11.0441130
2025	6.5585224	6.5585224	11.8030476	18.3615700	19.0910800	25.6496024	28.2358936	39.3112549	11.0753613	11.0753613
2026	6.5836866	6.5836866	11.84838100							

OF TRANSPORTATION CHARGE (a)

(in dollars per acre-foot)

Sheet 2 of 4

CALIFORNIA AQUEDUCT (continued)										
Calendar	Reach 4		Reach 14A		Reach 15A		Reach 16A		Reach 17E	
Year	Dos Amigos Pumping Plant		Buena Vista Pumping Plant		Wheeler Ridge Pumping Plant		Ira J. Chrisman Wind Gap Pumping Plant		A.D. Edmonston Pumping Plant	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1961	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1962	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1963	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1964	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1965	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1966	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1967	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1968	1.0732031	2.6167353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1969	0.7028165	1.8095316	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1970	0.7813430	1.7278779	0.3333333	2.0612112	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1971	0.4125312	1.2933749	1.3594550	2.6528299	4.9729730	7.6258029	0.0000000	0.0000000	0.0000000	0.0000000
1972	0.5554925	1.4585921	1.0808850	2.5394771	1.1418280	3.6813051	2.2892599	5.9705650	7.3206022	13.2911672
1973	0.5996892	1.5383283	0.9844807	2.9844807	1.2143719	3.7371809	2.1051633	5.8423442	7.4512435	13.2935877
1974	0.5736894	1.4709300	0.9223291	2.3932591	1.0924098	3.4856689	1.9449022	5.4305711	6.9004732	12.3310443
1975	0.4602594	1.5564614	0.8190849	2.3755463	0.9574493	3.3329956	1.9610412	5.2940368	6.9962702	12.2930370
1976	0.5163827	1.7105095	0.9626676	2.6731771	1.0211874	3.6943645	2.2275746	5.9219391	7.9384515	13.8603906
1977	0.6138931	2.3818667	1.0969170	3.4787837	1.3715867	4.8503704	2.9301764	7.7805468	9.9900004	17.7795472
1978	0.4199303	2.0313329	0.9606230	2.9199559	1.0432294	4.0351853	1.9779157	6.0131010	7.0810192	13.0941202
1979	0.6587934	2.7952984	1.1099369	3.9052353	1.2652451	5.1704804	2.6939701	7.8644505	9.6345625	17.4990130
1980	0.4021465	2.1645279	1.3516057	3.5161936	1.5041463	5.0202799	3.1923433	8.2126232	10.9860888	19.1986520
1981	1.0931185	3.1902187	1.2469744	4.4371931	1.3242810	5.7614741	2.9650235	8.7264976	9.9857983	18.7122959
1982	0.8828228	2.6276810	1.2022678	3.8290488	1.3756370	5.2055858	3.1119441	8.3175299	10.1925505	18.5100804
1983	0.4175671	1.3204289	0.7742103	2.0946392	0.9031409	2.9777801	1.8103039	4.8080840	5.6756173	10.4837013
1984	0.6268880	1.7369552	1.0067242	2.7436794	1.7002229	3.9137023	2.4139650	6.3276673	7.7890379	14.1167052
1985	0.9741178	2.8060882	1.6318942	4.4379824	1.8828234	6.3208058	3.9872305	10.3080363	13.6087003	23.9167366
1986	1.4253746	5.0314777	2.4004618	7.4319395	2.7924731	10.2244126	6.0359771	16.2603897	20.8915204	37.1519101
1987	1.3421552	5.8516786	2.3117868	8.1634654	2.6537178	10.8171832	5.5455427	16.3627259	19.1441645	55.5068904
1988	1.5716026	5.4724919	2.7783318	8.2508237	3.3741742	11.6249979	6.7259132	18.3509111	22.6643054	41.0152165
1989	1.4966258	5.7516250	2.9336676	8.6854926	3.5060182	12.1931308	7.2747285	19.4462393	24.5137618	43.9800011
1990	1.7826755	6.0000095	3.0273565	9.0273660	3.6265704	12.6539364	7.5895804	20.2435168	25.8496995	46.0932163
1991	2.1258178	7.0360322	3.6023110	10.6383432	4.3446381	14.9829813	9.1651628	24.1481441	31.2869166	55.4350607
1992	2.0358551	6.7853703	3.4417592	10.2270795	4.1495580	14.3766375	8.7538420	23.1304795	29.8804919	53.0109714
1993	2.0994599	6.8026271	3.4231862	10.2258133	4.1277229	14.3535362	8.7170798	23.0706160	29.8304104	52.9031264
1994	2.1345126	7.0920943	3.5876568	10.6497511	4.3271560	14.9769071	9.1356568	24.1125639	31.4442421	55.3569880
1995	2.2840870	7.5385732	3.8439884	11.3825596	4.6419595	16.0245191	9.8518267	25.8763458	33.8450227	59.7213685
1996	2.3276290	7.6285148	3.9198952	11.5848100	4.7300334	16.2784442	10.0082479	26.8866913	34.3060039	60.5926952
1997	2.7464490	8.8888684	4.6060512	13.4949196	5.5651063	19.0600259	11.8501476	30.9101735	40.7225026	71.6326761
1998	2.8355579	9.0806775	4.7254909	13.8061384	5.7066321	19.5127705	12.1799799	31.6927504	41.6805369	73.3732873
1999	3.2306059	10.3264143	5.4037859	15.7302002	6.5400212	22.7622144	14.0319914	36.3022128	48.1148390	84.4170518
2000	3.6442582	11.5888965	6.1001768	17.6890733	7.3930638	25.0821371	15.8938174	40.9759545	54.4930410	95.4689955
2001	3.6879625	11.6867169	6.1641686	17.8508855	7.4545971	25.3054826	16.0482432	41.3537258	54.9158754	96.2696012
2002	4.0378430	12.7660253	6.7696092	19.5356345	8.1923547	27.7279892	17.6231328	45.3511220	60.3864051	105.7375271
2003	4.3238945	13.6523221	7.2932167	20.9444888	8.8291974	29.7786462	18.9529741	48.7316203	65.0622855	115.7930588
2004	4.6820267	14.7753069	7.9298131	22.7051200	9.6207216	32.3258416	20.6200116	52.9458532	70.9045143	123.8503675
2005	4.7875119	15.1037047	8.1241780	23.2278827	9.8594238	33.0873065	21.1168006	54.2041071	72.6305870	126.8346941
2006	5.0610723	15.9625723	8.6226218	24.5851941	10.4475079	35.0327020	22.3830963	57.4157983	77.0059365	134.4217348
2007	5.1039474	16.0729888	8.6933724	24.7663612	10.5323990	35.2987022	22.5811950	57.8799552	77.7396201	135.6195753
2008	4.7563446	14.9835447	8.0879111	23.0833588	9.7965581	32.8798899	20.9782041	53.8509080	72.1478734	126.0069714
2009	4.8488913	15.2801644	8.2558000	23.5359644	9.9941704	33.5301348	21.4021751	54.9323099	73.6028749	128.5351848
2010	4.9148690	15.4965151	8.3714862	23.8680013	10.1327499	34.0075112	21.7110289	55.7117801	74.7582635	130.4700436
2011	4.9289983	15.5185577	8.3957606	23.9143183	10.1561114	34.0704297	21.7527463	55.8231760	74.8912248	130.7144008
2012	4.9496780	15.6061292	8.4385074	24.0446366	10.2091307	34.2537673	21.8649385	56.3187058	75.3450603	131.1463761
2013	4.9671234	15.7063765	8.5219429	24.2283144	10.3122714	34.5405908	22.0798307	56.6204215	76.0589936	132.6794151
2014	4.9755146	15.7610189	8.5403261	24.3013450	10.3390720	34.6404170	22.1445284	56.7849454	76.3275107	133.1124561
2015	5.1061587	16.1541063	8.7800924	24.9341987	10.6321009	35.5662996	22.6642231	58.2305227	78.4236194	136.6541421
2016	5.1635612	16.3704008	8.8871864	25.2592272	10.7700472	36.0292744	22.9800042	59.0092786	79.5735055	138.5827841
2017	5.1101022	16.2284582	8.8220204	25.0507866	10.6892772	35.7397558	22.7976744	58.5374322	78.8868884	137.4261206
2018	5.1521164	16.3737132	8.9056399	25.2793531	10.7922431	36.0715943	23.0339262	59.1052050	79.7222179	138.8277548
2019	5.1626965	16.4479514	8.9529053	25.4008567	10.8144031	36.2152598	23.1913522	59.4066120	80.3463567	139.7529687
2020	5.0294144	16.0605390	8.6996011	24.7601401	10.5299197	35.2900598	22.6837902	57.9738500	78.5628889	136.5763789
2021	5.0644167	16.1867949	8.6690666	24.8558615	10.5615684	35.4174299	22.8726327	58.2900626	79.2266076	137.5166702
2022	4.9863804	16.0835323	8.6225885	24.7061208	10.5113243	35.2174451	22.7315333	57.9489784	78.9672478	136.9162267
2023	4.9748945	16.0518876	8.6179446	24.6698322	10.5059108	35.1757430	22.6241445	57.7998875	78.7885039	136.5883914
2024	4.9066655	15.9537795	8.6076948	24.5614743	10.4934156	35.0548899	22.5003649	57.5552598	78.6246767	136.1799305
2025	4.9323533	16.0077146	8.647158							

TABLE B-17: UNIT VARIABLE OMP&R COMPONENT

(in dollars per acre-foot)

Sheet 3 of 4

CALIFORNIA AQUEDUCT (continued)											
Calendar Year	Reach 18A		Reach 22B		Reach 23		Reach 26A		Reach 29A		
	Alamo Powerplant		Pearblossom Pumping Plant		Mojave Siphon Pumping Plant		Devil Canyon Powerplant		Oso Pumping Plant		
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	
1961	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1962	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1963	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1964	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1965	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1966	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1967	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1968	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1969	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1971	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	
1972	0.0000000	0.0000000	14.2519509	27.5431181	0.0000000	0.0000000	-2.3717647	25.1713534	1.4212193	14.7123865	
1973	0.0000000	0.0000000	4.4326545	17.7262422	0.0000000	0.0000000	-8.4298618	9.2963804	1.0210537	14.3146414	
1974	0.0000000	0.0000000	3.4431782	15.7742225	0.0000000	0.0000000	-5.1043660	10.6698565	0.9241725	13.2552168	
1975	0.0000000	0.0000000	3.1739313	15.4642383	0.0000000	0.0000000	-5.6510611	9.8131772	0.9362286	13.2265356	
1976	0.0000000	0.0000000	3.9391330	17.7995236	0.0000000	0.0000000	-6.4449941	11.3545295	0.8622774	14.7226680	
1977	0.0000000	0.0000000	3.4988957	21.2784429	0.0000000	0.0000000	-11.6274558	9.6509871	0.9076172	18.6871464	
1978	0.0000000	0.0000000	4.1377503	17.2318705	0.0000000	0.0000000	-8.1314274	9.1004431	0.7314697	13.8258999	
1979	0.0000000	0.0000000	5.1961178	22.6951308	0.0000000	0.0000000	-9.5825772	13.1125536	0.9504526	18.4494656	
1980	0.0000000	0.0000000	4.3918283	23.5904803	0.0000000	0.0000000	-8.3797007	15.2107796	1.4269064	20.6255584	
1981	0.0000000	0.0000000	4.0220251	22.7343210	0.0000000	0.0000000	-6.7353327	15.9989883	1.5649076	20.2772035	
1982	0.0000000	0.0000000	3.7134666	22.2235470	0.0000000	0.0000000	-7.8450036	14.3785434	1.4904483	20.0052877	
1983	0.0000000	0.0000000	1.6757877	12.1594890	0.0000000	0.0000000	-19.4689656	-7.3094766	1.4944459	11.9781472	
1984	0.0000000	0.0000000	2.3862867	16.5029919	0.0000000	0.0000000	-29.7295815	-13.2265896	1.7185333	15.8352385	
1985	0.0000000	0.0000000	3.8689951	27.7857317	0.0000000	0.0000000	-28.9496302	-1.1638985	2.4300578	26.3467944	
1986	-1.7739727	35.3779374	6.0752443	41.4531817	0.0000000	0.0000000	-29.2491939	12.2039878	3.2601888	40.4120989	
1987	-2.9306615	32.5762289	5.7278016	38.3040305	0.0000000	0.0000000	-34.3648558	3.9391747	3.0833472	38.5902376	
1988	-3.1483007	37.8649158	6.9884047	44.8553205	0.0000000	0.0000000	-28.0551746	16.8001459	3.9213754	44.9365919	
1989	-3.0587329	40.9212682	7.7062706	48.6275388	0.0000000	0.0000000	-28.1413552	20.4861836	3.7244697	47.7524978	
1990	-3.3731311	42.7200852	8.1393519	50.8594371	0.0000000	0.0000000	-28.3932775	22.4661596	3.784283	49.8766446	
1991	-3.3697019	52.0653588	9.8568758	61.9222346	0.0000000	0.0000000	-28.5365763	33.3856583	4.5352725	59.9703332	
1992	-3.1969689	49.8140025	9.3797924	59.1937949	0.0000000	0.0000000	-29.6538986	29.5399053	4.4855774	57.4965488	
1993	-3.2015438	49.6994826	9.3670972	59.0665798	0.0000000	0.0000000	-29.0839032	31.3952779	4.6653614	57.2678804	
1994	-3.0181208	52.3386672	9.7888407	62.1277079	-2.1525605	59.9751474	-29.5405047	30.4346427	4.6985347	60.0555227	
1995	-2.9090868	56.8122817	10.6250346	67.4373163	-3.2923542	64.1449621	-29.3306936	34.8142885	4.8025809	64.5239494	
1996	-2.9090174	57.6836778	10.7440879	68.4277657	-3.3013037	65.1264620	-29.2257981	35.9006639	5.0352961	65.6279913	
1997	-2.8584972	68.7379789	12.7716408	81.5456197	-3.1798384	78.3657893	-29.1886761	49.1771132	5.6929517	77.3256278	
1998	-2.8077295	70.5655578	13.0495440	83.6151018	-3.1359207	80.4791811	-29.0839032	51.3952779	6.0636144	79.4386487	
1999	-2.7665465	81.6505053	15.0884846	96.7389899	-3.0699481	93.6690418	-29.0024960	64.6665458	6.7303077	93.1785236	
2000	-2.7195532	92.7494423	17.0841536	109.8335959	-3.0451170	106.7884789	-28.8630348	77.9254441	7.6277579	103.0967534	
2001	-2.6965612	93.5730400	17.2073644	110.7804044	-3.0486133	107.7317911	-28.7565696	78.9752215	7.7670722	104.0366734	
2002	-2.5892105	103.1483166	18.9445377	122.0928543	-2.9367870	119.1560673	-28.5658633	90.5902040	8.4437423	114.1812694	
2003	-2.4578458	111.3360600	20.4196366	131.7556966	-2.8452686	129.2104280	-28.6252082	100.5852198	9.0489935	122.8428993	
2004	-2.4321444	121.4711531	22.2788020	143.6959551	-2.6378891	141.0580660	-28.3973182	112.6607478	9.9346892	131.7852367	
2005	-2.4056066	124.4290875	22.8685837	147.2976712	-2.6619830	144.6356882	-28.2208976	116.4147906	10.1574491	136.9921432	
2006	-2.3604575	132.0612773	24.2645098	156.3257871	-2.5430806	153.7827065	-28.1621234	125.6205831	10.8406569	145.2623917	
2007	-2.3378224	133.2817529	24.4761519	157.7579048	-2.5147522	155.2431521	-28.0556387	127.1875134	10.8237555	146.4433308	
2008	-2.3183433	123.6886281	22.7156557	146.4042838	-2.6602508	143.7440330	-27.8192464	115.9247866	10.7535960	136.1145110	
2009	-2.2771895	126.2579953	23.1809814	149.4389767	-2.4757668	146.9632099	-27.8247991	119.1384108	10.2871840	138.8223688	
2010	-2.2892206	128.1808230	23.5443377	151.7251607	-2.5276542	149.1975065	-27.7223996	121.4751069	10.3696777	140.8397213	
2011	-2.2661166	128.4482842	23.5808161	152.0291003	-2.3901700	149.6389303	-27.7866925	121.8522378	10.4624931	141.1768939	
2012	-2.2770919	129.1866742	23.7307618	152.9174360	-2.4189910	150.4984450	-27.7830221	122.7154229	10.4304583	141.8942244	
2013	-2.2794323	130.3998828	23.9473243	154.3473071	-2.4589672	151.8883399	-27.7781274	124.1102125	10.6439310	143.3227253	
2014	-2.2625544	130.8499017	24.0386473	154.6885490	-2.3964215	152.4921275	-27.7864696	124.7056579	10.4831617	143.5956178	
2015	-2.2708479	134.3832942	24.6754146	159.0587088	-2.4531222	156.6055866	-27.7307004	128.8748862	10.9312780	147.5854201	
2016	-2.2602696	136.3225145	25.0424097	161.3649242	-2.4554036	158.9095206	-27.7157352	131.1937854	10.8810571	149.4638412	
2017	-2.2738771	135.1522435	24.8132786	159.9655221	-2.5746226	157.3908995	-27.6749963	129.7159032	10.9302331	148.3563537	
2018	-2.2473497	136.5803887	25.0781542	161.6585429	-2.5185452	159.1399977	-27.5765189	131.5634788	10.9580661	149.7850045	
2019	-2.2450303	137.5079384	25.2792521	162.7871905	-2.5077295	160.2794610	-27.5684297	132.7110313	10.9062000	150.6591687	
2020	-2.2669702	134.2697687	24.7303923	159.0001610	-2.4926061	156.5075549	-27.5816149	128.9259400	10.6691168	147.2058587	
2021	-2.2614301	135.2552401	24.9591410	160.2143811	-2.4141937	157.8001874	-27.6514129	130.1487745	10.7729353	148.2896055	
2022	-2.2541406	134.6620850	24.9176831	159.5797687	-2.4596845	157.1200842	-27.5893006	129.5307878	10.6586877	147.5749139	
2023	-2.2379314	134.3504600	24.8872352	159.2376952	-2.4876915	156.7500037	-27.6180969	129.1319068	10.7714847	147.3598761	
2024	-2.2367009	133.9432296	24.8673854	158.8106150	-2.4739665	156.3366485	-27.6169488	128.7196997	10.6905172	146.8704476	
2025	-2.2650734	134									

OF TRANSPORTATION CHARGE (a

(in dollars per acre-foot)

Sheet 4 of 4

Calendar Year	CALIFORNIA AQUEDUCT (continued)							
	Reach 29G		Reach 29J		Reach 31A		Reach 33A	
	William E. Warne Powerplant		Castaic Powerplant		Las Perillas and Badger Hill Pumping Plants		Devil's Den, Sawtooth, and Polonio Pumping Plants and San Luis Obispo Powerplant	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
1961	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1962	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1963	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1964	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1965	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1966	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1967	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1968	0.0000000	0.0000000	0.0000000	0.0000000	1.5014866	4.1182219	0.0000000	0.0000000
1969	0.0000000	0.0000000	0.0000000	0.0000000	1.2624065	3.0719381	0.0000000	0.0000000
1970	0.0000000	0.0000000	0.0000000	0.0000000	1.6309699	3.3588478	0.0000000	0.0000000
1971	0.0000000	0.0000000	0.0000000	0.0000000	1.4985537	2.7919286	0.0000000	0.0000000
1972	0.0000000	0.0000000	-2.9350830	11.7773035	1.7489056	3.2074977	0.0000000	0.0000000
1973	0.0000000	0.0000000	-6.8059448	7.5046968	1.4609575	2.9982858	0.0000000	0.0000000
1974	0.0000000	0.0000000	-7.4013274	5.8538894	1.4255635	2.8964935	0.0000000	0.0000000
1975	0.0000000	0.0000000	-6.5604921	6.6660435	1.0379624	2.5944238	0.0000000	0.0000000
1976	0.0000000	0.0000000	-6.7213324	8.0013356	1.5465478	3.2570573	0.0000000	0.0000000
1977	0.0000000	0.0000000	-30.4985994	-11.8114350	1.7573375	4.1392042	0.0000000	0.0000000
1978	0.0000000	0.0000000	-9.0130187	4.8125712	1.9022180	3.9335509	0.0000000	0.0000000
1979	0.0000000	0.0000000	-19.0478097	-0.5983441	1.5336852	4.3289836	0.0000000	0.0000000
1980	0.0000000	0.0000000	-20.5438586	0.0816998	1.5124754	3.6770033	0.0000000	0.0000000
1981	0.0000000	0.0000000	-11.3026541	8.9745494	2.7504966	5.9407153	0.0000000	0.0000000
1982	-7.1683478	17.8321809	-26.9383115	-9.5722647	1.7886797	4.3863107	0.0000000	0.0000000
1983	-7.4896554	4.4884918	-42.6125453	-38.1240535	0.1381842	1.4586131	0.0000000	0.0000000
1984	-14.9847754	0.8504631	-15.1293294	-14.2788663	0.8414948	2.5784500	0.0000000	0.0000000
1985	-14.7869421	11.5598523	-36.2901684	-24.7303161	1.4184011	4.2244893	0.0000000	0.0000000
1986	-14.3284894	26.0836095	-28.4053835	-2.3217740	2.3021679	7.3336456	0.0000000	0.0000000
1987	-14.8810549	23.7091827	-26.9383115	-3.2251288	1.8860790	7.7377576	0.0000000	0.0000000
1988	-14.7275786	30.2090133	-26.4855183	3.7234950	2.5800221	8.0525140	0.0000000	0.0000000
1989	-14.6410561	33.1114417	-25.8320160	7.2794257	3.0559403	8.8075653	0.0000000	0.0000000
1990	-15.7419594	34.1346852	-25.5908701	8.5438151	3.1073547	9.1073642	0.0000000	0.0000000
1991	-15.7074465	44.2628867	-25.6302827	18.6326040	3.7743737	10.8104059	0.0000000	0.0000000
1992	-15.8189521	41.6775967	-25.6772254	15.9998713	3.6057530	10.3910733	0.0000000	0.0000000
1993	-15.8618183	41.4060621	-25.6194281	15.7866340	3.5987009	10.4013280	0.0000000	0.0000000
1994	-15.8830535	44.1724692	-25.5868888	18.5858004	3.7640860	10.8261803	0.0000000	0.0000000
1995	-15.9275228	48.5964266	-25.5592600	23.0371666	4.0969290	11.6355022	19.4234340	31.0589362
1996	-15.9042821	49.7237092	-25.5560599	24.167493	4.1382927	11.7668075	19.7671027	31.5339102
1997	-15.8825436	61.4430842	-25.4607170	35.9823672	4.9387618	13.8276302	26.7635843	40.591245
1998	-15.8710493	63.5675994	-25.4509265	38.1166729	5.0435550	14.1242025	27.6795676	41.8037701
1999	-15.8115428	75.3355472	-25.4231161	49.9124311	5.8488949	16.1753092	34.7186250	59.8959342
2000	-15.8072908	87.2894626	-25.3909073	61.8985553	6.6320356	18.2209321	41.5636438	59.7845759
2001	-15.8631302	88.1735432	-25.3964152	62.7771280	6.6824160	18.3691329	42.0039724	60.3731053
2002	-15.7784550	98.4028144	-25.3643307	70.0384837	7.3604909	20.1265162	47.9306813	68.0571975
2003	-15.7798276	107.0630717	-25.3324472	81.7306245	7.9311906	21.5874227	52.9189201	74.5063428
2004	-15.9788007	118.0873560	-25.2948553	92.7925007	8.6542553	23.9562007	59.2388589	83.641183
2005	-15.7531186	121.2390246	-25.3210154	95.9180092	8.8690574	23.9727621	61.1163068	85.0890689
2006	-15.7588235	129.5035682	-25.3236384	104.1799298	9.4113753	25.3739476	65.8564396	91.2303872
2007	-15.7343841	130.7089467	-25.2677654	105.4411813	9.5059536	25.5789424	66.6831002	92.2620426
2008	-15.7943488	120.3201622	-25.2562847	95.0638775	8.8172471	23.8107918	60.6634367	84.4742285
2009	-15.7755097	123.0468591	-25.2656884	97.7811907	8.9969242	24.2770886	62.2339188	86.5110074
2010	-15.7680622	125.0716591	-25.2325133	99.8391458	9.1435082	24.6400233	63.5151094	88.1551327
2011	-15.7275787	125.4493152	-25.2370866	100.2122286	9.1542323	24.6727900	63.6089152	88.2817052
2012	-15.7378242	126.1564002	-25.2310990	100.9253012	9.2103014	24.8164306	64.0989416	88.9153722
2013	-15.7557819	127.5669434	-25.2474487	102.3194947	9.2939909	25.0003674	64.8304344	89.8308018
2014	-15.6718610	127.9237568	-25.2189571	102.7051597	9.3292031	25.0902220	65.1382402	90.2284622
2015	-15.7737875	131.8116326	-25.2511611	106.5604715	9.5808323	25.7349386	67.3375706	93.0725092
2016	-15.7289835	133.7348577	-25.2243568	108.5105009	9.7287433	26.1007841	68.6303663	94.7311504
2017	-15.6795080	132.6768457	-25.2284971	107.4483486	9.6377295	25.8661877	67.8348324	93.7010201
2018	-15.7699021	134.0159024	-25.2341719	108.7817305	9.7412162	26.1149294	68.7393525	94.8542819
2019	-15.7601999	134.8989688	-25.2325171	109.6664517	9.8189702	26.2689216	69.4190194	95.6859410
2020	-15.7474987	131.4583570	-25.2336098	106.2247472	9.6003775	25.6609165	67.5083846	93.1893011
2021	-15.8006027	132.4890028	-25.2429666	107.2460362	9.6888556	25.8756505	68.2817155	94.1573660
2022	-15.7151837	131.8597302	-25.2197240	106.6400062	9.6720930	25.7556253	68.1352467	93.8908720
2023	-15.8280033	131.5318728	-25.2400924	106.2917804	9.6813277	25.7132153	68.0411004	93.7543157
2024	-15.7231064	131.1473412	-25.2229007	105.9244405	9.6496829	25.6034624	67.9393213	93.5427837
2025	-15.8227290	131.5948896	-25.2377361	106.3571535	9.6959382	25.7036528	68.3436143	94.0472671
2026	-15.8007700	132.1018558	-25.2311142	106.8707416	9.7331410	25.7895035	68.6688272	94.4583314
2027	-15.7659524	131.4665302	-25.2389959	106.2275343	9.6855381	25.6751518	68.2527459	93.9098970
2028	-15.6972056	131.7306681	-25.2162307	106.5144374	9.7185849	25.7041968	68.5416111	94.2458079
2029	-15.7803384	131.0638031	-25.2434920	105.8203111	9.6834756	25.5956127	68.2346991	93.8303118
2030	-15.7073729	131.0394873	-25.2293581	105.8101292	9.6881304	25.5481838	68.2754164	93.8236002
2031	-15.7042250	131.0056893	-25.2250798	105.7806095	9.6967920	25.5138888	68.3511619	93.8650507
2032	-15.7495206	131.3096884	-25.2333591	106.0763293	9.7471467	25.6034944	68.7912210	94.3947154
2033	-15.7956115	129.9243638	-25.3018081	104.6225557	9.6698556	25.4170979	68.1156684	93.5327665
2034	-15.7452567	131.0210199	-25.1523753	105.8686446	9.7869932	25.6934501	69.1394745	94.8329246
2035	-15.7817640	135.2118796	-25.2351646	109.9767150	10.0805777	26.4256624	71.7056295	98.1312919

TABLE B-18: VARIABLE OMP&R COMPONENT OF

(in dollars)

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Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	2,051	34,919	0	36,970	0	0	0
1963	0	0	0	7,900	49,811	0	57,711	0	0	0
1964	0	0	0	5,931	68,203	0	74,134	0	0	0
1965	0	0	0	10,918	68,765	62,926	142,609	0	0	0
1966	0	0	0	19,330	52,135	121,140	192,605	0	0	0
1967	0	0	0	19,399	56,949	160,650	236,998	0	0	0
1968	6,989	0	6,989	29,898	120,985	341,769	492,652	0	0	0
1969	8,551	0	8,551	31,859	3,904	298,968	334,731	0	0	0
1970	13,598	0	13,598	49,688	0	431,442	481,130	0	0	0
1971	10,609	0	10,609	23,842	28,329	416,328	468,499	0	0	0
1972	14,434	0	14,434	54,839	144,669	524,207	723,715	0	0	0
1973	14,449	0	14,449	18,397	15,590	547,808	581,795	0	0	0
1974	17,473	0	17,473	9,499	29	636,187	645,715	0	0	0
1975	14,779	0	14,779	22,317	4,765	425,285	452,367	0	0	0
1976	20,856	0	20,856	97,875	121,693	502,768	722,336	0	0	0
1977	22,635	0	22,635	82,578	123,044	497,792	703,414	0	0	0
1978	21,692	0	21,692	74,911	39,986	652,861	767,758	0	0	0
1979	16,237	0	16,237	136,993	77,085	652,117	866,195	0	0	0
1980	19,945	0	19,945	98,742	64,892	517,532	681,166	0	0	0
1981	23,841	0	23,841	126,954	142,035	570,292	839,281	0	0	0
1982	11,934	0	11,934	87,316	42,025	580,602	709,943	0	0	0
1983	2,804	0	2,804	11,857	7,854	215,784	235,495	0	0	0
1984	4,528	0	4,528	24,608	12,107	319,201	355,916	0	0	0
1985	11,483	0	11,483	98,981	124,883	577,919	801,783	0	0	0
1986	15,698	0	15,698	118,930	138,772	986,503	1,244,205	0	0	0
1987	30,550	0	30,550	252,117	273,487	947,887	1,473,491	0	0	0
1988	52,024	61,165	113,189	363,287	486,380	1,065,642	1,915,309	0	0	0
1989	35,511	88,652	124,163	386,163	503,943	1,121,119	2,011,225	0	0	0
1990	41,285	88,331	129,616	416,907	529,992	1,198,605	2,145,504	0	0	0
1991	54,217	112,145	166,362	539,695	655,888	1,492,098	2,687,681	0	0	0
1992	55,414	113,395	168,809	547,944	638,736	1,461,185	2,647,865	0	0	0
1993	57,415	114,669	172,084	578,347	639,225	1,491,525	2,709,097	0	0	0
1994	74,760	135,393	210,153	634,719	666,455	1,586,800	2,887,974	0	0	0
1995	97,760	164,978	262,738	721,285	721,285	1,717,346	3,159,916	649,132	1,184,401	1,833,533
1996	105,988	172,735	278,723	763,228	728,536	1,734,609	3,226,373	788,348	1,434,351	2,222,699
1997	135,220	213,595	348,815	944,139	862,041	2,052,476	3,858,656	1,014,780	1,846,332	2,861,112
1998	146,947	225,934	372,881	963,829	880,018	2,095,283	3,939,130	1,045,094	1,901,486	2,946,580
1999	180,202	270,997	451,199	1,109,915	1,013,401	2,412,859	4,536,175	1,272,348	2,314,961	3,587,309
2000	216,906	317,772	534,678	1,253,869	1,144,838	2,725,803	5,124,510	1,494,614	2,719,362	4,213,976
2001	229,118	326,582	555,700	1,263,108	1,153,273	2,745,886	5,162,267	1,509,327	2,746,131	4,255,458
2002	262,340	366,619	628,959	1,387,494	1,266,843	3,016,293	5,670,630	1,701,430	3,095,649	4,797,079
2003	295,395	402,691	698,086	1,491,737	1,362,020	3,242,907	6,096,664	1,862,658	3,388,996	5,251,654
2004	335,823	447,933	783,756	1,623,601	1,482,418	3,529,566	6,635,585	2,066,710	3,760,256	5,826,966
2005	358,288	467,814	826,102	1,662,626	1,518,050	3,614,405	6,795,081	2,127,226	3,870,361	5,997,587
2006	391,189	497,201	888,390	1,762,201	1,608,966	3,830,871	7,202,038	2,280,760	4,149,706	6,430,466
2007	408,915	502,974	911,889	1,777,978	1,623,371	3,865,168	7,266,517	2,306,552	4,196,631	6,503,183
2008	394,276	467,423	861,699	1,652,054	1,508,397	3,591,422	6,751,873	2,111,856	3,842,394	5,954,250
2009	415,444	477,802	893,246	1,685,051	1,538,524	3,663,155	6,886,730	2,162,775	3,935,040	6,097,815
2010	434,251	486,241	920,492	1,711,604	1,562,769	3,720,878	6,995,251	2,203,879	4,009,825	6,213,704
2011	452,052	487,855	939,907	1,713,406	1,564,415	3,724,795	7,002,616	2,207,043	4,015,581	6,222,624
2012	468,606	491,644	960,250	1,723,993	1,574,081	3,747,811	7,045,885	2,222,885	4,044,404	6,267,289
2013	490,063	496,990	987,053	1,739,013	1,587,795	3,780,463	7,107,271	2,245,770	4,086,044	6,331,814
2014	509,669	499,878	1,009,547	1,745,858	1,594,044	3,795,342	7,135,244	2,255,712	4,104,131	6,359,843
2015	541,699	514,197	1,055,896	1,791,638	1,635,843	3,894,866	7,322,347	2,326,813	4,233,497	6,560,310
2016	567,619	522,798	1,090,417	1,818,836	1,660,676	3,953,991	7,433,503	2,368,279	4,308,942	6,677,221
2017	579,964	518,371	1,098,335	1,802,456	1,645,721	3,918,382	7,366,559	2,342,525	4,262,084	6,604,609
2018	604,075	524,578	1,128,653	1,821,109	1,662,752	3,958,935	7,442,796	2,371,357	4,314,542	6,685,899
2019	627,529	529,444	1,156,973	1,834,455	1,674,937	3,987,943	7,497,335	2,392,147	4,352,371	6,744,518
2020	631,919	518,181	1,150,100	1,793,482	1,637,527	3,898,873	7,329,882	2,329,232	4,237,899	6,567,131
2021	640,771	522,940	1,163,711	1,809,531	1,652,181	3,933,765	7,395,477	2,353,933	4,282,841	6,636,774
2022	639,663	522,035	1,161,698	1,806,126	1,649,071	3,926,361	7,381,558	2,347,272	4,270,720	6,617,992
2023	638,951	521,454	1,160,405	1,803,756	1,646,908	3,921,209	7,371,873	2,343,858	4,264,508	6,608,366
2024	638,180	520,826	1,159,006	1,800,684	1,644,103	3,914,531	7,359,318	2,338,570	4,254,887	6,593,457
2025	641,240	523,322	1,164,562	1,808,318	1,651,073	3,931,125	7,390,516	2,351,181	4,277,834	6,629,015
2026	643,699	525,331	1,169,030	1,814,643	1,656,848	3,944,875	7,416,366	2,361,459	4,296,532	6,657,991
2027	640,552	522,762	1,163,314	1,805,421	1,648,428	3,924,828	7,378,677	2,347,748	4,271,585	6,619,333
2028	642,737	524,546	1,167,283	1,809,748	1,652,378	3,934,233	7,396,359	2,356,146	4,286,866	6,643,012
2029	640,415	522,650	1,163,065	1,802,443	1,645,708	3,918,353	7,366,504	2,345,757	4,267,967	6,613,724
2030	640,723	522,902	1,163,625	1,801,857	1,645,173	3,917,079	7,364,109	2,345,590	4,267,660	6,613,250
2031	641,296	523,369	1,164,665	1,802,111	1,645,405	3,917,631	7,365,147	2,346,627	4,269,546	6,616,173
2032	644,626	526,087	1,170,713	1,810,846	1,653,382	3,936,622	7,400,850	2,359,869	4,293,638	6,653,507
2033	639,515	521,915	1,161,430	1,797,110	1,640,840	3,906,762	7,344,712	2,338,319	4,254,431	6,592,750
2034	647,262	528,235	1,175,497	1,817,715	1,659,653	3,951,556	7,428,924	2,370,824	4,313,571	6,684,395
2035	666,678	544,083	1,210,761	1,870,326	1,707,689	4,065,925	7,643,940	2,453,282	4,463,600	6,916,882
TOTAL	20,201,276	19,499,434	39,700,710	71,703,392	66,948,916	165,670,125	304,322,433	85,019,687	154,691,563	239,711,250

TRANSPORTATION CHARGE FOR CONTRACTOR (a)

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	30,400	68,978	5,176	0	0	440,923	2,355	4,760	65,680	618,272
1969	30,627	56,774	101	0	0	321,387	181	3,338	17,956	430,364
1970	39,429	69,819	6,811	0	0	470,866	0	5,595	16,550	609,070
1971	34,872	53,097	7,747	0	0	769,054	4,785	6,353	158,419	1,034,327
1972	44,601	61,907	8,452	0	0	1,123,600	2,042	7,375	376,900	1,624,877
1973	28,247	33,931	4,615	0	0	764,825	2,308	3,017	77,630	914,573
1974	28,096	49,114	4,413	0	46,752	671,406	2,207	3,114	106,332	911,434
1975	27,760	63,122	4,670	0	34,574	842,482	2,490	3,920	134,257	1,113,275
1976	38,108	70,851	5,131	0	94,653	965,096	2,737	4,910	100,597	1,282,083
1977	21,006	26,565	1,758	0	84,875	498,624	3,644	2,602	43,067	682,141
1978	44,693	107,201	923	0	188,010	1,594,321	4,248	6,294	24,483	1,970,173
1979	82,848	107,742	4,861	0	193,697	2,365,059	5,591	13,137	433,610	3,206,545
1980	51,044	88,746	1,935	0	121,602	1,731,588	4,762	7,766	163,301	2,170,744
1981	75,447	130,799	18,692	0	261,922	2,524,746	7,337	9,018	266,186	3,294,147
1982	55,453	107,735	949	0	141,413	2,324,971	4,599	6,697	48,746	2,690,563
1983	18,464	56,647	0	0	14,836	994,490	4,687	3,451	1,328	1,093,903
1984	32,851	78,337	0	0	160,230	1,806,882	5,384	6,329	9,975	2,099,988
1985	51,112	129,784	14,583	0	258,537	2,909,967	9,541	9,953	308,083	3,691,560
1986	97,545	252,827	5,887	0	402,684	5,155,568	18,617	18,416	399,273	6,350,817
1987	91,468	270,863	14,776	0	704,052	5,787,007	23,407	25,366	544,697	7,461,636
1988	109,345	311,932	19,110	0	715,491	6,910,450	21,890	21,065	697,742	8,807,025
1989	111,855	319,790	17,255	0	777,226	6,983,328	23,007	22,708	681,567	8,936,736
1990	115,663	346,200	18,000	0	849,153	7,471,436	24,000	24,039	711,001	9,559,492
1991	137,293	405,979	21,108	0	996,953	8,797,321	28,144	27,988	833,769	11,248,555
1992	131,966	391,513	20,356	0	960,971	8,469,120	27,141	27,072	804,060	10,832,199
1993	132,097	392,511	20,408	0	963,075	8,479,932	27,210	27,171	806,112	10,848,516
1994	137,492	407,482	21,187	0	1,000,280	8,817,944	28,248	28,087	836,858	11,277,578
1995	147,771	434,976	22,615	0	1,068,161	9,427,782	30,154	29,951	893,321	12,054,731
1996	149,438	440,165	22,886	0	1,081,206	9,548,715	30,515	30,215	903,979	12,207,119
1997	175,611	512,888	26,666	0	1,260,648	11,154,073	35,556	35,012	1,053,331	14,253,785
1998	179,377	523,953	27,242	0	1,288,180	11,401,471	36,322	35,712	1,076,057	14,568,314
1999	205,427	595,834	30,979	0	1,465,656	12,990,795	41,305	40,446	1,223,680	16,594,122
2000	231,406	668,680	34,767	0	1,645,523	14,600,057	46,356	45,284	1,373,285	18,645,358
2001	233,288	674,323	35,060	0	1,659,509	14,725,769	46,747	45,593	1,384,876	18,805,165
2002	255,607	736,600	38,299	0	1,813,289	16,104,998	51,064	49,751	1,512,774	20,562,382
2003	274,160	787,965	40,969	0	1,940,373	17,251,450	54,625	53,194	1,618,263	22,020,999
2004	297,556	852,535	44,326	0	2,100,020	18,687,792	59,101	57,532	1,750,874	23,849,736
2005	304,454	871,484	45,311	0	2,146,931	19,111,780	60,415	58,802	1,789,789	24,388,966
2006	322,249	921,041	47,888	0	2,269,399	20,213,647	63,850	62,139	1,891,565	25,791,778
2007	324,853	927,412	48,219	0	2,285,291	20,360,669	64,292	62,524	1,904,649	25,977,909
2008	302,397	865,127	44,981	0	2,131,427	18,980,222	59,974	58,352	1,776,735	24,219,215
2009	308,319	881,665	45,841	0	2,172,301	19,347,797	61,121	59,458	1,810,700	24,687,202
2010	312,929	894,149	46,490	0	2,203,062	19,623,528	61,986	60,315	1,836,337	25,038,796
2011	313,344	895,421	46,556	0	2,206,292	19,654,669	62,074	60,361	1,838,949	25,077,666
2012	315,169	900,473	46,818	0	2,218,685	19,764,610	62,425	60,742	1,849,326	25,218,248
2013	317,505	906,258	47,119	0	2,233,348	19,904,244	62,825	61,214	1,861,205	25,393,718
2014	318,646	909,411	47,284	0	2,241,021	19,970,551	63,044	61,477	1,867,680	25,479,114
2015	326,834	932,092	48,462	0	2,297,010	20,478,294	64,617	62,973	1,914,262	26,124,544
2016	331,480	944,666	49,116	0	2,327,973	20,753,916	65,488	63,888	1,940,087	26,476,614
2017	328,501	936,382	48,685	0	2,307,693	20,575,250	64,914	63,369	1,923,073	26,247,867
2018	331,659	944,763	49,121	0	2,328,474	20,763,310	65,494	63,963	1,940,285	26,487,069
2019	333,590	949,047	49,344	0	2,339,127	20,862,038	65,792	64,326	1,949,083	26,612,347
2020	325,894	926,693	48,181	0	2,283,916	20,361,374	64,242	62,877	1,903,174	25,976,351
2021	328,620	933,978	48,560	0	2,301,429	20,497,748	64,748	63,398	1,918,135	26,156,616
2022	327,097	928,020	48,250	0	2,286,838	20,375,049	64,335	63,254	1,905,899	25,998,742
2023	326,558	926,194	48,156	0	2,282,246	20,338,557	64,208	63,139	1,902,149	25,951,207
2024	325,164	920,533	47,861	0	2,268,625	20,232,317	63,815	62,951	1,890,522	25,811,788
2025	326,436	923,645	48,023	0	2,276,277	20,304,807	64,030	63,130	1,896,914	25,903,262
2026	327,526	926,453	48,170	0	2,283,120	20,369,172	64,225	63,296	1,902,679	25,984,641
2027	325,846	921,562	47,915	0	2,271,061	20,263,779	63,887	62,943	1,892,637	25,849,630
2028	326,443	922,370	47,956	0	2,273,347	20,291,245	63,943	62,931	1,894,295	25,882,530
2029	325,064	918,131	47,737	0	2,263,010	20,202,127	63,649	62,608	1,885,588	25,767,914
2030	324,462	915,125	47,580	0	2,256,024	20,150,142	63,440	62,458	1,879,416	25,698,647
2031	324,026	912,646	47,452	0	2,250,236	20,102,106	63,269	62,346	1,874,326	25,636,407
2032	325,164	914,911	47,569	0	2,255,818	20,149,885	63,426	62,593	1,878,978	25,698,344
2033	322,797	908,616	47,242	0	2,240,019	19,999,082	62,989	62,174	1,866,048	25,508,967
2034	326,307	917,803	47,720	0	2,262,436	20,197,390	63,626	62,783	1,884,915	25,762,980
2035	335,606	943,111	49,036	0	2,325,100	20,762,438	65,381	64,428	1,936,892	26,481,992
TOTAL	13,964,362	39,127,347	2,051,356	0	94,381,087	850,847,038	2,693,831	2,683,443	79,864,911	1,085,613,375

a) Unadjusted for prior overpayments or underpayments of charges.

TABLE B-18: VARIABLE OMP&R COMPONENT OF

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	779	0	0	12,781	0	4,492	1,516	0	32,093	0
1973	286	0	102,811	6,895	159,535	3,854	0	0	301,444	0
1974	15,558	0	100,954	9,891	157,742	4,932	221	0	177,172	6,529
1975	99,182	0	108,250	12,758	170,106	6,391	0	0	136,060	53,482
1976	385,090	0	135,276	17,835	213,595	8,163	0	0	139,356	68,933
1977	199,168	0	0	23,598	0	1,973	1,702	0	239,663	86,821
1978	580,256	0	173,766	20,833	263,648	2,723	0	0	36,902	70,719
1979	1,058,567	-3	228,381	28,596	340,428	2,327	90,780	0	236	3,803
1980	1,390,117	99	256,759	29,229	401,036	3,666	94,362	0	0	16,503
1981	1,485,289	51,701	275,199	33,761	431,951	23,765	90,936	0	256,320	57,901
1982	930,891	78,602	296,151	27,512	466,695	0	233,347	0	120,910	181,155
1983	345,552	-361,264	176,883	11,077	279,668	398	0	0	-43,812	-5,365
1984	461,081	-163,878	260,219	18,616	412,575	14	0	0	-73,488	-101,264
1985	886,451	-306,681	472,050	39,512	750,214	0	0	37,261	-8,601	-5,852
1986	1,147,978	-32,336	754,862	62,428	1,202,142	5,766	0	109,529	78,360	115,375
1987	1,112,042	-52,205	744,284	70,825	1,206,577	35,020	650	175,226	73,863	41,873
1988	1,741,878	68,511	926,352	89,711	1,525,080	73,953	0	235,154	386,403	176,401
1989	1,964,222	160,873	1,063,629	102,118	1,774,905	0	0	335,144	495,766	215,105
1990	2,136,005	212,484	1,174,853	111,890	1,937,744	68,353	15,258	445,998	554,915	235,895
1991	2,863,594	532,893	1,430,403	142,421	2,359,238	88,512	18,577	679,452	914,766	350,549
1992	2,889,212	512,796	1,367,376	142,065	2,255,282	89,665	17,759	802,504	809,392	345,618
1993	3,180,766	580,554	1,364,438	155,521	2,250,436	94,429	17,720	859,800	842,441	345,843
1994	3,559,045	771,302	1,435,149	171,890	2,367,068	104,677	1,568,723	905,463	937,386	356,086
1995	4,090,485	956,042	1,557,801	198,851	2,569,363	119,306	3,425,817	982,854	1,152,351	407,327
1996	4,418,570	1,002,958	1,580,682	211,663	2,607,098	126,904	3,476,132	997,928	1,270,884	430,090
1997	5,584,447	1,493,267	1,883,704	266,445	3,106,890	158,181	4,142,516	1,189,791	1,853,977	602,910
1998	6,054,525	1,581,841	1,931,508	285,702	3,185,736	162,300	4,247,647	1,220,785	2,055,811	644,498
1999	7,381,205	2,071,367	2,234,670	346,574	3,685,755	187,796	4,914,340	1,412,552	2,715,994	829,024
2000	8,811,198	2,568,788	2,537,155	411,135	4,184,660	213,324	5,579,547	1,604,566	3,428,720	1,020,823
2001	9,357,304	2,605,250	2,559,026	430,928	4,220,734	215,219	5,627,645	1,618,816	3,632,860	1,059,847
2002	10,830,574	3,031,097	2,820,344	494,498	4,651,738	237,241	6,202,317	1,784,467	4,348,149	1,244,709
2003	12,246,966	3,391,820	3,043,557	555,605	5,019,891	256,072	6,693,189	1,926,113	5,029,263	1,414,231
2004	13,962,972	3,850,888	3,319,377	627,708	5,474,815	279,261	7,299,756	2,100,516	6,083,680	1,620,062
2005	14,931,490	3,980,597	3,402,577	665,323	5,612,040	286,187	7,482,722	2,152,623	6,752,058	1,711,298
2006	15,847,354	4,323,467	3,611,126	730,467	5,956,013	303,740	7,941,349	2,284,661	7,788,476	1,889,335
2007	15,993,810	4,375,810	3,644,207	760,692	6,010,575	306,549	8,014,103	2,305,774	8,394,377	1,956,143
2008	14,842,635	3,945,151	3,381,939	725,908	5,578,003	284,485	7,437,337	2,139,813	8,114,734	1,822,339
2009	15,150,959	4,057,919	3,452,039	764,209	5,693,626	290,393	7,591,501	2,184,264	8,816,243	1,913,362
2010	15,381,699	4,143,325	3,504,851	798,207	5,780,730	294,815	7,707,638	2,217,528	9,475,058	1,992,192
2011	15,413,794	4,158,807	3,511,872	814,035	5,792,309	295,431	7,723,078	2,222,156	9,991,882	2,047,119
2012	15,502,401	4,188,400	3,532,394	832,256	5,826,155	297,130	7,768,207	2,234,929	10,553,527	2,110,704
2013	15,647,998	4,246,259	3,565,423	853,614	5,880,634	299,919	7,840,843	2,255,920	11,169,919	2,184,339
2014	15,701,988	4,262,264	3,577,926	870,729	5,901,254	300,955	7,868,339	2,263,703	11,472,921	2,244,702
2015	16,125,995	4,422,260	3,674,257	908,312	6,060,138	309,081	8,080,184	2,324,831	12,114,239	2,371,299
2016	16,358,763	4,503,185	3,727,530	921,675	6,148,005	313,542	8,197,337	2,358,380	12,594,603	2,471,692
2017	16,218,269	4,459,107	3,695,203	912,868	6,094,685	310,850	8,126,248	2,338,133	12,712,157	2,500,922
2018	16,389,647	4,514,442	3,734,312	923,011	6,159,192	314,135	8,212,255	2,362,842	13,156,348	2,594,431
2019	16,500,953	4,551,159	3,760,384	929,622	6,202,193	316,268	8,269,590	2,378,887	13,334,803	2,675,455
2020	16,112,373	4,408,327	3,672,904	907,746	6,057,906	308,822	8,077,209	2,322,867	13,016,362	2,655,874
2021	16,771,649	4,450,710	3,700,952	915,242	6,104,168	311,087	8,138,891	2,339,915	13,202,291	2,743,537
2022	16,967,422	4,425,561	3,686,291	911,297	6,079,988	309,723	8,106,651	2,329,654	13,201,777	2,792,684
2023	17,734,261	4,411,109	3,678,392	909,149	6,066,956	309,007	8,089,276	2,324,263	13,223,107	2,846,067
2024	18,216,279	4,395,864	3,668,526	906,753	6,050,684	308,070	8,067,580	2,317,217	13,206,640	2,898,767
2025	18,605,395	4,413,822	3,682,493	909,701	6,073,723	309,192	8,098,297	2,325,674	13,265,622	2,973,775
2026	18,667,190	4,435,136	3,695,083	913,591	6,094,488	310,220	8,125,984	2,333,399	13,326,903	3,057,651
2027	18,571,603	4,408,443	3,676,254	908,710	6,063,431	308,632	8,084,572	2,321,449	13,236,844	3,106,660
2028	18,628,110	4,420,349	3,687,855	911,739	6,082,565	309,571	8,110,088	2,328,514	13,287,313	3,188,439
2029	18,557,646	4,391,544	3,674,063	907,939	6,059,817	308,399	8,079,757	2,319,706	13,224,015	3,242,849
2030	18,551,591	4,391,121	3,673,260	907,659	6,058,495	308,299	8,077,992	2,318,949	13,221,464	3,311,809
2031	18,546,700	4,389,894	3,673,190	907,874	6,058,378	308,218	8,077,839	2,318,337	13,222,111	3,391,872
2032	18,610,528	4,402,168	3,685,168	910,929	6,078,132	309,279	8,104,176	2,326,318	13,276,941	3,486,168
2033	18,438,520	4,341,836	3,650,508	902,028	6,020,969	306,420	8,027,959	2,304,814	13,121,910	3,524,755
2034	18,606,990	4,393,548	3,683,800	910,414	6,075,879	309,219	8,101,172	2,325,874	13,272,300	3,645,355
2035	19,175,685	4,564,036	3,794,269	938,313	6,258,079	318,671	8,344,105	2,396,961	13,765,305	3,863,945
TOTAL	637,940,892	159,382,386	149,074,917	32,160,884	245,611,555	12,054,986	301,732,736	90,702,272	406,491,486	95,105,170

TRANSPORTATION CHARGE FOR EACH CONTRACTOR (a)

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1962	0	0	0	0	0	0	0	0	0	36,970
1963	0	0	0	0	0	0	0	0	0	57,711
1964	0	0	0	0	0	0	0	0	0	74,134
1965	0	0	0	0	0	0	0	0	0	142,609
1966	0	0	0	0	0	0	0	0	0	192,605
1967	0	0	0	0	0	0	0	0	0	236,998
1968	0	0	0	0	0	0	0	0	0	1,117,913
1969	0	0	0	0	0	0	0	0	0	773,646
1970	0	0	0	0	0	0	0	0	0	1,103,798
1971	0	0	0	0	0	0	0	0	0	1,513,435
1972	0	847,235	0	898,896	0	0	0	0	0	3,261,922
1973	0	1,083,333	0	1,658,158	0	0	0	0	0	3,168,975
1974	0	1,872,299	0	2,345,298	0	0	0	0	0	3,919,920
1975	0	3,886,921	0	4,473,150	0	0	0	0	0	6,053,571
1976	0	5,485,263	0	6,453,511	0	0	0	0	0	8,478,786
1977	0	7,796,688	0	243,763	0	0	0	0	0	1,164,427
1978	0	3,678,838	0	4,827,685	0	0	0	0	0	7,587,308
1979	0	4,019,308	0	5,772,423	0	0	0	0	0	9,861,400
1980	0	5,362,248	0	7,554,019	0	0	0	0	0	10,425,874
1981	0	10,573,926	0	13,280,749	0	0	0	0	0	17,438,018
1982	0	7,519,204	0	9,854,467	0	0	0	0	0	13,266,907
1983	0	8,095,836	0	7,692,699	0	0	0	0	0	6,360,497
1984	0	7,541,786	0	6,727,911	0	0	0	0	0	4,267,479
1985	0	11,276,436	0	9,412,082	0	0	0	0	0	4,907,256
1986	0	1,760,566	0	5,204,670	0	0	0	0	0	12,815,390
1987	0	2,135,721	0	1,272,434	0	0	0	0	0	10,238,111
1988	0	8,961,976	0	14,185,419	0	0	0	0	0	25,020,942
1989	0	17,839,978	0	23,951,740	0	0	0	0	0	35,023,864
1990	0	19,931,263	0	26,824,658	0	0	0	0	0	38,659,270
1991	0	34,336,742	0	43,717,147	0	0	0	0	0	57,819,745
1992	0	34,182,978	0	43,414,647	0	0	0	0	0	57,063,520
1993	0	34,308,352	247,152	44,247,432	0	0	0	0	0	57,977,129
1994	0	36,823,490	300,872	49,301,151	0	0	0	0	0	63,676,856
1995	0	43,653,407	382,005	59,495,609	0	0	0	0	0	76,806,527
1996	0	46,370,644	411,245	62,904,798	0	0	0	0	0	80,839,712
1997	0	67,441,968	614,082	88,338,178	0	0	0	0	0	109,660,546
1998	0	72,429,106	663,287	94,462,746	0	0	0	0	0	116,289,651
1999	0	94,810,241	874,496	121,464,014	0	0	0	0	0	146,632,819
2000	1,348,110	118,136,344	1,146,702	150,991,072	0	0	0	0	0	179,509,594
2001	1,366,271	122,607,458	1,192,071	156,493,427	0	0	0	0	0	185,272,017
2002	1,567,213	144,853,932	1,408,498	183,474,777	0	0	0	0	0	215,133,827
2003	1,740,124	165,092,275	1,602,822	208,011,928	0	0	0	0	0	242,079,331
2004	1,949,030	190,034,488	1,847,704	238,450,257	0	0	0	0	0	275,546,300
2005	2,013,975	200,648,490	1,947,974	251,587,354	0	0	0	0	0	289,595,090
2006	2,173,237	220,728,893	2,111,793	275,689,911	0	0	0	0	0	316,002,583
2007	2,200,343	227,120,485	2,141,052	283,223,920	0	0	0	0	0	323,883,418
2008	2,005,499	209,416,690	1,945,743	261,640,276	0	0	0	0	0	299,427,313
2009	2,061,095	218,737,284	2,003,202	272,716,096	0	0	0	0	0	311,281,089
2010	2,101,519	226,630,221	2,047,902	282,075,685	0	0	0	0	0	321,243,928
2011	2,108,044	227,390,334	2,055,161	283,524,022	0	0	0	0	0	322,766,835
2012	2,122,976	229,015,013	2,068,968	286,053,060	0	0	0	0	0	325,544,732
2013	2,147,107	231,818,048	2,096,087	290,006,110	0	0	0	0	0	329,825,966
2014	2,157,408	232,865,273	2,103,442	291,590,904	0	0	0	0	0	331,574,652
2015	2,229,536	241,021,417	2,178,379	301,819,928	0	0	0	0	0	342,883,025
2016	2,269,654	245,416,172	2,226,789	307,507,267	0	0	0	0	0	349,185,022
2017	2,244,085	242,743,469	2,216,732	304,572,728	0	0	0	0	0	345,890,098
2018	2,276,049	246,092,262	2,253,559	308,982,485	0	0	0	0	0	350,726,902
2019	2,295,900	248,208,988	2,281,718	311,705,920	0	0	0	0	0	353,717,093
2020	2,230,419	240,847,200	2,250,662	302,868,671	0	0	0	0	0	343,892,135
2021	2,251,573	243,159,668	2,271,136	306,360,819	0	0	0	0	0	347,713,397
2022	2,240,882	241,926,371	2,258,899	305,237,200	0	0	0	0	0	346,397,190
2023	2,233,982	241,157,687	2,252,037	305,235,293	0	0	0	0	0	346,327,144
2024	2,226,850	240,362,354	2,244,601	304,870,185	0	0	0	0	0	345,793,754
2025	2,236,795	241,412,653	2,253,332	306,560,474	0	0	0	0	0	347,647,829
2026	2,247,129	242,555,865	2,263,570	308,026,209	0	0	0	0	0	349,254,237
2027	2,231,943	240,958,426	2,250,746	306,127,713	0	0	0	0	0	347,138,667
2028	2,240,453	241,796,919	2,256,370	307,248,285	0	0	0	0	0	348,337,469
2029	2,229,781	240,498,118	2,242,626	305,736,260	0	0	0	0	0	346,647,467
2030	2,229,350	240,459,485	2,242,351	305,751,825	0	0	0	0	0	346,591,456
2031	2,229,460	240,446,494	2,241,737	305,812,104	0	0	0	0	0	346,594,496
2032	2,238,706	241,347,373	2,247,694	307,023,580	0	0	0	0	0	347,946,994
2033	2,212,563	238,349,290	2,218,960	303,420,532	0	0	0	0	0	344,028,391
2034	2,237,922	241,138,117	2,243,135	306,943,725	0	0	0	0	0	347,995,521
2035	2,321,052	250,293,862	2,325,710	318,359,993	0	0	0	0	0	360,613,568
TOTAL	76,216,035	8,582,620,217	78,433,003	10,867,526,539	0	0	0	0	0	12,536,874,307

TABLE B-19: TOTAL TRANSPORTATION

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	11,750	43,787	0	55,537	0	0	0
1963	0	0	0	152,813	188,947	455,509	797,269	0	0	0
1964	0	0	0	173,382	266,670	631,845	1,071,897	9,067	17,954	27,021
1965	0	0	0	248,951	368,922	1,174,621	1,792,494	14,938	28,953	43,891
1966	18,399	0	18,399	275,395	379,687	1,432,331	2,087,413	24,388	46,598	70,986
1967	42,294	0	42,294	458,491	1,704,742	2,514,453	43,012	81,129	124,141	124,141
1968	130,656	0	130,656	397,011	559,391	2,008,472	2,964,874	69,364	129,930	199,294
1969	257,459	0	257,459	452,635	495,067	2,108,169	3,055,871	124,504	231,788	356,292
1970	280,354	0	280,354	466,611	486,721	2,228,318	3,181,650	137,627	256,087	393,714
1971	230,317	0	230,317	427,577	506,093	2,195,563	3,129,233	138,809	258,349	397,158
1972	227,843	0	227,843	514,009	632,314	2,346,157	3,492,480	145,043	269,969	415,012
1973	223,973	32,062	256,035	478,534	503,144	2,364,412	3,346,090	142,091	264,573	406,664
1974	243,427	33,660	277,087	501,875	518,272	2,532,183	3,552,330	143,333	266,915	410,248
1975	240,526	37,068	277,594	550,249	559,086	2,435,808	3,545,143	159,921	297,561	457,482
1976	274,435	41,687	316,122	640,560	688,169	2,526,425	3,855,154	272,011	504,558	776,569
1977	296,818	46,017	342,835	603,871	666,888	2,502,501	3,773,260	282,872	525,050	807,922
1978	279,036	50,160	329,196	663,921	651,243	2,825,054	4,140,218	292,875	543,670	836,545
1979	292,659	54,276	346,935	720,936	689,105	2,838,232	4,248,273	289,304	537,197	826,501
1980	314,345	68,734	383,079	837,637	819,199	3,053,480	4,710,316	315,899	586,397	902,296
1981	352,158	87,313	439,471	799,813	832,089	2,943,556	4,575,458	338,763	628,674	967,437
1982	444,629	108,120	552,749	836,228	805,850	3,237,163	4,879,241	339,421	630,002	969,423
1983	388,084	154,034	542,118	852,918	857,174	3,895,069	5,605,161	364,775	676,820	1,041,595
1984	465,680	231,955	697,635	1,115,264	1,030,430	5,639,040	7,784,734	388,244	720,180	1,108,424
1985	746,702	369,453	1,116,155	1,598,308	1,754,752	6,626,055	9,979,115	441,007	817,570	1,258,577
1986	1,081,935	698,596	1,780,531	1,404,534	1,482,560	6,894,893	9,781,987	423,012	784,507	1,207,519
1987	1,773,195	1,568,430	3,341,625	2,004,032	2,084,078	7,158,019	11,216,129	436,073	809,820	1,245,893
1988	2,114,761	2,512,723	4,627,484	2,299,349	2,659,670	6,976,983	11,936,002	523,340	978,913	1,502,253
1989	2,533,598	3,647,220	6,180,818	2,324,708	2,613,875	6,932,904	11,871,487	586,548	1,104,876	1,691,424
1990	2,621,965	3,759,640	6,381,605	2,393,611	2,670,535	7,130,865	12,195,011	627,005	1,186,680	1,813,685
1991	2,654,485	3,810,259	6,464,744	2,473,260	2,731,305	7,284,876	12,489,441	677,084	1,290,246	1,967,330
1992	2,654,453	3,805,933	6,460,386	2,471,629	2,667,637	7,158,242	12,297,508	849,459	1,654,396	2,503,855
1993	2,659,852	3,817,990	6,477,842	2,523,879	2,650,706	7,184,608	12,359,193	2,006,587	4,239,802	6,246,389
1994	2,694,372	3,850,610	6,544,982	2,601,413	2,661,056	7,277,284	12,539,753	3,474,392	7,546,961	11,021,353
1995	2,732,617	3,889,729	6,622,346	2,698,025	2,689,509	7,346,148	12,733,682	6,367,729	13,054,795	19,422,524
1996	2,746,028	3,898,633	6,644,661	2,757,170	2,680,108	7,323,764	12,761,042	7,513,110	15,197,592	22,710,702
1997	2,781,943	3,944,182	6,726,125	2,958,979	2,801,839	7,613,659	13,374,477	7,733,987	15,613,553	23,347,540
1998	2,797,237	3,955,642	6,752,879	2,954,716	2,797,948	7,604,411	13,357,075	7,739,047	15,633,402	23,372,449
1999	2,831,269	3,997,015	6,828,284	3,060,005	2,894,095	7,833,394	13,787,494	7,914,751	15,961,390	23,876,141
2000	2,867,637	4,037,716	6,905,353	3,158,788	2,984,301	8,048,226	14,191,315	8,071,547	16,247,226	24,318,773
2001	2,878,701	4,038,734	6,917,435	3,129,475	2,957,599	7,985,165	14,072,239	8,030,065	16,171,943	24,202,008
2002	2,909,535	4,071,533	6,981,068	3,216,721	3,037,270	8,174,918	14,428,909	8,167,592	16,422,686	24,590,278
2003	2,940,782	4,100,609	7,041,391	3,309,463	3,123,271	8,388,211	14,820,945	8,276,964	16,622,164	24,899,128
2004	2,986,358	4,149,037	7,135,395	3,410,842	3,215,905	8,609,193	15,235,940	8,436,197	16,912,500	25,348,697
2005	3,005,328	4,160,331	7,165,659	3,415,140	3,219,834	8,618,559	15,253,533	8,446,014	16,930,498	25,376,512
2006	3,034,603	4,181,554	7,216,157	3,483,957	3,282,674	8,768,229	15,534,860	8,560,550	17,139,529	25,700,079
2007	3,048,358	4,177,786	7,226,144	3,469,276	3,269,270	8,736,323	15,474,869	8,541,795	17,105,463	25,647,258
2008	3,030,620	4,134,388	7,165,008	3,313,861	3,127,381	8,398,530	14,839,772	8,304,423	16,673,998	24,978,421
2009	3,047,937	4,137,335	7,185,272	3,318,521	3,131,641	8,408,722	14,858,884	8,314,369	16,692,528	25,006,897
2010	3,063,294	4,138,783	7,202,077	3,323,129	3,135,848	8,418,742	14,877,719	8,323,342	16,708,869	25,032,211
2011	3,075,740	4,129,441	7,205,181	3,298,023	3,112,803	8,362,848	14,773,674	8,286,627	16,641,774	24,928,401
2012	3,088,818	4,127,637	7,216,455	3,286,279	3,102,089	8,337,382	14,725,750	8,270,270	16,612,428	24,882,698
2013	3,061,629	4,077,725	7,139,354	3,018,715	2,856,380	7,628,193	13,503,288	8,044,299	16,201,310	24,245,609
2014	3,101,222	4,100,588	7,201,810	3,050,408	2,862,208	7,607,016	13,519,632	8,134,096	16,363,270	24,497,366
2015	3,094,201	4,073,949	7,168,150	2,930,461	2,723,465	7,054,640	12,708,566	8,013,103	16,142,953	24,156,056
2016	3,094,057	4,075,597	7,169,654	2,912,185	2,700,231	6,880,308	12,492,724	8,007,360	16,132,446	24,139,806
2017	3,078,006	4,066,716	7,144,722	2,850,587	2,643,729	6,698,854	12,193,170	7,943,013	16,014,718	23,957,731
2018	3,020,231	4,071,479	7,091,710	2,826,551	2,620,343	6,613,976	12,060,870	7,956,162	16,037,767	23,993,929
2019	2,999,170	4,076,305	7,075,475	2,801,119	2,597,245	6,539,526	11,937,890	7,973,086	16,068,316	24,041,402
2020	2,999,505	4,064,580	7,064,085	2,744,800	2,545,342	6,408,151	11,698,293	7,907,150	15,948,094	23,855,244
2021	3,006,124	4,069,363	7,075,487	2,729,268	2,529,461	6,360,387	11,619,116	7,930,511	15,990,481	23,920,992
2022	2,996,233	4,058,430	7,054,663	2,724,047	2,524,518	6,346,031	11,594,596	7,921,241	15,973,411	23,894,652
2023	2,994,506	4,025,791	7,020,297	2,721,041	2,521,749	6,337,589	11,580,379	7,917,299	15,966,174	23,883,473
2024	2,990,027	4,022,689	7,012,716	2,715,787	2,516,821	6,324,590	11,557,198	7,901,229	15,936,493	23,837,722
2025	2,984,505	4,021,786	7,006,291	2,722,606	2,522,869	6,337,399	11,582,874	7,913,328	15,958,450	23,871,778
2026	2,982,211	4,019,171	7,001,382	2,728,062	2,527,837	6,349,000	11,604,899	7,813,839	15,774,436	23,588,275
2027	2,976,053	4,012,232	6,988,285	2,717,064	2,517,700	6,323,244	11,558,008	7,797,270	15,743,750	23,541,020
2028	2,974,934	4,009,921	6,984,855	2,719,010	2,519,423	6,325,768	11,564,201	7,798,963	15,746,506	23,545,469
2029	2,969,128	4,003,857	6,972,985	2,708,503	2,509,796	6,301,891	11,520,190	7,786,574	15,723,790	23,510,364
2030	2,959,379	3,989,658	6,949,037	2,705,559	2,507,060	6,294,882	11,507,501	7,783,680	15,718,313	23,501,993
2031	2,945,050	3,971,549	6,916,599	2,698,820	2,500,850	6,279,605	11,479,275	7,774,545	15,701,331	23,475,876
2032	2,938,177	3,955,037	6,893,214	2,709,879	2,510,925	6,303,301	11,524,105	7,793,136	15,735,502	23,528,638
2033	2,905,084	3,904,992	6,810,076	2,695,401	2,497,676	6,271,470	11,464,547	7,773,270	15,699,369	23,472,639
2034	2,845,023	3,833,404	6,678,427	2,707,282	2,508,390	6,295,693	11,511,365	7,801,261	15,750,116	23,551,377
2035	2,736,554	3,711,726	6,448,280	2,751,493	2,548,714	6,390,994	11,691,201	7,880,887	15,894,863	23,775,750
TOTAL	148,056,224	342,328,794	490,385,018	155,618,901	150,859,030	420,922,311	727,400,242	340,944,449	686,480,322	1,027,424,771

a) Unadjusted for prior overpayments or underpayments of charges.

CHARGE FOR EACH CONTRACTOR (a)

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	2,772	0	0	0	0	0	2,772
1965	0	0	0	6,131	74,904	0	0	0	0	81,035
1966	0	0	0	12,239	139,761	0	0	0	0	152,000
1967	0	0	0	26,691	272,276	0	0	0	0	298,967
1968	73,469	183,394	9,636	55,394	452,161	1,542,490	13,019	11,520	208,730	2,549,813
1969	121,703	178,997	9,829	88,521	532,958	2,388,197	11,640	10,518	356,401	3,698,764
1970	144,800	200,898	16,594	95,648	582,505	2,910,156	11,772	13,051	293,240	4,268,664
1971	149,503	196,991	17,553	96,685	614,831	3,817,159	16,722	14,347	448,332	5,372,123
1972	172,237	218,921	18,357	99,791	640,757	4,956,550	14,151	20,564	1,077,358	7,218,686
1973	162,833	201,798	14,492	98,559	648,480	4,911,086	14,417	11,644	408,681	6,471,990
1974	172,642	280,812	14,461	99,478	707,518	5,211,663	14,510	12,716	597,221	7,111,021
1975	192,945	347,351	15,403	107,729	724,920	6,332,177	15,520	14,398	727,843	8,478,286
1976	214,296	303,010	15,949	109,115	783,648	6,689,362	15,889	16,060	564,271	8,711,600
1977	212,213	265,098	13,063	113,606	807,391	6,866,301	17,341	13,858	511,325	8,820,196
1978	236,177	356,005	12,126	117,643	908,551	6,822,445	17,860	18,145	512,616	10,583,568
1979	272,488	383,135	15,789	115,206	903,827	9,435,671	18,951	24,780	952,826	12,122,673
1980	257,425	404,300	14,150	126,867	896,407	9,998,237	19,489	24,159	738,024	12,479,058
1981	290,779	469,010	32,155	134,256	1,081,998	11,559,780	23,623	22,970	911,869	14,526,440
1982	274,182	463,070	15,231	136,765	1,011,238	12,268,354	21,792	22,322	750,580	14,963,534
1983	333,093	627,718	16,614	150,246	1,032,779	15,482,793	37,649	30,869	423,113	18,134,874
1984	462,515	904,412	17,330	160,285	2,022,852	23,327,782	52,757	58,751	790,406	27,797,090
1985	558,735	1,129,883	58,166	185,017	2,423,687	28,524,804	70,271	72,446	2,242,108	35,265,117
1986	608,928	1,281,100	36,891	176,375	2,409,468	31,000,993	81,079	78,151	2,218,348	37,891,333
1987	592,407	1,287,662	61,705	182,195	3,228,838	32,706,681	90,868	91,449	2,577,570	40,819,375
1988	633,652	1,350,119	69,835	213,307	3,110,750	34,822,016	81,291	79,092	2,887,328	43,247,390
1989	606,505	1,296,855	60,254	226,271	3,067,627	33,251,285	78,221	78,043	2,683,081	41,348,142
1990	619,401	1,376,914	62,392	231,435	3,290,276	34,890,502	82,081	81,861	2,813,647	43,448,509
1991	637,503	1,428,001	65,029	232,907	3,455,352	36,062,046	86,546	84,909	2,918,133	44,970,426
1992	620,241	1,380,547	62,561	233,619	3,350,751	35,004,111	83,607	81,751	2,820,701	43,637,889
1993	617,759	1,371,731	62,102	234,687	3,332,954	34,809,630	83,097	81,181	2,802,555	43,395,676
1994	620,123	1,377,618	62,408	236,051	3,349,555	34,950,618	83,548	81,467	2,814,618	43,576,006
1995	638,864	1,393,344	63,221	246,779	3,387,052	35,206,873	84,618	82,605	2,846,842	43,950,198
1996	637,383	1,389,784	63,037	246,931	3,380,268	35,134,245	84,421	82,278	2,839,532	43,857,879
1997	661,614	1,456,534	66,504	247,395	3,546,709	36,611,990	89,086	86,647	2,976,562	45,743,041
1998	661,288	1,456,190	66,487	247,571	3,547,870	36,607,257	89,108	86,574	2,975,858	45,738,203
1999	680,815	1,509,326	69,245	247,923	3,679,028	37,786,542	92,778	90,016	3,084,932	47,240,605
2000	699,483	1,561,348	71,948	248,222	3,807,460	38,939,045	96,372	93,427	3,191,726	48,709,031
2001	695,058	1,548,874	71,300	248,517	3,776,558	38,666,549	95,497	92,500	3,166,081	48,360,934
2002	711,604	1,595,256	73,709	249,037	3,889,664	39,690,960	98,674	95,613	3,261,292	49,665,809
2003	724,379	1,630,124	75,520	249,296	3,975,992	40,475,829	101,080	97,923	3,332,863	50,663,006
2004	743,972	1,684,273	78,332	250,537	4,109,129	41,708,275	104,746	101,466	3,444,003	52,224,733
2005	745,096	1,687,063	78,476	250,614	4,116,125	41,775,427	104,936	101,642	3,449,720	52,309,099
2006	760,115	1,722,714	80,318	252,339	4,206,884	42,610,667	107,380	104,006	3,522,677	53,367,100
2007	757,619	1,714,873	79,908	252,370	4,187,675	42,443,298	106,837	103,431	3,506,570	53,152,581
2008	730,417	1,639,018	75,964	252,595	4,000,280	40,765,547	101,569	98,326	3,350,752	51,014,468
2009	731,797	1,642,529	76,145	252,827	4,008,967	40,847,992	101,802	98,534	3,357,928	51,118,521
2010	732,717	1,644,764	76,260	252,835	4,014,418	40,896,823	101,957	98,701	3,362,515	51,180,990
2011	728,286	1,633,772	75,688	252,301	3,988,099	40,655,500	101,209	97,942	3,339,937	50,872,734
2012	726,566	1,628,593	75,418	252,525	3,975,210	40,542,074	100,842	97,616	3,329,272	50,728,116
2013	700,292	1,555,017	71,591	252,533	3,793,870	38,923,645	95,740	92,740	3,178,159	48,663,587
2014	711,670	1,586,529	73,230	249,780	3,871,583	39,618,573	97,923	94,912	3,242,878	49,547,078
2015	698,500	1,549,837	71,322	246,498	3,706,031	38,812,070	95,379	92,402	3,167,509	48,439,548
2016	698,959	1,550,404	71,350	240,600	3,642,461	38,824,805	95,407	92,490	3,168,642	48,385,118
2017	693,683	1,535,750	70,588	226,146	3,473,940	38,505,076	94,392	91,542	3,138,551	47,829,668
2018	696,581	1,543,739	71,005	202,909	3,374,584	38,681,807	86,295	92,125	3,154,983	47,904,028
2019	698,500	1,547,997	71,227	194,294	3,324,221	38,779,801	86,076	92,487	3,163,733	47,958,336
2020	690,293	1,523,580	69,957	192,113	3,232,150	38,240,591	84,163	90,846	3,113,596	47,237,289
2021	693,023	1,530,868	70,336	190,992	3,227,321	38,377,001	84,525	91,367	3,128,563	47,393,996
2022	690,418	1,520,073	69,776	189,637	3,191,365	38,125,823	83,786	90,967	3,106,406	47,068,251
2023	689,879	1,518,245	69,682	189,203	3,182,280	38,089,227	83,628	90,852	3,102,649	47,015,645
2024	684,268	1,511,556	69,352	185,788	3,159,678	37,892,365	83,184	90,636	3,089,305	46,766,132
2025	685,540	1,514,662	69,514	185,217	3,164,813	37,964,712	83,373	90,815	3,095,687	46,854,333
2026	686,628	1,517,465	69,661	184,944	3,169,559	38,028,940	83,533	90,981	3,101,442	46,933,153
2027	684,937	1,512,557	69,406	184,285	3,154,421	37,923,117	83,149	90,628	3,091,368	46,793,868
2028	685,539	1,513,363	69,447	181,813	3,154,627	37,950,545	83,183	90,615	3,093,020	46,822,152
2029	684,118	1,508,972	69,226	181,603	3,141,211	37,846,514	82,859	90,292	3,084,119	46,688,914
2030	683,512	1,505,949	69,067	181,344	3,131,541	37,794,058	82,596	90,142	3,077,915	46,616,124
2031	683,068	1,503,453	68,938	180,023	3,110,769	37,745,528	82,141	90,030	3,072,794	46,536,744
2032	684,484	1,506,129	69,074	179,985	3,117,018	37,805,195	82,249	90,289	3,078,267	46,612,690
2033	682,124	1,499,851	68,748	179,417	3,093,169	37,654,824	81,593	89,870	3,065,367	46,414,963
2034	685,634	1,509,031	69,225	178,433	3,104,974	37,852,922	82,005	90,479	3,084,221	46,656,924
2035	694,924	1,534,322	70,541	177,566	3,156,771	38,417,532	83,496	92,124	3,136,165	47,363,441
TOTAL	38,514,181	82,903,078	3,799,818	13,161,228	191,134,765	2,063,342,453	4,901,298	4,959,900	167,125,326	2,569,842,047

TABLE B-19: TOTAL TRANSPORTATION

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	34,018	0	0	0	0	0	0	0	52,760	0
1964	64,086	20,513	14,712	4,456	37,901	1,166	29,002	8,369	84,381	35,680
1965	120,833	38,907	25,573	7,330	41,532	2,122	51,277	15,513	137,574	36,001
1966	219,798	73,556	45,565	12,710	74,503	3,824	92,088	28,198	236,760	62,592
1967	425,205	151,260	87,705	23,902	144,000	7,420	178,406	55,025	441,224	117,677
1968	748,621	317,132	155,307	42,219	255,488	13,091	316,023	97,103	795,486	212,486
1969	1,077,579	477,910	229,236	62,289	377,408	19,021	466,100	140,482	1,226,634	327,311
1970	1,401,579	609,143	320,803	91,263	528,427	25,677	643,137	188,120	1,808,984	475,688
1971	1,734,093	765,569	439,975	130,551	724,965	32,389	870,556	235,300	2,581,303	670,627
1972	2,053,559	949,026	570,048	183,696	939,489	43,004	1,126,344	278,977	3,439,015	878,083
1973	2,144,763	987,778	704,668	186,293	1,151,485	44,104	1,189,801	291,829	4,024,241	960,298
1974	2,208,660	1,040,838	720,322	195,935	1,178,567	45,841	1,221,792	296,631	4,052,740	1,004,600
1975	2,385,673	1,095,705	761,455	208,762	1,246,739	49,127	1,288,816	308,902	4,214,743	1,105,444
1976	2,738,970	1,077,120	808,168	217,850	1,322,689	52,104	1,331,534	318,342	4,356,567	1,159,750
1977	2,682,003	1,154,839	704,123	228,839	1,160,610	47,992	1,403,328	334,068	4,611,741	1,224,143
1978	3,067,044	1,230,051	899,416	237,510	1,459,758	48,908	1,433,338	335,023	4,599,018	1,249,068
1979	3,547,077	1,199,320	951,522	240,482	1,532,399	48,951	1,527,833	336,488	4,475,625	1,166,164
1980	4,095,069	1,286,794	1,041,579	262,108	1,694,731	53,924	1,648,245	364,642	4,892,010	1,283,950
1981	4,426,504	1,490,040	1,112,055	274,296	1,811,459	78,208	1,764,152	395,571	5,286,604	1,372,639
1982	4,005,502	1,596,326	1,171,233	284,290	1,909,245	56,759	1,973,314	412,661	5,481,629	1,576,233
1983	5,228,689	1,798,530	1,762,996	335,073	2,856,335	70,637	2,052,598	503,946	6,081,536	1,573,618
1984	7,306,983	2,612,074	2,866,784	466,800	4,620,275	78,900	2,362,928	575,842	7,443,643	2,417,503
1985	9,219,401	3,057,402	3,709,261	558,927	5,969,023	84,391	2,504,272	803,453	8,055,177	2,475,521
1986	8,974,285	3,504,106	4,100,615	587,794	6,600,960	105,408	2,533,727	1,022,428	7,999,887	3,097,413
1987	9,317,066	3,745,002	4,320,389	647,728	7,038,803	230,156	2,551,425	1,343,995	9,562,701	3,219,831
1988	10,339,246	3,772,747	4,220,650	667,775	6,951,846	318,621	2,723,573	1,382,440	10,527,901	3,260,578
1989	10,175,905	3,885,411	4,146,803	664,931	6,891,980	92,382	2,801,288	1,542,273	10,575,232	3,189,195
1990	10,683,861	4,261,463	4,446,864	688,927	7,333,587	270,698	2,881,221	1,837,699	10,770,195	3,254,234
1991	11,752,364	4,836,904	4,709,543	737,724	7,766,834	297,306	2,919,504	2,245,738	11,559,650	3,413,680
1992	11,707,556	4,899,405	4,507,255	719,477	7,433,183	296,638	2,926,165	2,498,343	11,088,663	3,400,968
1993	12,283,143	5,228,687	4,479,932	765,000	7,388,119	304,860	2,931,404	2,604,396	11,502,054	3,451,420
1994	12,811,536	5,654,402	4,508,259	789,475	7,434,851	318,372	6,245,473	2,625,249	11,644,742	3,430,500
1995	13,416,895	5,761,686	4,572,336	831,209	7,540,533	334,035	9,763,701	2,661,824	12,057,495	3,475,547
1996	13,906,685	5,736,063	4,551,138	839,652	7,505,568	344,422	9,734,044	2,653,857	12,109,305	3,465,972
1997	15,255,887	6,186,727	4,842,015	915,801	7,985,327	379,142	10,346,951	2,829,480	13,076,138	3,698,064
1998	15,829,249	6,180,184	4,841,620	936,639	7,984,672	379,254	10,347,654	2,830,325	13,330,595	3,729,382
1999	17,137,949	6,565,862	5,051,844	976,437	8,331,397	398,067	10,842,563	2,971,673	13,659,320	3,827,457
2000	18,492,333	6,963,595	5,270,290	1,038,989	8,691,699	416,185	11,316,635	3,107,832	14,392,874	4,000,485
2001	18,988,824	6,788,848	5,219,618	1,059,536	8,608,130	411,550	11,194,712	3,072,947	14,659,825	4,033,290
2002	20,398,942	7,109,595	5,445,196	1,162,918	8,980,202	427,383	11,609,732	3,191,917	16,133,393	4,349,449
2003	21,738,765	7,368,260	5,560,452	1,170,727	9,170,276	440,337	11,949,242	3,289,251	15,917,429	4,328,309
2004	23,410,501	7,837,108	5,774,908	1,233,098	9,523,990	458,717	12,431,028	3,427,310	16,932,078	4,498,019
2005	24,260,305	7,820,303	5,782,258	1,253,632	9,536,098	459,918	12,465,182	3,436,357	17,424,316	4,525,568
2006	24,936,306	7,946,861	5,976,671	1,363,107	9,856,776	472,840	12,803,155	3,533,449	19,361,639	4,856,653
2007	24,824,337	8,033,381	5,915,050	1,336,825	9,755,124	470,736	12,758,818	3,517,481	19,074,443	4,729,434
2008	23,419,710	7,495,831	5,618,510	1,322,063	9,266,029	443,837	12,057,536	3,315,059	19,247,392	4,664,480
2009	23,484,535	7,457,875	5,643,963	1,364,640	9,308,021	445,102	12,092,276	3,324,494	20,113,093	4,770,538
2010	23,526,256	7,521,688	5,655,248	1,394,880	9,326,638	445,902	12,113,851	3,330,507	20,776,217	4,835,098
2011	23,346,046	7,427,321	5,603,048	1,388,867	9,240,531	442,450	12,022,307	3,304,572	20,999,007	4,819,927
2012	23,242,828	7,435,896	5,582,345	1,400,761	9,206,376	440,497	11,973,727	3,289,764	21,533,696	4,868,698
2013	21,891,710	6,864,175	5,287,323	1,349,246	8,706,157	415,250	11,314,095	3,099,889	21,001,134	4,705,613
2014	22,437,979	7,151,277	5,416,911	1,407,731	8,934,182	425,134	11,574,356	3,174,613	22,041,822	4,908,185
2015	21,709,893	6,787,392	5,190,692	1,304,604	8,561,036	411,316	11,216,278	3,070,711	20,284,419	4,562,672
2016	21,619,154	6,854,151	5,214,885	1,349,968	8,600,961	409,796	11,182,470	3,059,288	21,353,178	4,771,458
2017	21,155,994	6,632,337	5,134,681	1,348,874	8,468,694	401,262	10,966,334	2,995,300	21,610,440	4,812,625
2018	21,064,430	6,540,139	5,103,052	1,327,489	8,416,536	399,855	10,934,939	2,985,376	21,464,978	4,768,833
2019	20,867,791	6,451,916	5,055,267	1,310,506	8,337,721	396,408	10,849,950	2,960,676	21,149,592	4,724,134
2020	20,171,758	6,162,825	4,885,103	1,268,015	8,057,081	382,570	10,485,891	2,859,048	20,397,191	4,586,025
2021	20,569,475	6,033,616	4,790,002	1,218,959	7,900,224	379,312	10,346,694	2,837,824	19,503,642	4,423,388
2022	20,597,695	5,989,465	4,720,763	1,204,553	7,786,038	374,880	10,193,597	2,805,362	19,207,615	4,391,997
2023	21,313,877	5,893,106	4,712,403	1,218,122	7,772,258	373,170	10,141,467	2,792,977	19,453,699	4,480,250
2024	21,733,043	5,845,121	4,651,334	1,167,204	7,671,521	371,156	10,089,808	2,777,925	18,558,309	4,355,247
2025	22,092,010	5,831,749	4,655,090	1,181,427	7,677,726	371,664	10,069,736	2,782,057	18,789,928	4,453,309
2026	22,140,583	5,866,831	4,655,812	1,180,363	7,678,915	372,433	10,077,057	2,788,009	18,732,348	4,508,358
2027	22,032,505	5,750,292	4,691,290	1,248,613	7,737,472	370,621	10,021,112	2,774,425	19,926,465	4,804,344
2028	22,078,729	5,878,916	4,587,950	1,115,639	7,566,965	371,368	10,057,205	2,780,110	17,553,015	4,411,173
2029	21,993,361	5,737,317	4,624,719	1,177,170	7,627,642	369,935	9,999,228	2,769,388	18,649,050	4,690,388
2030	21,967,694	5,711,280	4,621,664	1,178,413	7,622,604	369,509	9,988,340	2,766,193	18,672,679	4,762,845
2031	21,864,559	5,654,982	4,596,903	1,169,879	7,581,767	367,721	9,942,448	2,752,909	18,516,329	4,804,331
2032	21,943,755	5,649,426	4,655,290	1,224,500	7,678,091	369,066	9,979,636	2,762,956	19,487,216	5,079,098
2033	21,686,644	5,546,508	4,541,282	1,134,180	7,490,018	364,775	9,869,914	2,730,719	17,884,361	4,828,900
2034	21,725,885	5,608,414	4,565,392	1,154,921	7,529,798	365,400	9,891,770	2,735,494	18,250,979	4,981,257
2035	22,206,839	5,842,888	4,711,113	1,242,277	7,770,174	373,290	10,099,042	2,795,677	19,799,627	5,398,756
TOTAL	1,025,462,387	330,739,167	266,518,247	59,996,846	438,868,159	19,558,269	501,083,145	146,372,071	926,696,781	236,792,451

CHARGE FOR EACH CONTRACTOR (a)

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR		GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay		
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	
1962	0	0	0	0	0	0	0	0	0	55,537	
1963	0	705,285	0	792,063	0	0	0	0	59,704	1,649,036	
1964	22,165	1,285,222	9,574	1,617,227	0	0	0	0	98,900	2,817,817	
1965	22,272	2,222,437	18,122	2,739,493	0	0	411	411	170,516	4,827,840	
1966	38,660	3,974,345	34,082	4,896,681	0	0	574	574	197,259	7,423,312	
1967	72,579	7,839,903	69,486	9,613,792	0	0	571	571	255,797	12,850,015	
1968	131,109	15,601,367	145,534	18,830,966	0	0	574	574	333,252	25,009,429	
1969	202,196	23,594,357	219,483	28,420,006	0	0	3,243	3,243	404,953	36,196,588	
1970	294,655	31,202,162	279,075	37,868,713	0	0	15,368	15,368	444,165	46,452,628	
1971	416,284	40,707,865	349,179	49,658,656	0	0	16,262	16,262	434,009	59,237,758	
1972	545,248	53,825,852	429,870	65,262,211	0	0	17,656	17,656	459,732	77,093,620	
1973	596,416	58,184,874	443,222	70,909,772	0	0	17,618	17,618	434,275	81,842,444	
1974	620,100	62,726,529	463,433	75,775,988	0	0	17,761	17,761	457,342	87,601,777	
1975	653,530	67,723,531	486,353	81,528,780	0	0	18,689	18,689	466,927	94,772,901	
1976	677,440	69,468,010	483,631	84,012,175	0	0	17,760	17,760	489,536	98,178,916	
1977	705,795	67,232,417	515,223	82,005,121	0	0	18,516	18,516	482,397	96,250,247	
1978	731,992	75,176,022	542,340	91,009,488	0	0	17,664	17,664	487,967	107,404,646	
1979	721,353	73,597,127	534,000	89,878,343	0	0	20,862	20,862	505,631	107,949,218	
1980	786,996	80,910,855	579,292	98,900,193	0	0	18,044	18,044	566,484	117,959,470	
1981	815,203	91,837,832	643,653	111,308,216	0	0	21,477	21,477	574,722	132,413,221	
1982	865,687	94,310,434	681,883	114,325,196	0	0	28,588	28,588	574,570	136,293,301	
1983	960,026	104,812,756	821,746	128,858,486	0	0	17,210	17,210	623,412	154,822,856	
1984	1,134,872	137,785,704	857,550	170,529,858	0	0	18,276	18,276	610,943	208,546,960	
1985	1,171,534	179,408,249	943,563	217,960,174	0	0	20,233	20,233	744,375	266,343,746	
1986	1,174,581	195,731,504	957,711	236,390,419	0	0	20,231	20,231	695,102	287,767,122	
1987	1,185,242	193,734,577	943,694	237,840,699	0	0	20,233	20,233	729,795	295,213,749	
1988	1,301,076	223,002,508	981,493	269,450,454	0	0	20,239	20,239	814,666	331,598,488	
1989	1,340,184	244,016,785	999,333	290,321,702	0	0	20,311	20,311	860,668	352,294,552	
1990	1,345,037	253,727,243	1,018,832	302,519,861	0	0	20,353	20,353	863,163	367,242,187	
1991	1,378,421	267,755,423	1,020,863	320,393,954	0	0	20,348	20,348	837,749	387,143,992	
1992	1,353,885	268,178,620	1,021,838	320,031,996	0	0	20,351	20,351	838,004	385,789,989	
1993	1,400,331	267,619,407	2,270,573	322,229,326	0	0	20,356	20,356	838,696	391,567,478	
1994	1,393,156	267,876,612	2,313,481	327,046,108	0	0	20,367	20,367	840,041	401,588,610	
1995	1,411,106	272,817,770	2,380,106	337,024,243	0	0	20,367	20,367	843,059	420,616,419	
1996	1,390,002	274,323,826	2,396,331	338,956,865	0	0	20,367	20,367	843,225	425,794,741	
1997	1,426,277	297,017,096	2,597,487	366,556,392	0	0	20,367	20,367	844,416	456,612,358	
1998	1,424,771	300,113,350	2,623,789	370,551,484	0	0	20,367	20,367	844,719	460,637,176	
1999	1,386,188	319,565,893	2,804,538	393,519,188	0	0	20,367	20,367	845,864	486,117,943	
2000	3,700,330	339,887,256	3,075,098	420,353,601	0	0	20,367	20,367	846,843	515,345,283	
2001	3,673,877	338,317,856	3,055,447	419,084,460	0	0	20,370	20,370	847,832	513,505,278	
2002	3,922,446	360,348,383	3,240,155	446,319,711	0	0	20,370	20,370	849,062	542,855,207	
2003	3,935,005	375,300,063	3,402,442	463,570,558	0	0	20,370	20,370	861,426	561,876,824	
2004	4,087,848	401,204,727	3,653,387	494,472,719	0	0	20,370	20,370	863,286	595,301,140	
2005	4,079,336	406,137,019	3,703,818	500,884,110	0	0	20,370	20,370	863,535	601,872,818	
2006	4,309,833	421,355,802	3,785,997	520,559,089	0	0	20,370	20,370	864,300	623,261,955	
2007	4,182,413	426,244,152	3,814,851	524,657,045	0	0	20,370	20,370	864,405	627,042,672	
2008	4,006,994	405,902,289	3,572,743	500,332,473	0	0	20,370	20,370	865,140	599,215,652	
2009	4,048,533	410,273,121	3,569,384	505,895,575	0	0	20,370	20,370	865,897	604,951,416	
2010	4,060,836	416,778,161	3,598,252	513,363,534	0	0	20,370	20,370	865,929	612,542,830	
2011	4,001,400	411,684,818	3,558,508	507,838,802	0	0	20,365	20,365	864,109	606,503,266	
2012	3,988,080	411,639,520	3,555,396	508,157,584	0	0	20,365	20,365	864,829	606,595,797	
2013	3,768,203	382,874,457	3,300,388	474,577,640	0	0	20,365	20,365	817,783	568,967,626	
2014	3,897,917	397,778,377	3,420,764	492,569,248	0	0	20,365	20,365	779,973	588,135,472	
2015	3,600,767	376,426,553	3,264,729	466,391,062	0	0	19,954	19,954	723,594	559,606,930	
2016	3,700,596	381,237,921	3,292,228	472,646,054	0	0	19,792	19,792	699,934	565,553,082	
2017	3,679,295	370,597,942	3,207,844	461,011,622	0	0	19,794	19,794	657,793	552,814,500	
2018	3,624,374	366,494,579	3,177,482	456,302,062	0	0	19,792	19,792	578,994	547,951,385	
2019	3,565,804	362,667,161	3,144,407	451,481,333	0	0	17,122	17,122	513,287	543,024,845	
2020	3,427,296	346,869,682	3,049,627	432,602,112	0	0	4,997	4,997	490,286	522,952,306	
2021	3,289,888	338,860,095	2,998,365	423,151,484	0	0	4,157	4,157	472,716	513,637,948	
2022	3,230,076	334,060,173	2,968,798	417,531,012	0	0	2,749	2,749	471,429	507,617,352	
2023	3,247,212	329,752,644	2,937,016	414,088,201	0	0	2,749	2,749	470,692	504,061,436	
2024	3,124,480	323,768,102	2,915,052	407,028,302	0	0	2,748	2,748	469,420	496,674,238	
2025	3,150,976	324,844,328	2,912,283	408,812,283	0	0	2,745	2,745	467,595	498,597,899	
2026	3,143,118	325,302,036	2,925,968	409,371,831	0	0	2,744	2,744	467,153	498,969,437	
2027	3,290,231	324,061,765	2,882,592	409,591,730	0	0	2,741	2,741	466,186	498,941,838	
2028	2,987,800	321,597,371	2,924,629	403,890,870	0	0	2,740	2,740	465,002	493,275,289	
2029	3,124,640	319,700,891	2,871,219	403,334,948	0	0	2,738	2,738	463,657	492,493,796	
2030	3,126,721	319,539,673	2,856,912	403,184,527	0	0	2,737	2,737	462,262	492,224,181	
2031	3,102,685	316,187,363	2,827,779	399,369,655	0	0	2,736	2,736	459,290	488,240,175	
2032	3,229,946	319,503,000	2,824,476	404,386,456	0	0	2,734	2,734	460,170	493,408,007	
2033	3,015,460	310,035,612	2,776,357	391,904,730	0	0	2,733	2,733	459,181	480,528,869	
2034	3,063,091	314,764,765	2,799,597	397,436,763	0	0	2,732	2,732	454,872	486,292,460	
2035	3,277,549	328,566,709	2,901,017	414,984,958	0	0	2,731	2,731	450,401	504,716,762	
TOTAL	159,761,425	17,950,178,115	148,645,370	22,210,672,433	0	0	1,041,473	1,041,473	44,824,298	26,923,534,058	

TABLE B-20A. CALCULATION OF DELTA WATER RATES

[Values in millions of dollars (\$) or millions of acre-feet (AF) discounted to 1988]

Procedure	Capital Cost Component		Minimum Operation, Maintenance, Power and Replacement Component (a)		Total Delta Water Rate	
	[1]		[2]		[3]	
Calculation at 4.713 Percent per Annum for All Contractors Except the City of Yuba City						
<u>Commencing in 1989</u>						
Total Costs of "Initial" Project Conservation Facilities to be Reimbursed and Project Water Entitlements during the Project Repayment Period.	\$1,973.32 (b	132.16 AF	\$1,092.02 (c	132.16 AF	\$ 3,065.34	132.16 AF
Less, Project Power Revenues to be Realized During the Project Repayment Period.	-831.30		-257.40		-1088.70	
Less, Delta Water Charges Paid and Project Water Entitlements, Prior to 1989.	-452.72 (d	-53.58 AF	-221.48	-53.58 AF	-674.20	-53.58 AF
TOTAL	<u>\$ 689.30</u>	<u>78.58 AF</u>	<u>\$ 613.14</u>	<u>78.58 AF</u>	<u>\$ 1,302.44</u>	<u>78.58 AF</u>
Rate Applicable 1989 through 2035	\$8.77 per acre-foot		\$7.80 per acre-foot		\$16.57 per acre-foot	
Calculation at 5.027 Percent per Annum for the City of Yuba City.						
<u>Commencing in 1989</u>						
Total Costs of "Initial" Project Conservation Facilities to be Reimbursed and Project Water Entitlements during the Project Repayment Period.	\$ 2,098.56 (b	129.72 AF	\$ 1,065.45 (c	129.72 AF	\$ 3,164.01	129.72 AF
Less, Project Power Revenues to be Realized during the Project Repayment Period.	-836.08		-251.78		-1087.86	
Less, Delta Water Charges Paid and Project Water Entitlements, Prior to 1989.	-462.52	-54.83 AF	-224.97	-54.83 AF	-687.49	-54.83 AF
TOTAL	<u>\$ 799.96</u>	<u>74.89 AF</u>	<u>\$ 588.70</u>	<u>74.89 AF</u>	<u>\$ 1,388.66</u>	<u>74.89 AF</u>
Rate Applicable 1989 through 2035	\$10.68 per acre-foot		\$7.86 per acre-foot		\$18.54 per acre-foot	

- a) Considering that all operating costs of Project Conservation Facilities will not vary with annual amounts of Project water delivered, and therefore are properly classified as "Minimum" OMP&R Costs.
- b) Including net credits of \$4,850,000 for settlements as to the magnitude of Project Capital costs incurred prior to December 31, 1960, and net credits of \$6,678,320 for settlement as to the magnitude of Project Capital costs incurred during the 1961 through 1978 period.
- c) Includes conservation power costs and credits at San Luis.
- d) Applying all Delta Water Charges paid prior to 1970 to reimburse Capital costs (the charge was not divided into components until 1970).

TABLE B-20B. DELTA WATER RATES BY FACILITY

Item	Rate per Acre-Foot		
	Capital Cost Component	Minimum Operation, Maintenance, Power and Replacement Component	Total Delta Water Rate
<u>Initial Conservation Facilities</u>			
Oroville Division			
Water Supply and power costs (a)	\$ 16.50 /AF	\$ 7.78 /AF	\$ 24.28 /AF
<u>Less, Oroville Power Revenues</u>	<u>-10.13</u>	<u>-3.28</u>	<u>-13.41</u>
Subtotal	6.37	4.50	10.87
Delta Facilities (b)	2.41	1.53	3.94
California Aqueduct, portion			
Reach 1	1.04	1.36	2.40
Reach 2A	0.63	0.23	0.86
Reach 2B	0.34	0.08	0.42
Reach 3	<u>0.21</u>	<u>0.07</u>	<u>0.28</u>
Subtotal	2.22	1.74	3.96
San Luis Facilities	3.16	2.85	6.01
Planning and preoperating costs through 1987	0.82	0.00	0.82
<u>Less, Capital Cost Credits</u>	<u>-0.45</u>	<u>0.00</u>	<u>-0.45</u>
<u>Less, Delta Water Charges paid prior to 1989</u>	<u>-5.76</u>	<u>-2.82</u>	<u>-8.58</u>
Rate applicable 1989 through 2035	\$ 8.77 /AF	\$ 7.80 /AF	\$ 16.57 /AF

a) Includes revenue received from non-contractors.

b) Includes (1) Delta Facility planning costs, (2) Delta Studies costs, and (3) Suisun Marsh Facility costs.

TABLE B-21: TOTAL DELTA WATER

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	14,000	50,050	177,100	241,150	0	0	0
1968	0	0	0	19,156	29,701	193,245	242,102	0	0	0
1969	0	0	0	30,324	44,096	215,483	289,903	0	0	0
1970	0	0	0	80,908	107,730	585,200	773,838	0	0	0
1971	0	0	0	57,320	123,080	637,120	817,520	0	0	0
1972	0	0	0	99,668	143,877	707,328	950,873	0	0	0
1973	0	0	0	120,880	167,099	782,167	1,070,146	0	0	0
1974	0	0	0	137,684	182,339	818,664	1,138,687	0	0	0
1975	0	0	0	146,204	187,324	804,123	1,137,651	0	0	0
1976	0	0	0	168,489	208,652	862,036	1,239,177	0	0	0
1977	0	0	0	172,931	208,645	827,062	1,208,638	0	0	0
1978	0	0	0	206,378	243,231	926,594	1,376,203	0	0	0
1979	0	0	0	237,771	273,208	1,005,955	1,516,934	0	0	0
1980	0	18,325	18,325	272,717	307,426	1,090,867	1,671,010	12,396	3,479	15,875
1981	0	25,440	25,440	415,564	469,768	1,589,984	2,475,316	18,068	10,414	28,482
1982	0	34,917	34,917	457,988	519,053	1,679,289	2,656,330	38,166	99,788	137,954
1983	0	12,035	12,035	316,703	359,775	1,114,795	1,791,273	38,004	68,902	106,906
1984	0	22,453	22,453	334,587	380,914	1,132,448	1,847,949	57,909	105,498	163,407
1985	0	22,001	22,001	381,970	435,728	1,244,939	2,062,637	106,103	192,937	299,040
1986	35,358	21,767	57,125	423,378	485,372	1,330,615	2,239,365	151,206	275,347	426,553
1987	0	22,984	22,984	430,024	493,786	1,304,900	2,228,710	185,355	336,664	522,019
1988	88,878	242,267	331,145	464,113	533,731	1,361,400	2,359,244	239,792	436,607	676,399
1989	102,688	305,328	408,016	513,853	591,760	1,491,833	2,597,446	331,518	602,402	933,920
1990	111,805	352,238	464,043	530,429	611,651	1,524,985	2,667,065	414,398	753,972	1,168,370
1991	120,838	369,643	490,481	563,581	636,515	1,558,136	2,758,232	414,398	753,972	1,168,370
1992	129,955	400,640	530,595	596,733	661,379	1,591,288	2,849,400	414,398	753,972	1,168,370
1993	140,730	433,129	573,859	629,885	686,243	1,624,440	2,940,568	414,398	753,972	1,168,370
1994	151,421	465,452	616,873	663,037	696,189	1,657,592	3,016,818	414,398	753,972	1,168,370
1995	162,112	567,725	729,837	696,189	696,189	1,657,592	3,049,970	414,398	753,972	1,168,370
1996	172,804	626,570	799,374	729,340	696,189	1,657,592	3,083,121	414,398	753,972	1,168,370
1997	183,413	634,029	817,442	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
1998	194,104	641,654	835,758	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
1999	204,381	649,279	853,660	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2000	216,316	656,738	873,054	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2001	226,510	664,363	890,873	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2002	235,129	671,988	907,117	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2003	245,324	679,613	924,937	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2004	255,269	687,072	942,341	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2005	265,215	687,901	953,116	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2006	272,674	688,729	961,403	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2007	281,791	689,558	971,349	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2008	292,565	690,387	982,952	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2009	301,682	691,216	992,898	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2010	310,798	692,045	1,002,843	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2011	321,573	692,873	1,014,446	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2012	330,690	693,702	1,024,392	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2013	341,464	694,531	1,035,995	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2014	352,238	695,360	1,047,598	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2015	363,013	696,189	1,059,202	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2016	372,958	696,189	1,069,147	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2017	382,904	696,189	1,079,093	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2018	392,849	696,189	1,089,038	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2019	402,795	696,189	1,098,984	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2020	412,740	696,189	1,108,929	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2021	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2022	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2023	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2024	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2025	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2026	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2027	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2028	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2029	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2030	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2031	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2032	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2033	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2034	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
2035	414,398	696,189	1,110,587	762,492	696,189	1,657,592	3,116,273	414,398	753,972	1,168,370
TOTAL	14,590,954	45,354,875	39,648,992	38,382,071	175,831,923	20,240,825	57,055,575	36,814,750		

CHARGE FOR EACH CONTRACTOR

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	13,060	40,695	10,469	0	0	165,522	3,177	8,073	98,608	339,604
1969	17,804	61,267	3,281	0	0	337,686	4,200	8,805	102,478	535,521
1970	37,905	104,405	19,950	0	0	964,915	8,645	17,290	228,095	1,381,205
1971	48,508	129,596	21,720	0	0	1,377,772	9,412	20,272	264,260	1,871,540
1972	61,891	160,756	24,113	0	0	2,175,835	11,253	43,131	905,057	3,382,036
1973	77,328	195,541	26,664	0	386,638	2,373,167	13,333	27,553	373,307	3,473,531
1974	90,239	224,202	27,909	0	446,545	2,781,595	13,954	29,770	445,138	4,059,352
1975	97,774	329,688	27,413	0	481,560	3,041,048	14,620	33,702	827,591	4,853,396
1976	114,612	414,245	29,388	0	549,549	3,931,785	15,673	35,966	877,151	5,968,369
1977	119,360	312,532	28,195	0	569,545	4,071,218	15,977	40,289	626,210	5,783,326
1978	133,724	342,208	31,588	0	674,939	4,950,959	20,006	41,065	666,516	6,861,005
1979	145,178	395,523	34,294	0	772,757	5,901,986	22,863	45,725	771,613	8,089,939
1980	157,432	555,341	37,679	0	881,371	6,984,026	27,272	70,658	933,481	9,647,260
1981	229,464	740,789	54,204	0	1,351,487	11,140,730	41,556	77,692	1,373,168	15,009,090
1982	242,352	782,392	57,248	0	1,518,993	12,703,436	47,707	85,873	1,530,443	16,968,448
1983	160,885	543,462	38,004	0	1,057,789	9,141,315	35,471	58,273	78,506	11,113,705
1984	163,433	580,379	114,290	0	1,140,169	9,741,623	39,893	61,770	756,132	12,597,689
1985	179,667	667,740	42,441	0	1,328,405	11,403,920	48,100	69,320	644,383	14,383,976
1986	192,032	745,447	45,362	0	1,987,109	12,425,873	55,946	77,115	1,469,725	16,998,609
1987	105,627	427,498	44,485	0	1,543,639	13,410,817	59,314	77,108	1,503,601	17,172,089
1988	196,475	827,669	46,411	0	1,789,358	14,707,763	61,882	83,541	1,633,681	19,346,780
1989	210,514	921,621	49,728	0	1,876,394	16,561,000	66,304	92,825	1,821,693	21,600,079
1990	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
1991	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
1992	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
1993	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
1994	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
1995	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
1996	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
1997	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
1998	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
1999	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2000	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2001	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2002	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2003	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2004	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2005	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2006	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2007	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2008	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2009	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2010	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2011	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2012	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2013	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2014	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2015	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2016	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2017	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2018	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2019	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2020	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2021	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2022	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2023	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2024	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2025	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2026	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2027	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2028	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2029	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2030	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2031	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2032	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2033	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2034	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
2035	210,514	956,431	49,728	0	1,982,480	17,136,185	66,304	94,483	1,964,246	22,460,371
TOTAL	12,478,908	53,498,826	3,102,324	0	109,550,327	938,558,501	3,686,542	5,452,034	108,286,153	1,234,613,615

TABLE B-21: TOTAL DELTA WATER

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	160,756	12,860	41,797	4,662	64,303	1,367	67,518	13,021	369,739	85,202
1973	222,207	29,835	51,552	7,279	79,994	2,577	95,104	26,131	54,908	14,338
1974	279,090	53,027	59,539	10,791	93,030	3,721	121,869	39,631	465,150	114,427
1975	319,822	68,533	63,964	13,250	100,515	4,752	140,722	50,989	479,733	119,705
1976	431,018	93,061	74,449	17,045	117,550	6,269	174,366	67,591	538,772	137,142
1977	469,922	107,142	79,144	19,079	122,180	6,861	189,848	77,255	540,410	139,097
1978	600,180	141,095	97,313	24,428	147,413	9,687	236,913	98,345	631,768	165,313
1979	720,173	174,899	115,033	29,836	171,470	11,889	284,640	117,285	714,457	189,760
1980	857,818	219,413	134,920	35,949	210,736	14,256	337,177	138,590	811,952	215,694
1981	1,355,100	363,167	218,713	57,637	343,292	22,946	534,813	211,396	1,237,658	330,644
1982	1,551,434	421,730	254,298	66,408	400,739	26,335	372,710	235,100	1,341,923	364,482
1983	1,110,994	311,636	184,283	47,759	291,367	19,002	454,517	163,925	943,775	252,096
1984	450,405	346,169	202,914	52,247	321,718	20,719	472,282	174,500	1,003,760	266,383
1985	565,881	411,679	240,344	61,540	381,970	24,474	551,734	200,605	1,152,983	308,405
1986	635,066	467,227	275,347	70,160	438,498	27,822	625,994	223,785	1,285,253	350,799
1987	652,450	487,855	288,131	41,003	467,095	29,064	648,002	228,654	1,110,479	364,779
1988	711,641	546,107	319,496	80,755	525,995	32,024	711,641	248,147	1,438,753	402,231
1989	2,083,593	619,939	362,565	91,333	605,021	36,301	803,932	276,155	1,607,864	454,180
1990	2,189,679	651,434	382,904	96,140	631,542	38,125	842,057	286,763	1,682,456	477,386
1991	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
1992	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
1993	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
1994	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
1995	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
1996	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
1997	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
1998	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
1999	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2000	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2001	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2002	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2003	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2004	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2005	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2006	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2007	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2008	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2009	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2010	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2011	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2012	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2013	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2014	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2015	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2016	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2017	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2018	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2019	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2020	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2021	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2022	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2023	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2024	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2025	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2026	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2027	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2028	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2029	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2030	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2031	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2032	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2033	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2034	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
2035	2,294,107	687,901	382,904	96,140	631,542	38,125	842,057	286,763	1,700,689	477,386
TOTAL	118,602,044	36,482,353	20,677,386	5,153,601	33,933,818	2,053,816	45,538,404	15,782,203	93,942,798	26,234,433

CHARGE FOR EACH CONTRACTOR

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR		GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay		
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	
1966	0	0	0	0	0	0	0	0	0	0	
1967	0	0	0	0	0	0	0	0	0	241,150	
1968	0	0	0	0	0	1,050	875	1,925	0	583,631	
1969	0	0	0	0	0	1,225	929	2,154	0	827,578	
1970	0	0	0	0	0	3,848	1,995	5,843	0	2,160,886	
1971	0	0	0	0	0	4,546	3,186	7,732	0	2,696,792	
1972	0	2,043,211	0	2,864,436	0	4,929	3,778	8,707	0	7,206,052	
1973	0	2,317,893	0	2,901,818	0	7,059	4,444	11,503	0	7,456,998	
1974	0	4,231,933	0	5,472,208	0	8,336	4,931	13,267	0	10,683,514	
1975	0	5,073,286	0	6,435,271	0	9,416	5,117	14,533	0	12,440,851	
1976	0	6,422,167	0	8,079,430	0	7,004	5,780	12,784	0	15,299,760	
1977	0	7,104,278	0	8,855,216	0	16,917	5,827	22,744	0	15,869,924	
1978	0	9,016,389	0	11,168,844	0	12,635	6,844	19,479	0	19,425,531	
1979	0	10,935,192	0	13,464,634	0	16,575	7,773	24,348	0	23,095,855	
1980	84,294	13,102,796	12,396	16,175,991	0	19,834	8,801	28,635	0	27,557,096	
1981	140,930	20,910,099	36,136	25,762,531	0	21,682	13,370	35,052	0	43,335,911	
1982	167,929	23,998,560	57,248	29,258,896	0	16,117	14,694	30,811	0	49,087,356	
1983	124,148	17,203,307	50,672	21,137,481	0	15,202	10,134	25,336	0	34,186,736	
1984	138,982	18,766,458	64,344	22,280,881	20,590	15,442	10,681	46,713	0	36,959,092	
1985	166,935	22,050,974	84,882	26,202,406	24,050	16,976	12,166	53,192	0	43,023,252	
1986	195,056	25,089,658	120,965	29,805,630	31,753	18,145	13,457	63,355	0	49,590,637	
1987	207,598	26,095,043	148,284	30,768,437	37,071	17,794	13,642	68,507	0	50,782,746	
1988	233,604	28,781,238	201,116	34,232,748	46,722	18,565	14,852	80,139	0	57,026,455	
1989	268,530	32,505,376	265,215	39,980,004	61,184	19,891	16,576	97,651	0	65,617,116	
1990	286,763	33,342,460	331,518	41,239,227	70,454	19,891	17,239	107,584	0	68,106,660	
1991	286,763	33,342,460	331,518	41,398,355	177,989	455,838	17,902	651,729	0	68,927,538	
1992	286,763	33,342,460	331,518	41,398,355	177,989	455,838	18,565	652,392	0	69,059,483	
1993	286,763	33,342,460	331,518	41,398,355	177,989	455,838	19,228	653,055	0	69,194,578	
1994	286,763	33,342,460	331,518	41,398,355	177,989	455,838	19,891	653,718	0	69,314,505	
1995	286,763	33,342,460	331,518	41,398,355	177,989	455,838	20,720	654,547	0	69,461,450	
1996	286,763	33,342,460	331,518	41,398,355	177,989	455,838	21,549	655,376	0	69,564,967	
1997	286,763	33,342,460	331,518	41,398,355	177,989	455,838	22,377	656,204	0	69,617,015	
1998	286,763	33,342,460	331,518	41,398,355	177,989	455,838	23,206	657,033	0	69,636,160	
1999	286,763	33,342,460	331,518	41,398,355	177,989	455,838	24,035	657,862	0	69,654,891	
2000	286,763	33,342,460	331,518	41,398,355	177,989	455,838	25,030	658,857	0	69,675,280	
2001	286,763	33,342,460	331,518	41,398,355	177,989	455,838	26,024	659,851	0	69,694,093	
2002	286,763	33,342,460	331,518	41,398,355	177,989	455,838	27,019	660,846	0	69,711,332	
2003	286,763	33,342,460	331,518	41,398,355	177,989	455,838	28,013	661,840	0	69,730,146	
2004	286,763	33,342,460	331,518	41,398,355	177,989	455,838	29,008	662,835	0	69,748,545	
2005	286,763	33,342,460	331,518	41,398,355	177,989	455,838	30,002	663,829	0	69,760,314	
2006	286,763	33,342,460	331,518	41,398,355	177,989	455,838	31,163	664,990	0	69,769,762	
2007	286,763	33,342,460	331,518	41,398,355	177,989	455,838	32,323	666,150	0	69,780,868	
2008	286,763	33,342,460	331,518	41,398,355	177,989	455,838	33,483	667,310	0	69,793,631	
2009	286,763	33,342,460	331,518	41,398,355	177,989	455,838	34,644	668,471	0	69,804,738	
2010	286,763	33,342,460	331,518	41,398,355	177,989	455,838	35,804	669,631	0	69,815,843	
2011	286,763	33,342,460	331,518	41,398,355	177,989	455,838	37,130	670,957	0	69,828,772	
2012	286,763	33,342,460	331,518	41,398,355	177,989	455,838	38,456	672,283	0	69,840,044	
2013	286,763	33,342,460	331,518	41,398,355	177,989	455,838	39,948	673,775	0	69,853,139	
2014	286,763	33,342,460	331,518	41,398,355	177,989	455,838	41,440	675,267	0	69,866,234	
2015	286,763	33,342,460	331,518	41,398,355	177,989	455,838	43,097	676,924	0	69,879,495	
2016	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,891,098	
2017	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,901,044	
2018	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,910,989	
2019	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,920,935	
2020	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,930,880	
2021	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2022	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2023	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2024	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2025	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2026	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2027	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2028	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2029	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2030	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2031	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2032	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2033	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2034	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
2035	286,763	33,342,460	331,518	41,398,355	177,989	455,838	44,755	678,582	0	69,932,538	
TOTAL	14,919,104		16,291,086		8,301,329		1,812,248		0		
		1,809,401,018		2,239,012,064		20,805,789		30,919,366		3,782,787,418	

TABLE B-22: WATER SYSTEM REVENUE BOND

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0
1988	36,863	51,256	88,119	32,187	38,185	126,586	196,958	16,610	30,866	47,476
1989	73,507	104,861	178,368	65,282	77,840	256,506	399,628	40,407	74,757	115,164
1990	71,566	105,918	177,484	64,512	77,219	252,389	394,120	47,322	87,670	134,992
1991	71,622	106,002	177,624	64,563	77,280	252,588	394,431	47,359	87,739	135,098
1992	71,783	106,240	178,023	64,708	77,454	253,156	395,318	47,466	87,936	135,402
1993	71,880	106,383	178,263	64,795	77,558	253,497	395,850	47,530	88,055	135,585
1994	72,009	106,573	178,582	64,911	77,697	253,950	396,558	47,615	88,212	135,827
1995	74,697	121,594	196,291	73,775	80,062	260,154	413,991	132,694	274,298	406,992
1996	75,510	122,872	198,382	74,396	80,090	260,260	414,746	133,567	276,053	409,620
1997	76,297	124,107	200,404	74,990	80,088	260,272	415,350	134,393	277,711	412,104
1998	77,057	125,297	202,354	75,558	80,058	260,190	415,806	135,171	279,269	414,440
1999	77,779	126,427	204,206	76,089	79,990	259,983	416,062	135,883	280,692	416,575
2000	78,508	127,568	206,076	76,627	79,929	259,803	416,359	136,608	282,141	418,749
2001	79,317	128,839	208,156	77,243	79,950	259,887	417,080	137,472	283,878	421,350
2002	80,137	130,129	210,266	77,870	79,981	260,005	417,856	138,356	285,655	424,011
2003	80,887	131,303	212,190	78,428	79,941	259,890	418,259	139,116	287,177	426,293
2004	81,607	132,430	214,037	78,958	79,873	259,685	418,516	139,828	288,598	428,426
2005	82,318	133,541	215,859	79,478	79,796	259,451	418,725	140,522	289,984	430,506
2006	83,613	133,591	217,204	79,476	79,737	258,845	418,058	140,356	289,605	429,961
2007	84,965	133,726	218,691	79,525	79,728	258,402	417,655	140,279	289,409	429,688
2008	86,245	133,741	219,986	79,502	79,647	257,723	416,872	140,076	288,949	429,024
2009	87,506	133,722	221,228	79,459	79,547	256,979	415,985	139,836	288,418	428,254
2010	88,773	133,711	222,484	79,421	79,450	256,248	415,119	139,604	287,902	427,506
2011	89,999	133,635	223,634	79,343	79,315	255,391	414,049	139,303	287,244	426,547
2012	91,253	133,597	224,850	79,289	79,202	254,607	413,098	139,043	286,669	425,712
2013	92,475	133,511	225,986	79,206	79,061	253,732	411,999	138,733	285,991	424,724
2014	93,682	133,403	227,085	79,110	78,907	252,812	410,829	138,398	285,264	423,662
2015	94,919	133,335	228,254	79,038	78,776	251,971	409,785	138,107	284,625	422,732
2016	96,085	133,169	229,254	78,907	78,587	250,941	408,435	137,712	283,772	421,484
2017	97,126	132,832	229,958	78,675	78,298	249,592	406,565	137,142	282,560	419,702
2018	98,103	132,414	230,517	78,395	77,961	248,092	404,448	136,489	281,174	417,663
2019	99,091	132,019	231,110	78,130	77,638	246,640	402,408	135,860	279,842	415,702
2020	100,053	131,595	231,648	77,847	77,299	245,136	400,282	135,203	278,449	413,652
2021	164,764	218,038	382,802	134,008	132,238	411,854	678,100	219,967	451,642	671,609
2022	132,408	174,817	307,225	105,927	104,769	328,495	539,191	177,585	365,045	542,630
2023	197,119	261,260	458,379	162,088	159,708	495,213	817,009	262,349	538,238	800,587
2024	67,698	88,373	156,071	49,767	49,829	161,777	261,373	92,821	191,853	284,674
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0
TOTAL	3,279,221	4,831,829	8,111,050	2,901,483	3,012,688	9,702,702	15,616,873	4,626,781	9,477,342	14,104,123

SURCHARGE FOR EACH CONTRACTOR

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0
1988	12,821	43,006	2,097	0	88,517	915,955	2,820	3,608	84,463	1,153,287
1989	25,611	89,275	4,196	0	182,615	1,878,034	5,623	7,422	175,823	2,368,599
1990	24,722	89,386	4,051	0	185,590	1,875,145	5,456	7,292	182,817	2,374,459
1991	24,741	89,456	4,054	0	185,736	1,876,624	5,460	7,298	182,961	2,376,330
1992	24,797	89,658	4,063	0	186,154	1,880,841	5,473	7,314	183,372	2,381,672
1993	24,831	89,778	4,069	0	186,405	1,883,376	5,480	7,324	183,619	2,384,682
1994	24,875	89,939	4,076	0	186,738	1,886,746	5,490	7,337	183,948	2,389,149
1995	22,779	78,808	3,453	0	163,276	1,706,806	4,700	6,128	161,044	2,146,994
1996	22,788	78,829	3,453	0	163,088	1,707,446	4,701	6,129	161,087	2,147,521
1997	22,788	78,821	3,452	0	162,842	1,707,472	4,701	6,128	161,072	2,147,276
1998	22,780	78,785	3,449	0	162,536	1,706,882	4,699	6,124	161,000	2,146,255
1999	22,761	78,711	3,445	0	162,153	1,705,471	4,694	6,118	160,849	2,144,202
2000	22,745	78,645	3,441	0	161,786	1,704,229	4,691	6,112	160,715	2,142,364
2001	22,752	78,659	3,441	0	161,584	1,704,726	4,691	6,112	160,745	2,142,710
2002	22,761	78,683	3,441	0	161,403	1,705,447	4,693	6,114	160,795	2,143,337
2003	22,751	78,637	3,438	0	161,077	1,704,642	4,690	6,109	160,702	2,142,046
2004	22,732	78,563	3,434	0	160,696	1,703,244	4,686	6,103	160,553	2,140,011
2005	22,711	78,481	3,429	0	160,296	1,701,652	4,681	6,096	160,386	2,137,732
2006	22,746	78,705	3,443	0	160,487	1,704,851	4,695	6,123	160,849	2,141,899
2007	22,795	78,980	3,460	0	160,782	1,709,147	4,712	6,154	161,416	2,147,446
2008	22,823	79,184	3,473	0	160,931	1,711,904	4,725	6,179	161,838	2,151,057
2009	22,847	79,369	3,486	0	161,041	1,714,249	4,737	6,203	162,221	2,154,153
2010	22,871	79,558	3,499	0	161,160	1,716,687	4,749	6,228	162,614	2,157,366
2011	22,884	79,710	3,510	0	161,201	1,718,293	4,758	6,249	162,928	2,159,533
2012	22,904	79,884	3,522	0	161,288	1,720,397	4,770	6,272	163,289	2,162,326
2013	22,916	80,030	3,533	0	161,318	1,721,892	4,779	6,293	163,592	2,164,353
2014	22,924	80,162	3,543	0	161,320	1,723,089	4,788	6,313	163,868	2,166,007
2015	22,939	80,319	3,555	0	161,373	1,724,824	4,798	6,335	164,194	2,168,337
2016	22,937	80,417	3,564	0	161,304	1,725,271	4,804	6,352	164,398	2,169,047
2017	22,905	80,411	3,568	0	161,030	1,723,514	4,804	6,361	164,392	2,166,985
2018	22,860	80,355	3,570	0	160,656	1,720,682	4,802	6,366	164,283	2,163,574
2019	22,818	80,313	3,572	0	160,311	1,718,150	4,800	6,372	164,201	2,160,537
2020	22,771	80,252	3,574	0	159,929	1,715,226	4,797	6,377	164,082	2,157,008
2021	39,021	140,477	6,351	0	280,557	2,957,120	8,518	11,413	287,343	3,730,800
2022	30,896	110,364	4,963	0	220,243	2,336,173	6,658	8,895	225,712	2,943,904
2023	47,146	170,589	7,740	0	340,871	3,578,067	10,379	13,931	348,973	4,517,696
2024	14,646	50,140	2,185	0	99,615	1,094,279	2,936	3,859	102,452	1,370,112
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0
TOTAL	887,395	3,115,339	138,593	0	6,337,909	66,688,553	187,438	247,143	6,358,596	83,960,966

TABLE B-22: WATER SYSTEM REVENUE BOND

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0
1988	81,323	59,448	34,206	9,689	56,301	2,726	70,858	20,550	191,307	50,500
1989	309,770	123,077	70,780	19,976	117,637	5,668	146,305	42,144	391,394	104,082
1990	311,454	123,290	71,510	20,117	117,872	5,698	147,020	42,025	392,245	104,725
1991	311,700	123,387	71,566	20,133	117,965	5,702	147,136	42,058	392,554	104,808
1992	312,400	123,664	71,727	20,178	118,230	5,715	147,467	42,153	393,436	105,043
1993	312,821	123,831	71,824	20,205	118,389	5,723	147,665	42,209	393,967	105,185
1994	313,381	124,053	71,952	20,241	118,601	5,733	147,930	42,285	394,672	105,373
1995	307,301	126,389	70,687	20,206	116,508	5,466	144,218	40,208	400,377	105,659
1996	307,466	126,470	70,733	20,220	116,583	5,469	144,308	40,230	400,659	105,732
1997	307,519	126,504	70,753	20,226	116,616	5,470	144,345	40,237	400,797	105,767
1998	307,462	126,494	70,748	20,225	116,608	5,469	144,331	40,230	400,791	105,764
1999	307,257	126,422	70,708	20,214	116,543	5,465	144,247	40,204	400,592	105,710
2000	307,083	126,364	70,676	20,206	116,490	5,462	144,178	40,182	400,433	105,667
2001	307,222	126,433	70,716	20,217	116,555	5,464	144,256	40,200	400,681	105,731
2002	307,401	126,520	70,765	20,232	116,636	5,468	144,352	40,224	400,984	105,810
2003	307,305	126,494	70,751	20,228	116,612	5,466	144,320	40,212	400,927	105,793
2004	307,103	126,423	70,712	20,218	116,548	5,462	144,237	40,186	400,730	105,740
2005	306,865	126,338	70,665	20,205	116,471	5,458	144,138	40,155	400,488	105,675
2006	306,643	126,118	70,548	20,165	116,278	5,453	143,931	40,118	399,609	105,458
2007	306,617	125,977	70,475	20,138	116,158	5,451	143,814	40,107	398,983	105,307
2008	306,311	125,722	70,338	20,093	115,932	5,444	143,567	40,060	397,992	105,060
2009	305,930	125,436	70,184	20,043	115,678	5,436	143,284	40,002	396,902	104,787
2010	305,565	125,155	70,033	19,993	115,429	5,429	143,008	39,947	395,831	104,519
2011	305,050	124,814	69,848	19,934	115,123	5,418	142,662	39,872	394,566	104,199
2012	304,623	124,508	69,683	19,881	114,851	5,409	142,357	39,808	393,413	103,910
2013	304,087	124,157	69,493	19,820	114,537	5,398	142,001	39,731	392,119	103,583
2014	303,499	123,785	69,291	19,756	114,204	5,387	141,620	39,646	390,757	103,238
2015	303,004	123,451	69,110	19,698	113,906	5,377	141,284	39,574	389,516	102,925
2016	302,283	123,025	68,878	19,626	113,522	5,363	140,841	39,472	387,983	102,535
2017	301,177	122,442	68,558	19,528	112,995	5,342	140,220	39,320	385,958	102,015
2018	299,887	121,785	68,196	19,419	112,398	5,318	139,512	39,143	383,698	101,433
2019	298,652	121,151	67,847	19,313	111,823	5,294	138,831	38,974	381,512	100,876
2020	297,352	120,491	67,484	19,203	111,224	5,270	138,121	38,797	379,246	100,280
2021	501,355	199,556	111,527	31,529	183,837	8,842	229,188	65,221	619,400	164,248
2022	399,354	160,024	89,505	25,366	147,531	7,056	183,654	52,009	499,323	132,267
2023	603,357	239,089	133,548	37,692	220,144	10,628	274,721	78,433	739,477	196,229
2024	195,350	80,958	45,463	13,040	74,917	3,484	92,588	25,585	259,169	68,305
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0
TOTAL	11,582,929	4,729,245	2,661,488	757,173	4,387,652	207,883	5,446,515	1,531,511	14,942,488	3,953,938

SURCHARGE FOR EACH CONTRACTOR

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total		
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	South Bay (39)	(40)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0
1988	30,393	3,343,674	22,928	3,973,903	0	699	1,080	1,779	0	5,461,522
1989	63,319	6,909,757	52,061	8,355,970	0	1,384	2,189	3,573	0	11,421,302
1990	64,392	6,821,413	59,043	8,280,804	0	1,336	2,155	3,491	0	11,365,350
1991	64,443	6,826,794	59,090	8,287,336	0	1,337	2,157	3,494	0	11,374,313
1992	64,588	6,842,132	59,222	8,305,955	0	1,340	2,162	3,502	0	11,399,872
1993	64,675	6,851,357	59,302	8,317,153	0	1,342	2,164	3,506	0	11,415,239
1994	64,790	6,863,616	59,408	8,332,035	0	1,344	2,168	3,512	0	11,435,663
1995	65,092	6,798,547	57,917	8,258,575	0	24,643	2,190	26,833	0	11,449,676
1996	65,137	6,810,506	57,954	8,271,467	0	24,642	2,250	26,892	0	11,468,628
1997	65,160	6,820,018	57,969	8,281,381	0	24,632	2,310	26,942	0	11,483,457
1998	65,158	6,827,078	57,964	8,288,322	0	24,614	2,368	26,982	0	11,494,159
1999	65,125	6,830,847	57,931	8,291,265	0	24,583	2,426	27,009	0	11,499,319
2000	65,099	6,835,287	57,904	8,295,031	0	24,555	2,484	27,039	0	11,505,618
2001	65,139	6,831,874	57,935	8,292,423	0	24,552	2,544	27,096	0	11,508,815
2002	65,188	6,829,357	57,975	8,290,912	0	24,552	2,604	27,156	0	11,513,538
2003	65,178	6,820,720	57,962	8,281,968	0	24,530	2,663	27,193	0	11,507,949
2004	65,146	6,809,718	57,929	8,270,152	0	24,500	2,720	27,220	0	11,498,362
2005	65,106	6,797,943	57,890	8,257,397	0	24,467	2,777	27,244	0	11,487,463
2006	64,968	6,784,877	57,797	8,241,963	0	24,610	2,854	27,464	0	11,476,549
2007	64,871	6,776,097	57,740	8,231,735	0	24,768	2,933	27,701	0	11,472,916
2008	64,714	6,761,127	57,631	8,213,991	0	24,905	3,010	27,915	0	11,458,845
2009	64,542	6,744,485	57,508	8,194,217	0	25,036	3,086	28,122	0	11,441,959
2010	64,372	6,728,167	57,387	8,174,835	0	25,169	3,163	28,332	0	11,425,642
2011	64,171	6,708,553	57,238	8,151,448	0	25,289	3,238	28,527	0	11,403,738
2012	63,988	6,690,850	57,106	8,130,387	0	25,417	3,314	28,731	0	11,385,104
2013	63,783	6,670,757	56,953	8,106,419	0	25,536	3,389	28,925	0	11,362,406
2014	63,566	6,649,495	56,790	8,081,034	0	25,651	3,463	29,114	0	11,337,731
2015	63,369	6,630,293	56,645	8,058,152	0	25,773	3,539	29,312	0	11,316,572
2016	63,124	6,606,131	56,458	8,029,241	0	25,877	3,612	29,489	0	11,286,950
2017	62,800	6,573,584	56,198	7,990,137	0	25,947	3,680	29,627	0	11,242,974
2018	62,437	6,537,026	55,905	7,946,157	0	26,001	3,745	29,746	0	11,192,105
2019	62,086	6,501,717	55,622	7,903,692	0	26,059	3,811	29,870	0	11,143,319
2020	61,722	6,465,035	55,327	7,859,558	0	26,110	3,876	29,986	0	11,092,134
2021	100,985	3,205,923	91,884	5,513,495	0	47,691	6,762	54,453	0	11,031,259
2022	81,354	4,742,014	73,606	6,593,063	0	36,900	5,319	42,219	0	10,968,232
2023	120,617	12,724,823	110,163	15,488,921	0	58,481	8,205	66,686	0	22,149,278
2024	42,090	4,880,203	37,048	5,818,200	0	15,320	2,433	17,753	0	7,908,183
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0
TOTAL	2,432,687	244,851,795	2,173,390	299,658,694	0	819,592	114,843	934,435	0	422,386,141

TABLE B-23: TOTAL TRANSPORTATION (a AND

(in dollars)

Sheet 1 of 4

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	11,750	43,787	0	55,537	0	0	0
1963	0	0	0	152,819	188,947	455,509	797,269	0	0	0
1964	0	0	0	173,382	266,670	631,845	1,071,897	9,067	17,954	27,021
1965	0	0	0	248,951	368,922	1,174,621	1,792,494	14,938	28,953	43,891
1966	18,399	0	18,399	275,395	379,687	1,432,331	2,087,413	24,388	46,598	70,986
1967	42,294	0	42,294	365,220	508,541	1,881,842	2,755,603	43,012	81,129	124,141
1968	130,656	0	130,656	416,167	589,092	2,201,717	3,206,976	69,364	129,930	199,294
1969	257,459	0	257,459	482,959	539,163	3,350,847	3,345,774	124,504	231,788	356,292
1970	280,354	0	280,354	547,519	594,451	2,813,518	3,955,488	137,627	256,087	393,714
1971	230,317	0	230,317	484,897	629,173	2,832,683	3,946,753	138,809	258,349	397,158
1972	227,843	0	227,843	613,677	776,191	3,053,485	4,443,353	145,043	269,969	415,012
1973	223,973	32,062	256,035	599,414	670,243	3,146,579	4,416,236	142,091	264,573	406,664
1974	243,427	33,660	277,087	639,559	700,611	3,350,847	4,691,017	143,333	266,915	410,248
1975	240,526	37,068	277,594	696,453	746,410	3,239,931	4,682,794	159,921	297,561	457,482
1976	274,435	41,687	316,122	809,049	896,821	3,388,461	5,094,331	272,011	504,558	776,569
1977	296,818	46,017	342,835	776,802	875,533	3,329,563	4,981,898	282,872	525,050	807,922
1978	279,036	50,160	329,196	870,299	894,474	3,751,648	5,516,421	292,875	543,670	836,545
1979	292,659	54,276	346,935	958,707	962,313	3,844,187	5,765,207	289,304	537,197	826,501
1980	314,345	87,059	401,404	1,110,354	1,126,625	4,144,347	6,381,326	328,295	589,876	918,171
1981	352,158	112,753	464,911	1,215,377	1,301,857	4,533,540	7,050,774	356,831	639,088	995,919
1982	444,629	143,037	587,666	1,294,216	1,324,903	4,916,452	7,535,571	377,587	729,790	1,107,377
1983	388,084	166,069	554,153	1,169,621	1,216,949	5,009,864	7,396,434	402,779	745,722	1,148,501
1984	465,680	254,408	720,088	1,449,851	1,411,344	6,771,488	9,632,683	446,153	825,678	1,271,831
1985	746,702	391,454	1,138,156	1,980,278	2,190,480	7,870,994	12,041,752	547,110	1,010,507	1,557,617
1986	1,117,293	720,363	1,837,656	1,827,912	1,967,932	8,225,508	12,021,352	574,218	1,059,854	1,634,072
1987	1,773,195	1,591,414	3,364,609	2,434,056	2,577,864	8,432,919	13,444,839	621,428	1,146,484	1,767,912
1988	2,240,502	2,806,246	5,046,748	2,795,649	3,231,586	8,464,969	14,492,204	779,742	1,446,386	2,226,128
1989	2,709,793	4,057,409	6,767,202	2,903,843	3,283,475	8,681,243	14,868,561	958,473	1,782,035	2,740,508
1990	2,805,336	4,217,796	7,023,132	2,988,552	3,359,405	8,908,239	15,256,196	1,088,725	2,028,322	3,117,047
1991	2,846,945	4,285,904	7,132,849	3,101,404	3,445,100	9,095,600	15,642,104	1,138,841	2,131,957	3,270,798
1992	2,856,191	4,312,813	7,169,004	3,133,070	3,406,470	9,002,686	15,542,226	1,311,323	2,496,304	3,807,627
1993	2,872,462	4,357,502	7,229,964	3,218,559	3,414,507	9,062,545	15,695,611	2,468,515	5,081,829	7,550,344
1994	2,917,802	4,422,635	7,340,437	3,329,361	3,434,942	9,188,826	15,953,129	3,936,405	8,389,145	12,325,550
1995	2,969,426	4,579,048	7,548,474	3,467,989	3,465,760	9,263,894	16,197,643	6,914,821	14,083,065	20,997,886
1996	2,994,342	4,648,075	7,642,417	3,560,906	3,456,387	9,241,616	16,258,909	8,061,075	16,227,617	24,288,692
1997	3,041,653	4,702,318	7,743,971	3,796,461	3,578,116	9,531,523	16,906,100	8,282,778	16,645,236	24,928,014
1998	3,068,398	4,722,593	7,790,991	3,792,766	3,574,195	9,522,193	16,889,154	8,288,616	16,666,643	24,955,259
1999	3,113,429	4,772,721	7,886,150	3,898,586	3,670,274	9,750,969	17,319,829	8,465,032	16,996,054	25,461,086
2000	3,162,461	4,822,022	7,984,483	3,997,907	3,760,419	9,965,621	17,723,947	8,622,553	17,283,339	25,905,892
2001	3,184,528	4,831,936	8,016,464	3,969,210	3,733,738	9,902,644	17,605,592	8,581,935	17,209,793	25,791,728
2002	3,224,801	4,873,650	8,098,451	4,057,083	3,813,440	10,092,513	17,963,038	8,720,346	17,462,313	26,182,659
2003	3,266,993	4,911,525	8,178,518	4,150,383	3,899,401	10,305,693	18,355,477	8,830,478	17,663,313	26,493,791
2004	3,323,234	4,968,539	8,291,773	4,252,292	3,991,967	10,526,470	18,770,729	8,990,423	17,955,070	26,945,493
2005	3,352,861	4,981,773	8,334,634	4,257,110	3,995,819	10,535,602	18,788,531	9,000,934	17,974,454	26,975,388
2006	3,390,890	5,003,874	8,394,764	4,325,925	4,058,600	10,684,666	19,069,191	9,115,304	18,183,106	27,298,410
2007	3,415,114	5,001,070	8,416,184	4,311,293	4,045,187	10,652,317	19,008,797	9,096,472	18,148,844	27,245,316
2008	3,409,430	4,958,516	8,367,946	4,155,855	3,903,217	10,313,845	18,372,917	8,858,896	17,716,919	26,575,815
2009	3,437,125	4,962,273	8,399,398	4,160,472	3,907,377	10,323,293	18,391,142	8,868,603	17,734,918	26,503,521
2010	3,462,865	4,964,539	8,427,404	4,165,042	3,911,487	10,332,582	18,409,111	8,877,344	17,750,743	26,628,087
2011	3,487,312	4,955,949	8,443,261	4,139,858	3,888,307	10,275,831	18,303,996	8,840,328	17,682,990	26,523,318
2012	3,510,761	4,954,936	8,465,697	4,128,060	3,877,480	10,249,581	18,255,121	8,823,711	17,653,069	26,476,780
2013	3,495,568	4,905,767	8,401,335	3,860,413	3,631,630	9,539,517	17,031,560	8,597,430	17,241,273	25,838,703
2014	3,547,142	4,929,351	8,476,493	3,892,010	3,637,304	9,517,420	17,046,734	8,686,892	17,402,506	26,089,398
2015	3,552,133	4,903,473	8,455,606	3,771,991	3,498,430	8,964,203	16,234,624	8,565,608	17,181,550	25,747,158
2016	3,563,100	4,904,955	8,468,055	3,753,584	3,475,007	8,788,841	16,017,432	8,559,470	17,170,190	25,729,660
2017	3,558,036	4,895,737	8,453,773	3,691,754	3,418,216	8,606,038	15,716,008	8,494,553	17,051,250	25,545,803
2018	3,511,183	4,900,082	8,411,265	3,667,438	3,394,493	8,519,660	15,581,591	8,507,049	17,072,913	25,579,962
2019	3,501,056	4,904,513	8,405,569	3,641,741	3,371,072	8,443,758	15,456,571	8,523,344	17,102,130	25,625,474
2020	3,512,298	4,892,364	8,404,662	3,585,139	3,318,830	8,310,879	15,214,848	8,456,571	16,980,515	25,437,266
2021	3,585,286	4,983,590	8,568,876	3,625,768	3,357,888	8,429,833	15,413,489	8,564,876	17,196,095	25,760,971
2022	3,543,039	4,929,436	8,472,475	3,592,466	3,325,476	8,332,118	15,250,060	8,513,224	17,092,428	25,605,652
2023	3,606,023	4,983,240	8,589,263	3,645,621	3,377,646	8,490,394	15,513,661	8,594,046	17,258,384	25,852,430
2024	3,472,123	4,807,251	8,279,374	3,528,046	3,262,839	8,143,959	14,934,844	8,408,448	16,882,318	25,290,766
2025	3,398,903	4,717,975	8,116,878	3,485,098	3,219,058	7,994,991	14,699,147	8,327,726	16,712,422	25,040,148
2026	3,396,609	4,715,360	8,111,969	3,490,554	3,224,026	8,006,592	14,721,172	8,228,237	16,528,408	24,756,645
2027	3,390,451	4,708,421	8,098,872	3,479,556	3,213,889	7,980,836	14,674,281	8,211,668	16,497,722	24,709,390
2028	3,389,332	4,706,110	8,095,442	3,481,502	3,215,612	7,983,360	14,680,474	8,213,361	16,500,478	24,713,839
2029	3,383,526	4,700,046	8,083,572	3,470,995	3,205,985	7,959,483	14,636,463	8,200,972	16,477,762	24,678,734
2030	3,373,777	4,685,847	8,059,624	3,468,051	3,203,249	7,952,474	14,623,774	8,198,078	16,472,285	24,670,363
2031	3,359,448	4,667,738	8,027,186	3,461,312	3,197,039	7,937,197	14,595,548	8,188,943	16,455,303	24,644,246
2032	3,352,575	4,651,226	8,003,801	3,472,371	3,207,114	7,960,893	14,640,378	8,207,534	16,489,474	24,697,008
2033	3,319,482	4,601,181	7,920,663	3,457,893	3,193,865	7,929,062	14,580,820	8,187,668	16,453,341	24,641,009
2034	3,259,421	4,529,593	7,789,014	3,469,774	3,204,579	7,953,285	14,627,638	8,215,659	16,504,088	24,719,747
2035	3,150,952	4,407,915	7,558,867	3,513,985	3,244,903	8,048,586	14,807,474	8,295,285	16,648,835	24,944,120
TOTAL	165,926,399	229,868,320	395,794,719	198,169,376	192,253,789	528,425,873	918,849,038	365,812,055	732,772,414	1,098,584,469

a) Unadjusted for prior overpayments or underpayments of charges. See Table B-19 for total Transportation Charge for each contractor.

DELTA WATER (b CHARGE FOR EACH CONTRACTOR

(in dollars)

Sheet 2 of 4

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Future Contractor San Joaquin Valley	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	2,772	0	0	0	0	0	2,772
1965	0	0	0	6,131	74,904	0	0	0	0	81,035
1966	0	0	0	12,239	139,761	0	0	0	0	152,000
1967	0	0	0	26,691	272,276	0	0	0	0	298,967
1968	86,529	224,089	20,105	55,394	452,161	1,708,012	16,196	19,593	307,338	2,889,417
1969	139,507	240,264	13,110	88,521	532,958	2,725,883	15,840	19,323	458,879	4,234,285
1970	182,705	305,303	36,544	95,648	582,505	3,875,071	20,417	30,341	521,335	5,649,869
1971	198,011	326,587	39,273	96,685	614,831	5,194,931	26,134	34,619	712,592	7,243,663
1972	234,128	379,677	42,470	99,791	640,757	7,132,385	25,404	63,695	1,982,415	10,600,722
1973	240,161	397,339	41,156	98,559	1,035,118	7,284,253	27,750	39,197	781,988	9,945,521
1974	262,881	505,014	42,370	99,478	1,154,063	7,993,258	28,464	42,486	1,042,359	11,170,373
1975	290,719	677,039	42,816	107,729	1,206,480	9,373,225	30,140	48,100	1,555,434	13,331,682
1976	328,908	717,255	45,337	109,115	1,333,197	10,621,147	31,562	52,026	1,441,422	14,679,969
1977	331,573	577,630	41,258	113,606	1,376,936	10,937,519	33,318	54,147	1,137,535	14,603,522
1978	371,901	698,213	43,714	117,643	1,583,490	13,353,404	37,866	59,210	1,179,132	17,444,573
1979	417,666	778,658	50,083	115,206	1,676,584	15,337,657	41,814	70,505	1,724,439	20,212,612
1980	414,857	959,641	51,829	126,867	1,777,778	16,982,263	46,761	94,817	1,671,505	22,126,318
1981	520,243	1,209,799	86,359	134,256	2,433,485	22,700,510	65,179	100,662	2,285,037	29,535,530
1982	516,534	1,245,466	72,479	136,765	2,530,231	24,971,790	69,499	108,195	2,281,023	31,931,982
1983	493,978	1,171,180	54,618	150,246	2,090,568	24,624,108	73,120	89,142	501,619	29,248,579
1984	625,948	1,484,791	131,620	160,285	3,163,021	33,069,405	92,650	120,521	1,546,538	40,394,779
1985	738,402	1,797,623	100,607	185,017	3,752,092	39,928,724	118,371	141,766	2,886,491	49,649,093
1986	800,960	2,026,547	82,253	176,375	4,396,577	43,426,866	137,025	155,266	3,688,073	54,889,942
1987	698,034	1,715,160	106,190	182,195	4,772,477	46,117,498	150,182	168,557	4,081,171	57,991,464
1988	842,948	2,220,794	118,343	213,307	4,788,625	50,445,734	145,993	166,241	4,605,472	63,747,457
1989	842,630	2,307,751	114,178	226,271	5,126,636	51,690,319	150,148	178,290	4,680,597	65,316,820
1990	854,637	2,422,731	116,171	231,435	5,458,346	53,901,832	153,841	183,636	4,960,710	68,283,339
1991	872,758	2,473,888	118,811	232,907	5,623,568	55,074,855	158,310	186,690	5,065,340	69,807,127
1992	855,552	2,426,636	116,352	233,619	5,519,385	54,021,137	155,384	183,548	4,968,319	68,479,932
1993	853,084	2,417,940	115,899	234,687	5,501,839	53,829,191	154,881	182,988	4,950,420	68,240,929
1994	855,512	2,423,988	116,212	236,051	5,518,773	53,973,549	155,342	183,287	4,962,812	68,425,526
1995	872,157	2,428,583	116,402	246,779	5,532,808	54,049,864	155,622	183,216	4,972,132	68,557,563
1996	870,685	2,425,044	116,218	246,931	5,525,836	53,977,876	155,426	182,890	4,964,865	68,465,771
1997	894,916	2,491,786	119,684	247,395	5,692,031	55,455,647	160,091	187,258	5,101,880	70,350,688
1998	894,582	2,491,406	119,664	247,571	5,692,886	55,450,324	160,111	187,181	5,101,104	70,344,829
1999	914,090	2,544,468	122,418	247,923	5,823,661	56,628,198	163,776	190,617	5,210,027	71,845,178
2000	932,742	2,596,424	125,117	248,222	5,951,726	57,779,459	167,367	194,022	5,316,687	73,311,766
2001	928,324	2,583,964	124,469	248,517	5,920,622	57,507,460	166,492	193,095	5,291,072	72,964,015
2002	944,879	2,630,370	126,878	249,037	6,033,547	58,532,592	169,671	196,210	5,386,333	74,269,517
2003	957,644	2,665,192	128,686	249,296	6,119,549	59,316,656	172,074	198,515	5,457,811	75,265,423
2004	977,218	2,719,267	131,494	250,537	6,252,305	60,547,704	175,736	202,052	5,568,802	76,825,115
2005	978,321	2,721,975	131,633	250,614	6,258,901	60,613,264	175,921	202,221	5,574,352	76,907,202
2006	993,375	2,757,850	133,489	252,339	6,349,851	61,451,703	178,379	204,612	5,647,772	77,969,370
2007	990,928	2,750,284	133,096	252,370	6,330,937	61,288,630	177,853	204,068	5,632,232	77,760,398
2008	963,754	2,674,633	129,165	252,595	6,143,691	59,613,636	172,598	198,988	5,476,836	75,625,896
2009	965,158	2,678,329	129,359	252,827	6,152,488	59,698,426	172,843	199,220	5,484,395	75,733,045
2010	966,102	2,680,753	129,487	252,835	6,158,058	59,749,695	173,010	199,412	5,489,375	75,798,727
2011	961,684	2,669,913	128,926	252,301	6,131,780	59,509,978	172,271	198,674	5,467,111	75,492,638
2012	959,984	2,664,908	128,668	252,525	6,118,978	59,398,656	171,916	198,371	5,456,807	75,350,813
2013	933,722	2,591,478	124,852	252,533	5,937,668	57,781,722	166,823	193,516	5,305,997	73,288,311
2014	945,108	2,623,122	126,501	249,780	6,015,383	58,477,847	169,015	195,708	5,370,992	74,173,456
2015	931,953	2,586,587	124,605	246,498	5,849,884	57,673,079	166,481	193,220	5,295,949	73,068,256
2016	932,410	2,587,252	124,642	240,600	5,786,245	57,686,261	166,515	193,325	5,297,286	73,014,536
2017	927,102	2,572,592	123,884	226,146	5,617,450	57,364,775	165,500	192,386	5,267,189	72,457,024
2018	929,955	2,580,525	124,303	202,909	5,517,720	57,538,674	157,401	192,974	5,283,512	72,527,973
2019	931,832	2,584,741	124,527	194,294	5,467,012	57,634,136	157,180	193,342	5,292,180	72,579,244
2020	923,578	2,560,263	123,259	192,113	5,374,559	57,092,002	155,264	191,706	5,241,924	71,854,668
2021	942,558	2,627,776	126,415	190,992	5,490,358	58,470,306	159,347	197,263	5,380,152	73,585,167
2022	931,828	2,586,868	124,467	189,637	5,394,088	57,598,181	156,748	194,345	5,296,364	72,472,526
2023	947,539	2,645,265	127,150	189,203	5,505,631	58,803,479	160,311	199,266	5,415,868	73,993,712
2024	909,428	2,518,127	121,265	185,788	5,241,773	56,122,829	152,424	188,978	5,156,003	70,596,615
2025	896,054	2,471,093	119,242	185,217	5,147,293	55,100,897	149,677	185,298	5,059,933	69,314,704
2026	897,142	2,473,896	119,389	184,944	5,152,039	55,165,125	149,837	185,464	5,065,688	69,393,524
2027	895,451	2,468,988	119,134	184,285	5,136,901	55,059,302	149,453	185,111	5,055,614	69,254,239
2028	896,053	2,469,794	119,175	181,813	5,137,107	55,086,730	149,487	185,098	5,057,266	69,282,523
2029	894,632	2,465,403	118,954	181,603	5,123,691	54,982,699	149,163	184,775	5,048,365	69,149,285
2030	894,026	2,462,380	118,795	181,344	5,114,021	54,930,243	148,900	184,625	5,042,161	69,076,495
2031	893,582	2,459,884	118,666	180,023	5,093,249	54,881,713	148,445	184,513	5,037,040	68,997,115
2032	894,998	2,462,560	118,802	179,985	5,099,498	54,941,380	148,553	184,772	5,042,513	69,073,061
2033	892,638	2,456,282	118,476	179,417	5,075,649	54,791,009	147,897	184,353	5,029,613	68,875,334
2034	896,148	2,465,462	118,953	178,433	5,087,454	54,989,107	148,309	184,962	5,048,467	69,117,295
2035	905,438	2,490,753	120,269	177,566	5,139,251	55,553,717	149,800	186,607	5,100,411	69,823,812
TOTAL	51,880,484	139,517,243	7,040,735	13,161,228	307,023,001	3,068,589,507	8,775,278	10,659,077	281,770,075	3,888,416,628

b) See Table B-21 for total Delta Water Charge for each contractor.

TABLE B-23: TOTAL TRANSPORTATION (a AND

(in dollars)

Sheet 3 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake- Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal- Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	34,018	0	0	0	0	0	0	0	52,760	0
1964	64,086	20,513	14,712	4,456	37,901	1,166	29,002	8,369	84,381	35,680
1965	120,833	38,907	25,573	7,330	41,532	2,122	51,277	15,513	137,574	36,001
1966	219,798	73,556	45,565	12,710	74,503	3,824	92,088	28,198	236,760	62,592
1967	425,205	151,260	87,705	23,902	144,000	7,420	178,406	55,025	441,224	117,677
1968	748,621	317,132	155,307	42,219	255,488	13,091	316,023	97,103	795,486	212,486
1969	1,077,579	477,910	229,236	62,289	377,408	19,021	466,100	140,482	1,226,634	327,311
1970	1,401,579	609,143	320,803	91,263	528,427	25,677	643,137	188,120	1,808,984	475,688
1971	1,734,093	765,569	439,975	130,551	724,965	32,389	870,556	235,300	2,581,303	670,627
1972	2,214,315	961,886	611,845	188,358	1,003,792	44,371	1,193,862	291,998	3,808,754	963,285
1973	2,366,970	1,017,613	756,220	193,572	1,231,479	46,681	1,284,905	317,960	4,079,149	974,636
1974	2,487,750	1,093,865	779,861	206,726	1,271,597	49,562	1,343,661	336,262	4,517,890	1,119,027
1975	2,705,495	1,164,238	825,419	222,012	1,347,254	53,879	1,429,538	359,891	4,694,476	1,225,149
1976	3,169,988	1,170,181	882,617	234,895	1,440,239	58,373	1,505,900	385,933	4,895,339	1,296,892
1977	3,151,925	1,261,981	783,267	247,918	1,282,790	54,853	1,593,176	411,323	5,152,151	1,363,240
1978	3,667,224	1,371,146	996,729	261,938	1,607,171	58,595	1,670,251	433,368	5,230,786	1,414,381
1979	4,267,252	1,374,219	1,066,555	270,318	1,703,869	60,840	1,812,473	453,773	5,190,082	1,355,924
1980	4,952,885	1,506,207	1,176,499	298,057	1,905,467	68,180	1,985,422	503,232	5,703,962	1,499,644
1981	5,781,604	1,853,207	1,330,768	331,933	2,154,751	101,154	2,298,965	606,967	6,524,262	1,703,283
1982	5,556,936	2,018,056	1,425,531	350,698	2,309,984	83,094	2,346,024	647,761	6,823,552	1,940,715
1983	6,339,683	2,110,166	1,947,279	382,832	3,147,702	89,639	2,487,115	667,871	7,025,311	1,825,714
1984	7,757,388	2,958,243	3,069,698	519,047	4,941,993	99,619	2,835,210	750,342	8,447,403	2,683,886
1985	9,785,282	3,469,081	3,949,605	620,467	6,350,993	108,865	3,056,006	1,004,058	9,208,160	2,783,926
1986	9,609,351	3,971,333	4,375,962	657,954	7,039,458	133,230	3,159,721	1,246,213	9,285,140	3,448,212
1987	9,969,516	4,232,857	4,608,520	688,731	7,505,898	259,220	3,199,427	1,572,649	10,673,270	3,584,610
1988	11,132,210	4,378,302	4,574,352	758,219	7,534,142	353,371	3,506,072	1,651,137	12,157,961	3,713,309
1989	12,569,268	4,628,427	4,580,148	776,240	7,614,638	334,351	3,751,525	1,860,572	12,574,490	3,747,457
1990	13,184,994	5,036,187	4,901,278	805,184	8,083,001	314,521	3,870,298	2,166,487	12,844,896	3,836,345
1991	14,358,171	5,648,192	5,164,013	853,997	8,516,341	341,133	3,908,697	2,574,559	13,652,893	3,995,874
1992	14,314,063	5,710,970	4,961,886	835,795	8,182,955	340,478	3,915,689	2,827,259	13,182,788	3,983,397
1993	14,890,071	6,040,419	4,934,660	881,345	8,138,050	348,708	3,921,126	2,933,368	13,596,710	4,033,991
1994	15,419,024	6,466,356	4,963,115	905,856	8,184,994	362,230	7,235,460	2,954,297	13,740,103	4,013,259
1995	16,018,303	6,575,976	5,025,927	947,555	8,288,583	377,626	10,749,976	2,988,795	14,158,561	4,058,592
1996	16,508,258	6,550,434	5,004,775	956,012	8,253,693	388,016	10,720,409	2,980,850	14,210,653	4,049,090
1997	17,857,513	7,001,132	5,295,672	1,032,167	8,733,485	422,737	11,353,353	3,156,480	15,177,624	4,281,217
1998	18,430,818	6,994,579	5,295,272	1,053,004	8,732,822	422,848	11,334,042	3,157,318	15,432,075	4,312,532
1999	19,739,313	7,380,185	5,505,456	1,092,791	9,079,482	441,657	11,828,867	3,298,640	15,760,601	4,410,553
2000	21,093,523	7,777,860	5,723,870	1,155,335	9,439,731	459,772	12,302,870	3,434,777	16,493,996	4,583,538
2001	21,590,153	7,603,182	5,673,238	1,175,893	9,356,227	455,139	12,181,025	3,399,910	16,761,195	4,616,407
2002	23,000,450	7,924,016	5,898,865	1,279,290	9,728,380	470,976	12,596,141	3,518,904	18,235,066	4,932,645
2003	24,340,177	8,182,655	6,014,107	1,287,095	9,918,430	483,928	12,935,619	3,616,226	18,019,045	4,911,488
2004	26,011,711	8,651,432	6,228,524	1,349,456	10,272,080	502,304	13,417,322	3,754,259	19,033,497	5,081,145
2005	26,861,277	8,634,542	6,235,827	1,369,977	10,284,111	503,501	13,451,377	3,763,275	19,525,493	5,108,629
2006	27,537,056	8,760,880	6,430,123	1,479,412	10,604,596	516,418	13,789,143	3,860,330	21,461,937	5,439,497
2007	27,425,061	8,847,259	6,368,429	1,453,103	10,502,824	514,312	13,744,689	3,844,351	21,174,115	5,312,127
2008	26,020,128	8,309,454	6,071,752	1,438,296	10,013,503	487,406	13,043,160	3,641,882	21,346,073	5,246,926
2009	26,084,572	8,271,212	6,097,051	1,480,823	10,055,241	488,663	13,077,617	3,651,259	22,210,684	5,352,711
2010	26,125,928	8,334,744	6,108,185	1,511,013	10,073,609	489,456	13,098,916	3,657,217	22,872,737	5,417,003
2011	25,945,203	8,240,036	6,055,800	1,504,941	9,987,196	485,993	13,007,026	3,631,207	23,094,262	5,401,512
2012	25,841,558	8,248,305	6,034,932	1,516,782	9,952,769	484,031	12,958,141	3,616,335	23,627,798	5,449,994
2013	24,489,904	7,676,233	5,739,720	1,465,206	9,452,236	458,773	12,298,153	3,426,383	23,093,942	5,286,582
2014	25,035,585	7,962,963	5,869,106	1,523,627	9,679,928	468,646	12,558,033	3,501,022	24,133,268	5,488,809
2015	24,307,004	7,598,744	5,642,706	1,420,442	9,306,484	454,818	12,199,619	3,397,048	22,374,624	5,142,983
2016	24,215,544	7,665,077	5,666,667	1,465,734	9,346,025	453,284	12,165,368	3,385,523	23,441,850	5,351,379
2017	23,751,278	7,442,680	5,586,143	1,464,542	9,213,231	444,729	11,948,611	3,321,383	23,697,087	5,392,026
2018	23,658,424	7,349,825	5,554,152	1,443,048	9,160,476	443,298	11,916,508	3,311,282	23,549,365	5,347,652
2019	23,460,550	7,260,968	5,506,018	1,425,959	9,081,086	439,827	11,830,838	3,286,413	23,231,793	5,302,390
2020	22,763,217	6,971,217	5,335,491	1,383,358	8,799,847	425,965	11,466,069	3,184,608	22,477,126	5,163,697
2021	23,364,937	6,921,073	5,284,433	1,346,628	8,715,603	426,279	11,417,939	3,189,808	21,823,731	5,065,022
2022	23,291,156	6,837,390	5,193,172	1,326,059	8,565,111	420,061	11,219,308	3,144,134	21,407,627	5,001,650
2023	24,211,341	6,820,096	5,228,855	1,351,954	8,623,944	421,923	11,258,245	3,158,173	21,893,865	5,153,865
2024	24,222,500	6,613,980	5,079,701	1,276,384	8,377,980	412,765	11,024,453	3,090,273	20,518,167	4,900,938
2025	24,386,117	6,519,650	5,037,994	1,277,567	8,309,268	409,789	10,911,793	3,068,820	20,490,617	4,930,695
2026	24,434,690	6,554,732	5,038,716	1,276,503	8,310,457	410,558	10,919,114	3,074,772	20,433,037	4,985,744
2027	24,326,612	6,438,193	5,074,194	1,244,753	8,369,014	408,749	10,863,169	3,061,188	21,627,154	5,281,730
2028	24,372,836	6,566,817	4,970,854	1,211,779	8,198,507	409,493	10,879,262	3,066,873	19,253,704	4,888,559
2029	24,287,468	6,425,218	5,007,623	1,273,310	8,259,184	408,060	10,841,285	3,056,151	20,349,739	5,167,774
2030	24,261,801	6,399,181	5,004,568	1,274,553	8,254,146	407,634	10,830,397	3,052,956	20,373,368	5,240,231
2031	24,158,666	6,342,883	4,979,807	1,266,019	8,213,309	405,846	10,784,505	3,039,672	20,217,018	5,281,717
2032	24,237,862	6,337,327	5,038,194	1,320,640	8,309,633	407,191	10,821,693	3,049,719	21,187,905	5,556,484
2033	23,980,751	6,234,409	4,924,186	1,230,320	8,121,560	402,900	10,711,971	3,017,482	19,585,050	5,306,286
2034	24,019,992	6,296,315	4,948,296	1,251,061	8,161,340	403,525	10,733,827	3,022,257	19,951,668	5,458,643
2035	24,500,946	6,530,789	5,094,017	1,338,417	8,401,716	411,415	10,941,099	3,082,440	21,500,316	5,876,142
TOTAL	1,155,647,360	371,950,765	289,857,121	65,907,620	477,189,629	21,819,968	552,068,064	163,685,785	1,035,582,067	266,980,822

DELTA WATER (b CHARGE FOR EACH CONTRACTOR

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR		GRAND TOTAL
	San Geronio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas- County FC & WCD	Total	South Bay		
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	
1962	0	0	0	0	0	0	0	0	0	55,537	
1963	0	705,285	0	792,063	0	0	0	0	59,704	1,649,036	
1964	22,165	1,285,222	9,574	1,617,227	0	0	0	0	98,900	2,817,817	
1965	22,272	2,222,437	18,122	2,739,493	0	0	411	411	170,516	4,827,840	
1966	38,660	3,974,345	34,082	4,896,681	0	0	574	574	197,259	7,423,312	
1967	72,579	7,839,903	69,486	9,613,792	0	0	571	571	255,797	13,091,165	
1968	131,109	15,601,367	145,534	18,830,966	0	1,050	1,449	2,499	333,252	25,593,060	
1969	202,196	23,594,357	219,483	28,420,006	0	1,225	4,172	5,397	404,953	37,024,166	
1970	294,655	31,202,162	279,075	37,868,713	0	3,848	17,363	21,211	444,165	48,613,514	
1971	416,284	40,707,865	349,179	49,658,656	0	4,546	19,448	23,994	434,009	61,934,550	
1972	545,248	55,869,063	429,870	68,126,647	0	4,929	21,434	26,363	459,732	84,299,672	
1973	596,416	60,502,767	443,222	73,811,590	0	7,059	22,062	29,121	434,275	89,299,442	
1974	620,100	66,958,462	463,433	81,248,196	0	8,336	22,692	31,028	457,342	98,285,291	
1975	653,530	72,796,817	486,353	87,964,051	0	9,416	23,806	33,222	466,927	107,213,752	
1976	677,440	75,890,177	483,631	92,091,605	0	7,004	23,540	30,544	489,536	113,478,676	
1977	705,795	74,336,695	515,223	90,860,337	0	16,917	24,343	41,260	482,397	112,120,171	
1978	731,992	84,192,411	542,340	102,178,332	0	12,635	24,508	37,143	487,967	126,830,177	
1979	721,353	84,532,319	534,000	103,342,977	0	16,575	28,635	45,210	505,631	131,045,073	
1980	871,290	94,013,651	591,688	115,076,184	0	19,834	26,845	46,679	566,484	145,516,566	
1981	956,133	112,747,931	679,789	137,070,747	0	21,682	34,847	56,529	574,722	175,749,132	
1982	1,033,616	118,308,994	739,131	143,584,092	0	16,117	43,282	59,399	574,570	185,380,657	
1983	1,084,174	122,016,063	872,418	149,995,967	0	15,202	27,344	42,546	623,412	189,009,592	
1984	1,273,854	156,552,162	921,894	192,810,739	20,590	15,442	28,957	64,989	610,943	245,506,052	
1985	1,338,469	201,459,223	1,028,445	244,162,580	24,050	16,976	32,399	73,425	744,375	309,366,998	
1986	1,369,637	220,821,162	1,078,676	266,196,049	31,753	18,145	33,688	83,586	695,102	337,357,759	
1987	1,392,840	219,829,620	1,091,978	268,609,136	37,071	17,794	33,875	88,740	729,795	345,996,495	
1988	1,565,073	255,127,420	1,205,537	307,657,105	46,722	19,264	36,171	102,157	814,666	394,086,465	
1989	1,672,033	283,431,918	1,316,609	338,657,676	61,184	21,275	39,076	121,535	860,668	429,332,970	
1990	1,696,192	293,891,116	1,409,393	352,039,892	70,454	21,227	39,747	131,428	863,163	446,714,197	
1991	1,729,627	307,924,677	1,411,471	370,079,645	177,989	457,175	40,407	675,571	837,749	467,445,843	
1992	1,705,236	308,363,212	1,412,578	369,736,306	177,989	457,178	41,078	676,245	838,004	466,249,344	
1993	1,751,769	307,813,224	2,661,393	371,944,834	177,989	457,180	41,748	676,917	838,696	472,177,295	
1994	1,744,709	308,082,688	2,704,407	376,776,498	177,989	457,182	42,426	677,597	840,041	482,338,778	
1995	1,762,961	312,958,777	2,769,541	386,681,173	177,989	480,481	43,277	701,747	843,059	501,527,545	
1996	1,741,902	314,476,792	2,785,803	388,626,687	177,989	480,480	44,166	702,635	843,225	506,828,336	
1997	1,778,200	337,179,574	2,986,974	416,236,128	177,989	480,470	45,054	703,513	844,416	537,712,830	
1998	1,776,692	340,282,888	3,013,271	420,238,161	177,989	480,452	45,941	704,382	844,719	541,767,495	
1999	1,738,076	359,739,200	3,193,987	443,208,808	177,989	480,421	46,828	705,238	845,864	567,272,153	
2000	4,052,192	380,065,003	3,464,520	470,046,987	177,989	480,393	47,881	706,263	846,843	596,526,181	
2001	4,025,779	378,492,190	3,444,900	468,775,238	177,989	480,390	48,938	707,317	847,832	594,708,186	
2002	4,274,397	400,520,200	3,629,648	496,008,978	177,989	480,390	49,993	708,372	849,062	624,080,077	
2003	4,286,946	415,463,243	3,791,922	513,250,881	177,989	480,368	51,046	709,403	861,426	643,114,919	
2004	4,439,757	441,356,905	4,042,834	544,141,226	177,989	480,338	52,098	710,425	863,286	676,548,047	
2005	4,431,205	446,277,422	4,093,226	550,539,862	177,989	480,305	53,149	711,443	863,535	683,120,595	
2006	4,661,564	461,483,139	4,175,312	570,199,407	177,989	480,448	54,387	712,824	864,300	704,508,266	
2007	4,534,047	466,362,709	4,204,109	574,287,135	177,989	480,606	55,626	714,221	864,405	708,296,456	
2008	4,358,471	446,005,876	3,961,892	549,944,819	177,989	480,743	56,863	715,595	865,140	680,468,128	
2009	4,399,838	450,360,066	3,958,410	555,488,147	177,989	480,874	58,100	716,963	865,897	686,198,113	
2010	4,411,971	456,848,788	3,987,157	562,936,724	177,989	481,007	59,337	718,333	865,929	693,784,315	
2011	4,352,334	451,735,831	3,947,264	557,388,605	177,989	481,127	60,733	719,849	864,109	687,735,776	
2012	4,338,831	451,672,830	3,944,020	557,686,326	177,989	481,255	62,135	721,379	864,829	687,820,945	
2013	4,118,749	422,887,674	3,688,859	524,082,414	177,989	481,374	63,702	723,065	817,783	650,183,171	
2014	4,248,246	437,770,332	3,809,072	542,048,637	177,989	481,489	65,268	724,746	779,973	669,339,437	
2015	3,950,899	416,399,306	3,652,892	515,847,569	177,989	481,611	66,590	726,190	723,594	640,802,997	
2016	4,050,483	421,186,512	3,680,204	522,073,650	177,989	481,715	68,159	727,863	699,934	646,731,130	
2017	4,028,858	410,513,986	3,595,560	510,400,114	177,989	481,785	68,229	728,003	657,793	633,958,518	
2018	3,973,574	406,374,065	3,564,905	505,646,574	177,989	481,839	68,292	728,120	578,994	629,054,479	
2019	3,914,653	402,511,338	3,531,547	500,783,380	177,989	481,897	65,688	725,574	513,287	624,089,099	
2020	3,775,781	386,677,177	3,436,472	481,860,025	177,989	481,948	53,628	713,565	490,286	603,975,320	
2021	3,677,636	375,408,478	3,421,767	470,063,334	177,989	503,529	55,674	737,192	472,716	594,601,745	
2022	3,598,193	372,144,647	3,373,922	465,522,430	177,989	492,738	52,823	723,550	471,429	588,518,122	
2023	3,654,592	375,819,927	3,378,697	470,975,477	177,989	514,319	55,709	748,017	470,692	596,143,252	
2024	3,453,333	361,990,765	3,283,618	454,244,857	177,989	471,158	49,936	699,083	469,420	574,514,959	
2025	3,437,739	358,186,788	3,243,801	450,210,638	177,989	455,838	47,500	681,327	467,595	568,530,437	
2026	3,429,881	358,644,496	3,257,486	450,770,186	177,989	455,838	47,499	681,326	467,153	568,901,975	
2027	3,576,994	357,404,225	3,214,110	450,990,085	177,989	455,838	47,496	681,323	466,186	568,874,376	
2028	3,274,563	354,939,831	3,256,147	445,289,225	177,989	455,838	47,495	681,322	465,002	563,207,827	
2029	3,411,403	353,043,351	3,202,737	444,733,303	177,989	455,838	47,493	681,320	463,657	562,426,334	
2030	3,413,484	352,882,133	3,188,430	444,582,882	177,989	455,838	47,492	681,319	462,262	562,156,719	
2031	3,389,448	349,529,823	3,159,297	440,768,010	177,989	455,838	47,491	681,318	459,290	558,172,713	
2032	3,516,709	352,845,460	3,155,994	445,784,811	177,989	455,838	47,489	681,316	460,170	563,340,545	
2033	3,302,223	343,378,072	3,107,875	433,303,085	177,989	455,838	47,488	681,315	459,181	550,461,407	
2034	3,349,854	348,107,225	3,131,115	438,835,118	177,989	455,838	47,487	681,314	454,872	556,224,998	
2035	3,564,312	361,909,169	3,232,535	456,383,313	177,989	455,838	47,486	681,313	450,401	574,649,300	
TOTAL	177,113,216	20,004,430,928	167,109,846	24,749,343,191	8,301,329	21,625,381	2,968,564	32,895,274	44,824,298	31,128,707,617	

**TABLE B-24: EQUIVALENT UNIT CHARGE FOR WATER SUPPLY
FOR EACH CONTRACTOR (a)**

(in dollars per acre-foot)

Project Service Area and Water Supply Contractor	Transportation Charge					Delta Water Charge	Total Equivalent Unit Charge
	Capital Cost Component	Minimum OMP&R Component	Off- Aqueduct Component	Variable OMP&R Component	Total		
FEATHER RIVER AREA							
City of Yuba City	0.00	0.00	0.00	0.00	0.00	27.85	27.85
County of Butte	0.00	0.00	0.00	0.00	0.00	16.95	16.95
Plumas County Flood Control and Water Conservation District	18.12	2.05	0.00	0.00	20.17	17.26	37.43
Feather River Area	1.27	0.14	0.00	0.00	1.41	18.99	20.40
NORTH BAY AREA							
Napa County Flood Control and Water Conservation District	113.31	27.57	4.25	14.03	159.16	11.04	170.20
Solano County Flood Control and Water Conservation District	84.44	20.93	3.97	8.99	118.33	16.91	135.24
North Bay Area	95.53	23.48	4.08	10.92	134.01	14.65	148.66
SOUTH BAY AREA							
Alameda County Flood Control and Water Conservation District, Zone 7	16.29	22.05	9.26	21.01	68.60	16.62	85.22
Alameda County Water District	15.71	17.94	8.33	17.74	59.73	14.86	74.60
Santa Clara Valley Water District	17.74	14.08	7.00	13.96	52.78	12.15	64.93
South Bay Area	17.14	16.06	7.61	15.78	56.59	13.36	69.95
SAN JOAQUIN VALLEY AREA							
County of Kings	4.10	3.04	3.80	7.36	18.30	14.22	32.52
Devil's Den Water District	8.52	11.22	4.59	9.30	33.61	12.05	45.66
Dudley Ridge Water District	4.82	3.54	3.14	6.54	18.05	12.48	30.53
Empire West Side Irrigation District	2.65	2.89	2.35	5.84	13.74	14.05	27.79
Kern County Water Agency	8.62	7.14	4.76	9.41	29.93	14.44	44.37
Oak Flat Water District	1.84	1.73	1.99	4.13	9.68	12.08	21.76
Tulare Lake Basin Water Storage District	5.00	3.69	3.06	6.82	18.57	12.98	31.55
San Joaquin Valley Area	8.00	6.62	4.48	8.96	28.06	14.15	42.21
CENTRAL COASTAL AREA							
San Luis Obispo County Flood Control and Water Conservation District	219.08	50.02	22.49	74.61	366.20	25.51	391.71
Santa Barbara County Flood Control and Water Conservation District	255.36	51.34	22.50	74.60	403.80	25.48	429.27
Central Coastal Area	242.49	50.87	22.50	74.60	390.46	25.49	415.95
SOUTHERN CALIFORNIA AREA							
Antelope Valley-East Kern Water Agency	39.93	31.27	29.07	79.22	179.49	22.67	202.16
Castaic Lake Water Agency	59.55	37.05	42.60	56.64	195.83	21.76	217.59
Coachella Valley Water District	41.00	32.68	44.94	79.53	198.16	15.69	213.84
Crestline-Lake Arrowhead Water Agency	80.96	59.05	35.52	96.89	272.42	25.32	297.74
Desert Water Agency	41.65	33.20	45.23	80.47	200.55	15.72	216.27
Little Rock Creek Irrigation District	38.94	29.39	33.34	83.11	184.78	21.56	206.34
Mojave Water Agency	74.06	60.54	32.52	124.59	291.71	31.61	323.32
Palmdale Water District	42.74	32.50	38.85	93.33	207.41	26.01	233.43
San Bernardino Valley Municipal Water District	126.50	91.77	28.86	80.62	327.74	37.16	364.90
San Gabriel Valley Municipal Water District	111.05	82.89	39.03	66.31	299.28	34.77	334.05
San Geronimo Pass Water Agency	155.21	115.38	22.85	117.14	410.59	39.58	450.17
The Metropolitan Water District of Southern California	63.04	41.34	37.94	58.22	200.54	21.15	221.69
Ventura County Flood Control District	80.73	52.09	31.35	82.02	246.20	25.44	271.64
Southern California Area	63.59	42.67	37.43	62.16	205.85	21.84	227.69
ALL AREAS	38.21	25.11	20.65	35.52	119.49	17.92	137.41

a) Hypothetical charges, which, if assessed on all entitlement water delivered to date, all surplus water delivered prior to May 1, 1973, and all entitlement water now estimated to be delivered during the remainder of the project repayment period (Table B-5B), would provide a sum at the end of the period financially equivalent to all Transportation Charge and Delta Water Charge payments required under a water supply contract, considering interest at the Project Interest Rate, 4.713 percent per annum.

**TABLE B-25: EQUIVALENT UNIT TRANSPORTATION COSTS OF WATER
DELIVERED FROM OR THRU EACH AQUEDUCT REACH (a)**
(in dollars per acre-foot)

Aqueduct Reach	Unit Costs of Reach(b)					Cumulative Unit Costs from the Delta				
	Capital Costs	Minimum OMP+R	Off-Aqueduct Costs	Variable OMP+R	Total	Capital Costs	Minimum OMP+R	Off-Aqueduct Costs	Variable OMP+R	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
North Bay Aqueduct										
1	44.88	9.74	1.63	4.13	60.38	44.88	9.74	1.63	4.13	60.38
2	47.78	3.42	0.00	0.00	51.20	92.66	13.16	1.63	4.13	111.58
3A	7.97	9.38	2.64	5.80	25.79	100.63	22.54	4.27	9.93	137.37
3B	45.63	17.98	3.20	10.73	77.54	138.29	31.14	4.83	14.86	189.12
South Bay Aqueduct										
1	6.00	10.49	5.67	11.37	33.53	7.68	12.67	8.17	17.32	45.84
2	0.56	1.20	0.00	0.00	1.76	8.24	13.87	8.17	17.32	47.60
4	1.89	1.95	0.00	0.00	3.84	10.13	15.82	8.17	17.32	51.44
5	4.09	1.39	0.00	0.00	5.48	14.22	17.21	8.17	17.32	56.92
6	0.23	0.20	0.00	0.00	0.43	14.45	17.41	8.17	17.32	57.35
7	1.86	0.26	0.00	0.00	2.12	16.31	17.67	8.17	17.32	59.47
8	2.70	0.34	0.00	0.00	3.04	19.01	18.01	8.17	17.32	62.51
9	5.39	1.69	0.00	0.00	7.08	24.40	19.70	8.17	17.32	69.59
California Aqueduct										
1	1.68	2.18	2.50	5.95	12.31	1.68	2.18	2.50	5.95	12.31
2A	1.09	0.39	0.00	0.00	1.48	2.77	2.57	2.50	5.95	13.79
2B	0.58	0.13	0.00	0.00	0.71	3.35	2.70	2.50	5.95	14.50
3	0.44	0.14	0.00	0.00	0.58	3.79	2.84	2.50	5.95	15.08
4	0.74	1.01	1.18	2.72	5.65	4.53	3.85	3.68	8.67	20.73
5	0.60	0.20	0.00	0.00	0.80	5.13	4.05	3.68	8.67	21.53
6	0.16	0.10	0.00	0.00	0.26	5.29	4.15	3.68	8.67	21.79
7	0.80	0.26	0.00	0.00	1.06	6.09	4.41	3.68	8.67	22.85
8C	0.02	0.05	0.00	0.00	0.07	6.11	4.46	3.68	8.67	22.92
8D	0.34	0.21	0.00	0.00	0.55	6.45	4.67	3.68	8.67	23.47
9	0.27	0.19	0.00	0.00	0.46	6.72	4.86	3.68	8.67	23.93
10A	0.30	0.21	0.00	0.00	0.51	7.02	5.07	3.68	8.67	24.44
11B	0.44	0.16	0.00	0.00	0.60	7.46	5.23	3.68	8.67	25.04
12D	0.42	0.15	0.00	0.00	0.57	7.88	5.38	3.68	8.67	25.61
12E	0.28	0.24	0.00	0.00	0.52	8.16	5.62	3.68	8.67	26.13
13B	0.63	0.28	0.00	0.00	0.91	8.79	5.90	3.68	8.67	27.04
14A	2.36	2.11	2.09	5.02	11.58	11.15	8.01	5.77	13.69	38.62
14B	0.37	0.25	0.00	0.00	0.62	11.52	8.26	5.77	13.69	39.24
14C	0.32	0.19	0.00	0.00	0.51	11.84	8.45	5.77	13.69	39.75
15A	1.73	2.25	2.54	6.19	12.71	13.57	10.70	8.31	19.88	52.46
16A	2.86	3.56	5.50	13.31	25.23	16.43	14.26	13.81	33.19	77.69
17E	9.87	10.50	19.25	46.05	85.67	26.30	24.76	33.06	79.24	163.36
17F	2.58	0.10	0.00	0.00	2.68	28.88	24.86	33.06	79.24	166.04
18A	1.96	0.77	0.00	-2.13	0.60	30.84	25.63	33.06	77.11	166.64
19	1.57	0.84	0.00	0.00	2.41	32.41	26.47	33.06	77.11	169.05
19C	0.00	0.00	0.00	0.00	0.00	32.41	26.47	33.06	77.11	169.05
20A	1.15	0.72	0.00	0.00	1.87	33.56	27.19	33.06	77.11	170.92
20B	1.57	0.64	0.00	0.00	2.21	35.13	27.83	33.06	77.11	173.13
21	0.82	0.48	0.00	0.00	1.30	35.95	28.31	33.06	77.11	174.43
22A	0.60	0.37	0.00	0.00	0.97	36.55	28.68	33.06	77.11	175.40
22B	6.74	7.04	5.93	15.46	35.17	43.29	35.72	38.99	92.57	210.57
23	1.02	0.38	0.00	-1.72	-0.32	44.31	36.10	38.99	90.85	210.25
24	3.91	1.40	0.00	0.00	5.31	48.22	37.50	38.99	90.85	215.56
25	2.06	0.06	0.00	0.00	2.12	50.28	37.56	38.99	90.85	217.68
26A	3.07	3.69	0.00	-25.38	-18.62	53.35	41.25	38.99	65.47	199.06
28G	5.11	1.12	0.00	0.00	6.23	58.46	42.37	38.99	65.47	205.29
28H	4.95	0.75	0.00	0.00	5.70	63.41	43.12	38.99	65.47	210.99
28J	62.18	28.47	0.00	0.00	90.65	125.59	71.59	38.99	65.47	301.64
West Branch										
29A	3.73	6.52	2.51	5.91	18.67	32.61	31.38	41.50	85.15	190.64
29F	2.72	0.74	0.00	0.00	3.46	35.33	32.12	38.99	85.15	191.59
29G	9.28	2.94	0.00	-12.38	-0.16	44.61	35.06	38.99	72.77	191.43
29H	5.52	3.55	0.00	0.00	9.07	50.13	38.61	38.99	72.77	200.50
29J	9.81	1.08	0.00	-22.70	-11.81	59.94	39.69	38.99	50.07	188.69
30	15.70	3.04	0.00	0.00	18.74	75.64	42.73	38.99	50.07	207.43
Coastal Branch										
31A	5.99	11.45	1.99	4.31	23.74	12.44	16.12	5.67	12.98	47.21
33A	172.10	19.39	17.39	53.09	261.97	184.54	35.51	5.67	66.07	291.79
34	15.90	0.54	0.00	0.00	16.44	200.44	36.05	5.67	66.07	308.23
35	45.99	0.68	0.00	0.00	46.67	246.43	36.73	5.67	66.07	354.90

- a) Representative of transportation unit costs only; does not include a unit cost of conservation. The Delta Water Rate should be added to these values in order to approximate total unit costs at canalside. Includes surplus water prior to May 1, 1973.
- b) Hypothetical charges which, if assessed on all entitlement water delivered to date, all surplus water delivered prior to May 1, 1973, and all entitlement water now estimated to be delivered during the remainder of the Project repayment period (Table B-5B), would provide a sum at the end of the period financially equivalent to all Transportation Charges required under the water supply contract, considering interest at the Project Interest Rate of 4.713 percent per annum.

**TABLE B-26. CAPITAL COSTS OF EACH
THRU THE CAPITAL COST COMPONENT
TRANSPORTATION**

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT							
	MOJAVE DIVISION							
	Reach 18A	Reach 19	Reach 20A	Reach 20B	Reach 21	Reach 22A	Reach 22B	Reach 23B
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1952	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0
1980	252,000	0	0	0	0	0	0	17,000
1981	276,000	0	0	0	0	0	0	87,000
1982	1,623,000	0	0	0	0	0	0	686,000
1983	2,119,000	0	0	0	0	0	0	65,000
1984	717,000	0	0	0	0	0	663,000	3,000
1985	59,000	339,000	0	485,000	814,000	667,000	666,000	0
1986	1,077,000	4,562,000	3,219,000	2,289,000	1,612,000	1,235,000	2,303,000	22,000
1987	12,000	952,000	1,057,000	659,000	396,000	47,000	19,882,000	49,000
1988	1,000	167,000	1,376,000	1,292,000	1,398,000	39,000	18,442,000	143,000
1989	0	261,000	2,000,000	2,011,000	2,393,000	85,000	22,781,000	367,000
1990	0	210,000	1,011,000	985,000	1,184,000	69,000	20,230,000	10,139,000
1991	0	3,000	2,000	3,000	2,000	1,000	5,666,000	14,049,000
1992	0	0	0	0	0	0	1,998,000	3,224,000
1993	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0
TOTAL	6,136,000	6,494,000	8,665,000	7,724,000	7,799,000	2,143,000	92,631,000	28,851,000

AQUEDUCT REACH TO BE REIMBURSED OF THE EAST BRANCH ENLARGEMENT CHARGE

(in dollars)

CALIFORNIA AQUEDUCT							TOTAL	Calendar Year
MOJAVE DIVISION (con't.)			SANTA ANA DIVISION					
Reach 23C	Reach 24	SUBTOTAL	Reach 25	Reach 26A	Reach 26B	SUBTOTAL		
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
0	0	0	0	0	0	0	0	1952
0	0	0	0	0	0	0	0	1953
0	0	0	0	0	0	0	0	1954
0	0	0	0	0	0	0	0	1955
0	0	0	0	0	0	0	0	1956
0	0	0	0	0	0	0	0	1957
0	0	0	0	0	0	0	0	1958
0	0	0	0	0	0	0	0	1959
0	0	0	0	0	0	0	0	1960
0	0	0	0	0	0	0	0	1961
0	0	0	0	0	0	0	0	1962
0	0	0	0	0	0	0	0	1963
0	0	0	0	0	0	0	0	1964
0	0	0	0	0	0	0	0	1965
0	0	0	0	0	0	0	0	1966
0	0	0	0	0	0	0	0	1967
0	0	0	0	0	0	0	0	1968
0	0	0	0	0	0	0	0	1969
0	0	0	0	0	0	0	0	1970
0	0	0	0	0	0	0	0	1971
0	0	0	0	0	0	0	0	1972
0	0	0	0	0	0	0	0	1973
0	0	0	0	0	0	0	0	1974
0	0	0	0	0	0	0	0	1975
0	0	0	0	0	0	0	0	1976
0	0	0	0	0	0	0	0	1977
0	0	0	0	0	0	0	0	1978
0	0	0	0	0	0	0	0	1979
42,000	0	311,000	0	0	0	0	311,000	1980
222,000	0	585,000	0	0	0	0	585,000	1981
390,000	0	2,699,000	0	0	0	0	2,699,000	1982
2,691,000	0	4,875,000	0	0	0	0	4,875,000	1983
1,296,000	0	2,679,000	0	50,000	50,000	100,000	2,779,000	1984
137,000	0	3,167,000	0	653,000	42,000	695,000	3,862,000	1985
39,000	0	16,358,000	0	1,901,000	154,000	2,055,000	18,413,000	1986
175,000	0	23,229,000	0	3,689,000	437,000	4,126,000	27,355,000	1987
676,000	0	23,534,000	0	22,088,000	3,329,000	25,417,000	48,951,000	1988
1,429,000	0	31,327,000	0	42,219,000	1,650,000	43,869,000	75,196,000	1989
2,986,000	0	36,814,000	0	37,197,000	1,650,000	38,847,000	75,661,000	1990
5,137,000	0	24,863,000	0	15,366,800	999,000	16,365,800	41,228,800	1991
5,097,600	0	10,319,600	0	2,777,000	299,000	3,076,000	13,395,600	1992
2,661,600	0	2,661,600	0	0	0	0	2,661,600	1993
1,884,200	0	1,884,200	0	0	0	0	1,884,200	1994
0	0	0	0	0	0	0	0	1995
0	0	0	0	0	0	0	0	1996
0	0	0	0	0	0	0	0	1997
0	0	0	0	0	0	0	0	1998
0	0	0	0	0	0	0	0	1999
0	0	0	0	0	0	0	0	2000
24,863,400	0	185,306,400	0	125,940,800	8,610,000	134,550,800	319,857,200	TOTAL

**TABLE B-27: MINIMUM OMP&R COSTS OF EACH
MINIMUM OMP&R COMPONENT OF THE EAST**

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT							
	MOJAVE DIVISION							
	Reach 18A	Reach 19	Reach 20A	Reach 20B	Reach 21	Reach 22A	Reach 22B	Reach 23B
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1961	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	286,000	0
1992	0	0	0	0	0	0	546,500	0
1993	0	0	0	0	0	0	546,500	0
1994	0	0	0	0	0	0	546,500	0
1995	0	0	0	0	0	0	546,500	0
1996	0	0	0	0	0	0	546,500	0
1997	0	0	0	0	0	0	546,500	0
1998	0	0	0	0	0	0	546,500	0
1999	0	0	0	0	0	0	546,500	0
2000	0	0	0	0	0	0	546,500	0
2001	0	0	0	0	0	0	546,500	0
2002	0	0	0	0	0	0	546,500	0
2003	0	0	0	0	0	0	546,500	0
2004	0	0	0	0	0	0	546,500	0
2005	0	0	0	0	0	0	546,500	0
2006	0	0	0	0	0	0	546,500	0
2007	0	0	0	0	0	0	546,500	0
2008	0	0	0	0	0	0	546,500	0
2009	0	0	0	0	0	0	546,500	0
2010	0	0	0	0	0	0	546,500	0
2011	0	0	0	0	0	0	546,500	0
2012	0	0	0	0	0	0	546,500	0
2013	0	0	0	0	0	0	546,500	0
2014	0	0	0	0	0	0	546,500	0
2015	0	0	0	0	0	0	546,500	0
2016	0	0	0	0	0	0	546,500	0
2017	0	0	0	0	0	0	546,500	0
2018	0	0	0	0	0	0	546,500	0
2019	0	0	0	0	0	0	546,500	0
2020	0	0	0	0	0	0	546,500	0
2021	0	0	0	0	0	0	546,500	0
2022	0	0	0	0	0	0	546,500	0
2023	0	0	0	0	0	0	546,500	0
2024	0	0	0	0	0	0	546,500	0
2025	0	0	0	0	0	0	546,500	0
2026	0	0	0	0	0	0	546,500	0
2027	0	0	0	0	0	0	546,500	0
2028	0	0	0	0	0	0	546,500	0
2029	0	0	0	0	0	0	546,500	0
2030	0	0	0	0	0	0	546,500	0
2031	0	0	0	0	0	0	546,500	0
2032	0	0	0	0	0	0	546,500	0
2033	0	0	0	0	0	0	546,500	0
2034	0	0	0	0	0	0	546,500	0
2035	0	0	0	0	0	0	546,500	0
TOTAL	0	0	0	0	0	0	24,332,000	0

a) Presently, this table shows only the estimated incremental minimum OMP&R costs attributable to East Branch Enlargement. Under Article 49(E)(1), the contractors participating in the East Branch Enlargement will also share in the remaining minimum OMP&R costs of the affected reaches according to a formula to be developed by DWR in consultation with the affected contractors. Once the formula is developed, subsequent versions of this table will reflect the transfer of a share of the minimum OMP&R costs presently shown in Table B-11.

AQUEDUCT REACH TO BE REIMBURSED THRU THE BRANCH ENLARGEMENT TRANSPORTATION CHARGE (a)

(in dollars)

CALIFORNIA AQUEDUCT							TOTAL	Calendar Year
MOJAVE DIVISION (con't.)			SANTA ANA DIVISION					
Reach 23C	Reach 24	SUBTOTAL	Reach 25	Reach 26A	Reach 26B	SUBTOTAL		
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
0	0	0	0	0	0	0	0	1961
0	0	0	0	0	0	0	0	1962
0	0	0	0	0	0	0	0	1963
0	0	0	0	0	0	0	0	1964
0	0	0	0	0	0	0	0	1965
0	0	0	0	0	0	0	0	1966
0	0	0	0	0	0	0	0	1967
0	0	0	0	0	0	0	0	1968
0	0	0	0	0	0	0	0	1969
0	0	0	0	0	0	0	0	1970
0	0	0	0	0	0	0	0	1971
0	0	0	0	0	0	0	0	1972
0	0	0	0	0	0	0	0	1973
0	0	0	0	0	0	0	0	1974
0	0	0	0	0	0	0	0	1975
0	0	0	0	0	0	0	0	1976
0	0	0	0	0	0	0	0	1977
0	0	0	0	0	0	0	0	1978
0	0	0	0	0	0	0	0	1979
0	0	0	0	0	0	0	0	1980
0	0	0	0	0	0	0	0	1981
0	0	0	0	0	0	0	0	1982
0	0	0	0	0	0	0	0	1983
0	0	0	0	0	0	0	0	1984
0	0	0	0	0	0	0	0	1985
0	0	0	0	0	0	0	0	1986
0	0	0	0	0	0	0	0	1987
0	0	0	0	0	0	0	0	1988
0	0	0	0	0	0	0	0	1989
0	0	0	0	0	0	0	0	1990
0	0	286,000	0	47,000	0	47,000	333,000	1991
0	0	546,500	0	282,100	0	282,100	828,600	1992
0	0	546,500	0	282,100	0	282,100	828,600	1993
410,700	0	957,200	0	282,100	0	282,100	1,239,300	1994
410,700	0	957,200	0	282,100	0	282,100	1,239,300	1995
410,700	0	957,200	0	282,100	0	282,100	1,239,300	1996
410,700	0	957,200	0	282,100	0	282,100	1,239,300	1997
410,700	0	957,200	0	282,100	0	282,100	1,239,300	1998
410,700	0	957,200	0	282,100	0	282,100	1,239,300	1999
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2000
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2001
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2002
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2003
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2004
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2005
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2006
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2007
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2008
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2009
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2010
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2011
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2012
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2013
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2014
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2015
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2016
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2017
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2018
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2019
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2020
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2021
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2022
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2023
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2024
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2025
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2026
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2027
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2028
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2029
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2030
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2031
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2032
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2033
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2034
410,700	0	957,200	0	282,100	0	282,100	1,239,300	2035
17,249,400	0	41,581,400	0	12,459,400	0	12,459,400	54,040,800	TOTAL

**TABLE B-28: CAPITAL COST OF EAST BRANCH ENLARGEMENT
TRANSPORTATION FACILITIES ALLOCATED TO EACH CONTRACTOR**

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA							TOTAL
	Antelope Valley East Kern Water Agency	Coachella Valley Water District	Desert Water Agency	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	The Metropolitan Water District Of Southern California	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1961	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0
1980	0	32,474	4,800	24,924	1,004	0	247,798	311,000
1981	0	65,451	16,138	36,015	1,100	0	466,296	585,000
1982	0	288,088	59,656	234,017	6,466	0	2,110,773	2,699,000
1983	0	560,898	145,167	199,643	8,442	0	3,960,850	4,875,000
1984	0	309,579	74,596	125,243	2,857	2,047	2,264,678	2,779,000
1985	44,784	399,425	67,385	270,345	3,474	26,731	3,049,856	3,862,000
1986	190,016	1,862,793	244,424	1,459,190	43,912	77,819	14,534,846	18,413,000
1987	49,076	2,800,073	407,867	2,086,630	10,522	151,012	21,849,820	27,355,000
1988	93,362	5,147,647	1,424,165	2,068,256	11,057	904,187	39,302,326	48,951,000
1989	147,602	8,472,589	2,612,200	2,709,370	16,657	1,728,263	59,509,319	75,196,000
1990	73,904	8,541,583	2,757,031	3,432,846	8,608	1,522,684	59,324,344	75,661,000
1991	182	4,704,401	1,681,164	2,305,668	31	629,050	31,908,304	41,228,800
1992	0	1,552,521	532,355	592,149	0	113,678	10,604,897	13,395,600
1993	0	337,515	122,900	0	0	0	2,201,185	2,661,600
1994	0	238,934	87,003	0	0	0	1,558,263	1,884,200
1995	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0
TOTAL	598,926	35,313,971	10,236,851	15,544,296	114,130	5,155,471	252,893,555	319,857,200

**TABLE B-29. CAPITAL COST COMPONENT
OF EAST BRANCH ENLARGEMENT FACILITIES
TRANSPORTATION CHARGE FOR EACH CONTRACTOR**

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA							TOTAL
	Antelope Valley East Kern Water Agency	Coachella Valley Water District	Desert Water Agency	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District(a)	The Metropolitan Water District Of Southern California	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1961	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0
1988	20,697	1,220,362	353,760	537,172	3,944	0	8,739,361	10,875,296
1989	26,615	1,569,294	454,909	690,763	5,072	0	11,238,171	18,984,824
1990	26,619	1,569,505	454,970	690,856	5,072	0	11,239,680	13,986,702
1991	26,621	1,569,607	454,999	690,900	5,073	0	11,240,412	13,987,612
1992	26,620	1,569,584	454,993	690,890	5,073	0	11,240,246	13,987,406
1993	26,628	1,570,065	455,132	691,102	5,074	0	11,243,691	13,991,692
1994	26,632	1,570,311	455,203	691,210	5,075	0	11,245,451	13,993,882
1995	26,642	1,570,887	455,370	691,464	5,077	0	11,249,574	13,999,014
1996	26,643	1,570,908	455,376	691,473	5,077	0	11,249,723	13,999,200
1997	26,645	1,571,061	455,421	691,540	5,077	0	11,250,824	14,000,568
1998	26,651	1,571,380	455,513	691,681	5,078	0	11,253,109	14,003,412
1999	26,657	1,571,743	455,618	691,840	5,080	0	11,255,702	14,006,640
2000	26,661	1,572,013	455,697	691,959	5,081	0	11,257,640	14,009,051
2001	26,675	1,572,797	455,924	692,305	5,083	0	11,263,255	14,016,039
2002	26,670	1,572,495	455,836	692,172	5,082	0	11,261,093	14,013,348
2003	26,670	1,572,530	455,847	692,187	5,082	0	11,261,344	14,013,660
2004	26,677	1,572,949	455,968	692,371	5,084	0	11,264,340	14,017,389
2005	26,685	1,573,401	456,099	692,570	5,085	0	11,267,578	14,021,418
2006	26,694	1,573,910	456,247	692,794	5,087	0	11,271,225	14,025,957
2007	26,693	1,573,905	456,245	692,792	5,087	0	11,271,193	14,025,915
2008	26,692	1,573,833	456,224	692,761	5,086	0	11,270,674	14,025,270
2009	26,706	1,574,638	456,458	693,115	5,089	0	11,276,441	14,032,447
2010	26,706	1,574,638	456,457	693,115	5,089	0	11,276,434	14,032,439
2011	26,702	1,574,389	456,385	693,005	5,088	0	11,274,656	14,030,225
2012	26,702	1,574,417	456,394	693,018	5,088	0	11,274,857	14,030,476
2013	26,702	1,574,403	456,389	693,011	5,088	0	11,274,752	14,030,345
2014	26,709	1,574,817	456,509	693,194	5,090	0	11,277,718	14,034,037
2015	26,706	1,574,649	456,461	693,120	5,089	0	11,276,518	14,032,543
2016	26,712	1,575,002	456,563	693,275	5,090	0	11,279,044	14,035,686
2017	26,709	1,574,835	456,515	693,202	5,090	0	11,277,847	14,034,198
2018	26,728	1,575,963	456,842	693,698	5,093	0	11,285,929	14,044,253
2019	26,749	1,577,192	457,198	694,239	5,097	0	11,294,727	14,055,202
2020	26,776	1,578,782	457,659	694,939	5,102	0	11,306,116	14,069,374
2021	26,790	1,579,582	457,891	695,291	5,105	0	11,311,842	14,076,501
2022	26,818	1,581,252	458,375	696,026	5,110	0	11,323,799	14,091,380
2023	1,349	79,563	23,064	35,022	257	0	569,774	709,029
2024	2,573	151,733	43,984	66,789	490	0	1,086,601	1,352,170
2025	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0
TOTAL	931,924	54,948,395	15,928,495	24,186,861	177,584	0	393,501,341	489,674,600

a) Under Article 49(d)(4)(A) of its contract, San Bernardino Valley Municipal Water District elected to pay a portion of its allocated costs of East Branch Enlargement in advance rather than participate in repayment of Series A Water System Revenue Bonds. This election made via a letter agreement signed June 1, 1987, calls for payment of \$1,479,000 on January 1, 1988, \$463,000 on July 1, 1988, and \$231,000 on January 1, 1989. San Bernardino Valley Municipal Water District will consider similar advance payments in lieu of participating in subsequent revenue bond financing of remaining East Branch Enlargement costs.

**TABLE B-30: MINIMUM OMP&R COMPONENT OF EAST BRANCH
ENLARGEMENT FACILITIES TRANSPORTATION CHARGE
FOR EACH CONTRACTOR**

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA							TOTAL
	Antelope Valley East Kern Water Agency	Coachella Valley Water District	Desert Water Agency	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	The Metropolitan Water District Of Southern California	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1961	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0
1991	0	34,685	5,013	25,931	0	1,924	265,447	333,000
1992	0	90,391	19,950	49,549	0	11,548	657,161	828,599
1993	0	90,391	19,950	49,549	0	11,548	657,161	828,599
1994	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
1995	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
1996	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
1997	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
1998	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
1999	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2000	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2001	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2002	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2003	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2004	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2005	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2006	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2007	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2008	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2009	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2010	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2011	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2012	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2013	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2014	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2015	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2016	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2017	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2018	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2019	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2020	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2021	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2022	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2023	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2024	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2025	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2026	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2027	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2028	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2029	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2030	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2031	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2032	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2033	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2034	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2035	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
TOTAL	0	6,199,291	1,679,301	2,206,087	0	510,036	43,446,041	54,040,756

**TABLE B-31: TOTAL EAST BRANCH ENLARGEMENT FACILITIES
TRANSPORTATION CHARGE FOR EACH CONTRACTOR**

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA							TOTAL
	Antelope Valley East Kern Water Agency	Coachella Valley Water District	Desert Water Agency	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	The Metropolitan Water District Of Southern California	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1961	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0
1988	20,697	1,220,362	353,760	537,172	3,944	0	8,739,361	10,875,296
1989	26,615	1,569,294	454,909	690,763	5,072	0	11,238,171	13,984,824
1990	26,619	1,569,505	454,970	690,856	5,072	0	11,239,680	13,986,702
1991	26,621	1,604,292	460,012	716,831	5,073	1,924	11,505,859	14,320,612
1992	26,620	1,659,975	474,943	740,439	5,073	11,548	11,897,407	14,816,005
1993	26,628	1,660,456	475,082	740,651	5,074	11,548	11,900,852	14,820,291
1994	26,632	1,712,783	494,117	740,759	5,075	11,548	12,242,267	15,233,181
1995	26,642	1,713,359	494,284	741,013	5,077	11,548	12,246,390	15,238,313
1996	26,643	1,713,380	494,290	741,022	5,077	11,548	12,246,539	15,238,499
1997	26,645	1,713,533	494,335	741,089	5,077	11,548	12,247,640	15,239,867
1998	26,651	1,713,852	494,427	741,230	5,078	11,548	12,249,925	15,242,711
1999	26,657	1,714,215	494,532	741,389	5,080	11,548	12,252,518	15,245,939
2000	26,661	1,714,485	494,611	741,508	5,081	11,548	12,254,456	15,248,350
2001	26,675	1,715,269	494,838	741,854	5,083	11,548	12,260,071	15,255,338
2002	26,670	1,714,967	494,750	741,721	5,082	11,548	12,257,909	15,252,647
2003	26,670	1,715,002	494,761	741,736	5,082	11,548	12,258,160	15,252,959
2004	26,677	1,715,421	494,882	741,920	5,084	11,548	12,261,156	15,256,688
2005	26,685	1,715,873	495,013	742,119	5,085	11,548	12,264,394	15,260,717
2006	26,694	1,716,382	495,161	742,343	5,087	11,548	12,268,041	15,265,256
2007	26,693	1,716,377	495,159	742,341	5,087	11,548	12,268,009	15,265,214
2008	26,692	1,716,305	495,138	742,310	5,086	11,548	12,267,490	15,264,569
2009	26,706	1,717,110	495,372	742,664	5,089	11,548	12,273,257	15,271,746
2010	26,706	1,717,110	495,371	742,664	5,089	11,548	12,273,250	15,271,738
2011	26,702	1,716,861	495,299	742,554	5,088	11,548	12,271,472	15,269,524
2012	26,702	1,716,889	495,308	742,567	5,088	11,548	12,271,673	15,269,775
2013	26,702	1,716,875	495,303	742,560	5,088	11,548	12,271,568	15,269,644
2014	26,709	1,717,289	495,423	742,743	5,090	11,548	12,274,534	15,273,336
2015	26,706	1,717,121	495,375	742,669	5,089	11,548	12,273,334	15,271,842
2016	26,712	1,717,474	495,477	742,824	5,090	11,548	12,275,860	15,274,985
2017	26,709	1,717,307	495,429	742,751	5,090	11,548	12,274,663	15,273,497
2018	26,728	1,718,435	495,756	743,247	5,093	11,548	12,282,745	15,283,552
2019	26,749	1,719,664	496,112	743,788	5,097	11,548	12,291,543	15,294,501
2020	26,776	1,721,254	496,573	744,488	5,102	11,548	12,302,932	15,308,673
2021	26,790	1,722,054	496,805	744,840	5,105	11,548	12,308,658	15,315,800
2022	26,818	1,723,724	497,289	745,575	5,110	11,548	12,320,615	15,330,679
2023	1,349	222,035	61,978	84,571	257	11,548	1,566,590	1,948,328
2024	2,573	294,205	82,898	116,338	490	11,548	2,083,417	2,591,469
2025	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2026	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2027	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2028	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2029	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2030	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2031	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2032	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2033	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2034	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
2035	0	142,472	38,914	49,549	0	11,548	996,816	1,239,299
TOTAL	931,924	61,147,686	17,607,796	26,392,948	177,584	510,036	436,947,382	543,715,356

TABLE B-32. ANNUAL SURPLUS AND UNSCHEDULED WATER DELIVERIES

(acre-feet)

Calendar Year(a)	SOUTH BAY AREA				SAN JOAQUIN VALLEY AREA								SO. CAL. AREA	Total All Areas
	ACFC & WCD, ZONE 7	ACWD	SCVWD	Area Total	DDWD	DRWD	EWSID	HWD(e)	KCWA	OFWD	TLBWS	Area Total	LCID	
1973	0	0	2,499	2,499	4,104	13,192	2,814	5,600	163,744	1,013	63,988	254,455	80	257,034
1974	0	0	2,934	2,934	4,128	33,391	1,539	1,972	299,433	3,471	68,989	412,923	67	415,924
1975	0	0	18,470	18,470	7,495	40,555	3,448	3,759	410,820	3,576	132,206	601,859	356	620,685
1976	3,636	4,147	24,705	32,488	5,727	30,922	3,457	3,720	442,150	3,840	57,806	547,622	0	580,110
1977	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	7,586	0	0	8,623	6	0	16,215	0	16,215
1979	0	0	15,998	15,998	0	38,545	0	1,000	524,247	698	66,342	630,832	0	646,830
1980(b)	0	0	14,278	14,278	6,092	39,079	0	0	327,233	718	14,817	387,939	0	402,217
1981(b)	0	0	18,920	18,920	10,647	32,327	2,992	-	624,581	2,788	215,926	889,261	247	908,428
1982(b)	0	0	1,303	1,303	6,359	14,463	926	-	124,736	721	67,365	214,570	0	215,873
1983	0	0	0	0	0	13,019	0	-	0	0	0	13,019	0	13,019
1984	0	0	3,663	3,663	7,419	19,500	0	-	230,691	1,644	0	259,254	0	262,917
1985	0	0	9,638	9,638	6,095	7,636	0	-	186,486	764	96,887	297,868	0	307,506
1986(c)	0	0	2,595	2,595	3,970	903	1,130	-	14,987	247	12,788	34,025	0	36,620
1987(d)	0	0	6,949	6,949	2,573	0	1,876	-	52,048	255	51,206	107,958	0	114,907
Total	3,636	4,147	121,952	129,735	64,609	291,118	18,182	16,051	3,409,779	19,741	848,320	4,667,800	750	4,798,285

a) All deliveries are surplus water deliveries unless otherwise indicated.

b) Includes surplus and unscheduled water.

c) Includes 12,270 acre-feet of 1985 surplus water carried over and delivered during January and February 1986. Also includes 22,034 acre-feet of unscheduled water.

d) Unscheduled water only.

e) District merged with Tulare Lake Basin Water Storage District effective January 1, 1981

TABLE B-33. POWER COSTS FOR PUMPING SURPLUS WATER

(in dollars)

Calendar Year	South Bay Aqueduct	CALIFORNIA AQUEDUCT							Combined Total
	Reach 1	Reach 1	Reach 4	Reach 14A	Reach 15A	Reach 16A	Reach 17E	Reach 31A	
	South Bay and Del Valle Pumping Plant	Banks Delta Pumping Plant	Dos Amigos Pumping Plant	Buena Vista Pumping Plant	Wheeler Ridge Pumping Plant	Chrisman Wind Gap Pumping Plant	A.D. Edmonston Pumping Plant	Las Perillas & Badger Hill Pumping Plants	
1973 ^(a)									
Capacity	5,290	0	37,033	25,622	29,816	0	0	15,588	113,349
Energy	6,302	231,691	102,725	53,375	12,819	1,697	526	24,245	433,380
Total	11,592	231,691	139,758	78,997	42,635	1,697	526	39,833	546,729
1974									
Capacity	21,773	0	81,328	69,381	62,301	0	0	31,511	266,294
Energy	7,561	374,506	181,827	95,596	22,550	5,599	450	33,406	721,495
Total	29,334	374,506	263,155	164,977	84,851	5,599	450	64,917	987,789
1975									
Capacity	32,288	298,709	126,806	99,676	30,049	0	0	32,231	619,759
Energy	47,597	617,396	264,000	99,745	313	661	2,391	49,501	1,081,604
Total	79,885	916,105	390,806	199,421	30,362	661	2,391	81,732	1,701,363
1976									
Capacity	41,897	60,502	63,788	85,415	8,579	0	0	30,449	290,630
Energy	83,722	597,636	225,126	103,213	4,885	5,385	0	45,101	1,065,068
Total	125,619	658,138	288,914	188,628	13,464	5,385	0	75,550	1,355,698
1977									
Capacity	0	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0
1978									
Capacity	0	144,188	51,403	0	0	0	0	0	195,591
Energy	0	15,039	6,591	0	0	0	0	0	21,630
Total	0	159,227	57,994	0	0	0	0	0	217,221
1979									
Capacity	27,116	382,070	232,001	35,743	6,771	3,165	0	8,769	695,635
Energy	39,517	599,886	256,188	51,045	8,205	4,194	0	11,808	970,843
Total	66,633	981,956	488,189	86,788	14,976	7,359	0	20,577	1,666,478
1980									
Capacity	30,319	530,982	227,837	28,682	3,559	5,146	0	3,228	829,753
Energy	35,268	373,023	162,404	73,422	11,451	9,753	0	22,755	688,076
Total	65,587	904,005	390,241	102,104	15,010	14,899	0	25,983	1,517,829
1981									
Capacity	36,749	625,106	281,362	69,202	22,262	24,138	1,054	26,168	1,086,041
Energy	44,229	806,574	366,945	85,341	27,489	29,847	1,629	34,020	1,396,074
Total	80,978	1,431,680	648,307	154,543	49,751	53,985	2,683	60,188	2,482,115
1982									
Capacity	40,355	1,704,800	578,744	176,362	16,932	2,612	0	6,148	2,525,953
Energy	3,225	192,415	88,494	19,590	2,109	296	0	5,278	311,207
Total	43,580	1,897,215	667,238	195,752	19,041	2,908	0	11,426	2,837,160
1983									
Capacity	0	40,303	16,941	0	0	0	0	0	57,244
Energy	0	43,045	20,026	0	0	0	0	0	63,071
Total	0	83,348	36,967	0	0	0	0	0	120,315
1984									
Capacity	0	0	0	0	0	0	0	0	0
Energy	51,632	1,865,605	769,718	0	0	0	0	37,407	2,724,362
Total	51,632	1,865,605	769,718	0	0	0	0	37,407	2,724,362
1985									
Capacity	0	0	0	0	0	0	0	0	0
Energy	301,663	2,835,778	1,180,255	0	0	0	0	46,140	4,363,836
Total	301,663	2,835,778	1,180,255	0	0	0	0	46,140	4,363,836
1986									
Capacity	0	0	0	0	0	0	0	0	0
Energy	43,007	227,832	99,593	0	0	0	0	20,176	390,608
Total	43,007	227,832	99,593	0	0	0	0	20,176	390,608
1987									
Capacity	0	0	0	0	0	0	0	0	0
Energy	98,970	610,046	273,559	59,496	15,365	6,776	0	12,700	1,076,912
Total	98,970	610,046	273,559	59,496	15,365	6,776	0	12,700	1,076,912
Grand Total	998,480	13,177,132	5,694,694	1,230,706	285,455	99,269	6,050	496,629	21,988,415

a) May through December only.

TABLE B-34. POWER, REPLACEMENT AND ADMINISTRATIVE CHARGE FOR SURPLUS WATER DELIVERIES

(in dollars)

CALENDAR YEAR	South Bay Area		San Joaquin Valley Area						So. Calif. Area		Total
	ACWD	SCVWD	DDWD	DRWD	EWSID	KCWA	OFWD	TLBWSID	AVEK	LCID	
1978											
Capacity	0	3,275	0	14,642	0	154,051	4	23,619	0	0	195,591
Energy	0	0	0	10,119	0	11,505	6	0	0	0	21,630
Replacement	0	0	0	248	0	281	0	0	0	0	529
Administrative	0	0	0	3,793	0	4,312	3	0	0	0	8,108
Total	0	3,275	0	28,802	0	170,149	13	23,619	0	0	225,858
1979											
Capacity	0	37,413	0	37,615	0	547,875	417	72,315	0	0	695,635
Energy	0	54,354	0	51,418	0	774,587	651	89,833	0	0	970,843
Replacement	0	413	0	886	0	7,633	5	2,042	0	0	10,979
Administrative	0	4,005	0	20,051	0	116,977	176	46,075	0	0	187,284
Total	0	96,185	0	109,970	0	1,447,072	1,249	210,265	0	0	1,864,741
1980											
Capacity	0	41,641	8,485	40,160	0	636,135	432	102,900	0	0	829,753
Energy	0	48,510	13,101	52,131	0	553,902	666	19,766	0	0	688,076
Replacement	0	533	3,332	1,255	0	149,588	134	5,705	0	0	160,547
Administrative	0	5,638	3,815	21,859	0	281,776	666	22,258	0	0	336,012
Total	0	96,322	28,733	115,405	0	1,621,401	1,898	150,629	0	0	2,014,388
1981											
Capacity	0	50,706	14,608	40,674	2,520	784,875	1,601	189,238	0	1,819	1,086,041
Energy	0	61,028	22,575	42,078	3,897	980,142	2,475	281,071	0	2,808	1,396,074
Replacement	0	3,538	4,099	12,446	1,152	275,232	521	83,132	0	431	380,551
Administrative	725	11,192	6,160	19,221	1,869	348,397	1,950	146,357	0	123	535,994
Total	725	126,464	47,442	114,419	9,438	2,388,646	6,547	699,798	0	5,181	3,598,660
1982											
Capacity	0	55,431	20,739	74,514	6,103	1,658,571	434	339,639	370,522	0	2,525,953
Energy	0	4,386	13,578	18,876	1,208	184,594	643	87,922	0	0	311,207
Replacement	0	105	2,462	5,596	361	54,018	135	26,070	0	0	88,747
Administrative	0	7,328	3,710	5,487	698	185,494	676	50,524	0	0	253,917
Total	0	67,250	40,489	104,473	8,370	2,082,677 ^a	1,888	504,155	370,522	0	3,179,824
1983											
Capacity	0	1,698	187	3,850	60	48,348	0	3,101	0	0	57,244
Energy	0	0	0	62,996	0	0	75	0	0	0	63,071
Replacement	0	0	0	5,851	0	0	6	0	0	0	5,857
Administrative	0	0	0	6,510	0	0	14	0	0	0	6,524
Total	0	1,698	187	79,207	60	48,348	95	3,101	0	0	132,696
1984											
Capacity	0	0	0	0	0	0	0	0	0	0	0
Energy	0	70,885	98,169	222,456	0	2,322,714	10,138	0	0	0	2,724,362
Replacement	0	782	3,334	8,763	0	103,670	351	0	0	0	116,900
Administrative	2,450	7,160	6,800	9,380	0	36,460	6,340	0	0	0	68,590
Total	2,450	78,827	108,303	240,599	0	2,462,844	16,829	0	0	0	2,909,852
1985											
Capacity	0	0	0	0	0	0	0	0	0	0	0
Energy	0	414,281	124,603	107,436	0	2,444,591	6,373	1,266,552	0	0	4,363,836
Replacement	0	2,053	2,737	3,429	0	83,732	163	43,502	0	0	135,616
Administrative	0	4,811	4,596	5,227	0	18,251	4,245	11,883	0	0	49,013
Total	0	421,145	131,936	116,092	0	2,546,574	10,781	1,321,937	0	0	4,548,465
1986											
Capacity	0	0	0	0	0	0	0	0	0	0	0
Energy	0	58,939	52,904	7,658	12,104	113,630	1,267	144,106	0	0	390,608
Replacement	0	553	1,783	405	507	6,729	53	5,742	0	0	15,772
Administrative ^b	0	0	0	0	0	0	0	0	0	0	0
Total	0	59,492	54,687	8,063	12,611	120,359	1,320	149,848	0	0	406,380
1987											
Capacity	0	0	0	0	0	0	0	0	0	0	0
Energy	0	135,461	32,558	0	14,941	500,919	1,367	391,666	0	0	1,076,912
Replacement	0	1,974	1,508	0	1,099	37,897	72	30,007	0	0	72,557
Administrative ^b	0	0	0	0	0	0	0	0	0	0	0
Total	0	137,435	34,066	0	16,040	538,816	1,439	421,673	0	0	1,149,469
Grand Total ^b	3,175	1,088,093	445,843	917,030	46,519	13,426,886	42,059	3,485,025	370,522	5,181	19,830,333

a) 1982 costs are preliminary and may change when 1982 exchange is taken into consideration.

b) 1986 and 1987 Administrative costs not available at time of publication.

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SUBJECT	MAIN TEXT (with Allowance for Future Capital Price Escalation for Financial Planning Purposes)														CORRESPONDING TABLE, FIGURE, EXHIBIT OR PAGE NUMBER IN PREVIOUS BULLETIN 132													
	TABLE NO.	TITLE	1987	1985-1986	1984	1983	1982	1981	1980	1979	1978	1977	1976	1975														
OPERATIONS FOR PRIOR YEAR	1	SWP Accomplishments through 1987	1	1	1	17	20	Ex.25	p.132	p.125	p.88	p.73	p.39	p.36														
	2	Water Quality at Selected Stations in 1987	2	2	2	16	19	5	5	5	5	5	5	5														
	3	Historical Summary of Entitlements, Deliveries, and Water Conveyed	3	3	3	11	14	2	1	1	1	1	1	1														
	4	Summary of 1987 Deliveries and Credits to Long-Term Contractors	4	4	4	12	15	3	2	2	2	2	2	2														
	5	Monthly Water Deliveries in 1987	5	5	5	13	16	4	3	3	3	3	3	3														
	6	Monthly Power Operations in 1987	6	6	6	18	21	6	6	6	6	6	5	6														
	6A	Reconciliation of 1987 SWP and CVP Energy Use at SWP Plants and Joint-Use Facilities	6A	6A	none	none	none	none	none	none	none	none	none	none														
	7	SWP Power and Transmission Service Purchases in 1987	7	7	7	none	none	none	none	none	none	none	none	none														
	8	SWP Power Sales in 1987	8	8	8	none	none	none	none	none	none	none	none	none														
	9	Recreation Use at SWP Facilities in 1987	9	9	9	19	22	Ex.26	p.138	p.133	p.95	p.81	p.66	none														
	10	Fish Planted at SWP Facilities in 1987	10	10	10	20	23	Ex.27	none	none	none	none	none	none														
CONTRACT AMENDMENTS	11	Water Supply Contract Amendments as of June 30, 1988	11	11	11	Fig.16	Fig.19	Fig.6	Fig.6	Fig.6	Fig.6	Fig.6	Fig.7	Fig.7														
DESIGN AND CONSTRUCTION ACTIVITIES	12	SWP Design Activities in Progress, July 1987-June 1988	12	12	12	8	10	Ex.10	none	none	none	none	none	none														
	13	SWP Construction Activities in Progress, July 1987-June 1988	13	13	13	10	12	Ex.14	none	none	none	none	none	none														
FUTURE OPERATIONS	14	Water Contractors' Requests for Entitlement Water, 1987 through 1992	14	14	14	14	17	Ex.17	p.89	p.94	p.66	p.57	p.28	p.26														
	15	Alternative Formulations of the Los Banos Grandes Reservoir Plan	none	none	none	none	none	none	none	none	none	none	none	none														
	16	Projected Water Deliveries and Energy Requirements	15	15	15	none	none	none	none	none	none	none	none	none														
	17	Projected Electrical Capacity Requirements	16	16	16	none	none	none	none	none	none	none	none	none														
	18	Summary of Major SWP Power Contracts	17	17	17	Fig.17	Fig.20	Fig.19	p.102	none	none	none	none	none														
	19	Projected Energy Resources and Costs	18	18	18	7	9	Ex.29	p.104	none	none	none	none	none														
FUTURE COSTS AND FINANCING	20	SWP Financial Analysis, June 30, 1988	19	19	19	21	24	7	7	7	7	none	7	7														
	21	SWP Capital Expenditures	20	20	20	22	25	8	8	8	8	7	8	8														
	22	Application of Revenue Bond Proceeds	21	21	21	23	26	none	none	none	none	none	none	none														
	23	Projected Bond Sales	none	22	22	26	29	9A	9A	9A	none	none	none	none														
		Revenue Bond Proceeds Affecting the Project Interest Rate	22	23	23	24	27	none	none	none	none	none	none	none														
	24	Actual Bond Sales and Project Interest Rates	23	24	24	25	28	9	9	9	9	none	9	9														
	25	SWP Operation, Maintenance, Power, and Replacement Costs	24	25	25	27	30	10	10	10	10	8	10	10														
	26	Annual Service on Bonds Sold through June 30, 1988	25	26	26	28	31	11	11	11	11	none	11	11														
	27	Estimated Future Unit Water Charges	26	27	27	6	7	Ex.2	p.19	Fig.1	none	none	none	none														

MATERIAL IN BULLETIN

		APPENDIX B (No Allowance for Future Price Escalation, for Billing Purposes)	CORRESPONDING TABLE OR EXHIBIT NUMBER IN PREVIOUS BULLETIN 132												
		TABLE NO.	TITLE	1987	1983-THRU 1986	1982*	1981	1980	1979	1978	1977	1976	1975	1974	
AQUEDUCT REACHES		B-1	Factors for Distributing Reach Capital Costs Among Contractors	B-1	B-1	none	B-1	B-1	B-1	B-1	B-1	B-1	B-1	B-1	
		B-2	Factors for Distributing Reach Minimum OMP&R Costs Among Contractors	B-2	B-2	none	B-2	B-2	B-2	B-2	B-2	B-2	B-2	B-2	
VARIABLE COSTS		B-3	Power Costs and Credits and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant	B-3	B-3	none	B-3	B-3	B-3	B-3	B-3	B-3	B-3	B-3	
ANNUAL WATER DELIVERY QUANTITIES		B-4	Annual Entitlements to Project Water	B-4	B-4	none	B-4	B-4	B-4	B-4	B-4	B-4	B-4	B-4	
		B-5A	Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor	B-5A	B-5A	none	B-5A	B-5A	B-5A	B-5A	B-5A	B-5A	B-5	B-5	
		B-5B	Annual Water Quantities Delivered to Each Contractor	B-5B	B-5B	none	B-5B	B-5B	B-5B	B-5B	B-5B	B-5B	B-5	none	
		B-6	Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities	B-6	B-6	none	B-6	B-6	B-6	B-6	B-6	B-6	B-6	B-6	
RECONCILIATION OF CAPITAL EXPENDITURES		B-7	Reconciliation of Capital Costs Allocated to Water Supply and Power Generation	B-7	B-7	none	B-7	B-7	B-7	B-7	B-7	B-7	B-7	B-7	
		B-8	Capital Costs of Requested Delivery Structures	B-8	B-8	none	B-8	B-8	B-8	B-8	B-8	B-8	B-8	B-8	
		B-9	Capital Costs of Requested Excess Peaking Capacity	B-9	B-9	none	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	
COSTS PAID THROUGH:	TRANSPORTATION CHARGE	B-10	Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge	B-10	B-10	none	B-10	B-10	B-10	B-10	B-10	B-10	B-10	B-10	
		B-11	Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge	B-11	B-11	none	B-11	B-11	B-11	B-11	B-11	B-11	B-11	B-11	
		B-12	Variable OMP&R Costs to be Reimbursed through Variable OMP&R Component of Transportation Charge	B-12	B-12	none	B-12	B-12	B-12	B-12	B-12	B-12	B-12	B-12	
	DELTA WATER CHARGE	B-13	Capital and Operating Costs of Project Conservation Facilities to be Reimbursed through Delta Water Charge	B-13	B-13	32	B-13	B-13	B-13	B-13	B-13	B-13	B-13	B-13	
REDETERMINED ANNUAL TRANSPORTATION CHARGE FOR EACH CONTRACTOR		B-14	Capital Costs of Transportation Facilities Allocated to Each Contractor	B-14	B-14	none	B-14	B-14	B-14	B-14	B-14	B-14	B-14	B-14	
		B-15	Capital Cost Component of Transportation Charge for Each Contractor	B-15	B-15	none	B-15	B-15	B-15	B-15	B-15	B-15	B-15	B-15	
		B-16A	Minimum OMP&R Component of Transportation Charge for Each Contractor	B-16A	B-16A	none	B-16	B-16	B-16	B-16	B-16	B-16	B-16	B-16	
		B-16B	Off-Aqueduct Component of Transportation Charge for Each Contractor	B-16B	B-16B	none	none	none	none	none	none	none	none	none	
		B-17	Unit Variable OMP&R Component of Transportation Charge	B-17	B-17	none	B-17	B-17	B-17	B-17	B-17	B-17	B-17	B-17	
		B-18	Variable OMP&R Component of Transportation Charge for Each Contractor	B-18	B-18	none	B-18	B-18	B-18	B-18	B-18	B-18	B-18	B-18	
		B-19	Total Transportation Charge for Each Contractor	B-19	B-19	none	B-19	B-19	B-19	B-19	B-19	B-19	B-19	B-19	
FUTURE DELTA WATER RATES		B-20A	Calculation of Delta Water Rates	B-20A	B-20A	33	B-20A	B-20	B-20	B-20	B-20	B-20	B-20	B-20	
		B-20B	Delta Water Rates by Facility	B-20B	B-20B	none	B-20	none	none	none	none	none	none	none	
TOTAL CHARGES		B-21	Total Delta Water Charge for Each Contractor	B-21	B-21	none	B-21	B-21	B-21	B-21	B-21	B-21	none	none	
		B-22	Water System Revenue Bond Surcharge for Each Contractor	B-22	none	none	none	none	none	none	none	none	none	none	
		B-23	Total Transportation and Delta Water Charge for Each Contractor	B-23	B-22	none	B-22	B-22	B-22	B-22	B-22	B-22	none	none	
EQUIVALENT COSTS OF WATER		B-24	Equivalent Unit Charge for Water Supply for Each Contractor	B-24	B-23	none	B-23	B-23	B-23	B-23	B-23	B-23	B-21	B-21	
		B-25	Equivalent Unit Transportation Costs of Water Delivered from or through Each Aqueduct Reach	B-25	B-24	34	B-24	B-24	B-24	B-24	B-24	B-24	B-22	B-22	
EAST BRANCH ENLARGEMENT COSTS AND CHARGES		B-26	Capital Costs of Each Aqueduct Reach to be Reimbursed thru Capital Cost Component of EBE Transportation Charge	B-26	none	none	none	none	none	none	none	none	none	none	
		B-27	Minimum OMP&R Costs of Each Aqueduct to be Reimbursed thru Minimum OMP&R Component of EBE Transportation Charge	B-27	none	none	none	none	none	none	none	none	none	none	
		B-28	Capital Costs of EBE Transportation Facilities Allocated to Each Contractor	B-28	none	none	none	none	none	none	none	none	none	none	
		B-29	Capital Cost Component of EBE Transportation Facilities Charge for Each Contractor	B-29	none	none	none	none	none	none	none	none	none	none	
		B-30	Minimum OMP&R Component of EBE Facilities Transportation Charge for Each Contractor	B-30	none	none	none	none	none	none	none	none	none	none	
		B-31	Total EBE Facilities Transportation Charge for Each Contractor	B-31	none	none	none	none	none	none	none	none	none	none	
SURPLUS WATER SERVICE AND CHARGES		B-32	Annual Surplus Water Deliveries	B-32	B-25	none	B-25	B-25	B-25	B-25	B-25	B-25	none	none	
		B-33	Power Costs for Pumping Surplus Water	B-33	B-26	none	B-26	B-26	B-26	B-26	B-26	B-26	B-26	none	none
		B-34	Power, Replacement and Administrative Charge for Surplus Water Deliveries	B-34	B-27	none	B-27	B-27	B-27	B-27	B-27	B-27	B-27	none	none

* Appendix B tables for Bulletin 132-82 are published under separate cover.

CONVERSION FACTORS

Quantity	To Convert from Metric Unit	To Customary Unit	Multiply Metric Unit By	To Convert to Metric Unit Multiply Customary Unit By
Length	millimetres (mm)	inches (in)	0.03937	25.4
	centimetres (cm) for snow depth	inches (in)	0.3937	2.54
	metres (m)	feet (ft)	3.2808	0.3048
	kilometres (km)	miles (mi)	0.62139	1.6093
Area	square millimetres (mm ²)	square inches (in ²)	0.00155	645.16
	square metres (m ²)	square feet (ft ²)	10.764	0.092903
	hectares (ha)	acres (ac)	2.4710	0.40469
	square kilometres (km ²)	square miles (mi ²)	0.3861	2.590
Volume	litres (L)	gallons (gal)	0.26417	3.7854
	megalitres	million gallons (10 ⁶ gal)	0.26417	3.7854
	cubic metres (m ³)	cubic feet (ft ³)	35.315	0.028317
	cubic metres (m ³)	cubic yards (yd ³)	1.308	0.76455
	cubic dekametres (dam ³)	acre-feet (ac-ft)	0.8107	1.2335
Flow	cubic metres per second (m ³ /s)	cubic feet per second (ft ³ /s)	35.315	0.028317
	litres per minute (L/min)	gallons per minute (gal/min)	0.26417	3.7854
	litres per day (L/day)	gallons per day (gal/day)	0.26417	3.7854
	megalitres per day (ML/day)	million gallons per day (mgd)	0.26417	3.7854
	cubic dekametres per day (dam ³ /day)	acre-feet per day (ac-ft/day)	0.8107	1.2335
Mass	kilograms (kg)	pounds (lb)	2.2046	0.45359
	megagrams (Mg)	tons (short, 2,000 lb)	1.1023	0.90718
Velocity	metres per second (m/s)	feet per second (ft/s)	3.2808	0.3048
Power	kilowatts (kW)	horsepower (hp)	1.3405	0.746
Pressure	kilopascals (kPa)	pounds per square inch (psi)	0.14505	6.8948
	kilopascals (kPa)	feet head of water	0.33456	2.989
Specific Capacity	litres per minute per metre drawdown	gallons per minute per foot drawdown	0.08052	12.419
Concentration	milligrams per litre (mg/L)	parts per million (ppm)	1.0	1.0
Electrical Conductivity	microsiemens per centimetre (uS/cm)	micromhos per centimetre	1.0	1.0
Temperature	degrees Celsius (°C)	degrees Fahrenheit (°F)	$(1.8 \times ^\circ\text{C}) + 32$ $(^\circ\text{F} - 32)/1.8$	

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