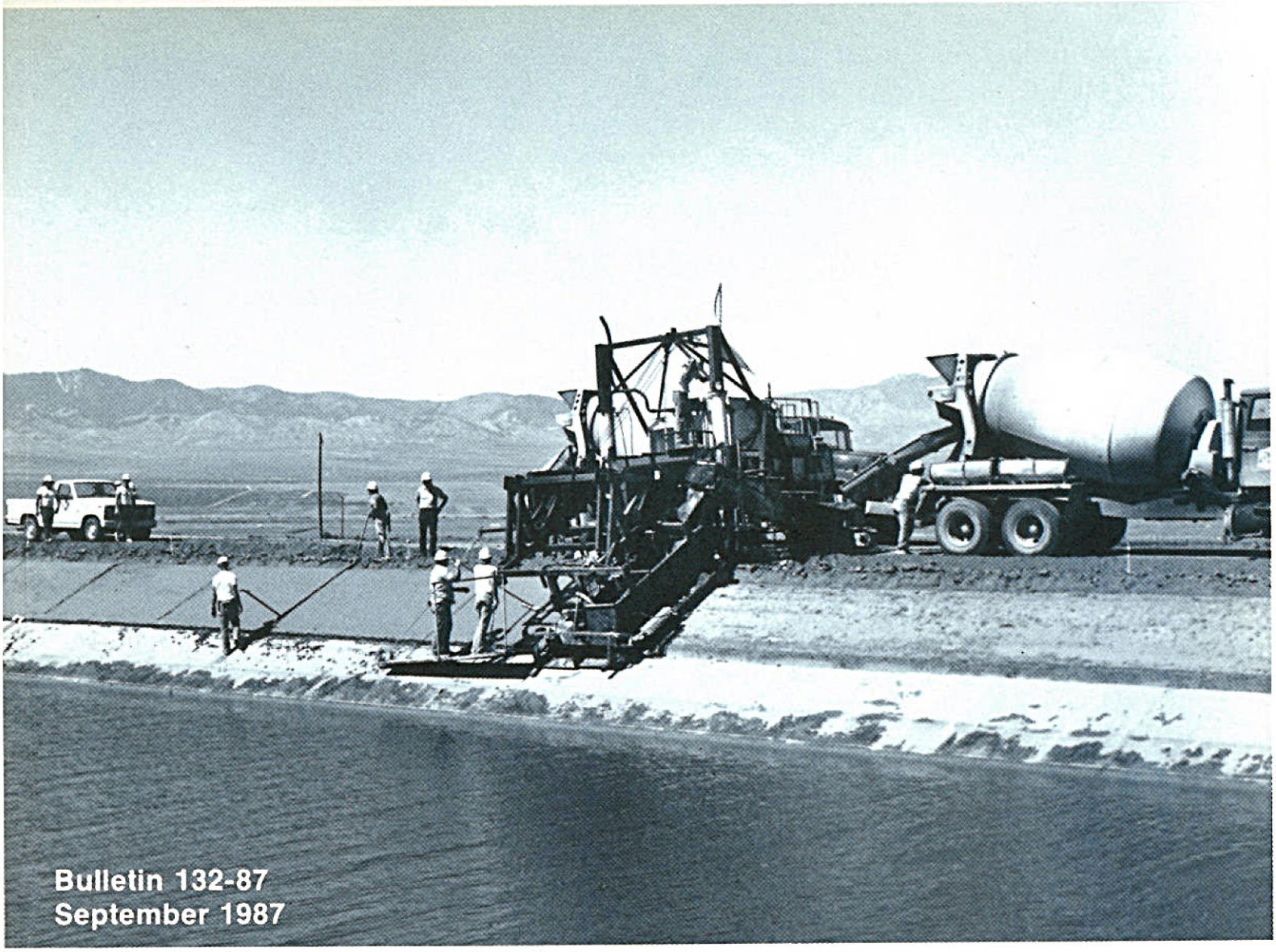

Bulletin 132-87
September 1987

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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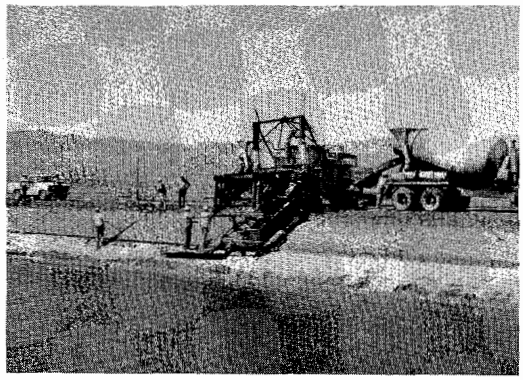

ON THE COVER: Workers raise the California Aqueduct canal lining as part of the East Branch Enlargement.

Department of
Water Resources

Bulletin 132-87

Management of the California State Water Project

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California

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Director

Department of
Water Resources

USBR and DWR staff members who negotiated the Coordinated Operation Agreement (COA), seated from left: C. Dale Duvall, David G. Houston, David N. Kennedy, Gordon K. Van Vleck. Second row from left: James Turner, John Budd, Brenda Washington, David Lindgren, Robert James, Rita Singer. Back row, from left: Robert Moore, Michael Cowan, Harold Meyers, James Moore, Jerry Vayder, Charles Shoemaker, William Mierke, Lawrence Mullnix, Gerald Cox, Katherine Striemer, and Russell Kletzing.

FOREWORD

This edition of the Bulletin 132 series is the twenty-fifth annual summary of the State Water Project's operation and management. Bulletin 132-87 reviews Project operations during calendar year 1986 and describes other management activities, emphasizing the period between July 1, 1986 and June 30, 1987. 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 (1988).

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

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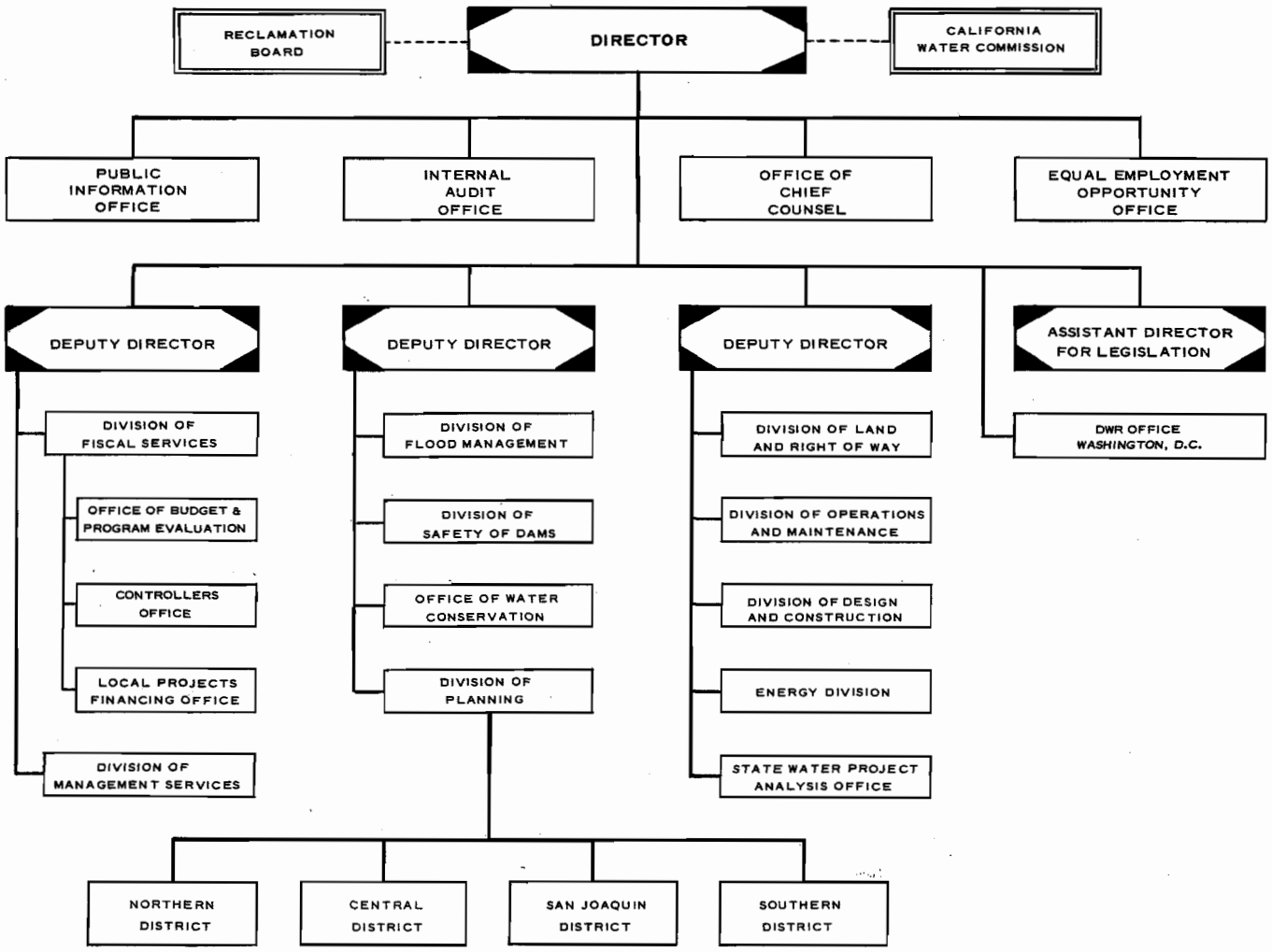
The California Water Commission serves as a policy advisory body to the Director of Water Resources on all California water resources matters. The nine-member citizen commission provides a water resources forum for the people of the State, acts as a liaison between the legislative and executive branches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

ORGANIZATION OF THE DEPARTMENT OF WATER RESOURCES



ABBREVIATIONS

In general, the use of abbreviations in this bulletin follows the practice of spelling out a term in full at its first use in each chapter or major section, followed by the abbreviated form in parentheses. The following names and terms in common use throughout the bulletin are not defined separately:

cfs	cubic feet per second
CVP	Central Valley Project
DWR	Department of Water Resources
EIR	Environmental Impact Report (State)
EIS	Environmental Impact Statement (Federal)
kW	kilowatt
kWh	kilowatthour
kV	kilovolt
MW	megawatt
MWDSC	The Metropolitan Water District of Southern California
OMP&R	operation, maintenance, power, and replacement
SWP	State Water Project
SWRCB	State Water Resources Control Board
USBR	United States Bureau of Reclamation

CHAPTER I
OVERVIEW OF THE CALIFORNIA STATE WATER PROJECT

Bulletin 132-87 marks the 25th in an ongoing series of Bulletin 132 reports on "Management of the California State Water Project." The first bulletin in this series was published in 1963. Over the past 25 years the report has provided a continuing history of State Water Project (SWP) administration activities, water and power operations, financing plans, and management plans. Appendix B, which is bound within each bulletin, has provided the documentation of costs and water charge information for the annual Statements of Charges to long-term water supply contractors.

Bulletin 132-87 summarizes DWR's activities for the past year and presents plans for future years. The first four chapters in Bulletin 132-87 deal with SWP history, 1986 operations, administration activities, and design and construction. Analyses of present and future water and power supplies appear in Chapters V and VI, respectively. Chapter VII outlines future costs and financing. Profiles of six SWP long-term water contractors are in Chapter VIII. Appendix B, documenting computation of contractor water charges for 1988, forms the latter portion of this bulletin.

The State Water Project

Investigating California's water resources, planning for its water problems, and development of its water resources have been a major part of California history.

Efforts to control California's water began with the white settlers. These people constructed the first irrigation systems for use during California's dry summer seasons and began the procedures of acquiring legal rights for the use of water in natural streams and water courses within the State. Since those early days, Californians have constantly worked to develop ways to manage and control its precious resource.

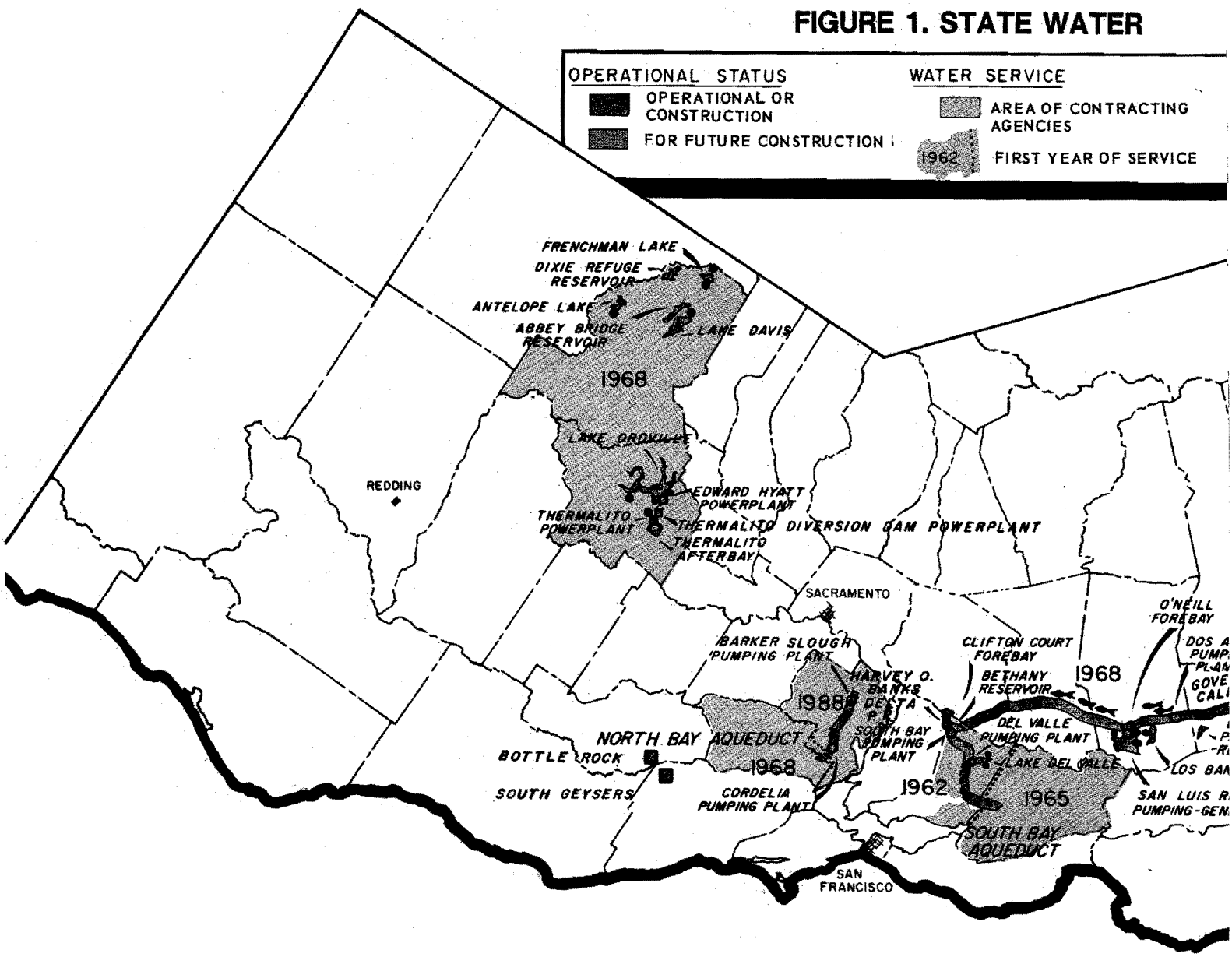
Initial planning for comprehensive development of California's water resources began in the 1870s. At that time, a commission appointed by President Grant investigated the water resources in the Central Valley. A report by that commission discussed plans for utilizing the water supply of the Sierra Nevada and pointed to the responsibility of the federal and State governments to provide guidance, direction, and leadership in developing California water supplies. Not long after the report was published, the State began its first comprehensive investigation of California water resources.

The Marshall Plan, proposed in 1919, was one of the earliest comprehensive plans for a statewide water conveyance system. This plan proposed delivering water from the Sacramento River for irrigation to the Sacramento-San Joaquin valleys through large canals. The Plan failed to attract large scale, statewide support. The Marshall Plan was followed by a series of statewide water resources investigations during the 1920s.

In 1931, State Engineer Edward Hyatt presented a State Water Plan to the Legislature. This plan, which had been in development for 10 years, addressed some of the State's most crucial water problems, and provided for water exchange between the north and south portions of the Central Valley. By 1933, the plan evolved into the Central Valley Project (CVP). Because of the Depression, State funding was not readily available, the federal government assumed financial responsibility for the project.

After World War II, California experienced great urban and industrial growth as well as a corresponding increase in water demand. In 1951, State Engineer A. D. Edmonston presented an outline of the Feather River Project to the Legislature. This proposal included a multipurpose dam and reservoir on the Feather River near Oroville, a Delta Cross Channel, an electrical transmission system, an aqueduct system to transport Sacramento-San Joaquin Delta

FIGURE 1. STATE WATER



DAMS AND RESERVOIRS

Name of Reservoir	Reservoirs[a] Capacity (acre-feet)	Surface Area (acres)	Shoreline (miles)	Dams 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	160	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	6	676	152	1,440	1,210,000
Silverwood Lake	75,000	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	3,800	360	3	3,320	45	6,600	
Pyramid Lake	171,000	1,300	21	2,606	400	1,090	6,860,000
Elderberry Forebay	28,200	460	7	1,550	200	1,990	6,000,000
Castaic Lake	324,000	2,240	29	1,536	425	4,900	46,000,000
Castaic Lagoon	5,700	200	3	1,150	25		
Totals	**5,806,000**	**55,040**	**493**			**175,000**	**268,599,000**

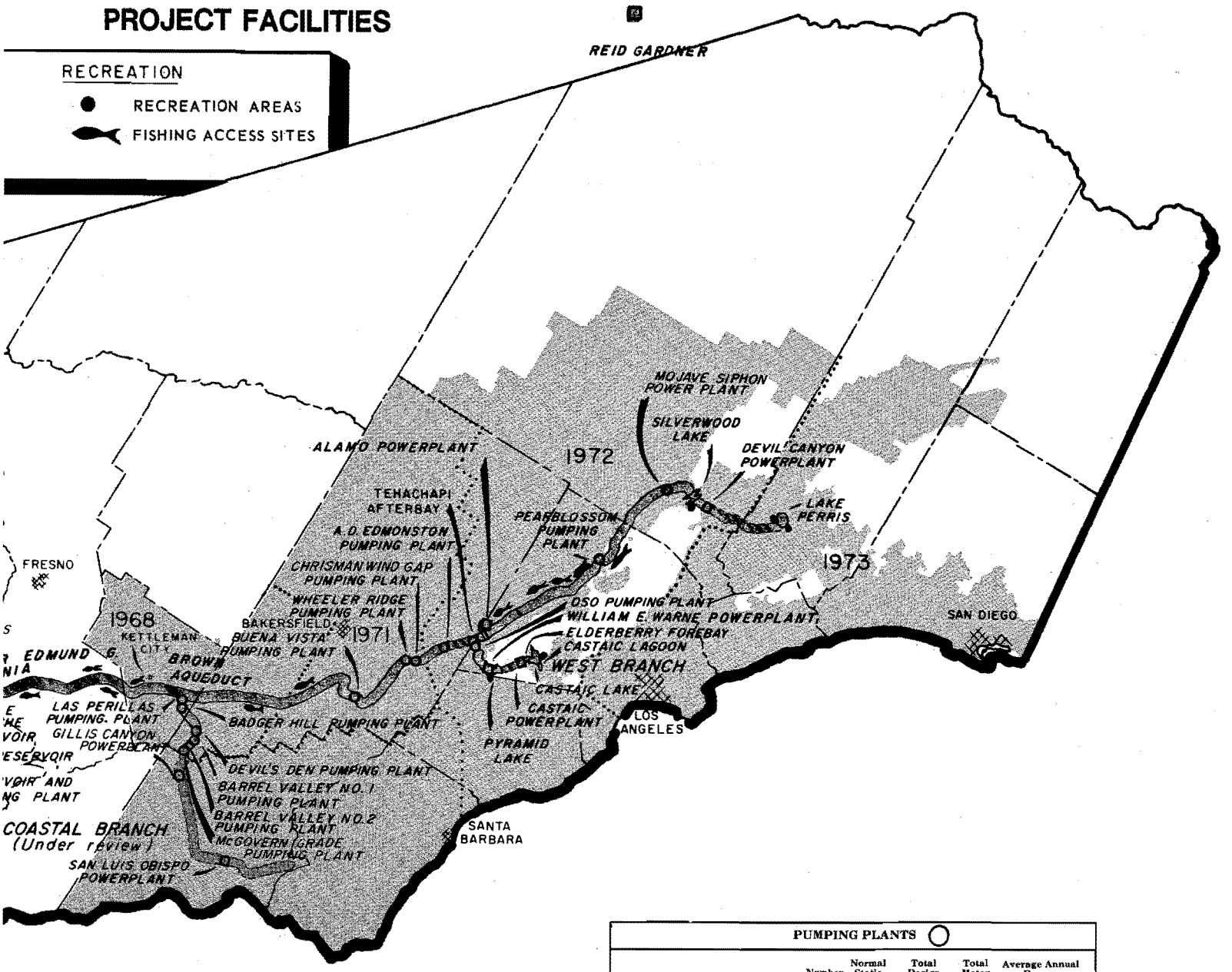
a) Reservoir data represent design elevation, generally spillway crest level. In most cases, maximum operational levels are set 1 or 2 feet lower.
b) SWP share of total storage of 2,040,000 acre-feet.

AQUEDUCTS

Name	Length (miles) Total	Canal	Pipeline	Tunnel	Channel and Reservoir
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)	102.0	14.8 (a	87.2	0	0
Subtotal, branches	**133.9**	**23.9**	**93.6**	**7.2**	**9.2**
Totals	**648.2**	**417.3**	**194.7**	**20.5**	**15.7**

a) Constructed

PROJECT FACILITIES



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	410-678	16,950	678,750	2,080,000,000
Thermalito	4	85-102	16,900	119,600	320,000,000
San Luis					
Total	8	99-327	13,200	424,000	
SWP Share				222,100	195,000,000
Alamo	2	138-144	3,150	32,700	184,000,000
Mojave Siphon (b	3	144	2,880	10,000	133,000,000
Devil Canyon	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					
Total	7	830-1,098	18,400	1,250,000	
SWP Share				214,000	569,000,000
Gillis Canyon (b	1	550	108	4,250	34,000,000
San Luis Obispo (b	1	768	82	4,900	47,000,000
Thermalito Diversion Dam	1	70-77	600	3,000	18,000,000
Reid Gardner					
Unit No. 4					
Total	1			260,000	
SWP Share				169,500	1,280,000,000
Bottle Rock	1			55,000	360,000,000
South Geysers	1			55,000	360,000,000
Total, SWP Share					**7,661,000,000**

a) Under full development.
b) Tentative data for future facility.

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 (c	9 (d	120	155	4,800	15,000,000
Cordelia (c	11 (d	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	264,000	255,000,000
Dos Amigos					
Total	6	113	13,200	240,000	
SWP Share			7,100	130,000	545,000,000
Buena Vista	10 (d	205	5,049	144,500	653,000,000
Wheeler Ridge	9 (d	233	4,598	150,000	756,000,000
Chrisman 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	4,050	16,000,000
Badger Hill	6	151	450	11,750	42,000,000
Devil's Den (c	4	490	108	7,850	47,000,000
Barrel Valley No. 1 (c	4	495	108	7,800	47,000,000
Barrell Valley No. 2 (c	4	525	108	8,100	48,000,000
McGovern Grade (c	4	410	108	6,450	39,000,000
Total, SWP Share					**12,560,000,000**

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.

water to Santa Clara and Alameda counties, and an aqueduct to transport water from the Delta to the San Joaquin Valley and to southern California. This report marked the beginning of today's State Water Project.

In 1957, the Department of Water Resources (reorganized from the Division of Water Resources in the Department of Public Works during 1956) released Bulletin No. 3, "The California Water Plan." This bulletin presented the preliminary plans for the full, practical development of all the State's water resources to meet its ultimate water needs. The bulletin also included plans for local water resource development along with those works needed for major water transfer system.

In 1959, the Legislature passed the California Water Resources Development Bond Act, known as the Burns-Porter Act. This legislation provided the major financing for the State Water Project.

The next year was a pivotal one for the SWP. In 1960, California's voters approved a $1.75 billion bond issue under the Burns-Porter Act, and initial State Water Project construction began.

SWP Water Supply Contracts

In January 1960, then Governor Edmund G. Brown, Sr., announced the "Statement of Contracting Principles for Water Service Contracts" (Contracting Principles). The Contracting Principles specified how the SWP costs were to be allocated and how rates for water were to be developed. The State Water Project was to be a multipurpose project with project beneficiaries paying their allocated costs.

The initial water supply contract was signed with The Metropolitan Water District of Southern California, on November 4, 1960. This was the prototype of all other SWP water supply contracts. Following the MWDSC contract signing, an extensive water contracting program began. During the early 1960s, applications were received from a large number of agencies interested in a long-term water supply from the SWP.

Before executing each water supply contract, DWR evaluated each application on the basis of:

- future demand for supplemental water;
- the legal ability to contract with the State, to make ad valorem assessments, and to contract to supply water to member units;
- engineering feasibility of providing water;
- economic justification of providing water; and
- ability of the agency/area to reimburse the State.

The major portion of the contracting program for SWP water supply occurred between 1961 and 1965. In all, 30 agencies signed long-term contracts for water supply from the SWP.

Extensive SWP construction occurred between 1960 and 1972 with efforts to complete the initial Project facilities. These facilities included Oroville and San Luis dams and reservoirs (needed to conserve and store water), a South Bay Aqueduct to Alameda and Santa Clara counties, and a 444-mile aqueduct from the vicinity of the Sacramento-San Joaquin Delta to Perris Reservoir in Southern California. As construction in certain areas was finished, water delivery began. Initial water deliveries to the South Bay contractors occurred in 1962. In 1968, water contractors in the San Joaquin Valley received their first water deliveries and finally in 1972, deliveries were made to Southern California water contractors.

SWP Service Areas

The 30 long-term water supply contractors vary widely in size, location, climate, and prosperity. Their needs for SWP water also differ. In the San Joaquin Valley, SWP water is mostly needed for irrigation and agriculture uses, while in the San Francisco South Bay area, North Bay area, and in Southern California, water is needed for urban, municipal uses.

Chapter VIII of this bulletin includes a profile of six SWP contractors. Profiles of the remaining 24 contractors have been published in previous bulletins beginning with Bulletin 132-83. The profiles give infor-

mation about each contractor including the agency's needs and uses of its SWP water supply.

Figure 2 shows the boundaries for each SWP water supply contractor. Together they constitute about 24 percent of the State's area and contain approximately 67 percent of the State's population. Since the first SWP water delivery to the South Bay in 1962, cumulative water deliveries to all contractors have totaled about 28,129,000 acre-feet.

SWP Accomplishments

The primary purpose of the SWP is to transport water from areas of abundance and deliver water to areas of need for agricultural and municipal and industrial use. Water deliveries totaled 2,229,727 acre-feet in 1986; entitlement deliveries equaled 1,995,636 acre-feet and other deliveries equaled 234,091 acre-feet. Table 1 shows a summary of SWP water deliveries since 1962. The table also summarizes recreation and hydroelectric energy generation accomplishments through 1986.

Another project purpose is flood control. Although figures for flood control accomplishments are not reflected in Table 1, Oroville Dam alone has prevented millions of dollars of property damage in 1964, 1967-68, 1970, 1974, 1982-83, and 1986. In 1986, flooding was also controlled in the San Joaquin Valley by diverting floodwater into the California Aqueduct through the Kern River Intertie.

Recreation and fish and wildlife enhancement is another project purposes. SWP reservoirs also double as recreational lakes with swimming, camping, fishing, and boating facilities available.

Highlights

- Design and construction of the East Branch enlargement progressed steadily. Construction work, which began in 1986, includes enlarging the canal from Pearblossom Pumping Plant to Mojave Siphon, installing additional barrels at 15 siphons, installing additional pumping units at Pearblossom Pumping Plant, and installing additional turbine-generator units at Devil Canyon Powerplant.

- Construction of the North Bay Aqueduct, Phase II facilities continues on schedule. The new facilities include a pumping plant at Barker Slough, a 23-mile long pipeline from the pumping plant to the vicinity of Cordelia, and a pumping plant at Cordelia. Water pumped at Cordelia will enter a pipeline to be transported to the terminus in Napa County. Operation of Phase II facilities is scheduled for late 1987.

- MCI will have completed installation and system testing of DWR's fiber optic cable communications system by late 1987. The new fiber optics system is to replace the old SWP copper wire communication system and is needed to more efficiently control operation of the SWP aqueduct, power and pumping plants.

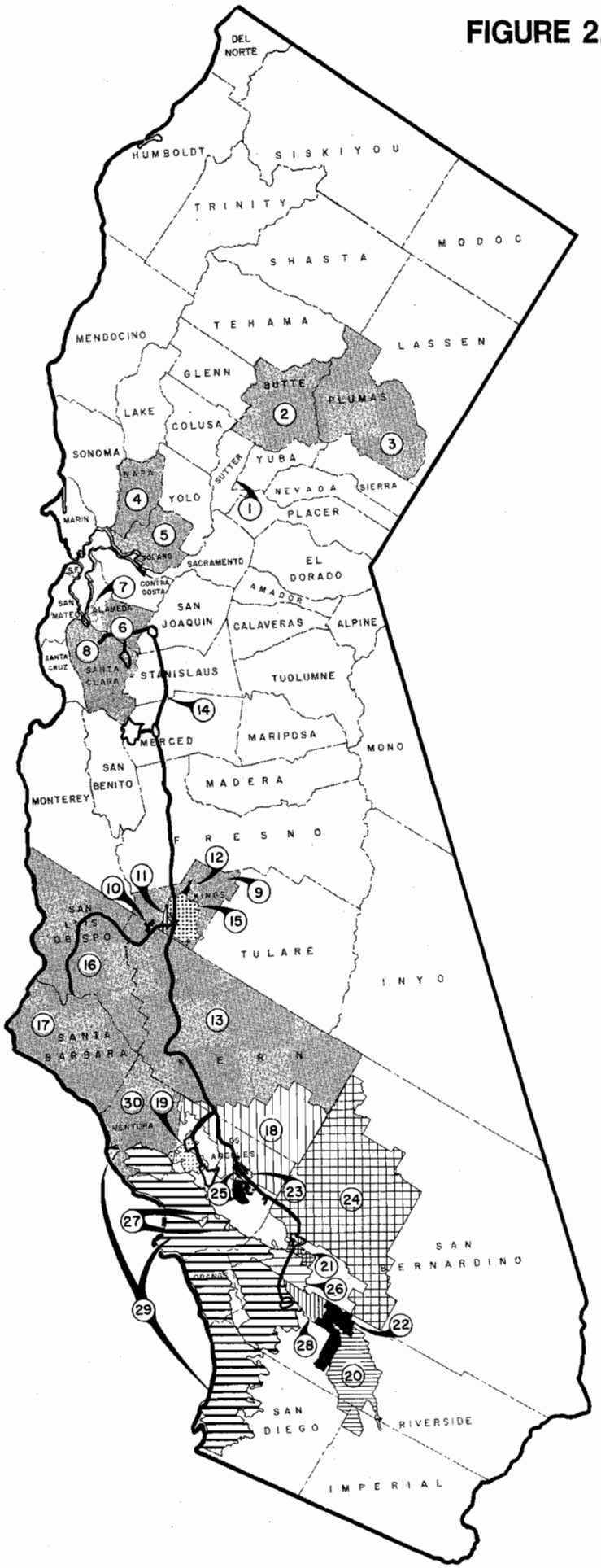
- The 1985-86 water year was a "wet" year. A series of massive storms in February 1986 recorded precipitation at 268 percent of normal for the month. February's storms were the major contribution to the overall statewide average of 134 percent of normal precipitation.

- Runoff to Lake Oroville and Shasta Lake was well above average for the year. Lake Oroville recorded 152 percent of average and Shasta Lake registered 131 percent of average.

- Spring storage in Lake Oroville reached a maximum of 94.5 percent of normal, or approximately 3.33 million acre-feet. San Luis Reservoir storage peaked at 2.03 million acre-feet in early 1986 and ended the year with storage at approximately 94.5 percent of normal. Total reservoir storage at SWP facilities increased by 667,000 acre-feet during 1986.

- The Kern River Intertie delivered 17,467 acre-feet of excess San Joaquin Valley floodwater into the California Aqueduct in 1986.

FIGURE 2. LONG-TERM



WATER SUPPLY CONTRACTING AGENCIES

Location No.	Contracting Agency	Total Cumulative Deliveries through 12/31/86 (acre-feet)(a	Maximum Annual Entitlement (acre-feet)	Total Payments through 12/31/86 (dollars)	Gross Area as of 7/1/86 (acres)	Assessed Valuation 1986-87 (dollars)(b	Estimated Population (7/1/86)
	UPPER FEATHER AREA						
1.	City of Yuba City	498	9,600	76,000	4,000	614,326,000	21,600
2.	County of Butte	4,870	27,500	366,000	1,069,000	5,238,798,000	165,600
3.	Plumas County Flood Control and Water Conservation District	5,723	2,700	469,000	1,644,000(c	1,351,109,000(c	15,400(c
	Subtotal	11,091	39,800	911,000	2,717,000	7,204,233,000	202,600
	NORTH BAY AREA						
4.	Napa County Flood Control and Water Conservation District	86,821	25,000	7,451,000	508,000	4,391,613,000	104,500
5.	Solano County Flood Control and Water Conservation District	1,400	42,000	4,519,000	575,000	7,977,166,000	286,000
	Subtotal	88,221	67,000	11,970,000	1,083,000	12,368,779,000	390,500
	SOUTH BAY AREA						
6.	Alameda County Flood Control and Water Conservation District, Zone 7	279,345	46,000	20,540,000	272,000	6,219,034,000	117,200
7.	Alameda County Water District	365,802	42,000	23,096,000	63,000	10,149,442,000	240,200
8.	Santa Clara Valley Water District	1,839,022	100,000	88,715,000	849,000	62,949,177,000	1,280,000
	Subtotal	2,484,169	188,000	132,351,000	1,184,000	79,317,653,000	1,637,400
	SAN JOAQUIN VALLEY AREA						
9.	County of Kings	37,900	4,000	938,000	893,300(d	2,162,556,000(d	85,700(d
10.	Devil's Den Water District	292,218	12,700	8,006,000	8,700	(e	50
11.	Dudley Ridge Water District	1,034,510	57,700	18,454,000	29,970	(e	50
12.	Empire West Side Irrigation District	64,096	3,000	1,122,000	7,400	(e	50
13.	Kern County Water Agency	13,477,110	1,153,400	373,488,000	5,161,000(f	28,533,701,000(f	490,900(f
14.	Oak Flat Water District	108,879	5,700	1,479,000	4,000	(e	50
15.	Tulare Lake Basin Water Storage District	2,097,029(g	118,500	35,979,000	189,200	(e	50
	Subtotal	17,111,742	1,355,000	439,466,000	6,293,570	30,696,257,000	576,850
	CENTRAL COASTAL AREA						
16.	San Luis Obispo County Flood Control and Water Conservation District	0	25,000	5,579,000	2,131,300	10,657,081,000	195,100
17.	Santa Barbara County Flood Control and Water Conservation District	0	45,486	10,116,000	1,756,900	14,888,026,000	338,000
	Subtotal	0	70,486	15,695,000	3,888,200	25,545,107,000	533,100
	SOUTHERN CALIFORNIA AREA						
18.	Antelope Valley-East Kern Water Agency	512,275	138,400	82,916,000	1,524,000	5,114,317,000	121,300
19.	Castaic Lake Water Agency	63,776	41,500	30,506,000	125,000	4,348,726,000	101,300
20.	Coachella Valley Water District	148,776	23,100	25,395,000	637,600	8,424,148,000	116,900
21.	Crestline-Lake Arrowhead Water Agency	15,814	5,800	5,431,000	55,100	972,696,000	13,500
22.	Desert Water Agency	233,300	38,100	40,531,000	208,800	4,189,187,000	52,900
23.	Littlerock Creek Irrigation District	5,002	2,300	1,321,000	43,300	71,077,000	1,900
24.	Mojave Water Agency	57,589	50,800	33,310,000	3,160,400	6,562,555,000	140,200
25.	Palmdale Water District	4,654	17,300	9,184,000	73,900	1,053,674,000	34,000
26.	San Bernardino Valley Municipal Water District	155,141	102,600	99,184,000	210,200	8,468,373,000	410,000
27.	San Gabriel Valley Municipal Water District	69,365	28,800	27,852,000	16,300	4,802,445,000	179,600
28.	San Gorgonio Pass Water Agency	0	17,300	14,631,000	140,600	929,766,000	41,000
29.	The Metropolitan Water District of Southern California	7,168,307	2,011,500	1,772,924,000	3,282,700(h	505,419,664,000(h	13,280,600(h
30.	Ventura County Flood Control District	0	20,000	11,133,000	1,179,500(i	25,361,520,000(i	615,400(i
	Subtotal	8,433,999	2,497,500	2,154,318,000	10,657,400	575,718,148,000	15,108,600
	TOTAL STATE WATER PROJECT	28,129,222	4,217,786	2,754,711,000	25,823,170(j	730,850,177,000(j	18,449,050(j
	NET TOTAL, STATE WATER PROJECT SERVICE AREA				24,504,254(k	712,753,237,000(k	18,026,450(k
	TOTAL, STATE OF CALIFORNIA				100,314,000	1,058,687,000,000	26,980,800
	PERCENT, NET SWP VS. TOTAL CALIFORNIA				24.4	67.3	66.8

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) Includes 1,703 acre-feet of emergency relief water transferred to Tulare Lake Basin Water Storage District from Kern County Water Agency.
h) Total for MWDSC including Calleguas Municipal Water District, which is common to MWDSC and Ventura County Flood Control District.
i) 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.
j) Includes duplicate values. Some areas that are within two or more agencies are included in each agency's total.
k) Excludes duplicate values where agencies have overlapping boundaries.

TABLE 1. SWP ACCOMPLISHMENTS THROUGH 1986

Year	Water Delivered (acre-feet)							Recreation Supported (Recreation Days)(b	Hydro-electric Energy Generated (kilowatt-hours)(c
	Entitlement Water			Other Deliveries					
				Surplus					
	Municipal and Industrial Use	Agricultural Use	Total	Municipal and Industrial	Agricul-tural	Other Water(a	Total Delivery		
	(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	628,000,000
1969	34,434	158,586	193,020	0	72,397	18,829	284,246	1,554,800	2,614,000,000
1970	47,996	185,997	233,993	0	133,024	38,080	405,097	1,804,800	2,679,000,000
1971	85,286	272,054	357,340	2,400	293,619	44,127	697,486	2,085,900	3,302,000,000
1972	181,066	430,735	611,801	22,205	401,759	73,127	1,108,892	1,971,200	1,922,000,000
1973	293,824	400,564	694,388	3,161	293,255	43,666	1,034,470	2,502,000	3,298,000,000
1974	418,521	455,556	874,077	4,753	412,923	48,342	1,340,095	4,073,600	4,672,000,000
1975	641,621	582,369	1,223,990	21,043	601,859	67,170	1,914,062	4,189,300	3,159,000,000
1976	818,588	554,414	1,373,002	32,488	547,622	116,962	2,070,074	4,239,600	2,131,000,000
1977	280,919	293,236	574,155	0	0	390,176	964,331	3,951,900	958,000,000
1978	742,385	710,314	1,452,699	3,566	13,348	122,916	1,592,529	5,773,700	2,882,000,000
1979	690,659	969,237	1,659,896	66,081	582,308	189,396	2,497,681	5,298,700	2,485,000,000
1980	730,545	799,204	1,529,749	19,722	384,835	48,590	1,982,896	5,701,900	2,988,000,000
1981	1,057,273	852,289	1,909,562	12,000	896,428	283,849	3,101,839	6,017,800	3,358,000,000
1982	928,721	821,303	1,750,024	0	215,873	155,820	2,121,717	6,187,700	5,097,000,000
1983	483,499	701,370	1,184,869	0	13,019	188,596	1,386,484	5,838,200	5,419,000,000
1984	725,925(e,h	862,694(e	1,588,619	3,663	259,254	387,505	2,239,041	6,273,100	3,368,000,000
1985	992,538(f,h	1,002,915	1,995,453	9,638	298,034(g	408,904(g	2,712,029	6,639,800	3,227,000,000
1986	998,611	997,025	1,995,636	2,595	34,025	197,471	2,229,727	6,966,039	3,706,000,000
Total(d	10,204,630	11,180,890	21,385,520	213,315	5,565,116	3,077,193	30,241,144	83,855,639	57,893,000,000

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 water), recreation water, and demonstration ground water fill withdrawal.
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, Warne, Alamo, and Castaic power plants.
d) In addition, SWP dams have prevented millions of dollars worth of flood damage.
e) Revised and corrected from Bulletin 132-85 to reflect reclassification of 2,349 acre-feet of Kern County Water Agency entitlement water from agricultural water to municipal and industrial water, delivered at Reach 11B.
f) Revised and corrected from Bulletin 132-86 to reflect a reduction of 5,662 acre-feet of entitlement related water to MWDSC.
g) Revised and corrected from Bulletin 132-86 to reflect 5,662 acre-feet of 1978 exchange water reclassified from other water to agricultural surplus water.
h) Revised and corrected from Bulletins 132-85 and 132-86 to reflect entitlement water deliveries to the City of Yuba City.

- SWP entitlement water deliveries totaled 1,995,636 acre-feet in 1986. This was the second highest year on record.

- SWP conveyed 141,456 acre-feet of CVP water through Project facilities.

- DWR sold 3.48 billion kWh of excess energy for $68.37 million in 1986. The energy was not needed for SWP pumping.

- DWR and the Department of Fish and Game signed the Delta fish protection agreement on December 30, 1986. This agreement provides measures to offset direct losses of fish caused by SWP operation of the Banks Delta Pumping Plant. This agreement also clears the way for the installation of four additional pumps at the Banks Delta Pumping Plant.

- DWR and the USBR signed the Coordinated Operation Agreement (COA) on November 26, 1986. The COA establishes criteria for coordinated operation of the State Water Project (SWP) and the federal Central Valley Project (CVP). It also provides for conveyance of CVP water through SWP facilities and allows SWP purchases of CVP water on an interim basis.

- DWR completed a prefeasibility report about the Kern Water Bank in April 1987. Indications are that the program could increase SWP yield by approximately 144,000 acre-feet per year.

- In October 1986, Santa Barbara County Flood Control and Water Conservation District and San

Luis Obispo County Flood Control and Water Conservation District requested that DWR begin advance planning, develop preliminary design and an Environmental Impact Report for the Coastal Branch of the Aqueduct. The preliminary design and EIR should be completed in April 1989.

- DWR and MWDSC signed a power agreement on February 24, 1987. MWDSC reduced its 1987 SWP entitlement water request by 195,000 acre-feet, in return DWR will provide sufficient SWP energy to MWDSC so MWDSC can increase its Colorado River diversions by a like amount.

- On July 15, 1986, DWR sold $132 million of Water System Revenue Bonds, Series A, to fund East Branch Enlargement construction. This was the first sale of water system revenue bonds (all prior revenue bonds were for power facilities).

- On May 5, 1987, DWR sold $100 million of Water System Revenue Bonds, Series B, for ongoing construction of State Water Project water facilities.

CHAPTER II
SWP OPERATIONS IN 1986

This chapter summarizes SWP water and power operations during the report period, as well as recreation and visitor use at SWP facilities and associated activities affecting fish and wildlife.

Water Operations

Water conditions, SWP reservoir and aqueduct operations, and SWP water quality during 1986 are covered in this section.

Water Conditions

By any system of classification, the 1985-86 water year (October 1, 1985 through September 30, 1986) was a "wet" year. Although total precipitation was well above average for the year, it came in intermittent bursts. Precipitation in October 1985 was 87 percent of normal. In November, precipitation was 198 percent of normal; December and January recorded 55 and 91 percent of normal, respectively. A massive series of storms swept over much of the State in February, recording precipitation at 268 percent of normal, changing the water supply outlook from deficit to surplus. These fluctuations in precipitation continued throughout the water year, and resulted in a statewide average precipitation of 134 percent of normal (Figure 3). February's storms also resulted in spills from Lake Oroville of 1.4 million acre-feet and 500,000 acre-feet in late February and March, respectively.

The SWRCB's Water Rights Decision 1485 uses an index based upon the sum of the computed unimpaired runoff of the four principal Sacramento Valley river basins (the Sacramento, Feather, Yuba, and American rivers). During the 1985-86 water year, the combined unimpaired runoff of these rivers was 25.70 million acre-feet, well within the "wet" range of Decision 1485 criteria. A lower than usual percentage of total precipitation was retained as snow because of the warm February storms. On May 1, 1986, DWR forecasted April-July runoff of the four rivers as 5.7 million acre-feet. Because the forecast runoff was below the 5.9 million acre-foot criterion established by Decision 1485, the 1985-86 water year was designated as one of subnormal snowmelt.

Figure 4 shows cumulative unimpaired runoff to Lake Oroville and Shasta Lake during the 1985-86 water year. Cumulative runoff to both lakes remained above average for the year; Shasta Lake registered 131 percent of the historical average and Lake Oroville recorded 152 percent of average. From late February through early April, cumulative unimpaired runoff to Lake Oroville exceeded that of the maximum year of record (1982-83).

DWR and the USBR declared balanced water conditions from June 21 through August 5, 1986. Balanced water conditions are proclaimed by DWR and the USBR 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 and export needs, and (2) meet Delta water quality objectives. 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. Of the last eight years, this is the seventh during which balanced water conditions have been declared.

Reservoir Operations

Lake Oroville and San Luis Reservoir are the major storage sites for SWP water supplies. Figure 5 compares the 1986 operations of these reservoirs with the previous year's operation. The lowest storage in Lake Oroville for 1986 was on January 3, when storage reached 2,096,000 acre-feet. The spring filling of Lake Oroville roughly paralleled that during 1985 until mid-June, when storage topped out at 3,326,000 acre-feet, or 94.5 percent of normal maximum storage. At this point, storage proceeded to drop and continued dropping until December 31, 1986, when it reached a low of 2,564,000 acre-feet.

FIGURE 3. STATEWIDE PRECIPITATION, 1985–1986 WATER YEAR

(Precipitation in Percent of Average)

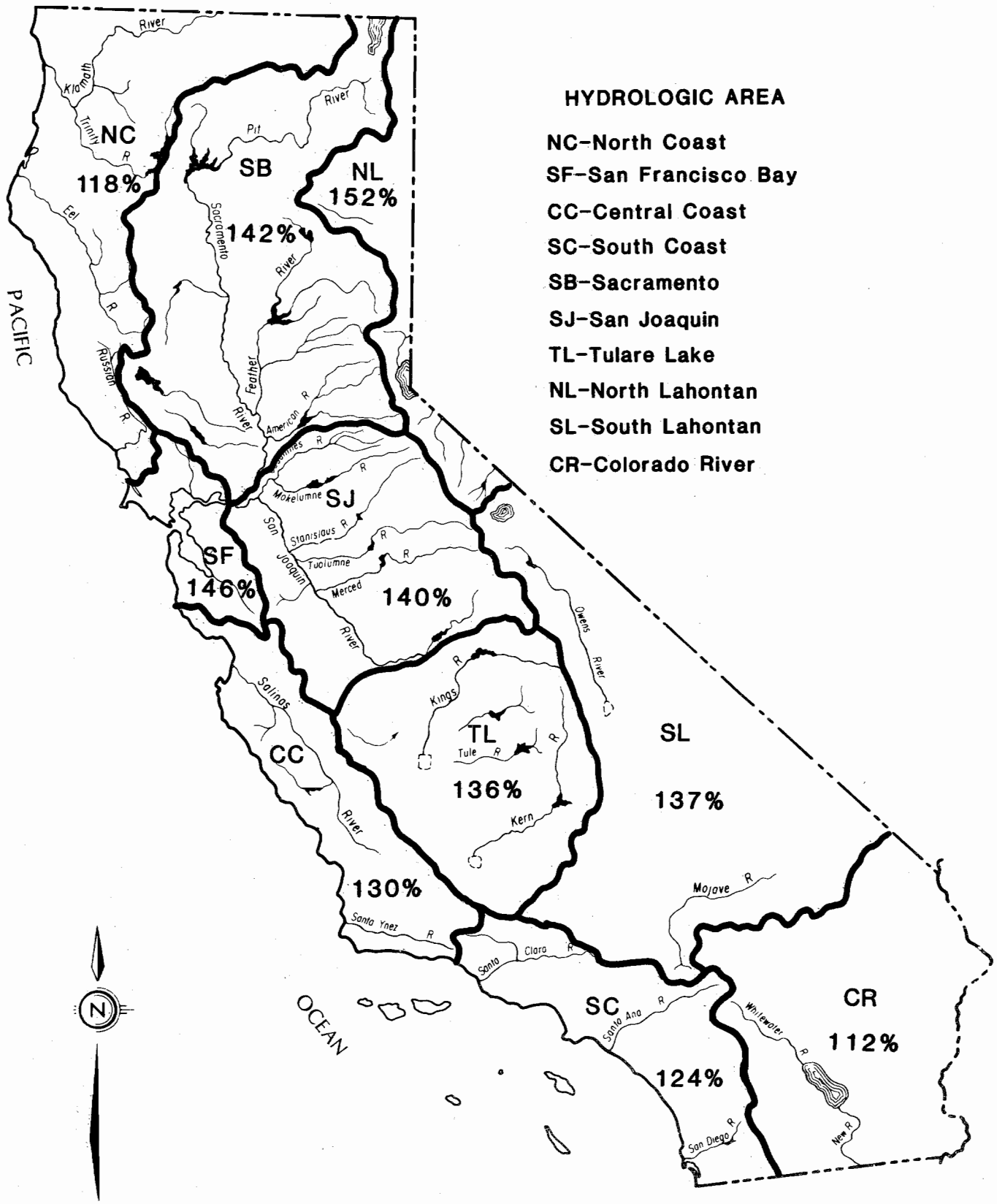


FIGURE 4. CUMULATIVE UNIMPAIRED RUNOFF TO LAKE OROVILLE AND SHASTA LAKE

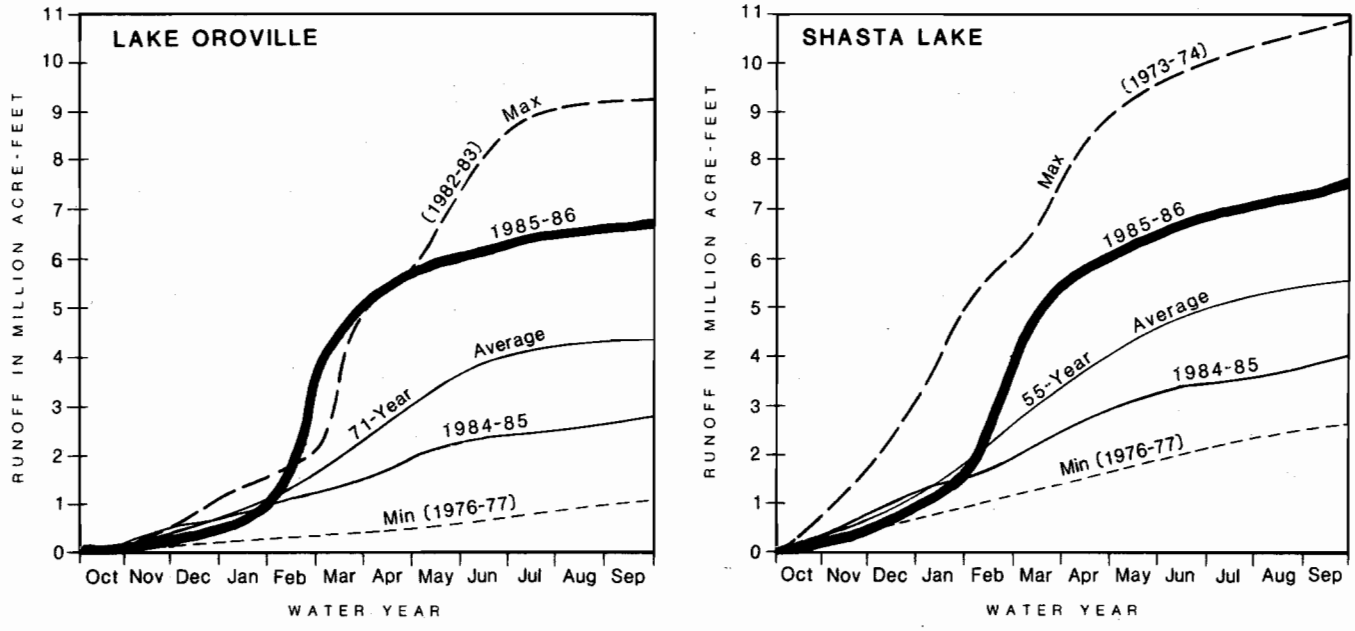
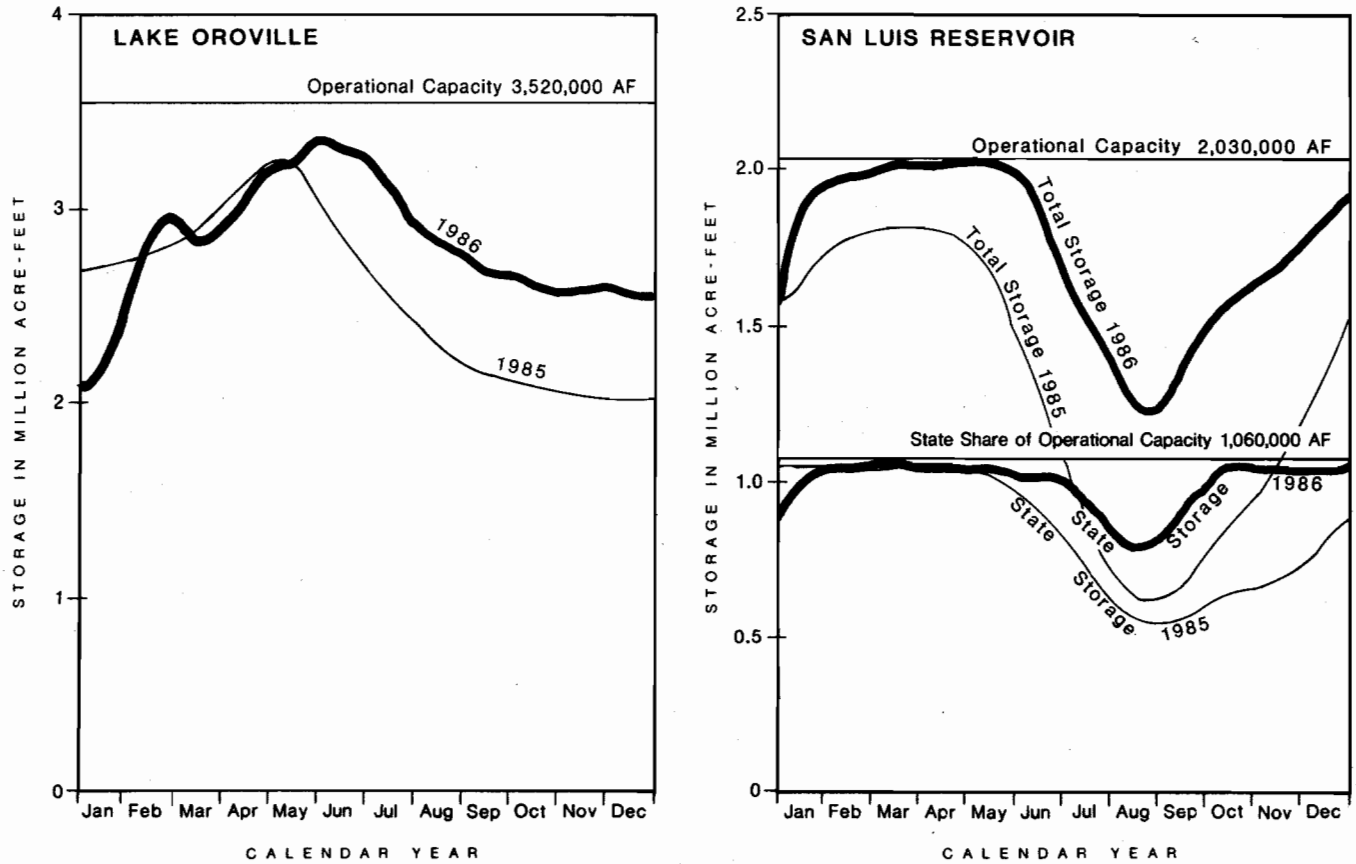


FIGURE 5. LAKE OROVILLE AND SAN LUIS RESERVOIR STORAGE



San Luis Reservoir started the year at near capacity for State storage and at approximately 79 percent of total storage. Total storage peaked on March 13 at 2,028,000 acre-feet. Drawdown was fairly gradual until early June, when federal demands resulted in a rapid drawdown of the federal share. State storage also was drawn down, but at a lesser rate. The lowest total storage of approximately 1,249,000 acre-feet was reached at the end of August. Total San Luis Reservoir storage increased to 1,916,000 acre-feet (approximately 94 percent of maximum) by December 31, 1986.

For four days in September the water surface elevation at Thermalito Afterbay was limited to a maximum of 125 feet. This allowed for placement of riprap on the inside face of the embankment at the southwest corner of the dam. During most of 1986 the Division of Safety of Dams allowed Thermalito Afterbay to operate up to its maximum operating level of 136.5 feet while improvements in foundation seepage control were constructed, tested, and evaluated. The following tabulation compares 1985 and 1986 year-end storage in the principal SWP reservoirs:

Reservoir & Operational Capacity (ac-ft)	Storage (ac-ft) 12/31/85	12/31/86
Lake Oroville 3,520,000	2,098,000	2,564,000
Lake Del Valle 40,000	25,000	25,000
San Luis Res.* 1,062,000	907,000	1,063,000
Silverwood Lake 73,000	68,000	72,000
Lake Perris 127,000	116,000	124,000
Pyramid Lake 170,000	160,000	164,000
Castaic Lake 319,000	271,000	299,000
Total	3,645,000	4,311,000
Total Change	+666,000	

* SWP share

Aqueduct Operations

Figure 6 summarizes overall SWP operations in 1986, including the 4,000 acre-feet of CVP water delivered through SWP facilities to the Buena Vista Water Storage District, which in turn completed the water delivery to the Kern National Wildlife Refuge on October 20, 1986.

About 9,130 acre-feet of local storm water flowed into the California Aqueduct in spring 1986. The flows occurred between Reaches 5 and 6. February brought approximately 3,500 acre-feet of storm water, followed by 5,300 acre-feet in March and 330 acre-feet by mid-April, when the sideflows finally stopped.

The Kern River Intertie was used twice in 1986. From March 19 to April 19, the Project took excess San Joaquin Valley floodwater into the California Aqueduct via the Intertie. During that time the Aqueduct received almost 15,600 acre-feet from the Kaweah River. From June 5-7, the SWP took approximately 1,900 acre-feet more excess San Joaquin Valley floodwater into the Aqueduct via the Intertie.

The East Branch of the California Aqueduct flow was lowered, from March 28 through April 22, for repairs to damaged canal lining in Pools 45 and 46. The lining damage occurred in late February when water intruded behind the canal lining at the construction sites of the East Branch enlargement. Repairs were finished by April 22. While the canal water level was lowered, deliveries to water contractors on the East Branch came from pool storage, Silverwood Lake, and flows through the damaged areas (limited to 290 cfs).

The switchyard at Alamo Powerplant was energized on April 17 to test the auxiliary equipment. The power plant was provisionally released for operation on July 1. The unit is currently limited to a minimum of 6 MW (600 cfs) and a maximum of 17.5 MW (1,750 cfs) because vibrations occur below and above these limits. The unit capability at 115 percent of rated output is 19.7 MW at 2,050 cfs.

Movement along the Lower Quail Canal embankment required restricted water flow in the canal. On October 25, 1986, water surface elevation was limited to a maximum of 3,315.0 feet and a minimum of 3,310.0 feet. Those water service levels were maintained un-

Balanced water conditions for the Delta were declared by DWR and the USBR from June 21 through August 5, 1986

til December 9, 1986, when the maximum was raised to 3,317.0 feet. The levels were raised again, to 3,320.0 feet, on May 6, 1987. The restricted water flow did not have an impact upon SWP operations.

On August 15, DWR completed pumping 123,566 acre-feet of Decision 1485 replacement water at Harvey O. Banks Delta Pumping Plant for the USBR.

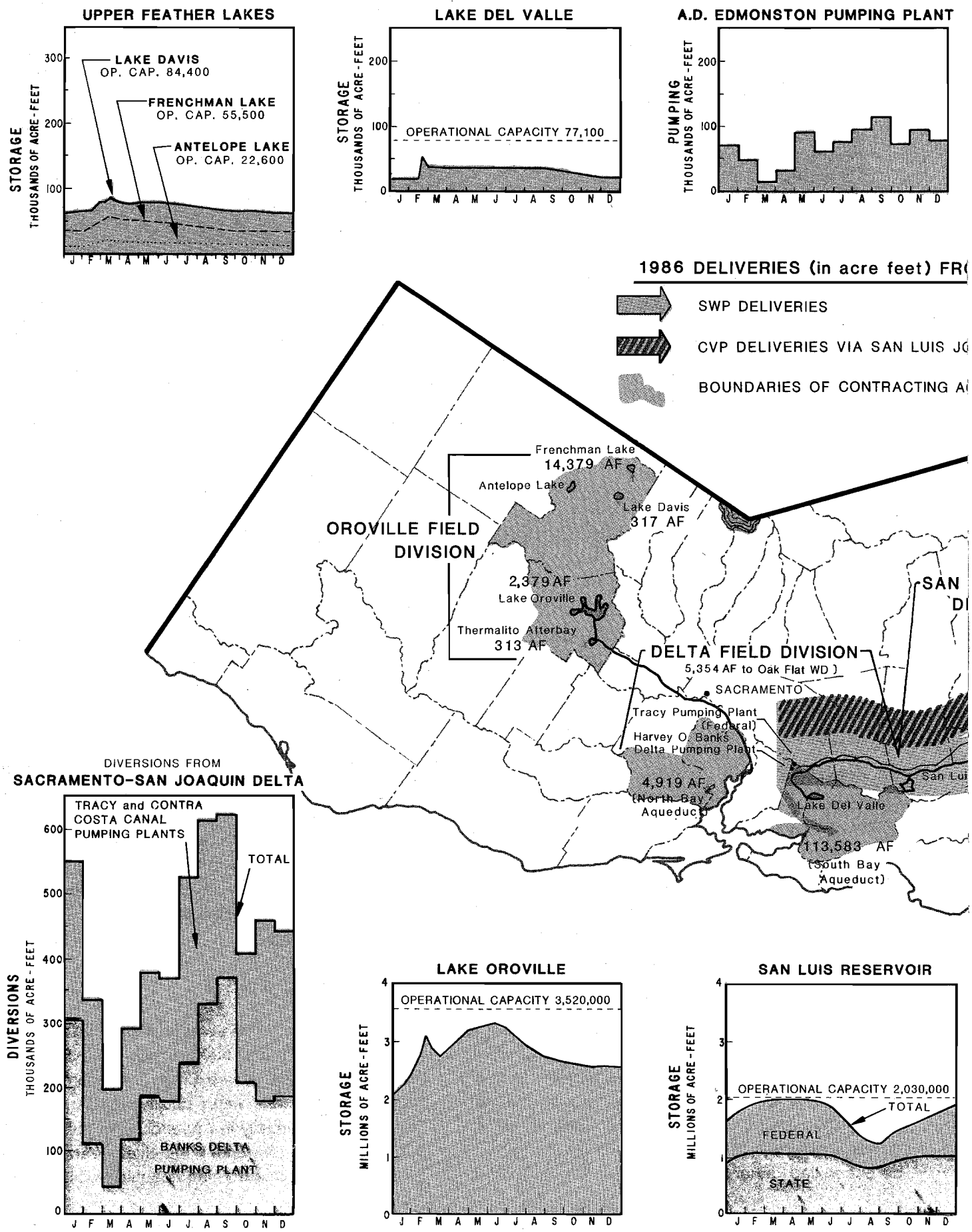
On April 28, 1986, the west discharge line at A. D. Edmonston Pumping Plant was removed from service so repaired discharge valves could be placed on Units 6 and 8. Discharge valves were also removed from Units 2 and 4 for repair. The west discharge line was returned to service on July 14, 1986. On the east discharge line, Unit 9 should be back in service in 1987 after stand-still seal repairs are completed. Unit 13 was out of service until the end of September 1986 for installation of a computer diagnostic maintenance repair system. This diagnostic system will indicate when a unit needs repairs, allowing outages to be scheduled rather than imposed by a unit breakdown. Since these outages were scheduled, provisions were planned to ensure delivery of contractors' requests.

Releases from Lake Del Valle into the South Bay Aqueduct began June 18, 1986, at the request of the South Bay Aqueduct water contractors. Releases continued through June 26 and totaled 463 acre-feet. The water releases were part of additional storage approved earlier in the year by the Corps of Engineers and the East Bay Regional Park District. The releases were used to improve water quality in South Bay Aqueduct deliveries.

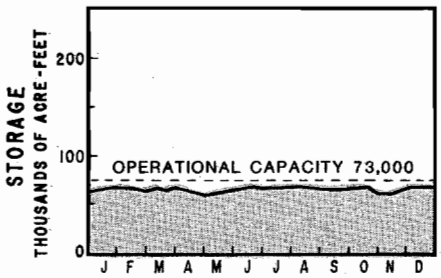
Water Quality

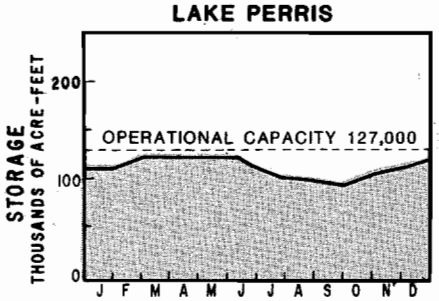
SWRCB's Decision 1485 sets water quality standards, export limitations, and outflow requirements to protect beneficial uses in the Delta. A record of SWP water operations and water quality monitoring in the Delta appears annually in Appendix E to Bulletin 132, published separately under the title "Water Operations in the Sacramento-San Joaquin Delta."

FIGURE 6. SUMMARY OF

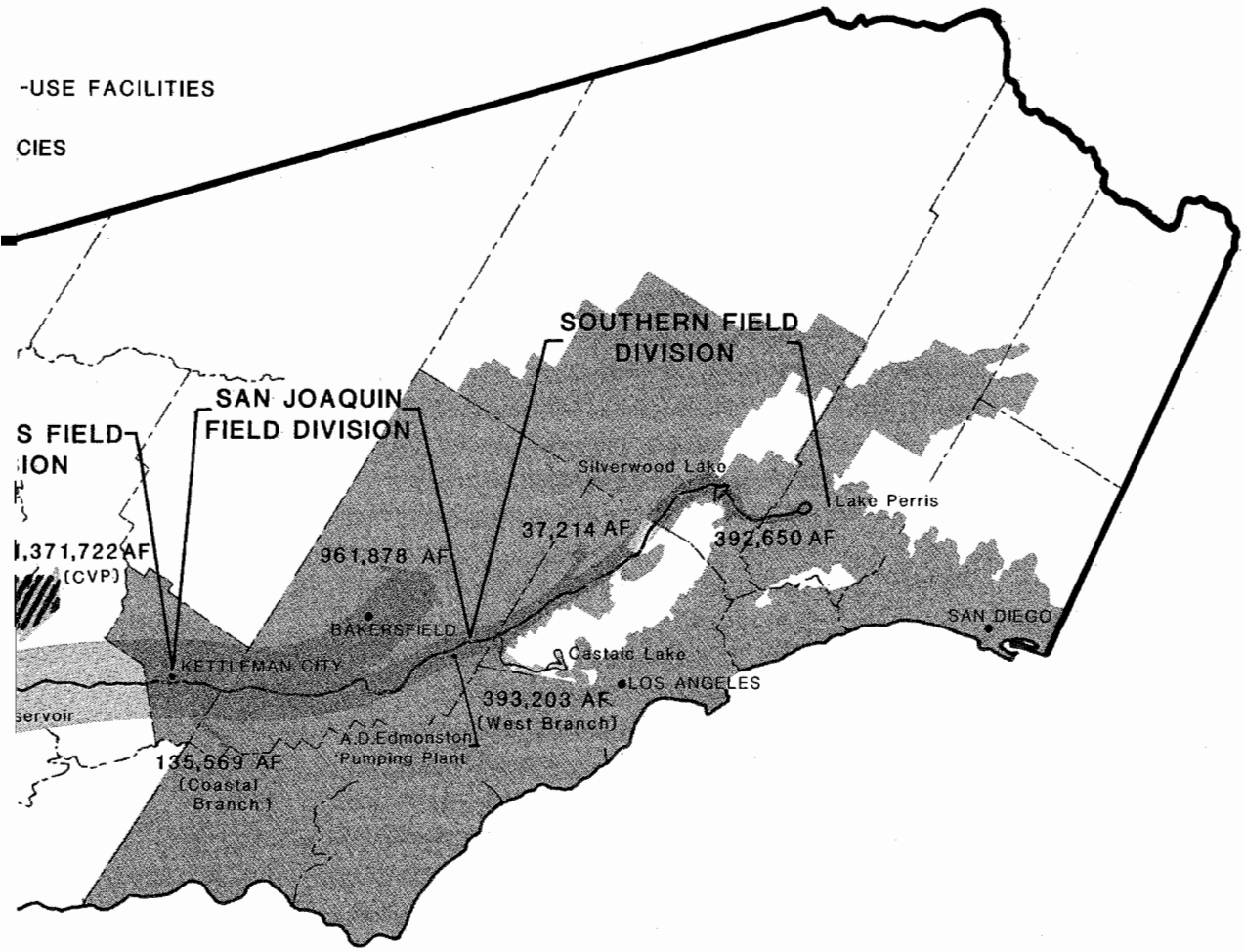


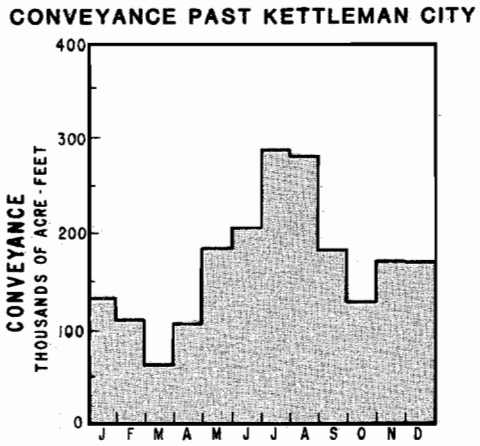
SWP OPERATIONS, 1986

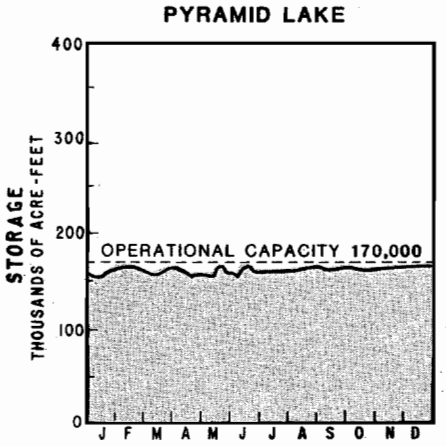


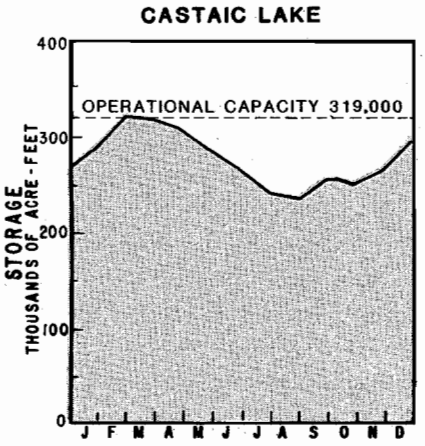


PROJECT FACILITIES









The water year 1985–86 was classified as "wet" under the Four Basin Index system on March 1, 1986, bringing into effect the most restrictive water quality standards under Decision 1485. Prior to March, "dry" year standards (from the previous year's classification) were in effect for January and "below normal" standards were in effect for February. Subsequently, in May 1986, "subnormal snowmelt" was designated, causing a relaxation of the Decision 1485 Delta Outflow Index standard from May 6 through July 31. All of these standards were met by comfortable margins in 1986. North Delta Water Agency contractual electrical conductivity (EC) requirements were also met in 1986.

Table 2 summarizes 1986 water quality conditions at key locations throughout the SWP system. The table also lists the monthly average water quality objectives set forth in Article 19 of the water supply contracts. The Article 19 water quality objectives are based upon the expected construction of an efficient cross-Delta water transfer system. Most of these objectives were met in 1986.

The percent sodium objective (50 percent) was exceeded by 2 to 14 percent at most stations along the California Aqueduct, especially in January directly following the previous dry year. This limit was also exceeded at a few of the stations in February and during several spring and fall months. At Thermalito Forebay and eight stations along the Aqueduct, the phenol limit (0.0001 mg/l) was exceeded generally by 0.0001–0.008 mg/l early in the year and later in the fall. At check 29 the phenol limit was exceeded by 0.018 mg/l. The iron plus manganese objective of 0.3 mg/l was exceeded by 0.3–2.7 mg/l at Lake Davis and three stations along the Aqueduct in August and September 1986. Finally, at Pearblossom Pumping Plant, the chloride (110 mg/l) objective was exceeded by 4 percent in January.

The Delta Outflow Index (DOI) is a calculated value that is a relative measure of the net westerly outflow of fresh water at Chipps Island near Pittsburgh. The DOI averaged only 13,000 cfs in January 1986, as generally dry conditions continued. During February, however, the DOI increased dramatically because of flood conditions in California.

The DOI, adjusted to include Yolo Bypass flows, averaged about 180,000 cfs in February and 154,000 cfs in March (mean daily flow/month). The DOI then declined sharply through the spring to approximately 13,400 cfs in May. Flows further decreased throughout the summer to a low of approximately 5,000 cfs in August. During the fall of 1986, an unusually dry season, the DOI rose moderately overall, but never exceeded 12,000 cfs. Throughout the year, however, both Delta outflow and Sacramento River flow at Rio Vista remained above the minimum flows required by Decision 1485.

Export limitations specified in Decision 1485 were met in 1986, though by very small margins in May and June.

High winter and spring inflow to the Delta delayed significant phytoplankton production in the central Delta. A bloom of the diatom *Melosira granulata* occurred in June with peak chlorophyll "a" levels of nearly 100 mg/l. A second, smaller bloom of this diatom occurred in late July. Chlorophyll "a" levels were in the 20–30 mg/l range. In Suisun Bay there were two plankton blooms, one in June and the other in August. Chlorophyll "a" levels were in the 20–30 mg/l range. The "Delta Controlled Flow Study", undertaken in 1984 and 1985 by the Interagency Ecological Study Programs to refine the criteria used to predict phytoplankton bloom, was scheduled for 1986 but abandoned because of high Delta outflow.

During lower flow years, the Old River rock barrier is installed at the bifurcation of Old River and the San Joaquin River. The barrier encourages upstream migration of salmon and steelhead by increasing fall flows in the lower San Joaquin River. The barrier was not requested by the Department of Fish and Game in 1986, and therefore was not installed by DWR.

Under the interagency Delta Health Aspects Monitoring Program, monthly water samples from the Delta and its various tributaries are analyzed for sodium, pesticides, organic pollutants, and trihalomethane formation potential. A 1986 project report details

TABLE 2. WATER QUALITY AT SELECTED STATIONS IN 1986

Station	Monthly Average	Concentrations (in parts per million unless otherwise noted)					
		Dissolved Solids	Total Hardness	Chlorides	Sulfates	Sodium(a (Percent)	Boron
Thermalito Afterbay Outlet to Feather River	Minimum	49	28	1	1	14	0.0
	Average	55	33	1	2	18	0.0
	Maximum	66	39	1	5	19	0.0
Sacramento-San Joaquin Delta Banks Delta Pumping Plant	Minimum	143	60	25	25	45	0.1
	Average	184	74	38	31	47	0.2
	Maximum	276	104	74	45	52	0.3
South Bay Aqueduct, Santa Clara Terminal Facility	Minimum	147	74	12	28	31	0.1
	Average	184	88	27	33	37	0.2
	Maximum	280	128	60	47	43	0.2
California Aqueduct: Entrance to O'Neill Forebay	Minimum	141	60	24	23	42	0.1
	Average	194	80	38	34	46	0.2
	Maximum	372	151	83	80	50	0.3
Outlet from O'Neill Forebay	Minimum	174	72	33	32	47	0.1
	Average	218	86	49	39	49	0.2
	Maximum	309	115	85	55	53	0.3
Near Kettleman City	Minimum	179	73	36	33	47	0.1
	Average	233	92	51	43	49	0.2
	Maximum	337	127	91	61	53	0.3
Coastal Branch near Devil's Den	Minimum	187	73	33	35	47	0.1
	Average	228	87	50	40	49	0.2
	Maximum	311	124	85	52	53	0.3
Near Buena Vista Pumping Plant	Minimum	192	75	37	29	47	0.1
	Average	248	93	57	41	49	0.2
	Maximum	365	134	100	74	54	0.3
At Tehachapi Afterbay	Minimum	165	68	30	25	45	0.1
	Average	230	91	53	39	49	0.2
	Maximum	318	129	94	66	53	0.2
At Pearblossom Pumping Plant	Minimum	162	69	31	26	46	0.1
	Average	244	97	58	48	50	0.2
	Maximum	362	145	108	101	57	0.3
Silverwood Lake, Outlet to San Bernardino Tunnel	Minimum	202	86	43	28	45	0.1
	Average	253	100	67	37	50	0.2
	Maximum	356	115	97	43	56	0.2
Lake Perris, Outlet from Santa Ana Pipeline	Minimum	170	76	45	33	47	0.2
	Average	205	81	50	35	50	0.2
	Maximum	240	86	54	37	52	0.2
Pyramid Lake, Entrance to Angeles Tunnel	Minimum	245	95	52	38	46	0.2
	Average	281	115	68	51	48	0.2
	Maximum	351	148	90	71	52	0.3
Castaic Lake, Outlet Tower	Minimum	249	120	56	59	43	0.2
	Average	297	134	67	66	45	0.2
	Maximum	328	145	75	76	46	0.3
Monthly Average Quality Objectives		440	180	110	110	50	0.6

a) Amounts of sodium in solution expressed as a percentage of the total sodium, calcium, magnesium, and potassium in solution.

program activities and findings for data collected between January 1985 and June 1986. From the data collected, the report concludes that Delta water supplies are "generally of acceptable quality with respect to levels of chemical contaminants and minerals which may affect human health."

DWR also continued routine monthly sampling of asbestos levels in California Aqueduct water during 1986.

Water Service

The following sections summarize 1986 water conveyance and deliveries via SWP facilities.

Total Water Conveyed

A total of 2,229,727 acre-feet of water was conveyed through SWP facilities in 1986, excluding losses. Table 3 summarizes total water conveyance for the 25 years of SWP operation, and shows the disposition of that water under the headings discussed in the following paragraphs.

Entitlement Water. The SWP water supply contracts, executed in the early 1960s, establish specific annual entitlement water amounts each long-term water contractor may request. The initial "Table A" schedules reflected each contractor's estimate of future water needs at the time the contracts were signed; some have subsequently been revised. Table B-4 in Appendix B presents complete information on 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 1962-86 period; actual entitlement deliveries by year are shown in Column (8).

In September of every year, each contractor furnishes an updated estimate of future requirements for SWP water. In the fall of 1985, 24 contractors requested a total of 2,364,193 acre-feet of entitlement and deferred entitlement water for 1986 delivery. On November 27, 1985, DWR approved the initial schedule for 1986 water deliveries, based upon the 1986 rule curve criteria and the water supply forecast. In December 1985, DWR applied an 80,840 acre-foot deficiency for all agricultural entitlement requests. This deficiency was based upon the 1986 rule curve analysis. Deficiencies were removed in February 1986.

Actual entitlement water delivered in 1986 totaled 1,995,636 acre-feet to the 24 contractors accepting deliveries including 634 acre-feet of 1986 surplus water to Oak Flat Water District and 1,399 acre-feet of 1986 surplus water to Dudley Ridge Water District (DRWD) reclassified as entitlement water. (One contractor took no scheduled entitlement water.) Twelve contractors took less entitlement water than initially requested, and four contractors took the amounts initially requested (their full Table A entitlements.) The other eight contractors, Castaic Lake Water Agency (CLWA), Crestline-Lake Arrowhead Water Agency (CLAWA), Devil's Den Water District (DDWD), DRWD, Kern County Water Agency (KCWA), Littlerock Creek Irrigation District (LCID), Palmdale Water District (PWD), and Santa Clara Valley Water District (SCVWD) increased their requested deliveries of entitlement water during the year.

Entitlement water increases are listed below:

Contractor	Requested Increase (ac-ft)
CLWA	94
CLAWA	42
DDWD	1,567
DRWD	4,697
KCWA	4,276
LCID	63
PWD	96
SCVWD	38

Surplus Water. In September 1985, seven contractors submitted estimates indicating they could use a total of 453,924 acre-feet of surplus water during 1986. Due to the entitlement water deficiencies DWR imposed in December 1985, DWR did not approve any surplus water deliveries until deficiencies were removed at the end of February 1986.

Five SWP contractors received 14,586 acre-feet of surplus water in 1986. SCVWD and Empire West Side Irrigation District (EWSID) requested, but did not take, 1986 surplus water. DRWD, KCWA, and Tulare Lake Basin Water Storage District took delivery of 1985 carry-over surplus water totaling 12,270 acre-feet.

Unscheduled Water. SCVWD, DDWD, EWSID, KCWA, and Tulare Lake Basin Water Storage District received 22,034 acre-feet of unscheduled water in 1986.

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 1986) in Table 5, and described in the accompanying text later in this chapter under the heading "Total 1986 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 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 capacities.

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 at both SWP recreation facilities and for fish and wildlife mitigation and enhancement. In 1986, a total of 3,865 acre-feet was conveyed under this category, as follows:

- 2,206 acre-feet for public recreation facilities at Lake Del Valle, San Luis Reservoir, O'Neill Forebay, Silverwood, Pyramid, and Castaic lakes, and Lake Perris;
- 1,134 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;
- 226 acre-feet to replace water losses at Castaic Lagoon, an impoundment devoted entirely to recreation;
- 299 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 1986 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.

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. In 1977, as a result of the drought, initially-scheduled quantities of water were reduced. Through these reductions, 21 long-term contractors gained credits for future delivery totaling 457,066 acre-feet. These credits for undelivered entitlement water under Articles 12(d) and 14(b) have been reduced by delivery of "makeup" water over the years; now only 10 contractors have remaining rights. No makeup water was delivered in 1986. As shown in Column (7) of Table 4, 128,116 acre-feet of credits for future deliveries remained available as of January 1, 1987 - 123,329 acre-feet under Article 12(d) and 4,787 acre-feet under Article 14(b).

TABLE 3. HISTORICAL SUMMARY OF ENTITLEMENTS,

Calendar Year	Annual Entitlements Under Long-Term Water Supply Contracts (acre-feet)(a							
	Feather River Area	North Bay Area	South Bay Area	San Joaquin Valley Area	Central Coastal Area	Southern California Area	Total	Entitlement Water
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
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(e
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(f,k
1985	3,760	1,250	145,800	1,031,749	21,138	1,852,149	3,055,846	1,995,453(g,k
1986	4,190	1,400	148,100	1,139,200	28,210	1,971,190	3,292,290	1,995,636(i
Totals 1962-1986	35,360	6,650	2,444,538	11,601,374	80,870	17,434,991	31,603,783	21,385,520

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; and 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 and conveyance of CVP 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) diversions via the Kern River Intertie.

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 1986, two South Bay Aqueduct contractors acquired an additional 37,112 acre-feet of wet-weather credits under Article 7 of their water supply contracts. One San Joaquin Valley contractor acquired an additional 26,554 acre-feet of wet-weather credits under Article 45. As of January 1, 1987, three contractors had credits totaling 337,425 acre-feet acquired under the wet weather provisions of their contracts.

DELIVERIES, AND WATER CONVEYED

Water Conveyed (acre-feet)							
Deliveries							
Surplus and Unscheduled Water (b	Other Water(c	Subtotal	Initial Fill Water	Operational Losses and Storage Changes(d	Recreation Water	Total	Calendar Year
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
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(e	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(f	2,232,127	0	- 1,690	7,040	2,237,477	1984
307,672(h	404,842(h	2,707,967	0	- 88,136	4,062	2,623,893	1985
36,620(j	193,606	2,225,862	0	117,458	3,865	2,347,185	1986
5,778,431	3,027,996	30,191,947	1,833,697	219,943	53,741	32,299,328	Totals 1962-1986

e) Revised and corrected from Bulletin 132-85 to reflect 557 acre-feet of 1978 exchange water (MWDSC Basin) changed from other water to municipal and industrial entitlement water.
f) Revised and corrected from Bulletin 132-85 to reflect 126 acre-feet of 1982 exchange water (MWDSC Basin) changed from other water to municipal and industrial entitlement water.
g) Revised and corrected from Bulletin 132-86 to reflect a reduction of 5,662 acre-feet of entitlement related water delivered to MWDSC.
h) Revised and corrected from Bulletin 132-86 to reflect 5,662 acre-feet of 1978 exchange water reclassified from other water to agricultural surplus water.
i) Includes 37,170 acre-feet of 1985 carry-over entitlement water and 634 acre-feet of 1986 surplus water reclassified as 1986 entitlement water delivered.
j) Includes 12,270 acre-feet of 1985 carry-over surplus water.
k) Revised and corrected from Bulletins 132-85 and 132-86 to reflect entitlement water deliveries to the City of Yuba City.

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 1986, as shown in Column (11) of Table 4.

TABLE 4. SUMMARY OF 1986 DELIVERIES AND CREDITS

Long-Term Water Supply Contractor	Water Deliveries in 1986 (acre-feet)						Future Entitlement Credits (acre-feet)				
	Entitlement Water Deliveries						Future Entitlement Delivery Credit as of January 1, 1987				
	1986 Entitlement	Entitlement Deferred from Prior Year	Total Entitlement (1+2)	Surplus Water Deliveries	Other Water Deliveries	Total Deliveries (3+4+5)	Make-Up Water Per Articles 12(d) or 14(b)	Wet Weather Water Per Articles 7 or 45	Carry-Over Water Per Ltr.Agrmnts. Dated 10/1/79	Total Delivery Credit (7+8+9)	Future Entitlement Reduction Credit Articles 7 or 45
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
UPPER FEATHER RIVER AREA											
City of Yuba City	328	-	328	-	-	328	-	-	-	-	-
County of Butte	313	-	313	-	-	313	-	-	-	-	-
Plumas County FC&WCD	317	-	317	-	-	317	-	-	-	-	-
NORTH BAY AREA											
Solano County FC&WCD	1,400	-	1,400	-	-	1,400	-	-	-	-	-
SOUTH BAY AREA											
Alameda County FC&WCD, Zn 7	10,609	-	10,609	-	-	10,609	2,438	102,387	-	104,825	-
Alameda County WD	12,379	-	12,379	-	-	12,379	2,220	154,376	-	156,596	-
Santa Clara Valley WD	88,000	-	88,000	2,595	-	90,595	-	-	-	-	
SAN JOAQUIN VALLEY AREA											
County of Kings	3,700	-	3,700	-	-	3,700	-	-	-	-	-
Devil's Den WD	12,700	601(a	13,301	3,970	-	17,271	-	-	-	0	-
Dudley Ridge WD	49,300	949(a	50,249	903	-	51,152	-	-	-	0	-
Empire West Side ID	370	800(a	1,170	1,130	-	2,300	-	-	-	0	-
Kern County WA	880,237	26,104(a	906,341	14,987	7,950(b	929,278	-	-	-	0	-
Oak Flat WD	5,100	7(a	5,107	247	-	5,354	-	-	-	0	2,466
Tulare Lake Basin WSD	70,646	8,709(a	79,355	12,788	1,703(c	92,143	-	80,662	-	80,662	-
SOUTHERN CALIFORNIA AREA											
Antelope Valley-East Kern WA	32,449	-	32,449	-	-	32,449	14,841(d	-	-	14,841	-
Castaic Lake WA	13,928	-	13,928	-	-	13,928	500	-	-	500	-
Coachella Valley WD	18,210	-	18,210	-	-	18,210	-	-	-	-	-
Crestline-Lake Arrowhead WA	1,506	-	1,506	-	-	1,506	151	-	-	151	-
Desert WA	29,000	-	29,000	-	-	29,000	-	-	-	-	-
Littlerock Creek ID	163	-	163	-	-	163	438	-	-	438	-
Mojave WA	-	-	-	-	-	-	20	-	-	20	-
Palmdale WD	3,096	-	3,096	-	-	3,096	-	-	-	-	-
San Bernardino Valley MWD	6,421	-	6,421	-	-	6,421	4,269	-	-	4,269	-
San Gabriel Valley WD	9,454	-	9,454	-	-	9,454	1,000	-	-	1,000	-
The Metropolitan Water District of Southern California	708,840	-	708,840	-	-	708,840	102,239	-	-	102,239	-
Subtotal	1,958,466	37,170	1,995,636	36,620	7,950	2,040,206	128,116	337,425	-	465,541	2,466
NORTH BAY AREA											
Napa County FC&WCD(e	3,519	-	3,519	-	-	3,519	-	-	-	-	-
TOTAL ALL AREAS	1,961,985	37,170	1,999,155(f	36,620	7,950	2,043,725	128,116	337,425	-	465,541	2,466

a) 1985 entitlement held over for delivery during January and February 1986.
b) Includes 7,950 acre-feet of 1977 emergency relief water, including 1,703 acre-feet of 1977 emergency relief water transferred to Tulare Lake Basin Water Storage District.
c) 1977 emergency relief and 1978 exchange water transferred from KCWA (not included in totals).
d) 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). Credits shown in this column for all other contractors are under Article 12(d) of their water supply contracts.
e) Non-SWP water delivered to Napa County FC&WCD through SWP facilities; included here to match treatment in Appendix B.
f) Equals 1986 total as shown in Table B5-B.

Future Entitlement Delivery Credits (Carry-Over Water). Both Empire West Side Irrigation District (EWSID) and Devil's Den Water District (DDWD) have reached their maximum annual entitlements. Therefore, EWSID is no longer able to exercise the delivery provisions of Article 45, while DDWD had not amended the wet-weather provisions into its contract prior to reaching maximum annual entitlement. EWSID and DDWD do, however, have temporary "carry-over" storage rights in either Lake Oroville or San Luis Reservoir under letter agreements executed on October 1, 1979. No water was stored during 1986 under the October 1, 1979 agreements.

Future Entitlement Delivery Credits (1985 Carry-Over Water). During spring 1985, the lack of sufficient rainfall prompted fears of a possible drought similar to that experienced during 1976-77. In accordance with rule curve procedures requiring a minimum carry-over storage, DWR canceled scheduled surplus water deliveries, approved as of May 31, 1985, for October through December 1985. Precipitation continued to be below-normal during fall 1985, and DWR imposed deficiencies on the 1986 agriculture entitlement requests.

The precipitation during late 1985 delayed the harvesting of crops and the application of pre-irrigation water from the contractors' remaining 1985 deliveries. Agreements executed in December allowed the carry over of 37,170 acre-feet of 1985 agricultural entitlement water and 12,270 acre-feet of 1985 agricultural surplus water for use during January and February 1986. Column (2) of Table 4 shows the delivery of entitlement water under these agreements. Deliveries of 1985 carry-over surplus water were as follows:

	Acre-Feet
Dudley Ridge Water District	172
Kern County Water Agency	2,935
Tulare Lake Basin Water Storage District	9,163
Total	12,270

Both agreements provided for contractor payment of any identified cost increase that would otherwise be experienced by other SWP contractors or DWR as a result of activities under these agreements. All entitlement and surplus water carried over from 1985 was delivered during January and February of 1986.

Total 1986 Water Deliveries

During 1986, the SWP provided water service to 35 agencies. These included 24 long-term water contractors and 11 other agencies. Monthly deliveries to each of the 35 agencies, shown in Table 5, are summarized as follows:

- 1,958,466 acre-feet of 1986 entitlement water to 23 long-term contractors. Only eight contractors took their full contract entitlement. The twenty fourth contractor, Napa County Flood Control and Water Conservation District, only received non-Project water delivered through SWP facilities;
- 37,170 acre-feet of 1985 entitlement water was carried over and delivered during January and February 1986;
- 2,316 acre-feet of surplus water to three long-term contractors;
- 12,270 acre-feet of surplus water was carried over and delivered during January and February 1986;
- 22,034 acre-feet of unscheduled water to five long-term contractors;
- 7,950 acre-feet of 1977 emergency relief water to two long-term contractors;
- 39,078 acre-feet of regulated local supply to two long-term contractors and three noncontractors;
- 3,519 acre-feet of non-Project water to one long-term contractor;
- 1,603 acre-feet of preconsolidation repayment water to one noncontractor;
- 17,513 acre-feet of CVP water transported to six annual contractors in the San Joaquin Valley;

- 123,566 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; and

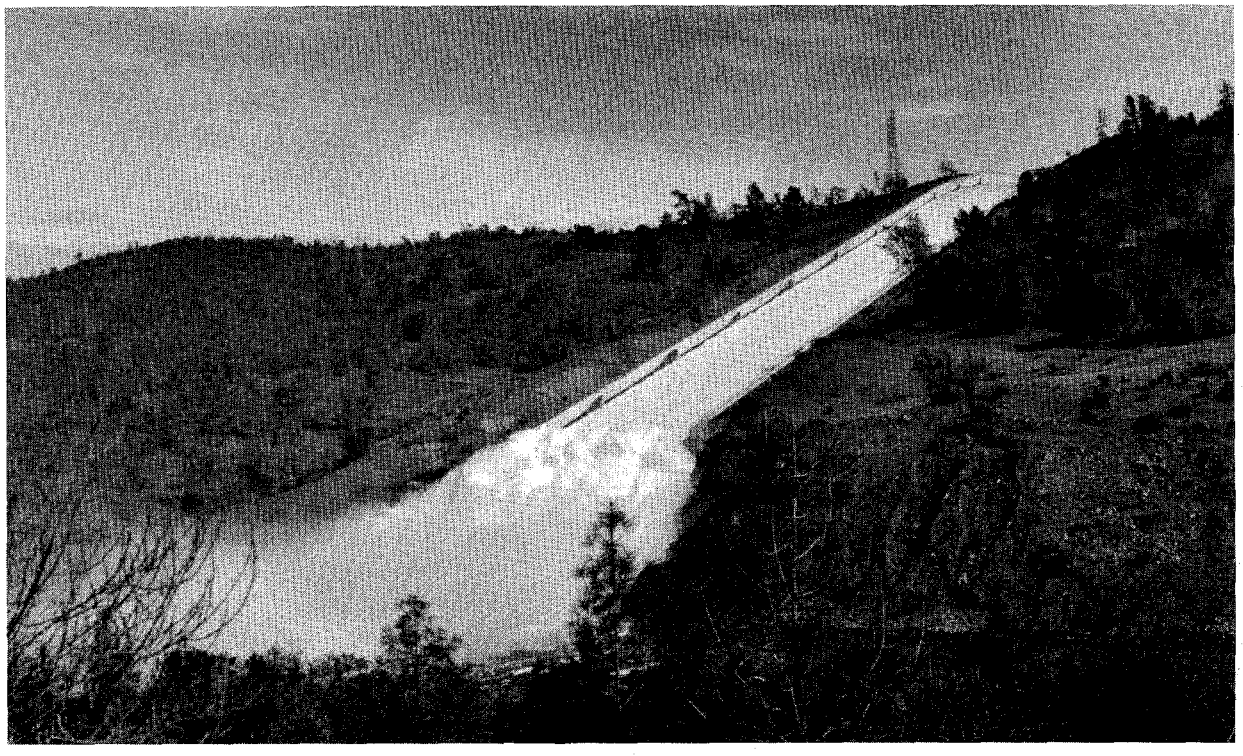
- 3,865 and 377 acre-feet of SWP and CVP water, respectively, conveyed for recreation and fish and wildlife enhancement.

Table 5 shows monthly deliveries of each type of water conveyed in 1986, 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:

1977 Emergency Relief Water. At the end of 1977, the SWP had 95,176 acre-feet of water in storage for emergency relief of drought conditions. In 1978, when it became apparent that the 1976-77 drought was over, the stored water was sold. Two non-SWP contractors, (Green Valley Water District and Tracy Golf and Country Club) purchased a total of 650 acre-feet and took delivery of the water in 1978 and 1979.

Kern County Water Agency (KCWA) purchased the remaining 94,526 acre-feet of stored water for delivery before December 31, 1983. At KCWA's request, the agreement was amended to extend the delivery deadline to December 31, 1986. On January 1, 1986, the balance was 7,950 acre-feet; during 1986 KCWA took delivery of 6,247 acre-feet of this water and transferred 1,703 acre-feet to Tulare Lake Basin Water Storage District. The total delivery of KCWA's 1977 emergency relief water was 7,950, leaving no balance as of January 1, 1987.

Regulated Delivery of Local Supply. SWP facilities are also used to transport non-Project water for long-term SWP contractors and for other agencies under various agreements to honor local water rights. Some of this water simply passes through SWP transportation facilities; some is stored in SWP reservoirs for release later in the year, under agreements by which the water right holders pay storage fees. In 1986, a total of 39,078 acre-feet in this category was



On February 19, 1986 flood releases through the Lake Oroville spillway were increased to 137,000 cfs, the highest daily total since completion of Oroville Dam in 1986

delivered to two long-term contractors and three other agencies.

Non-SWP Water to Napa County Flood Control and Water Conservation District (NCFC&WCD). Pending completion of Phase II of the North Bay Aqueduct, NCFC&WCD receives interim water from the USBR's Solano Project, transported by Solano Irrigation District to Reach 3B of the North Bay Aqueduct. From there the water is pumped through interim pumping facilities near Cordelia and transported through SWP facilities to the terminus. During 1986, NCFC&WCD received 3,519 acre-feet of Solano Project water.

Preconsolidation Repayment Water. DWR entered into two contracts during 1964 to obtain water to preconsolidate land within the right of way of the California Aqueduct. This water was to be paid back upon request after the Aqueduct began service. The contracts, which have changed hands over the years, are currently held by Shell California Production, Inc. (Shell), and the J. G. Boswell Company (Boswell). The original contracts expired December 31, 1984. As described in Chapter III of Bulletin 132-86, agreements were completed in 1985 to extend the period for return of preconsolidation water through December 31, 1994. During August and September, 1,603 acre-feet of preconsolidation repayment water was delivered to Shell from unregulated flows in the Delta. The remaining balances are 22,086 acre-feet to Shell and 14,170 acre-feet to Boswell.

Conveyance and Transportation of CVP Water. During 1986, three arrangements for conveying CVP water through SWP facilities were in effect. 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 Pumping Plant.

- The USBR and DWR have three-party contracts with nine local agencies for transportation of CVP water through SWP facilities to KCWA's Cross Valley Canal through 1995. In another contract with DWR, the USBR agrees to furnish the electrical energy to pump the CVP water at the Banks Delta Pumping Plant for these nine Cross Valley Canal contractors. DWR's charges under the nine contracts are for use of SWP facilities to transport water from the Delta to O'Neill Forebay and from Reach 8C, the first repayment reach beyond the joint-use facilities, to the Cross Valley Canal in Reach 12E. The SWP began transportation service for the Cross Valley Canal contractors in 1976; during 1986, no water was transported.

- Under the annual conveyance agreement executed May 22, 1986, DWR conveyed water to four USBR annual contractors. In 1986, a total of 13,513 acre-feet was conveyed to Green Valley Water District, Musco Olive Products, Inc., Tracy Golf and County Club, Kings County Water District, and Lakeside Irrigation Water District.

  As part of this agreement, the USBR agreed to provide its share of water to meet Delta water quality requirements and to curtail its Delta exports in accordance with Decision 1485. This agreement also provides that the SWP furnish conveyance capacity from the Delta to replace the May and June curtailment of CVP pumping. (Decision 1485 curtails both CVP and SWP pumping from the Delta during May, June, and July to protect striped bass, but the July curtailment does not restrict existing CVP pumping capability.) A total of 123,566 acre-feet of CVP water was conveyed in 1986 to replace capacity foregone during May and June 1986.

- An agreement executed September 23, 1986, provides for the transporting of up to 10,000 acre-feet of CVP water from Reach 8C to Reach 10A for delivery to the U. S. Fish and Wildlife Service's Kern National Wildlife Refuge. During September and October 1986, 4,000 acre-feet of this water was delivered.

TABLE 5. MONTHLY WATER

Line No.	Contracting Agency and Type of Service	Month JAN	FEB	MAR	APR	MAY	JUN	JUL
	FEATHER RIVER AREA							
	City of Yuba City							
1.	Entitlement Water	0	0	0	0	0	0	209
	County of Butte:							
2.	Entitlement Water	62	63	68	71	36	4	0
	Last Chance Creek Water District:							
3.	Regulated Delivery of Local Supply	0	0	0	0	1,047	4,003	2,848
	Plumas County Flood Control and Water Conservation District:							
4.	Entitlement Water	0	0	1	17	34	70	80
	Thermalito Irrigation District:							
5.	Regulated Delivery of Local Supply	78	72	45	93	238	309	302
6.	AREA TOTAL	140	135	114	181	1,355	4,386	3,439
	NORTH BAY AREA							
	Napa County Flood Control and Water Conservation District:							
7.	Non-SWP Water via SWP Facilities	572	377	172	169	270	413	431
	Solano County Flood Control and Water Conservation District:							
8.	Entitlement Water	117	116	117	61	172	117	116
9.	AREA TOTAL	689	493	289	230	442	530	547
	SOUTH BAY AREA							
	Alameda County Flood Control and Water Conservation District, Zone 7:							
10.	Entitlement Water	567	0	8	183	862	1,500	1,448
11.	Regulated Delivery of Local Supply	616	962	1,034	1,520	1,659	1,549	1,519
12.	Agency Total	1,183	962	1,042	1,703	2,521	3,049	2,967
	Alameda County Water District:							
13.	Entitlement Water	1,539	0	0	0	824	1,434	879
14.	Regulated Delivery of Local Supply	0	534	760	781	0	0	2,551
15.	Agency Total	1,539	534	760	781	824	1,434	3,430
	Santa Clara Valley Water District							
16.	Entitlement Water	4,400	4,400	5,194	7,373	9,261	9,340	9,464
17.	Unscheduled Water	351	1,065	0	0	0	0	0
18.	Agency Total	4,751	5,465	5,194	7,373	9,261	9,340	9,464
19.	Recreation/Fish and Wildlife Water	1	2	4	8	9	15	26
20.	AREA TOTAL	7,474	6,963	7,000	9,865	12,615	13,838	15,887
	SAN JOAQUIN VALLEY AREA SWP Water							
	County of Kings:							
21.	Entitlement Water	370	370	370	370	0	370	370
	Devil's Den Water District:							
22.	Entitlement Water	1,141	712	762	1,256	1,270	2,032	2,286
23.	Carry-over Entitlement	601	0	0	0	0	0	0
24.	Surplus Water	0	0	0	0	506	19	347
25.	Unscheduled Water	500	210	484	848	0	0	0
26.	Agency Total	2,242	922	1,246	2,104	1,776	2,051	2,633
	Dudley Ridge Water District:							
27.	Entitlement Water	911	638	1,394	2,876	5,508	7,732	10,290
28.	Carry-over Entitlement Water	949	0	0	0	0	0	0
29.	Surplus Water	0	0	0	0	0	0	731
30.	Carry-over Surplus Water	172	0	0	0	0	0	0
31.	Agency Total	2,032	638	1,394	2,876	5,508	7,732	11,021
	Empire West Side Irrigation District:							
32.	Entitlement Water	55	83	16	13	5	15	13
33.	Carry-over Entitlement Water	502	298	0	0	0	0	0
34.	Unscheduled Water	357	773	0	0	0	0	0
35.	Agency Total	914	1,154	16	13	5	15	13

DELIVERIES IN 1986

Month						1986 Contract Entitlement	1986 Entitlement Not Delivered	Net Cumulative (a Entitlement Not Delivered Through		Line No.
AUG	SEP	OCT	NOV	DEC	TOTAL			1985	1986	
105	14	0	0	0	328	2,100	1,772	3,130 (b	4,902	1.
0	9	0	0	0	313	1,200	887	12,743	13,630	2.
4,169	1,566	413	318	15	14,379					3.
80	27	7	1	0	317	890	573	5,164	5,737	4.
315	201	161	138	99	2,051					5.
4,669	1,817	581	457	114	17,388	4,190	3,232	21,037	24,269	6.
393	276	171	105	170	3,519					7.
117	117	116	117	117	1,400	1,400	0	2,350	2,350	8.
510	393	287	222	287	4,919	1,400	0	2,350	2,350	9.
1,213	895	1,396	1,572	965	10,609	28,000	17,391	133,461	150,852	10.
1,510	1,378	826	129	157	12,859					11.
2,723	2,273	2,222	1,701	1,122	23,468					12.
858	770	1,972	1,610	2,493	12,379	32,100	19,721	233,143	252,864	13.
2,613	1,552	0	0	0	8,791					14.
3,471	2,322	1,972	1,610	2,493	21,170					15.
9,851	9,548	6,082	6,285	6,802	88,000	88,000	0	40,782	40,782	16.
0	0	0	0	1,179	2,595					17.
9,851	9,548	6,082	6,285	7,981	90,595					18.
20	16	4	18	7	130					19.
16,065	14,159	10,280	9,614	11,603	135,363	148,100	37,112	407,386	444,498	20.
370	370	370	0	370	3,700	3,700	0	0	0	21.
2,286	606	12	0	337	12,700	12,700	0	729	128	22.
0	0	0	0	0	601					23.
466	0	0	0	0	1,338					24.
0	0	0	0	590	2,632					25.
2,752	606	12	0	927	17,271					26.
8,905	3,032	2,424	2,208	3,382	49,300	49,300	0	949	0	27.
0	0	0	0	0	949					28.
0	0	0	0	0	731					29.
0	0	0	0	0	172					30.
8,905	3,032	2,424	2,208	3,382	51,152					31.
22	8	9	0	131	370	3,000	2,630	10,193	12,023	32.
0	0	0	0	0	800					33.
0	0	0	0	0	1,130					34.
22	8	9	0	131	2,300					35.

TABLE 5. MONTHLY WATER

Line No.	Contracting Agency and Type of Service	Month JAN	FEB	MAR	APR	MAY	JUN	JUL
	Kern County Water Agency:							
36.	Entitlement Water	7,704	30,850	52,543	59,093	77,614	124,386	180,178
37.	Carry-over Entitlement Water	13,801	12,303	0	0	0	0	0
38.	Carry-over Surplus Water	0	2,935	0	0	0	0	0
39.	Unscheduled Water	0	0	0	0	0	0	0
40.	1977 Emergency Relief Water	0	0	0	0	1,000	1,000	1,500
41.	1977 Emergency Relief Transferred to TLBWSD	1,703	0	0	0	0	0	0
42.	Agency Total	23,208	46,088	52,543	59,093	78,614	125,386	181,678
	Oak Flat Water District:							
43.	Entitlement Water	0	0	6	481	792	1,270	918
44.	Carry-over Entitlement Water	7	0	0	0	0	0	0
45.	Surplus Water	0	0	0	0	0	24	223
46.	Agency Total	7	0	6	481	792	1,294	1,141
	Tulare Lake Basin Water Storage District:							
47.	Entitlement Water	1,796	2,694	23	571	571	2,386	4,465
48.	Carry-over Entitlement Water	8,709	0	0	0	0	0	0
49.	Carry-over Surplus Water	2,562	6,601	0	0	0	0	0
50.	Unscheduled Water	3,625	0	0	0	0	0	0
51.	Water Transferred from KCWA	1,703	0	0	0	0	0	0
52.	Agency Total (excludes transferred water)	16,692	9,295	23	571	571	2,386	4,465
	Shell California Production Inc.							
53.	Preconsolidation Repayment Water	0	0	0	0	0	0	0
54.	Recreation/Fish and Wildlife Water	26	12	14	39	55	60	46
55.	AREA SUBTOTAL (SWP Water)	45,491	58,479	55,612	65,547	87,321	139,294	201,367
	SAN JOAQUIN VALLEY AREA CVP Water							
	Green Valley Water District							
56.	Conveying CVP Water--Annual Contract	0	0	0	0	0	0	40
	Kings County Water District							
57.	Conveying CVP Water--Annual Contract	6,500	0	0	0	0	0	0
	Lakeside Irrigation Water District							
58.	Conveying CVP Water--Annual Contract	6,500	0	0	0	0	0	0
	Musco Olive Products, Inc.:							
59.	Conveying CVP Water--Annual Contract	0	0	0	0	0	1	2
	Tracy Golf and Country Club:							
60.	Conveying CVP Water--Annual Contract	1	2	13	33	70	76	84
	U. S. Fish and Wildlife Service:							
61.	Conveying CVP Water--Annual Contract	0	0	0	0	0	0	0
	U. S. Bureau of Reclamation:							
62.	Conveying CVP Water--Cross Valley Canal	0	0	0	0	0	0	0
63.	Conveying CVP Water--Decision 1485	0	0	0	0	0	0	71,442
64.	Conveying CVP Water--Recreation/U.S. Fish							
65.	and Wildlife Service	21	10	11	32	46	50	42
66.	AREA SUBTOTAL (CVP Water)	13,022	12	24	65	116	127	71,610
67.	AREA SUBTOTAL (SWP Water)	45,491	58,479	55,612	65,547	87,321	139,294	201,367
68.	AREA TOTAL (CVP Plus SWP Water)	58,513	58,491	55,636	65,612	87,437	139,421	272,977
	CENTRAL COASTAL AREA							
	San Luis Obispo County Flood Control and Water Conservation District:							
69.	Entitlement Water	0	0	0	0	0	0	0
	Santa Barbara County Flood Control and Water Conservation District:							
70.	Entitlement Water	0	0	0	0	0	0	0
71.	AREA TOTAL	0	0	0	0	0	0	0
	SOUTHERN CALIFORNIA AREA							
	Antelope Valley-East Kern Water Agency:							
72.	Entitlement Water	929	596	1,288	3,506	4,197	4,691	5,035
	Castaic Lake Water Agency:							
73.	Entitlement Water	1,030	729	1,033	1,139	1,303	1,311	1,310
	Coachella Valley Water District:							
74.	Entitlement Water	1,517	1,517	1,517	1,517	1,517	1,517	1,517

DELIVERIES IN 1986 (cont.)

Month						1986 Contract Entitlement	1986 Entitlement Not Delivered	Net Cumulative (a Entitlement Not Delivered Through		Line No.
AUG	SEP	OCT	NOV	DEC	TOTAL			1985	1986	
164,232	52,950	46,730	42,090	41,867	880,237	968,200	87,963	265,397	327,256	36.
0	0	0	0	0	26,104					37.
0	0	0	0	0	2,935					38.
0	0	0	6,497	5,555	12,052					39.
1,247	1,500	0	0	0	6,247					40.
0	0	0	0	0	1,703					41.
165,479	54,450	46,730	48,587	47,422	929,278					42.
851	380	310	71	21	5,100	5,100	0	647	640	43.
0	0	0	0	0	7					44.
0	0	0	0	0	247					45.
851	380	310	71	21	5,354					46.
2,086	4,451	422	19,241	31,940	70,646	97,200	26,554	62,817	80,662	47.
0	0	0	0	0	8,709					48.
0	0	0	0	0	9,163					49.
0	0	0	0	0	3,625					50.
0	0	0	0	0	1,703					51.
2,086	4,451	422	19,241	31,940	92,143					52.
797	806	0	0	0	1,603					53.
71	58	24	29	16	450					54.
181,333	64,161	50,301	70,136	84,209	1,103,251	1,139,200	117,147	340,732	420,709	55.
10	0	0	0	0	50					56.
0	0	0	0	0	6,500					57.
0	0	0	0	0	6,500					58.
2	2	2	0	0	9					59.
65	44	33	26	7	454					60.
0	773	3,227	0	0	4,000					61.
0	0	0	0	0	0					62.
52,124	0	0	0	0	123,566					63.
										64.
57	53	20	22	13	377					65.
52,258	872	3,282	48	20	141,456					66.
181,333	64,161	50,301	70,136	84,209	1,103,251	1,139,200	117,147	340,732	420,709	67.
233,591	65,033	53,583	70,184	84,229	1,244,707	1,139,200	117,147	340,732	420,709	68.
0	0	0	0	0	0	10,000	10,000	19,000	29,000	69.
0	0	0	0	0	0	18,210	18,210	33,660	51,870	70.
0	0	0	0	0	0	28,210	28,210	52,660	80,870	71.
4,819	3,151	2,096	1,157	984	32,449	42,000	9,551	254,426	263,977	72.
1,330	1,150	1,209	1,188	1,196	13,928	30,900	16,972	158,388	175,360	73.
1,517	1,517	1,517	1,517	1,523	18,210	18,210	0	5,200	5,200	74.

TABLE 5. MONTHLY WATER

Line No.	Contracting Agency and Type of Service	Month						
		JAN	FEB	MAR	APR	MAY	JUN	JUL
	Crestline-Lake Arrowhead Water Agency:							
75.	Entitlement Water	126	101	63	78	139	151	183
	Desert Water Agency:							
76.	Entitlement Water	2,416	2,416	2,416	2,416	2,416	2,416	2,416
	Littlerock Creek Irrigation District:							
77.	Entitlement Water	0	0	0	0	0	0	0
	Mojave Water Agency:							
78.	Entitlement Water	0	0	0	0	0	0	0
	Palmdale Water District:							
79.	Entitlement Water	127	142	219	195	304	295	301
	San Bernardino Valley Municipal Water District:							
80.	Entitlement Water	441	510	621	481	446	456	828
	San Gabriel Valley Municipal Water District:							
81.	Entitlement Water	74	88	322	11	0	0	2,003
	San Gorgonio Pass Water Agency:							
82.	Entitlement Water	0	0	0	0	0	0	0
	The Metropolitan Water District of Southern California:							
83.	Entitlement Water	43,296	14,529	10,260	39,043	91,294	83,814	97,837
	Ventura County Flood Control District:							
84.	Entitlement Water	0	0	0	0	0	0	0
85.	Recreation/Fish and Wildlife Water	47	30	87	140	331	606	342
	United Water Conservation District							
86.	Regulated Delivery of Local Supply	0	0	0	998	0	0	0
87.	AREA TOTAL	50,003	20,658	17,826	49,524	101,947	95,257	111,772
	ALL AGENCIES							
88.	Entitlement Water (1986)	68,618	60,554	78,241	120,751	198,565	245,307	322,146
89.	Carry-over Entitlement Water	24,569	12,601	0	0	0	0	0
90.	SUBTOTAL (Entitlement Water Delivered)	93,187	73,155	78,241	120,751	198,565	245,307	322,146
91.	Surplus Water	0	0	0	0	506	43	1,301
92.	Carry-over Surplus Water	2,734	9,536	0	0	0	0	0
93.	Unscheduled Water	4,833	2,048	484	848	0	0	0
94.	1977 Emergency Relief Water	0	0	0	0	1,000	1,000	1,500
95.	1977 Emergency Relief Transferred to TLBWSD	1,703	0	0	0	0	0	0
96.	Preconsolidated Repayment Water	0	0	0	0	0	0	0
97.	Recreation/Fish and Wildlife Water	74	44	105	187	395	681	414
98.	SUBTOTAL (SWP WATER)	102,531	84,783	78,830	121,786	200,466	247,031	325,361
99.	Regulated Delivery of Local Supply	694	1,568	1,839	3,392	2,944	5,861	7,220
100.	Non-SWP Water to Napa County FC&WCD	572	377	172	169	270	413	431
101.	Conveying CVP Water--Annual Contracts	13,001	2	13	33	70	77	126
102.	Conveying CVP Water--Cross Valley Canal	0	0	0	0	0	0	0
103.	Conveying CVP Water--Decision 1485	0	0	0	0	0	0	71,442
104. 105.	Conveying CVP Water--Recreation/Fish and Wildlife Water	21	10	11	32	46	50	42
106.	TOTAL WATER	116,819	86,740	80,865	125,412	203,796	253,432	404,622

a) This column includes entitlement not delivered, deferred or otherwise, whether or not the water contractor has received any remuneration.
b) Revised from Bulletin 132-86 to reflect 108 and 62 acre-feet of entitlement water delivered to the City of Yuba City during 1984 and 1985, respectively.
c) Revised from Bulletin 132-86 to reflect Kern County Water Agency's reclassification of 5662 acre-feet of 1978 exchange to surplus water.

DELIVERIES IN 1986 (cont.)

Month						1986 Contract Entitlement	1986 Entitlement Not Delivered	Net Cumulative (a Entitlement Not Delivered Through		Line No.
AUG	SEP	OCT	NOV	DEC	TOTAL			1985	1986	
206	152	108	104	95	1,506	4,640	3,134	20,148	23,282	75.
2,416	2,416	2,416	2,416	2,424	29,000	29,000	0	8,000	8,000	76.
0	67	92	4	0	163	1,840	1,677	9,429	11,106	77.
0	0	0	0	0	0	41,400	41,400	270,994	312,394	78.
384	282	328	341	178	3,096	14,800	11,704	123,442	135,146	79.
846	785	697	259	51	6,421	85,000	78,579	661,957	740,536	80.
1,329	1,649	1,408	1,983	587	9,454	23,200	13,746	155,411	169,157	81.
0	0	0	0	0	0	12,900	12,900	55,800	68,700	82.
85,323	89,881	58,505	61,152	33,906	708,840	1,659,300	950,460	5,838,027 (c	6,788,487	83.
0	0	0	0	0	0	8,000	8,000	21,000	29,000	84.
1,134	205	156	128	79	3,285					85.
0	0	0	0	0	998					86.
99,304	101,255	68,532	70,249	41,023	827,350	1,971,190	1,148,123	7,582,222	8,730,345	87.
289,146	174,227	128,226	143,316	129,369	1,958,466	3,292,290	1,333,824	8,406,387	9,703,041	88.
0	0	0	0	0	37,170					89.
289,146	174,227	128,226	143,316	129,369	1,995,636					90.
466	0	0	0	0	2,316					91.
0	0	0	0	0	12,270					92.
0	0	0	6,497	7,324	22,034					93.
1,247	1,500	0	0	0	6,247					94.
0	0	0	0.	0	1,703					95.
797	806	0	0	0	1,603					96.
1,225	279	184	175	102	3,865					97.
292,881	176,812	128,410	149,988	136,795	2,045,674					98.
8,607	4,697	1,400	585	271	39,078					99.
393	276	171	105	170	3,519					100.
77	819	3,262	26	7	17,513					101.
0	0	0	0	0	0					102.
52,124	0	0	0	0	123,566					103.
										104.
57	53	20	22	13	377					105.
354,139	182,657	133,263	150,726	137,256	2,229,727	3,292,290	1,333,824	8,406,387	9,703,041	106.

TABLE 6. MONTHLY POWER

(in millions of kilowatthours)

ITEM	MONTH						
	JAN	FEB	MAR	APR	MAY	JUN	JUL
ENERGY USED BY SWP PUMPING AND POWER PLANTS							
Hyatt-Thermalito Pumpback and Station Service	0.62	1.17	0.03	31.63	45.20	12.08	21.18
North Bay Interim Pumping Plant	0.33	0.20	0.09	0.09	0.14	0.21	0.21
South Bay Pumping Plant	6.43	5.82	3.04	7.61	10.19	12.12	14.68
Del Valle Pumping Plant	0.01	0.01	0.01	0.00	0.00	0.00	0.01
Harvey O. Banks Delta Pumping Plant	87.15	33.77	13.68	35.92	55.19	53.37	50.24
San Luis Pumping-Generating Plant (SWP Share)	62.98	2.67	0.66	1.56	5.87	0.14	0.13
Dos Amigos Pumping Plant (SWP Share)	16.21	13.92	7.39	14.21	25.56	27.21	39.03
Buena Vista Pumping Plant	19.23	14.39	9.02	12.48	28.05	24.45	28.87
Wheeler Ridge Pumping Plant	21.25	14.89	5.91	11.77	29.33	21.63	26.38
Chrisman Wind Gap Pumping Plant	47.28	32.64	11.61	23.65	62.14	43.57	54.89
A. D. Edmonston Pumping Plant	166.11	114.84	37.74	81.09	216.79	148.04	187.03
Alamo Powerplant (Station Service)	0.00	0.00	0.00	0.00	0.01	0.05	0.01
Pearblossom Pumping Plant	17.02	12.56	8.12	5.22	40.63	30.91	32.11
Devil Canyon Powerplant (Station Service)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oso Pumping Plant	13.15	8.86	1.13	6.73	8.45	4.02	8.07
William E. Warne Powerplant (Station Service)	0.02	0.07	0.12	0.10	0.11	0.10	0.09
Las Perillas Pumping Plant (SWP Share)	0.52	0.39	0.61	1.09	1.49	1.84	1.97
Badger Hill Pumping Plant	1.38	1.02	1.62	2.93	4.12	5.01	5.23
Subtotal	459.69	257.22	100.78	236.08	533.27	384.75	470.13
System Losses and Unaccounted for Energy	18.85	25.61	28.04	9.53	3.12	9.14	11.10
Total	478.54	282.83	128.82	245.61	536.39	393.89	481.23
SWP ENERGY SOURCES							
Hyatt-Thermalito Powerplants	44.32	303.70	536.72	148.44	169.87	167.34	313.11
San Luis Pumping-Generating Plant (SWP Share)	0.00	0.00	0.06	0.09	7.75	10.11	34.44
Alamo Powerplant	0.00	0.00	0.00	0.00	0.00	0.28	6.24
Devil Canyon Powerplant	26.56	26.78	10.03	17.96	61.04	52.48	54.85
William E. Warne Powerplant	26.76	18.03	0.87	14.47	16.77	9.03	16.38
Castaic Powerplant (SWP Share)	48.36	32.64	0.07	25.78	25.68	14.93	28.54
Bottle Rock Powerplant	24.62	16.08	12.40	-0.11	-0.11	3.84	23.69
Reid Gardner Unit No. 4	173.59	15.77	0.00	54.08	54.52	88.56	89.24
Pine Flat Powerplant	-0.06	7.78	110.77	128.52	135.24	144.27	140.31
TERA Power Corporation	0.02	0.37	0.41	0.73	0.79	0.66	0.41
MWDSC Hydroelectric Plants (Exchange Energy)	12.50	8.83	8.54	13.22	21.54	20.76	22.02
Power Exchange Delivered to SCE	-59.07	-143.35	-240.77	-102.54	-153.65	-136.45	-221.33
Power Exchange Received from SCE	223.62	262.60	278.86	245.50	231.64	210.74	284.86
Energy Exchange Pacific Gas and Electric Company	0.00	-12.57	0.21	1.94	0.00	5.90	6.58
SCE-SBVMWD Exchange	-0.14	-0.12	-0.13	-0.15	-0.18	-0.20	-0.21
USBR Schedule Excess	0.00	0.36	0.18	0.12	0.12	0.24	0.05
Purchases							
British Columbia Hydro Power Authority	27.57	0.00	0.00	0.00	0.00	0.00	0.00
Bonneville Power Authority	40.32	37.27	20.39	9.25	104.37	69.07	15.05
Idaho Power Company	38.45	0.00	0.00	0.00	0.00	0.00	0.00
Montana Power Company	16.65	0.00	0.00	0.00	0.00	0.00	0.00
Portland General Electric Company	0.00	0.00	16.03	15.15	15.03	15.96	15.60
Pacific Power and Light Company	16.00	0.00	0.00	0.00	0.00	0.00	33.02
Salt River Project	0.00	1.40	1.75	0.40	0.00	0.00	0.00
Washington Water and Power Company	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	660.07	575.57	756.39	572.85	690.42	677.52	862.85
Less Sales	181.53	292.74	627.57	327.24	154.03	283.63	381.62
Total	478.54	282.83	128.82	245.61	536.39	393.89	481.23

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. This was DWR's third full year as a bulk power agency.

Energy Use

Table 6 summarizes monthly SWP energy use at SWP plants during 1986. Total energy use and losses for the year were 5.18 billion kWh, approximately 6 percent less than the amount used in 1985. This decreased energy use reflected decreased water deliveries to SWP contractors by about 12 percent from 1985. SWP energy use was nearly evenly distributed

OPERATIONS IN 1986

(in millions of kilowatthours)

MONTH						ITEM
AUG	SEP	OCT	NOV	DEC	TOTAL	
						ENERGY USED BY SWP PUMPING AND POWER PLANTS
27.83	15.45	4.87	6.76	6.88	173.70	Hyatt-Thermalito Pumpback and Station Service
0.19	0.13	0.09	0.05	0.08	1.81	North Bay Interim Pumping Plant
14.33	8.31	5.00	4.25	8.79	100.57	South Bay Pumping Plant
0.00	0.01	0.00	0.01	0.01	0.07	Del Valle Pumping Plant
82.78	110.89	61.87	54.42	56.83	696.11	Harvey O. Banks Delta Pumping Plant
5.98	55.11	25.47	0.88	4.38	165.83	San Luis Pumping-Generating Plant (SWP Share)
38.60	25.71	17.38	23.62	22.39	271.23	Dos Amigos Pumping Plant (SWP Share)
32.17	31.36	20.09	25.08	21.67	266.86	Buena Vista Pumping Plant
30.45	34.92	22.55	28.68	24.79	272.55	Wheeler Ridge Pumping Plant
66.56	77.41	49.67	63.60	54.37	587.39	Chrisman Wind Gap Pumping Plant
230.55	271.24	174.16	225.92	191.48	2,044.99	A. D. Edmonston Pumping Plant
0.02	0.00	0.02	0.01	0.03	0.15	Alamo Powerplant (Station Service)
31.60	37.62	27.42	32.81	13.01	289.03	Pearblossom Pumping Plant
0.00	0.00	0.00	0.00	0.01	0.01	Devil Canyon Powerplant (Station Service)
13.52	16.47	9.35	13.54	17.72	121.01	Oso Pumping Plant
0.02	0.01	0.13	0.07	0.04	0.88	William E. Warne Powerplant (Station Service)
1.29	0.71	0.41	0.07	0.15	10.54	Las Perillas Pumping Plant (SWP Share)
3.52	1.89	1.07	0.15	0.37	28.31	Badger Hill Pumping Plant
579.41	687.24	419.55	479.92	423.00	5,031.04	Subtotal
8.90	9.87	19.62	13.62	8.72	166.12	System Losses and Unaccounted for Energy
588.31	697.11	439.17	493.54	431.72	5,197.16	Total
						SWP ENERGY SOURCES
223.16	201.88	154.05	99.61	88.31	2,450.51	Hyatt-Thermalito Powerplants
13.62	0.03	0.00	0.00	0.00	66.10	San Luis Pumping-Generating Plant (SWP Share)
6.33	6.83	5.04	5.96	1.92	32.60	Alamo Powerplant
51.59	62.58	54.51	48.65	22.38	489.41	Devil Canyon Powerplant
30.21	35.11	19.69	27.53	35.93	250.78	William E. Warne Powerplant
47.30	56.26	26.84	48.81	60.89	416.10	Castaic Powerplant (SWP Share)
24.60	24.76	26.47	11.08	11.71	179.03	Bottle Rock Powerplant
83.27	80.25	56.73	35.18	67.67	798.86	Reid Gardner Unit No. 4
99.30	34.89	22.73	-0.09	-0.23	823.43	Pine Flat Powerplant
0.49	0.34	0.20	0.05	0.00	4.47	TERA Power Corporation
20.46	19.92	18.96	22.44	10.56	199.75	MWDSC Hydroelectric Plants (Exchange Energy)
-184.31	-180.67	-134.23	-108.09	-75.22	-1,739.68	Power Exchange Delivered to SCE
333.30	369.87	345.90	343.35	299.21	3,429.45	Power Exchange Received from SCE
0.00	0.00	0.00	0.00	0.00	2.06	Energy Exchange Pacific Gas and Electric Company
-0.19	-0.22	-0.24	-0.14	-0.16	-2.08	SCE-SBVMWD Exchange
0.09	0.00	0.14	0.51	0.43	2.24	USBR Schedule Excess
						Purchases
0.00	0.00	0.00	0.00	0.00	27.57	British Columbia Hydro Power Authority
111.03	49.10	106.49	102.20	92.71	757.25	Bonneville Power Authority
0.00	0.00	0.00	0.00	0.00	38.45	Idaho Power Company
0.00	0.00	0.99	1.19	1.48	20.31	Montana Power Company
16.40	15.20	15.65	16.00	15.60	156.62	Portland General Electric Company
56.33	36.91	36.50	37.31	0.00	216.07	Pacific Power and Light Company
0.72	0.00	7.64	30.66	16.27	58.84	Salt River Project
0.00	0.21	0.00	0.00	0.00	0.21	Washington Water and Power Company
933.70	813.25	764.06	722.21	649.46	8,678.35	Subtotal
345.39	116.14	324.89	228.67	217.74	3,481.19	Less Sales
588.31	697.11	439.17	493.54	431.72	5,197.16	Total

between the two major power service areas: Pacific Gas and Electric Company (PGandE) and Southern California Edison Company (SCE). About 2.54 billion kWh were used by SWP plants in PGandE's service area, compared with 2.49 billion kWh used in SCE's service area.

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 en-

ergy 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.

Energy Sources

Table 6 also shows the monthly sources of SWP energy during 1986. The output of the Hyatt-Thermalito power complex in 1986 was 2.45 billion kWh, about 44 percent higher than last year's output and just above the estimated average annual output of 2.38 billion kWh.

Energy generation at the SWP power recovery plants (San Luis, Alamo, Devil Canyon, Warne, and Castaic) totaled about 1.25 billion kWh, about 83 percent of last year's amount. The combined output of the recovery plants and the Hyatt-Thermalito facilities was sufficient to meet about 72 percent of SWP energy requirements in 1986.

Other SWP hydroelectric power resources are obtained under contract with the Kings River Conservation District (KRCD) and MWDSC. The KRCD contract provides DWR with all of the output of the 165-MW Pine Flat Powerplant. The plant furnished 0.82 billion kWh to the SWP in 1986. 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 SCE and the Los Angeles Department of Water and Power (LADWP) to facilitate transmission of energy from the MWDSC plants to the SWP.

Under the 1979 DWR-SCE Power Contract, in effect since April 1983, part of the Hyatt-Thermalito generation and all of the output of Devil Canyon and Alamo power plants 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. Table 6 shows both the monthly quantities of energy delivered and returned under this

TABLE 6A. RECONCILIATION OF ENERGY USE IN 1986 FOR SWP

(in millions of kilowatthours)

ITEM	MONTH						
	JAN	FEB	MAR	APR	MAY	JUN	JUL
Harvey O. Banks Delta Pumping Plant							
Energy Metered at Pumping Plant	91.98	33.77	13.68	35.92	55.19	53.37	71.46
Less Energy Scheduled by USBR for CVP Pumping	- 4.83	0.00	0.00	0.00	0.00	0.00	-21.22
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	87.15	33.77	13.68	35.92	55.19	53.37	50.24
Dos Amigos Pumping Plant							
Energy Metered at Pumping Plant	31.75	28.42	18.58	28.69	43.01	60.14	71.26
Less Energy Scheduled by USBR for CVP Pumping	-15.54	-14.50	-11.15	-14.48	-17.45	-32.93	-32.23
Less Energy Scheduled by USBR for Station Service	0.00	0.00	0.04	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	16.21	13.92	7.39	14.21	25.56	27.21	39.03
San Luis Pumping Plant							
Energy Metered at Pumping Plant	106.47	45.80	41.33	29.93	8.35	0.25	0.25
Less Energy Scheduled by USBR for CVP Pumping	-43.29	-43.29	-40.53	-28.33	-2.35	0.00	0.00
Less Energy Scheduled by USBR for Station Service	-0.20	-0.20	-0.19	-0.15	-0.14	-0.11	-0.12
Plus Excess Daily Energy Scheduled by USBR	0.00	0.36	0.05	0.11	0.01	0.00	0.00
Energy Used for SWP Pumping	62.98	2.67	0.66	1.56	5.87	0.14	0.13
Las Perillas Pumping Plant							
Energy Metered at Pumping Plant	0.52	0.39	0.61	1.09	1.49	1.84	1.97
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	0.52	0.39	0.61	1.09	1.49	1.84	1.97
San Luis Generation Plant							
Energy Metered at Generation Plant	0.00	0.00	12.02	15.37	17.09	72.13	75.27
Less Energy Scheduled by USBR for CVP Use	0.00	0.00	-12.09	-15.29	-9.45	-62.26	-40.88
Plus Excess Daily Energy Scheduled by USBR	0.00	0.00	0.13	0.01	0.11	0.24	0.05
SWP Share of Energy Generated	0.00	0.00	0.06	0.09	7.75	10.11	34.44

contract. The net gain to the SWP during 1986 was 1.69 billion kWh.

The Bottle Rock Geothermal steam plant provided 0.17 billion kWh during 1986. DWR paid MCR Geothermal Corp. $4,275,343 and withheld $1,253,840 because insufficient steam supply prevented Bottle Rock from generating at full capacity. This matter is presently in litigation (see "Litigation," Chapter III).

Reid Gardner Unit No. 4 supplied 0.80 billion kWh in 1986. This includes the return of 15.6 million kWh of energy banked with the Nevada Power Company in 1983 during initial start-up of this coal-fired unit. The balance of the banked energy due DWR was about 14.4 million kWh as of December 31, 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 145 50-kW wind turbines were operational at the end of 1986; over 4 million kWh of wind-generated energy was delivered to DWR during the year.

Power Purchases and Power Service Costs

Power purchases and transmission service costs during 1986 are summarized in Table 7. DWR purchased 2.47 billion kWh of energy from 17 utilities for $42.89 million. Transmission, capacity, losses, and dispatching services amounted to $28.79 million. Other costs associated with the operation and management of SWP power resources not in Table 7 include:

- o debt service and OM&R costs of $8.65 million associated with the output of Pine Flat Powerplant;
- o OM&R and fuel costs of $43.34 million associated with Reid Gardner Unit No. 4; and
- o 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 longer term power and transmission contracts combine to ensure that the SWP has enough energy and capacity to meet future Project needs. DWR entered into power sales con-

AND CVP PUMPING AT SWP PLANTS AND JOINT-USE FACILITIES

(in millions of kilowatthours)

MONTH						ITEM
AUG	SEP	OCT	NOV	DEC	TOTAL	
						Harvey O. Banks Delta Pumping Plant
98.26	110.89	61.87	54.42	56.83	737.64	Energy Metered at Pumping Plant
-15.48	0.00	0.00	0.00	0.00	-41.53	Less Energy Scheduled by USBR for CVP Pumping
0.00	0.00	0.00	0.00	0.00	0.00	Plus Excess Daily Energy Scheduled by USBR
82.78	110.89	61.87	54.42	56.83	696.11	Energy Used for SWP Pumping
						Dos Amigos Pumping Plant
63.28	30.26	22.52	28.00	30.79	456.70	Energy Metered at Pumping Plant
-24.68	-4.55	-5.14	-4.38	-8.40	-185.43	Less Energy Scheduled by USBR for CVP Pumping
0.00	0.00	0.00	0.00	0.00	-0.04	Less Energy Scheduled by USBR for Station Service
0.00	0.00	0.00	0.00	0.00	0.00	Plus Excess Daily Energy Scheduled by USBR
38.60	25.71	17.38	23.62	22.39	271.23	Energy Used for SWP Pumping
						San Luis Pumping Plant
6.15	79.63	54.07	48.26	71.52	492.01	Energy Metered at Pumping Plant
0.00	-24.41	-28.57	-47.75	-67.45	-325.97	Less Energy Scheduled by USBR for CVP Plumbing
-0.17	-0.11	-0.17	-0.14	-0.12	-1.82	Less Energy Scheduled by USBR for Station Service
0.00	0.00	0.14	0.51	0.43	1.61	Plus Excess Daily Energy Scheduled by USBR
5.98	55.11	25.47	0.88	4.38	165.83	Energy Used for SWP Pumping
						Las Perillas Pumping Plant
1.29	0.71	0.41	0.07	0.15	10.54	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
1.29	0.71	0.41	0.07	0.15	10.54	Energy Used for SWP Pumping
						San Luis Generation Plant
34.18	0.65	0.00	0.00	0.00	226.71	Energy Metered at Generation Plant
-20.65	-0.62	0.00	0.00	0.00	-161.24	Less Energy Scheduled by USBR for CVP Use
0.09	0.00	0.00	0.00	0.00	0.63	Plus Excess Daily Energy Scheduled by USBR
13.62	0.03	0.00	0.00	0.00	66.10	SWP Share of Energy Generated

TABLE 7. SWP POWER AND TRANSMISSION SERVICE PURCHASES IN 1986

Supplier	Services Provided	Invoice Amount
Bonneville Power Authority	Nonfirm energy	$ 10,705,287
British Columbia Hydro Power Authority	Nonfirm energy	735,168
Idaho Power Company	Nonfirm energy	964,139
Kings River Conservation District	Hydroelectric energy	6,351,800
Los Angeles Department of Water and Power	Transmission and dispatching	91,884
MCR Geothermal Corporation	Geothermal steam	4,275,343(a
Montana Power Company	Nonfirm energy	479,000
Nevada Power Company	Transmission	1,001,214
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	13,445,308
Pacific Power and Light Company	Firm energy, transmission, and losses on third party systems	4,935,620
Portland General Electric Company	Firm energy	3,375,222
Salt River Project Agricultural Improvement and Power District	Energy	916,785
Southern California Edison Company	Transmission, filing fees, and dispatching	12,346,179
TERA Power Corporation	Wind energy	380,748
The Metropolitan Water District of Southern California	Hydroelectric energy	10,382,215
Washington Water Power Company	Nonfirm energy	3,526
Western Area Power Administration	Interconnection transmission	378,000
Total		$72,267,438

a) DWR withheld $1,253,840 for insufficient steam supply.

tracts 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, 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 1986. Total energy sold was 3.48 billion kWh for a revenue of $68.37 million to 15 utilities. Other power related revenues were for peaking-capacity payments from Nevada Power Company and peaking-capacity foregone payments from LADWP for a combined revenue of $1.92 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 to utilities in Arizona, Nevada, and Southern California.

The Table Mountain reinforcement project, which increases the 500 kV transmission capacity on PGandE's transmission line from Table Mountain to Tesla substations, was completed in April 1987.

TABLE 8. SWP POWER SALES IN 1986

Purchaser	Kilowatthours	Amount of Sale
City of Anaheim	183,148,000	$ 3,864,880
City of Burbank	61,183,000	1,890,225
City of Glendale	32,232,000	1,050,871
City of Pasadena	64,335,000	1,930,928
City of Riverside	65,584,000	1,371,818
City of Santa Clara	124,400,000	2,620,660
City of Vernon	432,874,000	8,725,256
El Paso Electric Company	200,000	7,200
Los Angeles Department of Water and Power	48,225,000	2,137,951(a
Nevada Power Company	367,152,000	10,184,967(b
Northern California Power Agency	26,909,000	545,055
Pacific Gas and Electric Company	1,113,280,000	19,355,071
Salt River Project Agricultural Improvement and Power District	65,788,000	1,767,068
San Diego Gas and Electric Company	121,250,000	2,113,345
Southern California Edison Company	774,618,000	10,808,527(c
Total	3,481,178,000	$68,373,822

a) Includes $1,160,100 for peaking capacity foregone.
b) Includes $757,040 for capacity.
c) In addition to this amount, there was $26,259 in revenue for delivery of 2,076,000 kWh of energy to SCE under the DWR-SCE Generation Replacement Agreement. 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.

Recreation and Visitor Facilities

Recreation days of use at SWP facilities totaled nearly 7 million during 1986. Table 9 summarizes this use, which includes camping, boating, fishing, swimming, bicycling, and other recreational activities. This total represents a 5 percent increase from 1985.

Most SWP recreation and visitor use was concentrated at the major reservoirs, where well-developed facilities exist to accommodate public use. Fifty-six percent of the total SWP recreation use in 1986 occurred at the four major reservoirs in Southern California.

At Lake Davis, in the Upper Feather River area, a lane was added to the existing boat launch ramp and additional courtesy floats were provided on the lake by the California Department of Boating and Waterways (DBAW).

By the end of 1986, construction was nearly complete on the East Bay Regional Park District's Phase IV facilities at Lake Del Valle. Among facilities in this development are 46 additional family campsites, a new amphitheater, 100 picnic sites, paved day-use parking area for 400 cars, a new group picnic area that will accommodate 150 people, and restroom and shower buildings. A new marina complex will begin construction during 1987.

At Pyramid Lake, 16 ramadas were constructed at boat-in sites around the lake: Yellowbar, 7; Beartrap, 3; and Serrano, 6. Restrooms were also constructed at the Serrano and Vaquero areas.

Los Angeles County Department of Parks and Recreation completed construction of new Castaic Lake patrol offices and lifeguard towers in July. The department operates the lake's recreation facilities. General improvements and construction of a boat

TABLE 9. RECREATION USE AT SWP FACILITIES IN 1986

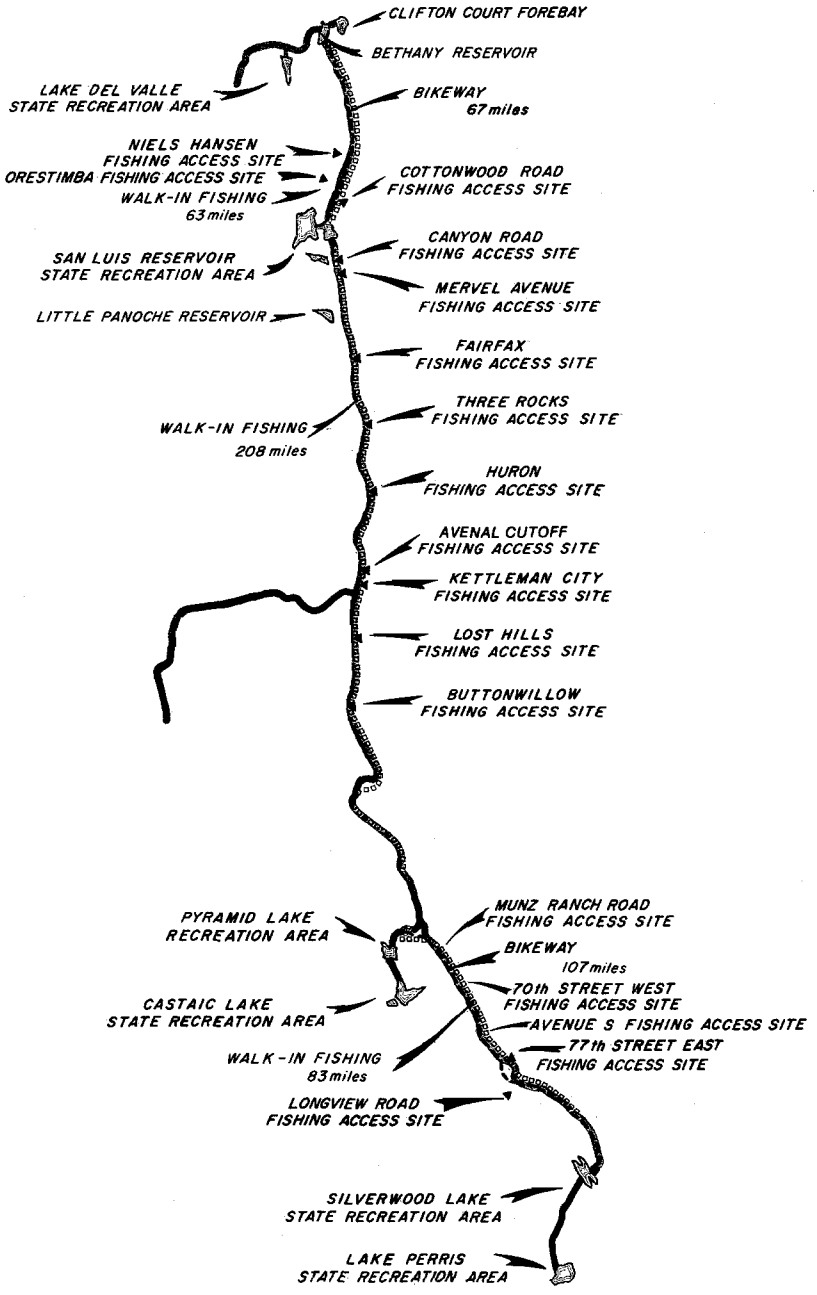
Facility	1986 Use in Recreation Days	Facility	1986 Use in Recreation Days
Oroville Field Division		San Luis Division	
Frenchman Lake	315,800	San Luis Reservoir	358,900
Antelope Lake	311,300	O'Neill Forebay	336,200
Lake Davis	279,400	Los Banos Reservoir	101,300
Lake Oroville and Thermalito Forebay	670,800	Fishing Access Sites	
Thermalito Afterbay and Oroville Wildlife Area	146,000	Canyon Road	1,749
Total	1,723,300	Mervel Avenue	1,632
		Fairfax	939
Delta Field Division		Three Rocks	138
Lake Del Valle	430,200	Huron	1,986
Bethany Reservoir	53,300	Avenal Cutoff	1,446
Fishing Access Sites		California Aqueduct	
Niels Hansen	310	Walk-In Fishing	10,613
Orestimba	1,212	Wildlife Areas	13,800
Cottonwood Road	308	Total	828,703
California Aqueduct			
Walk-In Fishing	13,885	Southern Field Division	
Bikeway	427	Silverwood Lake	731,000
White Slough Wildlife Area	7,200	Lake Perris	1,769,700
Total	506,842	Pyramid Lake	287,400
		Castaic Lake	1,097,700
San Joaquin Field Division		Fishing Access Sites	
Fishing Access Sites		77th Street East	640
Kettleman City	3,308	Longview Road	150
Lost Hills City	3,214	California Aqueduct	
Buttonwillow	2,228	Walk-In Fishing	4,124
California Aqueduct		Bikeway	1,220
Walk-In Fishing	6,510	Total	3,891,934
Total	15,260		
		GRAND TOTAL, SWP	6,966,039

storage yard were also completed in summer 1986. DBAW provided two boarding floats at the main boat launching ramp.

At Lake Perris a Junior Ranger Corner, with small amphitheater, for children was completed. This project was developed totally through volunteer efforts. Nearby, at the newly established San Jacinto Wildlife Area, three levees were constructed. Three more levees will be completed in 1987.

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 because all but about 20 miles of the 107-mile aqueduct reach in the Antelope Valley area was closed to recreation use because of East Branch enlargement construction. By April 1987 the entire Southern California section of the bikeway was closed because of construction. The closure will remain in effect through the construction period. When construction is completed, a decision will be made regarding the reopening of all or portions of the bikeway.

FIGURE 7. AQUEDUCT RECREATION DEVELOPMENTS



In addition to the regular recreation use, 540,000 visitor-days of use occurred at SWP visitor centers during 1986:

Location	Visitor Days
Project Operations Control Center, Sacramento	500
Oroville Field Division	175,000
Delta Field Division	1,500
San Luis Field Division	210,000
San Joaquin Field Division	3,000
Southern Field Division	150,000
SWP Total	540,000

Fish and Wildlife Activities

The Department of Fish and Game continued its fish planting activities at the SWP facilities during 1986. Table 10 summarizes fish plantings at each location. Total plantings of catchable trout increased about 10percent over 1985 plantings, but the number of fingerlings planted was only 25 percent of the total planted in 1985.

The Feather River and Thermalito hatcheries produced a total of 11,033,000 fish, down 25 percent from 1985. Of the Chinook salmon produced, 2,573,000 were fingerlings; 5,445,000 were planted as advanced fingerlings; and 1,636,000 were planted as yearlings. A total of 938,000 fingerling steelhead were planted as well as 441,000 yearling steelhead.

TABLE 10. FISH PLANTED AT SWP FACILITIES IN 1986

Location	Size*	Rainbow Trout	Lake Trout	Brown Trout	Brook Trout	Channel Catfish	Chinook Salmon	Total
Antelope Lake	C	16.0	15.0					31.0
Lake Davis	C		188.2					188.2
	F		72.4					72.4
Frenchman Lake	F	117.5	100.2					217.7
Lake Oroville	C	7.4		65.9				73.3
	S						43.3	43.3
Thermalito Forebay	C	27.6	13.8		5.9			47.3
Lake Del Valle	C	24.4						24.4
Los Banos Reservoir	C	10.0						10.0
Pyramid Lake	C	122.3				10.7		133.0
Castaic Lake	C	195.3						195.3
Castaic Lagoon	C	44.8						44.8
Silverwood Lake	C	170.7						170.7
Lake Perris	C	160.0				5.0		165.0
Lake Skinner	C	102.5				10.1		112.6
Total		998.5	389.6	65.9	5.9	25.8	43.3	1,529.0

* C-Catchable; F-Fingerling; S-Subcatchable

Feather River Hatchery and Thermalito Rearing Ponds - 1986

		Planted
Chinook Salmon	Fingerlings	2,573.0 fish
	Adv. Fingerlings	5,445.0
	Yearlings	1,636.0
	Total	9,654.0 fish
Steelhead	Fingerlings	938.0 fish
	Yearlings	441.0
	Total	1,379.0 fish

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 during the past year.

Water Contracts Management

Contract Amendments

The 30 long-term water supply contracts have been amended periodically since the 1960s, when the initial contracts were signed. Table 11 shows contract amendments and lists the general content of each amendment. Table 11 does not include revisions to Table A entitlements not in the form of numbered amendments. Amendments executed in 1986 through June 30, 1987, which were not discussed in Bulletin 132-86, are as follows:

- On June 11, 1986, Solano County Flood Control and Water Conservation District executed Amendment No. 11. The amendment modifies Articles 22 (e) and (g) of the District's contract and revises the procedure for calculating the District's Delta Water Charge. (Solano is the last contractor to sign the amendment to Article 22, thereby standardizing Delta Water Charges calculation for all long-term contractors.) The amendment also defines the amount of water deliveries to the District prior to the North Bay Aqueduct completion as well as modifying the District's Table A entitlements. (This amendment was included in Table 11 of Bulletin 132-86, but no description was given under this section.)

- On September 15, 1986, San Bernardino Valley Municipal Water District executed Amendment No. 12, providing for its participation in the enlargement of the East Branch of the California Aqueduct.

- On March 6, 1987, MWDSC executed Amendment No. 21, concerning construction, operation, and repayment of the 300 cfs bypass to the Devil Canyon Powerplant.

- The water system revenue bond amendment was sent to all long-term water contractors for their signatures on February 5, 1987. As of June 30, 1987, the amendment has been fully executed by 29 of the 30 long-term water supply contractors. City of Yuba City is the remaining unsigned contractor.

- On May 14, 1987, Kern County Water Agency (KCWA) executed Amendment No. 19, which (1) deletes Amendment No. 7 provisions for taking delivery of an additional 50,000 acre-feet of KCWA's annual entitlement from the Coastal Branch and (2) changes KCWA's Coastal Branch entitlement delivery peak rate from 11 to 16.25 percent.

Relinquished Aqueduct Capacity and Entitlement

In 1981, Santa Barbara County Flood Control and Water Conservation District (SBCFC&WCD) relinquished 17 cfs of Aqueduct capacity and 12,214 acre-feet of associated entitlement water. Bulletin 132-86 (pages 49 and 51) describes the various efforts by DWR to sell the capacity and entitlement water, including SBCFC&WCD's consideration of reacquiring some or all of the entitlement and capacity.

On March 10, 1987, DWR, SBCFC&WCD, KCWA, and Berrenda Mesa Water District (a member unit of KCWA) reached a settlement and compromise agreement which affected the relinquished capacity and entitlement (see "Litigation, Water Supply Contract Cases," this chapter). As part of the agreement, DWR will grant SBCFC&WCD a one-year option to reacquire the capacity and entitlement water relinquished in 1981.

TABLE 11. WATER SUPPLY CONTRACT AMENDMENTS AS OF JUNE 30, 1987

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	Through 1969	1970	1971	Deleted		Added	Revised		Increased	Decreased								
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	S	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	S	S	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	S		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	S	S	11, 12,14	1			8		10	13		15		16
Tulare Lake Basin Water Storage District	2	5	6	7	5			4		8	10	S		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
Coachella Valley Water District	2	3	4	5	3	1	2				6		1	2,8				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				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 Gorgonio 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.

1978 and 1982 Exchange Agreements

In 1978, DWR acquired 30,000 acre-feet of water through an exchange agreement with MWDSC. Under subsequent agreements, KCWA purchased 25,000 acre-feet and Dudley Ridge Water District (DRWD) purchased 5,000 acre-feet. DRWD took delivery of the 5,000 acre-feet in 1985. The remaining 21,547 acre-feet of KCWA's 1978 exchange water is stored within the MWDSC service area.

In 1982, DWR entered into another exchange agreement with MWDSC for 60,000 acre-feet of water. Oak Flat Water District took delivery of 306 acre-feet of water that same year; the remaining 59,694 acre-feet is stored in MWDSC ground water basins or in Lake Oroville. The storage agreements provide that DWR deliver the water stored by MWDSC to the participating contractors while reducing MWDSC's entitlement deliveries by a like amount (MWDSC withdraws this portion of its entitlement from ground water). The water stored in Lake Oroville is available on request, subject to certain limitations.

Both the 1978 and 1982 exchange agreements have been extended several times (see Bulletin 132-84, pages 46-47). The agreement conditions covering the remaining 1978 and 1982 exchange water stored by MWDSC were combined into one three-party agreement among DWR, KCWA, and MWDSC. This combined agreement was extended on March 31, 1987. KCWA now has until May 31, 1992 to take delivery of the water.

The conditions covering the water stored by DWR in Lake Oroville during 1982 for KCWA were included in an agreement between DWR and KCWA. This agreement was also executed on March 31, 1987. Under this agreement, DWR's obligation to deliver the 46,393 acre-feet of 1982 exchange water in Lake Oroville expires on June 1, 1992.

Power Sale to MWDSC

DWR will supply SWP energy to MWDSC to permit MWDSC to maintain an eight-pump flow from the Colorado River. Energy cost to MWDSC will be the lower rate of either the market rate or the Project net melded power rate. The rate will be determined monthly. Actual energy deliveries began in June 1, 1987.

This one-year agreement is a forerunner of a proposed long-term power exchange agreement. The proposed long-term agreement is still in the development stage, but will be based in part upon a discussion paper presented to the State Water Contractors in November 1986. This discussion paper outlined a proposed power exchange between DWR and MWDSC.

Under this proposal, MWDSC would supply surplus Colorado River Aqueduct power to the SWP, at no cost, to pump MWDSC's entitlement water through the SWP. Such use on the SWP would reduce the power use chargeable to MWDSC for other SWP power resources in an amount equal to the quantity of surplus Colorado River Aqueduct power supplied by MWDSC. If use of this surplus energy resulted in increased annual costs to other SWP water contractors, MWDSC would pay the increased costs.

The proposal also describes SWP power pricing for pumping SWP surplus water and Colorado River Aqueduct water. SWP power resources which were secured for, but exceed, pumping power requirements for entitlement water would be available for pumping SWP surplus water and Colorado River Aqueduct water in the ratio of 20 and 80 percent, respectively. Such power would be priced at the lesser of the market rate or the Project net melded power rate.

Purchase of Delivery Rights Program

Early in 1986, several member units of Kern County Water Agency (KCWA) indicated to DWR the desire to sell some of their delivery rights. The proposed Purchase of Delivery Rights Program was designed to let the SWP buy back the entitlement water in question. If the program was instituted, the selling contractors would be relieved of future costs (both Project and local) associated with these delivery rights.

SWP contractors have expressed varying viewpoints to this proposed program. Three contractors, the Desert Water Agency, Coachella Valley Water District, and Castaic Lake Water Agency, have expressed interest in purchasing the delivery rights. Whatever

the outcome, DWR's primary objective is to protect the financial integrity of the SWP.

The California Water Commission held a hearing about this program on March 2, 1987. DWR, the entities wanting to sell entitlement rights, the agencies wanting to buy additional rights, and other interested parties presented information at this meeting. No further major DWR activity regarding the purchase of delivery rights program has taken place. Kern County is developing a program to keep the water delivery rights within the county.

Coastal Branch, Phase II

The Phase I Coastal Branch 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, Las Perillas and Badger Hill pumping plants.

Phase II, to be constructed later, would transport SWP water to Santa Barbara and San Luis Obispo County Flood Control and Water Conservation Districts (SBCFC&WCD and SLOCFC&WCD). One alternative alignment would extend approximately 90 miles to a terminus in northern Santa Barbara County near Santa Maria, and would include three or four additional pumping plants and one or two power recovery plants.

After a $102 million bond issue for the construction of SWP water distribution facilities was rejected by Santa Barbara County voters in March 1979, SBCFC&WCD took two actions. First, SBCFC&WCD voted in 1981 to reduce its maximum annual entitlement from 57,700 acre-feet to 45,486 acre-feet, thus reducing its share of Aqueduct capacity by 17 cfs. Second, SBCFC&WCD evaluated local projects that may qualify for SWP funding under DWR guidelines. As described earlier in this chapter, SBCFC&WCD is considering reacquiring some or all of this Aqueduct capacity and associated entitlement water.

In early 1984, the two districts requested a further two-year delay, until July 1986, for a decision to initiate design and construction of Phase II. In May 1986, SBCFC&WCD and SLOCFC&WCD requested a further delay, until October 1, 1986, of the initiation of preliminary design of, and the EIR preparation for, the Coastal Branch. The agencies made the request to allow time for public hearings and consultation with their member units. DWR approved the delay request.

On October 1,1986, SLOCFC&WCD requested DWR to initiate the advance planning studies needed to develop the preliminary design and EIR for the Coastal Aqueduct. The EIR and preliminary design should be completed in April 1989. Final design and construction is expected to take approximately four and a half years. Operation of the Coastal Aqueduct could begin as early as fall 1993.

Coordinated Operation Agreement

Representatives of DWR and the USBR signed the Coordinated Operation Agreement (COA) on November 26, 1986. The signing culminated more than 25 years of negotiations between the two agencies regarding water operations in the Sacramento-San Joaquin Delta. This landmark agreement eventually will increase the efficiency of the SWP and the CVP as well as provide important environmental protections in the Delta. The COA's enabling legislation, H. R. 3113, was signed into law by the President on October 27, 1986.

The agreement affirms the primacy of State water law. Under the COA, the CVP is obligated to contribute water to meet Delta water quality standards before making its contracted deliveries. Other basic points of the COA are:

- Both parties will meet present Delta water quality standards set by the SWRCB. Water quality may fall below Decision 1485 standards only when the Governor declares emergency drought conditions. The USBR will meet future SWRCB standards unless the Secretary of the Interior determines that those standards are inconsistent with Congressional directives; provisions have been made to determine if the new standards apply to the federal project.

- The State is allowed to purchase interim water from the CVP for SWP contractors pursuant to a contract yet to be negotiated and approved by Congress. DWR estimates the SWP will be able to purchase up to 250,000 acre-feet per year for almost 20 years to help meet SWP needs while the State develops other resources.

- The USBR is allowed to contract for transportation of federal water to its contractors, via the California Aqueduct, equal to the amount DWR purchases from the federal project. DWR may also convey additional federal water if it does not interfere with SWP supplies or increase water costs to State contractors.

- The USBR is allowed to sign contracts for sale and delivery of additional CVP water.

San Joaquin Valley Drainage Program

High concentrations of salts and other constituents associated with irrigated agriculture threaten both agricultural production and the environment in the western San Joaquin Valley. These problems have been highlighted in the federal service area where Kesterson Reservoir is located.

DWR is obtaining the necessary data for reuse and disposal studies in the State service area. Trace element analyses are emphasized as well because some of the elements adversely affect water supplies and the environment. DWR also increased surface and ground water monitoring where trace elements might be a problem.

Data collected by the monitoring program are used to evaluate potential sites for commercial sized desalting plants. The data are also used to determine the feasibility of using waste water for irrigation and wildlife marshes.

DWR is closely following the U. S. Department of the Interior's agricultural waste water management and disposal studies of its San Luis Drain system. Problems with fish and waterfowl in the area demonstrated the need for further studies to define agricultural waste water management and disposal alternatives. DWR representatives serve on several committees and advisory groups connected with these studies.

The USBR submitted to the SWRCB a plan for phasing the closure of Kesterson Reservoir. The SWRCB rejected the phased closure, but approved an on-site disposal plan with monitoring and mitigation measures. The Regional Water Quality Control Board will adopt waste discharge requirements for the USBR's onsite disposal plan. The USBR has a year to construct on-site facilities after adopting the waste discharge requirements.

Los Banos Demonstration Desalting Facility

The long-term alternatives for disposing of agricultural drainage water have been reduced to land disposal, treatment, or land abandonment. More efficient management of irrigation and drainage reduces the amount of disposable drainage water; it does not eliminate the need for disposal. The operations at the Los Banos Demonstration Desalting Facility investigated the technology and economics of reclaiming drainage water by desalting. The systems operated at Los Banos have the potential for reducing costs of this type of treatment.

The plant began operation in the fall of 1983. The principal area of investigation during 1984 and the first half of 1985 was pretreatment for the removal of suspended solids and silica. During the second half of 1985 and the first half of 1986, the principal areas of investigation were ion-exchange softening, reverse-osmosis and vapor-compression evaporator desalting, and solar salt-gradient pond operation.

During spring 1986, Westlands Water District (WWD), as part of its agreement with the U. S. Department of the Interior, reduced its drainage water flow into the San Luis Drain. WWD ceased its drainage water flow in June 1986, and one month later, the USBR discharged fresh water from the Delta-Mendota Canal into the San Luis Drain for use at Kesterson Reservoir in northern Merced County. As a result of the USBR's action, the Los Banos Demonstration Desalting Facility ceased operation in August.

The Los Banos shutdown became permanent in December 1986 after it became apparent that new supplies of drainage water could not be obtained. Only

the vapor compression evaporator and the solar salt-gradient ponds continued operating. The former was operated to concentrate remaining brines on-site for use in the heat storage zone of the solar pond. Only the solar pond system remains active.

An evaluation of operations data from the Los Banos facility shows that the pretreatment systems require additional work. Although the systems are capable of producing desalting unit feedwater that meets the normal criteria for the turbidity and silt density index used by membrane suppliers, etc., unacceptable rates of membrane fouling still occurred. The ion-exchange softening and the reverse-osmosis and vapor-compression evaporator desalting units all operated as predicted (except for the fouling of the reverse-osmosis membranes, which is the fault of the pretreatment system, not the membranes). The solar pond system also operated as expected.

The premature shutdown of the Los Banos facility left much work to be done before the feasibility of a SWP desalting facility could be established. To complete the work, a smaller new facility is being planned for establishment at the site of WWD's new selenium removal plant being constructed near Mendota. The new facility will be operated by WWD under contract with DWR. Facility operations will concentrate on (1) improving pretreatment system performance, (2) testing several new approaches to pretreatment, (3) testing the ion exchange water-softening system to establish the operating limits of using desalting brine for regeneration, and (4) operating several small reverse osmosis units for confirmation of pretreatment performance and testing of operations at high levels of calcium concentration. A solar pond of at least 4 acres at Mendota also is proposed as a followup to the successful Los Banos pond.

Equipment installation at Mendota is expected to begin in late 1987. The pretreatment system should begin operation in early 1988, and the remainder of the systems should begin operation later in 1988.

Project Purpose Cost Allocations

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 1985 are updated in Appendix D to Bulletin 132-86. The appendix reported an additional $5,180,551 for recreation and fish and wildlife. The appendix reported an additional $5,180,551 for recreation and fish and wildlife over that amount reported in Appendix D to Bulletin 132-85. Appendix D to Bulletin 132-86 was submitted to the Legislature in July 1987. If the Legislature approves the reported costs, a like amount of the State's tideland oil and gas revenues are to be released to DWR from funds specifically authorized for that purpose.

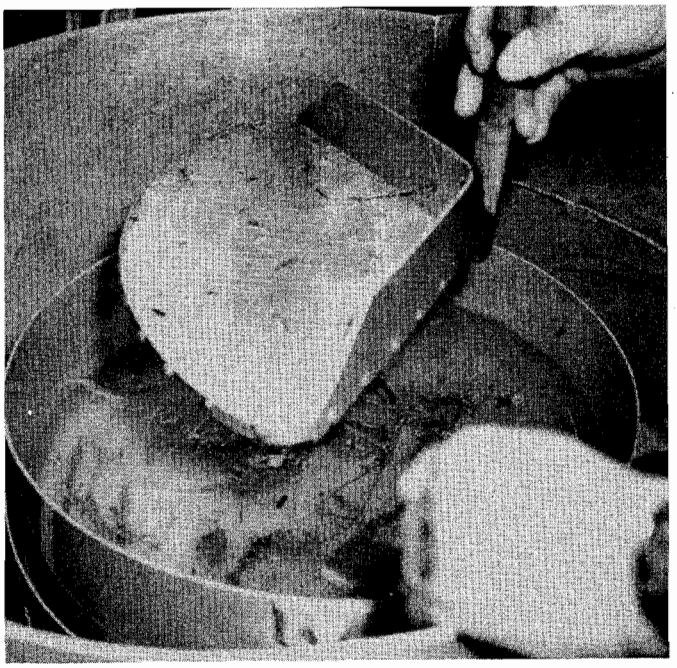
Two Agency Fish Agreement

More than seven years of negotiations between DWR and the Department of Fish and Game (DFG) came to a close when a Delta fish protection agreement was signed on December 30, 1986. This agreement was developed by an ad hoc committee consisting of DWR and DFG staff, representatives of the State water contractors, and representatives of major fishery and environmental organizations. The agreement is to offset direct losses of fish, mostly striped bass, chinook salmon, and steelhead, caused by SWP operation of the Banks Delta Pumping Plant. It was not the intention of the signing agencies to cover fish losses which occurred prior to 1986 in the agreement.

The agreement establishes a procedure to calculate direct losses of some species of fish on an annual basis. Direct fish losses are defined as losses which occur from the time fish are drawn into Clifton Court Forebay until the surviving fish are returned to the Delta. Despite fish screens currently installed at the pumping plant, losses are still substantial.

Under this new agreement, DWR will make annual payments to DFG. The payments will be used to evaluate fish losses and identify projects to increase fish production. The annual payments are estimated to be between $0.5 to $2 million. In addition to these annual payments, the SWP contractors will provide up to $15 million to institute a program to quickly increase Delta fish populations.

DWR and DFG will give priority to measures designed to protect or improve fish habitat and to preserve the genetic diversity of fish stocks. Other possible pro-



Sampling of fish screened from the Banks Delta Pumping Plant. The fish agreement will establish further fish protection measures.

jects include new fish screens, river barriers, feeder stream habitat improvements, and/or other upstream improvements. If fish hatcheries are chosen as options, wild brood stock will be used to preserve fish genetic diversity.

The agreement is also seen as an integral step in the process leading to installation of the four additional pumps at the Banks Delta Pumping Plant. One of several benefits of the new pumps would be the ability to increase pumping during seasons when the chances of fish losses are lower.

Water Rights Management

The SWP operates in the Delta under conditions set forth in the SWRCB's Decision 1485. Issued in August 1978, the Decision 1485 conditions are to remain in effect until the SWRCB issues new standards in 1990. Decision 1485 resulted in coordination of terms for SWP and CVP water rights permits and establishment of Delta water quality standards to ensure protection of water rights and fish and wildlife resources. Decision 1485 requires implementation of a program to monitor Delta water quality. The monitoring program and associated special studies conducted by DWR have contributed to a better understanding of the effects of SWP operation on the ecology of the Delta.

On July 7, 1987 the SWRCB began a three-year review process to reconsider water quality objectives designed to protect beneficial uses of the Bay-Delta estuary. The SWRCB will review the Water Quality Control Plans for the estuary (the Sacramento-San Joaquin Delta, Suisun Marsh, and San Francisco Bay) and Decision 1485, which places conditions on SWP and CVP water rights permits to protect the Delta and Suisun Marsh.

The review process has three phases. The first two phases involve hearings and adopting revised Water Quality Control Plans. The third phase will address implementing the water quality objectives, through conditions in water right permits within SWRCB jurisdiction, of the revised Water Quality Control Plans. For the first time, the SWRCB will consider the responsibilities of other water users, in addition to the SWP and CVP, in protecting the Bay-Delta estuary.

Delta Water Quality Monitoring and Reporting

DWR continues its extensive monitoring program in the Sacramento-San Joaquin Delta and the Suisun Marsh. A network of 27 discrete sites are sampled biweekly for a variety of physical, chemical, and biological constituents. This is supported by six multiparameter, continually 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 a network of continuous electrical conductivity and stage recorders throughout the Suisun Marsh, and 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 DWR's Water Data Information System. Tabulations of basic data and an evaluation report are submitted for annual SWRCB review. Copies of 1975 through 1985 reports are still available. DWR's special studies in 1986 included continued intense monitoring of the Central Delta. These studies are to assess and measure factors controlling phytoplankton growth, which is the first link in the Delta aquatic food chain.

Suisun Marsh

Suisun Marsh, in southern Solano County, consists of about 116,000 acres. The marsh supports as many as 200 species of wildlife ranging from the rare and endangered salt marsh harvest mouse to the great tule elk. Brackish marshes are more desirable than salt marshes because the less salty water fosters plants and habitat for various wildlife, especially wildfowl.

The salinity of the marsh affects the wildlife food chain and marsh salinity is affected by the outflow from the Sacramento–San Joaquin Delta. Therefore, in 1978, the SWRCB adopted its Decision 1485 to establish standards to protect the beneficial use of Delta water including the Marsh. Decision 1485 required the SWP and the CVP to develop a plan to meet specified water quality standards within the marsh, including physical facilities, a monitoring network, and operating procedures. Initial facilities were to be completed by January 1980 and the plan was to be implemented by October 1984.

The Initial Facilities include improvement to Roaring River Slough, construction of the Morrow Island Distribution System, and construction of the Goodyear Slough Outfall Structure. The facilities became operational in 1981, and the work was completed in 1983, with construction of the Roaring River Slough fish screens.

The coordinated protection plan for Suisun Marsh water quality was developed, as stipulated by Decision 1485, by the Suisun Marsh Technical Committee of the Interagency Ecological Study Program for the Sacramento–San Joaquin Estuary. The Plan of Protection, published with an EIR in 1984, includes:

The Suisun Marsh is one of the last remaining major wetlands in the United States

- 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 Marsh Plan of Protection is the Suisun Marsh Salinity Control Gates (SMSCG). The gates will help maintain the marsh's brackish character by allowing water flow into Montezuma Slough when flow in the slough is westward, and closing on the eastbound tide to trap the fresher water in the slough.

During 1986, a construction contract was awarded for the SMSCG. The control gates will be located adjacent to the Roaring River Slough Intake. Scheduled completion date is July 1988. After its completion, SMSCG will be tested for effectiveness in meeting the specified water qualities; additional features will be built as needed.

In November 1985, the USBR, DWR, Department of Fish and Game, and Suisun Resource Conservation District concluded negotiations on 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 late 1986, USBR received Congressional authorization to sign this and two collateral agreements defining mitigation and monitoring activities. These agreements were signed in March 1987.

In December 1985, at the request of the USBR, the SWRCB agreed to defer application of Decision 1485 standards 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 replacement of municipal water supplies in the Antioch–Pittsburg 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 use by 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 1986 water year as defined in the contracts. During the 1986 water year, water of usable quality was available to CCWD for 103 days, compared to the contract standard of 142 days. For the City of Antioch, usable water was available for 151 days, compared to the standard of 208 days. The deficiencies (39 days for CCWD and 57 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 235 days and 291 days, respectively, at the end of the 1985–86 water year.

Western Delta Industrial Water Users

Several industries near Antioch and Pittsburg use offshore water for both processing and cooling. When offshore water quality is below the industries' requirements, the Contra Costa Canal provides a substitute supply. These industries have not agreed to participate in contracts similar to those signed by municipal interests. The reasons cited include (1) belief that the SWP should provide compensation for all loss of offshore water regardless of who is responsible, and (2) desire that the SWP guarantee the quality and quantity of Contra Costa Canal water when it is used as a substitute supply.

DWR is continuing negotiations on water entitlement contracts with Western Delta Industries. The companies are Louisiana Pacific–Fibreboard and Gaylord Containers, Inc. (previously named Crown Zellerbach). Negotiation activities include technical studies and meetings to define contract provisions and formulate contract language. Draft contracts have been developed and are under review.

Delta Agricultural Water Users

For more than a decade, DWR has sought to contract with Delta agricultural agencies for the SWP to meet water quality standards necessary for reasonable beneficial uses throughout each agency's respective area, with relaxation 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.

Beginning in 1974, six agencies representing agricultural water interests in the Delta replaced the Delta Water Agency, which ceased to exist December 31, 1973. In 1981, contracts were executed with the North Delta Water Agency and East Contra Costa Irrigation District. Negotiations with the other agencies were inactive for several years until 1984, when the Central Delta Water Agency (CDWA) and South Delta Water Agency (SDWA) both indicated an interest in reopening negotiations. Negotiations with CDWA and SDWA are now proceeding.

South Delta Activities

SWRCB Decision 1485 did not establish water quality standards for the southern Delta because insufficient information was available, and because negotiations among the USBR, SDWA, and DWR were under way. If negotiations were not successful by January 1, 1980, the SWRCB was to have intervened. However, this date has been repeatedly extended at the request of all parties, even though SDWA has filed suit against the SWRCB for failing to include southern Delta standards in Decision 1485.

Following a March 1982 workshop, the SWRCB informed SDWA that it must petition the SWRCB if it wishes any motion regarding the adoption of standards. SDWA responded by criticizing this position, restating its position that the SWRCB must adopt standards for the southern Delta, and stating that negotiations had come to an impasse.

SDWA filed a lawsuit against DWR and the USBR in July 1982. The lawsuit is 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, and in 1986 SDWA, DWR, and USBR signed an agreement. Several actions resulted from this agreement: (1) the lawsuit was postponed, (2) negotiations began for a permanent solution to mitigate CVP and SWP impacts upon South Delta agriculture, and (3) the USBR agreed to provide certain qualities and flows in the San Joaquin River at Vernalis. In June 1986, DWR and SDWA agreed to implement the Interim South Delta Agricultural Water Level Mitigation Project to help solve the region's water supply problems.

Among the impacts of CVP and SWP operations claimed by SDWA is a water level reduction in some south Delta channels. Low water levels have, at times, prevented diversions of sufficient amounts of irrigation water. The agreement provides, among other things, a schedule for operating Clifton Court Forebay intake gates. This schedule will help avoid water intake during those tide stages that would affect the local farmers' irrigation pumping ability.

The diversion problem in Tom Paine Slough (Bulletin 132-86, page 21) is another area of concern, as is the land south of Highway 4, which receives irrigation water from Middle River.

Under the mitigation project agreement, the Pescadero Reclamation District, which diverts water from the Tom Paine Slough, contracted with Dutra Construction Company to dredge the slough. DWR paid for the dredging to remove accumulated sediment which impeded water flow to the District's diversion pumps. The work was completed in October 1986.

In May 1987, DWR placed a weir with tide gates in Middle River. The weir was installed during irrigation season to alleviate water supply problems, caused by low San Joaquin River flows and sometimes by SWP operations, in Middle River between Old River and Victoria Canal. The weir will be removed in the fall before winter flood flows begin.

Also as part of the agreement, SDWA will release claims against DWR for water level damage caused by Project 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;
- 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 December 31, 1986, approximately $118 million of the $130 million allocated under the Burns-Porter Act was disbursed for loans, grants, and administrative costs. During 1986, DWR distributed $1,595,000 of loan funds and $429,490 of grant funds under the Davis-Grunsky Act program.

Principal actions under the Davis-Grunsky Act program in 1986 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 its first disbursement of $1,595,000. Estimated cost of the project is $2.5 million.
- San Bernardino Valley Municipal Water District, San Bernardino County, received the final $429,490 of a recreation grant for its Yucaipa Project. The total authorized grant was for $4,283,250.
- 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 $3.0 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, is expected to submit a formal application for a $2.0 million construction loan. The proposed loan is for the upgrading and expansion of the water distribution system to serve the community.

- Applications for projects by San Lorenzo and Grass Valley, totaling $5 million, have been withdrawn.

DWR has not accepted any new applications for financial assistance under the Davis-Grunsky Act since 1981. This decision was made because the applications at the time, if approved, would have exceeded the remaining funds. Most of those applications were processed in the past five years.

The Davis-Grunsky program will not immediately reopen. The program's reopening will be delayed until the funding needs of Littlerock Dam are identified. (Littlerock Dam does not meet earthquake safety standards and was a consideration when the Legislature amended the Davis-Grunsky Act in 1976 to permit dam rehabilitation within the State assistance to local projects programs.) Funding for Bear Valley Dam, to meet earthquake standards, is another consideration in delay of reopening the Davis-Grunsky program.

State Legislation

No major water bills were introduced during 1986. However, several bills of interest were passed and signed by the Governor. These include:

- AB 1658 (Isenberg): Each agricultural water supplier will be required to prepare an information report to determine whether their district has a significant opportunity to save water. A district which determines it has such an opportunity will be required to prepare and adopt an agricultural water management plan. Chapter No. 954 of 1986.

- AB 1982 (Costa): Provides $150 million in low interest loans to local agencies for water conservation, ground water recharge, and drainage projects. Of the $150 million, $75 million is for water conservation and ground water recharge loans to be administered by DWR; $75 million is for agricultural drainage loans to be administered by the SWRCB. Chapter No. 6 of 1986. (Approved by voters in June 1986.)

- AB 2010 (Isenberg): Authorizes the DWR Director to negotiate with the USBR for the State to own or operate part or all of the federal Central Valley Project. Chapter No. 1384 of 1986.

- AB 2746 (Katz): Requires a state or local public agency owning a water conveyance facility to allow another local agency to use 70 percent of the facility's unused capacity to transfer water to a purchaser, if the transferor pays fair compensation for using the facility. Chapter No. 918 of 1986.

- AB 3722 (Costa): Requires DWR to establish a program to facilitate the voluntary exchange or transfer of water. Chapter No. 970 of 1986.

- SB 1700 (Torres): Requires DWR to negotiate with the USBR for the purchase and transfer of water. Chapter No. 1241 of 1986.

Federal Legislation

Two major water related House Resolutions (H.R.) were passed by Congress and signed by the President in 1986.

H. R. 3113 authorizes the Secretary of the Interior to enter into two agreements, (1) a coordinated operation agreement for the operation of the federal CVP and the SWP, and (2) a Suisun Marsh preservation agreement between the State, the federal government, and the Suisun Resource Conservation District. H. R. 3113 also authorizes an appropriation of $50 million to carry out the Suisun Marsh agreement. P. L. 99-546.

H. R. 6 authorizes several flood control and fish and wildlife mitigation projects and studies in California. H. R. 6 also establishes new cost-sharing and funding formulas for project construction. P. L. 99-662.

Litigation

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

Control Over SWP Operations

Department of Water Resources v. Contra Costa County Water Agency, et al., filed June 22, 1979, San Francisco Superior Court No. 765609. This suit was filed by DWR against the Contra Costa County Water Agency, North Delta Water Agency, Central Delta Water Agency, South Delta Water Agency, Byron Bethany Irrigation District, City of Vallejo, Union Properties, and several landowners in the Delta. It sought a declaratory judgment that the defendants must contract with DWR and pay for SWP water used in excess of water which would be available in the absence of the SWP. The suit also sought money damages to compensate DWR for water illegally used during July and August of 1977. DWR's actions were based upon quasi-contract and statutory obligations (Burns-Porter Act, Central Valley Project Act, Delta Protection Act, and Watershed of Origin Statutes). The parties agreed to dismiss the suit without prejudice on December 5, 1986.

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 CVP and SWP 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 which are determined in this litigation. Further activity has been postponed indefinitely while the parties attempt a negotiated settlement.

Delta Water Cases

United States of America v. State Water Resources Control Board, filed November 13, 1978, Court of Appeal, First Appellate District, Division One, No. A027690. This and seven other cases were brought to challenge SWRCB Decision 1485, which establishes conditions of water rights permits of the SWP and CVP and the SWRCB's revised water quality control plan for the Delta and Suisun Marsh. Six other cases were brought to invalidate the EIR on which Decision 1485 and the revised water quality control plan are based.

DWR was either a real party in interest or an intervenor in all of these cases, in which the Attorney General authorized DWR to represent itself. The cases were coordinated. On April 24, 1981, the court bifurcated the EIR cases from those that challenged Decision 1485 on its merits. The EIR cases were stayed until final judgment on the merits case.

The trial court issued a decision on April 13, 1984, ruling generally that SWRCB failed to proceed in the manner required by law and failed to support Decision 1485 and the plan with adequate findings. The decision was appealed and the Court of Appeal issued its decision on May 28, 1986.

The appellate court ruled that the SWRCB has broad authority to condition the water rights permits of the SWP and CVP. It also ruled that the SWRCB may limit diversions from the Delta by the State and federal projects to protect agricultural, municipal, and industrial water supplies in the Delta and to protect fish,

wildlife, and other aspects of the environment in the Delta, Suisun Marsh, and San Francisco Bay. The court relied on a 1983 California Supreme Court decision to allow the SWRCB to apply the public trust doctrine to diversions for the SWP.

The California Supreme Court refused to review the Court of Appeal decision.

Seepage Suits

During 1975 and 1976, several suits were filed against the State and the United States by more than 25 landowners adjacent to the Sacramento and Feather rivers 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, resulting from operation of the CVP and SWP.

One such case is H. S. Sanborn, et al. v. United States, filed March 22, 1976, U. S. District Court Cl 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.

Plaintiffs continue to pursue a theory of negligence and inverse condemnation in the State courts. The first case (John E. Baird, et al. v. State) may be tried in the fall of 1987.

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.

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, operation of the Kern River Intertie, 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.

On December 29, 1982, a related case, Kern Property Corporation v. State of California, acting through Department of Water Resources, et al., Kern County Superior Court No. 181265, was filed. DWR and the other defendants have filed their answers, but it is likely this action will be held in abeyance until the River West litigation is completed.

Electrical Power 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 (PGandE) 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 supplying power under the Suppliers Contract. LADWP continued supplying power to DWR until termination of the Suppliers Contract in 1983. The case is in the discovery stage.

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 claim 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 seeks liquidated damages for MCR's inability to deliver sufficient steam to operate the power plant at 55 MW. Discovery is in process. DWR and MCR entered into a memorandum of understanding, which provides a framework for a possible negotiated buyout of MCR's interests in the Geysers area and settlement of the case. Settlement negotiations have not yet been successful.

Water Supply Contracts

San Luis Obispo County Flood Control and Water Conservation District (SLOCFC&WCD) v. State of California, filed July 26, 1982, San Luis Obispo County Superior Court, No. 56635. In 1971, DWR agreed to an amendment to the water supply contract with Kern County Water Agency (KCWA) allowing KCWA to shift delivery of 50,000 acre-feet of entitlement water from the main aqueduct to Reach 31A on the coastal stub. The delivery was to be made within the existing capacity already allocated to KCWA in the coastal stub. The contract amendment provided that costs would not be reallocated provided that the change in deliveries did not cause an increase in costs to any other water contractor.

SLOCFC&WCD claimed that as a result of KCWA's increased entitlement deliveries through Reach 31A, DWR should have recalculated the proportionate use of facilities factors for that reach and should have reduced the charges to SLOCFC&WCD. Santa Barbara County Flood Control and Water Conservation District filed a similar suit, Santa Barbara County Flood Control and Water Conservation District v. State of California, filed August 4, 1982, Santa Barbara County Superior Court No. 142195.

The State cross complained against KCWA. KCWA filed a cross complaint against the State, SLOCFC&WCD, and Berrenda Mesa Water Storage District for an adjudication of rights under the various contracts involved.

In early 1987, the parties worked out the following settlement agreement: DWR paid SBCFC&WCD $260,000 and SLOCFC&WCD $200,000. KCWA agreed to pay DWR a total of $130,300 over a period of five years. DWR and KCWA agreed to rescind the contract provision that allowed the permanent shift of 50,000 acre-feet annually of entitlement deliveries from the main stem of the California Aqueduct to the Coastal Branch. DWR agreed to apply for the water rights permits for the Cachuma Reservoir enlargement and to allow SBCFC&WCD an additional year to decide whether to reacquire all or part of its previously relinquished Aqueduct capacity, associated entitlement water, and associated suspended costs. Both suits have been dismissed with prejudice.

Antelope Valley-East Kern Water Agency v. Local Agency Formation Commission of Los Angeles County, filed April 9, 1987. Residents of the Aqua Dulce area sought to detach the area from the Antelope Valley-East Kern Water Agency (AVEK), a water service contractor with the SWP. The Local Agency Formation Commission of Los Angeles County (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. No appeal has yet been filed.

Condemnations

State of California v. Norman P. Andresen, et al., filed December 4, 1981, Merced County Superior Court. This case involves 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.

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. The State has appealed.

CHAPTER IV
DESIGN, RIGHT OF WAY, AND CONSTRUCTION ACTIVITIES JULY 1, 1986 THROUGH JUNE 30, 1987

This chapter discusses the design, right of way, and construction work within the SWP construction divisions shown in Figure 8. A summary of DWR's program for safety review of SWP facilities is also included.

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

Plans and specifications for the additional pumping units at the Banks Delta Pumping Plant were completed and the bids were opened on June 17, 1987. Design work also began on contracts for the pump discharge valves, plant overhead bridge crane, and a new service bay. Completion of the four new units will require 10 separate construction contracts. Initial start up for the first two units is scheduled for April 1991.

Design was also completed and bids opened for a new warehouse and welding building at the Delta O&M Center.

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. Most of the design work required for project contracts is complete. Between July 1986 and June 1987, completed design work for project contracts included: switchgear, transformers, and circuit breakers for both pumping plants; the Barker Slough air chambers and Travis surge tank; the fiber optics communication facilities; and dredging Barker Slough. Planned operational date for the North Bay Aqueduct, Phase II is November 1987.

FIGURE 8. SWP CONSTRUCTION DIVISIONS

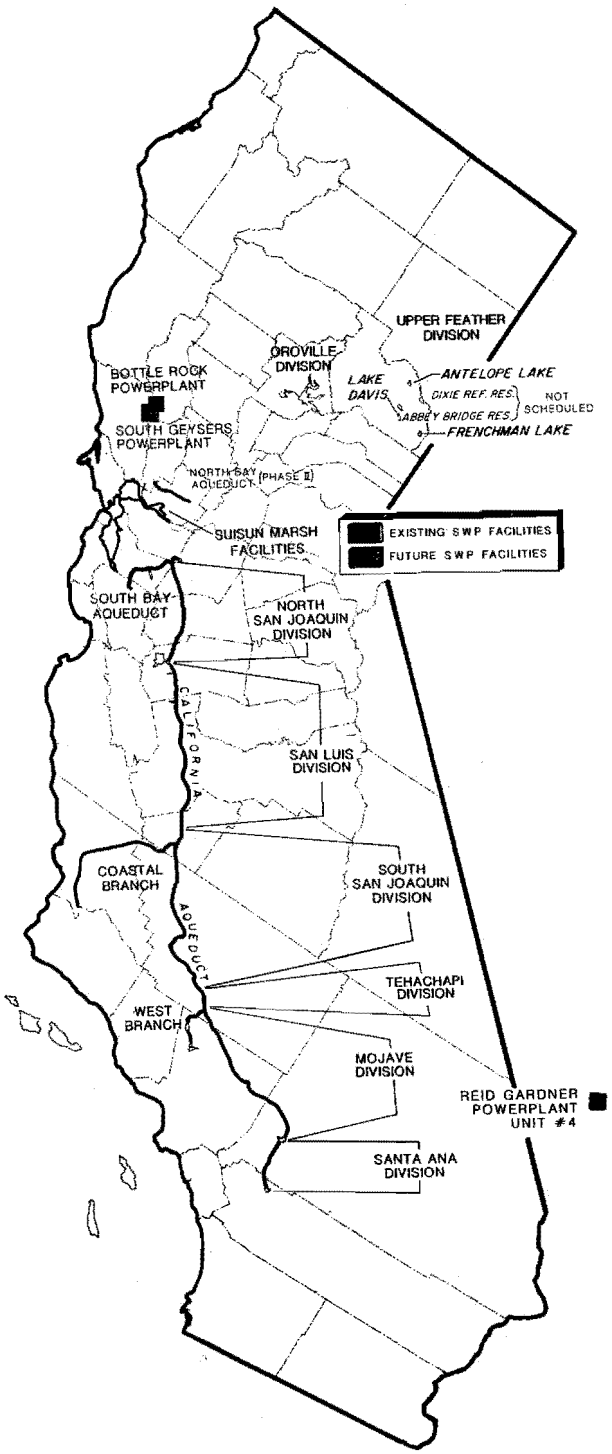


TABLE 12. SWP DESIGN ACTIVITY IN PROGRESS, JULY 1986—JUNE 1987

Division or Facility	Activity	Begin Design	Complete Design
Energy Supply	Bottle Rock Powerplant		
	Turbine Rotor Refurbishing	Dec. 1986	(a
	South Geysers Powerplant		
	Completion	Aug. 1981	(b
North Bay Aqueduct	Barker Slough Air Chambers and Travis Surge Tank	Mar. 1986	Sep. 1986
	Barker Slough Dredging	Jul. 1985	Apr. 1987
	Monitor and Control System		
	Fiber Optics System	Jan. 1986	Mar. 1987
	Control System	Jan. 1986	Oct. 1987
	Barker Slough Microwave Tower	Jun. 1987	Sep. 1987
	North Bay Aqueduct Plants		
	Switchgear	Apr. 1985	Sep. 1986
	Power Transformers	Apr. 1985	Sep. 1986
	115-kV Circuit Breakers	Feb. 1986	Sep. 1986
North San Joaquin Division	Harvey O. Banks Delta Pumping Plant		
	Service Bay	Feb. 1987	Apr. 1988
	Pumps	Jan. 1987	Mar. 1987
	Valves	Apr. 1987	Mar. 1988
	Overhead Crane	Mar. 1987	Sep. 1987
	Delta O&M Center		
	Warehouse and Welding Building	Sep. 1986	Mar. 1987
San Luis Division	Dos Amigos Pumping Plant		
	Rewinding Stators, Units 1 and 2	Jul. 1986	Oct. 1986
	Wear Rings, Units 2, 4, and 6	Dec. 1986	Feb. 1987
Tehachapi Division	Edmonston Pumping Plant		
	Labyrinth and Shaft Seals	Dec. 1986	Feb. 1987
	Rewinding Stator, Unit 4	Dec. 1986	Feb. 1987
West Branch	Castaic O&M Center		
	Roof Restoration	Feb. 1986	Nov. 1986
	Seal Coating Roads and Parking Areas	Mar. 1986	May 1986
	Vista Del Lago Visitor Center	Apr. 1987	Jan. 1988
	Disposition of Gorman Creek		
	Interim Facilities	Jan. 1987	Sep. 1987
Mojave Division	Pearblossom Pumping Plant		
	Spare Stator Coils	May 1986	Mar. 1987
	Canal		
	Pearblossom Pumping Plant to Southern Pacific Railroad Bridge	Mar. 1986	Jul. 1986
	Southern Pacific Railroad to Mojave Siphon	Jul. 1986	Dec. 1986
	Siphons		
	Three Rectangular Siphons	Mar. 1986	Nov. 1986
	Big Rock Siphon	Jul. 1986	Apr. 1987
	Nine Circular Siphons	Jun. 1986	Aug. 1987
	Pearblossom Pumping Plant		
	Pumps No. 7, 8, and 9	Aug. 1984	Dec. 1986
	Motors	Dec. 1986	Sep. 1987
	Valves	Apr. 1987	Jan. 1988
	Initial Contract	Apr. 1986	Jan. 1988
	Switchboards	Oct. 1986	Jan. 1988
	Switchgear	Oct. 1986	Jan. 1988
	Control System	Oct. 1986	Jun. 1989
	Transformers	Jun. 1987	Aug. 1988
	Field Office and Materials Laboratory	Sep. 1986	Jan. 1987
	Office Trailer Shade Shelter	Sep. 1986	Oct. 1986
	Mojave Siphon Powerplant		
	Preliminary Design	Jul. 1986	Jun. 1987
Santa Ana Division	Devil Canyon Powerplant		
	Warehouse	Dec. 1985	Jan. 1987
	Initial Contract	Mar. 1986	Oct. 1987
	Turbines, Governors, and Valves	Mar. 1986	Mar. 1987
	Bypass Equipment	Apr. 1986	Feb. 1987
	Penstock	Apr. 1986	Dec. 1987
	Switchboards	Mar. 1987	Nov. 1988
	Switchgear	Feb. 1987	Oct. 1988
	Generator	Mar. 1987	May 1988

a) Schedule being established.
b) Design activity on hold pending future decision.

Design on the remaining control and communication systems required for inclusion in the SWP Supervisory Control and Data Acquisition System is scheduled for completion in fall 1987. A manually operated interim control and communication system should be available in fall 1987. The complete system, providing total integration with the Project Operation and Control Center and Delta Area Control Center, is planned to be available in October 1988.

East Branch Enlargement (Mojave and Santa Ana Divisions)

Enlargement of the East Branch of the California Aqueduct will accommodate an additional flow of 1,500 to 1,683 cfs in the various affected reaches. The majority of enlargement work will be completed during first-stage construction, which will provide at least half of the ultimate enlargement capacity. Over 50 contracts are required to complete first-stage construction. The second stage of the East Branch enlargement will be constructed when needed to meet water delivery schedules or when requested by MWDSC (whichever is earlier).

Welding a section of Thermalito Diversion Dam Powerplant

Raising the canal lining required five contracts. Design of the fifth and last contract was completed in December 1986. Fifteen canal siphons require additional barrels; in 1987, DWR awarded the first contract bids for additional barrels at three of the 15 siphons. Design is essentially complete for the additions at 10 other siphons.

Design is also under way to expand Pearblossom Pumping Plant to house five additional pumping units. Three units, each with a design capacity of 375 cfs, will be installed during the first stage of enlargement. Two of the new units will be considered as enlargement facilities (raising total plant capacity to 2,200 cfs) and the third will serve as a spare unit to enhance the plant's capability to deliver scheduled flows. Design work for the pump contract was completed in December 1986 and bids were received in March 1987. Design is in progress for most of the other contracts required to complete the plant expansion and install the three new pumping units.

Preliminary design is continuing to determine the size, shape, and setting of the new Mojave Siphon Powerplant. Final design is expected to begin in 1987.

Devil Canyon Powerplant will be expanded to accommodate two additional generating units. The decision to install both additional units during first stage construction was based upon an operational and economic study. The 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. (DWR is studying the possibility of adding a second afterbay, but it is not yet an element of the present enlargement program.)

In early 1987, design was completed on contracts for Devil Canyon Powerplant, turbines, governors, and valves. Design is progressing on schedule for the remaining contracts.

Under MWDSC Amendment No. 21 (see Chapter III), a sleeve valve and a bypass pipeline will be added to ensure minimum deliveries in the event of an emergency. The bypass facilities are not considered a part of the East Branch Enlargement.

Land and Right of Way

In 1986, DWR spent $600,000 for land acquisition in excess of credits for sales of surplus property and return of condemnation deposits. The total net expenditure for SWP right of way through December 1986 was $118.5 million. Twenty-two parcels (465 acres) were acquired during the year. The cumulative total of excess lands sold through 1986 was 853 parcels (13,649 acres).

Thirty-six new and existing leases were monitored through December 1986; annual revenues totaled $67,500.

Transfer of 2,309 acres from DWR to the Department of Fish and Game (DFG) was completed in 1986. The land transfer, in the Santa Ana Division, was based upon a mitigation agreement between DWR, DFG, and MWDSC. Another 691 acres will be transferred. DWR concluded an agreement with DFG and the 46th District Agricultural Association to complete the transfer to DFG of 600 acres near Perris Dam.

DWR's 1986-87 program included the following land and right of way actions:

Energy Supply

- At Bottle Rock Powerplant, one parcel along Bottle Rock Road was acquired and six parcels remain to be acquired. One parcel remains to be acquired on High Valley Road.

- Mitigation land acquisition was completed for South Geysers Powerplant. Land transfer to DFG will be completed within six months. Transmission line acquisition negotiations are suspended pending resolution of the steam supply.

- The Rorabaugh Steamfield Leasehold (369 acres) and Bruno property (52.9 acres) were acquired for South Geysers Powerplant.

North Bay Aqueduct

- A total of 70 parcels must be acquired for Phase II of the North Bay Aqueduct. Eighteen parcels were acquired in 1986-87, and 16 acquisitions remain to be completed. Negotiations are in progress to acquire the remaining necessary right of way, right of entry permits, or court ordered possessions to meet existing construction schedules.

South Bay Aqueduct

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

Suisun Marsh Facilities

- DWR obtained one parcel and a right of entry allowing construction to proceed. Revision of the control structure plans necessitates acquiring one additional parcel.

North San Joaquin Division

- DWR acquired one parcel for permanent drainage required by the Division of Operations and Maintenance. Appeal of the verdict in the State vs. Andreson trial is ongoing. (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 under way between July 1986 and June 1987. High-

lights of construction activities during the report period include work on the following facilities.

Energy Supply

- Bottle Rock Powerplant cannot be operated at its designed maximum capacity of 55 MW because the steam supplier is unable to provide the full amount of required steam. The unit was taken out of operation between November and December 1986 to perform necessary work under Completion Contract No. 2. All contract work was completed by April 1987, with the exception of the cooling tower which did not meet design operational criteria. A contract was let to furnish an after-condenser unit to be installed during the next plant outage.

- A combination of factors has postponed indefinitely the completion of the South Geysers Powerplant. The lack of a proven steam supply and depressed energy prices make South Geysers Powerplant an uneconomical energy source at this time.

- In March 1986, however, construction of the turbine-generator building at South Geysers was essentially completed. Manufacturing and fabrication of the turbine-generator and associated electrical and mechanical equipment were also completed in 1986. The equipment is currently stored in and around the plant structure, pending a decision to resume construction of the power plant.

Oroville Division

- Construction of the Thermalito Diversion Dam Powerplant structure was completed in January 1986. Installation of the turbine-generator and associated equipment was started in early 1986 and should be completed in July 1987. The unit began running operational testing and limited commercial energy production in July 1987.

- Other construction contracts include Thermalito Afterbay Dam temporary wellpoint system, pressure relief system, and corner reinforcement. All these contracts were completed by March 1987.

Suisun Marsh

- The contract for the construction of the Suisun Marsh Salinity Control Gates was awarded in May 1986. As required by the contract, the access road, dikes, and driving of sheet piling were completed by mid-October 1986.

- The contractor set up his casting yard at the Stockton Ship Basin to construct the radial gate, the flashboard, and the boat lock structures. The three reinforced concrete structures were constructed on barges and floated to Rio Vista, where the gates were installed. They will then be towed to the site in Montezuma Slough and installed in fall 1987.

North Bay Aqueduct, Phase II

- Construction of North Bay Aqueduct, Phase II, has been under way since fall 1984. Construction of the 23 miles of pipeline was divided into six construction reaches. Five of the six reaches are completed. The remaining reach, No. 5, is under construction and is scheduled for completion in October 1987. Cordelia and Barker Slough pumping plants construction was started in 1986. Manufacture of the pumping units was started in late 1985; pumps and auxiliary equipment should be in operation by October 1987.

Tehachapi Division

- Three new pumping units, Nos. 10, 12, and 14, have been operating at A. D. Edmonston Pumping Plant since December 1984. Final operational testing and all work on the three units was completed in June 1986. Unit No. 4 motor was repaired during the year and was back in service in early 1987.

Mojave Division

- All Alamo Powerplant work was completed in early 1987 with the exception of Unit No. 1 final efficiency testing. This testing was delayed because of operational problems. The unit has been in limited commercial operation since July 1, 1986.

TABLE 13. SWP CONSTRUCTION ACTIVITIES

Division or Facility	Activity (Specification Number)	Start Date	Planned Completion Date(a	Contract Costs(b ($1,000)
Energy Supply	Bottle Rock Powerplant			
	Turbine/Generator (80-27)	Nov. 1980	Mar. 1987	8,108
	Powerplant Construction (81-41)	Feb. 1982	Apr. 1987	40,000
	Transformers for Bottle Rock and South Geysers Power Plants (82-22)	Oct. 1982	Jun. 1987	1,335
	Cooling Tower (82-33)	Nov. 1982	Jul. 1987	3,215
	Stretford System (82-36)	Nov. 1982	Mar. 1987	3,566
	Completion Contract No. 2 (86-08)	May 1986	Apr. 1987	1,260
	After-Condenser Replacement (86-25)	Sep. 1986	Apr. 1987	466
	South Geysers Powerplant			
	Turbine Generator (82-48)	Jan. 1983	(c	7,950
	Powerplant Construction (82-54)	Jan. 1983	Mar. 1987	17,100
	230-kV Line Breaker (83-12)	Jul. 1983	(c	189
	Condenser and Gas Removal System (83-13)	Aug. 1983	(c	4,440
	Plant Auxiliary Control System (83-15)	Aug. 1983	(c	488
	Control Switchboards (83-21)	Aug. 1983	(c	335
	Stretford System (83-28)	Sep. 1983	(c	3,850
	Cooling Tower (83-31)	Oct. 1983	(c	3,952
	Switchgear Motor Control (84-05)	Apr. 1984	(c	640
	Cooling Water and Condensate Pumps (84-01)	Apr. 1984	(c	524
Oroville Division	Edward Hyatt Powerplant and O&M Center			
	Restroom Modifications (86-21)	Sep. 1986	Apr. 1987	112
	Furnishing Generator Armature Winding Coils (85-01)	Mar. 1985	Oct. 1986	233
	Oro Blvd.-Hyatt Powerplant Rd. Modification (86-17)	Jul. 1986	Sep. 1986	82
	Thermalito Afterbay Dam			
	Modification (Corner Reinforcement) (86-30)	Aug. 1986	Oct. 1986	271
	Pressure Relief System (86-04)	Apr. 1986	Mar. 1987	693
	Thermalito Diversion Dam			
	Powerplant Turbine, Generator and Governor (84-19)	Aug. 1984	Jul. 1987	1,711
	Powerplant Structure (84-44)	Dec. 1984	Jul. 1987	3,800
	Control Switchboard, Switchgear and Station Transformer (85-14)	Aug. 1985	Jul. 1987	375
	Power Distribution System (86-01)	Mar. 1986	Jul. 1987	548
	Acoustic Flowmeter (86-05)	May 1986	Jul. 1987	124
	Penstock Shut-off Butterfly Valves (86-02)	Mar. 1986	Jul. 1987	266
Suisun Marsh	Suisun Marsh Salinity Control Gates (86-10)	May 1986	Jul. 1988	13,820
North Bay Aqueduct, Phase II	Pipelines			
	Reach IV: Clay Bank Road to Ledgewood Creek (85-34)	Jan. 1986	Oct. 1987	9,300
	Reach V: Travis Surge Tank to Clay Bank Road (86-15)	May 1986	Oct. 1987	7,918
	Reach VI: Barker Slough Pumping Plant to Travis Surge Tank (85-38)	Mar. 1986	Apr. 1987	12,800
	NBA Air Chambers and Travis Surge Tank (86-48)	Dec. 1986	Oct. 1987	2,033
	Barker Slough Dredging	Jul. 1987	Dec. 1987	1,000
	Pumping Plants			
	Pumping Units (85-22)	Sep. 1985	Oct. 1987	966
	Cordelia Pumping Plant and Forebay (86-03)	Mar. 1986	Oct. 1987	3,971
	Barker Slough Pumping Plant (86-27)	Sep. 1986	Dec. 1987	4,510
	Power Transformers (86-43)	Dec. 1986	Aug. 1987	459
	115-kV Circuit Breakers (86-45)	Dec. 1986	Sep. 1987	181
	Switchgear (86-47)	Dec. 1986	Jun. 1987	350
North San Joaquin Division	John E. Skinner Delta Fish Facility			
	Electrical and Mechanical Modifications (85-05)	Apr. 1985	Nov. 1986	100
	Harvey O. Banks Delta Pumping Plant			
	Vertical Centrifugal Pumps (87-18)	Jul. 1987	Dec. 1991	7,524

IN PROGRESS, JULY 1986—JUNE 1987

Division or Facility	Activity (Specification Number)	Start Date	Planned Completion Date(a	Contract Costs(b ($1,000)
San Luis Division	San Luis Pumping/Generating Plant			
	Wearing Rings, Seal Rings, Seal Pistons and Cap Screws (85-17)	Jul. 1985	Feb. 1987	828
	Dos Amigos Pumping Plant			
	Repair, Motor Units No. 1 and 2 (87-02)	Mar. 1987	Dec. 1987	1,111
South San Joaquin Division	Replacement Pump Impellers (86-09)	Jun. 1986	Sep. 1987	120
Tehachapi Division	Edmonston Pumping Plant			
	Motors (81-02)	Jun. 1981	Jun. 1986	6,400
	Emergency Repair of Motor Unit No. 4 (86-11)	Apr. 1986	Aug. 1986	292
Mojave and Santa Ana Divisions	Alamo Powerplant			
	Turbine (80-16)	Jul. 1983	Jul. 1986	2,200
	Generator (83-14)	Aug. 1983	Jul. 1986	2,100
	Completion Contract (83-18)	Aug. 1983	Mar. 1987	4,600
	Governor (83-20)	Jul. 1983	Jul. 1986	360
	Acoustic Flowmeter (84-07)	Apr. 1984	Jul. 1986	108
	Mojave Aqueduct Modification			
	Reach I: Cottonwood Chute to Myrick Siphon (85-25)	Sep. 1985	Sep. 1986	6,260
	Reach II: Myrick Siphon to Leona Siphon (86-13)	Aug. 1986	Apr. 1987	6,280
	East Branch Enlargement - Canal and Siphons			
	Pearblossom Pumping Plant to Southern Pacific Railroad Bridge (86-40)	Nov. 1986	Nov. 1987	5,755
	Southern Pacific Railroad Bridge to Mojave Siphon (87-06)	Apr. 1987	Jun. 1988	8,500
	Reinforced Concrete Box Siphons 1, 2, and 3 (87-03)	Apr. 1987	Sep. 1987	913
	Nine Cylinder Siphons	Dec. 1987	Jan. 1990	11,820
	East Branch Enlargement - Plants			
	Pearblossom Pumping Plant, Pumps 7, 8, and 9 (87-04)	Apr. 1987	Mar. 1992	5,600
	Field Office Trailer Shelter (86-49)	Dec. 1986	Dec. 1986	49
	Field Office and Materials Laboratory (87-08)	Apr. 1987	Jun. 1987	150
	Devil Canyon Powerplant Warehouse (87-07)	May 1987	Dec. 1987	407
	Turbine, Governor, and Valves (87-15)	Jun. 1987	Jan. 1992	
	Sleeve Valve (87-05)	Jul. 1987	Mar. 1989	335
West Branch	Southern California O&M Center			
	Seal Coating Roads and Parking Areas	Aug. 1986	Sep. 1986	123
SWP - California Aqueduct General	Replacement Pump Impeller for Oso and Pearblossom Pumping Plants (84-08)	Jun. 1984	Mar. 1987	575
	Repair Work at Oroville, Delta, and San Luis Field Divisions (84-33)	Aug. 1984	Mar. 1987	2,800
	Wearing Rings, Seal Rings, Seal Pistons - San Luis and Tehachapi Divisions (85-17)	Jul. 1985	Feb. 1987	828
	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	Mar. 1987	540
	Repair Work at San Joaquin and Southern Field Division (86-50)	Feb. 1987	Jun. 1989	3,020
	Repair Work at Oroville, Delta, and San Luis Divisions (86-53)	Mar. 1987	Jun. 1989	3,080
	Repair Work at Geysers Area (86-54)	Feb. 1987	Jun. 1989	172

a) Date work is operationally complete. Testing and contract documentation may continue after this date.
b) Costs represent actual costs of completed work or estimated final costs of construction in progress.
c) Installation deferred pending acquisition of an adequate steam supply.

- Modification of the Mojave Aqueduct from Cottonwood Chutes (Alamo Powerplant) to Pearblossom Pumping Plant was started in July 1985 and completed in April 1987. The work involved raising the aqueduct lining by about 4 feet vertically over three reaches each approximately 18 miles long. A majority of these modification costs were allocated as part of the cost of enlarging the East Branch.

- East Branch enlargement construction began in 1986. Work includes enlarging the canal from Pearblossom Pumping Plant to Mojave Siphon (two reaches aggregating about 40 miles), adding more siphon barrels at various locations along the aqueduct, installing additional pumping units at Pearblossom Pumping Plant, and installing additional turbine-generator units at Devil Canyon Powerplant.

- The contract for the first aqueduct reach, Pearblossom Pumping Plant to Southern Pacific Railroad Bridge (SPRB), was awarded in November 1986 and is planned for November 1987 completion. The contract for the second aqueduct reach, from SPRB to Mojave Siphon, was awarded in April 1987 and is planned to be completed in June 1988. Three siphon contracts were awarded in 1987. Contracts for the additional pumps, motors, and turbines for Pearblossom Pumping Plant and Devil Canyon Powerplant were awarded in spring 1987. All work on first-stage enlargement of the East Branch is planned for 1992 completion.

Safety of SWP Facilities

DWR initiated a revised safety review program of SWP dams in 1975. This review program is required by Water Code Section 6056. Under this program, consulting boards conduct independent safety reviews of each dam every five years. DWR participates in the safety review process by providing technical engineering support to the various consulting boards. The first safety evaluation under this review program has been conducted and DWR is now implementing the boards' recommendations. Following is a summary of activities in progress under this program.

- A new Safety Review Board will be convened in fall 1987 to review Perris Dam and Cedar Springs Dam.

- DWR continues the Safety Review Board's recommended monitoring of the concrete slab movement in the Castaic Dam Spillway.

- The permanent pressure relief system, corner reinforcement, and additional fill were completed at Thermalito Afterbay Dam. The pressure relief system is being monitored to ensure meeting the design criteria.

- The Safety Review Board recommended dewatering of Patterson Reservoir on the South Bay Aqueduct every five years for inspection of the asphalt lining. During the November 1986 inspection, two asphalt lining areas were repaired to reduce seepage possibilities and silt was removed from the invert.

- The Safety Review Board's recommended additional dynamic soil studies and seismic stability analyses for Del Valle Dam are being reexamined.

To meet the Federal Energy Regulatory Commission's (FERC) five-year safety review requirements, an independent consultant will be retained in late 1987 to inspect W. E. Warne Powerplant and related facilities; when completed, the consultant's final report will be submitted to FERC.

Hydrology studies for Los Banos Creek and Little Panoche Creek Detention dams indicate the dams could be overtopped under extreme flood conditions. Studies for both dams to determine the most cost effective methods to resolve this problem are continuing and should be finished in 1987.

A Federal Safety Evaluation of Existing Dams investigation is in progress of O'Neill Forebay Dam. This investigation is to resolve the problem of possible foundation liquefaction of the dam during earthquakes. Consultants will review possible corrective actions and make recommendations.

Monitoring San Luis Dam's crest cracks continues. No lengthening of old cracks was observed since 1985, and openings have remained the same. One additional parallel hairline crack, about 50 feet long, has been observed one foot to the east of the old crack. Two minor cracks, each about 10 feet long, have also been observed.

Review of Public Safety at SWP Facilities

In 1986, a consulting contract was awarded to DDS and Delta Vision to evaluate the existing public safety programs used at SWP facilities. The consultants will recommend additional actions to reduce SWP public liability. The necessity of reducing SWP public liability became evident with the recent settlement of two lawsuits for a total of $4.5 million. One lawsuit involved the drowning of a person fishing the California Aqueduct, the other was related to serious bodily injuries resulting from an accident on the bikeway.

The contract provides for a review of public safety at all SWP facilities; however, special emphasis will be given to the California Aqueduct and the walk-in fishing, hiking, sightseeing, and bikeway programs. The consultants completed field data collection during 1986 and furnished a draft report of their findings and recommendations in February 1987. The report was completed in July 1987. This report will provide guidance in upgrading the SWP public safety programs, which in turn should reduce both the occurrence of accidents and the public liability aspect of these mishaps.

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 near- 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 1986, requesting estimates of (1) monthly SWP water requirements during 1987 through 1991, 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 1986, SWP contractors submitted their estimated monthly SWP water delivery requirements for the five-year period 1987 through 1991.

Entitlement Water

Table 14 shows the estimated 1987 through 1991 entitlement water needs submitted in 1986. 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 1987 totaled 2,765,000 acre-feet. Because of below average precipitation in late 1986, DWR imposed deficiencies on 1987 agricultural entitlement deliveries. On December 1, 1986, pursuant to the 1987 Rule Curve, approved entitlement water totaled only 2,255,000 acre-feet. Scheduled agricultural deficiencies totaled 462,215 acre-feet. On January 12, 1987, MWDSC reduced its entitlement water request by 184,500 acre-feet; DWR diminished the contractors' scheduled agricultural deficiencies accordingly, to 277,715 acre-feet. MWDSC reduced its entitlement water request by an additional 195,000 acre-feet after signing a power sale agreement, on February 24, 1987 (see "Power Sale to MWDSC," Chapter III). This reduced the total scheduled agricultural deficiencies to 82,715 acre-feet.

After several March 1987 storms, DWR reanalyzed the SWP's 1987 delivery capability and concluded that conditions no longer required imposing agricultural entitlement water deficiencies. At the end of March, DWR removed deficiencies and gave the contractors the option of revising their entitlement water requests. Revised entitlement requests for 1987 totaled 2,312,772 acre-feet.

Miscellaneous Water

Some other types of water besides entitlement water are scheduled for 1987 delivery. Anticipated water deliveries include 6,953 acre-feet of recreation water and 4,360 acre-feet of non-Project water, pumped through interim facilities, to Napa County Flood Control and Water Conservation District. Other water slated for 1987 delivery includes 7,547 acre-feet of advance storage program water delivered during January and February 1987 and 114,935 acre-feet of unscheduled water delivered through April 30, 1987.

SWP Water Delivery Capability

The measure of delivery capability for the SWP was founded on the concept of "firm yield" operation. This concept is embodied in the water supply contracts under the term "minimum project yield," defined as the dependable annual water supply that can be made available without exceeding specified allowable reductions in agricultural deliveries during an extended dry period.

TABLE 14. WATER CONTRACTOR'S REQUESTS FOR ENTITLEMENT WATER, 1987 THROUGH 1990

Year Estimate Submitted	Annual Delivery Requests (Acre-Feet)(a					
	1986	1987	1988	1989	1990	1991
1986		2,765,040	2,825,543	2,880,172	2,935,137	2,972,543
1985	2,367,781	2,655,526	2,739,093	2,789,545	2,849,832	
1984	2,200,438	2,625,184	2,828,253	2,877,215	2,934,450	
1983	2,682,948	2,780,832	2,852,989	2,906,699		
1982	2,711,107	2,800,235	2,888,377			
1981	2,788,111	2,901,175				
1980	2,709,710					
Total Entitle-ments(b	3,296,709	3,500,435	3,694,269	3,958,190	4,108,321	4,157,156

a) Includes deferred entitlement. For 1986 and 1987, 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 1986 and 1987).

The current firm yield of existing SWP facilities is approximately 2.4 million acre-feet per year. As shown in Table 14, contractor requests for delivery of entitlement water exceed the firm yield of existing facilities beginning in 1987. Since timely augmentation of SWP yield through new construction has been precluded, DWR has been devoting increasing attention to the potential for increasing the average annual delivery capability of existing facilities by using operating strategies other than those used for the conventional firm yield mode of operation.

Short-range decisions for the operation of SWP facilities are made with an annual "rule curve." The rule curve provides a rational means to decide how much water may be delivered in a given year and how much should be left in storage as insurance to protect against subsequent dry periods. Until recently, the procedure used to develop the annual rule curve was designed to assure a high probability of meeting future delivery schedules. This resulted in relatively high fall storage target levels for Lake Oroville and the State portion of San Luis Reservoir, and quite often delayed approval of water delivery requests until late in the water-producing season. Furthermore, the former procedure did not cover how such storage reserves would ever be used, since the rule curve was based on a running short-term (2-year) analysis period.

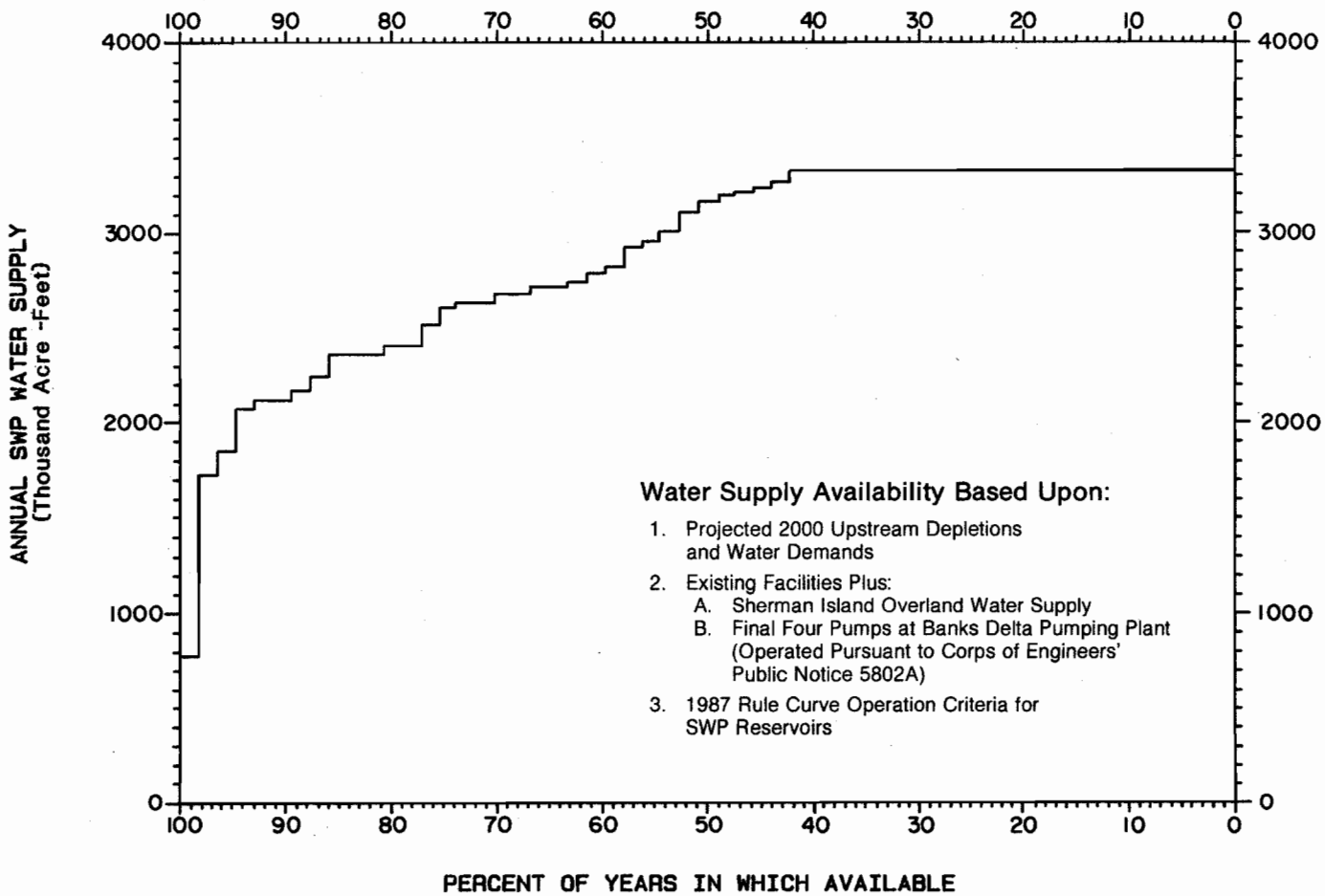
As the contractors' annual requests for entitlement water continued to rise, DWR became increasingly aware that alternative rule curve procedures could permit larger deliveries in average or wet years without substantially reducing delivery capability during dry years. With the concurrence of the SWP contrac-

tors, one such alternative rule curve procedure was adopted, on a trial basis, for use in 1986. The 1986 rule curve procedure relaxed the requirements for fall carry-over storage somewhat, permitting larger deliveries in most types of years, but at the possible expense of reduced deliveries in the driest years. The modified rule curve permits approval of a reasonable annual delivery early in the water-producing season without jeopardizing the average dry-period supply that would be available during a recurrence of the historic 1928-34 drought period.

For 1987, the contractors approved a modification of the 1986 rule curve to lower the fall reservoir carry-over requirements in the earlier years of an extended dry period. Figure 9 shows projected SWP water supply in the year 2000 under the 1987 rule curve operating criteria. The 1987 criteria result in significant increases in water supply availability in many years (compared to the 1986 criteria, see Figure 9 on page 86 of Bulletin 132-86). These increases occur in the range of about 40 to 90 percent availability. In extremely dry years, the 1987 criteria lead to somewhat more severe deficiencies than the 1986 criteria (because reservoir storage would have been drawn down to increase deliveries in the preceding years). However, average dry period deliveries during a repetition of the 1928-34 drought would be about the same with either of the operational criteria used in Figure 9.

DWR is continuing its studies of alternative operating strategies and its dialogue with SWP contractors on these studies. The contractors will continue to be

FIGURE 9. SWP WATER SUPPLY AVAILABILITY (March-February)



given the opportunity to make informed choices on future operating criteria and facility development.

Alternatives for Delta Water Transfer

DWR continues to study various solutions to Delta problems that result from the inefficient water transfer capability of the Delta. DWR planning efforts are directed toward developing information to solve the following problems related to SWP operations:

- degradation of water quality at the Contra Costa Canal intake and at the Tracy and Banks Delta pumping plants caused by salinity carried into the Delta from flow reversals in the San Joaquin River;
- depletion of upstream reservoir storage because of larger releases necessary to compensate for current inefficient water transfer in the Delta;
- lowered water levels in Delta channels near the export pumps;
- potential scouring of channels and erosion of levees in the southern and central Delta;
- disruption of Delta fish and wildlife habitat and interference with fish migration; and
- limited conveyance capacity in the southern Delta channels.

Studies seeking solutions to these Delta problems will review, but not duplicate, previous efforts.

South Delta Water Management Planning

In October 1986, DWR, the USBR, and South Delta Water Agency (SDWA) signed the South Delta Agreement, outlining water supply and water quality program plans for the south Delta (see "South Delta Activities," Chapter III).

As part of this agreement, DWR and the USBR conducted public meetings to discuss south Delta management alternatives. Information gathered at these meetings will be used to identify significant issues and to begin environmental documentation.

South Delta Agreement objectives are to improve and maintain water levels, circulation patterns, and water quality in the south Delta. Evaluation of alternatives to meet these objectives will include broader USBR and DWR Delta region objectives. These broader objectives concern (1) fisheries, (2) SWP and CVP operations, (3) water supply reliability through improved winter supply banking capabilities, and (4) flood control.

Alternatives considered for the south Delta include: (1) dredging and channel improvements, (2) flow control structures, (3) relocation of Contra Costa Canal intake, (4) changes at Clifton Court, including new intake gate, and (5) a CVP interconnection to Clifton Court. Effects will also be examined of increased flows to fill south-of-the-Delta water banking and other storage programs.

In addition, DWR is considering a conjunctive use program for New Melones water. Such a program would allow the SWP to take water during dry years while at the same time improving south Delta water quality. New Melones releases would also add to the water quality of the San Joaquin River, a tributary to the south Delta.

North Delta Water Management Planning

DWR is also using the environmental documentation process to evaluate north Delta water management alternatives to improve the present through-Delta transfer method and to reduce or eliminate reverse flows. Anticipated benefits would include providing flood protection on the lower Mokelumne River, improving drinking water quality, reducing fisheries impacts, and better managing the upstream fresh water storage of federal and State projects.

A phased investigation, starting with enlargement of the south fork Mokelumne River is one possibility. This would provide major flood control benefits for the area, which includes the five north Delta islands and tracts that flooded in 1986. Dredging alone reduces the flood stage by an estimated 5 to 10 percent, while dredging with levee setbacks are estimated to reduce the flood stage by over 10 percent.

South fork Mokelumne River enlargement may also significantly reduce reverse flows. Reverse flow defines a condition that occurs in the lower San Joaquin River because of flow limitations in the existing northern through-Delta transfer channel system. This system includes the Delta Cross Channel, Georgiana Slough, and the lower Mokelumne River, which are not capable of conveying enough water from the Sacramento River to maintain good quality to Delta and export users. As a result, some water must follow an undesirable, poor quality path around Sherman Island in the western Delta, then back up the lower San Joaquin River to the pumps.

The reverse flows create an environment harmful to migrating fish, young striped bass, and fish food organisms. The reverse flow increases fish impacts at the SWP pumping plants by an estimated 25 percent. Reverse flows also bring brackish water from the western Delta eastward into the San Joaquin River channel, degrading water quality at the Contra Costa Canal intake, and, to a lesser extent, at Clifton Court Forebay. Reverse flow conditions increase total dissolved solids, chlorides, and hardness of the export supplies by an estimated 20 to 40 percent, as well as an increase in bromides of sea water origin which contribute to the levels of trihalomethanes (THM). Treated drinking water meets all THM standards; however, THMs are suspected cancer causing chemicals formed during the water treatment process and the presence of bromides accelerates this formation. Reverse flow conditions are estimated to increase THM formation substances proportional to chloride increases.

A way to reduce or eliminate reverse flow is to improve the transfer system by increasing channel capacity. By conveying more water through the desirable good quality path from the Sacramento River to the Mokelumne River, less water has to flow around the western edge of Sherman Island and "upstream" in the lower San Joaquin River. This action would reduce the adverse impact of reverse flows on both fish and consumer water quality, while increasing the reliability of existing reservoirs.

West Delta Water Management Planning

DWR and the North Delta Water Agency (NDWA) signed a contract in 1981 for water supply and quality protection in the NDWA. The contract provided for a future overland water supply facility for Sherman Island. This facility and alternatives are under investigation.

One alternative is a wildlife management plan for Sherman Island. The feasibility of this alternative is being studied through a contract with the Department of Fish and Game. Study items include acquisition of waterfowl easements, marsh management requirements, needed improvements (including levee maintenance), expected costs and revenues, funding sources, and benefit costs to waterfowl populations.

The wildlife management plan, in coordination with other Delta planning, has the potential of developing a number of significant benefits: (1) flood control by levee improvements and land management to stop subsidence, (2) recreation, (3) better management of water supplies, and (4) fish and wildlife enhancement. A draft report should be completed in late 1987.

Interagency Delta Management Committee

DWR, the USBR, and the Corps of Engineers signed a Letter of Understanding in 1986 to form an Interagency Delta Management Committee. The letter confirmed the intent of the three organizations to coordinate technical studies in the Sacramento-San Joaquin Delta. The complex activities, interlocking problems, and limited resources in the Delta require a high degree of coordination. This planning will be to improve western Delta levees and to protect against levee failure which increases salinity intrusion.

Three subcommittees have been established to review alternative approaches, modeling, and geotechnical activity. The alternative approach subcommittee is investigating alternative long-term plans for Delta levee restoration and other Delta water-related problems.

The modeling subcommittee is refining computer programs that simulate salinity changes and other hydrology in the Delta.

In the geotechnical subcommittee, the Corps of Engineers has completed a report that identifies the potential for instability of the Delta levees due to liquefaction of the sand layers beneath the levees. The report provides information on 60 islands. In addition, DWR has installed a compaction recorder on Bacon Island to measure deep, as well as shallow, subsidence. Contra Costa County has been involved with the compaction recorder project.

DWR is also preparing a Delta-wide levee inspection program and is evaluating highway benefits provided by levee protection. Both of these programs are mandated by the Legislature.

Potential Means to Augment Water Supply

California's water picture is characterized by continual change. Water needs fluctuate, droughts or heavy rainfall affect water supplies, and theories and practices of water resource management change periodically. Even the California Water Plan, published in 1957 and adopted by the Legislature in 1959, was never intended to be a rigid, inflexible blueprint for water resource development.

The recent trend is to place less emphasis upon conventional onstream storage projects north of the Delta, and to place more emphasis upon water conservation, water quality, water salvage, ground water conjunctive use projects, and offstream storage south of the Delta. Additional nonstructural measures such as water marketing, water exchanges, and crop substitution (including nonplanting) are in the proposal and evaluation stages. This change in emphasis is brought about by the interaction between such factors as increased construction and financing costs, a depressed farm economy, cutbacks in federal spending, and changing public attitudes about water management. All of these factors and changes affect planning and should be reflected, to the extent possible, when outlining and summarizing probable future scenarios.

The outlook in 1987, with respect to specific facilities, is quite different from what it was 10 or 20 years ago. For instance, the Auburn Dam, in spite of broad-based support, still lacks sufficient financial backing. Local projects also face an uncertain future.

Nevertheless, California still has a number of unresolved water problems: upstream development will decrease water supplies in the Delta; Colorado River water supplies, used in Project service areas, will soon be diverted to Arizona; and, despite extensive conservation efforts, total urban water use in Project service areas will increase. The quest for the most effective solutions, and the necessary consensus to implement them, continues; the basic problems will not change, but the solutions may.

Some of these solutions may be interim or short term. Such interim solutions could enable meeting near-term contractual obligations while postponing some of the relatively more expensive structural solutions that will be needed eventually. Water marketing agreements, SWP entitlement transfers, CVP purchases, and increased agricultural and urban water conservation programs are examples of interim solutions receiving increased attention.

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 Runoff Enhancement

The Feather River basin is the major source of SWP water. Faced with increasing demands for water by the SWP contractors, DWR considered 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 various 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. Results of this study were sufficiently optimistic to justify

funding the preparation of an operational plan and environmental documentation.

The operational plan will be developed under cost-sharing agreement with the USBR. Emphasis will be placed on augmenting streamflow by increasing the snowpack. The USBR has been engaged in a research program on cloud-seeding water orographic clouds since 1975. The environmental documentation will be done by DWR.

Completion of this phase of the program in July 1988 will result in an operational plan to guide cloud-seeding in the Feather River watershed. The operational plan will specify the types of clouds 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 the cloud-seeding and monitoring equipment and the selection of a firm to operate the cloud-seeding program.

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, 1986, 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 begin operation in 1991.

Completion of the Banks Delta Pumping Plant will increase SWP delivery reliability and efficiency by increasing standby capacity for the already 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 historic levels (Public Notice 5802A, amended, October 1981). Increasing diversions into Clifton Court Forebay to greater than historic rates will require a Corps of Engineers' permit (under Section 10 of the River and Harbor Act of 1899).

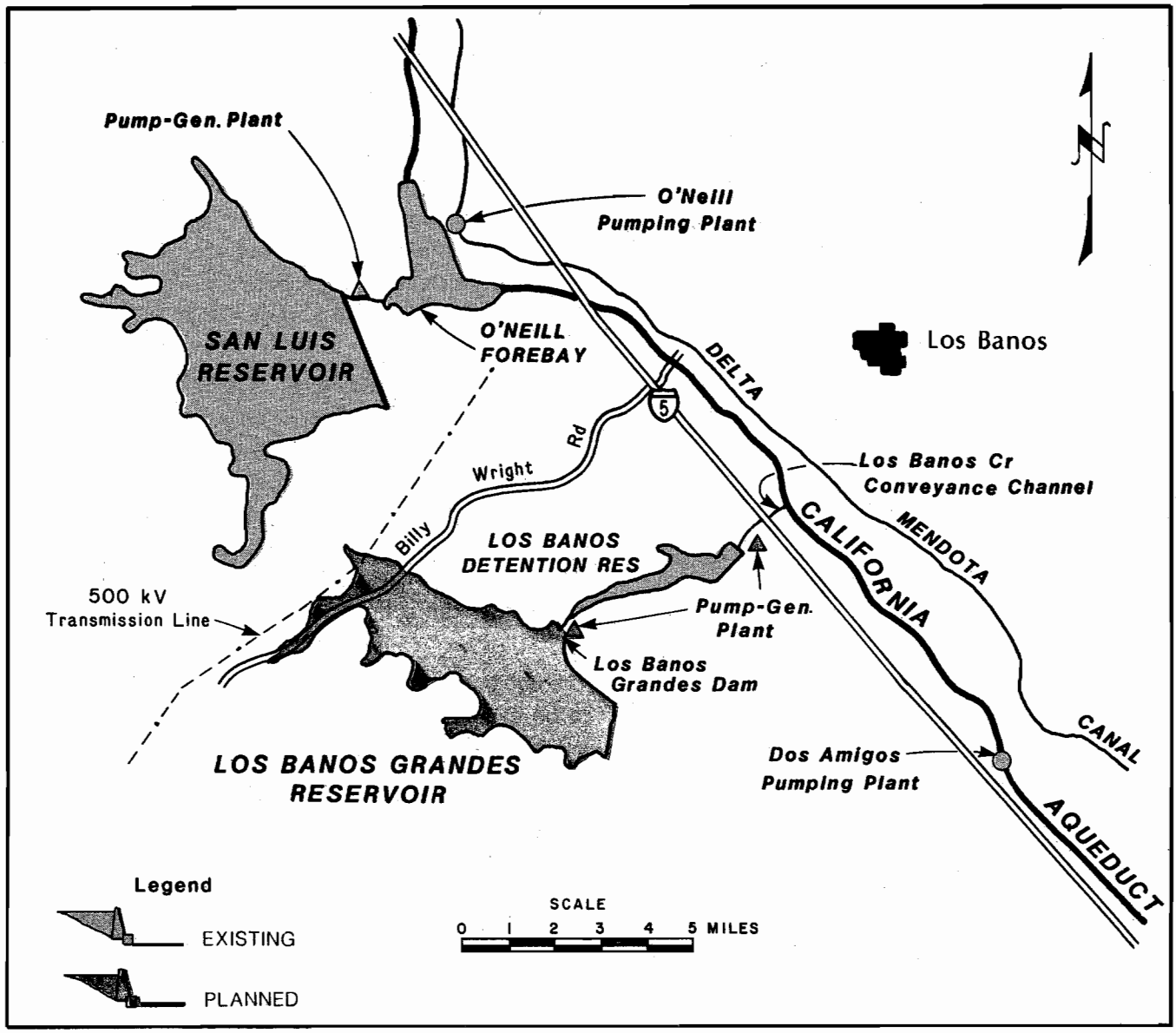
Installation of the additional units will also increase the reliability of SWP water supply deliveries. Under the Corps of Engineers' constraints, the additional pumps could increase firm deliveries during critical water supply periods by about 60,000 acre-feet annually. This water, pumped during high-flow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

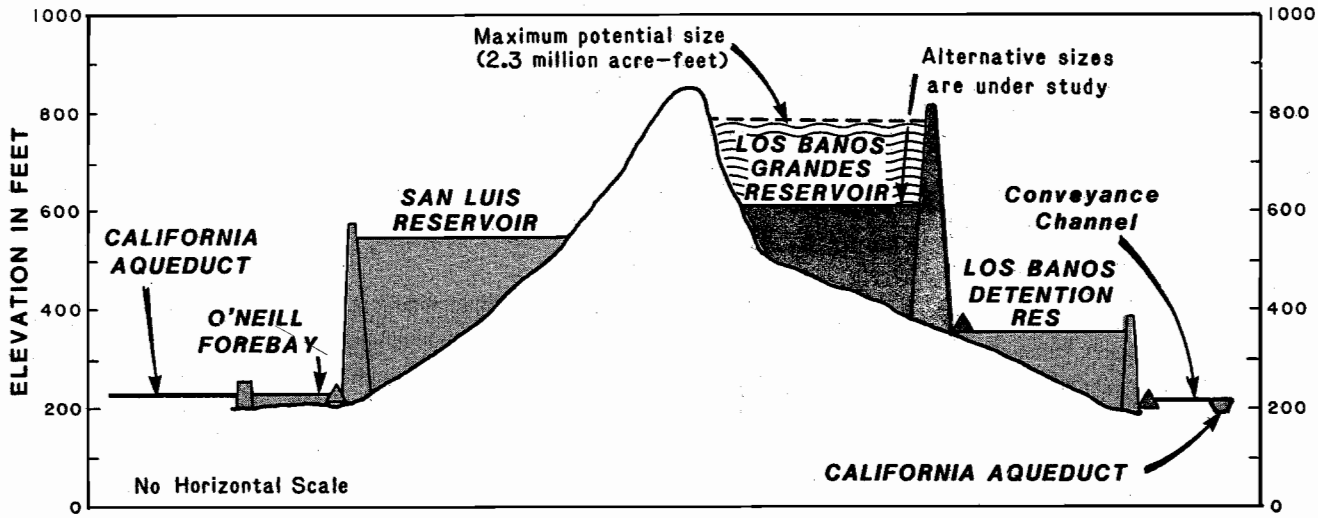
The additional pumping units will allow more pumping to be shifted to off-peak hours, when energy costs are lower. This will provide cost savings to SWP water contractors, as well as possibly delay the need to buy additional power or to construct additional power generating facilities.

Before the Notice of Determination could be signed, environmental concerns regarding the additional units at Banks Delta Pumping Plant needed to be addressed. By shifting more pumping to the winter months, when fish populations are lower and surplus Delta inflow is higher, potential environmental damage would be reduced. Since the water conserved will be stored south of the Delta, in off-stream surface reservoirs or ground water basins, demands on the Delta will be reduced during the environmentally sensitive seasons when fish populations are high.

A fishery agreement between DWR and the Department of Fish and Game was signed on December 30, 1986. This agreement was necessary before work on the final four units could continue. The fishery agreement spells out the steps needed to offset adverse fishery impacts by SWP operations. (See "Two-Agency Fish Agreement," Chapter III.)

FIGURE 10. LOS BANOS GRANDES OFFSTREAM STORAGE PLAN





SCHEMATIC PROFILE

Offstream Storage South of the Delta

Nearly all interests agree that plans for future SWP water development should emphasize storage facilities south of the Delta. The storage facilities would be "offstream," meaning they would be built on a stream or streams that produce very little water and would be filled with excess runoff conveyed from the Delta. Stored water would be released when needed for use by agencies contracting for water from the SWP.

The broad consensus supporting this approach was apparent in 1984, when the Legislature overwhelmingly approved authorization of Los Banos Grandes Reservoir, about 80 miles south of the Delta in western Merced County, as a future SWP storage facility. A May 1984 reconnaissance appraisal of 13 south of-the-Delta storage sites, entitled "Alternative Plans for Offstream Storage South of the Delta," launched a four-year DWR feasibility investigation of the Los Banos Grandes Reservoir. In presentations made at a July 1986 conference sponsored by the California Water Commission, this approach to future SWP water development still has broad, diversified support among several groups throughout the State.

The State is also participating in Los Vaqueros Reservoir planning discussions, and is cooperating with the USBR in its Kellogg Reformulation Study. DWR is a member of Contra Costa Water District's (CCWD) Los Vaqueros Task Force. The task force is studying CCWD's proposed development of Kellogg Creek. Such development would be well situated geographically to serve water to - and meet the special needs of - South Bay customers of the SWP and other Bay Area districts.

Los Banos Grandes Reservoir. As discussed earlier in this chapter, SWP contractors requests for entitlement water exceed what existing facilities can dependably supply. Without new facilities, by the year 2000, project operation studies show that water shortages of varying degrees are likely in three out of four years. Construction of the Los Banos Grandes offstream storage project would reduce the frequency and magnitude of these water shortages.

The proposed reservoir would store excess water pumped south from the Delta through the California Aqueduct during wet months, primarily November through March. This water would be repumped, from a point about 8-1/2 miles south of O'Neill Forebay, into the existing Los Banos Detention Reservoir and then into Los Banos Grandes for storage. Pumping-generating plants would be installed below the detention reservoir and Los Banos Grandes, thereby recovering power when stored water was released to meet SWP needs. Flood control space in the existing detention reservoir would be transferred to the Los Banos Grandes Reservoir. The detention reservoir could also serve as a forebay/afterbay to facilitate off-peak pumping and on-peak generation. This type of operation would take advantage of the value difference between on-peak and off-peak energy.

During 1986, DWR continued its feasibility studies of Los Banos Grandes which began in mid-1984. The studies include: foundation drilling, construction material surveys, and seismic studies; seepage and drainage studies; fish, wildlife, and plant surveys; preliminary design and cost estimates; extensive reservoir operation and water yield studies; pumping and generation analyses; and cost/yield comparisons.

DWR is exploring the possibility of cooperatively developing a pumped-storage power system at Los Banos Grandes with several electric utility companies. Joint water and power development should result in cost savings for both water and power users.

Los Banos Grandes sizing studies showed that a reservoir with about 1.0 to 1.5 million acre-feet of storage capacity would be the most cost effective size for the SWP. To reduce the number of alternatives and to allow sharper focus on a specific project for detailed feasibility analyses, DWR selected a 1.25 million acre-foot storage capacity, with the conveyance system sized for water supply operation. This size is being used as a benchmark against which other configuration options are measured.

During 1986 and early 1987, feasibility study highlights included:

- Environmental Work. Early in 1986, DWR issued a Notice of Preparation of its intent to begin an EIR on Los Banos Grandes. DWR held a public scoping session in May at Santa Nella to ascertain from local agencies and the general public concerns and issues that needed to be addressed in the EIR. The State then began the informal consultation process with the Department of Fish and Game and the U. S. Fish and Wildlife Service regarding threatened and endangered species. Specific on-site impacts were emphasized during 1986; impacts on the Delta will be addressed.

  In early 1987 it was evident that a federal EIS would also be required. Therefore, DWR will prepare a joint EIR/EIS in cooperation with the USBR, the Corps of Engineers, and other federal agencies.

- Archeology. DWR contracted with the California State University, Fresno Bulldog Foundation to conduct an archeological survey of the reservoir area. In December 1986, a draft report identified 11 prehistoric cultural sites and two historic sites within project boundaries. Some of these may require sampling to determine their significance and subsequent mitigation measures.

- Seepage and Drainage. Chapter 1656, enacted by the Legislature in 1984, (AB 3792) directs DWR, as part of its feasibility studies of Los Banos Grandes, to determine whether its construction would adversely affect drainage problems in nearby farm lands. DWR advertised a Request for Proposal in September 1986 for a consultant to investigate the seepage potential of Los Banos Grandes. Eleven proposals were received. After review, DWR awarded the consultant contract to Morrison-Knudsen Engineers of San Francisco. This study will form an important part of DWR's overall investigation of whether seepage from Los Banos Grandes might adversely affect shallow ground water conditions in the drainage problem areas of nearby farm lands.

- Geology. DWR published a feasibility level geologic report about the Los Banos Grandes development in December 1986. This report covers (1) regional structure and stratigraphy, (2) Los Banos Grandes dam site, (3) proposed pumping-generating plant sites, (4) proposed intake channels, (5) a Salt Creek auxiliary dam site, (6) saddle dam sites, (7) reservoir geology, (8) seismicity, and (9) construction materials. The report findings indicate that it is geologically feasible to construct embankment-type dams at the Los Banos Grandes and Salt Creek auxiliary dam sites.

  It has been recommended that additional geologic and engineering studies be made to determine if the Los Banos Grandes site is suitable for a roller compacted concrete dam and whether any cost savings could be realized with this type construction. These studies are under way.

- Pumped-Storage Power Planning. Eighteen potential electric utility participants were notified of the pumped-storage power potential at Los Banos Grandes; eight were interested in participating. Some utilities are investigating alternative projects, but it appears that the full generating potential at Los Banos Grandes could be realized if further studies demonstrate feasibility, and if appropriate institutional and funding arrangements are made.

Four alternative plans will be discussed in the feasibility report and EIR. One will be a SWP water supply plan, with appropriate power features integrated into the SWP power resource plan; the second will be a water supply/pumped storage power plan including utility participation. The other two plans would include the USBR participation with and without utility participation. This will give DWR the flexibility to choose the plan deemed most appropriate depending on circumstances of the time a decision to proceed is made.

The remaining portion of the Los Banos Grandes feasibility investigation will consist of:

- continuing feasibility analysis of pumped storage power features, working toward a possible joint

venture with one or more electric utility companies;

- investigating feasibility of the USBR participation in the Los Banos Grandes project;
- determining the impact of operating with only some channel enlargement in the south Delta, instead of an entire improved Delta water-transfer system;
- investigating conjunctive operation with Kern Water Bank ground water storage;
- determining how to use operational flexibility to reduce pumping impacts on Delta fish;
- defining costs more accurately, including the feasibility and cost-saving potential of a roller compacted concrete dam at the main dam site;
- continuing all supporting studies (seepage-drainage, environmental, water quality, economic analysis, payment capacity, financial analysis, etc.);
- preparing State and federal agreements and filing for permits and licenses that are needed for the project; and
- completing the feasibility report and EIR.

The draft EIR is scheduled for completion in late 1988, and the final EIR should be finished by late 1989. With this schedule, Los Banos Grandes could be operational in 1997, if a decision to proceed with design and construction is made shortly after the EIR is completed.

Kellogg/Los Vaqueros Reservoirs. Although DWR's May 1984 report indicated that Los Banos Grandes Reservoir project would be more cost effective than the Kellogg/Los Vaqueros Reservoir project, DWR continues to participate in studies conducted by Contra Costa Water District (CCWD) and the USBR. DWR is also evaluating the potential of future participation in a Kellogg/Los Vaqueros project for the purposes of water quality enhancement, service reliability, and SWP water supply augmentation.

CCWD began the process of purchasing the entire Kellogg/Los Vaqueros watershed in early 1987. They retained James Montgomery Engineers to develop a project management plan by the end of 1987 and to manage the technical studies required in determining project feasibility. Environmental and land management plans are being addressed by Jones and Stokes, CCWD's environmental consultant during 1987 and 1988. DWR will parallel CCWD's studies with operations and cost studies needed to determine if SWP participation is desired. A steering committee will be established with members from South Bay and other SWP contractors to supervise the studies.

In fall 1985, the USBR expanded its Kellogg Reformulation Study to include a preliminary analysis of the Los Vaqueros Reservoir site. The study previously concentrated on Kellogg Reservoir and relocation of the Contra Costa Canal intake. The USBR published a planning report and environmental statement in summer 1987 and will conduct public hearings later in the year.

Because of the high costs to the SWP contractors associated with participation in these projects, DWR continues to analyze possibilities of modifying operations at Del Valle Reservoir to alleviate taste and odor problems associated with algae blooms in the Delta. DWR also may study the possibility of future exchanges with the USBR's San Felipe Project to provide enhanced water quality and reliability benefits to South Bay contractors.

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 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 from 25 to 35 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) offstream storage south of the Delta. These alternatives have decreased the SWP contractors' enthusiasm to participate in financing Sacramento Valley projects. The apparent value of water from such projects has been reduced to $100-150 per acre-foot, whereas the costs to develop the water from such projects range to above $200 per acre-foot.

Cottonwood Creek Alternatives. 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. In 1976, Congress provided the Corps with funds for advanced engineering and design studies.

An engineering report and final EIS were released in January 1984. The 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 lower Dippingvat site, a storage dam at the Schoenfield site in the adjacent Red Bank Creek Basin, and a conveyance system connecting the two reservoirs.

The DWR analysis estimated the total first cost of three tributary reservoirs (Hulen, Fiddlers, and Dippingvat) at $371 million (October 1984 price levels). Combined, the three reservoirs would provide a critical period supply averaging 146,000 acre-feet per year (30,000 acre-feet from Hulen, 73,000 from Fiddlers, and 43,000 from Dippingvat). The allocation of first cost to municipal and industrial water supply was estimated at approximately $326 million, which would result in a unit cost of new SWP water supply competitive with that of the modified Corps project.

The three reservoirs would also reduce the 100-year peak floodflow at Cottonwood from 106,000 cfs to 44,000 cfs and would accrue annual flood control benefits of about $7 million (October 1984 price levels).

Following the June 1985 report's recommendations, DWR began a two-year prefeasibility investigation of the Cottonwood Creek Alternatives in July 1985. The prefeasibility study was completed in July 1987.

The study emphasized the Dippingvat and Schoenfield sites, selected for initial study because they have had the least geologic exploration. They also have the potential (1) of a water supply with low unit cost, (2) of being the most valuable from a fishery enhancement standpoint, and (3) to supply the water demands of the CVP's Corning Canal, thereby saving pumping costs and raising the possibility of enabling the Red Bluff Diversion Dam to be operated to facilitate fish migration.

The studies were being conducted in cooperation with the USBR, Department of Fish and Game, Fish and Wildlife Service, and the Corps of Engineers to 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. Auburn Dam and Reservoir is being planned as a multipurpose facility on the North Fork of the American River near Auburn. It will provide flood protection for the Sacramento area, hydroelectric power, recreation, instream flows, and water supply. In February 1984, then Secretary of the Interior Clark and Governor Deukmejian established a State/federal task force to review the possible completion of Auburn Dam.

At the second meeting of the task force in October 1984, the Auburn Dam working group, under the co-chairmanship of the Director of DWR and the Regional Director of the USBR, recommended an independent study of the Auburn area facilities. The task force concurred, and in May 1985 DWR contracted with Bechtel National, Inc. to determine whether a project could be constructed at a lower cost. The contract work, jointly funded at $100,000 each by DWR and the USBR, was completed and the final report was issued in November 1985.

Bechtel reviewed the costs of the USBR's proposed curved concrete gravity dam (designated CG-3) and investigated three additional sites within two miles of the CG-3 site as well as alternative dam types. Various size reservoirs from 800,000 acre-feet to 2,326,000 acre-feet were investigated.

In August 1986, the USBR offered a cost-sharing proposal to prospective water and power purchasers of a full sized (2,326,000 acre-feet) Auburn Reservoir project. No real interest was expressed, mainly because of the high cost of water supply from the project.

After the major storms in February 1986, the Corps of Engineers began a study of flood hydrology, damage potential, and alternative flood protection measures for the lower American River. The Corps' March 1987 report determined that Folsom Reservoir provides flood protection for a one-in-63-year storm, but larger storms could cause major flooding in highly developed areas along the American River. Modifications of Folsom Reservoir flood operating criteria and improvements of the downstream levees would help, but high levels of protection could be achieved only by construction of new storage upstream from Folsom.

In response to the need for additional flood control storage required on the upper American River, the USBR reported in July 1987 on a study of several alternative sizes of Auburn Reservoir:

- single purpose flood control reservoirs of 315,000 acre-feet (100-year flood) and 650,000 acre-feet (250-year flood);
- small (850,000 acre-feet) and mid-sized (1,250,000 acre-feet) multipurpose reservoirs to provide protection against the 250-year flood, power, limited water supply, and some improvement of flow levels in the lower American River; and
- the originally proposed 2,300,000 acre-foot multipurpose reservoir.

All of the Auburn reservoirs would be operated in conjunction with a Folsom Reservoir flood storage reservation of 300,000 acre-feet.

In May 1987, Secretary of the Interior Hodel announced in Sacramento that he was very doubtful about the near-term prospects of the USBR building Auburn Dam. He cited the difficulty of obtaining federal financing and suggested that some nonfederal entity, such as the State, should take over sponsorship of the project. In accord with Secretary Hodel's suggestion, DWR made a very brief analysis that indicted a small multipurpose Auburn Reservoir may be within the State's financial capability. In July, based upon this analysis, DWR began a four-month reconnaissance investigation to further evaluate the potential for State financing and constructing a down-sized Auburn project. This study will allow local interests to assess a small State-sponsored project along with other flood control alternatives being analyzed by the Corps of Engineers.

DWR's position is that for a metropolitan area with the population of Sacramento, a relatively high level of protection should be provided. Auburn Dam appears to be the logical facility to provide this protection.

Ground Water Storage Programs

Kern Water Bank

In late 1985, DWR learned that a large piece of land overlying the Kern River Fan in Kern County was for sale. DWR is investigating the acquisition of a portion of that land to develop a ground water storage and extraction program. Such a program would be fully integrated into the SWP by conjunctive operations of available ground water storage space with water supplied by the SWP; at the same time increased local ground water recharge would be facilitated by the joint use and operation of State and local recharge facilities. Through conjunctive operation, greater amounts of water would be available for ground water storage and all contractors would benefit from increased SWP water deliveries in dry years.

The Kern Water Bank program involves acquiring land on which artificial recharge facilities, extraction wells, and related surface facilities would be constructed. The program would also incorporate appropriate in-lieu recharge projects. Project water would be stored in the basin during years of abundant supply and extracted in years of deficient supply. The program would help reduce future deficiencies in SWP deliveries and help current long-term overdraft conditions in the Kern County Ground Water Basin while incidentally providing wildlife benefits.

DWR completed a program EIR in 1986. Also during 1986, DWR analyzed and compared the effect of acquiring the necessary lands for the recharge program to the consequences of a "no project" alternative. DWR completed in April 1987 the prefeasibility study investigation and initiated feasibility investigations of the direct recharge project in July 1987. These investigations indicate that the program could increase SWP yield up to 144,000 acre-feet per year. The unit cost of water developed by this program would be about $70 per acre-foot. This is competitive with other water supply augmentation proposals.

In 1987, DWR also began prefeasibility investigations of proposed in-lieu recharge projects. In-lieu recharge could require construction of additional surface distribution facilities or enlargement of existing facilities and delivery of SWP water to areas currently dependent upon pumped ground water. The amount of ground water not pumped would be deposited in the Kern Water Bank and credited to the SWP for later extraction.

Under the California Water Code, DWR may construct facilities that use ground water storage space south of the Delta to develop yield for the State Water Resources Development System. The Water Code also requires that prior to construction or operation of such facilities, DWR must have a contract with the SWP water supply contractor whose boundaries include the ground water basin. DWR and Kern County Water Agency began meetings in mid-1986 to develop principles to be used in negotiating the required contract.The Memorandum of Understanding

on these principles was signed by both parties in March 1987.

During 1986 State Senator Ruben Ayala introduced SCR92 (Resolution Chapter 160 of 1986). This resolution directs the Legislature's water policy committees to hold hearings regarding State acquisition of ground water basins prior to the purchase of those basins. In response to this legislation, DWR met to discuss the relevant aspects of the Kern Water Bank proposal with both the Senate Committee on Agriculture and Water Resources and with the Assembly Committee on Water, Parks and Wildlife. Both committees responded favorably to the proposed project.

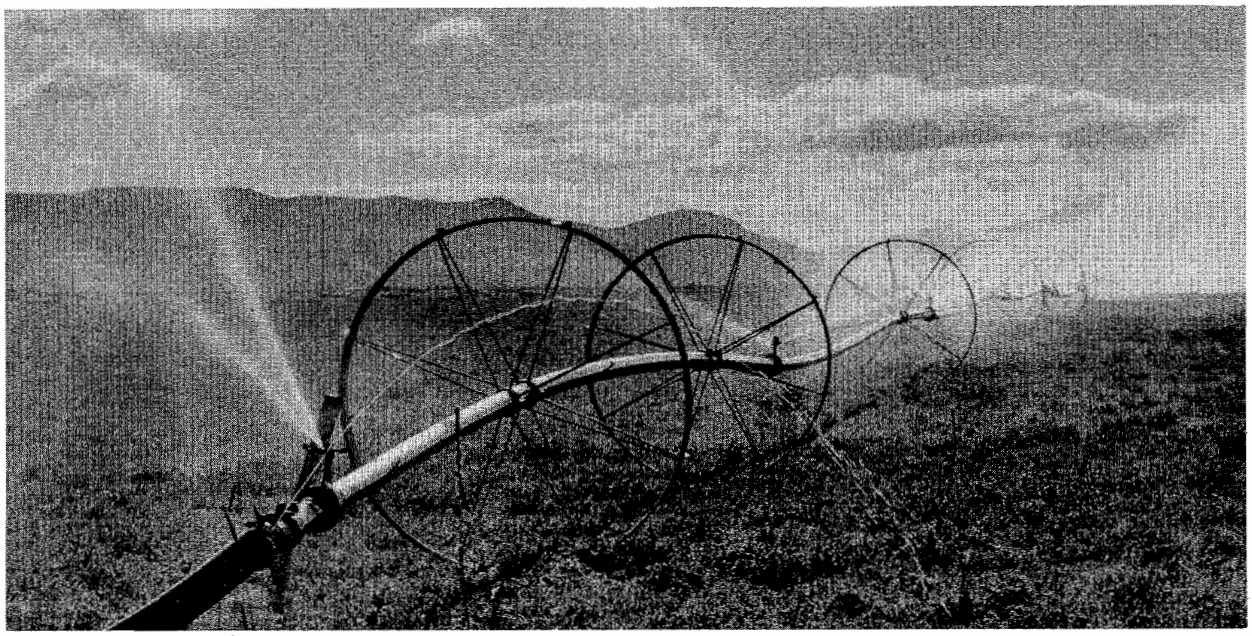
Water Conservation

Conservation plays an important role in effective management of available water supplies.

Since about one-half of all urban water use is for landscaping, DWR is working with municipal agencies to improve efficiency in landscape water use. In addition to water conservation research, DWR has several ongoing programs to disseminate information about conservation opportunities and techniques. One of the most effective ways of achieving this goal is through the Xeriscape conference. Xeriscape—a word coined from the Greek xeros, for dry, and landscape—is an annual conference promoting the design and planting of water conserving landscapes.

A particularly significant endeavor in the area of conservation is the California Irrigation Management Information System (CIMIS), developed under contract by the University of California for DWR. CIMIS is a project to inform growers of how much water their crops are currently using and will require within a projected time. The research and development stage of this project has been concluded and DWR started a three-year pilot program in 1986.

MWDSC-IID Proposal. MWDSC and the Imperial Irrigation District (IID) suspended negotiations regarding an agreement involving water conservation and Colorado River water deliveries. MWDSC proposed to finance water conservation measures in IID's service areas that would reduce the volume of Colorado River water now being diverted by IID. In return, MWDSC would receive up to 100,000 acre-feet per year from IID's entitlements to Colorado River Water. IID's last proposal included an increased cost per acre-foot and a shorter contract, which were unacceptable to MWDSC. IID's Board of Directors decided to suspend the negotiations.



Efficient irrigation is one form of water conservation used by SWP water contracting agencies

Local Water Supply Projects

SWP water supply can be augmented by developing projects in local areas. These local projects could be financed with available SWP funds and included in the Project, provided appropriate guidelines were met. The basic assumptions are that:

- o any necessary SWP contract amendments are executed;
- o 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
- o 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 it appears from both the conceptual and reconnaissance reports, and from general contractor support, that 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. Procedures for determining feasibility and provisions for contract amendments to allow for repayment of construction and operations costs have been established by DWR.

Local projects eligible to be added to the SWP may be financed with available SWP funds. Should construction 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. Since mid-1981, DWR has completed review of six conceptual reports submitted by Santa Barbara County Flood Control and Water Conservation District (SBCFC&WCD). The six reports covered eight local projects, six of which warranted further investigation (enlarging Cachuma Reservoir, constructing Hot Springs Dam and Reservoir immediately upstream of Cachuma Reservoir, enlarging Gibraltar Reservoir, constructing Camuesa Dam and Reservoir, and water reuse projects proposed by Goleta Water District and the City of Santa Barbara).

DWR recognized that Santa Barbara County local projects could not be studied independently from the total countywide system. DWR also recognized that various combinations of local projects and a downsized Coastal Branch should be investigated. In January 1983, SBCFC&WCD and DWR agreed to conduct a cooperative reconnaissance study evaluating the various SWP alternatives available to Santa Barbara County. This study was released in April 1985 as "Santa Barbara County State Water Project Alternatives."

On the basis of this report, in July 1985, SBCFC&WCD asked DWR to conduct a feasibility study of enlarging the existing Cachuma Reservoir by raising Bradbury Dam on the Santa Ynez River. According to the District, an enlarged Cachuma Reservoir (with SWP participation in funding) could supply users in the southern part of the county with less expensive water than SWP water from the California Aqueduct.

After conferring with the other SWP contractors, DWR initiated the feasibility study for the Cachuma Enlargement Project in February 1986. Since the USBR owns the Cachuma Reservoir and is considering modifications to Bradbury 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 mid1988.

San Luis Obispo County. In January 1984, San Luis Obispo County and DWR initiated a joint study to update the County's 1972 Master Water Plan. The

study's objective, with respect to the SWP, was to evaluate SWP water importation through the Coastal Branch in conjunction with identifying potential SWP local projects. The study's results, presented in early 1986, indicate that the most cost effective water supply alternative would be importation of SWP water. None of the potential local projects examined was recommended for a SWP feasibility study.

The County evaluated the results of this study, and on October 1, 1986 requested DWR to proceed with studies of the construction of the Coastal Branch. Planning studies (the preliminary design and EIR) for the Coastal Branch will be completed in mid-1989. (See "Coastal Branch, Phase II," in Chapter III.)

Water Marketing

One possible strategy for satisfying California's growing need for water is water marketing. An item of discussion for years, the water marketing concept has received renewed attention as financial, political, and environmental costs for developing new water supplies have increased.

The idea behind water marketing is that as costs for developing new water supplies increase, water rights holders would be willing to voluntarily sell some of that water to other water users willing to purchase the water. The market price of the water would act as an incentive for the water rights holder to sell rather than use the water in question. Water marketing may also serve as a financial inducement for water conservation measures that would result in making part of an existing water supply available for market.

Although several forms of water marketing and trading have been a part of California's water policy and practice for sometime, water marketing has not reached significant levels of operation. Statewide interest in water marketing has intensified during the 1980s. Recent State laws dealing with water marketing include:

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

  (4) prepare a water transfer guide.
- o State and local agencies are prohibited from denying a bona fide transfer of water or the use of unused capacity in a water conveyance facility under specified conditions.

In March 1986, DWR's Director established a Water Transfers Committee to respond to the interest in water marketing and water transfers. The committee was charged with reviewing DWR programs that would provide helpful information in evaluating and implementing transfers, reviewing proposed legislation, identifying known active transfer proposals, and assisting in clarification of DWR's role in water transfers.

In fall 1986, the committee developed two documents to facilitate the voluntary exchange or transfer of water within California. The first, "A Catalogue of Water Transfer Proposals" contains information on 31 current water transfer proposals in California; its aim is to inform and assist people or agencies interested in water transfers. This document is designed to help identify and advance proposals which will lead to improved management and use of California's water resources. A brief discussion of five specific aspects of each proposal is included: (1) potential third party

impacts, (2) legal or institutional considerations and constraints, (3) potential controversy, (4) unusual features of the proposal, and (5) status of the proposal.

The second document, "Questions to be Asked in the Case by Case Review of Water Transfer Proposals" consists of a list of over 50 questions which should be answered or considered when evaluating a transfer proposal.

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

CVP Purchases. 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. In recent years, DWR has also entered into annual conveyance agreements to serve other CVP customers in the San Joaquin Valley.

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 recently approved USBR-DWR 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.

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 DWR to determine if the SWP was interested in water from such a project. Since the large reservoir at Blue Ridge would be expensive, DWR staff suggested investigating the possibility of a smaller project to determine whether or not the needed benefits can be provided at a lower cost.

The Corps of Engineers is evaluating the flood control benefits that could be gained by construction of a Blue Ridge Dam. The outcome of their study will determine if Blue Ridge is economically feasible.

Cosumnes River. In January 1983, the counties of Sacramento, San Joaquin, Amador, and El Dorado joined to create the Cosumnes River Water and Power Authority (CRWPA). The purpose of the Authority is to investigate the feasibility of developing a water supply and hydroelectric power project that would help to satisfy the water supply needs of the member entities.

In November 1983, CRWPA proposed that DWR purchase the available firm yield of the proposed Cosumnes River Water and Power Project and finance an estimated $6 million of prelicensing costs. The project would consist of a series of perhaps eight dams with accompanying power facilities.

In August 1984, after a number of meetings, and following review and analysis, DWR declined to participate in the project at the time. In response to comments from DWR, the CRWPA Board of Directors in May 1985 directed its engineering consultant to develop a plan to build the project in stages. In December 1985, the board of directors agreed that they should proceed with Phase I of the project (two lower elevation reservoirs and certain power facilities) and use all revenues to repay the financing of the project, which is anticipated to take over 20 years. CRWPA is now in the process of securing a "turnkey operator" to engineer and handle financing for the project. Proposals for a "turnkey operator" were due December 19, 1986. No real definitive proposal was received by the December 19, 1986 deadline. The Board then decided to extend the deadline for proposals to mid-1987.

In May 1987 Sacramento County withdrew from the Authority. What this will mean to the proposed project has not been determined.

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 in dry and critical years. In exchange, the SWP would provide the two agencies financing for diversion, storage, and distribution facilities. The project has some attractive features as well as a number of institutional and local problems.

Discussions with the San Joaquin agencies moved the process toward a Memorandum of Understanding and the EIR process by April 1987. At that point, however, Oakdale Irrigation District (OID) requested that the project be reviewed to see if all agencies in the area (OID, South San Joaquin Irrigation District, and the Calaveras County Water District) could also be accommodated in a joint project. Meetings between all parties are exploring this possibility.

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

DWR develops and assesses short- and long-range aqueduct operational studies while preparing the annual water contractors' Statements of Charges. These studies are used to project the electrical capacity and energy required to operate the SWP in future years, including pumping to (1) deliver the SWP contractors' requested entitlement water, (2) provide recreation water, (3) replace reservoir and aqueduct losses, and (4) refill reservoirs south of the Delta. In comparison to entitlement deliveries, the latter factors are relatively minor. The operational studies do not project the amount of electrical capacity and energy required to deliver surplus water.

The SWP aqueduct operational studies are based upon 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 reduce the deliverable water supply, thereby decreasing power requirements if the SWP cannot deliver full entitlement requests. Power requirements also decrease if hydrologic conditions or requests for reductions in deliveries from local water agencies reduce the projected demands for SWP water in the San Joaquin Valley or Southern California. SWP power requirements would be larger than projected only if water demands increased or if additional pumping were required to refill reservoirs south of the Delta after a dry year (and sufficient water supplies were available).

Table 15 shows the projected entitlement water requests, the electrical energy required to operate the SWP, and transmission losses. Losses depend upon contractual arrangements with utilities providing transmission services. Table 15 also includes energy deliveries to the Southern California Edison Company (SCE), 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 electrical energy during a given time period. Since DWR has flexibility in regulating the SWP's electrical demand, the SWP is operated to minimize pumping demand during on-peak periods, when capacity and energy costs are greatest. Thus, the SWP's maximum electrical capacity requirement occurs during off-peak periods (nights, weekends, and holidays).

Table 16 shows the projected SWP on-peak and off-peak maximum pumping demands (capacity requirements) for 1990 and 2000 during the months of highest system use. Off-peak maximum monthly pumping loads are projected to occur in the winter, thus taking advantage of seasonal power cost differentials. On-peak maximum monthly pumping loads are projected to occur in the spring. The total capacity requirements in Table 16 consist of pumping loads, reserve margin requirements, transmission losses, and DWR capacity obligations to SCE.

Power Resources

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

- to obtain adequate reliable, competitively-priced power supplies and transmission services, so the SWP will be capacity and energy self-sufficient and can operate as an independent and interconnected utility;
- to develop and manage power resources to provide flexibility in meeting water delivery requirements 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.

TABLE 15. PROJECTED WATER DELIVERIES AND ENERGY REQUIREMENTS

	Calendar Year			
	1990	1995	2000	2004
Entitlement Requests (thousands of acre-feet)				
Feather River Area	4	31	33	38
North Bay Area	27	43	52	56
South Bay Area	158(a	184	188	188
San Joaquin Valley Area	1,355	1,355	1,355	1,355
Southern California Area	1,393	1,456	1,628	1,710
Central Coastal Area	-	70	70	70
Total	2,937	3,139	3,326	3,417
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	126	146	149	149
Del Valle	1	2	2	2
California Aqueduct Plants				
Banks Delta	906	941	979	1,010
San Luis	235	175	206	213
Dos Amigos	396	414	430	445
Buena Vista	399	414	441	467
Wheeler Ridge	446	464	498	529
Chrisman Wind Gap	937	976	1,050	1,117
A. D. Edmonston	3,227	3,366	3,622	3,856
East Branch Plant				
Pearblossom	591	614	712	764
West Branch Plant				
Oso	157	164	153	159
Coastal Branch Plants				
Las Perillas	11	16	16	16
Badger Hill	27	41	41	41
Devil's Den	-	43	43	43
Sawtooth	-	34	34	34
Polonio	-	91	91	91
Subtotal(b	7,472	7,920	8,490	8,962
Transmission Losses(c	246	250	246	260
SWP Pumping Energy Requirement	7,718	8,170	8,736	9,222
Energy Obligations to SCE	2,401	2,356	2,422	2,465
Total SWP Energy Requirement	10,119	10,526	11,158	11,687

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 16. 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	16	18	19	13
Del Valle	1	(a	(a	(a
California Aqueduct				
Banks Delta	157	157	47	249
San Luis	1	10	1	178
Dos Amigos	25	75	35	65
Buena Vista	19	75	44	75
Wheeler Ridge	26	95	52	89
Chrisman Wind Gap	67	207	102	207
A. D. Edmonston	230	746	345	745
East Branch				
Pearblossom	76	76	89	128
West Branch				
Oso	(a	59	4	44
Coastal Branch				
Las Perillas	1	1	2	1
Badger Hill	2	4	5	3
Devil's Den	-	-	6	6
Sawtooth	-	-	5	5
Polonio	-	-	12	12
Total Capacity Needed to Pump Entitlement Water	623	1,525	771	1,823
Transmission Losses (5% of Pumping)	31	76	39	91
Reserve Margin (10% of Pumping and Losses)(b	65	160	81	191
Capacity Obligation to SCE	710	485(c	710	485(c
Total SWP Capacity Requirement	1,429	2,246	1,601	2,590

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.

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 may rely on fuel oil and natural gas for the major portion of their 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 other utilities with similar resources. Figure 11 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 supplies about 2.4 billion kWh in a median water supply year. Generation at the existing SWP power recovery plants (San Luis, Alamo, Devil Canyon, Warne, and Castaic) varies with water conveyance. The combined 648 MW capacity at these five plants will be able to recover about one–fourth of the total energy used for SWP pumping.

Alamo Powerplant, a 17–MW recovery facility on the East Branch, began commercial operation in July 1986. It recovers energy previously dissipated in the Cottonwood Chutes. A second generating unit will be installed in conjunction with enlargement of the East Branch of the California Aqueduct.

An additional SWP hydroelectric facility was built at Thermalito Diversion Dam near Oroville. The 3–MW power plant started operational testing and limited commercial operation in July 1987.

For energy accounting purposes in this bulletin, basic SWP resources include the total output of the Hyatt–Thermalito, Devil Canyon, and Alamo facilities. The energy returned off–peak by SCE is treated separately, as described in the discussion under "Exchanges."

DWR purchases hydro generation developed by others. For example, the output of the 165–MW Pine Flat Powerplant, owned by the Kings River Conservation District, provides an average of 400 million kWh per year to the SWP. DWR also contracts for the output from five hydroelectric facilities owned and operated by MWDSC. (See following discussion of "Exchanges.")

Exchanges

The 1979 Power Contract and the 1981 Capacity Exchange Agreement with SCE are also significant SWP power resources. Services under these contracts were available in April 1983 and April 1987, respectively.

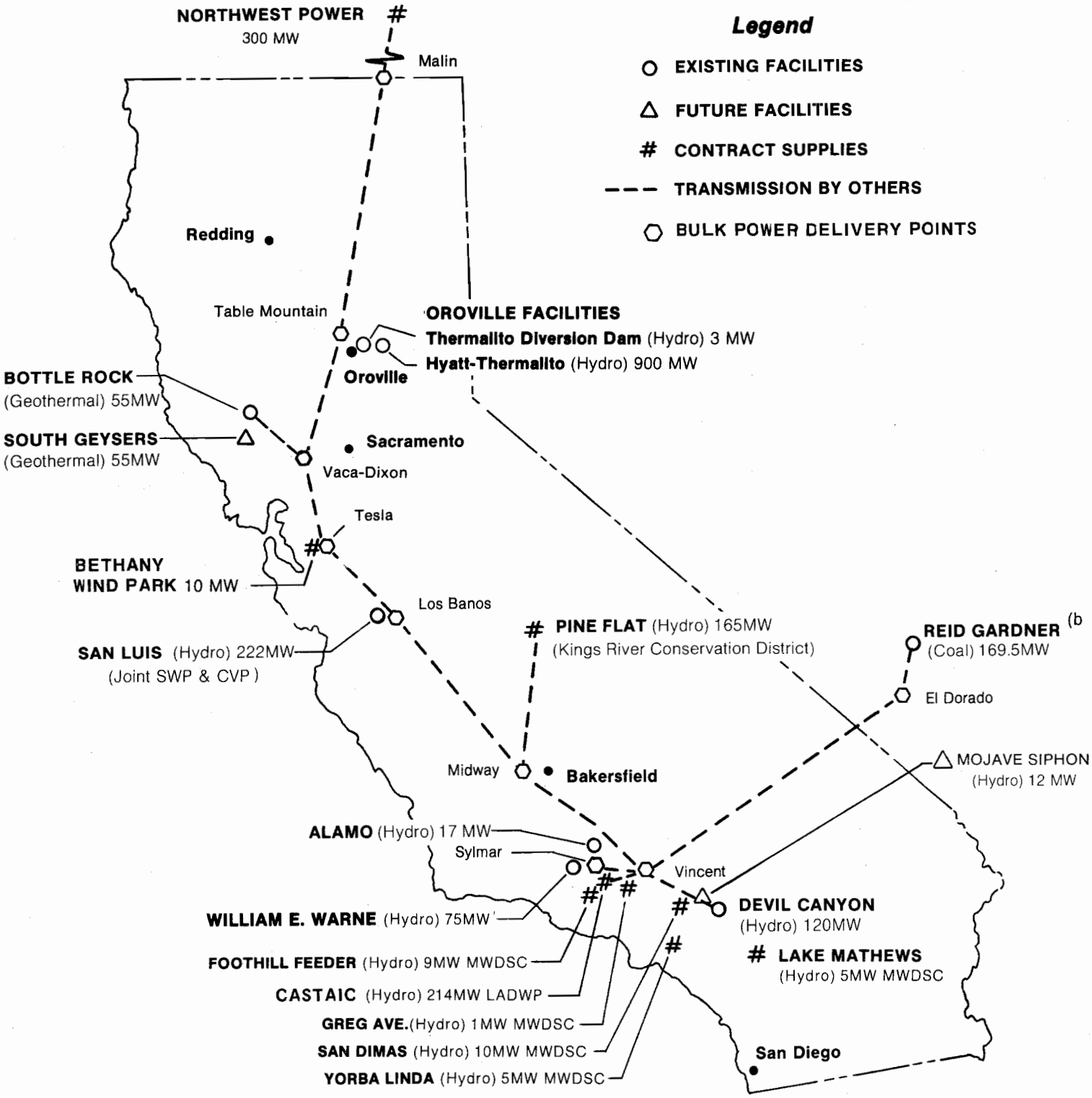
Under the Power Contract, DWR delivers to SCE:

- up to 350 MW of capacity and approximately 40 percent of the energy from Hyatt and Thermalito power plants;
- all of the energy output of Devil Canyon Powerplant up to a maximum delivery rate of 120 MW; and
- all of the energy output of Alamo Powerplant up to a maximum delivery rate of 15 MW.

In return, the SWP receives a greater amount of energy than it delivers to SCE. This energy is delivered during off–peak hours. This additional energy to the SWP through this transaction is projected to range from about 2.1 billion kWh in 1990 to 1.2 billion kWh annually beginning in 2001. The additional energy is determined through a complex formula that includes factors reflecting oil and natural gas prices, so projections may change with subsequent revisions.

Under the Capacity Exchange Agreement, (CEA) DWR will deliver to SCE during on–peak periods up to 412.5 million kWh per year at a delivery rate of 225 MW. As with the Power Contract, SCE will return a greater amount of energy, during off–peak hours, than it receives. SCE will also waive 75 percent of DWR's costs for the firm transmission service as shown in Exhibit II of the Power Contract and Firm Transmission Agreement. The CEA is being renegotiated to provide operational flexibility to DWR.

FIGURE 11. SWP POWER FACILITIES [a]



NOTES:

a) 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.

b) 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.

DWR contracts for the energy output from five hydro plants owned by MWDSC. Under the DWR-SCE Power Contract, however, SCE receives energy from four of the five plants, then returns exchange energy to the SWP during off-peak periods. Under a 1983 agreement with the Los Angeles Department of Water and Power (LADWP) the energy from the fifth MWDSC hydro facility (Greg Avenue) is made available by DWR to LADWP, and LADWP later returns exchange energy off-peak to DWR. Combined, the five MWDSC facilities are rated at 30 MW.

Through additional interchange agreements, DWR has expanded its opportunities for selling and purchasing economy energy with several utilities in California, the Pacific Northwest, and the Southwest. These agreements provide for hourly or daily sale and purchase of economy energy by DWR. This permits more efficient use of generation capacities, more efficient scheduling of energy deliveries, and general economies through interchange of energy. The terms of these agreements are generally between 25 and 30 years.

Coal

DWR and the Nevada Power Company (NPC) are joint owners of the Reid Gardner Unit No. 4, a coal-fired facility located east of Las Vegas. DWR has received energy from this source since July 1983. The original Units 1, 2, and 3, with a combined capacity of 330 MW, are owned exclusively by NPC. Unit 4 is jointly owned by DWR (67.8 percent) and NPC (32.2 percent), which gives DWR a 169.5-MW share of ownership (based upon the rated capacity of 250 MW). Under the participation agreement with NPC, DWR receives up to 226 MW from Reid Gardner Unit No. 4 in exchange for NPC's limited right to interrupt DWR deliveries. DWR receives return energy or payment based upon combustion turbine cost whenever NPC schedules energy from DWR's share of the unit output. The scheduling of energy to the SWP depends upon the manner in which NPC exercises its rights to obtain peaking capacity through interruption of SWP service. After 15 years of operation, NPC will have an annual option to buy back up to 6 percent of the original DWR share based upon the 250 MW rated capacity.

Geothermal

DWR's Bottle Rock Powerplant in the Geysers area of Lake County began operation in February 1985. Bottle Rock Powerplant is owned, operated, and maintained by DWR. Geothermal steam for the plant is provided under a contract with MCR Geothermal Corporation and others.

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

Because of the reduced need for additional power resources for the SWP and the unsettled circumstances in the geothermal steam business, DWR has deferred the decision to complete the South Geysers plant until 1993. Contractual situations between steam producers and other utilities have not been resolved to allow for the sale of supplemental steam to DWR. The present steam price structure is not conducive to further development by most producers.

Wind

DWR has an agreement with TERA Power Corporation to purchase wind-generated electrical energy delivered from the Bethany Wind Park to South Bay Pumping Plant near Tracy. At the end of 1986, about 145 of 200 planned wind turbines were operational. When the Bethany Wind Park is fully completed, TERA will have an installed wind turbine capacity totaling 10 MW.

Power and Interruptible Energy Purchases

Power purchases are an important component of DWR's power supply program. To make optimum use of all resources and to obtain economical power,

DWR is party to power contracts with several utilities. DWR has long-term contracts providing options to purchase power from SCE and the Bonneville Power Administration. During the past year, DWR made firm purchases of power from Portland General Electric Company and Pacific Power and Light Company under short-term purchase agreements. Other potential purchases are also being evaluated. Table 17 summarizes the major long-term SWP power contracts.

In addition to power purchases, DWR has several agreements for the purchase of interruptible economy energy. Utilities with which DWR has executed agreements for such economy energy purchases are also included in Table 17.

Other Projects

Potential projects for the DWR power supply program are continually being studied and evaluated. These projects are evaluated by such factors as ability to meet anticipated power requirements, cost, financing considerations, environmental impacts, and operating characteristics. On the basis of these evaluations, a project may be recommended for inclusion, exclusion, or deferral in the program.

Projects recommended for inclusion in the program are Mojave Siphon Powerplant (one unit) and two additional units at Devil Canyon Powerplant. Projects under consideration include a new unit at Alamo Powerplant, an additional unit at Mojave Siphon, additional capacity at the Hyatt-Thermalito facilities, two power plants on the Coastal Aqueduct, and a new off-stream pumped storage power plant (Los Banos Grandes).

SWP power studies assume that 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.

DWR completed the evaluation of the additional load management of the Banks Delta Pumping Plant's final four units. The resultant shift from on-peak to off-peak pumping will reduce costs.

DWR is a participant in the Heber Binary Geothermal Demonstration Project, managed by the San Diego Gas and Electric Company. Under the participation agreement, DWR receives the benefits from all design, construction, and operating experience, but is not obligated to receive or pay for any plant capacity or energy.

DWR owns a Federal Geothermal Leasehold in Lake County (the Binkley Leasehold), and is working on a plan to assure leasehold development. Such a plan will preserve the lease and hold the resource for the best use by DWR.

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. At present, most SWP transmission needs are met by contractual arrangements with California utilities (Table 17). 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:

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

The temporary 270 MW interconnection, installed in May 1983, between the Hyatt-Thermalito Line No. 1 and the Western Area Power Administration (WAPA) 230-kV Cottonwood-Elverta No. 3 line was removed on September 26, 1986. The interconnection allowed DWR to send up to 270 MW from Hyatt Units 1 and 2 over WAPA's transmission line to Tesla Substation. This action was necessary to prevent potential extensive curtailments of firm Hyatt-Thermalito power. This condition was relieved by the installation of the Table Mountain-Tesla reinforcements which have been in commercial operation since May 1987.

TABLE 17. SUMMARY OF

Contract Title (Short Form) and Date Signed	With	Providing	To
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	1/1/42
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	1/1/05
3. Bonneville Power Administration (9/5/67)	Bonneville Power Administration	Purchase of surplus BPA energy at Oregon-California border	9/20/87
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 4/1/08
6. San Diego Gas and Electric EHV Settlement (5/25/78)	San Diego Gas and Electric Company	Establishes extent of SDGandE'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	1/1/05
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	7/26/13
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	1/1/05
9. Firm Transmission Service Agreement (10/11/79)	Southern California Edison Company	Transmission service between El Dorado and Vincent substations	7/26/13
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	1/1/05
11. Pine Flat (11/6/79)	Kings River Conservation District	Purchase of hydroelectric output from Pine Flat Powerplant	4/1/34
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	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 PGandE'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	6/1/12
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	6/1/12
19. Power Sale Agreement (5/14/82)	TERA Power Corporation	Sale of energy to DWR from wind-powered generation facilities constructed by TERA	5/3/02
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. PGandE 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 SDGandE 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	To
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. Service Agreement (2/24/84)	Portland General Electric Company	Sale of nonfirm energy to DWR	12/31/87
26. Energy Interchange Agreement (6/6/84)	Tucson Electric Power Company	Bilateral sale of economy energy	12/31/08
27. Energy Interchange Agreement (7/27/84)	City of Pasadena	Bilateral sale of economy energy and interruptible transmission service	12/31/11
28. Energy Interchange Agreement (7/27/84)	City of Riverside	Bilateral sale of economy energy	12/31/13
29. Energy Interchange Agreement (7/27/84)	City of Glendale	Bilateral sale of economy energy	12/31/12
30. Energy Interchange Agreement (7/31/84)	City of Burbank	Bilateral sale of economy energy	12/31/13
31. Interconnection Agreement (7/31/84)	Nevada Power Company	Bilateral sale of economy energy	12/31/06
32. Energy Interchange Agreement (9/17/84)	City of Anaheim	Bilateral sale of economy energy	12/31/13
33. Service Agreement (11/1/84)	Montana Power Company	Sale of nonfirm energy to DWR	Until terminated by either party
34. Economy Energy Agreement (11/6/84)	Salt River Project	Bilateral sale of economy energy	12/31/13
35. Energy Interchange Agreement (12/1/84)	Northern California Power Agency	Bilateral sale of economy energy	12/31/09
36. 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 El Dorado and Mead substations, etc.	12/31/04
37. Service Agreement (1/7/85)	Idaho Power Compay	Sale of nonfirm energy to DWR	Until terminated by either party
38. Energy Interchange Agreement (4/18/85)	El Paso Electric Company	Bilateral sale of economy energy	12/31/10
39. Interconnection Agreement (4/18/85)	Portland General Electric Company	Bilateral sale of economy energy	12/31/10
40. Interconnection Agreement (4/30/85)	Pacific Power and Light Company	Bilateral sale of economy energy	12/31/09
41. Energy Interchange Agreement (4/30/85)	Seattle City Light	Bilateral sale of economy energy	12/31/15
42. Power and Energy Interchange Agreement (6/3/85)	Arizona Public Service Company	Bilateral sale of economy energy	12/31/10
43. Energy Interchange Agreement (8/20/85)	City of Santa Clara	Bilateral sale of economy energy	12/31/08
44. Service Agreement (8/13/85)	Washington Water Power Company	Sale of nonfirm energy to DWR	Until terminated by either party
45. Service Agreement (9/1/85)	Western Agency Power Administration (Sacramento Area Office)	Sale of nonfirm energy to WAPA	12/31/04
46. Economy Energy Agreement (7/1/86)	City of Azusa	Sale of nonfirm energy by DWR	12/31/90
47. Economy Energy Agreement (7/1/86)	City of Banning	Sale of nonfirm energy by DWR	12/31/90
48. Economy Energy Agreement (1/12/87)	City of Colton	Sale of nonfirm energy by DWR	12/31/90
49. Power Sale Agreement (1/1/87)	City of Vernon	Sale of 27 MW to city	12/31/88
50. Power Sale Agreement (1/1/87)	City of Azusa	Sale of 5 MW to city	12/31/88
51. Power Sale Agreement (5/12/86)	Nevada Power Company	Sale of firm capacity and associated energy	9/15/87

At PGandE's request and expense, the temporary interconnection was reconnected on May 9, 1987, to assist the PGandE system during summer 1987. The interconnection is expected to remain in effect for the rest of 1987.

DWR requested that PGandE construct reinforcements between Los Banos and Midway to provide about 1,000 MW of firm transmission service to DWR in accordance with the Comprehensive Agreement. The estimated cost of the reinforcements is about $80 million; scheduled operating date is December 1990.

DWR has contracted through 2004 for 300 MW of transmission capacity in the extra high voltage (EHV) Pacific Northwest Intertie from the Oregon–California border to the Table Mountain, Tesla, Los Banos, and Midway substations. DWR plans to retain its entire 300–MW share of this EHV transmission capacity in order to maintain access to Northwest power markets, where purchases of less expensive power and exchanges could continue to result in significant savings for the SWP. Through membership in the Western Systems Coordinating Council, DWR has monitored studies conducted by the Bonneville Power Administration, Pacific Power and Light Company, PGandE, and SCE to upgrade the existing Pacific Northwest Intertie to 3,200 MW.

DWR signed a Memorandum of Understanding with the major California public and private electric utilities pertaining to construction and operation of a third 500–kV transmission line connecting California with the Pacific Northwest. If the transmission line is built and certain other conditions are met, DWR will have the option to purchase a portion of the transmission capacity presently estimated at about 100 MW and an option to extend its 300 MW of transmission capacity entitlement for the life of the existing Pacific Intertie lines.

The 1982 Comprehensive Agreement with PGandE provided DWR the option to purchase a share of the Geysers–Lakeville 230–kV transmission line. On May 25, 1984, DWR entered into an interim agreement with PGandE for the ownership of 165 MW of capacity on the Geysers–Lakeville line. DWR completed payment for its share of the transmission line in February 1985. The agreement preserves DWR's right for co–tenancy of the line. A definitive agreement has been negotiated, which DWR executed in July 1987, after reevaluating the SWP's total transmission needs for geothermal development in the Geysers Area.

The 1982 EHV Settlement Agreement with PGandE provided DWR the option to purchase 75 percent of the Stub Transmission Line (Midway to Wheeler Ridge line), which serves Buena Vista, Wheeler Ridge, and Chrisman Wind Gap pumping plants. The Settlement Agreement also established principles for this purchase. A contract for the purchase, operation, and maintenance of the Stub Transmission Line was signed on November 15, 1984. The closing of the purchase of this line is expected to occur in 1987. DWR ownership of the Stub Transmission Line will result in less costly and more reliable transmission service.

Studies are also being made for a line between the Banks Delta and South Bay pumping plants. Such a line may provide additional flexibility for powering the South Bay Pumping Plant.

DWR signed an interruptible transmission agreement on December 19, 1984, with SCE to provide additional transmission service between Arizona and the DWR system. Additional transmission arrangements are being evaluated and pursued to expand opportunities for interchanges with other utilities.

In late 1986, DWR entered into two agreements with PGandE. The first, signed in November, is a Rate Settlement Agreement. Using a specific formula, this agreement allows a change in the 1987 transmission rates as well as in future rates. The formula takes into account economic trends. The second agreement was entered into in December. That agreement is for construction and maintenance of transmission tie–lines from the PGandE system to the Cordelia and Barker Slough pumping plants.

DWR also entered into two agreements to participate in first stage planning studies of the Desert Southwest (DSW) Project. The DSW Project is a proposed di-

rect current line from Midpoint Substation near Twin Falls, Idaho, to Mead Substation in Nevada. The studies will be completed over a 32-month period.

DWR's participation in the DSW Project is based upon a projected need for 350 MW of bulk power transmission from the Pacific Southwest. The DSW Project, combined with other transmission facilities between Mead and Vincent substations, could provide some of that transmission.

The agreements will provide (1) valuable transmission planning information in the DSW Project area, and (2) a DSW Project transmission option of 40 to 65 MW to DWR between 1995-1997. DWR's decision to participate in the DSW Project's design and construction phase is contingent upon either satisfactorily resolving participation in the Mead-Adelanto DC Project or some other transmission arrangement. A transmission arrangement is necessary to deliver power to Vincent Substation.

Sales

DWR enters into agreements with many utilities for short-term power sales and economy sales (sales of nonfirm energy). These agreements provide DWR with markets to sell power that is in excess of SWP needs. Surpluses may develop as a result of reduced demands for water deliveries in a given year or an abundance of hydro energy available from SWP facilities.

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 1986 DWR sold or exchanged energy with:

- Cities of Anaheim, Burbank, Glendale, Pasadena, Riverside, Santa Clara, and Vernon;
- El Paso Electric Company;
- Los Angeles Department of Water and Power;
- Nevada Power Company;
- Northern California Power Agency;
- Pacific Gas and Electric Company;
- Salt River Project;
- San Diego Gas and Electric Company;
- Southern California Edison Company; and
- Western Area Power Administration (Sacramento area).

DWR entered into the Western Systems Power Pool Agreement with 14 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 sale or exchange, and transmission service. During the two-year term, the parties may enter into mutually beneficial transactions for the above services.

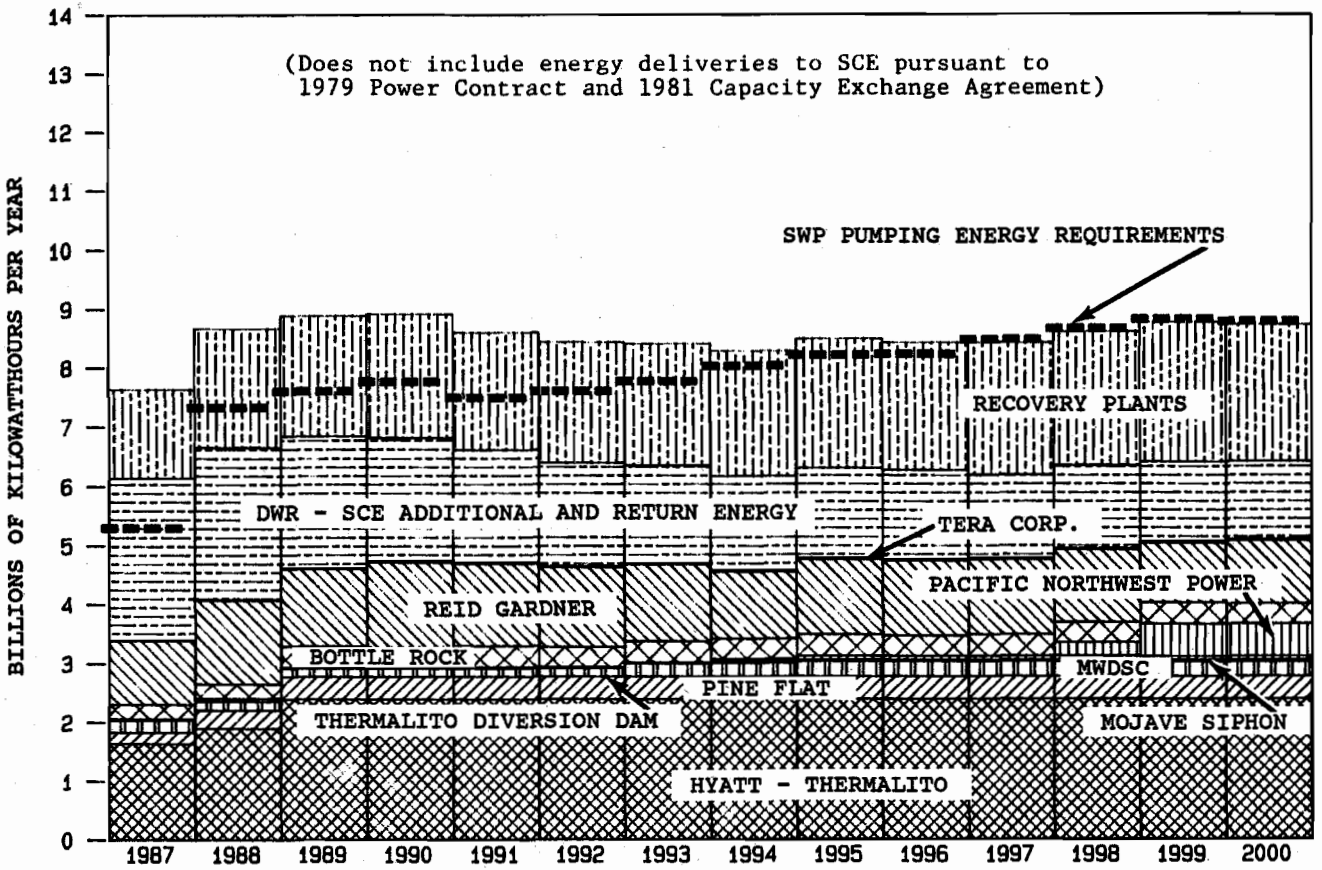
Negotiations continue with various Pacific Northwest utilities to develop long-term arrangements for purchases, sales, and exchanges to take full advantage of DWR's 300 MW of transmission capacity on the Pacific Northwest Intertie. To reduce SWP costs, DWR intends to use this transmission capacity to 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 12 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. DWR generally determines energy output from hydroelectrical resources on statewide median water supply conditions. However, DWR bases its power resources planning for the succeeding year on a lower quartile inflow to reservoir; that is, statistically the assumed inflow would be exceeded three out of

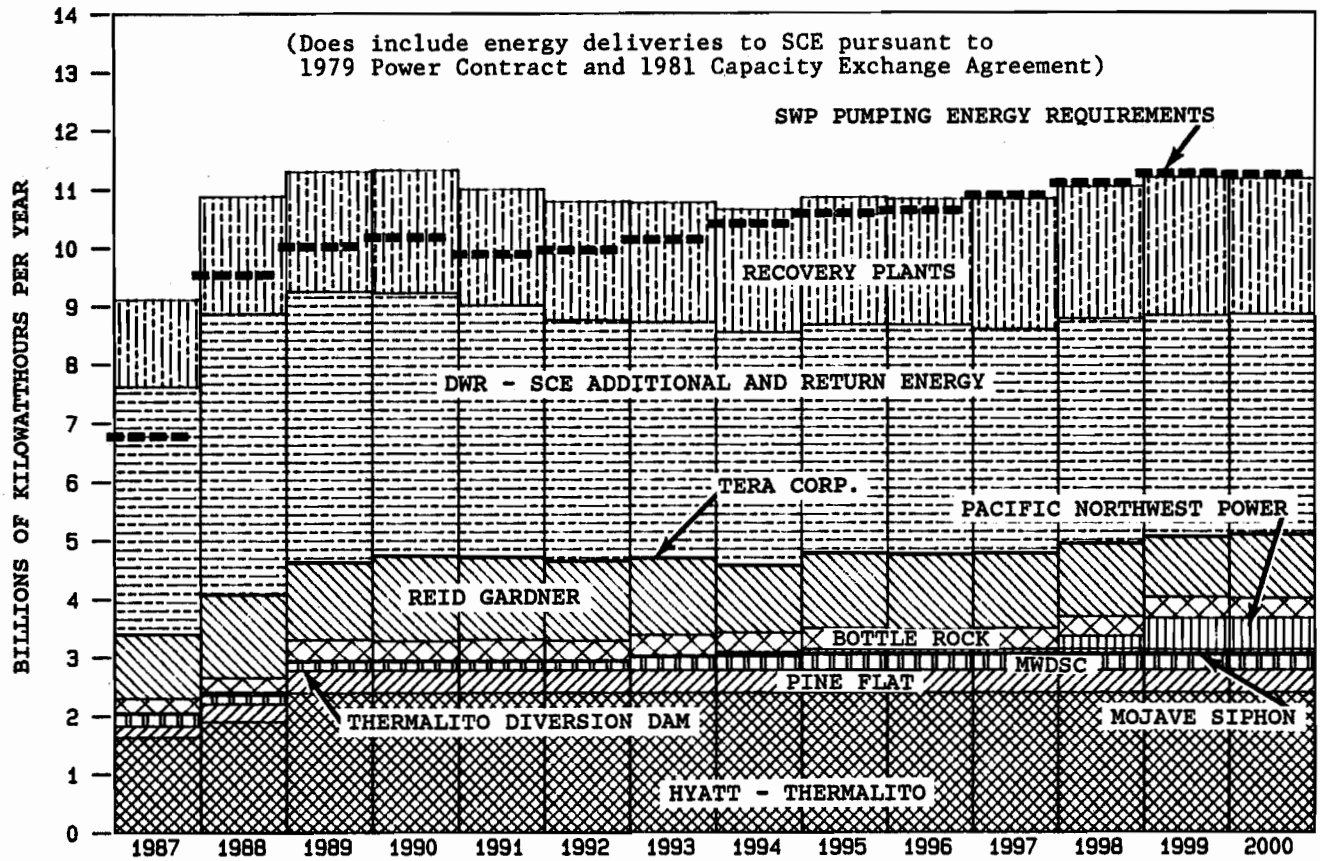
FIGURE 12. ANNUAL SWP PUMPING ENERGY REQUIREMENTS AND RESOURCES



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:

	2000 Supply (billions of kWh)
Hyatt-Thermalito	2.39
Pine Flat (purchase under contract with Kings River Conservation District)	0.39
MWDSC Hydro (output of five small hydro plants on the MWDSC distribution system, purchase under contract)	0.25
Thermalito Diversion Dam (operational in 1987)	0.02
Mojave Siphon (operational 1994)	0.08
Pacific Northwest Power (purchases from utilities in the Pacific Northwest)	0.54
Reid Gardner Unit No. 4 (SWP share under 1979 agreement with Nevada Power Company)	1.07
Bottle Rock (SWP geothermal plant)	0.34
Wind (purchase under contract with TERA Power Corportation)	0.02
DWR-SCE Exchange (net energy gained from Southern California Edison Co. under 1979 DWR-SCE Power and 1981 Capacity Exchange Agreement)	1.32
Recovery Plants (six aqueduct energy recovery plants - San Luis, Alamo, Devil Canyon, Warne, Castaic, and San Luis Obispo)	2.32
TOTAL RESOURCES TO MEET SWP ENERGY REQUIREMENTS (as shown in Figure 11)	8.74
"Return Energy" from Southern California Edison Co. under 1979 DWR-SCE Power Contract and 1981 Capacity Exchange Agreement	2.42
TOTAL RESOURCES TO MEET SWP ENERGY REQUIREMENTS AND DWR-SCE CONTRACTUAL OBLIGATIONS (as shown in Figure 11A)	11.16

FIGURE 12A. SWP PUMPING ENERGY REQUIREMENTS AND RESOURCES



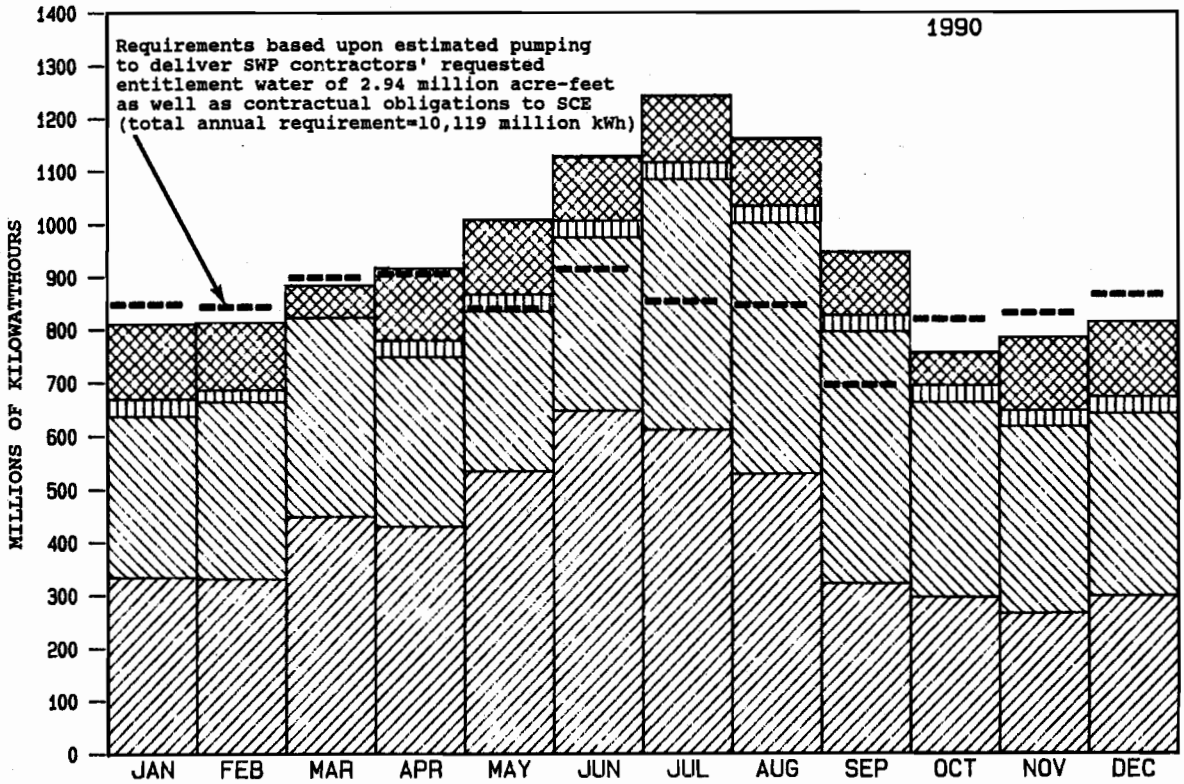
four years. This approach guards against overestimating power resources, since a large portion of SWP resources rely upon hydroelectric generation. Therefore, the resources shown for 1988 indicate a reduction from what had been projected in Bulletin 132-86. All other years assume a statistically medium level of reservoir inflow.

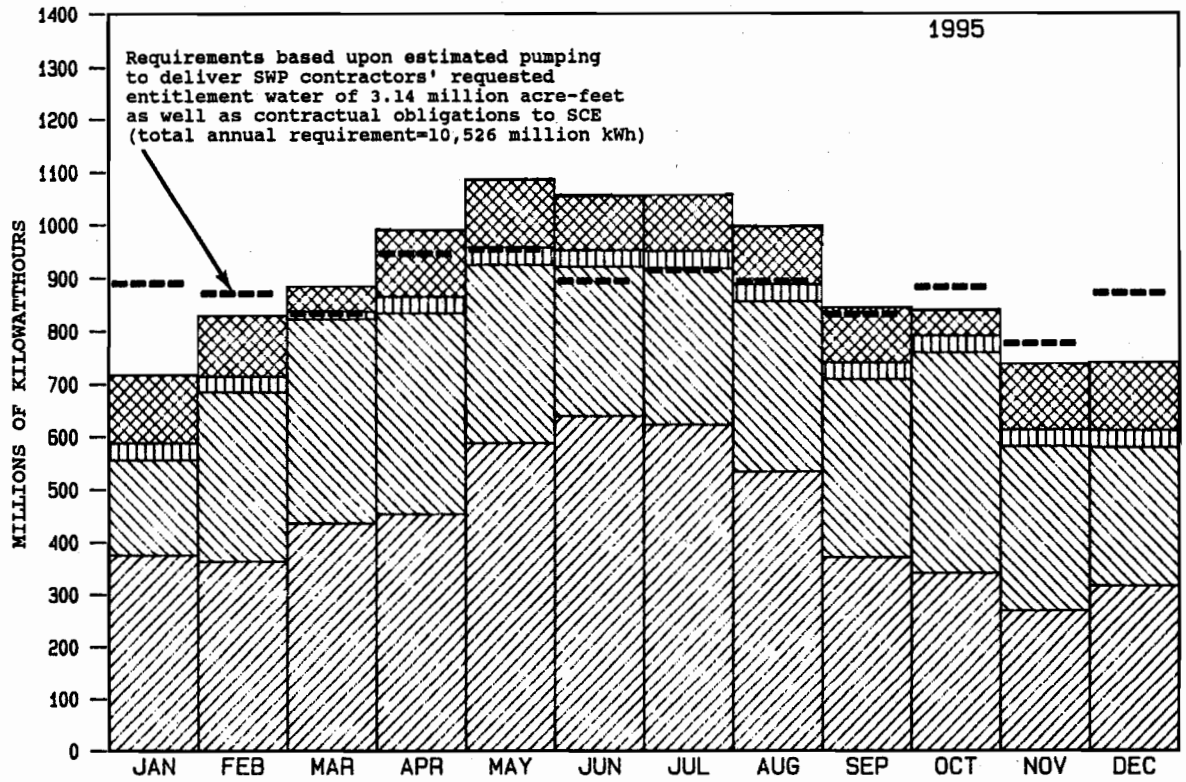
In Figure 12, the SWP pumping energy requirements do not include contractual obligations to SCE. The energy resources include only the net energy gained by the SWP under the exchange arrangements with SCE. In Figure 12A, the SWP pumping energy requirements do include contractual obligations to SCE (as shown in Table 15) and the energy resources include all energy delivered by SCE to the SWP.

Figure 13 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 and contracts with PGandE.) As in Figure 12A, the energy requirements shown in Figure 13 include those for both 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 annually. Load management techniques or energy exchanges with utilities will be used to balance monthly requirements and resources.

Figure 14 compares SWP on-peak and off-peak monthly capacity requirements and resources for 1990 and 2000. As in Table 16, both the on-peak and off-peak capacity requirements in Figure 14 include (1) transmission losses equal to five percent of the on-peak/off-peak pumping requirement; (2) a

FIGURE 13. MONTHLY TOTAL SWP ENERGY

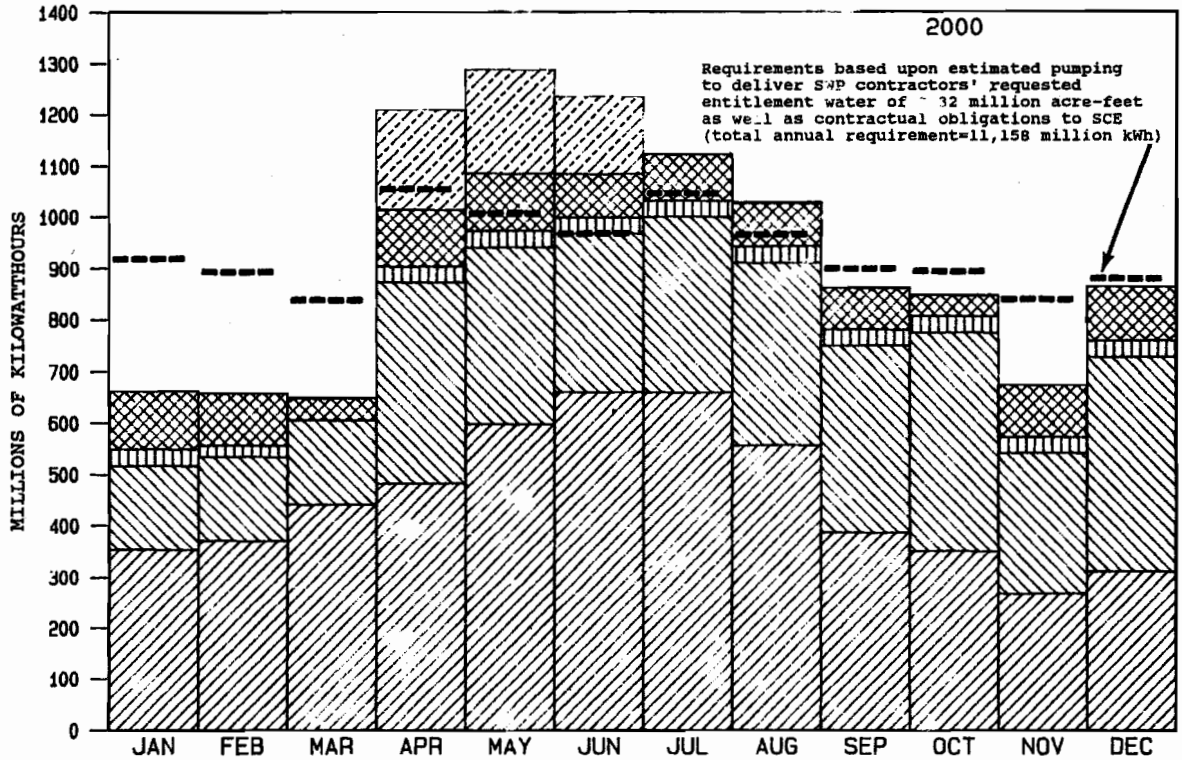


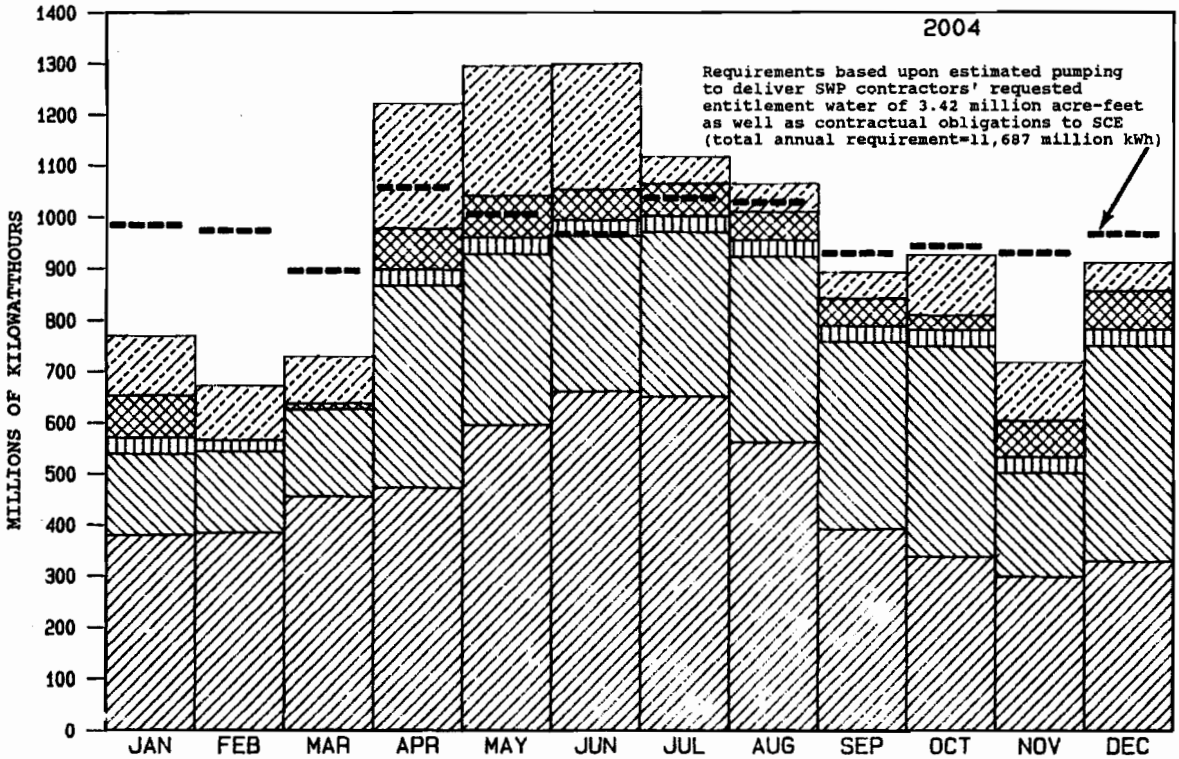


LEGEND

	COAL	Reid Gardner Unit No. 4
	GEOTHERMAL	Bottle Rock
	SCE EXCHANGE	Energy from Southern California Edison Co. pursuant to 1979 Power Contract and 1981 Capacity Exchange Agreement

REQUIREMENTS AND RESOURCES



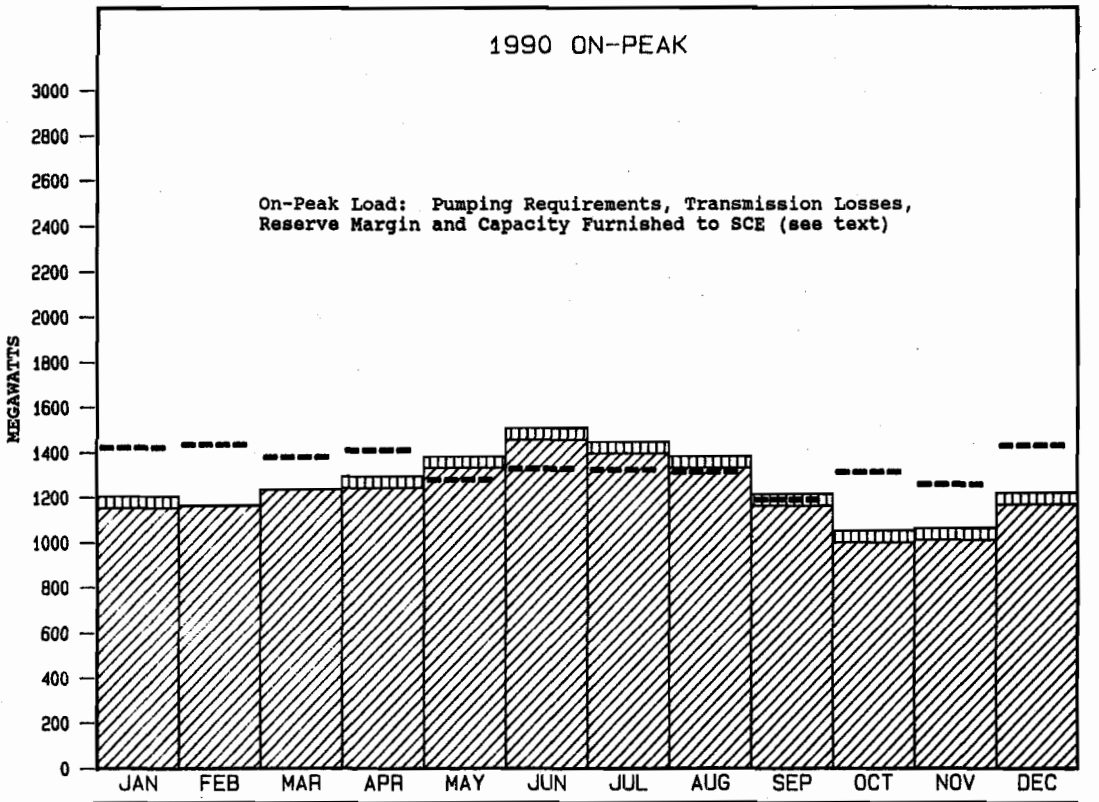


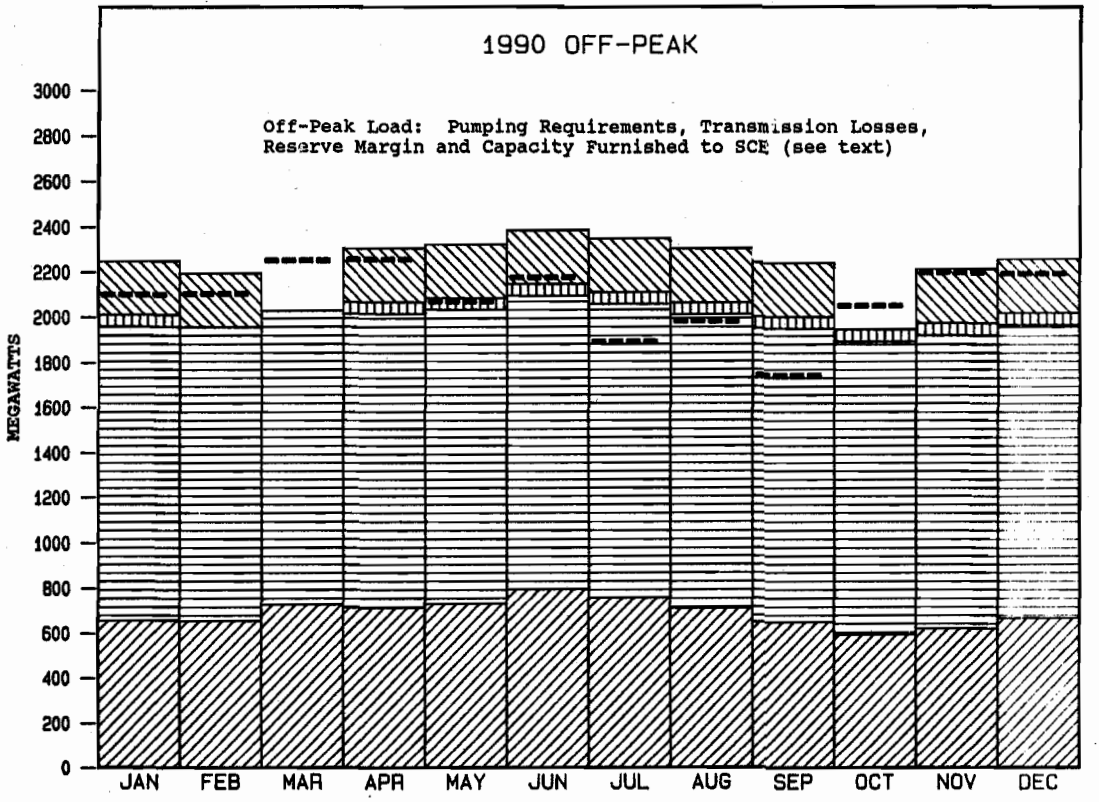
LEGEND

	PURCHASES	Pacific Northwest (beginning in 1997) and TERA Power Corporation (Wind)
	HYDRO	Hyatt-Thermalito, Aqueduct Recovery Plants, Pine Flat, MWDSC Hydro, Thermalito Diversion Dam and Mojave Siphon (beginning 1994)

Note: Projected loads and resources were balanced on an annual basis. Apparent monthly energy deficits will be met by load management and/or energy exchanges with utilities. Placement of resources in figure does not indicate a priority of use or need.

FIGURE 14. TOTAL MONTHLY ON-PEAK AND OFF-PEAK

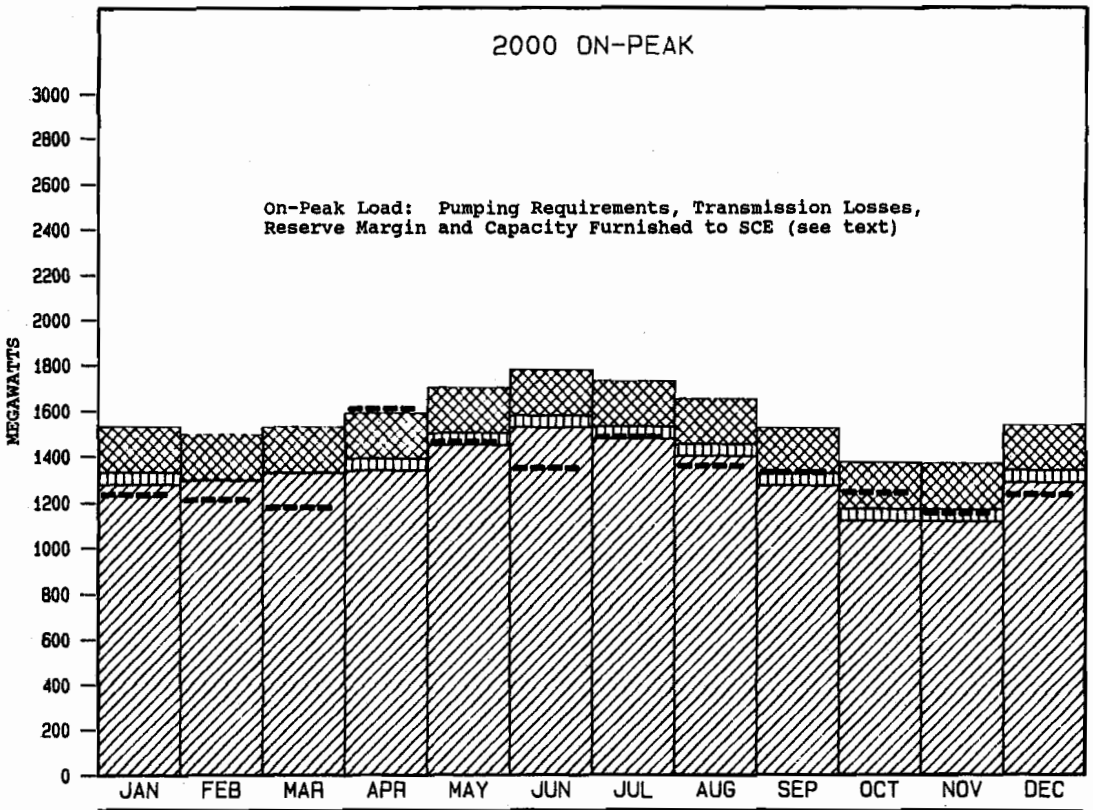


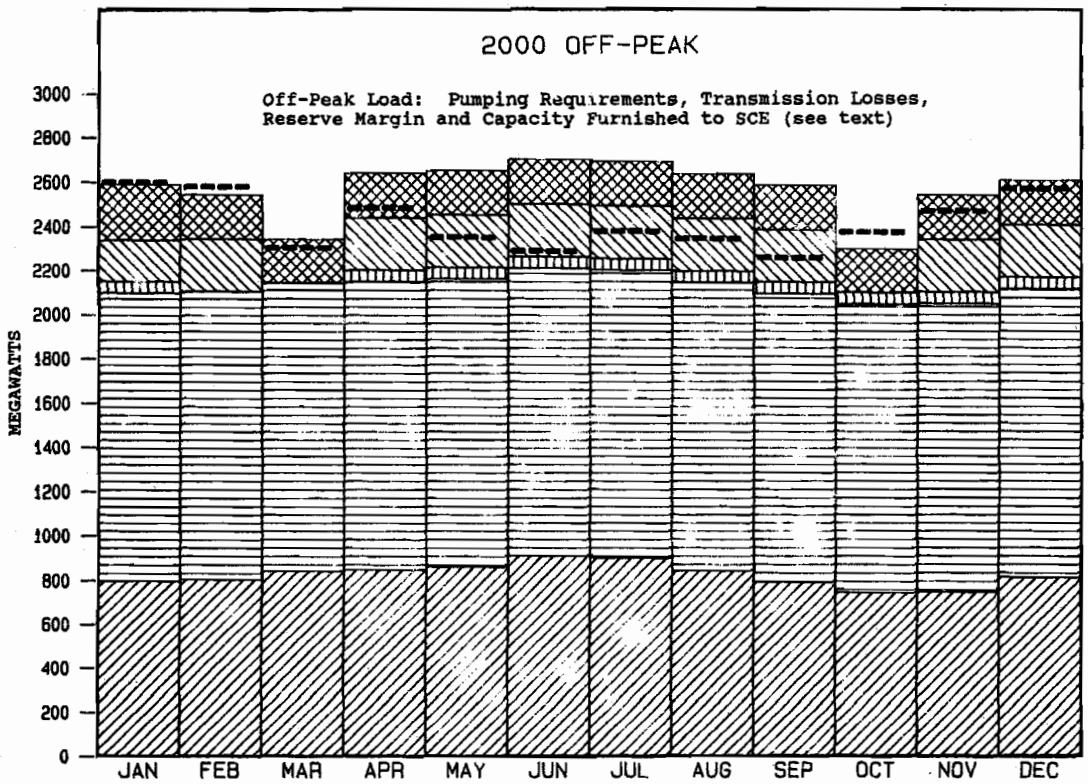


LEGEND

	PURCHASES	Pacific Northwest (beginning 1990)
	COAL	Reid Gardner Unit No. 4
	GEOTHERMAL	Bottle Rock
	SCE EXCHANGE	Capacity provided by Southern California Edison Co. under 1979 Power Contract and 1981 Capacity Exchange Agreement

SWP CAPACITY LOADS AND RESOURCES





LEGEND

HYDRO — Hyatt-Thermalito, Aqueduct Recovery Plants, Pine Flat, MWDSC Hydro, Thermalito Diversion Dam, and Mojave Siphon (beginning 1994)

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, load requirements are overstated and available resources are understated (see text for further details).
3. Placement of resources in figure does not indicate a priority of use or need.

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 14 is similar to that of Figure 12A; the obligations to SCE are included in the total SWP load, and the full capacity furnished by SCE is part of the resources.

The indicated on-peak capacity resources in Figure 14 do not include any on-peak capacity from Reid Gardner Unit No. 4 because the participation agreement allows NPC 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 anticipated. 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 14 because it is unlikely that NPC will use significant off-peak capacity, due to minimum service area load concerns and high contractual penalty costs. The participation agreement with NPC requires advance notice for use of capacity, which will give DWR adequate time to adjust loads and other resources.

In Figure 14, it appears that there are capacity deficits during the on-peak period for 1990. The apparent capacity deficits are misleading, however, because of the following reasons:

- 235 MW of capacity from Reid Gardner is not included for the on-peak period, there is likely to be power available from Reid Gardner;

- the 1981 CEA Agreement with SCE requires the SWP to provide SCE with 225 MW of capacity for only a portion of the on-peak period, it is included as a load requirement for the total on-peak period in Figure 14. On-peak pumping loads will typically be the highest primarily just before and just after the off-peak periods and may be considerably less during the hours when the CEA commitment is applicable. In addition, up to 225 MW of return and additional capacity from the CEA Agreement is a resource during some on peak hours, but it has not been included in Figure 14; and

- the SWP has the capability to meet a portion of its operating reserves by load dropping at pumping plants.

Power Costs

The current SWP power resources, in addition to the power contracts outlined in Table 17, are able to meet SWP power needs at a relatively economical cost.

Table 18 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 are based upon median water supply conditions. For 2004, the SWP pumping energy requirements are greater than the available resources. The study assumes the required additional energy will be obtained from an unspecified generic baseload coal plant. As in Figure 12, the SWP pumping energy requirements do not include contractual obligations to SCE, 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 18 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 132-87 and Bulletin 132-86 resource costs reflect updated estimates for Project construction, Project financing, fuel, and operation and maintenance costs.

The composite resource costs shown in Table 18 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 1987 value of 20 mills per kWh at 5 percent. 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.

The effective unit costs shown in Table 18 represent the average costs for energy used to operate the SWP. This does not, however, represent actual energy cost in water contractor bills because of allocation adjustments for costs of Off–Aqueduct power facilities and credits for generation at SWP energy recovery plants.

TABLE 18. 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	2,385	2,385	2,385	2,385
SWP Recovery Plants				
San Luis	165	129	148	150
Alamo	93	97	113	123
Devil Canyon	941	974	1,129	1,195
W. E. Warne	344	362	339	351
Castaic	559	582	543	561
San Luis Obispo	-	46	46	46
Pine Flat	387	387	387	387
MWDSC Hydro	148	260	246	225
Thermalito Diversion Dam	18	18	18	18
Mojave Siphon	-	73	83	89
SCE Exchange(a	2,079	1,525	1,321	1,177
Reid Gardner Unit No. 4	1,442	1,277	1,074	664
Bottle Rock	340	361	340	340
TERA Power Corp. (Wind)	21	21	21	21
Pacific Northwest	-	-	544	919
Generic Coal	-	-	-	569
Total Resources	8,922	8,497	8,737	9,220
SWP Pumping Energy Requirement(b	7,717	8,170	8,737	9,220
Surplus Energy for Sale	1,205	327	0	0
RESOURCES' COST (mills per kWh)(c				
Hyatt-Thermalito	10	11	12	14
SWP Recovery Plants				
San Luis	25	25	25	25
Alamo	35	35	35	35
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	33	36	40	44
MWDSC Hydro	56	71	91	111
Thermalito Diversion Dam	38	39	39	39
Mojave Siphon	-	56	56	56
SCE Exchange	0	0	0	0
Reid Gardner Unit No. 4	68	86	103	140
Bottle Rock	69	82	103	128
TERA Power Corp. (Wind)	85	85	68	68
Pacific Northwest	-	-	41	54
Generic Coal	-	-	-	88
Resource Capacity Cost ($/kW-mo)				
Pacific Northwest Capacity	-	-	13	17
Generic Coal Capacity	-	-	-	44
Composite Cost of Resources	29	32	38	51
Value of Potential Energy Sales	23	30	-	-
Net Cost of SWP Pumping Energy	25	31	38	51
Transmission Cost	3	2	2	2
Effective Unit Cost	28	33	40	53

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.

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 19; 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 132-86 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 1993 are included in the financial analysis:

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

The financial analysis shown in Table 19 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 1987 through 1995. The current analysis indicates that future capital requirements through 1995 for power and water facilities and the Davis-Grunsky Act Program, along with special requirements for revenue bond financing, will be $1,160 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:

- o deviation from the assumptions regarding SWP power resources;
- o deviation of actual rates of future construction-price escalation from those currently assumed for cost estimates;
- o rescheduling of currently planned construction for future facilities;
- o development of additional sources of water not foreseen at this time;
- o capital costs associated with the Kern Water Bank;
- o capital costs associated with construction of additional conservation facilities;
- o construction of Buttes Reservoir for Antelope Valley-East Kern Water Agency;
- o enlargement of the San Luis Canal;

TABLE 19. SWP FINANCIAL ANALYSIS, JUNE 30, 1987

(IN $1,000) PART I

Line No.	Line Item	CALENDAR YEAR 1952-1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	TOTAL 1987-1995	TOTAL 1952-1995
	CAPITAL REQUIREMENTS												
1.	Initial Project Facilities	2,202,316	0	0	0	0	0	0	0	0	0	0	2,202,316
2.	North Bay Aqueduct-Phase II	54,263	31,748	6,908	1,470	14	0	0	0	0	0	40,140	94,403
3.	Delta & Suisun Marsh Facilities	95,685	10,325	8,260	2,914	2,773	303	311	270	146	146	25,448	121,133
4.	Final 4 Units at Banks Delta Pumping Plant	1,932	1,329	8,154	15,930	14,187	7,504	4,101	166	0	0	51,371	53,303
5.	Coastal Branch Aqueduct-Phase II	2,393	3,089	2,233	6,198	9,282	86,256	112,149	82,286	2,103	1,576	305,172	307,565
6.	West Branch Aqueduct	82,672	2,344	4,957	2,077	4,227	4,635	0	0	0	0	18,240	100,912
7.	East Branch - Enlargement	31,358	26,570	57,110	75,155	82,624	45,417	16,326	2,707	598	0	306,507	337,865
8.	East Branch - Non-Enlargement	29,200	8,134	7,768	7,958	8,201	2,978	1,448	65	0	0	36,552	65,752
9.	Power Generation and Transmission Facilities	572,965	32,754	8,387	2,258	3,840	5,959	4,807	2,007	798	0	60,810	633,775
10.	Additional Conservation Facilities	41,793	4,911	4,185	2,988	2,483	1,505	1,505	1,505	1,505	1,505	22,092	63,885
11.	San Joaquin Drainage Facilities	25,613	2,181	1,163	1,221	817	383	383	383	383	383	7,297	32,910
12.	Other Costs	157,913	22,485	15,500	11,423	6,681	4,219	3,653	2,975	2,233	1,801	70,970	228,883
13.	TOTAL PROJECT CONSTRUCTION EXPENDITURES	3,298,103	145,870	124,625	129,592	135,129	159,159	144,683	92,364	7,766	5,411	944,599	4,242,702
14.	Davis-Grunsky Act Program Costs	117,457	2,104	2,209	3,901	4,329	0	0	0	0	0	12,543	130,000
15.	Special Capital Requirements Under Revenue Bond Financing	312,948	132,182	425	17,117	2,981	35,359	612	14,541	0	0	203,217	516,165
16.	TOTAL CAPITAL REQUIREMENTS	3,728,508	280,156	127,259	150,610	142,439	194,518	145,295	106,905	7,766	5,411	1,160,359	4,888,867
17.	Power Facilities Capital Requirements	1,235,400	32,754	8,387	2,258	3,840	5,959	4,807	2,007	798	0	60,810	1,296,210
18.	Water Facilities Capital Requirements	2,493,108	247,402	118,872	148,352	138,599	188,559	140,488	104,898	6,968	5,411	1,099,549	3,592,657
	FINANCING OF CAPITAL REQUIREMENTS												
	POWER REVENUE BOND PROCEEDS												
19.	Power Bonds through Reid Gardner Series G	1,117,407	1,652	0	0	0	0	0	0	0	0	1,652	1,119,059
20.	Power Revenue Bond Series H	27,477	6,752	6,607	0	0	0	0	0	0	0	13,359	40,836
21.	SUBTOTAL POWER REVENUE BONDS	1,144,884	8,404	6,607	0	0	0	0	0	0	0	15,011	1,159,895
	WATER REVENUE BOND PROCEEDS												
22.	East Branch Enlargement - Series A	26,005	44,800	43,974	17,221	0	0	0	0	0	0	105,995	132,000
23.	East Branch Enlargement - Future	0	0	11,764	54,803	82,470	67,079	16,938	6,348	598	0	240,000	240,000
24.	Water System Facilities-Series B	0	100,000	0	0	0	0	0	0	0	0	100,000	100,000
25.	Water System Facilities-Future	0	9,000	18,197	58,473	22,560	95,423	95,650	69,697	0	0	369,000	369,000
26.	SUBTOTAL WATER REVENUE BONDS	26,005	153,800	73,935	130,497	105,030	162,502	112,588	76,045	598	0	814,995	841,000
	OTHER CAPITAL FINANCING												
27.	Initial Project Facilities Bond Proceeds	1,452,269	0	0	0	0	0	0	0	0	0	0	1,452,269
28.	Davis-Grunsky Act Program Bond Proceeds	117,457	2,104	2,209	3,901	4,329	0	0	0	0	0	12,543	130,000
29.	Application of California Water Fund Monies (Tideland Oil Revenues)	499,245	3,884	1,163	1,221	817	383	383	383	383	383	9,000	508,245
30.	Application of Capital Resources Revenues to Construction	488,648	111,964	43,345	14,991	6,375	5,314	6,468	3,633	0	0	192,090	680,738
31.	Revenue Transfers Applied	0	0	0	0	25,888	26,319	25,856	26,844	6,785	5,028	116,720	116,720
32.	SUBTOTAL OTHER CAPITAL FINANCING	2,557,619	117,952	46,717	20,113	37,409	32,016	32,707	30,860	7,168	5,411	330,353	2,887,972
33.	TOTAL FINANCING OF CAPITAL REQUIREMENTS	3,728,508	280,156	127,259	150,610	142,439	194,518	145,295	106,905	7,766	5,411	1,160,359	4,888,867

TABLE 19 (cont.)

(IN $1,000)

PART II

Line No.	Line Item	CALENDAR YEAR 1952-1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	TOTAL 1987-1995	TOTAL 1952-1995
	PROJECT REVENUES												
34.	Capital Resources Receipts	679,992	113,370	7,364	4,468	3,991	5,771	6,984	4,187	596	641	147,372	827,364
	WATER CONTRACTOR PAYMENTS												
35.	Transportation Capital	1,303,010	92,955	94,875	96,697	98,464	100,022	104,731	110,167	113,999	114,163	926,073	2,229,083
36.	Transportation Minimum	864,270	212,428	208,657	227,191	233,665	231,822	230,500	230,538	232,486	233,069	2,040,356	2,904,626
37.	Transportation Variable	526,320	86,297	43,347	31,700	55,156	55,539	53,963	59,990	60,355	61,193	507,540	1,033,860
38.	Delta Water Charge	402,745	51,622	57,313	61,408	63,737	64,498	64,622	64,748	64,860	64,998	557,806	960,551
39.	East Branch Enlargement Payments	0	0	15,243	13,542	20,300	20,406	36,813	37,785	41,985	42,092	228,166	228,166
40.	Water Revenue Bond Surcharge	0	0	5,463	13,972	11,251	25,755	21,041	28,161	24,775	24,903	155,321	155,321
41.	SUBTOTAL WATER CONTRACTOR PAYMENTS UNDER LONG-TERM WATER SUPPLY CONTRACTS	3,096,345	443,302	424,898	444,510	482,573	498,042	511,670	531,389	538,460	540,418	4,415,262	7,511,607
42.	Revenue Bond Cover Adjustments	0	(13,602)	(13,724)	(18,447)	(20,364)	(21,766)	(24,954)	(28,131)	(30,716)	(31,465)	(203,169)	(203,169)
	OTHER REVENUES												
43.	Federal Payments for Project Operating Costs	50,900	9,895	7,925	8,439	7,425	8,467	9,017	9,116	8,682	11,037	80,003	130,903
44.	Appropriations for Operating Costs Allocated to Recreation	16,657	0	0	0	0	0	0	0	0	0	0	16,657
45.	Local Agency Payments Under Davis-Grunsky Loan Repayment Contracts	14,029	1,984	1,960	2,012	1,977	1,970	1,970	1,970	1,970	1,970	17,783	31,812
46.	Revenue Bond Proceeds	224,474	9,651	0	0	0	0	0	0	0	0	9,651	234,125
47.	Interest Earnings	223,336	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	45,000	268,336
48.	Payments Under Oroville-Thermalito Power Sale Contract	249,279	0	0	0	0	0	0	0	0	0	0	249,279
49.	Miscellaneous Revenues	99,437	0	0	0	0	0	0	0	0	0	0	99,437
50.	SUBTOTAL OTHER REVENUES	878,112	26,530	14,885	15,451	14,402	15,437	15,987	16,086	15,652	18,007	152,437	1,030,549
51.	TOTAL OPERATING REVENUES	3,974,457	456,230	426,059	441,514	476,611	491,713	502,703	519,344	523,396	526,960	4,364,530	8,338,987
52.	TOTAL OPERATING REVENUES AND CAPITAL RESOURCES REVENUES	4,654,449	569,600	433,423	445,982	480,602	497,484	509,687	523,531	523,992	527,601	4,511,902	9,166,351
	PROJECT EXPENSES												
53.	Project Operation, Maintenance and Power Costs	1,466,616	230,244	208,289	222,257	226,625	226,144	224,875	230,405	231,837	234,085	2,034,761	3,501,377
54.	Deposits to Replacement Reserves	96,220	11,280	10,719	10,363	9,098	10,227	10,763	10,967	11,074	13,062	97,553	193,773
55.	Deposits to Special Reserves Under Revenue Bond Financing	298,930	1,271	(24,096)	(5,347)	2,553	8,024	8,075	6,963	5,736	5,061	8,240	307,170
	PAYMENTS OF DEBT SERVICE												
56.	Principal Repayments on Bonds sold Through June 30, 1987	308,571	36,585	41,040	43,370	45,620	47,640	49,760	52,665	55,575	58,145	430,400	738,971
57.	Interest on Bonds Sold Through June 30, 1987	1,902,737	153,327	153,782	151,573	150,078	146,759	144,136	141,954	138,468	135,405	1,315,482	3,218,219
58.	Future East Branch Enlargement Bond Principal Repayments	0	0	0	0	640	685	2,190	2,555	3,115	3,345	12,530	12,530
59.	Future East Branch Enlargement Bond Interest Payments	0	0	0	0	4,950	4,898	16,092	15,914	18,348	18,113	78,315	78,315
60.	Future Water Bond Principal Repayments	0	0	0	1,150	1,235	2,775	2,980	4,360	4,690	5,040	22,230	22,230
61.	Future Water Bond Interest Payments	0	0	0	7,625	7,540	18,699	18,492	27,270	26,946	26,696	133,268	133,268
62.	TOTAL PRINCIPAL	308,571	36,585	41,040	44,520	47,495	51,100	54,930	59,580	63,380	66,530	465,160	773,731
63.	TOTAL INTEREST	1,902,737	153,327	153,782	159,198	162,568	170,356	178,720	185,138	183,762	180,214	1,527,065	3,429,802
64.	SUBTOTAL DEBT SERVICE	2,211,308	189,912	194,822	203,718	210,063	221,456	233,650	244,718	247,142	246,744	1,992,225	4,203,533
65.	California Water Fund Appropriation to Non-SWP purposes	70,000	0	0	0	0	0	0	0	0	0	0	70,000
66.	TOTAL OPERATING EXPENSES AND DEBT SERVICE	4,143,074	432,707	389,734	430,991	448,339	465,851	477,363	493,053	495,789	498,952	4,132,779	8,275,853
67.	Deposits to Operating Reserves Added	22,727	24,929	344	0	0	0	0	0	0	0	25,273	48,000
68.	California Water Fund Repayment Required for Current Construction	0	0	0	0	25,888	26,319	25,856	26,845	6,785	5,028	116,721	116,721
69.	California Water Fund Repayment Available for Future Construction	0	0	0	0	0	0	0	0	21,418	23,621	45,039	45,039
70.	Capital Resources Revenues Used for Construction	488,648	111,964	43,345	14,991	6,375	5,314	6,468	3,633	0	0	192,090	680,738
71.	TOTAL PROJECT EXPENSES	4,654,449	569,600	433,423	445,982	480,602	497,484	509,687	523,531	523,992	527,601	4,511,902	9,166,351

- changes in SWP contractors' entitlements due to changes in water needs, water conservation, or reclamation;
- inability of DWR to market sufficient revenue bonds;
- 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 19 is in two parts. Actual and projected capital expenditures and sources of financing are shown on the left hand page. The right-hand page 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 1987 and 1988 and at 5 percent per year thereafter. State salaries are assumed to escalate at 5 percent per year. 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 19 show actual and projected SWP capital requirements through the year 1995.

Table 20 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 15.

The following sections describe DWR's current assumptions concerning the costs of each facility of the future construction program through 1995, as shown in Table 19. 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 will connect with existing Phase I facilities, will consist of pipelines, pumping plants, and a small reservoir necessary to divert water from the western Delta to Napa and Solano Counties for urban use.

Included in the future costs are costs for increased capacity for the City of Vallejo and to provide excess peaking capacity to meet possible future peak summer demands. These additional costs are to be 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 (1952-1986) 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 1986.

The columns for 1987-1995 show Delta facilities planning costs and costs for construction of Suisun Marsh

TABLE 20. SWP CAPITAL EXPENDITURES

(in thousands of dollars)

Facilities and Construction Divisions	Expenditures Incurred through 1986	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	15,886	151	16,037	1,171	0	14,866	0
Oroville Division	544,509	5,966	550,475	461,438	70,661	18,376	0
North Bay Aqueduct	58,817	40,204	99,021	99,021	0	0	0
Delta Facilities	115,871	26,176	142,047	122,988	0	19,059	0
South Bay Aqueduct	72,953	3,504	76,457	54,828	7,484	14,121	24
California Aqueduct							
North San Joaquin Division	173,922	75,717	249,639	240,580	0	9,059	0
San Luis Division	201,555	7,123	208,678	197,996	0	10,472	210
South San Joaquin Division	269,861	16,266	286,127	269,844	0	16,283	0
Tehachapi Division	309,310	8,030	317,340	299,158	0	18,182	0
Mojave Division	242,860	35,873	278,733	259,227	0	19,506	0
Santa Ana Division	193,348	10,134	203,482	185,933	0	17,549	0
West Branch	508,295	18,240	526,535	493,006	0	32,957	572
Coastal Branch	16,759	307,466	324,225	324,120	0	0	105
Subtotal, California Aqueduct	1,915,910	478,849	2,394,759	2,269,864	0	124,008	887
Small Hydroelectric Power Generating Facilities	56,135	23,801	79,936	75,863	0	4,073	0
Off-Aqueduct Power Generating Facilities	402,456	23,702	426,158	426,158	0	0	0
East Branch Enlargement	31,358	306,507	337,865	337,865	0	0	0
San Joaquin Drainage Facilities	25,613	7,297	32,910	0	0	0	32,910
Planning and Preoperating(c	41,793	22,092	63,885	61,564	0	2,321	0
Unassigned	18,601	4,551	23,152	0	0	0	23,152
SUBTOTAL, PROJECT CONSTRUCTION EXPENDITURES	3,299,102	942,800	4,242,702	3,910,760	78,145	196,824	120,858
OTHER CAPITAL REQUIREMENTS							
Davis-Grunsky Act Program	117,457	12,543	130,000	0	0	0	130,000
TOTAL CAPITAL EXPENDITURES	3,417,359	955,343	4,372,702	3,910,760	78,145	196,824	250,858

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 planning and preoperating expenses allocated to conservation facilities.

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.

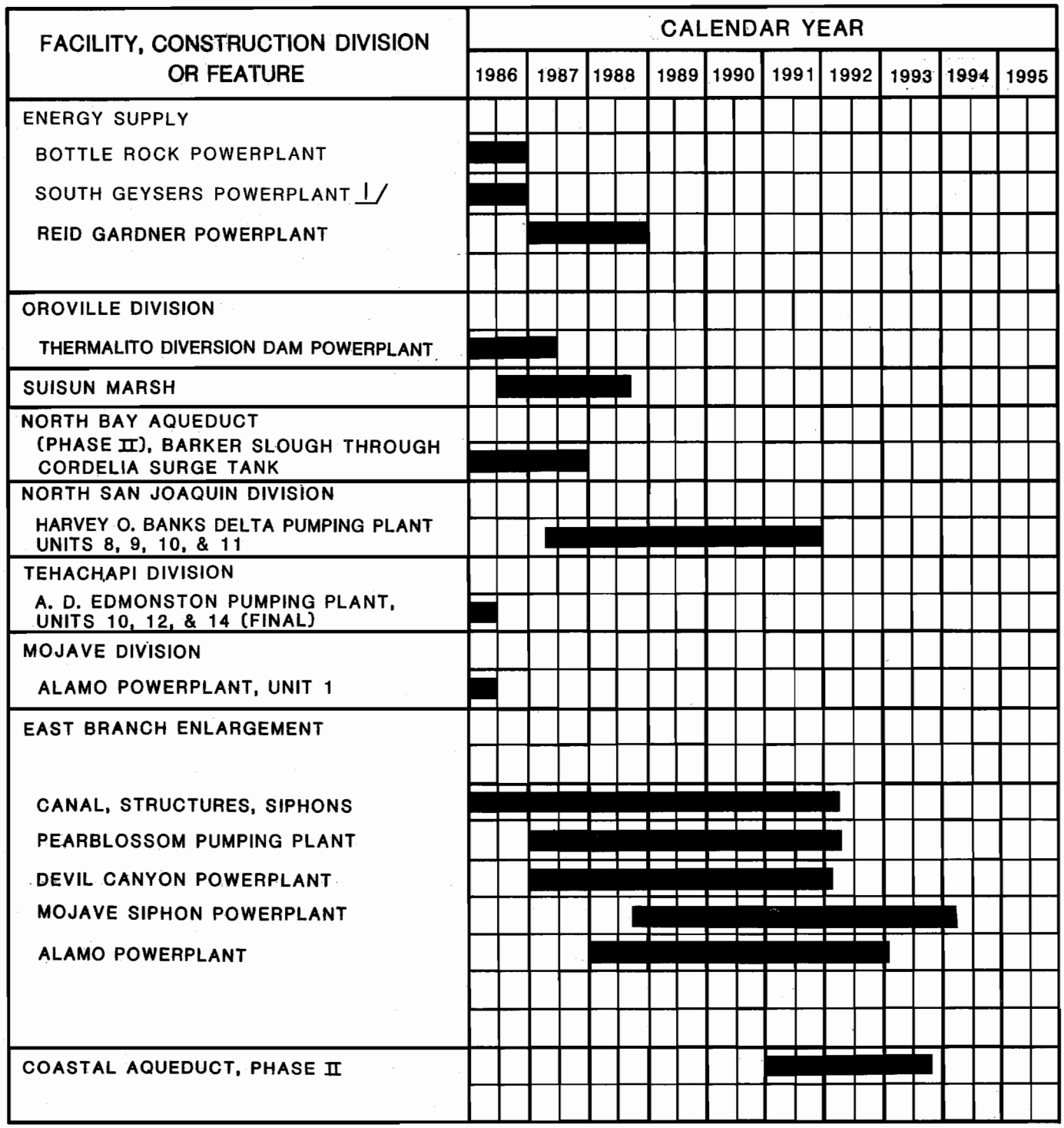
Line 4: Final Four Units at Banks Delta Pumping Plant

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.

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.

FIGURE 15. GENERALIZED CONSTRUCTION SCHEDULE



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

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 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 costs by facility are:

	$ millions
Aqueduct	74.9
Pearblossom Pumping Plant	81.2
Alamo Powerplant	21.4
Mojave Siphon Powerplant	25.4
Devil Canyon Powerplant	135.0
Total	337.9

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. This line also includes $8.2 million for the estimated cost of the Devil Canyon Bypass. 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 as follows:

	$ millions
Powerplants	
Reid Gardner, Unit 4	255.7
Bottle Rock	105.8
South Geysers	57.8[1]
Devil Canyon	37.3[2]
William E. Warne	79.5
Alamo	44.0[2]
Mojave Siphon	22.4[2]
Thermalito Diversion Dam	13.5
Subtotal	616.0
Transmission Lines	
Midway-Wheeler Ridge	10.9
Geysers-Lakeville	6.9
Total	633.8

[1]Expenditures to complete work in progress only; remaining work has been deferred (see Ch. IV).

[2]Does not include East Branch Enlargement share of costs.

Line 10: Additional Conservation Facilities

The costs shown in Line 10 are for planning of additional conservation facilities. 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, and (3) continued operation of the solar pond system. Desalting Facility operation and maintenance costs are shown through mid-1990. These costs are to be financed by California Water Fund appropriations. Costs beyond 1990 in Line 11 are for the waste water monitoring program and continued operation of the solar pond system. 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, 1986, DWR had disbursed $118 million (including $8.2 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 1991.

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 21.

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.

To date, general obligation bonds have financed the largest segment of the SWP construction. 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.

TABLE 21. APPLICATION OF REVENUE BOND PROCEEDS

(in millions of dollars)

Bond Series	Application of Revenue Bond Proceeds						
		Other Capital Requirements					
	Construction Expenditures	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	Total Principal Amount of Bonds
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)	117.3	0.0	13.7(b	0.0	2.0	15.7	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 (Assumed)	0.0	0.0	0.0	0.0	9.0(c	9.0	9.0
Water System Facilities (Assumed)	326.8	0.0	0.0	0.0	33.2(d	33.2	360.0
East Branch Enlargement (Assumed)	217.4(e	0.0	0.0	0.0	22.6(d	22.6	240.0

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.
e) Includes cost of short term borrowing prior to bond issue.

Monies deposited in the California Water Fund are appropriated for purposes of the Burns–Porter Act. 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, 1987, DWR has sold $1.8 billion of revenue bonds. This includes $132 million of Water System Revenue Bonds, Series A, sold July 15, 1986, and $100 million of Water System Revenue Bonds, Series B, sold May 5, 1987. The Series A bond sale was the first sale of water system revenue bonds (all prior revenue bonds were for power facilities). The proceeds of the Series A sale are used solely for the East Branch Enlargement project. Proceeds from the Series B 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 cov-

erage 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 Bonds through Reid Gardner-Series G

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: Power Revenue Bond-Series H

On June 10, 1986, DWR sold $206.7 million of power revenue bonds for refunding portions of Series C and D power revenue bonds and to provide $22.2 million of additional monies for power facilities capital costs. The additional monies provided (1) $5.0 million for reimbursement of other SWP funds used to complete construction of the Pyramid Hydroelectric Project, (2) $1.7 million for a portion of the remaining construction costs of the Alamo Project, and (3) $15.5 million for construction costs of additional capital improvements at the Reid Gardner Project. The remaining additional money was used for other requirements as shown in Line 15.

Line 21: Subtotal Power Revenue Bonds

This line is the total of Lines 19 and 20.

Line 22: East Branch Enlargement-Series A

On July 15, 1986, 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) $91.4 million for ongoing construction work, and (3) $4.6 million for other requirements as shown in Line 15.

Line 23: East Branch Enlargement-Future

Future water revenue bonds are needed to provide $240 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 24: Water System Facilities- Series B

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.

Line 25: Water System Facilities-Future

Future water revenue bonds are needed to provide $369 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 22-25.

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. The date of sale for the remaining $12.5 million in authorized Davis-Grunsky bonds is uncertain. 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]

[1] Plus $2,467,000 for non-SWP purposes.
[2] All for non-SWP purposes.
[3] Plus $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. 2

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

TABLE 22. 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 CALCULATING 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).

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 1987-88 fiscal year. Because of the uncertainties over future legislative action no appropriations are shown for 1987 through 1995. 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. 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 System Revenue Bonds covered under the recently negotiated Water Revenue Bond Amendment.

Table 23 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 1988 water charges, which were billed July 1, 1987. However, the following are significant differences between the sum of future charges shown in Line 41 and the substantiation of 1988 charges discussed in Appendix B.

- Future capital costs discussed in Appendix B are based upon prices prevailing on December 31, 1986. 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 19 are those actually paid under previously determined bills.

- Charges discussed in Appendix B are unadjusted for past over– or underpayments. Table 19 charges for 1987 and thereafter include adjustments for any apparent over– or underpayments of pre–1987 charges.

- The charges discussed in Appendix B for East Branch Enlargement costs include the debt service and 25 percent for Series A bonds only. Table 19 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 19 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 re-

TABLE 23.
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	-
$ 46,761,000 Cumulative 1970 General Fund Borrowing, repaid 7/10/70	-	4,938	346	7.007	4.021
$200,000,000 Series N and P Bond Anticipation Notes	6/16/70	200,000	11,660	5.830	4.030
$100,000,000 Series N Water Bonds	2/2/71	3,447,900	190,292	5.519	4.148
$100,000,000 Series Q Bond Anticipation Notes	3/10/71	100,000	2,349	2.350	4.143
$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
$150,000,000 Reid Gardner Project, Series A Bond Anticipation Notes	7/1/81	347,906	29,572	8.500	-
$ 75,600,000 Bottle Rock Bond Anticipation Notes	12/1/81	264,600	25,137	9.500	-
$ 24,400,000 Alamo Bond Anticipation Notes (d	12/1/81	24,266	2,305	9.500	4.589
$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	-
Total		99,218,992	5,918,443		
"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 Facilties, 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

quired 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 1986 and resulted in a federal share of 44.09 percent for the calendar years 1986-1990.

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 1987-88, no funds were appropriated for this purpose. Because of the uncertainties over future legislative action no appropriations are shown for 1987 through 1995. 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 $47 million of loan funds have been disbursed as of December 31, 1986. Loan repayments received through December 31, 1986 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 operating reserves, and other short-term investment earnings on SWP revenues. Based upon experience to date, interest earnings for 1987 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 1952-1986 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.

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 OM&P costs are presented in Table 24 by project facility, by composition, and by project purpose. Line 53 shows the OM&P portion of the Table 24 costs. Table 24 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 1989. 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, 1986, $9.7 million had been spent for replacement costs; the balance of the replacement reserve as of this date was $86.5 million. Replacement reserve amounts are also shown in Table 24.

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 21. 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, 1987

These two lines show the total principal and interest payments on bonds sold to date. Table 25 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 B Water System Revenue Bonds in May 1987. Proceeds from the Series B bonds were used for reimbursement of other SWP funds used for construction of Water System Projects prior to the delivery of the Series B bonds.

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

Year	Bonds Retired,$	Cost,$
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

The schedule for service of Oroville Revenue Bonds shown in Table 25 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.

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 7.5 percent; and
- the bonds are to be repaid within 30 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.

TABLE 24. SWP OPERATION, MAINTENANCE, POWER AND REPLACEMENT COSTS

(in Thousands of Dollars)

FEATURE	Calendar Year											TOTAL
	1962-1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996-2035	
BY PROJECT FACILITY												
Feather River Facilities	154,420	(4,936)	(5,058)	(6,072)	(6,384)	(6,855)	(6,833)	(6,784)	(6,686)	(6,686)	(263,893)	(165,767)
North Bay Aqueduct	4,168	136	1,354	1,792	1,820	1,822	1,825	1,860	1,897	1,929	97,124	115,727
Suisun Marsh	0	897	1,044	1,165	1,179	1,134	1,135	1,138	1,144	1,144	45,747	55,727
South Bay Aqueduct	49,086	5,482	5,937	6,250	6,247	6,262	6,330	6,458	6,585	6,700	334,542	439,879
California Aqueduct												
Delta to Edmonston	621,320	103,502	93,966	100,419	97,469	98,638	99,871	101,907	101,985	105,536	6,571,440	8,096,053
Edmonston to Perris	443,795	78,483	61,084	63,728	64,410	64,087	63,007	65,728	65,393	64,721	5,213,762	6,248,198
West Branch	43,977	(7,675)	(7,701)	(7,157)	(7,198)	(7,583)	(7,298)	(7,496)	(7,378)	(6,756)	(211,598)	(233,863)
Coastal Branch	22,888	2,882	3,228	3,197	3,087	3,076	3,095	4,365	6,010	6,064	338,951	396,843
Off-Aqueduct Power Generating Facilities	172,746	61,063	63,466	67,930	74,284	73,615	72,168	71,712	71,323	71,712	609,183	1,409,202
Water Quality Monitoring	16,738	5,864	5,723	5,264	4,567	5,794	5,818	5,825	5,840	5,846	233,672	300,951
Davis-Grunsky Act Program	1,799	150	150	150	150	150	150	150	150	150	6,000	9,149
SUBTOTAL	1,530,937	245,848	223,193	236,666	239,631	240,140	239,268	244,863	246,263	250,360	12,974,930	16,672,099
Payments to/Credits from PGandE under Comprehensive Agreement	31,899	(4,324)	(4,185)	(4,046)	(3,908)	(3,769)	(3,630)	(3,491)	(3,352)	(3,213)	(22,821)	(24,840)
TOTAL OMP&R COSTS	1,562,836	241,524	219,008	232,620	235,723	236,371	235,638	241,372	242,911	247,147	12,952,109	16,647,259
BY COMPOSITION												
Salaries and Expenses of Headquarters Personnel	302,094	35,259	39,698	42,624	40,677	40,864	40,826	41,643	41,646	41,647	1,667,366	2,334,344
Salaries and Expenses of Field Personnel	599,195	67,549	72,945	75,398	75,193	75,589	75,628	74,803	75,913	75,912	3,034,570	4,302,695
Pumping Power												
Used by Pumping Plants	578,077	133,504	111,268	117,846	119,480	116,644	117,871	123,253	128,155	132,885	11,082,446	12,761,429
Produced by Generation Plants	(139,863)	(62,613)	(75,473)	(77,877)	(79,393)	(76,551)	(77,669)	(78,191)	(82,524)	(85,534)	(4,072,001)	(4,907,689)
Payments to/Credits from PGandE under Comprehensive Agreement	31,899	(4,324)	(4,185)	(4,046)	(3,908)	(3,769)	(3,630)	(3,491)	(3,352)	(3,213)	(22,821)	(24,840)
Off-Aqueduct Power Generating Facilities Requirement	172,746	61,063	63,466	67,930	74,284	73,615	72,168	71,712	71,323	71,712	609,183	1,409,202
Oroville-Thermalito Insurance Premiums	5,229	648	659	670	676	676	676	676	676	676	27,040	38,302
Less: Portion of Costs Incurred during Construction	(82,761)	(842)	(89)	(288)	(384)	(924)	(995)	0	0	0	0	(86,283)
SUBTOTAL	1,466,616	230,244	208,289	222,257	226,625	226,144	224,875	230,405	231,837	234,085	12,325,783	15,827,160
Deposits to Replacement Reserves	96,220	11,280	10,719	10,363	9,098	10,227	10,763	10,967	11,074	13,062	626,326	820,099
TOTAL OMP&R COSTS	1,562,836	241,524	219,008	232,620	235,723	236,371	235,638	241,372	242,911	247,147	12,952,109	16,647,259
BY PROJECT PURPOSE												
Water Supply and Power Generation	1,444,361	233,908	210,254	222,838	226,829	226,162	224,653	230,137	231,880	233,601	12,281,581	15,766,204
Payments to/Credits from PGandE under Comprehensive Agreement	31,899	(4,324)	(4,185)	(4,046)	(3,908)	(3,769)	(3,630)	(3,491)	(3,352)	(3,213)	(22,821)	(24,840)
Recreation and Fish and Wildlife Enhancement	27,953	4,126	4,467	4,786	4,776	4,910	4,996	5,007	5,098	5,117	232,958	304,194
Flood Control	879	122	124	143	145	145	146	147	148	148	6,536	8,683
Miscellaneous Purposes												
Federal Share, San Luis and Delta Facilities	51,986	7,335	7,925	8,439	7,425	8,467	9,017	9,116	8,682	11,037	435,609	565,038
Other (Davis-Grunsky, Drainage, City of Los Angeles)	5,758	357	423	460	456	456	456	456	455	457	18,246	27,980
TOTAL OMP&R COSTS	1,562,836	241,524	219,008	232,620	235,723	236,371	235,638	241,372	242,911	247,147	12,952,109	16,647,259

TABLE 25.
ANNUAL SERVICE ON BONDS SOLD THROUGH JUNE 30, 1987

Calendar Year	Amounts in Thousands of Dollars									
	Series A through V Water Bonds		Oroville Revenue Bonds		Devil Canyon-Castaic Project Revenue Bond		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	2,735	7,355	1,135	7,442	790	7,513	4,860	32,606
1988	26,770	59,165	2,870	7,215	1,205	7,366	830	7,447	5,065	32,295
1989	28,145	57,825	3,015	7,065	1,275	7,284	875	7,378	5,435	31,969
1990	29,385	56,473	3,175	7,740	1,355	7,198	930	7,304	5,825	31,596
1991	30,365	55,070	3,335	6,736	1,435	7,107	980	7,227	6,260	31,171
1992	31,295	53,640	3,510	6,558	1,520	7,010	1,040	7,145	6,780	30,690
1993	32,940	52,183	3,695	6,931	1,610	6,907	1,095	7,074	7,310	30,155
1994	34,525	50,660	3,885	6,174	1,705	6,799	1,165	7,000	7,900	29,560
1995	35,660	49,073	4,085	5,967	1,810	6,684	1,235	6,919	8,490	28,956
1996	36,900	47,436	4,300	5,991	1,920	6,561	1,305	6,835	9,145	28,290
1997	36,595	45,818	4,525	5,519	2,035	6,432	1,385	6,743	9,875	27,556
1998	36,675	44,226	4,760	5,277	2,155	6,295	1,470	6,646	10,660	26,748
1999	37,600	42,655	5,005	5,017	2,285	6,160	1,560	6,542	11,545	25,865
2000	38,890	41,033	5,280	5,705	2,420	6,040	1,655	6,431	12,490	24,895
2001	39,980	39,351	5,565	4,445	2,565	5,912	1,760	6,311	13,530	23,832
2002	41,120	37,620	5,865	4,136	2,720	5,773	1,870	6,183	14,675	22,666
2003	42,970	35,835	6,180	3,810	2,885	5,626	1,995	6,047	15,980	21,394
2004	45,160	33,957	6,520	3,465	3,055	5,470	2,120	5,900	17,350	19,992
2005	46,450	31,995	6,870	3,102	3,240	5,305	2,255	5,744	18,835	18,467
2006	47,740	29,971	7,245	2,720	3,435	5,130	2,405	5,580	20,505	16,808
2007	49,230	27,883	7,635	2,316	3,640	4,945	2,570	5,405	22,270	14,998
2008	51,220	25,727	8,050	1,891	3,860	4,749	2,740	5,218	24,200	13,011
2009	53,560	23,478	8,435	1,445	4,090	4,540	2,925	5,018	26,305	10,835
2010	55,250	21,134	3,700	1,109	4,335	4,319	3,120	4,804	28,620	8,467
2011	56,740	18,717	3,935	888	4,595	4,085	3,330	4,563	31,150	5,889
2012	58,530	16,216	4,195	655	4,875	3,837	3,555	4,304	34,165	3,079
2013	60,370	13,676	4,435	407	5,165	3,574	3,795	4,028	0	0
2014	57,900	11,244	4,705	144	5,475	3,303	4,055	3,734	0	0
2015	53,690	8,838	150	2	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
TOTAL	1,570,000	2,378,577	244,995	332,563 (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 25.
ANNUAL SERVICE ON BONDS SOLD THROUGH JUNE 30, 1987 (cont.)

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	36,585	138,724
1988	580	5,371	345	3,348	1,390	10,181	280	4,314	39,335	136,702
1989	690	5,328	365	3,328	1,470	10,098	295	4,299	41,565	134,574
1990	740	5,277	405	3,304	1,575	10,002	320	4,279	43,710	133,173
1991	795	5,219	430	3,277	1,680	9,892	335	4,257	45,615	129,956
1992	860	5,154	435	3,246	1,805	9,771	365	4,233	47,610	127,447
1993	930	5,084	470	3,214	1,940	9,637	390	4,206	50,380	125,391
1994	1,005	5,004	455	3,178	2,085	9,490	420	4,177	53,145	122,042
1995	1,090	4,917	490	3,142	2,245	9,328	450	4,144	55,555	119,130
1996	1,180	4,821	530	3,102	2,425	9,151	490	4,108	58,195	116,295
1997	1,290	4,716	560	3,059	2,625	8,957	530	4,070	59,420	112,870
1998	1,400	4,600	605	3,012	2,840	8,744	565	4,028	61,130	109,576
1999	1,520	4,473	655	2,961	3,075	8,511	620	3,981	63,865	106,165
2000	1,660	4,333	695	2,905	3,340	8,256	675	3,929	67,105	103,527
2001	1,810	4,179	765	2,844	3,625	7,979	725	3,874	70,325	98,727
2002	1,975	4,008	800	2,777	3,945	7,675	790	3,814	73,760	94,652
2003	2,165	3,822	790	2,705	4,285	7,343	860	3,747	78,110	90,329
2004	2,325	3,659	885	2,650	4,675	6,979	940	3,674	83,030	85,746
2005	2,495	3,484	970	2,589	5,085	6,582	1,020	3,594	87,220	80,862
2006	2,685	3,295	1,010	2,523	5,545	6,149	1,110	3,509	91,680	75,685
2007	2,880	3,092	1,085	2,455	6,045	5,678	1,210	3,414	96,565	70,186
2008	3,130	2,848	1,100	2,368	6,585	5,164	1,320	3,311	102,205	64,287
2009	3,380	2,584	1,120	2,280	7,185	4,604	1,435	3,200	108,435	57,984
2010	3,670	2,297	1,110	2,190	7,830	3,994	1,570	3,078	109,205	51,392
2011	3,980	1,987	1,110	2,102	8,545	3,328	1,705	2,945	115,090	44,504
2012	4,305	1,651	1,115	2,013	9,325	2,602	1,865	2,800	121,930	37,157
2013	4,675	1,286	1,740	1,924	10,175	1,809	2,035	2,641	92,390	29,345
2014	5,070	890	1,830	1,784	11,110	944	2,220	2,469	92,365	24,512
2015	5,425	460	1,925	1,638	0	0	2,420	2,281	73,740	19,652
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
TOTAL	65,950	132,899	42,345	100,324	125,000	240,063	51,685	130,840	2,732,465	4,569,708

TABLE 25.
ANNUAL SERVICE ON BONDS SOLD THROUGH JUNE 30, 1987 (cont.)

Calendar Year	Amounts in Thousands of Dollars							
	Water System Revenue Bonds							
	East Branch Enlargement Series A		Water System Facilities Series B		Subtotal		Grand Total	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
1964	0	0	0	0	0	0	0	3,333
1965	0	0	0	0	0	0	0	11,114
1966	0	0	0	0	0	0	0	16,742
1967	0	0	0	0	0	0	0	26,912
1968	0	0	0	0	0	0	0	41,636
1969	0	0	0	0	0	0	0	57,909
1970	0	0	0	0	0	0	0	66,436
1971	0	0	0	0	0	0	0	76,180
1972	0	0	0	0	0	0	1,260	82,260
1973	0	0	0	0	0	0	2,530	90,098
1974	0	0	0	0	0	0	4,400	90,210
1975	0	0	0	0	0	0	6,475	89,967
1976	0	0	0	0	0	0	8,555	89,927
1977	0	0	0	0	0	0	11,835	89,758
1978	0	0	0	0	0	0	18,475	89,557
1979	0	0	0	0	0	0	25,235	88,673
1980	0	0	0	0	0	0	19,315	95,315
1981	0	0	0	0	0	0	22,935	93,553
1982	0	0	0	0	0	0	37,170	101,319
1983	0	0	0	0	0	0	42,530	143,854
1984	0	0	0	0	0	0	33,385	147,626
1985	0	0	0	0	0	0	46,365	138,477
1986	0	4,021	0	0	0	4,021	42,095	145,028
1987	0	9,651	0	4,952	0	14,603	36,585	153,327
1988	995	9,651	710	7,429	1,705	17,080	41,040	153,782
1989	1,045	9,604	760	7,395	1,805	16,999	43,370	151,573
1990	1,100	9,549	810	7,356	1,910	16,905	45,620	150,078
1991	1,160	9,489	865	7,314	2,025	16,803	47,640	146,759
1992	1,225	9,423	925	7,266	2,150	16,689	49,760	144,136
1993	1,300	9,350	985	7,213	2,285	16,563	52,665	141,954
1994	1,380	9,271	1,050	7,155	2,430	16,426	55,575	138,468
1995	1,470	9,184	1,120	7,091	2,590	16,275	58,145	135,405
1996	1,565	9,089	1,200	7,020	2,765	16,109	60,960	132,404
1997	1,670	8,984	1,280	6,942	2,950	15,926	62,370	128,796
1998	1,785	8,870	1,365	6,857	3,150	15,727	64,280	125,303
1999	1,910	8,747	1,455	6,763	3,365	15,510	67,230	121,675
2000	2,045	8,613	1,555	6,661	3,600	15,274	70,705	118,801
2001	2,195	8,468	1,660	6,549	3,855	15,017	74,180	113,744
2002	2,350	8,310	1,775	6,428	4,125	14,738	77,885	109,390
2003	2,520	8,140	1,895	6,297	4,415	14,437	82,525	104,766
2004	2,705	7,957	2,020	6,157	4,725	14,114	87,755	99,860
2005	2,905	7,760	2,155	6,005	5,060	13,765	92,280	94,627
2006	3,120	7,548	2,300	5,844	5,420	13,392	97,100	89,077
2007	3,350	7,317	2,460	5,671	5,810	12,988	102,375	83,174
2008	3,600	7,065	2,625	5,487	6,225	12,552	108,430	76,839
2009	3,875	6,795	2,800	5,290	6,675	12,085	115,110	70,069
2010	4,165	6,505	2,990	5,080	7,155	11,585	116,360	62,977
2011	4,475	6,193	3,190	4,855	7,665	11,048	122,755	55,552
2012	4,810	5,857	3,405	4,616	8,215	10,473	130,145	47,630
2013	5,170	5,496	3,635	4,361	8,805	9,857	101,195	39,202
2014	5,560	5,108	3,880	4,088	9,440	9,196	101,805	33,708
2015	5,975	4,691	4,145	3,797	10,120	8,488	83,860	28,140
2016	6,425	4,243	4,425	3,486	10,850	7,729	74,780	23,707
2017	6,905	3,761	4,725	3,143	11,630	6,904	66,325	19,793
2018	7,430	3,244	5,040	2,777	12,470	6,021	55,600	16,121
2019	7,995	2,686	5,380	2,387	13,375	5,073	49,270	12,736
2020	8,605	2,087	5,745	1,970	14,350	4,057	51,995	9,554
2021	9,255	1,441	6,135	1,524	15,390	2,965	45,620	6,412
2022	9,960	747	6,545	1,049	16,505	1,796	41,620	3,475
2023	0	0	6,990	542	6,990	542	6,990	542
TOTAL	132,000	254,915	100,000	194,817	232,000	449,732	(b 2,964,465	(c 5,019,440

b) Serial maturities or mandatory requirements for term bonds.
c) Includes capitalized interest payment.

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 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 Added

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. The financial analysis indicates that the maximum reserve amount will have been reached by the beginning of 1988. Entries in this line are annual deposits or expenditures into or out of the reserve.

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 1995 shown in Line 68 are required for financing 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 26 represent future costs of water by SWP service area. The Table 26 unit rates include capital, transportation, and operating costs of existing and future SWP facilities accounted for in Table 19. 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 26 are shown both as unescalated 1987 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 1988 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 26.
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	29	30	19	24
North Bay				
Capital, OM&R	265	271	145	174
Power(e	14	14	14	18
Total	279	285	159	192
South Bay				
Capital, OM&R	58	61	52	73
Power(e	34	34	35	47
Total	92	95	87	120
Coastal Branch				
Capital, OM&R	0	0	256	326
Power(e	0	0	88	118
Total	0	0	344	444
San Joaquin				
Capital, OM&R	32	33	32	42
Power(e	16	16	17	22
Total	48	49	49	64
Southern California				
Capital, OM&R	141	146	122	163
Power(e	95	95	102	136
Total	236	241	224	299

a) These estimated unit water charges differ from those in Table 27 of Bulletin 132-86 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, and (4) the addition of the Coastal SWP Service Area.
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.

CHAPTER VIII
PROFILES OF SWP CONTRACTORS

Of the 30 long-term contractors for SWP water supplies, 24 have been described in previous bulletins. This bulletin presents profiles of the six remaining contractors.

The first series of profiles, in Bulletin 132-83, featured Antelope Valley-East Kern Water Agency, Desert Water Agency, Devil's Den Water District, Oak Flat Water District, Plumas County Flood Control and Water Conservation District, and Santa Clara Valley Water District.

Featured in Bulletin 132-84 were Alameda County Water District, Kern County Water District, Napa County Flood Control and Water Conservation District, Solano County Flood Control and Water Conservation District, The Metropolitan Water District of Southern California, and Tulare Lake Basin Water Storage District.

Bulletin 132-85 presented profiles of Alameda County Flood Control and Water Conservation District, Zone 7, Castaic Lake Water Agency, Coachella Valley Water District, Crestline-Lake Arrowhead Water Agency, Dudley Ridge Water District, and San Bernardino Valley Municipal Water District.

Bulletin 132-86 included profiles of Butte County, Kings County, Empire West Side Irrigation District, Littlerock Creek Irrigation District, Palmdale Irrigation District, and San Gabriel Valley Municipal Water District.

Profiles of the City of Yuba City, Mojave Water Agency, San Gorgonio Pass Water Agency, San Luis Obispo County Flood Control and Water Conservation District, Santa Barbara County Flood Control and Water Conservation District, and Ventura County Flood Control District are in this bulletin.

These six agencies exemplify California's diverse topography. One agency is in the northern section of the Central Valley's agricultural area, two are in the State's desert area, two are in the central coastal area, and one is situated along the south coast. The total area of all six agencies equals approximately 34 percent of the total SWP service area, but their combined population accounts for only about 7 percent of the population served by the Project.

Although sparsely populated, all agencies are experiencing urban growth. All have SWP municipal and industrial use water contracts. Mojave Water Agency and the City of Yuba City are the only two of the six to take delivery of any SWP water.

City of Yuba City

Yuba City is a 12-square mile community and urban center for more than 40,000 people in the northern Central Valley. It is Sutter County's largest population center and serves as the county seat. Yuba City also serves as the trade center for about 160,000 people in Butte, Colusa, Sutter, and Yuba counties. The Sutter Buttes are located a few miles northwest of the City and Sacramento is just 40 miles south. State Routes 20 and 99 provide access east-west and north-south, respectively.

Terrain in and around Yuba City is generally flat, with elevations varying only slightly from 46 to 60 feet above sea level. Summers in Yuba City are hot and dry, and winters are moist and mild. The wettest months are from November through April, when most of the average annual rainfall of 19 inches occurs. Tule fog forms in December through February and the area is frost free about 280 days of the year. Yuba City's eastern border runs along the Feather River; the Yuba River is the other principal river in the area.

Yuba City's economic base has changed from its predominant agricultural foundation. Major employment and industry earnings in the area now center around government, services, retail trade, and manufacturing. Beale Air Force Base in neighboring Yuba County is a major factor in Yuba City's econ-

omy; and more than 1,000 businesses prosper in the urban area. Agriculture continues to be an integral economic factor. Orchards and fields of crops surround Yuba City.

Like many communities in Northern California, Yuba City got its start in the Gold Rush. Established near the confluence of the the Feather and Yuba rivers, Yuba City became a trade center for the mining industry. After the boom, the City grew slowly, eventually incorporating in 1908. The first surge in population came during the post-World War II housing boom. The area has grown at a healthy rate during subsequent development. Yuba City has suffered and overcome several disasters. Probably the most devastating disaster was the 1955-56 flood, in which the Yuba and Feather rivers combined flows exceeded 300,000 cfs, breached a levee, and inundated most of the area.

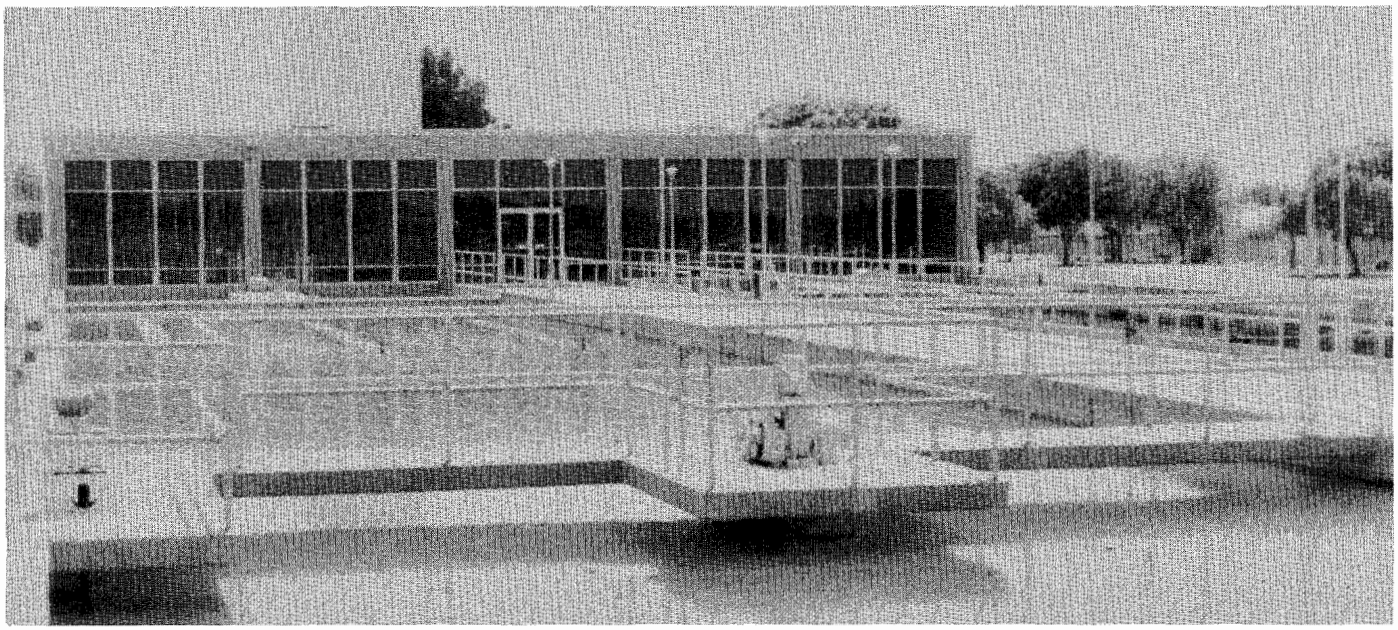
Despite the proximity of two rivers, Yuba City until recently obtained its urban water from wells, but the water quality was poor. Tests showed either unacceptable levels of hydrogen sulfide, or excessive amounts of iron and manganese in the well water. A water treatment plant using flocculation, settling, and dual media filtration was completed in 1969, and Yuba City now receives high quality treated water from the Feather River.

In 1961, Yuba City and DWR executed an agreement specifying that the City would not divert stored water released from Oroville Reservoir except under terms of a valid water supply contract with the State. Permit No. 14045, issued by the State Water Rights Board, allows Yuba City to directly divert 15.6 cfs from the Feather River for 10 months of the year, excluding July and August. Water during those months is supplied through an agreement with the Yuba County Water Agency.

Yuba City became a SWP contractor in 1963, contracting for a maximum of 9,600 acre-feet of entitlement water. Yuba City took its first SWP water delivery in 1984. Yuba City is authorized to contract for a municipal water supply. The City also has the power to pay for the water supply through property tax.

Mojave Water Agency

The Mojave Water Agency (MWA), in the Mojave Desert portion of San Bernardino County, is north of the San Bernardino National Forest and south of the Fort Irwin Military Reservation. MWA encompasses 3,160,400 acres of mostly arid mountain ranges, de-



This view of the City of Yuba City's new water treatment plant features the plant's flocculation tank and sedimentation tanks

sert valleys, dry lakes, and hills dotted with desert vegetation.

Area climate is characterized by high summer temperatures, low humidity, strong winds, and scant rainfall. Extremes in temperatures are not unusual: summertime temperatures reach well over 100 degrees Fahrenheit and wintertime temperatures often dip below freezing. Average annual rainfall is approximately 5 inches.

Most of the 140,200 residents in MWA's service area live in Barstow, Victorville, Apple Valley, and Hesperia. Other communities include Helendale, Lucerne Valley, Adelanto, Joshua Tree, and Yucca Valley. Community growth potential is favorable because of the climate, availability of land, and proximity to major urban areas. Population growth rates in recent years have been relatively high, ranging from 6 to 9 percent per year in various communities.

The economy is based mainly upon farming, railroading, cement manufacturing, and essential retail and service trades. The economic structure is further strengthened by the three military installations in the area: George Air Force Base near Victorville, the Marine Corps Supply Center near Barstow, and a portion of Edwards Air Force Base.

Since the early 1800s the Mojave Desert region has served as an important passageway between Salt Lake City and southern California. By the late 1800s successful mining operations developed in the Calico Mountains, about 10 miles northeast of Barstow. Gold, silver, borax, and tungsten were mined until the turn of the century. The area is no longer the site of large scale mining, however, large limestone deposits led to an active cement industry near Victorville.

Railroads also played an important role in the area's development. Barstow, Victorville, and Helendale began as railroad communities, and Barstow is still an important service and repair station for the Santa Fe Railroad.

Agriculture is the area's main industry. Alfalfa hay, irrigated pasture land, milo, wheat, cantaloupes, onions, and potatoes are the major crops. Livestock production consists mostly of beef, sheep, hogs, and dairy cattle. All major crops and pasture land require irrigation.

All local water supply needs are met by pumping ground water within each of the various ground water basins. These basins include the Upper, Middle, and Lower Mojave River basins, the Harper Basin, the Coyote Basin, the Caves Canyon Basin, and the Troy Basin. The west fork of the Mojave River and Deep Creek meet to form the Mojave River, which is the chief drainage system for the San Bernardino Mountains' northeastern slopes. The Mojave River provides the only mechanism for ground water recharge within the River Basin. Past and current studies indicate that the Upper, Middle, and Lower basins are being overdrafted in an amount in excess of MWA's maximum entitlement of 50,800 acre-feet per year.

MWA was formed in 1960 by the California Statutes of 1959, Chapter 2146, and is administered by a Board of Directors. The Agency's primary purpose is to contract for SWP water. It is also authorized to develop, protect, and conserve water; acquire water rights for beneficial purposes; and construct, operate, and maintain hydroelectric works.

MWA's Board of Directors are empowered to levy charges for water sold, and against pumping, which together will not be less than the variable costs due under any water supply contract with the State. Property taxes can also be levied for other costs, expenses, and obligations arising under SWP contracts. Other agency powers include land annexation; borrowing money; and issuing notes, as long as it is approved by two-thirds of the Board of Directors.

MWA took its first SWP water delivery in 1972. In 1978, the Agency and DWR entered into a demonstration ground water recharge and withdrawal program, under which water was delivered to the Agency's Mojave River Basin in 1978 via Reach 22B of the California Aqueduct to the Mojave River from Silverwood Lake. Subsequently, 22,500 acre-feet was withdrawn from storage for use in the Agency's service area. The final water was withdrawn in 1982.

San Gorgonio Pass Water Agency

Riverside County's Whitewater–Coachella area contains three SWP water contractors, including the San Gorgonio Pass Water Agency (SGPWA). (The other two contractors are the Desert Water Agency and the Coachella Valley Water District.)

SGPWA is in the mountainous region which divides eastern and western Riverside County. Situated between the San Jacinto and San Bernardino mountains, this area is geographically a transition zone between the county's two halves.

The area encompassed by SGPWA has great potential for growth. The Agency is ideally situated in the mountains, within commuting distance to larger metropolitan areas. Climatic conditions in the area include relatively mild summers, cold winters with frequent frosts, and low humidity.

Population in the Agency's service area is approximately 41,000. The area's population growth has been increased by an influx of retirees and commuters, as well as an increase in local manufacturing jobs. Banning, Beaumont, Cabazon, Calimesa, and Cherry Valley are the major communities in the Agency.

Development in the area began around 1845. The first economic activity in the area was livestock grazing and farming – mostly vegetables, fruit, and grains. Recent urban development is due mainly to an increase in light manufacturing and affordable housing. This trend is likely to continue. The light manufacturing industry produces electronic parts, food products, toys, and apparel.

Agriculture, formerly the dominant industry in the area, has been declining with the growing urbanization. Only about 5 percent of the Agency's area is currently used for agriculture. Peaches, plums, cherries, alfalfa hay, and pasture land are irrigated; grain, mostly barely, is not irrigated. There is also a small livestock industry centering around cattle grazing and poultry production.

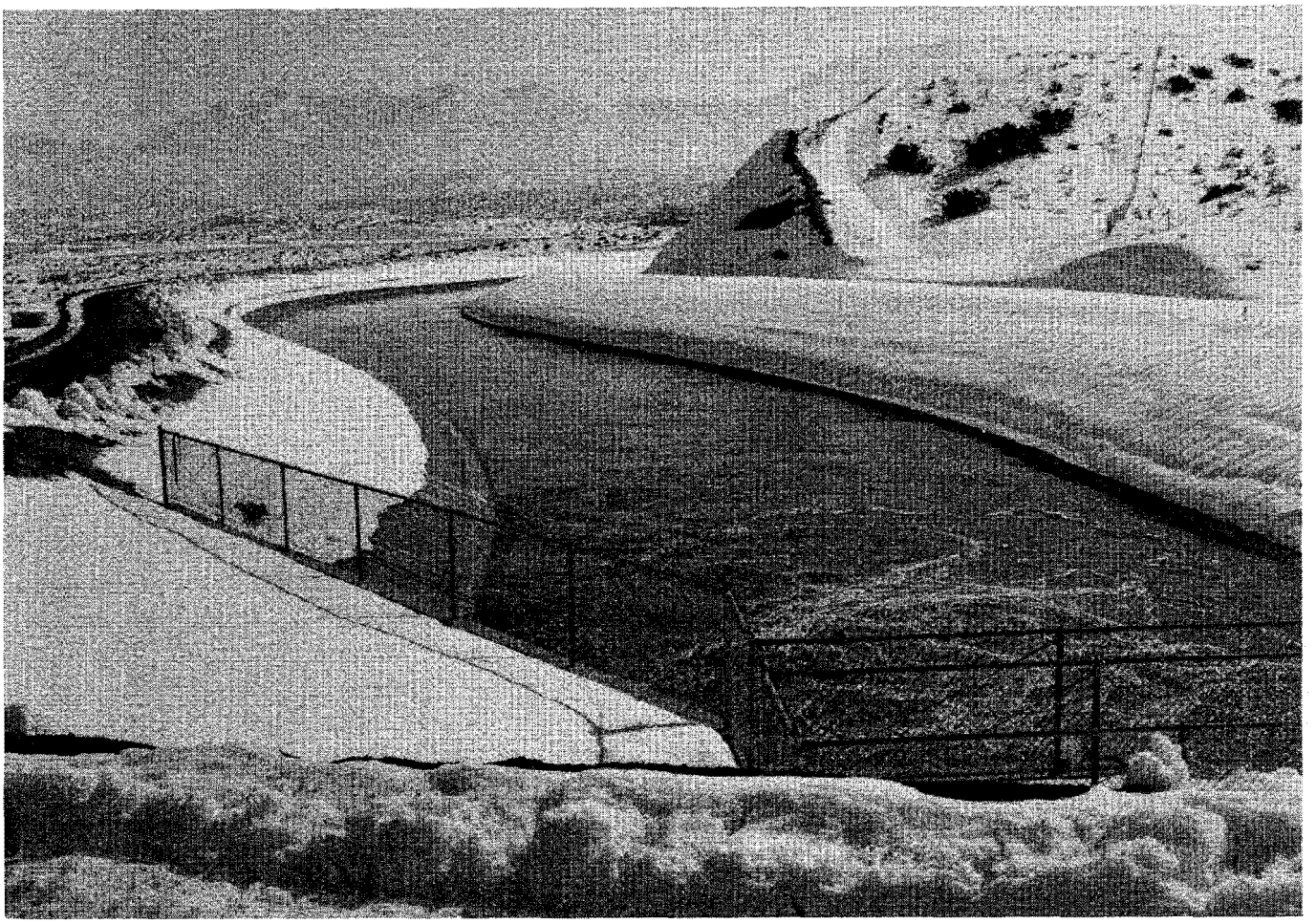
SGPWA lies partly in the Upper Santa Ana River drainage system and partly in the San Gorgonio River drainage area, which is tributary to the Whitewater River. Area water supply is completely dependent upon precipitation and runoff into the ground water basins. Runoff from the San Jacinto and San Bernardino mountains supplies most of the water for both the Santa Ana River and Whitewater River drainage systems and ground water basins. There are no surface streams that can be developed and ground water resources are in overdraft condition.

SGPWA was created by Chapter 1435, Statutes of 1961 (Deering's California Water Code, Uncodified Laws, Act 9099 (1962). The Agency's primary purpose is to contract with the State for supplemental water supplies from the SWP.

SGPWA contracted for a maximum SWP annual water entitlement of 17,300 acre–feet, although the Agency has yet to take any SWP water. The Agency is now developing a plan to meet its future requirements through SWP and local water supplies. In addition, SGPWA and MWDSC negotiated an exchange agreement that gives SGPWA the option of exchanging all or a portion of its SWP entitlement for an equal amount of MWDSC's Colorado River supply.

There are four public water agencies (Beaumont–Cherry Valley Water Irrigation District, City of Banning Water Department, Cabazon County Water District and Yucaipa Valley County Improvement District No. 2) and five private water service agencies within SGPWA, and all will probably be wholesale purchasers of SWP water from the Agency.

SGPWA is administered by a Board of Directors, which is empowered to issue bonds, warrants, and negotiable promissory notes to pay for water service. Voters must approve bond sales. The Board of Directors are able to levy charges for water to cover operating expenses (including SWP capital and OMP&R costs), improvements, and to pay interest and principal on any bonded debt. A mandatory property tax may be assessed if water sale revenues do not equal the money needed to pay either the principal and interest on a bonded debt or the water service contract with the State.



Snowfall along the California Aqueduct

San Luis Obispo County Flood Control and Water Conservation District

San Luis Obispo County Flood Control and Water Conservation District (SLOCFC&WCD) was created in 1945 by the State Legislature. SLOCFC&WCD occupies the 2,131,300 acres of San Luis Obispo County, and the county's Board of Supervisors doubles as the District's Board of Directors. The District's principal responsibilities are to: (1) make water available for irrigation, urban, and other beneficial uses; (2) develop necessary distribution works; (3) control and conserve flood and storm waters and stream flows in reservoirs; and (4) provide ground water replenishment.

San Luis Obispo County is mid-way between San Francisco and Los Angeles, and has 70 miles of Pacific Ocean coastline. Kern County is on the District's eastern border; Monterey County is to the north and Santa Barbara County is to the south. The topography of the District includes coastal plains and both coastal and interior mountains and valleys. Five subranges of the Coastal and Traverse mountains are in SLOCFC&WCD: the Santa Luica, Temblor, La Panza, Caliente, and San Luis. Overall climate conditions are mild; annual precipitation ranges from 10 inches in the eastern portion to around 40 inches in the higher elevations.

Population in the District is 195,100. Major population centers include Paso Robles, Atascadero, Morro Bay, Los Osos, San Luis Obispo, Grover City, Pismo Beach, and Arroyo Grande.

Major streams include the Nacimiento, Salinas, Cuyama, and Santa Maria rivers, and the San Luis Obispo and Arroyo Grande creeks. Existing District

water supplies include Whale Rock Reservoir, Salinas Reservoir, Lopez Reservoir, ground water, and reclaimed water. The District is also entitled to 17,500 acre-feet of water annually from Nacimiento Reservoir in the northern part of the County, but there are no transportation facilities to deliver the water. Only a small portion of District's entitlement is used for urban development around Nacimiento Lake. The other three reservoirs are used for municipal and industrial purposes. Salinas and Lopez are operated by SLOCFC&WCD; Whale Rock is operated by the Whale Rock Commission.

Agriculture, recreation, and government are the main economic bases in the area. There are several government organizations in the area, most notably the California Polytechnic State University, the Atascadero State Hospital, the California Men's Colony Prison, and Camp San Luis Obispo.

Local water needs are met by the Salinas, Lopez, and Whale Rock reservoirs, from the Los Osos and Paso Robles ground water basins, and the Arroyo Grande Nipomo portion of the Santa Maria ground water basin. The District's water use is greater than current yield, thus causing a ground water overdraft. Although 82 percent of applied water is used for irrigated agriculture, projected future land use patterns indicate an increase in both agricultural and urban land use, but with a shift in water use toward the urbanized areas.

In 1963, the District contracted for SWP entitlement water. Initial entitlement deliveries were to begin in 1980, reaching a maximum delivery of 25,000 acre-feet in 1990 and thereafter. The District has yet to take delivery of any Project water. SLOCFC&WCD, along with Santa Barbara County Flood Control and Water Conservation District (SBCFC&WCD), would receive any Project water through the proposed Coastal Branch of the California Aqueduct. Both agencies have requested several delays from the original construction start date, and both have recently expressed renewed interest in the Coastal Branch construction. (See "Coastal Branch," Chapter III.)

SLOCFC&WCD recently reevaluated its water requirements, partly because of a projected population increase of about 66 percent by 2010. In 1972, SLOCFC&WCD developed a plan to meet the District's water needs, but a change in the County's General Plan and steady population growth warranted a reexamination of that plan.

In 1986, DWR, along with SLOCFC&WCD completed a Master Water Plan Update, concentrating on alternatives for meeting SLOCFC&WCD's future water needs. Most alternatives centered around different sizes of the Coastal Branch aqueduct coupled with various local projects.

In October 1986, the District and SBCFC&WCD requested that DWR prepare an EIR and preliminary design for the Coastal Branch. The study is expected to be completed in 1989.

Santa Barbara County Flood Control and Water Conservation District

The Santa Barbara County Flood Control and Water Conservation District (SBCFC&WCD) encompasses all of Santa Barbara County. San Luis Obispo County is north of the District; Ventura County is to the east, and the Pacific Ocean is to the south and west.

SBCFC&WCD has an area of 1.7 million acres. Major subareas of the District are the South Coast area, which includes the City of Santa Barbara, and the Santa Ynez, Lompoc, Los Alamos, Santa Maria, and Cuyama valleys. Elevations range from sea level to over 6,800 feet. There are three mountain ranges in the District: the Sierra Madre, the San Rafael, and the Santa Ynez. About 43 percent of the District's total gross area is the Los Padres National Forest.

The climate is pleasant and moderate. Only 13 degrees separate the average low temperatures from the average high temperatures. Average annual rainfall is between 12 to 36 inches. Major rivers in the District are the Sisquoc and Cuyama, which merge to form the Santa Maria, and the Santa Ynez. The Santa Maria-Cuyama-Sisquoc, the Santa Ynez, the San Antonio, and South Coast watersheds are the District's main drainage areas.

Approximately 36 percent of privately-owned land in the District is suitable for urban or agricultural development. More than half of the 338,000 residents live in Santa Barbara, Santa Maria, Lompoc, Carpinteria, Solvang, and Guadalupe. Goleta, a large unincorporated area near Santa Barbara, is home to the University of California-Santa Barbara as well as an expanding light manufacturing industry.

Agriculture is the area's single most important industry. The agricultural industry encompasses all categories of farm products including livestock and livestock products, field crops, vegetables, fruits, and nuts. Beef is the most important of the farm products; vegetables and lemons are the most important crops. Much of the agricultural land is irrigated. Nonirrigated acreage has remained relatively stable since the late 1970s. Various small grains and beans are significant crops in the nonirrigated areas.

Other industries include manufacturing, mining, petroleum, tourism, and military and related services. Vandenberg Air Force Base has a major influence on the area's economic development, particularly in the Lompoc and Santa Maria valleys. The Lompoc area also provides about one-third of the world's diatomaceous earth supply. Favorable potential for growth exists in the District, but a determining factor could be an adequate water supply.

Local water supplies are principally from ground water basins. Existing surface developments include the Cachuma and Gibralter reservoirs, and Jameson Lake. Twitchell Reservoir provides flood storage and conserves water for ground water recharge. Ground water overdraft poses a potential problem for SBCFC&WCD. There are existing ground water quality problems in the Santa Ynez-Lompoc areas. Current annual District demand for water exceeds supplies by more than 65,000 acre-feet, and the deficit is expected to grow.

SBCFC&WCD became a SWP water contractor in 1963. The District has yet to receive any SWP water. SBCFC&WCD would be served by the Coastal Branch of the California Aqueduct. SWP deliveries were initially planned to begin in 1980, reaching their maximum in 1990. Both SBCFC&WCD and San Luis Obispo County Flood Control and Water Conservation District have requested several delays in the construction of the Coastal Branch.

In 1981 the District's maximum annual entitlement of 57,700 acre-feet was reduced to 45,486 acre-feet

East of Buellton, the Santa Ynez River flows toward the city of Santa Barbara, which is on the south side of the Santa Ynez Mountains

of water; as a result, SBCFC&WCD relinquished 17 cfs of Aqueduct capacity. This reduction occurred after a March 1979 election in which Santa Barbara County voters rejected a $102 million bond issue for construction of distribution facilities for local delivery of SWP water. The District is now considering obtaining part or all of the relinquished entitlement water and Aqueduct capacity.

SBCFC&WCD has 18 subcontractors for its SWP entitlement water. The City of Santa Maria, Southern California Water Company, Casmalia Community Services District, Vandenberg AFB, Park Water Company (serves Vandenberg Village), Mission Hills Community Services District, and the City of Lompoc are interested in receiving water through the Coastal Aqueduct. The other subcontractors wish to receive their entitlement from Cachuma Reservoir, if it is enlarged as a local project of the SWP.

In September 1986, SBCFC&WCD requested DWR to conduct a feasibility study and complete a draft EIR for the Coastal Branch. SBCFC&WCD also requested DWR to conduct a feasibility study on enlarging Cachuma Reservoir as a local SWP project. DWR agreed and both studies will be completed in 1989.

Ventura County Flood Control District

The Ventura County Flood Control District (VCFCD) was established in 1944 by the Ventura County Flood Control Act. The Board of Supervisors of Ventura County are empowered to act, ex officio, as the Board of Supervisors of the VCFCD. The District's principal powers are to provide for the control of flood and storm water and to obtain, retain, and reclaim water for beneficial uses.

The VCFCD encompasses all of Ventura County (except offshore islands), an area of 1,840 square miles along the Southern California coast between Los Angeles and Santa Barbara counties. The mountainous northern half of the county lies inland within the Los Padres National Forest and includes less than 1 percent of the population. The southern half of the county includes all of the 40-mile coastline and the broad alluvial valleys and coastal plains that support

Overhead view of spreading grounds of the United Water Conservation District, a wholesale water retailer in Ventura County

most of the development. Population in the county totals 615,400.

The District's climate is characterized by mild winters with modest precipitation and warm, dry summers. Average annual rainfall on the coastal plain generally ranges from about 14 to 18 inches. Over 30 inches of precipitation occur in some mountain areas. The principal streams along the Ventura County coast are the Ventura River in the north, the Santa Clara River in the central area, and Calleguas Creek in the south.

Approximately 120,000 acres of agricultural land is irrigated in the valley and coastal plain areas of Ventura County. The principal crops are vegetables, citrus fruit, avocados, and strawberries. Agricultural acreage has been gradually decreasing due to urbanization; that trend is expected to continue.

DWR estimates that current total use of applied water in Ventura County is about 440,000 acre-feet per year, about two-thirds for agriculture and one third for municipal and industrial uses. Most of the agricultural use is supplied by ground water, which is pumped at a rate of about 30,000 acre-feet per year, and the remaining needs are met with imported water and ground water overdraft. The safe yield of the ground water basins is exceeded by about 90,000 acre-feet per year; this has led to a need for remedial steps to overcome saltwater intrusion in the upper aquifer near the coast.

Three principal agencies sell wholesale water in Ventura County. Casitas Municipal Water District (Casitas) serves the northern portion of the coastal area with surface water from Lake Casitas (a 254,000 acre-foot USBR reservoir on a tributary of the Ventura River). The United Water Conservation District serves the Oxnard Plain area and the Santa Clara River Valley, by both direct diversion and by ground water recharge; its facilities include 100,000 acre-foot Lake Piru in the Santa Clara River watershed. Calleguas Municipal Water District is a member agency of MWDSC, serving an area in the southeastern portion of the county that includes a population of about 370,000; imports of MWDSC water have recently ranged from 70,000 to 80,000 acre-feet per year.

Total water demand in Ventura County is projected to remain at about current levels in the future as urban development offsets reduced irrigation use. Planned ground water overdrafting will continue, but will be reduced by a combination of additional local surface water development, expanded waste water reclamation, and increased imports.

VCFCD contracted for SWP water in 1964. At that time, it was projected that SWP water deliveries would begin in 1980 and build up to a maximum of 20,000 acre-feet per year in 1990. In 1970, in order to preclude double SWP payments by residents within the service area of Calleguas Municipal Water District, VCFCD executed an agreement with Casitas transferring administration of the contract, including all costs and entitlement to the 20,000 acre-feet per year deliveries, to Casitas. With water demands increasing slower than originally projected, deliveries of SWP water have been deferred; to date, no SWP water has been delivered under the VCFCD contract (although SWP water reaches the Calleguas Municipal Water District via MWDSC).

Direct deliveries of SWP water are projected to begin in 1991. Casitas, VCFCD, and United Water Conservation District are studying alternative methods of importing SWP water. Although the contractual delivery point is Castaic Lake, it would be possible to take deliveries from Pyramid Lake. It is anticipated the studies will be completed in fall 1987.

APPENDIX B
DATA AND COMPUTATIONS USED IN DETERMINING WATER CHARGES FOR 1988

APPENDIX B

DATA AND COMPUTATIONS USED IN DETERMINING WATER CHARGES FOR 1988

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APPENDIX B
DATA AND COMPUTATIONS USED IN DETERMINING WATER CHARGES FOR 1988

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", which provides that:

"...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 1988 and is based upon established data, both known and projected, about the SWP as of June 30, 1987. 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

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

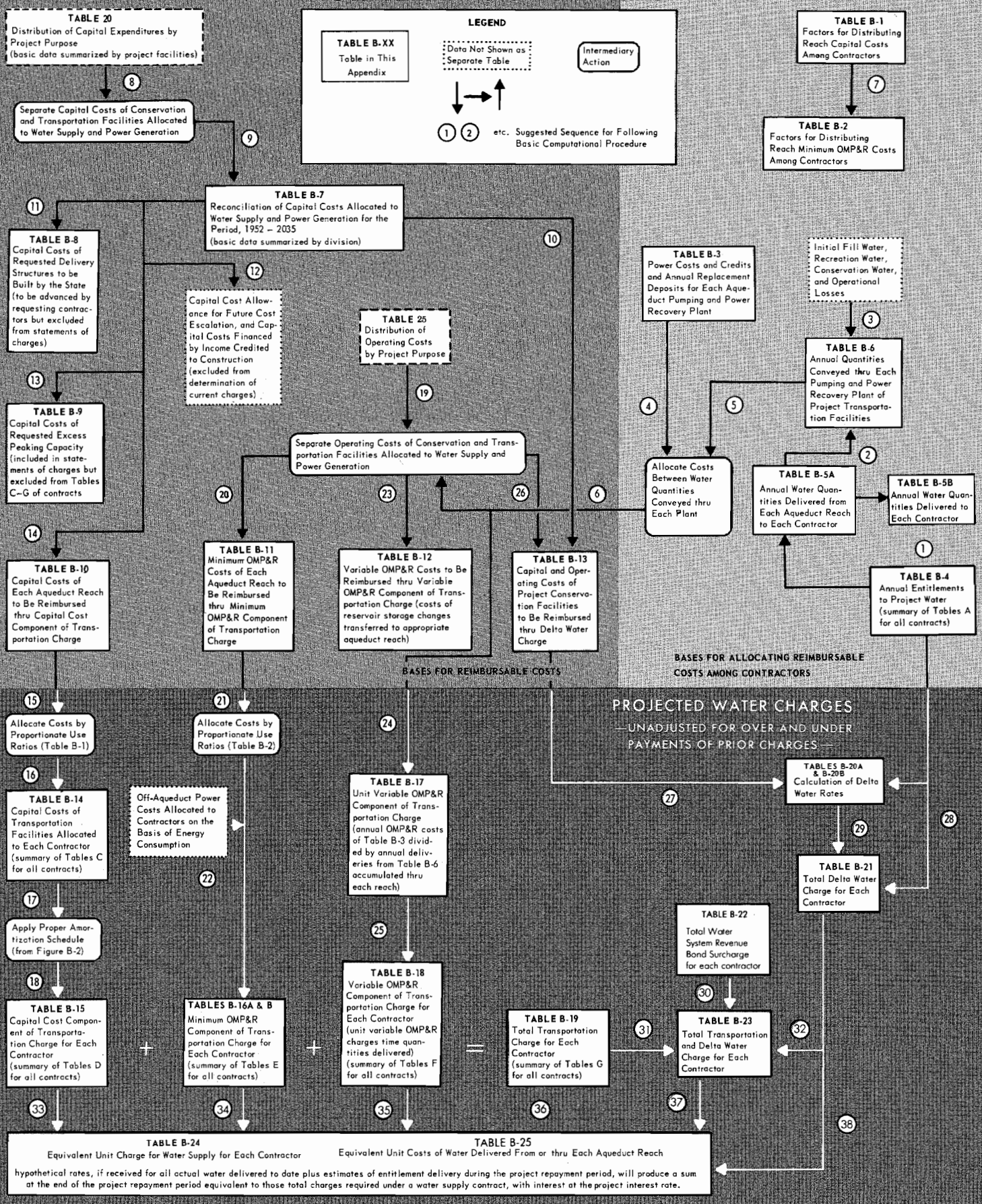
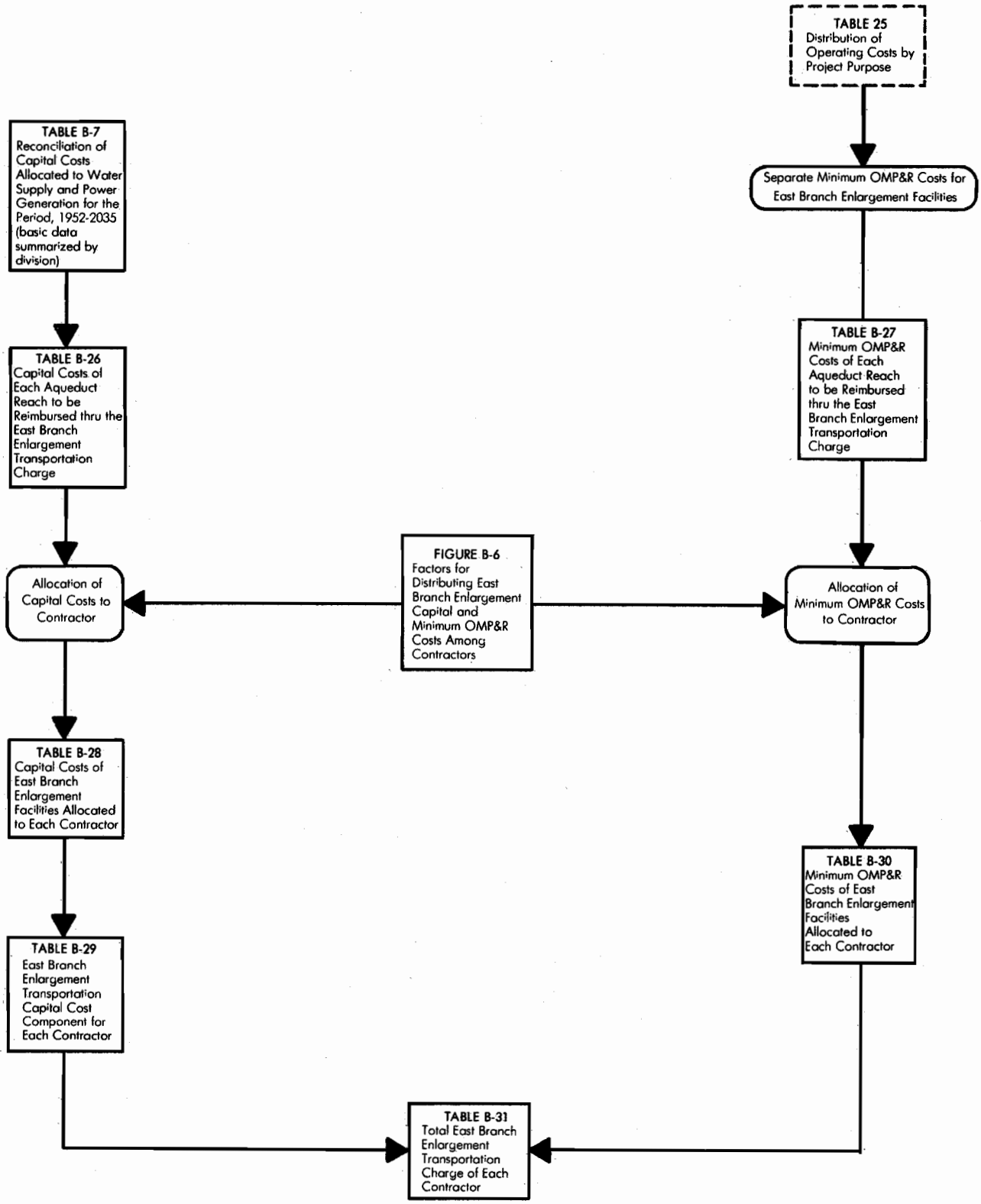


FIGURE B-2. RELATIONSHIPS OF DATA USED TO SUBSTANTIATE EAST BRANCH ENLARGEMENT CHARGES



- 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

- 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 1986 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.

FIGURE B-3. COMPOSITION OF DELTA WATER CHARGE AND TRANSPORTATION CHARGE

DELTA WATER CHARGE	CAPITAL COST COMPONENT	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	1. Direct O&M costs of conservation facilities a. Headquarters and field divisions (portion) b. Insurance and FERC costs (portion) 2. General O&M costs allocated to conservation facilities 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	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	1. Direct O&M costs of transportation facilities a. Headquarters and field divisions (portion) b. Insurance and FERC costs (portion) 2. General O&M costs allocated to transportation facilities 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 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	1. Power purchase costs 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.

The formula for computing the Delta Water Rate, Article 22 (f) of the Standard Provisions, provides that all adjustments for prior overpayments or underpayments 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 1988.

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

- Advances of funds pursuant to Article 10(d) of the Standard Provisions, for delivery structures (turnouts) 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 replacement 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 1987 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 historic 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 and 1982, and in 1987 (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, 1986; 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 originally 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

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 termini 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.

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);

- o credits, which offset those costs in (2) above, for deliveries drawn from reservoir storage; and

- o escalation of projected operating costs at 5 percent per year through 1989.

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:

- o 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.

- o 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.

- o 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.

- o 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 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 1988. 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 overpayments or underpayments, 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 overpayments or underpayments , 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:

Year	Direct Charge,$	Year	Direct Charge,$
1969	46,510	1981	73,491
1970	46,302	1982	80,870
1971	140,072	1983	88,199
1972	95,016	1984	96,084
1973	72,452	1985	149,883
1974	100,688	1986	123,927
1975	127,456	1987	202,473
1976	138,500	1988	237,887
1977	120,749	1989	233,609
1978	159,728	1990	223,412
1979	121,218	1991	222,139
1980	150,733	1992	225,502
		TOTAL	3,276,900

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.

The following tabulation summarizes Off-Aqueduct power facility charges for 1986. The net charges for 1986 are allocated among contractors as shown in Table B-16B.

Item	1986
Charges	($)
Reid Gardner	94,075,100
Bottle Rock	25,352,900
South Geysers	7,111,496
Total	126,539,496
Credits	($)
Off-Aqueduct Power Sales	5,397,287
Total	5,397,287
Net Off-Aqueduct Power Charges	$121,142,209

The following tabulation shows projected charges for Off-Aqueduct power facilities and an amount equal to 25 percent of annual bond service for 1987 and each year thereafter.

YEAR	TOTAL ANNUAL COST,$	25% OF BOND SERVICE,$
1987	127,204,487	13,602,183
1988	132,085,731	13,724,356
1989	136,688,386	13,751,768
1990	143,075,584	13,758,345
1991	142,411,575	13,759,326
1992	141,022,860	13,770,992
1993	140,561,825	13,769,952
1994	140,162,575	13,767,921
1995	140,533,043	13,764,195
1996	140,129,041	13,761,212
1997	140,531,886	13,763,963
1998	137,789,271	13,758,176
1999	132,598,469	13,758,040
2000	126,615,888	13,755,270
2001	121,406,237	13,751,555
2002	115,429,122	13,750,072
2003	110,299,054	13,782,469
2004	104,323,391	13,761,484
2005	99,098,274	13,755,061
2006	93,183,740	13,766,504
2007	87,969,790	13,762,520
2008	81,975,997	13,758,320
2009	76,734,489	13,749,046
2010	70,754,282	13,747,765
2011	65,571,701	13,750,492
2012	59,921,167	13,815,364
2013	22,506,300	4,522,869
2014	35,219,728	4,543,501
2015	9,669,198	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:

Pumping Plant	kWh per acre-foot[1] at Plant	kWh per acre-foot[1] Cumulative From Delta
North Bay Interim[2]	515	515
Barker Slough	223	223
Cordelia-Solano	276	499
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

[1]Includes transmission losses
[2]In service through 1987

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

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 Gorgonio 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.

B-17. Extra peaking charges for additional power capacity are as shown below:

Year	Agency[1]	Dos Amigos,$	Pumping Plant Los Perillas & 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

KCWA=Kern County Water Agency
TLBWSD=Tulare Lake Basin Water Storage Dist.
DRWD=Dudley Ridge Water District
Kings=County of Kings
AVEKWA=Antelope Valley-East Kern Water Agency

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 overpayments or underpayments, 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 corresponding amounts shown in Tables B-15, B-16A, B-16B, and B-18). These estimated payments, subsequently adjusted for prior overpayments or underpayments, 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 1988, 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 4.817 percent which reflects the $100 million Water System Revenue Bond sold in May 1987.

Table B-20B shows each component of the 1988 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 surcharge to the Delta Water Charge and the Transportation Capital Cost Component of each contractor. 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 the City of Yuba City have signed this amendment.

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.

Table B-26 presents DWR's initial projections of annual construction capital costs of the East Branch Enlargement facilities for each aqueduct reach. These projections will be redetermined 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, 1986.

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	1.0000000
19	0.00000000	0.10026560	0.00863214	0.09030544	0.00398406	0.00000000	0.79681276	1.0000000
20A	0.02271252	0.09798832	0.00843608	0.08825438	0.00389358	0.00000000	0.77871512	1.0000000
20B	0.02271252	0.09798832	0.00843608	0.08825438	0.00389358	0.00000000	0.77871512	1.0000000
21	0.02280130	0.09837134	0.00846906	0.08859935	0.00000000	0.00000000	0.78175895	1.0000000
22A	0.02280130	0.09837134	0.00846906	0.08859935	0.00000000	0.00000000	0.78175895	1.0000000
22B	0.00000000	0.10066667	0.00866667	0.09066667	0.00000000	0.00000000	0.79999999	1.0000000
23B	0.00000000	0.11064342	0.04028863	0.12748046	0.00000000	0.00000000	0.72158749	1.0000000
23C	0.00000000	0.12680910	0.04617505	0.00000000	0.00000000	0.00000000	0.82701585	1.0000000
24	0.00000000	0.12942779	0.05313351	0.00000000	0.00000000	0.00000000	0.81743870	1.0000000
25	0.00000000	0.12540611	0.05393112	0.00000000	0.00000000	0.04093567	0.77972710	1.0000000
26A	0.00000000	0.12540611	0.05393112	0.00000000	0.00000000	0.04093567	0.77972710	1.0000000
26B	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	1.00000000	1.0000000

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

At times the SWP has additional capability to move non-Project water through the California Aqueduct. Services provided include pumping, transportation (wheeling) and, if needed, storage in San Luis Reservoir. The SWP has provided wheeling, through separate annual agreements, to temporary federal water contractors; the water and electrical power are provided by the CVP. 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 1987 were developed from Appendix B tables in Bulletin 132-86.

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 1988, the rates for each plant, respectively, are $0.26 and $0.28. These rates are revised periodically; and

- Fish agreement costs: at the end of 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 acrefeet-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 limits 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 1988, the basic wheeling charge to Reach 12E and to Reach 31A is shown in the following table:

California Aqueduct	Cumulative Charges per acre-foot, $
Reach 1	6.49
Reach 2A	8.84
Reach 2B	9.90
Reach 3	10.79
Reach 4	12.96
Reach 5	13.80
Reach 6	14.07
Reach 7	15.01
Reach 8C	15.08
Reach 8D	15.68
Reach 9	16.17
Reach 10A	16.70
Reach 11B	17.35
Reach 12D	17.97
Reach 12E	18.54
Reach 31A*	23.15

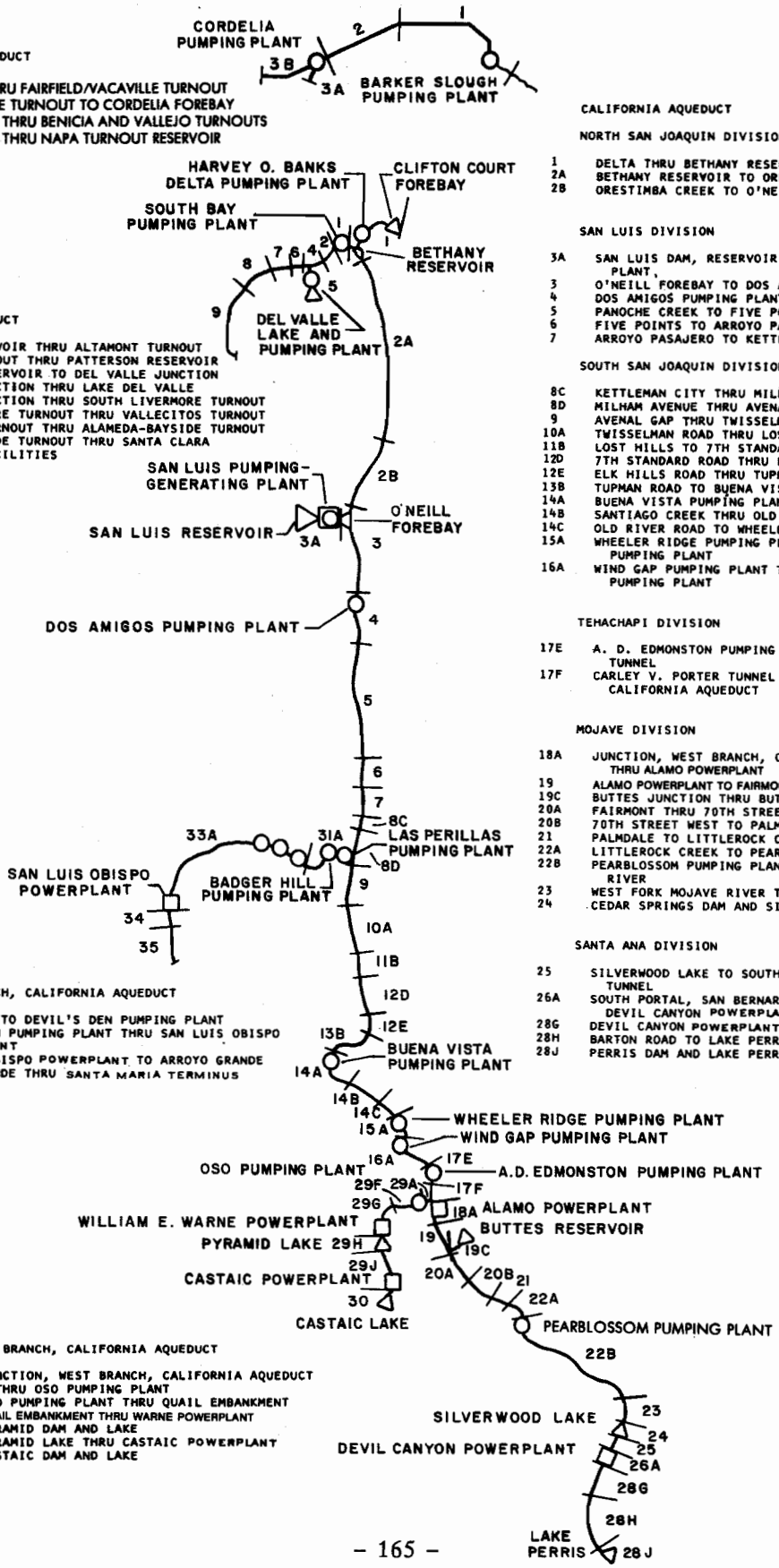
*to the Green Valley Water District

These rates do not include charges for the following items and may increase, as necessary, due to:

- o a charge to offset direct fish losses associated with pumping at Banks Delta Pumping Plant (the 1987 Fish Agreement rate was set at $1.00 per acre-foot);
- o a charge of $5.05 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;
- o any identified increase in power operations as a result of the use of the State's share of the San Luis Reservoir;
- o additional power scheduling and transmission charges if water is wheeled through Las Perillas Pumping Plant; and
- o any other identified increase in cost that would otherwise have to be borne by the SWP contractors as a result of the wheeling.

FIGURE B-7. REPAYMENT REACHES AND DESCRIPTIONS

PROJECT TRANSPORTATION FACILITIES



NORTH BAY AQUEDUCT

1 BARKER SLOUGH THRU FAIRFIELD/VACAVILLE TURNOUT
2 FAIRFIELD/VACAVILLE TURNOUT TO CORDELIA FOREBAY
3A CORDELIA FOREBAY THRU BENICIA AND VALLEJO TURNOUTS
3B CORDELIA FOREBAY THRU NAPA TURNOUT RESERVOIR

SOUTH BAY AQUEDUCT

1 BETHANY RESERVOIR THRU ALTAMONT TURNOUT
2 ALTAMONT TURNOUT THRU PATTERSON RESERVOIR
4 PATTERSON RESERVOIR TO DEL VALLE JUNCTION
5 DEL VALLE JUNCTION THRU LAKE DEL VALLE
6 DEL VALLE JUNCTION THRU SOUTH LIVERMORE TURNOUT
7 SOUTH LIVERMORE TURNOUT THRU VALLECITOS TURNOUT
8 VALLECITOS TURNOUT THRU ALAMEDA-BAYSIDE TURNOUT
9 ALAMEDA-BAYSIDE TURNOUT THRU SANTA CLARA TERMINAL FACILITIES

COASTAL BRANCH, CALIFORNIA AQUEDUCT

31A AVENAL GAP TO DEVIL'S DEN PUMPING PLANT
33A DEVIL'S DEN PUMPING PLANT THRU SAN LUIS OBISPO POWERPLANT
34 SAN LUIS OBISPO POWERPLANT TO ARROYO GRANDE
35 ARROYO GRANDE THRU SANTA MARIA TERMINUS

WEST BRANCH, CALIFORNIA AQUEDUCT

29A JUNCTION, WEST BRANCH, CALIFORNIA AQUEDUCT THRU OSO PUMPING PLANT
29F OSO PUMPING PLANT THRU QUAIL EMBANKMENT
29G QUAIL EMBANKMENT THRU WARNE POWERPLANT
29H PYRAMID DAM AND LAKE
29J PYRAMID LAKE THRU CASTAIC POWERPLANT
30 CASTAIC DAM AND LAKE

CALIFORNIA AQUEDUCT

NORTH SAN JOAQUIN DIVISION

1 DELTA THRU BETHANY RESERVOIR
2A BETHANY RESERVOIR TO ORESTIMBA CREEK
2B ORESTIMBA CREEK TO O'NEILL FOREBAY

SAN LUIS DIVISION

3A SAN LUIS DAM, RESERVOIR AND PUMPING-GENERATING PLANT,
3 O'NEILL FOREBAY TO DOS AMIGOS PUMPING PLANT
4 DOS AMIGOS PUMPING PLANT TO PANOCHE CREEK
5 PANOCHE CREEK TO FIVE POINTS
6 FIVE POINTS TO ARROYO PASAJERO
7 ARROYO PASAJERO TO KETTLEMAN CITY

SOUTH SAN JOAQUIN DIVISION

8C KETTLEMAN CITY THRU MILHAM AVENUE
8D MILHAM AVENUE THRU AVENAL GAP
9 AVENAL GAP THRU TWISSELMAN ROAD
10A TWISSELMAN ROAD THRU LOST HILLS
11B LOST HILLS TO 7TH STANDARD ROAD
12D 7TH STANDARD ROAD THRU ELK HILLS ROAD
12E ELK HILLS ROAD THRU TUPMAN ROAD
13B TUPMAN ROAD TO BUENA VISTA PUMPING PLANT
14A BUENA VISTA PUMPING PLANT THRU SANTIAGO CREEK
14B SANTIAGO CREEK THRU OLD RIVER ROAD
14C OLD RIVER ROAD TO WHEELER RIDGE PUMPING PLANT
15A WHEELER RIDGE PUMPING PLANT TO WIND GAP PUMPING PLANT
16A WIND GAP PUMPING PLANT TO A. D. EDMONSTON PUMPING PLANT

TEHACHAPI DIVISION

17E A. D. EDMONSTON PUMPING PLANT TO CARLEY V. PORTER TUNNEL
17F CARLEY V. PORTER TUNNEL TO JUNCTION, WEST BRANCH, CALIFORNIA AQUEDUCT

MOJAVE DIVISION

18A JUNCTION, WEST BRANCH, CALIFORNIA AQUEDUCT THRU ALAMO POWERPLANT
19 ALAMO POWERPLANT TO FAIRMONT
19C BUTTES JUNCTION THRU BUTTES RESERVOIR
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
23 WEST FORK MOJAVE RIVER TO SILVERWOOD LAKE
24 CEDAR SPRINGS DAM AND SILVERWOOD LAKE

SANTA ANA DIVISION

25 SILVERWOOD LAKE TO SOUTH PORTAL, SAN BERNARDINO TUNNEL
26A SOUTH PORTAL, SAN BERNARDINO TUNNEL THRU DEVIL CANYON POWERPLANT
28G DEVIL CANYON POWERPLANT TO BARTON ROAD
28H BARTON ROAD TO LAKE PERRIS
28J PERRIS DAM AND LAKE PERRIS

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	
	North Bay Aqueduct							
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
	South Bay Aqueduct							
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
	California Aqueduct							
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	.01041812	.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.							
28G	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 Warne 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			

Reach No.	CALIFORNIA AREA								
	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District	San Gorgonio 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	.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				.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	.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-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	
	North Bay Aqueduct							
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
	South Bay Aqueduct							
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
	California Aqueduct							
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 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.							
28G	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 Warne 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		.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	.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			

Reach No.	CALIFORNIA AREA								
	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District	San Gorgonio 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 AND CREDITS AND ANNUAL REPLACEMENT

(in dollars)

Calendar Year	NORTH BAY AQUEDUCT			SOUTH BAY AQUEDUCT	CALIFORNIA AQUEDUCT					
	Reach 1 Barker Slough Pumping Plant	Reach 3A Cordelia Pumping Plant (Solano)	Reach 3B Cordelia Pumping Plant (Napa) (b	Reach 1 South Bay and Del Valle Pumping Plant (c	Reach 1 Harvey O. Banks Delta Pumping Plant	Reach 4 Dos Amigos Pumping Plant	Reach 14A Buena Vista Pumping Plant	Reach 15A Wheeler Ridge Pumping Plant	Reach 16A Ira J. Chrisman Wind Gap Pumping Plant	Reach 17E 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	514,487	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	1,782,668	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	20,797	630,690	2,567,089	1,988,357	1,396,947	1,395,277	3,012,924	9,900,670
1982	0	0	12,429	477,252	3,692,870	1,556,796	1,344,061	1,401,321	2,991,087	9,796,875
1983	0	0	2,549	134,782	1,539,787	445,230	434,756	416,085	749,916	2,249,046
1984	0	0	4,483	238,312	1,767,686	924,152	793,580	747,729	1,429,189	4,405,855
1985	0	0	11,497	513,294	3,422,961	1,771,954	1,654,787	1,720,508	3,565,381	11,928,752
1986	0	0	15,685	860,532	6,402,231	2,765,890	2,569,399	2,624,474	5,443,807	18,477,697
1987	0	0	13,019	795,047	5,825,432	2,794,222	2,651,932	2,758,644	5,122,101	16,401,665
1988	36,394	47,319	23,906	1,053,824	9,221,872	4,156,591	4,263,659	4,679,355	9,129,758	30,541,472
1989	39,468	42,762	25,867	1,301,446	11,151,879	4,553,653	4,600,412	5,002,598	10,024,221	33,137,425
1990	46,846	49,099	29,202	1,369,369	11,323,985	4,832,668	4,823,232	5,282,480	10,668,257	35,616,619
1991	50,035	51,441	31,505	1,408,286	11,219,851	4,815,749	4,701,726	5,163,790	10,455,139	34,776,537
1992	53,575	55,080	33,734	1,560,801	12,555,911	5,105,507	5,005,646	5,504,563	11,173,286	37,249,240
1993	69,800	62,703	43,781	1,741,681	13,267,022	5,600,094	5,490,860	6,058,511	12,351,514	41,419,766
1994	89,674	71,936	55,863	1,987,599	14,285,503	6,292,400	6,130,379	6,783,222	13,856,553	46,522,359
1995	105,265	76,543	64,730	2,079,491	14,774,283	6,441,744	6,305,519	6,994,702	14,354,079	48,363,414
1996	110,694	79,765	69,474	2,117,632	15,059,963	6,546,417	6,405,077	7,094,453	14,496,143	48,682,753
1997	134,471	96,200	85,928	2,492,446	17,869,111	7,658,552	7,512,956	8,350,781	17,205,691	57,955,235
1998	142,680	101,244	92,559	2,537,979	17,718,051	7,984,881	7,952,596	8,859,835	18,339,561	61,501,365
1999	154,642	108,833	101,740	2,642,426	19,061,394	8,384,185	8,301,201	9,273,352	19,304,292	64,700,269
2000	160,407	112,221	106,850	2,637,632	18,666,209	8,464,328	8,323,539	9,303,898	19,387,793	64,620,598
2001	167,810	117,737	114,866	2,695,084	19,590,346	8,798,417	8,726,166	9,739,919	20,366,207	67,776,129
2002	215,026	151,363	151,089	3,374,773	23,903,356	10,785,970	10,813,634	12,099,955	25,294,007	84,614,193
2003	220,795	156,001	158,930	3,388,190	24,636,551	10,971,434	11,161,499	12,510,365	26,064,291	87,324,962
2004	231,139	163,504	170,047	3,466,336	24,698,143	11,251,074	11,508,038	12,942,182	26,857,930	89,986,026
2005	236,133	167,483	177,338	3,463,214	25,495,443	11,468,422	11,915,425	13,441,078	27,885,372	93,521,339
2006	241,615	168,915	186,312	3,491,875	25,659,227	11,558,730	12,060,290	13,557,225	28,108,537	94,138,514
2007	260,696	179,566	205,896	3,712,072	27,409,751	12,382,146	13,058,328	14,712,757	30,594,665	102,800,940
2008	266,620	181,347	215,526	3,739,873	27,620,261	12,607,562	13,406,793	15,128,410	31,461,215	105,810,835
2009	272,680	182,828	225,185	3,769,418	28,120,124	12,677,261	13,471,219	15,183,937	31,557,630	106,048,191
2010	277,064	183,112	233,700	3,775,275	28,365,232	12,878,795	13,818,972	15,599,073	32,467,560	109,357,487
2011	282,537	183,828	243,824	3,789,012	28,943,813	13,054,920	14,082,908	15,899,419	33,094,692	111,528,273
2012	289,086	185,212	254,985	3,816,529	29,115,840	13,082,201	14,105,114	15,921,116	33,125,988	111,759,014
2013	294,523	185,647	265,443	3,825,511	29,305,054	13,090,392	14,302,300	16,162,057	33,628,124	113,438,742
2014	300,820	186,896	276,907	3,847,127	29,783,230	13,267,332	14,592,909	16,521,907	34,411,965	116,237,150
2015	326,267	199,567	306,744	4,107,938	31,589,403	14,162,206	15,677,104	17,778,298	36,813,346	125,320,963
2016	335,134	200,639	317,967	4,130,021	32,024,187	14,189,355	15,729,718	17,856,380	37,003,948	126,048,020
2017	341,380	200,184	326,977	4,119,557	32,108,127	14,229,898	15,910,605	18,074,058	37,460,523	127,538,761
2018	362,193	207,961	350,392	4,278,448	33,609,361	14,858,368	16,753,500	19,064,903	39,613,199	135,043,778
2019	369,762	208,201	361,395	4,278,838	32,650,469	14,805,630	16,798,563	19,031,812	39,820,098	135,942,249
2020	357,619	183,106	368,472	4,232,830	34,942,627	14,953,009	17,138,721	19,535,055	41,200,804	140,777,444
2021	360,470	184,537	371,739	4,265,917	32,674,097	14,642,736	16,303,355	18,707,953	39,713,811	135,578,875
2022	358,691	183,485	369,896	4,241,615	33,956,440	14,433,198	16,374,992	18,824,544	39,890,933	136,779,940
2023	358,029	183,119	369,431	4,233,145	34,374,380	14,480,712	16,527,970	19,013,145	40,056,116	137,868,383
2024	357,812	182,896	369,529	4,227,985	32,768,529	14,440,733	16,882,387	19,446,769	40,752,667	141,000,331
2025	358,530	183,235	370,543	4,235,827	33,738,398	14,137,946	16,337,736	18,780,505	39,152,601	135,839,828
2026	357,580	182,749	369,561	4,224,596	34,224,126	14,353,545	16,737,459	19,270,939	40,034,676	139,464,617
2027	357,662	182,792	369,646	4,225,570	33,001,743	14,409,576	16,834,739	19,388,963	40,195,532	140,307,191
2028	357,097	182,503	369,062	4,218,897	33,881,205	14,357,608	16,756,866	19,295,759	40,008,685	139,642,897
2029	357,066	182,486	369,030	4,218,532	33,218,611	14,385,736	16,807,970	19,333,296	40,131,052	140,082,672
2030	355,855	181,868	367,778	4,204,222	34,167,095	14,302,536	16,883,424	19,404,023	40,342,370	140,722,680
2031	369,279	188,728	381,651	4,362,813	34,441,342	14,878,394	17,679,528	20,440,612	42,582,025	148,332,488
2032	367,257	187,695	379,562	4,338,927	34,897,486	14,898,717	17,850,872	20,660,016	43,319,333	150,795,705
2033	379,762	194,086	392,486	4,486,662	36,257,252	15,576,216	18,642,023	21,592,564	45,546,208	158,149,764
2034	377,692	193,028	390,346	4,462,208	36,835,919	15,732,881	18,930,992	21,857,520	46,383,413	160,991,678
2035	377,524	192,943	390,173	4,460,223	37,616,481	15,688,280	18,827,171	21,715,986	46,157,625	160,212,111

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										
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	Calendar Year
(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	64,807	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	-1,723,847	85,538	0	739,780	1977
0	1,801,373	0	-3,298,247	251,373	0	-2,196,163	197,217	0	11,983,358	1978
0	1,813,744	0	-3,335,069	157,934	0	-2,644,835	209,088	0	10,377,510	1979
0	1,866,161	0	-3,508,195	170,688	0	-2,686,538	182,996	0	10,628,691	1980
0	2,204,600	0	-3,771,112	514,900	0	-2,854,192	186,954	0	17,193,901	1981
0	1,708,042	0	-3,507,944	623,920	-974,222	-3,476,126	180,467	0	15,826,828	1982
0	355,381	0	-4,831,563	235,119	-1,084,763	-2,748,921	13,935	0	-2,088,661	1983
0	568,926	0	-7,766,780	494,669	-2,304,676	3,224,702	104,221	0	4,632,048	1984
0	1,234,986	0	-10,386,990	1,295,412	-8,508,632	-16,221,446	151,433	0	-7,846,103	1985
-816,755	2,608,113	0	-12,055,163	1,379,262	-6,331,000	-11,563,100	319,741	0	12,700,813	1986
-1,125,871	2,178,966	0	-12,683,650	1,606,562	-7,599,892	-13,524,975	239,341	0	5,452,543	1987
-2,922,907	5,402,565	0	-23,556,338	2,027,119	-7,725,758	-13,825,600	354,579	0	22,907,810	1988
-3,078,655	6,007,152	0	-23,523,940	2,054,224	-8,069,113	-14,006,950	380,572	0	29,643,021	1989
-3,186,949	6,399,163	0	-23,361,231	2,162,223	-8,542,587	-14,677,100	393,788	0	33,229,064	1990
-3,134,923	6,367,939	0	-23,114,550	2,080,221	-7,962,654	-13,707,900	397,935	0	33,600,127	1991
-2,845,523	6,672,532	0	-23,991,569	2,256,379	-8,248,876	-14,100,350	426,087	0	38,466,023	1992
-3,228,039	7,616,062	0	-24,037,857	2,333,872	-8,195,714	-13,918,800	522,995	234,619	47,432,870	1993
-3,335,657	8,607,778	-2,895,079	-24,150,475	2,634,539	-8,264,121	-14,068,300	771,526	1,151,680	56,527,379	1994
-3,289,626	8,664,274	-4,081,875	-24,147,895	2,732,229	-8,982,404	-15,193,250	784,924	1,191,817	57,237,964	1995
-3,464,593	9,165,453	-4,173,013	-25,368,077	2,658,901	-8,100,305	-13,838,450	790,678	1,209,056	59,542,021	1996
-3,502,152	10,739,189	-4,186,183	-25,881,557	3,054,400	-8,645,226	-14,573,700	920,635	1,598,389	78,885,166	1997
-3,750,721	11,708,361	-4,677,051	-26,606,749	3,248,071	-8,533,753	-14,405,450	937,454	1,648,774	84,799,687	1998
-3,677,843	11,899,845	-4,319,778	-27,226,534	3,482,549	-9,202,925	-15,425,900	976,034	1,764,354	90,302,136	1999
-3,859,494	12,425,922	-4,588,636	-27,990,197	3,344,391	-8,387,700	-14,167,450	974,263	1,759,048	91,293,622	2000
-3,888,213	12,765,228	-4,575,687	-28,027,488	3,602,398	-8,966,526	-15,044,050	995,484	1,822,623	96,776,450	2001
-4,017,337	16,439,260	-4,740,736	-28,570,497	4,150,847	-8,501,201	-14,242,350	1,246,540	2,574,753	135,742,645	2002
-3,991,908	16,413,253	-4,762,909	-29,003,288	4,509,366	-9,237,359	-15,476,050	1,251,496	2,589,601	138,885,220	2003
-4,172,075	17,524,467	-4,929,848	-29,587,496	4,547,131	-8,708,688	-14,602,200	1,280,361	2,676,075	145,302,146	2004
-4,306,148	18,129,123	-4,946,075	-30,857,655	4,754,865	-9,210,365	-15,441,100	1,279,208	2,672,621	149,845,721	2005
-4,440,056	18,840,888	-5,092,729	-31,447,525	4,594,009	-8,633,083	-14,471,600	1,289,794	2,704,336	152,515,274	2006
-4,543,697	20,382,223	-5,210,820	-32,107,742	4,971,221	-9,000,007	-15,080,450	1,371,128	2,948,000	169,046,673	2007
-4,633,032	20,890,068	-5,358,086	-32,737,753	5,106,392	-9,277,806	-15,503,300	1,381,397	2,978,765	173,285,087	2008
-4,772,703	21,687,753	-5,381,981	-33,342,880	4,779,861	-8,457,113	-14,263,600	1,392,311	3,011,460	176,161,581	2009
-4,890,642	22,100,248	-5,097,453	-34,750,288	4,980,167	-9,008,396	-15,052,350	1,394,473	3,017,939	179,649,968	2010
-4,962,062	22,479,794	-5,524,079	-34,937,087	5,121,888	-9,154,247	-15,308,150	1,399,548	3,033,141	183,251,972	2011
-5,065,088	23,087,566	-5,730,807	-35,305,276	4,825,906	-8,517,419	-14,346,600	1,409,712	3,063,591	185,076,670	2012
-5,076,603	23,146,910	-5,116,181	-35,926,923	5,054,338	-8,839,764	-14,862,000	1,413,030	3,073,532	187,364,132	2013
-5,186,285	23,757,659	-5,258,667	-36,280,192	5,008,548	-8,976,681	-15,065,550	1,421,014	3,097,450	191,943,539	2014
-5,240,316	25,530,200	-5,416,714	-36,559,852	5,462,723	-9,070,551	-15,229,100	1,517,350	3,386,059	210,661,635	2015
-5,359,430	26,200,525	-6,471,748	-37,094,560	5,127,160	-8,627,680	-14,451,050	1,525,507	3,410,496	212,094,589	2016
-5,518,726	26,892,455	-6,739,383	-37,650,977	5,097,049	-8,392,972	-14,062,700	1,521,641	3,398,916	214,855,373	2017
-5,490,104	27,684,278	-6,197,112	-38,395,387	5,591,528	-9,193,189	-15,318,450	1,580,331	3,574,742	227,978,740	2018
-5,599,570	28,205,593	-6,874,090	-38,559,808	5,370,118	-8,943,119	-14,922,000	1,580,475	3,575,173	228,099,789	2019
-5,846,676	28,932,812	-6,866,310	-39,368,718	5,658,946	-9,624,449	-16,087,900	1,563,480	3,524,261	235,575,133	2020
-5,750,937	28,653,218	-6,903,376	-39,508,973	5,131,693	-8,511,350	-14,279,250	1,575,702	3,560,875	226,771,092	2021
-5,848,709	29,016,125	-6,891,317	-39,818,098	5,124,359	-8,670,776	-14,515,500	1,566,726	3,533,983	228,910,527	2022
-5,860,456	29,020,040	-6,887,649	-40,181,873	5,374,001	-9,073,175	-15,074,300	1,563,598	3,524,610	229,869,226	2023
-5,921,942	29,320,048	-7,034,859	-40,358,051	5,623,591	-9,658,225	-16,059,800	1,561,691	3,518,901	231,420,992	2024
-6,046,382	29,788,433	-6,535,378	-40,896,485	4,785,925	-7,964,975	-13,392,650	1,564,588	3,527,577	227,965,802	2025
-5,934,628	29,127,763	-6,968,229	-40,820,710	5,532,684	-9,490,425	-15,772,950	1,560,439	3,515,149	229,968,941	2026
-6,114,844	30,088,189	-7,426,531	-40,990,275	5,283,900	-8,910,525	-14,872,700	1,560,799	3,516,227	231,407,654	2027
-6,109,150	30,006,364	-7,017,577	-41,445,250	5,059,596	-8,845,400	-14,736,750	1,558,335	3,508,844	231,049,591	2028
-6,129,009	30,121,108	-7,146,392	-41,544,800	5,016,837	-8,857,875	-14,777,300	1,558,200	3,508,440	230,835,660	2029
-6,201,775	30,399,511	-7,139,057	-41,742,600	4,962,454	-8,843,375	-14,783,750	1,552,913	3,492,604	232,628,776	2030
-6,312,696	32,143,270	-7,304,606	-42,642,375	5,198,485	-9,030,525	-15,014,200	1,611,493	3,668,097	245,973,803	2031
-6,510,757	32,936,830	-7,290,102	-43,721,475	5,060,064	-9,023,900	-15,059,100	1,602,670	3,641,666	249,331,466	2032
-6,667,435	34,815,198	-7,660,100	-44,766,375	5,158,845	-9,057,750	-15,038,550	1,657,239	3,805,147	263,463,242	2033
-6,894,623	35,777,927	-7,891,557	-45,911,225	4,948,844	-8,992,200	-15,005,600	1,648,206	3,778,086	267,613,535	2034
-6,964,716	36,039,191	-7,918,954	-47,004,700	4,554,817	-8,536,750	-14,300,350	1,647,474	3,775,890	266,930,419	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)

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

a) From Tables A and Article 6(a) of water supply contracts as of June 30, 1986.

b) 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.

c) 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)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	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	Total
				M&I	Ag.	Total				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1967	0	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	81,050
1969	5,000	14,325	3,000	0	95,700	95,700	1,200	2,500	46,350	168,075
1970	5,700	15,700	3,000	28,700	116,400	145,100	1,300	2,600	34,300	207,700
1971	6,700	17,900	3,000	35,700	154,600	190,300	1,300	2,800	36,500	258,500
1972	7,700	20,000	3,000	39,200	231,500	270,700	1,400	5,366	112,600	420,766
1973	8,700	22,000	3,000	43,500	267,000	310,500	1,500	3,100	43,552	392,352
1974	9,700	33,390	3,000	48,000	299,000	347,000	1,500	3,471	72,289	470,350
1975	10,700	40,555	3,000	52,700	358,120	410,820	1,600	3,576	86,258	556,509
1976	11,700	30,921	3,000	56,100	386,050	442,150	1,600	4,039	61,707	555,117
1977	12,700	30,400	3,000	60,600	423,000	483,600	1,700	3,700	59,000	594,100
1978	11,362	32,500	0	64,100	470,200	534,300	1,900	3,900	63,300	647,262
1979	12,700	38,544	3,000	67,600	516,300	583,900	2,000	4,000	71,241	715,385
1980	12,700	41,000	3,000	71,100	563,400	634,500	2,200	5,700	71,700	770,800
1981	12,700	41,000	3,000	74,800	616,600	691,400	2,300	4,300	76,000	830,700
1982	12,700	41,000	3,000	79,600	665,700	745,300	2,500	4,500	80,200	889,200
1983	12,700	42,900	3,000	83,500	721,600	805,100	2,800	4,600	9,548	880,648
1984	12,700	45,100	3,000	103,600	757,000	860,600	3,100	4,800	62,611	991,911
1985	12,700	47,200	3,000	108,900	806,100	915,000	3,400	4,900	45,549	1,031,749
1986	12,700	49,300	3,000	113,400	854,800	968,200	3,700	5,100	97,200	1,139,200
1987	12,700	51,400	3,000	119,100	904,400	1,023,500	4,000	5,200	101,400	1,201,200
1988	12,700	53,500	3,000	123,900	950,700	1,074,600	4,000	5,400	105,600	1,258,800
1989	12,700	55,600	3,000	128,200	984,100	1,112,300	4,000	5,600	109,900	1,303,100
1990	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1991	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1992	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1993	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1994	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1995	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1996	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1997	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1998	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
1999	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2000	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2001	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2002	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2003	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2004	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2005	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2006	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2007	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2008	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2009	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2010	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2011	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2012	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2013	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2014	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2015	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2016	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2017	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2018	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2019	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2020	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2021	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2022	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2023	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2024	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2025	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2026	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2027	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2028	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2029	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2030	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2031	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2032	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2033	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2034	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
2035	12,700	57,700	3,000	134,600	1,018,800	1,153,400	4,000	5,700	118,500	1,355,000
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)

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	35,000	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	983,720	5,909,177	1,641,322

TO PROJECT WATER (a

(in acre-feet)

Calendar Year	SOUTHERN CALIFORNIA AREA				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio 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 FROM

(in acre-feet)

Calendar Year	Grizzly Valley Pipeline	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	
	PC FC&WCD	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)	(3A)	(3B)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
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	5
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	789	0	0	0	3,997	3,997	0	246	8,164	2,060	0	115
1988	960	1,000	0	12,960	4,565	18,525	0	257	8,462	2,295	0	160
1989	1,000	3,400	0	15,020	5,013	23,433	0	257	5,518	2,295	0	160
1990	1,040	4,050	0	17,200	5,458	26,708	0	257	5,644	2,295	0	160
1991	1,080	4,700	0	17,600	5,834	28,134	0	257	5,795	2,295	0	160
1992	1,120	4,700	0	17,600	5,834	28,134	0	257	6,523	2,295	0	160
1993	1,160	8,169	0	18,111	6,950	33,230	0	295	7,503	2,638	0	185
1994	1,200	11,631	0	18,627	8,064	38,322	0	335	8,484	2,984	0	208
1995	1,250	15,100	0	19,140	9,180	43,420	0	373	9,465	3,330	0	232
1996	1,300	15,772	0	19,546	9,774	45,092	0	392	9,915	3,489	0	243
1997	1,350	16,442	0	19,953	10,368	46,763	0	409	10,366	3,647	0	255
1998	1,400	17,108	0	20,358	10,962	48,428	0	409	10,366	3,647	0	255
1999	1,450	17,778	0	20,765	11,557	50,100	0	409	10,366	3,647	0	255
2000	1,510	18,450	0	21,170	12,150	51,770	0	409	10,366	3,647	0	255
2001	1,570	18,498	0	21,496	12,778	52,772	0	409	10,366	3,647	0	255
2002	1,630	18,546	0	21,822	13,411	53,779	0	409	10,366	3,647	0	255
2003	1,690	18,604	0	22,148	14,041	54,793	0	409	10,366	3,647	0	255
2004	1,750	18,652	0	22,474	14,669	55,795	0	409	10,366	3,647	0	255
2005	1,810	18,700	0	22,800	15,300	56,800	0	409	10,366	3,647	0	255
2006	1,880	18,748	0	22,800	15,921	57,469	0	409	10,366	3,647	0	255
2007	1,950	18,796	0	22,800	16,539	58,135	0	409	10,366	3,647	0	255
2008	2,020	18,854	0	22,800	17,160	58,814	0	409	10,366	3,647	0	255
2009	2,090	18,902	0	22,800	17,781	59,483	0	409	10,366	3,647	0	255
2010	2,160	18,950	0	22,800	18,400	60,150	0	409	10,366	3,647	0	255
2011	2,240	18,998	0	22,800	19,100	60,898	0	409	10,366	3,647	0	255
2012	2,320	19,046	0	22,800	19,799	61,645	0	409	10,366	3,647	0	255
2013	2,410	19,104	0	22,800	20,500	62,404	0	409	10,366	3,647	0	255
2014	2,500	19,152	0	22,800	21,200	63,152	0	409	10,366	3,647	0	255
2015	2,600	19,200	0	22,800	21,900	63,900	0	409	10,366	3,647	0	255
2016	2,700	19,650	0	22,350	22,501	64,501	0	409	10,366	3,647	0	255
2017	2,700	20,100	0	21,900	23,100	65,100	0	409	10,366	3,647	0	255
2018	2,700	20,550	0	21,450	23,699	65,699	0	409	10,366	3,647	0	255
2019	2,700	21,000	0	21,000	24,302	66,302	0	409	10,366	3,647	0	255
2020	2,700	21,450	0	20,550	24,900	66,900	0	409	10,366	3,647	0	255
2021	2,700	21,450	0	20,550	24,922	66,922	0	409	10,366	3,647	0	255
2022	2,700	21,450	0	20,550	24,940	66,940	0	409	10,366	3,647	0	255
2023	2,700	21,450	0	20,550	24,958	66,958	0	409	10,366	3,647	0	255
2024	2,700	21,450	0	20,550	24,980	66,980	0	409	10,366	3,647	0	255
2025	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255
2026	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255
2027	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255
2028	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255
2029	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255
2030	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255
2031	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255
2032	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255
2033	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255
2034	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255
2035	2,700	21,450	0	20,550	25,000	67,000	0	409	10,366	3,647	0	255

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.

EACH AQUEDUCT REACH TO EACH CONTRACTOR (a

(in acre-feet)

Calendar Year	SOUTH BAY AQUEDUCT (c) (continued)				TOTAL SOUTH BAY AQUEDUCT	CALIFORNIA AQUEDUCT					
						NORTH SAN JOAQUIN DIVISION	SOUTH SAN JOAQUIN DIVISION				
							Reach 8C			Reach 8D	
	Reach 6	Reach 7	Reach 8	Reach 9		Reach 2A					
	AC FC&WCD	ACWD	ACWD	SCVWD		OFWD	TLBWSD	EWSID	CK	KCWA (Ag.)	DRWD
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
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	56,763	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	100,266	138,426	8,166	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	12,594	22,289	8,961	88,000	142,429	5,200	47,400	3,000	4,000	0	51,400
1988	12,823	31,390	8,775	88,000	152,162	5,400	60,500	3,000	4,000	0	53,500
1989	16,685	31,680	8,775	90,000	155,370	5,600	62,372	3,000	4,000	0	55,600
1990	17,069	31,905	8,775	92,000	158,105	5,700	63,500	3,000	4,000	0	57,700
1991	17,525	32,215	8,775	94,000	161,022	5,700	63,500	3,000	4,000	0	57,700
1992	19,710	33,190	8,775	96,000	166,910	5,700	63,500	3,000	4,000	0	57,700
1993	22,673	31,825	8,775	98,000	171,894	5,700	63,500	3,000	4,000	0	57,700
1994	25,638	32,525	8,775	100,000	178,949	5,700	63,500	3,000	4,000	0	57,700
1995	28,600	33,225	8,775	100,000	184,000	5,700	63,500	3,000	4,000	0	57,700
1996	29,963	33,225	8,775	100,000	186,002	5,700	63,500	3,000	4,000	0	57,700
1997	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
1998	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
1999	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2000	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2001	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2002	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2003	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2004	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2005	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2006	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2007	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2008	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2009	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2010	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2011	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2012	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2013	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2014	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2015	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2016	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2017	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2018	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2019	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2020	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2021	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2022	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2023	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2024	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2025	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2026	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2027	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2028	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2029	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2030	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2031	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2032	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2033	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2034	31,323	33,225	8,775	100,000	188,000	5,700	63,500	3,000	4,000	0	57,700
2035	31,323	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.

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED FROM

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	SOUTH SAN JOAQUIN DIVISION (continued)											
	Reach 8D (cont)		Reach 9			Reach 10A			Reach 11 B		Reach 12E	
	CK	TLBWSD	KCWA (M&I)	KCWA (Ag.)	TLBWSD	KCWA (M&I)	KCWA (Ag.)	TLBWSD	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)
	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)
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	22,948	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	5,097	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	54,000	0	80,800	0	9,177	262,227	0	13,112	120,867	78,097	96,652
1988	0	58,000	0	122,880	0	11,000	251,661	0	15,000	132,659	93,950	98,125
1989	0	56,128	0	124,380	0	9,500	275,661	0	15,000	134,059	99,750	102,875
1990	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
1991	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
1992	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
1993	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
1994	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
1995	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
1996	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
1997	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
1998	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
1999	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2000	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2001	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2002	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2003	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2004	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2005	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2006	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2007	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2008	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2009	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2010	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2011	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2012	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2013	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2014	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2015	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2016	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2017	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2018	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2019	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2020	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2021	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2022	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2023	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2024	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2025	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2026	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2027	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2028	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2029	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2030	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2031	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2032	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2033	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2034	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400
2035	0	55,000	0	125,140	0	9,500	302,201	0	15,000	134,059	106,150	108,400

EACH AQUEDUCT REACH TO EACH CONTRACTOR (a

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	SOUTH SAN JOAQUIN DIVISION (continued)											TEHACHAPI DIVISION
	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)
	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)
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	0	30,852	1,269	36,633	0	80,305	0	36,398	40,945	2,445	15,721	0
1988	0	31,875	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1989	0	33,625	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1990	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1991	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1992	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1993	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1994	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1995	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1996	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1997	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1998	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
1999	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2000	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2001	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2002	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2003	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2004	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2005	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2006	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2007	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2008	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2009	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2010	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2011	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2012	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2013	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2014	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2015	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2016	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2017	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2018	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2019	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2020	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2021	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2022	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2023	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2024	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2025	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2026	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2027	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2028	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2029	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2030	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2031	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2032	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2033	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2034	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0
2035	0	35,500	1,150	31,300	0	68,600	0	31,100	43,500	2,800	16,700	0

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED FROM

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)										
	MOJAVE DIVISION										
	Reach 18A	Reach 19	Reach 20A		Reach 20B		Reach 21		Reach 22A	Reach 22 B	
	AVEKWA	AVEKWA	PWD	AVEKWA	PWD	AVEKWA	LCID	PWD	AVEKWA	MWD-SC (d	CVWD (d
	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)
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	7,555	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	8	25,268	6,161	11,542	0	0	1,443	0	2,094	- 50,931	19,431
1988	8	19,435	3,000	14,600	1,600	0	0	0	2,045	- 54,652	20,652
1989	8	20,470	3,000	16,070	1,875	0	0	0	2,150	- 58,373	21,873
1990	8	20,695	0	17,570	5,250	0	1,600	0	2,255	- 61,200	23,100
1991	8	20,845	0	19,070	5,750	0	1,700	0	2,360	- 61,200	23,100
1992	8	20,995	0	20,570	6,250	0	1,800	0	2,470	- 61,200	23,100
1993	8	21,071	0	20,789	6,667	0	1,900	0	2,496	- 61,200	23,100
1994	8	21,142	0	21,005	7,083	0	2,000	0	2,522	- 61,200	23,100
1995	8	21,217	0	21,227	7,500	0	2,100	0	2,548	- 61,200	23,100
1996	8	21,684	0	22,591	8,201	0	2,200	0	2,714	- 61,200	23,100
1997	8	22,151	0	23,960	8,901	0	2,300	0	2,878	- 61,200	23,100
1998	8	22,619	0	25,329	9,599	0	2,300	0	3,042	- 61,200	23,100
1999	8	23,087	0	26,697	10,299	0	2,300	0	3,208	- 61,200	23,100
2000	8	23,554	0	28,066	11,000	0	2,300	0	3,372	- 61,200	23,100
2001	8	24,139	0	29,774	11,599	0	2,300	0	3,579	- 61,200	23,100
2002	8	24,722	0	31,485	12,201	0	2,300	0	3,784	- 61,200	23,100
2003	8	25,307	0	33,194	12,799	0	2,300	0	3,991	- 61,200	23,100
2004	8	25,890	0	34,905	13,401	0	2,300	0	4,196	- 61,200	23,100
2005	8	26,474	0	36,615	14,000	0	2,300	0	4,403	- 61,200	23,100
2006	8	27,173	0	38,669	14,659	0	2,300	0	4,650	- 61,200	23,100
2007	8	27,875	0	40,718	15,318	0	2,300	0	4,899	- 61,200	23,100
2008	8	28,574	0	42,771	15,981	0	2,300	0	5,145	- 61,200	23,100
2009	8	29,275	0	44,822	16,642	0	2,300	0	5,393	- 61,200	23,100
2010	8	29,976	0	46,875	17,300	0	2,300	0	5,641	- 61,200	23,100
2011	8	30,795	0	49,270	17,300	0	2,300	0	5,928	- 61,200	23,100
2012	8	31,614	0	51,665	17,300	0	2,300	0	6,216	- 61,200	23,100
2013	8	32,428	0	54,057	17,300	0	2,300	0	6,506	- 61,200	23,100
2014	8	33,248	0	56,451	17,300	0	2,300	0	6,794	- 61,200	23,100
2015	8	34,063	0	58,848	17,300	0	2,300	0	7,081	- 61,200	23,100
2016	8	34,995	0	61,582	17,300	0	2,300	0	7,410	- 61,200	23,100
2017	8	35,935	0	64,317	17,300	0	2,300	0	7,740	- 61,200	23,100
2018	8	36,868	0	67,055	17,300	0	2,300	0	8,071	- 61,200	23,100
2019	8	37,802	0	69,789	17,300	0	2,300	0	8,398	- 61,200	23,100
2020	8	38,738	0	72,524	17,300	0	2,300	0	8,730	- 61,200	23,100
2021	8	38,738	0	72,524	17,300	0	2,300	0	12,730	- 61,200	23,100
2022	8	38,738	0	72,524	17,300	0	2,300	0	16,730	- 61,200	23,100
2023	8	38,738	0	72,524	17,300	0	2,300	0	20,730	- 61,200	23,100
2024	8	38,738	0	72,524	17,300	0	2,300	0	24,730	- 61,200	23,100
2025	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100
2026	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100
2027	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100
2028	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100
2029	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100
2030	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100
2031	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100
2032	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100
2033	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100
2034	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100
2035	8	38,738	0	72,524	17,300	0	2,300	0	27,130	- 61,200	23,100

d) 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 Column 50 provides for compliance with provisions for the repayment of costs under the Agreement.

EACH AQUEDUCT REACH TO EACH CONTRACTOR (a

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)										
	MOJAVE DIVISION (continued)				SANTA ANA DIVISION						
	Reach 22 B (cont)		Reach 23	Reach 24	Reach 26A				Reach 28G	Reach 28H	Reach 28J
	(d DWA	MWA	MWA	CLAWA	MWD-SC	SBVMWD	SGVMWD	SGPWA	MWD-SC	MWD-SC	MWD-SC
	(57)	(58)	(59)	(60)	(61)	(62)	(63)	(64)	(65)	(66)	(67)
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	55	0	464	0	1,275	0	0	0	0	0
1973	9,000	0	0	389	444	32,426	0	0	18,942	0	0
1974	10,000	0	14	627	84,981	16,605	612	0	0	0	0
1975	11,000	0	0	825	169,960	13,865	5,450	0	0	0	251
1976	12,000	0	0	1,002	215,312	12,273	6,071	0	0	55	2,000
1977	0	22	58	1,109	64,823	24,833	8,996	0	0	43	2,442
1978	15,300	0	0	1,209	297,708	4,055	7,771	0	0	48	64,054
1979	15,000	4,000	0	1,260	260,903	18	290	0	0	1,290	94,353
1980	17,000	4,000	0	1,239	300,345	0	1,085	0	0	3,013	91,532
1981	19,000	4,000	0	1,485	395,678	16,021	3,619	0	0	4,365	149,405
1982	21,000	10,500	0	1,238	214,566	8,409	12,599	0	0	3,961	155,629
1983	23,000	0	0	911	175,288	5,994	734	0	0	6,645	41,616
1984	25,000	0	0	1,128	122,311	5,556	7,656	0	0	37,791	74,513
1985	27,000	0	0	1,422	147,599	7,390	5,028	0	0	182,781	6,538
1986	29,000	0	0	1,506	215,265	6,421	9,454	0	0	131,439	30,071
1987	31,500	0	0	2,022	196,165	16,950	10,500	1,100	0	173,343	44,887
1988	34,000	0	0	1,651	387,700	19,710	10,500	1,800	0	346,700	42,600
1989	36,500	0	0	1,749	371,509	19,710	10,500	3,000	0	362,900	42,600
1990	38,100	0	0	1,853	368,500	19,710	10,500	4,000	0	365,900	42,600
1991	38,100	0	0	1,964	365,100	21,160	10,500	4,500	0	369,300	42,600
1992	38,100	0	0	2,081	327,600	21,160	10,805	4,888	0	385,200	43,500
1993	38,100	50,800	0	2,204	327,600	23,434	11,110	5,272	0	385,200	43,500
1994	38,100	50,800	0	2,326	327,600	27,724	11,410	5,656	0	385,200	43,500
1995	38,100	50,800	0	2,450	327,600	32,000	11,700	6,064	0	385,200	43,500
1996	38,100	50,800	0	2,570	353,120	33,204	11,990	6,448	0	390,960	44,220
1997	38,100	50,800	0	2,695	371,140	34,400	12,270	6,832	0	396,720	44,940
1998	38,100	50,800	0	2,817	389,160	35,599	12,550	7,216	0	402,480	45,660
1999	38,100	50,800	0	2,938	407,180	36,804	12,830	7,616	0	408,240	46,380
2000	38,100	50,800	0	3,063	425,200	38,000	13,100	8,000	0	414,000	47,100
2001	38,100	50,800	0	3,184	420,210	39,195	13,435	8,000	0	414,360	47,700
2002	38,100	50,800	0	3,307	439,220	40,401	13,755	8,000	0	414,720	48,300
2003	38,100	50,800	0	3,430	458,230	41,600	14,075	8,000	0	415,080	48,900
2004	38,100	50,800	0	3,550	477,200	42,796	14,395	8,000	0	415,440	49,500
2005	38,100	50,800	0	3,673	513,550	44,000	14,700	17,300	0	415,800	50,100
2006	38,100	50,800	0	3,796	534,680	48,402	15,055	17,300	0	416,160	50,700
2007	38,100	50,800	0	3,919	555,810	52,806	15,395	17,300	0	416,520	51,300
2008	38,100	50,800	0	4,042	576,940	57,206	15,735	17,300	0	416,880	51,900
2009	38,100	50,800	0	4,162	598,070	61,604	16,075	17,300	0	417,240	52,500
2010	38,100	50,800	0	4,287	619,200	66,000	16,400	17,300	0	417,600	53,100
2011	38,100	50,800	0	4,410	634,200	67,197	16,795	17,300	0	417,600	53,100
2012	38,100	50,800	0	4,532	649,200	68,400	17,175	17,300	0	417,600	53,100
2013	38,100	50,800	0	4,654	664,200	69,604	17,555	17,300	0	417,600	53,100
2014	38,100	50,800	0	4,776	679,200	70,795	17,935	17,300	0	417,600	53,100
2015	38,100	50,800	0	4,900	694,200	72,000	18,300	17,300	0	417,600	53,100
2016	38,100	50,800	0	5,099	709,200	77,602	18,760	17,300	0	417,600	53,100
2017	38,100	50,800	0	5,299	724,200	83,197	19,200	17,300	0	417,600	53,100
2018	38,100	50,800	0	5,499	739,200	88,803	19,640	17,300	0	417,600	53,100
2019	38,100	50,800	0	5,699	754,200	94,403	20,080	17,300	0	417,600	53,100
2020	38,100	50,800	0	5,700	769,200	100,000	20,500	17,300	0	417,600	53,100
2021	38,100	50,800	0	5,700	779,800	102,600	21,000	17,300	0	417,600	53,100
2022	38,100	50,800	0	5,700	790,400	102,600	21,480	17,300	0	417,600	53,100
2023	38,100	50,800	0	5,700	801,000	102,600	21,960	17,300	0	417,600	53,100
2024	38,100	50,800	0	5,700	811,600	102,600	22,440	17,300	0	417,600	53,100
2025	38,100	50,800	0	5,700	822,200	102,600	22,900	17,300	0	417,600	53,100
2026	38,100	50,800	0	5,700	831,020	102,600	23,465	17,300	0	417,600	53,100
2027	38,100	50,800	0	5,700	839,840	102,600	24,005	17,300	0	417,600	53,100
2028	38,100	50,800	0	5,700	848,660	102,600	24,545	17,300	0	417,600	53,100
2029	38,100	50,800	0	5,700	857,480	102,600	25,085	17,300	0	417,600	53,100
2030	38,100	50,800	0	5,700	866,300	102,600	25,600	17,300	0	417,600	53,100
2031	38,100	50,800	0	5,700	912,080	102,600	26,265	17,300	0	417,600	53,100
2032	38,100	50,800	0	5,700	957,860	102,600	26,905	17,300	0	417,600	53,100
2033	38,100	50,800	0	5,700	1,003,640	102,600	27,545	17,300	0	417,600	53,100
2034	38,100	50,800	0	5,700	1,049,420	102,600	28,185	17,300	0	417,600	53,100
2035	38,100	50,800	0	5,700	1,095,200	102,600	28,800	17,300	0	417,600	53,100

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR (a

(in acre-feet)

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	VCFCD	MWD-SC	VCFCD	CLWA	KCWA (Ag.)	DDWD	SLOC FC&WCD	SLOC FC&WCD	SLOC FC&WCD	SBC FC&WCD	
	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)	(76)	(77)	(78)	(79)
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	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	487,402	0	15,672	118,000	12,700	0	0	0	0	2,195,757
1988	0	0	510,000	750	17,097	122,300	12,700	0	0	0	0	2,650,896
1989	0	0	510,000	1,500	18,428	122,300	12,700	0	0	0	0	2,697,169
1990	0	0	510,000	2,250	19,893	122,300	12,700	0	0	0	0	2,747,584
1991	0	250	510,000	3,000	20,900	122,300	12,700	0	0	0	0	2,754,007
1992	0	500	506,800	3,750	20,900	122,300	12,700	0	0	0	0	2,734,277
1993	0	750	506,800	4,500	22,767	122,300	12,700	2,510	1,255	2,510	11,465	2,809,608
1994	0	1,000	506,800	6,000	24,633	122,300	12,700	10,000	5,000	10,000	45,486	2,871,895
1995	0	1,250	506,800	7,500	26,500	122,300	12,700	10,000	5,000	10,000	45,486	2,881,450
1996	0	1,500	506,800	9,750	28,119	122,300	12,700	10,000	5,000	10,000	45,486	2,922,365
1997	0	2,000	506,800	12,000	29,739	122,300	12,700	10,000	5,000	10,000	45,486	2,956,020
1998	0	2,500	506,800	15,000	31,361	122,300	12,700	10,000	5,000	10,000	45,486	2,990,326
1999	0	3,250	506,800	15,000	32,981	122,300	12,700	10,000	5,000	10,000	45,486	3,021,904
2000	0	4,000	506,800	15,000	34,600	122,300	12,700	10,000	5,000	10,000	45,486	3,053,449
2001	0	4,200	506,800	15,000	35,981	122,300	12,700	10,000	5,000	10,000	45,486	3,055,750
2002	0	4,400	506,800	15,000	37,361	122,300	12,700	10,000	5,000	10,000	45,486	3,082,050
2003	0	4,600	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,111,100
2004	0	4,800	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,135,967
2005	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,187,509
2006	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,218,138
2007	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,248,754
2008	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,279,368
2009	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,309,977
2010	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,340,573
2011	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,360,789
2012	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,380,996
2013	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,401,198
2014	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,421,393
2015	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,441,586
2016	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,466,842
2017	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,492,082
2018	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,517,330
2019	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,542,565
2020	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,567,586
2021	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,585,286
2022	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,600,366
2023	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,615,446
2024	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,630,526
2025	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,643,986
2026	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,653,371
2027	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,662,731
2028	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,672,091
2029	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,681,451
2030	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,700	45,486	3,690,786
2031	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,737,231
2032	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,783,651
2033	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,830,071
2034	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,876,491
2035	0	5,000	506,800	15,000	41,500	122,300	12,700	10,000	5,000	10,000	45,486	3,922,886

Table B-5B starts on next page

TABLE B-5B: ANNUAL WATER QUANTITIES

(in acre-feet)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA[c]				CENTRAL COASTAL AREA		
	Napa[b] 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	3,997	0	3,997	23,179	31,250	88,000	142,429	0	0	0
1988	4,565	13,960	18,525	23,997	40,165	88,000	152,162	0	0	0
1989	5,013	18,420	23,433	24,915	40,455	90,000	155,370	0	0	0
1990	5,458	21,250	26,708	25,425	40,680	92,000	158,105	0	0	0
1991	5,834	22,300	28,134	26,032	40,990	94,000	161,022	0	0	0
1992	5,834	22,300	28,134	28,945	41,965	96,000	166,910	0	0	0
1993	6,950	26,280	33,230	33,294	40,600	98,000	171,894	6,275	11,465	17,740
1994	8,064	30,258	38,322	37,649	41,300	100,000	178,949	25,000	45,486	70,486
1995	9,180	34,240	43,420	42,000	42,000	100,000	184,000	25,000	45,486	70,486
1996	9,774	35,318	45,092	44,002	42,000	100,000	186,002	25,000	45,486	70,486
1997	10,368	36,395	46,763	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1998	10,962	37,466	48,428	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1999	11,557	38,543	50,100	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2000	12,150	39,620	51,770	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2001	12,778	39,994	52,772	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2002	13,411	40,368	53,779	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2003	14,041	40,752	54,793	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2004	14,669	41,126	55,795	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2005	15,300	41,500	56,800	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2006	15,921	41,548	57,469	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2007	16,539	41,596	58,135	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2008	17,160	41,654	58,814	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2009	17,781	41,702	59,483	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2010	18,400	41,750	60,150	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2011	19,100	41,798	60,898	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2012	19,799	41,846	61,645	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2013	20,500	41,904	62,404	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2014	21,200	41,952	63,152	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	22,501	42,000	64,501	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	23,699	42,000	65,699	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2019	24,302	42,000	66,302	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	24,922	42,000	66,922	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2022	24,940	42,000	66,940	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2023	24,958	42,000	66,958	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2024	24,980	42,000	66,980	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	948,328	1,837,840	2,786,168	2,313,480	2,318,929	6,565,719	11,198,128	1,056,275	1,921,877	2,978,152

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)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	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	Total
				M&I	Ag.	Total				
	(11)	(12)	(13)	(14)	(15)	(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	7,382	26,360	1,978	0	127,384	127,384	900	3,084	25,100	192,188
1969	9,970	31,375	56	0	141,265	141,265	100	3,016	9,923	195,705
1970	11,739	40,407	3,942	0	204,634	204,634	0	5,911	9,578	276,211
1971	12,490	41,053	5,990	0	360,151	360,151	3,700	7,212	122,485	553,081
1972	13,905	42,443	5,795	0	490,781	490,781	1,400	8,166	258,393	820,883
1973	9,418	22,057	3,000	0	341,469	341,469	1,500	3,214	50,464	431,122
1974	9,700	33,390	3,000	23,708	323,292	347,000	1,500	3,471	72,289	470,350
1975	10,700	40,555	3,000	14,529	396,291	410,820	1,600	3,576	86,258	556,509
1976	11,700	41,421	3,000	46,719	392,531	439,250	1,600	4,112	58,811	559,894
1977	5,075	11,153	738	27,882	163,425	191,307	1,530	1,472	18,081	229,356
1978	11,362	51,747	454	76,895	590,452	667,347	2,070	3,906	12,053	748,939
1979	19,138	38,544	1,739	62,997	683,049	746,046	2,000	6,149	155,121	968,737
1980	13,882	41,000	894	45,943	588,557	634,500	2,200	5,700	75,444	773,620
1981	12,700	41,000	5,859	75,758	615,642	691,400	2,300	4,300	83,438	840,997
1982	12,700	41,000	361	48,483	696,817	745,300	1,750	3,838	18,551	823,500
1983	12,659	42,900	0	6,854	587,653	594,507	3,550	3,822	1,006	658,444
1984	12,741	45,100	0	88,600	772,000	860,600	3,100	5,700	5,743	932,984
1985	12,099	46,251	5,197	88,515	800,381	888,896	3,400	5,433	109,791	1,071,067
1986	13,301	50,249	1,170	77,240	829,101	906,341	3,700	5,107	79,355	1,059,223
1987	12,700	51,400	3,000	104,100	919,400	1,023,500	4,000	5,200	101,400	1,201,200
1988	12,700	53,500	3,000	108,900	965,700	1,074,600	4,000	5,400	118,500	1,271,700
1989	12,700	55,600	3,000	113,200	999,100	1,112,300	4,000	5,600	118,500	1,311,700
1990	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1991	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1992	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1993	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1994	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1995	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1996	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1997	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1998	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1999	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2000	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2001	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2002	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2003	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2004	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2005	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2006	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2007	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2008	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2009	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2010	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2011	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2012	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2013	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2014	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2015	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2016	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2017	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2018	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2019	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2020	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2021	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2022	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2023	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2024	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2025	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2026	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2027	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2028	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2029	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2030	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2031	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2032	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2033	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2034	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2035	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
TOTAL	844,961	3,542,705	193,173	6,511,923	59,543,875	66,055,798	233,900	365,589	7,041,284	78,277,410

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)

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	8,996
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	38,912	15,672	19,431	2,022	31,500	1,443	0	6,161	16,950	10,500
1988	36,088	17,097	20,652	1,651	34,000	0	0	4,600	19,710	10,500
1989	38,698	18,428	21,873	1,749	36,500	0	0	4,875	19,710	10,500
1990	40,528	19,893	23,100	1,853	38,100	1,600	0	5,250	19,710	10,500
1991	42,283	20,900	23,100	1,964	38,100	1,700	0	5,750	21,160	10,500
1992	44,043	20,900	23,100	2,081	38,100	1,800	0	6,250	21,160	10,805
1993	44,364	22,767	23,100	2,204	38,100	1,900	50,800	6,667	23,434	11,110
1994	44,677	24,633	23,100	2,326	38,100	2,000	50,800	7,083	27,724	11,410
1995	45,000	26,500	23,100	2,450	38,100	2,100	50,800	7,500	32,000	11,700
1996	46,997	28,119	23,100	2,570	38,100	2,200	50,800	8,201	33,204	11,990
1997	48,997	29,739	23,100	2,695	38,100	2,300	50,800	8,901	34,400	12,270
1998	50,998	31,361	23,100	2,817	38,100	2,300	50,800	9,599	35,599	12,550
1999	53,000	32,981	23,100	2,938	38,100	2,300	50,800	10,299	36,804	12,830
2000	55,000	34,600	23,100	3,063	38,100	2,300	50,800	11,000	38,000	13,100
2001	57,500	35,981	23,100	3,184	38,100	2,300	50,800	11,599	39,195	13,435
2002	59,999	37,361	23,100	3,307	38,100	2,300	50,800	12,201	40,401	13,755
2003	62,500	41,500	23,100	3,430	38,100	2,300	50,800	12,799	41,600	14,075
2004	64,999	41,500	23,100	3,550	38,100	2,300	50,800	13,401	42,796	14,395
2005	67,500	41,500	23,100	3,673	38,100	2,300	50,800	14,000	44,000	14,700
2006	70,500	41,500	23,100	3,796	38,100	2,300	50,800	14,659	48,402	15,055
2007	73,500	41,500	23,100	3,919	38,100	2,300	50,800	15,318	52,806	15,395
2008	76,498	41,500	23,100	4,042	38,100	2,300	50,800	15,981	57,206	15,735
2009	79,498	41,500	23,100	4,162	38,100	2,300	50,800	16,642	61,604	16,075
2010	82,500	41,500	23,100	4,287	38,100	2,300	50,800	17,300	66,000	16,400
2011	86,001	41,500	23,100	4,410	38,100	2,300	50,800	17,300	67,197	16,795
2012	89,503	41,500	23,100	4,532	38,100	2,300	50,800	17,300	68,400	17,175
2013	92,999	41,500	23,100	4,654	38,100	2,300	50,800	17,300	69,604	17,555
2014	96,501	41,500	23,100	4,776	38,100	2,300	50,800	17,300	70,795	17,935
2015	100,000	41,500	23,100	4,900	38,100	2,300	50,800	17,300	72,000	18,300
2016	103,995	41,500	23,100	5,099	38,100	2,300	50,800	17,300	77,602	18,760
2017	108,000	41,500	23,100	5,299	38,100	2,300	50,800	17,300	83,197	19,200
2018	112,002	41,500	23,100	5,499	38,100	2,300	50,800	17,300	88,803	19,640
2019	115,997	41,500	23,100	5,699	38,100	2,300	50,800	17,300	94,403	20,080
2020	120,000	41,500	23,100	5,700	38,100	2,300	50,800	17,300	100,000	20,500
2021	124,000	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	21,000
2022	128,000	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	21,480
2023	132,000	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	21,960
2024	136,000	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	22,440
2025	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	22,900
2026	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	23,465
2027	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	24,005
2028	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	24,545
2029	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	25,085
2030	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	25,600
2031	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	26,265
2032	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	26,905
2033	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	27,545
2034	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	28,185
2035	138,400	41,500	23,100	5,700	38,100	2,300	50,800	17,300	102,600	28,800
TOTAL	4,882,206	1,850,208	1,273,332	221,615	2,087,900	108,695	2,207,049	683,190	3,359,717	934,770

DELIVERED TO EACH CONTRACTOR (a

(in acre-feet)

Calendar Year	SOUTHERN CALIFORNIA AREA				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio 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	1,979,491
1986	0	708,840	0	823,067	328	313	317	958	0	1,997,755
1987	1,100	850,866	0	994 557	1,500	1,200	789	3,489	0	2,345,672
1988	1,800	1,232,348	750	1,379,196	1,800	1,200	960	3,960	0	2,825,543
1989	3,000	1,228,636	1,500	1,385,469	2,000	1,200	1,000	4,200	0	2,880,172
1990	4,000	1,225,800	2,250	1,392,584	2,100	1,200	1,040	4,340	0	2,936,737
1991	4,500	1,225,800	3,250	1,399,007	2,500	27,500	1,080	31,080	0	2,974,243
1992	4,888	1,201,900	4,250	1,379,277	2,550	27,500	1,120	31,170	0	2,960,491
1993	5,272	1,201,900	5,250	1,436,868	2,600	27,500	1,160	31,260	0	3,045,992
1994	5,656	1,201,900	7,000	1,446,409	2,650	27,500	1,200	31,350	0	3,120,516
1995	6,064	1,201,900	8,750	1,455,964	2,700	27,500	1,250	31,450	0	3,140,320
1996	6,448	1,233,900	11,250	1,496,879	3,000	27,500	1,300	31,800	0	3,185,259
1997	6,832	1,258,400	14,000	1,530,534	3,300	27,500	1,350	32,150	0	3,222,933
1998	7,216	1,282,900	17,500	1,564,840	3,600	27,500	1,400	32,500	0	3,259,254
1999	7,616	1,307,400	18,250	1,596,418	3,900	27,500	1,450	32,850	0	3,292,854
2000	8,000	1,331,900	19,000	1,627,963	4,200	27,500	1,510	33,210	0	3,326,429
2001	8,000	1,327,870	19,200	1,630,264	5,280	27,500	1,570	34,350	0	3,330,872
2002	8,000	1,347,840	19,400	1,656,564	6,360	27,500	1,630	35,490	0	3,359,319
2003	8,000	1,367,810	19,600	1,685,614	7,440	27,500	1,690	36,630	0	3,390,523
2004	8,000	1,387,740	19,800	1,710,481	8,520	27,500	1,750	37,770	0	3,417,532
2005	17,300	1,425,050	20,000	1,762,023	9,600	27,500	1,810	38,910	0	3,471,219
2006	17,300	1,447,140	20,000	1,792,652	9,600	27,500	1,880	38,980	0	3,502,587
2007	17,300	1,469,230	20,000	1,823,268	9,600	27,500	1,950	39,050	0	3,533,939
2008	17,300	1,491,320	20,000	1,853,882	9,600	27,500	2,020	39,120	0	3,565,302
2009	17,300	1,513,410	20,000	1,884,491	9,600	27,500	2,090	39,190	0	3,596,650
2010	17,300	1,535,500	20,000	1,915,087	9,600	27,500	2,160	39,260	0	3,627,983
2011	17,300	1,550,500	20,000	1,935,303	9,600	27,500	2,240	39,340	0	3,649,027
2012	17,300	1,565,500	20,000	1,955,510	9,600	27,500	2,320	39,420	0	3,670,061
2013	17,300	1,580,500	20,000	1,975,712	9,600	27,500	2,410	39,510	0	3,691,112
2014	17,300	1,595,500	20,000	1,995,907	9,600	27,500	2,500	39,600	0	3,712,145
2015	17,300	1,610,500	20,000	2,016,100	9,600	27,500	2,600	39,700	0	3,733,186
2016	17,300	1,625,500	20,000	2,041,356	9,600	27,500	2,700	39,800	0	3,759,143
2017	17,300	1,640,500	20,000	2,066,596	9,600	27,500	2,700	39,800	0	3,784,982
2018	17,300	1,655,500	20,000	2,091,844	9,600	27,500	2,700	39,800	0	3,810,829
2019	17,300	1,670,500	20,000	2,117,079	9,600	27,500	2,700	39,800	0	3,836,667
2020	17,300	1,685,500	20,000	2,142,100	9,600	27,500	2,700	39,800	0	3,862,286
2021	17,300	1,696,100	20,000	2,159,800	9,600	27,500	2,700	39,800	0	3,880,008
2022	17,300	1,706,700	20,000	2,174,880	9,600	27,500	2,700	39,800	0	3,895,106
2023	17,300	1,717,300	20,000	2,189,960	9,600	27,500	2,700	39,800	0	3,910,204
2024	17,300	1,727,900	20,000	2,205,040	9,600	27,500	2,700	39,800	0	3,925,306
2025	17,300	1,738,500	20,000	2,218,500	9,600	27,500	2,700	39,800	0	3,938,786
2026	17,300	1,747,320	20,000	2,227,885	9,600	27,500	2,700	39,800	0	3,948,171
2027	17,300	1,756,140	20,000	2,237,245	9,600	27,500	2,700	39,800	0	3,957,531
2028	17,300	1,764,960	20,000	2,246,605	9,600	27,500	2,700	39,800	0	3,966,891
2029	17,300	1,773,780	20,000	2,255,965	9,600	27,500	2,700	39,800	0	3,976,251
2030	17,300	1,782,600	20,000	2,265,300	9,600	27,500	2,700	39,800	0	3,985,586
2031	17,300	1,828,380	20,000	2,311,745	9,600	27,500	2,700	39,800	0	4,032,031
2032	17,300	1,874,160	20,000	2,358,165	9,600	27,500	2,700	39,800	0	4,078,451
2033	17,300	1,919,940	20,000	2,404,585	9,600	27,500	2,700	39,800	0	4,124,871
2034	17,300	1,965,720	20,000	2,451,005	9,600	27,500	2,700	39,800	0	4,171,291
2035	17,300	2,011,500	20,000	2,497,400	9,600	27,500	2,700	39,800	0	4,217,686
TOTAL	640,692	81,530,667	811,000	100,591,035	364,098	1,247,170	106,952	1,718,220	0	197,549,113

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

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	Operational Losses	Water Supply Delivery	Total	Initial Fill Water	Operational Losses	Water Supply Delivery	Total	Initial Fill Water	Operational 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	3,997	3,997
1988	0	51	18,525	18,576	0	5	12,960	12,965	0	5	4,565	4,570
1989	0	51	23,433	23,484	0	5	15,020	15,025	0	5	5,013	5,018
1990	0	51	26,708	26,759	0	5	17,200	17,205	0	5	5,458	5,463
1991	0	51	28,134	28,185	0	5	17,600	17,605	0	5	5,834	5,839
1992	0	51	28,134	28,185	0	5	17,600	17,605	0	5	5,834	5,839
1993	0	51	33,230	33,281	0	5	18,111	18,116	0	5	6,950	6,955
1994	0	51	38,322	38,373	0	5	18,627	18,632	0	5	8,064	8,069
1995	0	51	43,420	43,471	0	5	19,140	19,145	0	5	9,180	9,185
1996	0	51	45,092	45,143	0	5	19,546	19,551	0	5	9,774	9,779
1997	0	51	46,763	46,814	0	5	19,953	19,958	0	5	10,368	10,373
1998	0	51	48,428	48,479	0	5	20,358	20,363	0	5	10,962	10,967
1999	0	51	50,100	50,151	0	5	20,765	20,770	0	5	11,557	11,562
2000	0	51	51,770	51,821	0	5	21,170	21,175	0	5	12,150	12,155
2001	0	51	52,772	52,823	0	5	21,496	21,501	0	5	12,778	12,783
2002	0	51	53,779	53,830	0	5	21,822	21,827	0	5	13,411	13,416
2003	0	51	54,793	54,844	0	5	22,148	22,153	0	5	14,041	14,046
2004	0	51	55,795	55,846	0	5	22,474	22,479	0	5	14,669	14,674
2005	0	51	56,800	56,851	0	5	22,800	22,805	0	5	15,300	15,305
2006	0	51	57,469	57,520	0	5	22,800	22,805	0	5	15,921	15,926
2007	0	51	58,135	58,186	0	5	22,800	22,805	0	5	16,539	16,544
2008	0	51	58,814	58,865	0	5	22,800	22,805	0	5	17,160	17,165
2009	0	51	59,483	59,534	0	5	22,800	22,805	0	5	17,781	17,786
2010	0	51	60,150	60,201	0	5	22,800	22,805	0	5	18,400	18,405
2011	0	51	60,898	60,949	0	5	22,800	22,805	0	5	19,100	19,105
2012	0	51	61,645	61,696	0	5	22,800	22,805	0	5	19,799	19,804
2013	0	51	62,404	62,455	0	5	22,800	22,805	0	5	20,500	20,505
2014	0	51	63,152	63,203	0	5	22,800	22,805	0	5	21,200	21,205
2015	0	51	63,900	63,951	0	5	22,800	22,805	0	5	21,900	21,905
2016	0	51	64,501	64,552	0	5	22,350	22,355	0	5	22,501	22,506
2017	0	51	65,100	65,151	0	5	21,900	21,905	0	5	23,100	23,105
2018	0	51	65,699	65,750	0	5	21,450	21,455	0	5	23,699	23,704
2019	0	51	66,302	66,353	0	5	21,000	21,005	0	5	24,302	24,307
2020	0	51	66,900	66,951	0	5	20,550	20,555	0	5	24,900	24,905
2021	0	51	66,922	66,973	0	5	20,550	20,555	0	5	24,922	24,927
2022	0	51	66,940	66,991	0	5	20,550	20,555	0	5	24,940	24,945
2023	0	51	66,958	67,009	0	5	20,550	20,555	0	5	24,958	24,963
2024	0	51	66,980	67,031	0	5	20,550	20,555	0	5	24,980	24,985
2025	0	51	67,000	67,051	0	5	20,550	20,555	0	5	25,000	25,005
2026	0	51	67,000	67,051	0	5	20,550	20,555	0	5	25,000	25,005
2027	0	51	67,000	67,051	0	5	20,550	20,555	0	5	25,000	25,005
2028	0	51	67,000	67,051	0	5	20,550	20,555	0	5	25,000	25,005
2029	0	51	67,000	67,051	0	5	20,550	20,555	0	5	25,000	25,005
2030	0	51	67,000	67,051	0	5	20,550	20,555	0	5	25,000	25,005
2031	0	51	67,000	67,051	0	5	20,550	20,555	0	5	25,000	25,005
2032	0	51	67,000	67,051	0	5	20,550	20,555	0	5	25,000	25,005
2033	0	51	67,000	67,051	0	5	20,550	20,555	0	5	25,000	25,005
2034	0	51	67,000	67,051	0	5	20,550	20,555	0	5	25,000	25,005
2035	0	51	67,000	67,051	0	5	20,550	20,555	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.

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES [a]

(in acre-feet)

Calendar Year	SOUTH BAY AQUEDUCT						CALIFORNIA AQUEDUCT							
							NORTH SAN JOAQUIN DIVISION							
	SOUTH BAY PUMPING PLANT						BANKS DELTA PUMPING PLANT							
				Deliveries			Transportation Water							
										Deliveries				
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Water Supply [c]	Recreation	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Water Supply	Recreation	Total	Conservation Water	Total
	(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	0
1963	71	185	0	12,645	0	12,901	0	0	0	0	0	0	0	0
1964	171	152	0	20,911	0	21,234	0	0	0	0	0	0	0	0
1965	93	729	0	34,026	0	34,848	0	0	0	0	0	0	0	0
1966	0	1,746	0	54,913	0	56,659	0	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	21,424
1968	0	1,847	0	101,055	0	102,902	11,079	74,464	0	293,243	0	378,786	531,275	910,061
1969	3,449	2,668	0	69,712	0	75,829	7,336	44,287	0	265,417	0	317,040	531,185	848,225
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	392,135
1971	0	1,815	8,854	98,584	0	109,253	23,207	-10,754	8,854	651,665	8	672,980	7,708	680,688
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	1,238,059
1973	0	-33	-1,510	94,078	0	92,535	214,941	-4,951	2,902	733,008	1,155	947,055	55,846	1,002,901
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	1,133,961
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	1,242,242
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	760,643
1977	0	2,866	2,685	107,704	112	113,367	0	39,897	-157,543	573,146	1,111	456,611	-13,507	443,104
1978	0	2,165	-11,249	112,574	126	103,616	67,457	-36,898	35,129	1,451,842	1,177	1,518,707	752,075	2,270,782
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	1,594,658
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	1,504,024
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	1,154,028
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	2,233,791
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	1,770,522
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	1,585,519
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	2,062,275
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	2,323,365
1987	0	230	0	142,429	343	143,002	0	75,295	-73,422	2,338,186	7,188	2,347,247	-675,090	1,672,157
1988	0	230	0	152,162	400	152,792	0	76,385	-15,884	2,803,058	7,880	2,871,439	-323,564	2,547,875
1989	0	3,682	0	155,370	400	159,452	0	109,417	-23,761	2,852,539	10,010	2,948,205	147,072	3,095,277
1990	0	3,663	0	158,105	400	162,168	0	109,249	26,050	2,905,689	12,680	3,053,668	-9,076	3,044,592
1991	0	3,642	0	161,022	400	165,064	0	109,783	-31,817	2,915,029	12,485	3,005,480	-27,848	2,977,632
1992	0	3,593	0	166,910	400	170,903	0	109,693	-7,388	2,901,187	12,485	3,015,977	166,352	3,182,329
1993	0	3,503	0	171,894	400	175,797	0	109,506	-26,739	2,981,502	12,485	3,076,754	46,574	3,123,328
1994	0	3,376	0	178,949	400	182,725	0	109,349	-994	3,050,844	12,485	3,171,684	-73,413	3,098,271
1995	0	3,280	0	184,000	400	187,680	0	109,256	27,160	3,065,450	12,485	3,214,351	-48,418	3,165,933
1996	0	3,243	0	186,002	400	189,645	0	109,550	-22,305	3,108,367	12,485	3,208,097	-11,909	3,196,188
1997	0	3,207	0	188,000	400	191,607	0	109,429	-11,738	3,144,020	12,485	3,254,196	83,039	3,337,235
1998	0	3,207	0	188,000	400	191,607	0	109,154	16,346	3,178,326	12,485	3,316,311	-80,542	3,235,769
1999	0	3,207	0	188,000	400	191,607	0	109,243	6,723	3,209,904	12,485	3,338,355	45,037	3,383,392
2000	0	3,207	0	188,000	400	191,607	0	109,167	-28,117	3,241,449	12,485	3,334,984	-39,567	3,295,417
2001	0	3,207	0	188,000	400	191,607	0	109,220	14,500	3,243,750	12,485	3,379,955	20,465	3,400,420
2002	0	3,207	0	188,000	400	191,607	0	109,080	-8,280	3,270,050	12,485	3,383,335	-9,590	3,373,745
2003	0	3,207	0	188,000	400	191,607	0	109,047	8,056	3,299,100	12,485	3,428,688	43,444	3,472,132
2004	0	3,207	0	188,000	400	191,607	0	108,912	-4,294	3,323,967	12,485	3,441,070	-39,018	3,402,052
2005	0	3,207	0	188,000	400	191,607	0	108,945	15,990	3,375,509	12,485	3,512,929	12,963	3,525,892
2006	0	3,207	0	188,000	400	191,607	0	108,732	-16,992	3,406,138	12,485	3,510,363	9,118	3,519,481
2007	0	3,207	0	188,000	400	191,607	0	108,718	5,989	3,436,754	12,485	3,563,946	-7,742	3,556,204
2008	0	3,207	0	188,000	400	191,607	0	108,578	17,557	3,467,368	12,485	3,605,988	-46,596	3,559,392
2009	0	3,207	0	188,000	400	191,607	0	108,588	-24,278	3,497,977	12,485	3,594,772	3,282	3,598,054
2010	0	3,207	0	188,000	400	191,607	0	108,500	3,277	3,528,573	12,485	3,652,835	-26,646	3,626,189
2011	0	3,207	0	188,000	400	191,607	0	108,376	13,741	3,548,789	12,485	3,683,391	8,112	3,691,503
2012	0	3,207	0	188,000	400	191,607	0	108,207	-16,887	3,568,996	12,485	3,672,801	13,925	3,686,726
2013	0	3,207	0	188,000	400	191,607	0	108,375	-13,182	3,589,198	12,485	3,696,876	7,297	3,704,173
2014	0	3,207	0	188,000	400	191,607	0	108,274	5,740	3,609,393	12,485	3,735,892	11,583	3,747,475
2015	0	3,207	0	188,000	400	191,607	0	108,157	6,806	3,629,586	12,485	3,757,034	-18,501	3,738,533
2016	0	3,207	0	188,000	400	191,607	0	108,116	-15,803	3,654,842	12,485	3,759,640	11,790	3,771,430
2017	0	3,207	0	188,000	400	191,607	0	108,023	-12,611	3,680,082	12,485	3,787,979	3,341	3,791,320
2018	0	3,207	0	188,000	400	191,607	0	108,052	5,792	3,705,330	12,485	3,831,659	8,758	3,840,417
2019	0	3,207	0	188,000	400	191,607	0	107,862	-4,828	3,730,565	12,485	3,846,084	-118,011	3,728,073
2020	0	3,207	0	188,000	400	191,607	0	109,248	72,878	3,755,586	12,485	3,950,197	112,687	4,062,884
2021	0	3,207	0	188,000	400	191,607	0	109,115	-37,435	3,773,286	12,485	3,857,451	-99,959	3,757,492
2022	0	3,207	0	188,000	400	191,607	0	109,157	-11,975	3,788,366	12,485	3,898,033	51,277	3,949,310
2023	0	3,207	0	188,000	400	191,607	0	109,148	2,894	3,803,446	12,485	3,927,973	88,541	4,016,514
2024	0	3,207	0	188,000	400	191,607	0	109,191	48,583	3,818,526	12,485	3,988,785	-151,915	3,836,870
2025	0	3,207	0	188,000	400	191,607	0	109,220	-49,288	3,831,986	12,485	3,904,403	53,365	3,957,768
2026	0	3,207	0	188,000	400	191,607	0	109,046	7,314	3,841,371	12,485	3,970,216	66,947	4,037,163
2027	0	3,207	0	188,000	400	191,607	0	108,966	10,827	3,850,731	12,485	3,983,009	-90,131	3,892,878
2028	0	3,207	0	188,000	400	191,607	0	108,976	-5,597	3,860,091	12,485	3,975,955	45,764	4,021,719
2029	0	3,207	0	188,000	400	191,607	0	109,028	-7,824	3,869,451	12,485	3,983,140	-29,069	3,954,071
2030	0	3,207	0	188,000	400	191,607	0	108,963	2,640	3,878,786	12,485	4,002,874	96,944	4,099,818
2031	0	3,207	0	188,000	400	191,607	0	108,727	-3,862	3,925,231	12,485	4,042,581	-43,134	3,999,447
2032	0	3,207	0	188,000	400	191,607	0	108,691	5,514	3,971,651	12,485	4,098,341	-16,436	4,081,905
2033	0	3,207	0	188,000	400	191,607	0	108,686	1,432	4,018,071	12,485	4,140,674	-34,243	4,106,431
2034	0	3,207	0	188,000	400	191,607	0	108,748	15,540	4,064,491	12,485	4,201,264	-4,781	4,196,483
2035	0	3,207	0	188,000	400	191,607	0	109,390	-40,357	4,110,886	12,485	4,192,404	97,256	4,289,660

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.

c) For the period June 1962 through November 1967, deliveries were supplied by non-Project water.

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	SAN LUIS DIVISION						SOUTH SAN JOAQUIN DIVISION					
	DOS AMIGOS PUMPING PLANT						BUENA VISTA PUMPING PLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total
	(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	62,004	-73,422	2,190,557	6,171	2,185,310	0	40,320	-73,422	1,208,273	6,023	1,181,194
1988	0	63,094	-15,884	2,645,496	6,790	2,699,496	0	41,410	-15,884	1,574,346	6,680	1,606,552
1989	0	62,758	-23,761	2,691,569	8,920	2,739,486	0	41,074	-23,761	1,580,619	8,810	1,606,742
1990	0	62,937	26,050	2,741,884	11,590	2,842,461	0	41,253	26,050	1,587,734	11,480	1,666,517
1991	0	62,635	-31,817	2,748,307	11,395	2,790,520	0	40,951	-31,817	1,594,157	11,285	1,614,576
1992	0	62,478	-7,388	2,728,577	11,395	2,795,062	0	40,794	-7,388	1,574,427	11,285	1,619,118
1993	0	62,404	-26,739	2,803,908	11,395	2,850,968	0	40,682	-26,739	1,632,018	11,285	1,657,246
1994	0	62,536	-994	2,866,195	11,395	2,939,132	0	40,640	-994	1,641,559	11,285	1,692,490
1995	0	62,573	27,160	2,875,750	11,395	2,976,878	0	40,677	27,160	1,651,114	11,285	1,730,236
1996	0	62,626	-22,305	2,916,665	11,395	2,968,381	0	40,730	-22,305	1,692,029	11,285	1,721,739
1997	0	62,571	-11,738	2,950,320	11,395	3,012,548	0	40,675	-11,738	1,725,684	11,285	1,765,906
1998	0	62,262	16,346	2,984,626	11,395	3,074,629	0	40,366	16,346	1,759,990	11,285	1,827,987
1999	0	62,529	6,723	3,016,204	11,395	3,096,851	0	40,633	6,723	1,791,568	11,285	1,850,209
2000	0	62,466	-28,117	3,047,749	11,395	3,093,493	0	40,570	-28,117	1,823,113	11,285	1,846,851
2001	0	62,495	14,500	3,050,050	11,395	3,138,440	0	40,599	14,500	1,825,414	11,285	1,891,798
2002	0	62,351	-8,280	3,076,350	11,395	3,141,816	0	40,455	-8,280	1,851,714	11,285	1,895,174
2003	0	62,355	8,056	3,105,400	11,395	3,187,206	0	40,459	8,056	1,880,764	11,285	1,940,564
2004	0	62,260	-4,294	3,130,267	11,395	3,199,628	0	40,364	-4,294	1,905,631	11,285	1,952,986
2005	0	62,519	15,990	3,181,809	11,395	3,271,713	0	40,623	15,990	1,957,173	11,285	2,025,071
2006	0	62,253	-16,992	3,212,438	11,395	3,269,094	0	40,357	-16,992	1,987,802	11,285	2,022,452
2007	0	62,380	5,989	3,243,054	11,395	3,322,818	0	40,484	5,989	2,018,418	11,285	2,076,176
2008	0	62,245	17,557	3,273,668	11,395	3,364,865	0	40,349	17,557	2,049,032	11,285	2,118,223
2009	0	62,362	-24,278	3,304,277	11,395	3,353,756	0	40,466	-24,278	2,079,641	11,285	2,107,114
2010	0	62,406	3,277	3,334,873	11,395	3,411,951	0	40,510	3,277	2,110,237	11,285	2,165,309
2011	0	62,254	13,741	3,355,089	11,395	3,442,479	0	40,358	13,741	2,130,453	11,285	2,195,837
2012	0	62,148	-16,887	3,375,296	11,395	3,431,952	0	40,252	-16,887	2,150,660	11,285	2,185,310
2013	0	62,527	-13,182	3,395,498	11,395	3,456,238	0	40,631	-13,182	2,170,862	11,285	2,209,596
2014	0	62,492	5,740	3,415,693	11,395	3,495,320	0	40,596	5,740	2,191,057	11,285	2,248,678
2015	0	62,413	6,806	3,435,886	11,395	3,516,500	0	40,517	6,806	2,211,250	11,285	2,269,858
2016	0	62,170	-15,803	3,461,142	11,395	3,518,904	0	40,274	-15,803	2,236,506	11,285	2,272,262
2017	0	62,178	-12,611	3,486,382	11,395	3,547,344	0	40,282	-12,611	2,261,746	11,285	2,300,702
2018	0	62,311	5,792	3,511,630	11,395	3,591,128	0	40,415	5,792	2,286,994	11,285	2,344,486
2019	0	62,188	-4,828	3,536,865	11,395	3,605,620	0	40,292	-4,828	2,312,229	11,285	2,358,978
2020	0	62,545	72,878	3,561,886	11,395	3,708,704	0	40,649	72,878	2,337,250	11,285	2,462,062
2021	0	62,318	-37,435	3,579,586	11,395	3,615,864	0	40,422	-37,435	2,354,950	11,285	2,369,222
2022	0	62,333	-11,975	3,594,666	11,395	3,656,419	0	40,437	-11,975	2,370,030	11,285	2,409,777
2023	0	62,365	2,894	3,609,746	11,395	3,686,400	0	40,469	2,894	2,385,110	11,285	2,439,758
2024	0	62,494	48,583	3,624,826	11,395	3,747,298	0	40,598	48,583	2,400,190	11,285	2,500,656
2025	0	62,566	-49,288	3,638,286	11,395	3,662,959	0	40,670	-49,288	2,413,650	11,285	2,416,317
2026	0	62,378	7,314	3,647,671	11,395	3,728,758	0	40,482	7,314	2,423,035	11,285	2,482,116
2027	0	62,302	10,827	3,657,031	11,395	3,741,555	0	40,406	10,827	2,432,395	11,285	2,494,913
2028	0	62,393	-5,597	3,666,391	11,395	3,734,582	0	40,497	-5,597	2,441,755	11,285	2,487,940
2029	0	62,364	-7,824	3,675,751	11,395	3,741,686	0	40,468	-7,824	2,451,115	11,285	2,495,044
2030	0	62,531	2,640	3,685,086	11,395	3,761,652	0	40,635	2,640	2,460,450	11,285	2,515,010
2031	0	62,377	-3,862	3,731,531	11,395	3,801,441	0	40,481	-3,862	2,506,895	11,285	2,554,799
2032	0	62,476	5,514	3,777,951	11,395	3,857,336	0	40,580	5,514	2,553,315	11,285	2,610,694
2033	0	62,408	1,432	3,824,371	11,395	3,899,606	0	40,512	1,432	2,599,735	11,285	2,652,964
2034	0	62,467	15,540	3,870,791	11,395	3,960,193	0	40,571	15,540	2,646,155	11,285	2,713,551
2035	0	62,578	-40,357	3,917,186	11,395	3,950,802	0	40,682	-40,357	2,692,550	11,285	2,704,160

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES (a

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	SOUTH SAN JOAQUIN DIVISION											
	WHEELER RIDGE PUMPING PLANT						CHRISMAN WIND GAP PUMPING PLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total
	(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	36,690	-73,422	1,053,668	6,023	1,022,959	0	36,440	-73,422	1,012,723	6,023	981,764
1988	0	37,780	-15,884	1,442,196	6,680	1,470,772	0	37,530	-15,884	1,398,696	6,680	1,427,022
1989	0	37,444	-23,761	1,448,469	8,810	1,470,962	0	37,194	-23,761	1,404,969	8,810	1,427,212
1990	0	37,623	26,050	1,455,584	11,480	1,530,737	0	37,373	26,050	1,412,084	11,480	1,486,987
1991	0	37,321	-31,817	1,462,007	11,285	1,478,796	0	37,071	-31,817	1,418,507	11,285	1,435,046
1992	0	37,164	-7,388	1,442,277	11,285	1,483,338	0	36,914	-7,388	1,398,777	11,285	1,439,588
1993	0	37,052	-26,739	1,499,868	11,285	1,521,466	0	36,802	-26,739	1,456,368	11,285	1,477,716
1994	0	37,010	-994	1,509,409	11,285	1,556,710	0	36,760	-994	1,465,909	11,285	1,512,960
1995	0	37,047	27,160	1,518,964	11,285	1,594,456	0	36,797	27,160	1,475,464	11,285	1,550,706
1996	0	37,100	-22,305	1,559,879	11,285	1,585,959	0	36,850	-22,305	1,516,379	11,285	1,542,209
1997	0	37,045	-11,738	1,593,534	11,285	1,630,126	0	36,795	-11,738	1,550,034	11,285	1,586,376
1998	0	36,736	16,346	1,627,840	11,285	1,692,207	0	36,486	16,346	1,584,340	11,285	1,648,457
1999	0	37,003	6,723	1,659,418	11,285	1,714,429	0	36,753	6,723	1,615,918	11,285	1,670,679
2000	0	36,940	-28,117	1,690,963	11,285	1,711,071	0	36,690	-28,117	1,647,463	11,285	1,667,321
2001	0	36,969	14,500	1,693,264	11,285	1,756,018	0	36,719	14,500	1,649,764	11,285	1,712,268
2002	0	36,825	-8,280	1,719,564	11,285	1,759,394	0	36,575	-8,280	1,676,064	11,285	1,715,644
2003	0	36,829	8,056	1,748,614	11,285	1,804,784	0	36,579	8,056	1,705,114	11,285	1,761,034
2004	0	36,734	-4,294	1,773,481	11,285	1,817,206	0	36,484	-4,294	1,729,981	11,285	1,773,456
2005	0	36,993	15,990	1,825,023	11,285	1,889,291	0	36,743	15,990	1,781,523	11,285	1,845,541
2006	0	36,727	-16,992	1,855,652	11,285	1,886,672	0	36,477	-16,992	1,812,152	11,285	1,842,922
2007	0	36,854	5,989	1,886,268	11,285	1,940,396	0	36,604	5,989	1,842,768	11,285	1,896,646
2008	0	36,719	17,557	1,916,882	11,285	1,982,443	0	36,469	17,557	1,873,382	11,285	1,938,693
2009	0	36,836	-24,278	1,947,491	11,285	1,971,334	0	36,586	-24,278	1,903,991	11,285	1,927,584
2010	0	36,880	3,277	1,978,087	11,285	2,029,529	0	36,630	3,277	1,934,587	11,285	1,985,779
2011	0	36,728	13,741	1,998,303	11,285	2,060,057	0	36,478	13,741	1,954,803	11,285	2,016,307
2012	0	36,622	-16,887	2,018,510	11,285	2,049,530	0	36,372	-16,887	1,975,010	11,285	2,005,780
2013	0	37,001	-13,182	2,038,712	11,285	2,073,816	0	36,751	-13,182	1,995,212	11,285	2,030,066
2014	0	36,966	5,740	2,058,907	11,285	2,112,898	0	36,716	5,740	2,015,407	11,285	2,069,148
2015	0	36,887	6,806	2,079,100	11,285	2,134,078	0	36,637	6,806	2,035,600	11,285	2,090,328
2016	0	36,644	-15,803	2,104,356	11,285	2,136,482	0	36,394	-15,803	2,060,856	11,285	2,092,732
2017	0	36,652	-12,611	2,129,596	11,285	2,164,922	0	36,402	-12,611	2,086,096	11,285	2,121,172
2018	0	36,785	5,792	2,154,844	11,285	2,208,706	0	36,535	5,792	2,111,344	11,285	2,164,956
2019	0	36,662	-4,828	2,180,079	11,285	2,223,198	0	36,412	-4,828	2,136,579	11,285	2,179,448
2020	0	37,019	72,878	2,205,100	11,285	2,326,282	0	36,769	72,878	2,161,600	11,285	2,282,532
2021	0	36,792	-37,435	2,222,800	11,285	2,233,442	0	36,542	-37,435	2,179,300	11,285	2,189,692
2022	0	36,807	-11,975	2,237,880	11,285	2,273,997	0	36,557	-11,975	2,194,380	11,285	2,230,247
2023	0	36,839	2,894	2,252,960	11,285	2,303,978	0	36,589	2,894	2,209,460	11,285	2,260,228
2024	0	36,968	48,583	2,268,040	11,285	2,364,876	0	36,718	48,583	2,224,540	11,285	2,321,126
2025	0	37,040	-49,288	2,281,500	11,285	2,280,537	0	36,790	-49,288	2,238,000	11,285	2,236,787
2026	0	36,852	7,314	2,290,885	11,285	2,346,336	0	36,602	7,314	2,247,385	11,285	2,302,586
2027	0	36,776	10,827	2,300,245	11,285	2,359,133	0	36,526	10,827	2,256,745	11,285	2,315,383
2028	0	36,867	-5,597	2,309,605	11,285	2,352,160	0	36,617	-5,597	2,266,105	11,285	2,308,410
2029	0	36,838	-7,824	2,318,965	11,285	2,359,264	0	36,588	-7,824	2,275,465	11,285	2,315,514
2030	0	37,005	2,640	2,328,300	11,285	2,379,230	0	36,755	2,640	2,284,800	11,285	2,335,480
2031	0	36,851	-3,862	2,374,745	11,285	2,419,019	0	36,601	-3,862	2,331,245	11,285	2,375,269
2032	0	36,950	5,514	2,421,165	11,285	2,474,914	0	36,700	5,514	2,377,665	11,285	2,431,164
2033	0	36,882	1,432	2,467,585	11,285	2,517,184	0	36,632	1,432	2,424,085	11,285	2,473,434
2034	0	36,941	15,540	2,514,005	11,285	2,577,771	0	36,691	15,540	2,470,505	11,285	2,534,021
2035	0	37,052	-40,357	2,560,400	11,285	2,568,380	0	36,802	-40,357	2,516,900	11,285	2,524,630

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	TEHACHAPI DIVISION						MOJAVE DIVISION					
	A.D. EDMONSTON PUMPING PLANT						ALAMO POWERPLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total
	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)
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	5,446	8	0	0	0	5,454	0	0	0	0	0	0
1972	100,274	16,067	-6,558	74,123	6,481	190,387	0	0	0	0	0	0
1973	204,638	34,051	1,329	207,808	1,147	448,973	0	0	0	0	0	0
1974	237,554	18,181	-15,295	313,634	2,108	556,182	0	0	0	0	0	0
1975	103,352	20,183	-693	573,219	3,358	699,419	0	0	0	0	0	0
1976	61,122	21,096	-152,171	685,768	1,581	617,396	0	0	0	0	0	0
1977	0	18,424	-116,219	236,086	560	138,851	0	0	0	0	0	0
1978	65,027	20,887	121,904	590,329	674	798,821	0	0	0	0	0	0
1979	12,302	46,332	-51,299	568,338	502	576,175	0	0	0	0	0	0
1980	0	52,967	-134,009	639,743	1,262	559,963	0	0	0	0	0	0
1981	0	40,602	23,359	938,482	4,112	1,006,555	0	0	0	0	0	0
1982	0	37,731	108,407	818,628	4,045	968,811	0	0	0	0	0	0
1983	0	40,690	-101,155	431,182	7,291	378,008	0	0	0	0	0	0
1984	0	41,213	-114,983	559,941	3,702	489,873	0	0	0	0	0	0
1985	0	47,521	138,816	792,477	1,950	980,764	0	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	458,528
1987	0	34,890	-73,422	994,557	6,023	962,048	0	20,090	-61,288	491,483	1,535	451,820
1988	0	35,980	-15,884	1,379,196	6,680	1,405,972	0	21,130	10,688	851,349	1,630	884,797
1989	0	35,644	-23,761	1,385,469	8,810	1,406,162	0	20,806	-14,251	855,541	3,130	865,226
1990	0	35,823	26,050	1,392,584	11,480	1,465,937	0	20,906	9,828	860,441	5,630	896,805
1991	0	35,521	-31,817	1,399,007	11,285	1,413,996	0	20,664	-7,301	864,857	5,435	883,655
1992	0	35,364	-7,388	1,379,277	11,285	1,418,538	0	20,789	-4,097	847,327	5,435	869,454
1993	0	35,252	-26,739	1,436,868	11,285	1,456,666	0	20,826	-13,868	902,051	5,435	914,444
1994	0	35,210	-994	1,446,409	11,285	1,491,910	0	20,647	9,442	907,976	5,435	943,500
1995	0	35,247	27,160	1,455,964	11,285	1,529,656	0	20,685	-4,582	913,914	5,435	935,452
1996	0	35,300	-22,305	1,496,879	11,285	1,521,159	0	20,802	4,627	950,710	5,435	981,574
1997	0	35,245	-11,738	1,530,534	11,285	1,565,326	0	20,801	-12,416	979,995	5,435	993,815
1998	0	34,936	16,346	1,564,840	11,285	1,627,407	0	20,578	27,039	1,009,179	5,435	1,062,231
1999	0	35,203	6,723	1,596,418	11,285	1,649,629	0	20,710	-22,222	1,038,387	5,435	1,042,310
2000	0	35,140	-28,117	1,627,963	11,285	1,646,271	0	20,695	-4,266	1,067,563	5,435	1,089,427
2001	0	35,169	14,500	1,630,264	11,285	1,691,218	0	20,710	3,987	1,068,283	5,435	1,098,415
2002	0	35,025	-8,280	1,656,564	11,285	1,694,594	0	20,689	14,510	1,093,003	5,435	1,133,637
2003	0	35,029	8,056	1,685,614	11,285	1,739,984	0	20,575	-14,922	1,117,714	5,435	1,128,802
2004	0	34,934	-4,294	1,710,481	11,285	1,752,406	0	20,565	8,158	1,142,381	5,435	1,176,539
2005	0	35,193	15,990	1,762,023	11,285	1,824,491	0	20,662	-5,157	1,193,723	5,435	1,214,663
2006	0	34,927	-16,992	1,792,652	11,285	1,821,872	0	20,594	868	1,224,352	5,435	1,251,249
2007	0	35,054	5,989	1,823,268	11,285	1,875,596	0	20,561	-836	1,254,968	5,435	1,280,128
2008	0	34,919	17,557	1,853,882	11,285	1,917,643	0	20,467	-6,491	1,285,582	5,435	1,304,993
2009	0	35,036	-24,278	1,884,491	11,285	1,906,534	0	20,526	2,267	1,316,191	5,435	1,344,419
2010	0	35,080	3,277	1,915,087	11,285	1,964,729	0	20,663	-2,310	1,346,787	5,435	1,370,575
2011	0	34,928	13,741	1,935,303	11,285	1,995,257	0	20,457	-2,172	1,367,003	5,435	1,390,723
2012	0	34,822	-16,887	1,955,510	11,285	1,984,730	0	20,364	6,248	1,387,210	5,435	1,419,257
2013	0	35,201	-13,182	1,975,712	11,285	2,009,016	0	20,575	-10,773	1,407,412	5,435	1,422,649
2014	0	35,166	5,740	1,995,907	11,285	2,048,098	0	20,535	-194	1,427,607	5,435	1,453,383
2015	0	35,087	6,806	2,016,100	11,285	2,069,278	0	20,425	-5,558	1,447,800	5,435	1,468,102
2016	0	34,844	-15,803	2,041,356	11,285	2,071,682	0	20,526	2,125	1,473,056	5,435	1,501,142
2017	0	34,852	-12,611	2,066,596	11,285	2,100,122	0	20,476	21,229	1,498,296	5,435	1,545,436
2018	0	34,985	5,792	2,091,844	11,285	2,143,906	0	20,618	-11,557	1,523,544	5,435	1,538,040
2019	0	34,862	-4,828	2,117,079	11,285	2,158,398	0	20,449	-6,130	1,548,779	5,435	1,568,533
2020	0	35,219	72,878	2,142,100	11,285	2,261,482	0	20,484	25,485	1,573,800	5,435	1,625,204
2021	0	34,992	-37,435	2,159,800	11,285	2,168,642	0	20,431	-11,650	1,591,500	5,435	1,605,716
2022	0	35,007	-11,975	2,174,880	11,285	2,209,197	0	20,481	4,107	1,606,580	5,435	1,636,603
2023	0	35,039	2,894	2,189,960	11,285	2,239,178	0	20,481	-3,743	1,621,660	5,435	1,643,833
2024	0	35,168	48,583	2,205,040	11,285	2,300,076	0	20,510	2,169	1,636,740	5,435	1,664,854
2025	0	35,240	-49,288	2,218,500	11,285	2,215,737	0	20,701	12,296	1,650,200	5,435	1,688,632
2026	0	35,052	7,314	2,227,885	11,285	2,281,536	0	20,447	-27,403	1,659,585	5,435	1,658,064
2027	0	34,976	10,827	2,237,245	11,285	2,294,333	0	20,422	12,558	1,668,945	5,435	1,707,360
2028	0	35,067	-5,597	2,246,605	11,285	2,287,360	0	20,524	1,513	1,678,305	5,435	1,705,777
2029	0	35,038	-7,824	2,255,965	11,285	2,294,464	0	20,530	-2,388	1,687,665	5,435	1,711,242
2030	0	35,205	2,640	2,265,300	11,285	2,314,430	0	20,500	8,201	1,697,000	5,435	1,731,136
2031	0	35,051	-3,862	2,311,745	11,285	2,354,219	0	20,438	-7,816	1,743,445	5,435	1,761,502
2032	0	35,150	5,514	2,358,165	11,285	2,410,114	0	20,482	-99	1,789,865	5,435	1,815,683
2033	0	35,082	1,432	2,404,585	11,285	2,452,384	0	20,481	-3,628	1,836,285	5,435	1,858,573
2034	0	35,141	15,540	2,451,005	11,285	2,512,971	0	20,524	12,063	1,882,705	5,435	1,920,727
2035	0	35,252	-40,357	2,497,400	11,285	2,503,580	0	20,502	-15,113	1,929,100	5,435	1,939,924

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES (a

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	MOJAVE DIVISION											
	PEARBLOSSOM PUMPING PLANT						MOJAVE SIPHON POWERPLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	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	14,740	-61,288	444,967	1,355	399,774	0	0	0	0	0	0
1988	0	15,780	10,688	810,661	1,430	838,559	0	0	0	0	0	0
1989	0	15,456	-14,251	811,968	1,430	814,603	0	0	0	0	0	0
1990	0	15,556	9,828	813,063	1,430	839,877	0	0	0	0	0	0
1991	0	15,314	-7,301	815,124	1,430	824,567	0	0	0	0	0	0
1992	0	15,439	-4,097	795,234	1,430	808,006	0	0	0	0	0	0
1993	0	15,476	-13,868	849,120	1,430	852,158	0	0	0	0	0	0
1994	0	15,297	9,442	854,216	1,430	880,385	0	11,827	9,442	803,416	1,430	826,115
1995	0	15,335	-4,582	859,314	1,430	871,497	0	11,865	-4,582	808,514	1,430	817,227
1996	0	15,452	4,627	893,312	1,430	914,821	0	11,982	4,627	842,512	1,430	860,551
1997	0	15,451	-12,416	919,797	1,430	924,262	0	11,981	-12,416	868,997	1,430	869,992
1998	0	15,228	27,039	946,282	1,430	989,979	0	11,758	27,039	895,482	1,430	935,709
1999	0	15,360	-22,222	972,788	1,430	967,356	0	11,890	-22,222	921,988	1,430	913,086
2000	0	15,345	-4,266	999,263	1,430	1,011,772	0	11,875	-4,266	948,463	1,430	957,502
2001	0	15,360	3,987	996,884	1,430	1,017,661	0	11,890	3,987	946,084	1,430	963,391
2002	0	15,339	14,510	1,018,503	1,430	1,049,782	0	11,869	14,510	967,703	1,430	995,512
2003	0	15,225	-14,922	1,040,115	1,430	1,041,848	0	11,755	-14,922	989,315	1,430	987,578
2004	0	15,215	8,158	1,061,681	1,430	1,086,484	0	11,745	8,158	1,010,881	1,430	1,032,214
2005	0	15,312	-5,157	1,109,923	1,430	1,121,508	0	11,842	-5,157	1,059,123	1,430	1,067,238
2006	0	15,244	868	1,136,893	1,430	1,154,435	0	11,774	868	1,086,093	1,430	1,100,165
2007	0	15,211	-836	1,163,850	1,430	1,179,655	0	11,741	-836	1,113,050	1,430	1,125,385
2008	0	15,117	-6,491	1,190,803	1,430	1,200,859	0	11,647	-6,491	1,140,003	1,430	1,146,589
2009	0	15,176	2,267	1,217,751	1,430	1,236,624	0	11,706	2,267	1,166,951	1,430	1,182,354
2010	0	15,313	-2,310	1,244,687	1,430	1,259,120	0	11,843	-2,310	1,193,887	1,430	1,204,850
2011	0	15,107	-2,172	1,261,402	1,430	1,275,767	0	11,637	-2,172	1,210,602	1,430	1,221,497
2012	0	15,014	6,248	1,278,107	1,430	1,300,799	0	11,544	6,248	1,227,307	1,430	1,246,529
2013	0	15,225	-10,773	1,294,813	1,430	1,300,695	0	11,755	-10,773	1,244,013	1,430	1,246,425
2014	0	15,185	-194	1,311,506	1,430	1,327,927	0	11,715	-194	1,260,706	1,430	1,273,657
2015	0	15,075	-5,558	1,328,200	1,430	1,339,147	0	11,605	-5,558	1,277,400	1,430	1,284,877
2016	0	15,176	2,125	1,349,461	1,430	1,368,192	0	11,706	2,125	1,298,661	1,430	1,313,922
2017	0	15,126	21,229	1,370,696	1,430	1,408,481	0	11,656	21,229	1,319,896	1,430	1,354,211
2018	0	15,268	-11,557	1,391,942	1,430	1,397,083	0	11,798	-11,557	1,341,142	1,430	1,342,813
2019	0	15,099	-6,130	1,413,182	1,430	1,423,581	0	11,629	-6,130	1,362,382	1,430	1,369,311
2020	0	15,134	25,485	1,434,200	1,430	1,476,249	0	11,664	25,485	1,383,400	1,430	1,421,979
2021	0	15,081	-11,650	1,447,900	1,430	1,452,761	0	11,611	-11,650	1,397,100	1,430	1,398,491
2022	0	15,131	4,107	1,458,980	1,430	1,479,648	0	11,661	4,107	1,408,180	1,430	1,425,378
2023	0	15,131	-3,743	1,470,060	1,430	1,482,878	0	11,661	-3,743	1,419,260	1,430	1,428,608
2024	0	15,160	2,169	1,481,140	1,430	1,499,899	0	11,690	2,169	1,430,340	1,430	1,445,629
2025	0	15,351	12,296	1,492,200	1,430	1,521,277	0	11,881	12,296	1,441,400	1,430	1,467,007
2026	0	15,097	-27,403	1,501,585	1,430	1,490,709	0	11,627	-27,403	1,450,785	1,430	1,436,439
2027	0	15,072	12,558	1,510,945	1,430	1,540,005	0	11,602	12,558	1,460,145	1,430	1,485,735
2028	0	15,174	1,513	1,520,305	1,430	1,538,422	0	11,704	1,513	1,469,505	1,430	1,484,152
2029	0	15,180	-2,388	1,529,665	1,430	1,543,887	0	11,710	-2,388	1,478,865	1,430	1,489,617
2030	0	15,150	8,201	1,539,000	1,430	1,563,781	0	11,680	8,201	1,488,200	1,430	1,509,511
2031	0	15,088	-7,816	1,585,445	1,430	1,594,147	0	11,618	-7,816	1,534,645	1,430	1,539,877
2032	0	15,132	-99	1,631,865	1,430	1,648,328	0	11,662	-99	1,581,065	1,430	1,594,058
2033	0	15,131	-3,628	1,678,285	1,430	1,691,218	0	11,661	-3,628	1,627,485	1,430	1,636,948
2034	0	15,174	12,063	1,724,705	1,430	1,753,372	0	11,704	12,063	1,673,905	1,430	1,699,102
2035	0	15,152	-15,113	1,771,100	1,430	1,772,569	0	11,682	-15,113	1,720,300	1,430	1,718,299

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	SANTA ANA DIVISION						WEST BRANCH, CALIFORNIA AQUEDUCT					
	DEVIL CANYON POWERPLANT						OSO PUMPING PLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total
	(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	8,270	-56,746	442,945	1,186	395,655	0	14,750	-12,134	503,074	4,488	510,178
1988	0	8,310	11,786	809,010	1,250	830,356	0	14,800	-26,572	527,847	5,050	521,125
1989	0	8,294	7,790	810,219	1,250	827,553	0	14,788	-9,510	529,928	5,680	540,886
1990	0	8,310	1,690	811,210	1,250	822,460	0	14,867	16,222	532,143	5,850	569,082
1991	0	8,270	-11,226	813,160	1,250	811,454	0	14,807	-24,516	534,150	5,850	530,291
1992	0	8,294	134	793,153	1,250	802,831	0	14,525	-3,291	531,950	5,850	549,034
1993	0	8,265	-1,196	796,116	1,250	804,435	0	14,376	-12,871	534,817	5,850	542,172
1994	0	8,274	1,231	801,090	1,250	811,845	0	14,513	-10,436	538,433	5,850	548,360
1995	0	8,270	-3,740	806,064	1,250	811,844	0	14,512	31,742	542,050	5,850	594,154
1996	0	8,267	3,560	839,942	1,250	853,019	0	14,448	-26,932	546,169	5,850	539,535
1997	0	8,232	-3,202	866,302	1,250	872,582	0	14,394	678	550,539	5,850	571,461
1998	0	8,191	530	892,665	1,250	902,636	0	14,308	-10,693	555,661	5,850	565,126
1999	0	8,181	-4,981	919,050	1,250	923,500	0	14,443	28,945	558,031	5,850	607,269
2000	0	8,166	-542	945,400	1,250	954,274	0	14,395	-23,851	560,400	5,850	556,794
2001	0	8,156	409	942,900	1,250	952,715	0	14,409	10,513	561,981	5,850	592,753
2002	0	8,146	1,126	964,396	1,250	974,918	0	14,286	-22,790	563,561	5,850	560,907
2003	0	8,143	-1,266	985,885	1,250	994,012	0	14,404	22,978	567,900	5,850	611,132
2004	0	8,126	-584	1,007,331	1,250	1,016,123	0	14,319	-12,452	568,100	5,850	575,817
2005	0	8,118	417	1,055,450	1,250	1,065,235	0	14,481	21,147	568,300	5,850	609,778
2006	0	8,106	-1,008	1,082,297	1,250	1,090,645	0	14,283	-17,860	568,300	5,850	570,573
2007	0	8,099	-421	1,109,131	1,250	1,118,059	0	14,443	6,825	568,300	5,850	595,418
2008	0	8,089	-337	1,135,961	1,250	1,144,963	0	14,402	24,048	568,300	5,850	612,600
2009	0	8,080	-3,283	1,162,789	1,250	1,168,836	0	14,460	-26,545	568,300	5,850	562,065
2010	0	8,056	1,188	1,189,600	1,250	1,200,094	0	14,367	5,587	568,300	5,850	594,104
2011	0	8,061	293	1,206,192	1,250	1,215,796	0	14,421	15,913	568,300	5,850	604,484
2012	0	8,062	42	1,222,775	1,250	1,232,129	0	14,408	-23,135	568,300	5,850	565,423
2013	0	8,063	33	1,239,359	1,250	1,248,705	0	14,576	-2,409	568,300	5,850	586,317
2014	0	8,063	-218	1,255,930	1,250	1,265,025	0	14,581	5,934	568,300	5,850	594,665
2015	0	8,062	-1,132	1,272,500	1,250	1,280,680	0	14,612	12,364	568,300	5,850	601,126
2016	0	8,048	-1,137	1,293,562	1,250	1,301,723	0	14,268	-17,928	568,300	5,850	570,490
2017	0	8,048	909	1,314,597	1,250	1,324,804	0	14,326	-33,840	568,300	5,850	554,636
2018	0	8,057	1,263	1,335,643	1,250	1,346,213	0	14,317	17,349	568,300	5,850	605,816
2019	0	8,063	-1,471	1,356,683	1,250	1,364,525	0	14,363	1,302	568,300	5,850	589,815
2020	0	8,053	1,107	1,377,700	1,250	1,388,110	0	14,685	47,393	568,300	5,850	636,228
2021	0	8,059	-492	1,391,400	1,250	1,400,217	0	14,511	-25,785	568,300	5,850	562,876
2022	0	8,058	-187	1,402,480	1,250	1,411,601	0	14,476	-16,082	568,300	5,850	572,544
2023	0	8,056	832	1,413,560	1,250	1,423,698	0	14,508	6,637	568,300	5,850	595,295
2024	0	8,053	-340	1,424,640	1,250	1,433,603	0	14,608	46,414	568,300	5,850	635,172
2025	0	8,060	173	1,435,700	1,250	1,445,183	0	14,489	-61,584	568,300	5,850	527,055
2026	0	8,060	-111	1,445,085	1,250	1,454,284	0	14,555	34,717	568,300	5,850	623,422
2027	0	8,061	-1,245	1,454,445	1,250	1,462,511	0	14,504	-1,731	568,300	5,850	586,923
2028	0	8,057	2,107	1,463,805	1,250	1,475,219	0	14,493	-7,110	568,300	5,850	581,533
2029	0	8,064	-216	1,473,165	1,250	1,482,263	0	14,458	-5,436	568,300	5,850	583,172
2030	0	8,062	147	1,482,500	1,250	1,491,959	0	14,655	-5,561	568,300	5,850	583,244
2031	0	8,061	-248	1,528,945	1,250	1,538,008	0	14,563	3,954	568,300	5,850	592,667
2032	0	8,055	0	1,575,365	1,250	1,584,670	0	14,618	5,613	568,300	5,850	594,381
2033	0	8,061	-1,902	1,621,785	1,250	1,629,194	0	14,551	5,060	568,300	5,850	593,761
2034	0	8,049	504	1,668,205	1,250	1,678,008	0	14,567	3,477	568,300	5,850	592,194
2035	0	8,057	1,650	1,714,600	1,250	1,725,557	0	14,700	-25,244	568,300	5,850	563,606

AND POWER RECOVERY PLANT OR PROJECT TRANSPORTATION FACILITIES (a

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	WEST BRANCH, CALIFORNIA AQUEDUCT											
	WILLIAM E. WARNE POWERPLANT						CASTAIC POWERPLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total
	(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	12,840	-12,134	503,074	4,488	508,268	0	6,650	-12,134	503,074	2,128	499,718
1988	0	12,890	-26,572	527,847	5,050	519,215	0	6,700	-26,572	527,847	4,730	512,705
1989	0	12,878	-9,510	529,928	5,680	538,976	0	6,650	-11,842	529,928	4,930	529,666
1990	0	12,957	16,222	532,143	5,850	567,172	0	6,730	16,222	532,143	5,100	560,195
1991	0	12,897	-24,516	534,150	5,850	528,381	0	6,670	-24,516	533,900	5,100	521,154
1992	0	12,615	-3,291	531,950	5,850	547,124	0	6,388	-3,291	531,450	5,100	539,647
1993	0	12,466	-12,871	534,817	5,850	540,262	0	6,239	-12,871	534,067	5,100	532,535
1994	0	12,603	-10,436	538,433	5,850	546,450	0	6,376	-10,436	537,433	5,100	538,473
1995	0	12,602	31,742	542,050	5,850	592,244	0	6,375	31,742	540,800	5,100	584,017
1996	0	12,538	-26,932	546,169	5,850	537,625	0	6,311	-26,932	544,669	5,100	529,148
1997	0	12,484	678	550,539	5,850	569,551	0	6,257	678	548,539	5,100	560,574
1998	0	12,398	-10,693	555,661	5,850	563,216	0	6,171	-10,693	553,161	5,100	553,739
1999	0	12,533	28,945	558,031	5,850	605,359	0	6,306	28,945	554,781	5,100	595,132
2000	0	12,485	-23,851	560,400	5,850	554,884	0	6,258	-23,851	556,400	5,100	543,907
2001	0	12,499	10,513	561,981	5,850	590,843	0	6,272	10,513	557,781	5,100	579,666
2002	0	12,376	-22,790	563,561	5,850	558,997	0	6,149	-22,790	559,161	5,100	547,620
2003	0	12,494	22,978	567,900	5,850	609,222	0	6,267	22,978	563,300	5,100	597,645
2004	0	12,409	-12,452	568,100	5,850	573,907	0	6,182	-12,452	563,300	5,100	562,130
2005	0	12,571	21,147	568,300	5,850	607,868	0	6,344	21,147	563,300	5,100	595,891
2006	0	12,373	-17,860	568,300	5,850	568,663	0	6,146	-17,860	563,300	5,100	556,686
2007	0	12,533	6,825	568,300	5,850	593,508	0	6,306	6,825	563,300	5,100	581,531
2008	0	12,492	24,048	568,300	5,850	610,690	0	6,265	24,048	563,300	5,100	598,713
2009	0	12,550	-26,545	568,300	5,850	560,155	0	6,323	-26,545	563,300	5,100	548,178
2010	0	12,457	5,587	568,300	5,850	592,194	0	6,230	5,587	563,300	5,100	580,217
2011	0	12,511	15,913	568,300	5,850	602,574	0	6,284	15,913	563,300	5,100	590,597
2012	0	12,498	-23,135	568,300	5,850	563,513	0	6,271	-23,135	563,300	5,100	551,536
2013	0	12,666	-2,409	568,300	5,850	584,407	0	6,439	-2,409	563,300	5,100	572,430
2014	0	12,671	5,934	568,300	5,850	592,755	0	6,444	5,934	563,300	5,100	580,778
2015	0	12,702	12,364	568,300	5,850	599,216	0	6,475	12,364	563,300	5,100	587,239
2016	0	12,358	-17,928	568,300	5,850	568,580	0	6,131	-17,928	563,300	5,100	556,603
2017	0	12,416	-33,840	568,300	5,850	552,726	0	6,189	-33,840	563,300	5,100	540,749
2018	0	12,407	17,349	568,300	5,850	603,906	0	6,180	17,349	563,300	5,100	591,929
2019	0	12,453	1,302	568,300	5,850	587,905	0	6,226	1,302	563,300	5,100	575,928
2020	0	12,775	47,393	568,300	5,850	634,318	0	6,548	47,393	563,300	5,100	622,341
2021	0	12,601	-25,785	568,300	5,850	560,966	0	6,374	-25,785	563,300	5,100	548,989
2022	0	12,566	-16,082	568,300	5,850	570,634	0	6,339	-16,082	563,300	5,100	558,657
2023	0	12,598	6,637	568,300	5,850	593,385	0	6,371	6,637	563,300	5,100	581,408
2024	0	12,698	46,414	568,300	5,850	633,262	0	6,471	46,414	563,300	5,100	621,285
2025	0	12,579	-61,584	568,300	5,850	525,145	0	6,352	-61,584	563,300	5,100	513,168
2026	0	12,645	34,717	568,300	5,850	621,512	0	6,418	34,717	563,300	5,100	609,535
2027	0	12,594	-1,731	568,300	5,850	585,013	0	6,367	-1,731	563,300	5,100	573,036
2028	0	12,583	-7,110	568,300	5,850	579,623	0	6,356	-7,110	563,300	5,100	567,646
2029	0	12,548	-5,436	568,300	5,850	581,262	0	6,321	-5,436	563,300	5,100	569,285
2030	0	12,745	-5,561	568,300	5,850	581,334	0	6,518	-5,561	563,300	5,100	569,357
2031	0	12,653	3,954	568,300	5,850	590,757	0	6,426	3,954	563,300	5,100	578,780
2032	0	12,708	5,613	568,300	5,850	592,471	0	6,481	5,613	563,300	5,100	580,494
2033	0	12,641	5,060	568,300	5,850	591,851	0	6,414	5,060	563,300	5,100	579,874
2034	0	12,657	3,477	568,300	5,850	590,284	0	6,430	3,477	563,300	5,100	578,307
2035	0	12,790	-25,244	568,300	5,850	561,696	0	6,563	-25,244	563,300	5,100	549,719

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING AND POWER RECOVERY PLANT OR 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	Operational Losses	Water Supply Delivery	Total	Operational 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	590	130,700	131,290	0	0	0
1988	0	590	135,000	135,590	0	0	0
1989	0	590	135,000	135,590	0	0	0
1990	0	590	135,000	135,590	0	0	0
1991	0	590	135,000	135,590	0	0	0
1992	0	590	135,000	135,590	0	0	0
1993	0	628	152,740	153,368	38	17,740	17,778
1994	0	802	205,486	206,288	212	70,486	70,698
1995	0	802	205,486	206,288	212	70,486	70,698
1996	0	802	205,486	206,288	212	70,486	70,698
1997	0	802	205,486	206,288	212	70,486	70,698
1998	0	802	205,486	206,288	212	70,486	70,698
1999	0	802	205,486	206,288	212	70,486	70,698
2000	0	802	205,486	206,288	212	70,486	70,698
2001	0	802	205,486	206,288	212	70,486	70,698
2002	0	802	205,486	206,288	212	70,486	70,698
2003	0	802	205,486	206,288	212	70,486	70,698
2004	0	802	205,486	206,288	212	70,486	70,698
2005	0	802	205,486	206,288	212	70,486	70,698
2006	0	802	205,486	206,288	212	70,486	70,698
2007	0	802	205,486	206,288	212	70,486	70,698
2008	0	802	205,486	206,288	212	70,486	70,698
2009	0	802	205,486	206,288	212	70,486	70,698
2010	0	802	205,486	206,288	212	70,486	70,698
2011	0	802	205,486	206,288	212	70,486	70,698
2012	0	802	205,486	206,288	212	70,486	70,698
2013	0	802	205,486	206,288	212	70,486	70,698
2014	0	802	205,486	206,288	212	70,486	70,698
2015	0	802	205,486	206,288	212	70,486	70,698
2016	0	802	205,486	206,288	212	70,486	70,698
2017	0	802	205,486	206,288	212	70,486	70,698
2018	0	802	205,486	206,288	212	70,486	70,698
2019	0	802	205,486	206,288	212	70,486	70,698
2020	0	802	205,486	206,288	212	70,486	70,698
2021	0	802	205,486	206,288	212	70,486	70,698
2022	0	802	205,486	206,288	212	70,486	70,698
2023	0	802	205,486	206,288	212	70,486	70,698
2024	0	802	205,486	206,288	212	70,486	70,698
2025	0	802	205,486	206,288	212	70,486	70,698
2026	0	802	205,486	206,288	212	70,486	70,698
2027	0	802	205,486	206,288	212	70,486	70,698
2028	0	802	205,486	206,288	212	70,486	70,698
2029	0	802	205,486	206,288	212	70,486	70,698
2030	0	802	205,486	206,288	212	70,486	70,698
2031	0	802	205,486	206,288	212	70,486	70,698
2032	0	802	205,486	206,288	212	70,486	70,698
2033	0	802	205,486	206,288	212	70,486	70,698
2034	0	802	205,486	206,288	212	70,486	70,698
2035	0	802	205,486	206,288	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 Cost 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		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CONSERVATION FACILITIES									
Upper Feather Division									
Frenchman Dam and Lake	173	0	0	0	604	0	777	2,894	3,671
Grizzly Valley Dam and Lake Davis	28	1	0	0	24	0	53	5,814	5,867
Antelope Dam and Lake	0	0	0	0	0	0	0	5,403	5,403
Abbey Bridge Dam and Reservoir	0	0	0	0	0	0	0	520	520
Dixie Refuge Dam and Reservoir	0	0	0	0	0	0	0	235	235
TOTAL, Upper Feather Division	201	1	0	0	628	0	830	14,866	15,696
Oroville Division									
Multipurpose Facilities	2,524	490	149	0	367,537	0	370,700	89,426	460,126
Specific Power Facilities	219	0	0	0	103,640	0	103,859	0	103,859
TOTAL, Oroville Division	2,743	490	149	0	471,177	0	474,559	89,426	563,985
California Aqueduct									
North San Joaquin Division	196	1,339	0	0	73,576	0	75,111	2,808	77,919
San Luis Division	395	211	0	0	97,295	0	97,901	4,086	101,987
TOTAL, California Aqueduct	591	1,550	0	0	170,871	0	173,012	6,894	179,906
Delta Facilities	2,785	1,193	0	0	119,010	0	122,988	19,059	142,047
Planning and Preoperation	3	5,036	0	0	77,941	0	82,980	2,321	85,301
TOTAL CONSERVATION FACILITIES	6,323	8,270	149	0	839,627	0	854,369	132,566	986,935
TRANSPORTATION FACILITIES									
Upper Feather Division									
Grizzly Valley Pipeline	0	0	0	0	0	341	341	0	341
North Bay Aqueduct	308	440	597	0	0	97,676	99,021	0	99,021
South Bay Aqueduct	1,609	219	382	0	0	52,618	54,828	21,629	76,457
California Aqueduct									
North San Joaquin Division	437	2,982	15	0	0	162,035	165,469	6,251	171,720
San Luis Division	84	298	0	0	0	99,713	100,095	6,596	106,691
South San Joaquin Division	293	333	3,259	2,093	0	263,866	269,844	16,283	286,127
Tehachapi Division	25	99	4	5,230	0	293,800	299,158	18,182	317,340
Mojave Division	558	6,558	423	0	0	314,430	321,969	23,190	345,159
Santa Ana Division	340	7,419	2,832	9,709	0	165,633	185,933	17,549	203,482
West Branch	35,229	1,499	2,729	37	0	453,512	493,006	33,529	526,535
Coastal Branch	10	51,688	93	0	0	272,329	324,120	105	324,225
TOTAL, California Aqueduct	36,976	70,876	9,355	17,069	0	2,025,318	2,159,594	121,685	2,281,279
TOTAL TRANSPORTATION FACILITIES	38,893	71,535	10,334	17,069	0	2,175,953	2,313,784	143,314	2,457,098
EAST BRANCH ENLARGEMENT	0	11,342	0	0	0	326,523	337,865	0	337,865
SAN JOAQUIN DRAINAGE FACILITIES	0	0	0	0	0	0	0	41,342	41,342
OFF-AQUEDUCT POWER GENERATION FACILITIES	16	159	0	0	0	425,983	426,158	0	426,158
UNASSIGNED AND DAVIS- GRUNSKY	0	0	0	0	0	0	0	153,152	153,152
SUBTOTAL	45,232	91,306	10,483	17,069	839,627	2,928,459	3,932,176	470,374	4,402,550
LESS: 1996-2035 COSTS	0	5,233				16,183	21,416	8,432	29,848
TOTAL	45,232	86,073	10,483	17,069	839,627	2,912,276	3,910,760	461,942	4,372,702(g

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, 1986.
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) See Table 20, Chapter VII.

TABLE B-8: CAPITAL COSTS OF REQUESTED DELIVERY STRUCTURES

Project Service Area and Water Supply Contractor	Calendar Year Capital Costs (dollars)[a]						
	1952-1986	1987	1988	1989	1990	1991	Total
FEATHER RIVER AREA							
County of Butte	104,924	0	0	0	0	0	104,924
Thermalito Irrigation District(b	43,939	0	0	0	0	0	43,939
Total	148,863	0	0	0	0	0	148,863
NORTH BAY AREA							
Napa County Flood Control and Water Conservation District	10,740	2,100	0	0	0	0	12,840
Solano County Flood Control and Water Conservation District	2,203	581,917	0	0	0	0	584,120
Total	12,943	584,017	0	0	0	0	596,960
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	14,198	0	0	0	0	0	14,198
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	277,483	0	0	0	0	0	277,483
Total	3,378,322	0	0	0	0	0	3,378,322
SOUTHERN CALIFORNIA AREA							
Antelope Valley-East Kern Water Agency	329,347	0	0	0	0	0	329,347
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	25,408	0	0	0	0	0	25,408
San Bernardino Valley Municipal Water District	597,553	0	0	0	0	0	597,553
San Gabriel Valley Municipal Water District	131,052	0	0	0	0	0	131,052
San Gorgonio 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	79,699	0	0	0	0	0	79,699
Total	5,976,942	0	0	0	0	0	5,976,942
TOTAL ALL AREAS	9,899,414	584,017	0	0	0	0	10,483,431

a) Approximate only, not to be construed as invoice amounts.
b) Not a SWP water supply 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 a 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] Jan-Jun	Jul-Dec	Net Over or Underpayment With Interest[c]
	(1)	(2)	(3)	(4)	(5)	(6)
	THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA					
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
	SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT					
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
	ANTELOPE VALLEY-EAST KERN WATER AGENCY					
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 — Incremental Costs and Advance Payments by Calendar Year													Reach Totals
		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	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
	8C thru 25 2. Interest Credits-Amendment 2 (e									-1,532,433				-10,104,646 (h	-11,637,079
	28J 3. Advance Payments Applied to Incremental Costs Amendment 5 (f	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
	28J 4. Interest Credits-Amendment 5 (g										-2,721,803				-2,721,803
	5. Net Required Advance of Funds	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			0	184,422	49,052	44,911	61,588	-20,263	-174,133				-7,025	138,552
	2. Interest Credit									-6,332				-79,108	-85,440
	3. Net Required Advance of Funds			0	184,422	49,052	44,911	61,588	-20,263	-180,465				-86,133 (h	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				85,495	52,625	101,648	34,062	-12,794	-189,120	0		0	-34,509	37,407
	2. Interest Credit									-16,234				-100,360	-116,594
	3. Net Required Advance of Funds				85,495	52,625	101,648	34,062	-12,794	-205,354	0		0	-134,869 (h	-79,187

d) Actual payments are shown for 1965 through 1976 with 1981 adjusted to reflect overpayments and underpayments without interest for prior years.

e) Interest for overpayments and underpayments under provisions of Amendment 2 of the contract.

f) Actual payments are shown for 1965 through 1973 with 1974 adjusted to reflect overpayments and underpayments without interest for prior years.

g) Interest for overpayments and underpayments under provisions of Amendment 5 of the contract.

h) 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 TO BE REIMBURSED

(in dollars)

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)	(4A)	(5)	(6)	(7)	(8)	(9)
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	2,172	23,239	144,301	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	314,990	91,367	1,534	65,804	473,695	115,031	17,151	8,515	30,805
1980	26	388,233	105,508	1,531	123,163	618,435	399,123	17,708	8,249	31,079
1981	34	377,623	127,742	2,208	23,903	531,476	-168,306	3,589	6,520	17,302
1982	11	835,141	319,429	2,660	125,138	1,282,368	-31,351	17,110	4,427	40,120
1983	19	1,021,441	1,035,507	1,986	515,372	2,574,306	402,470	73,084	29,490	70,532
1984	26	1,802,141	2,231,048	1,853	1,050,359	5,085,401	397,858	35,329	9,148	89,834
1985	29	2,155,659	7,774,495	-11,911	3,427,755	13,345,998	53,290	1,372	3,175	19,562
1986	34	16,335,822	9,924,105	1,155,578	1,793,115	29,208,620	68,174	9,912	11,404	8,277
1987	0	16,685,724	11,118,924	2,369,439	1,499,200	31,673,287	681,100	75,200	42,200	78,979
1988	0	4,073,300	2,138,600	244,100	253,000	6,709,000	1,148,000	24,000	32,000	26,672
1989	0	1,137,300	149,600	46,100	37,000	1,370,000	604,500	11,500	14,000	9,178
1990	0	5,000	5,000	0	2,000	12,000	43,000	5,000	6,000	3,780
1991	0	0	0	0	0	0	2,000	0	0	252
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	340,721	45,949,368	35,559,084	3,819,333	12,348,486	97,676,271	17,911,480	1,488,680	4,424,870	10,952,593

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

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
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
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	468,482	3,597,284	96,760	38,789	3,732,833
1981	308	1,461	1,397	5,070	-132,659	-114,151	1,487,444	202,275	1,575,568
1982	670	1,286	1,352	3,701	37,315	1,505,754	38,356	28,501	1,572,611
1983	355	4,114	6,124	19,079	605,248	665,449	69,481	258,668	993,598
1984	179	1,508	1,589	9,768	545,213	695,224	32,372	35,889	763,485
1985	267	1,323	1,824	5,083	85,896	119,602	16,978	140,193	276,773
1986	404	1,936	2,320	8,441	110,868	81,867	85,659	119,573	287,099
1987	4,700	9,500	15,600	50,400	957,679	2,916,512	139,374	87,250	3,143,136
1988	2,000	8,000	14,000	38,000	1,292,672	7,587,558	189,631	106,314	7,883,503
1989	2,000	2,500	2,500	12,000	658,178	12,029,713	130,309	85,317	12,245,339
1990	1,000	1,000	1,000	5,000	65,780	10,890,597	53,323	21,329	10,965,249
1991	0	0	0	0	2,252	5,703,583	68,654	22,662	5,794,899
1992	0	0	0	0	0	3,319,369	44,658	14,664	3,378,691
1993	0	0	0	0	0	1,076,462	0	0	1,076,462
1994	0	0	0	0	0	999,810	0	0	999,810
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	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		3,832,055		8,636,307		100,291,464		20,479,069	
	529,195		4,842,669		52,617,849		41,264,887		162,035,420

TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

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
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
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	1,656,025	191,307	75,209	185,384	2,174,547	2,158	17,492	17,706
1981	29,113	-993,654	-40,312	-14,168	850,288	-168,733	1,145	9,667	9,527
1982	95,240	-506,023	14,987	7,560	3,490,841	3,102,605	1,678	4,945	4,208
1983	87,549	29,434	21,287	10,232	1,832,544	1,981,046	7,476	8,711	8,216
1984	35,379	-301,096	29,714	15,076	3,070,726	2,849,799	26,303	8,669	5,320
1985	63,709	-1,607,040	20,714	9,703	574,870	-938,044	6,627	6,908	5,787
1986	78,749	-691,147	64,094	24,334	1,405,884	881,914	7,719	34,974	32,524
1987	30,675	321,186	440,287	806,171	443,964	2,042,283	18,152	31,738	598,195
1988	32,438	235,750	385,687	703,949	380,500	1,738,324	8,911	34,944	208,641
1989	34,201	219,247	102,315	140,507	93,828	590,098	10,325	41,545	122,357
1990	17,629	99,958	18,860	6,601	12,259	155,307	7,968	38,245	32,772
1991	705	5,658	943	0	943	8,249	943	20,746	19,803
1992	0	0	0	0	0	0	0	7,544	7,544
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	15,092,637		22,624,026		30,399,300		791,835		9,311,637
		24,396,057		7,200,954		99,712,974		12,655,049	

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

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
	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
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	1,831,436	29,169	23,023	1,763,683
1981	10,290	15,324	28,246	21,872	25,503	-1,192,102	28,974	34,604	-1,181,586
1982	4,998	4,720	6,062	5,698	13,728	-621,701	7,425	28,895	-628,585
1983	10,301	8,187	12,623	10,605	32,654	514,815	14,293	20,746	14,816
1984	6,481	28,394	93,295	50,829	21,606	115,917	78,161	65,239	-437,742
1985	7,065	5,466	4,188	5,529	6,798	255,272	6,952	4,498	91,610
1986	37,106	22,975	30,816	27,531	31,129	201,567	31,071	21,523	150,866
1987	32,595	19,605	14,239	22,412	17,702	2,541,782	20,780	20,671	2,826,650
1988	35,330	21,585	11,316	21,752	18,268	345,063	23,703	19,257	158,903
1989	42,402	24,886	15,088	24,109	22,040	249,820	28,418	21,614	143,344
1990	43,817	23,943	22,632	24,581	24,869	90,925	26,532	20,200	66,961
1991	22,632	12,259	19,803	15,088	17,917	23,575	14,145	12,259	8,487
1992	7,544	4,715	7,544	5,658	6,601	7,544	4,715	4,715	1,886
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	9,313,295	12,247,891	11,007,757	7,570,682	15,742,921	61,107,659	8,506,812	7,065,986	41,388,265

TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

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
	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)
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	3,991,560	7,790,501	18,884,203	6,046	18,890,249	1,078,429	1,073,430	3,604	308,188
1981	-2,698,822	-4,887,358	-4,936,057	6,903	-4,929,154	1,077,813	845,669	4,498	48,603
1982	-1,500,452	-2,668,381	12,388,412	5,317	12,393,729	6,845,321	741,321	3,920	30,521
1983	-51,122	612,321	8,097,809	6,584	8,104,393	11,054,684	60,585	2,732	35,317
1984	-1,015,084	-952,612	-948,855	31,065	-917,790	8,371,895	307,265	3,415	15,856
1985	289,587	696,287	3,358,564	9,332	3,367,896	5,314,032	319,395	4,299	139,856
1986	275,340	905,141	2,328,501	38,707	2,367,208	2,348,740	2,141,821	4,876	1,007,011
1987	5,775,482	11,940,003	3,720,135	5,752	3,725,887	2,010,004	41,681	0	34,702
1988	251,105	1,158,778	2,103,833	4,715	2,108,548	189,543	43,378	0	36,777
1989	224,701	970,649	1,187,237	4,715	1,191,952	47,621	32,062	0	29,704
1990	113,899	537,344	137,678	1,886	139,564	5,658	23,575	0	20,746
1991	26,404	214,061	8,487	0	8,487	1,886	9,430	0	7,544
1992	7,544	73,554	0	0	0	0	0	0	0
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	67,156,696	263,866,485	239,461,334	54,338,388	293,799,722	46,511,423	22,881,347	234,283	16,458,572

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

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
	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)
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	255,388	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	2,358,540	78,229	559,963	5,999,625	31,462	181,638
1981	32,194	13,211	6,458	-865,209	233,908	203,929	1,601,074	5,861	68,934
1982	74,087	10,928	12,990	508,679	888,170	73,079	9,189,016	8,887	139,927
1983	54,717	22,913	8,506	349,380	2,477,722	18,215	14,084,771	4,171	510,747
1984	33,960	339,902	5,499	144,855	1,499,689	37,822	10,760,158	3,814	225,655
1985	111,589	16,596	1,231,114	1,008,361	1,004,300	45,899	9,195,441	5,220	27,081
1986	48,507	36,403	1,227,483	1,267,022	292,722	44,176	8,418,761	21,488	67,568
1987	32,722	38,569	19,803	5,365,670	190,769	90,056	7,823,976	754	681,695
1988	33,948	31,119	17,917	4,245,386	445,096	78,269	5,121,433	6,601	147,108
1989	26,404	25,461	14,616	5,393,017	1,436,660	64,595	7,070,140	11,316	119,289
1990	18,860	15,088	10,373	6,758,670	2,905,383	42,435	9,800,788	6,601	186,714
1991	6,601	3,772	2,829	3,014,677	4,549,975	9,430	7,606,144	0	261,211
1992	0	0	0	1,420,158	3,967,201	0	5,387,359	0	0
1993	0	0	0	23,575	2,176,444	0	2,200,019	0	0
1994	0	0	0	0	801,550	0	801,550	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	20,036,976	10,323,088	9,078,382	112,176,008	27,110,012	49,620,441	314,430,532	24,795,881	40,141,114

TABLE B-10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

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
	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)
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	1,541,006	4,108,143	24,537,814	550,337	204,751
1981	28,804	22,647	61,323	187,569	-851,903	2,699,859	19,806,508	94,795	28,838
1982	13,697	57,386	37,860	257,757	-436,259	348,325	17,953,359	188,981	40,158
1983	14,737	88,073	-259,965	357,763	17,724	180,518	7,505,087	251,240	19,926
1984	13,689	11,669	53,325	308,152	-293,894	66,590	3,436,959	354,681	17,235
1985	16,526	11,007	47,704	107,538	377,876	21,931	2,685,643	79,163	21,219
1986	66,923	68,899	90,955	315,833	256,221	61,525	848,881	88,397	51,034
1987	14,994	11,599	45,547	754,589	217,173	323,920	1,025,701	298,742	24,707
1988	30,176	28,290	87,699	299,874	165,968	212,175	1,037,300	1,108,968	25,084
1989	45,735	47,621	112,217	336,178	152,766	61,766	484,702	923,668	26,215
1990	22,632	23,575	63,181	302,703	68,839	14,145	3,260,894	55,637	11,316
1991	0	0	2,829	264,040	3,772	943	3,793,689	4,715	943
1992	0	0	0	0	0	0	0	0	0
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	23,793,263		53,408,047		33,430,440		126,933,843		74,522,916
		23,493,888		165,632,193		29,211,758		53,624,591	

(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.

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

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		
	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)
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	15,573,645
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	117,185	1,505	4,433	162,634	31,299,743	31,957,507
1980	2,055,206	32,997,257	199,363	403,809	1,059	3,113	607,344	73,776,010	74,862,953
1981	275,379	22,053,476	11,706	-254,776	1,284	3,778	-238,008	15,194,434	15,593,285
1982	338,464	18,433,028	-10,665	-146,080	472	1,381	-154,892	42,125,473	43,445,167
1983	496,505	8,471,000	67,913	-5,604	684	2,006	64,999	34,669,891	37,849,464
1984	1,042,110	4,623,681	-28,511	-96,022	977	2,870	-120,686	17,314,187	22,944,827
1985	268,148	3,453,980	37,922	158,292	1,056	3,101	200,371	16,360,242	29,792,165
1986	209,179	1,515,237	67,349	50,682	1,241	3,649	122,921	14,814,114	44,133,636
1987	237,447	2,127,690	207,674	2,260,831	137,006	411,005	3,016,516	34,574,080	67,205,046
1988	1,881,285	4,430,780	109,674	1,582,661	104,262	283,404	2,080,001	24,821,241	32,822,913
1989	135,320	1,784,437	110,674	4,189,829	512,207	691,674	5,504,384	29,693,177	31,721,355
1990	72,611	3,483,442	59,174	6,036,789	854,594	1,017,705	7,968,262	33,352,659	33,430,439
1991	7,544	3,811,606	21,000	55,355,606	7,121,685	9,733,030	72,231,321	89,938,807	89,941,059
1992	0	0	378,000	71,340,229	9,056,427	12,449,890	93,224,546	102,064,150	102,064,150
1993	0	0	460,000	60,026,000	3,245,000	4,053,000	67,784,000	71,060,481	71,060,481
1994	0	0	0	844,000	342,000	342,000	1,528,000	3,329,360	3,329,360
1995	0	0	0	347,000	347,000	347,000	1,041,000	2,040,810	2,040,810
1996	0	0	0	234,000	233,000	233,000	700,000	1,699,810	1,699,810
1997	0	0	0	167,000	167,000	166,000	500,000	500,000	500,000
1998	0	0	0	67,000	67,000	66,000	200,000	200,000	200,000
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL		453,512,299		203,409,359		29,923,350		2,025,318,295	
	135,788,751		16,757,814		22,238,147		272,328,670		2,175,953,136

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

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)	(4A)	(5)	(6)	(7)	(8)	(9)
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	73,864	73,864	650,944	76,849	212,826	91,383
1980	416	0	0	0	81,791	81,791	1,129,058	212,974	242,118	110,798
1981	3,847	0	0	0	100,876	100,876	883,738	130,127	167,121	238,667
1982	10,956	0	0	0	192,119	192,119	1,157,915	141,700	249,392	96,379
1983	-422	0	0	0	106,849	106,849	1,233,544	91,111	351,114	163,720
1984	643	0	0	0	142,992	142,992	1,877,428	107,798	333,108	34,684
1985	2,599	0	0	0	222,958	222,958	1,945,227	197,633	425,203	253,617
1986	2,595	0	0	0	128,618	128,618	1,738,618	247,082	300,124	205,201
1987	2,595	0	0	0	114,278	114,278	2,617,667	276,347	387,531	304,739
1988	2,600	468,289	239,641	184,630	306,210	1,198,770	2,681,526	317,984	424,725	286,451
1989	2,672	654,054	298,385	304,833	386,572	1,643,844	2,705,119	335,412	395,873	305,471
1990	2,714	651,510	301,454	311,490	388,174	1,652,628	2,666,035	338,482	372,460	307,222
1991	2,709	649,666	300,483	310,727	387,020	1,647,896	2,659,076	337,435	371,304	305,171
1992	2,712	650,816	300,810	311,356	387,554	1,650,536	2,667,730	337,835	371,805	306,215
1993	2,717	653,096	301,626	312,542	388,698	1,655,962	2,678,572	338,794	372,942	308,359
1994	2,728	657,197	303,274	314,622	390,845	1,665,938	2,698,280	340,692	375,120	312,152
1995	2,728	657,354	303,276	314,720	390,895	1,666,245	2,702,626	340,704	375,155	312,104
1996	2,728	657,421	303,277	314,764	390,918	1,666,380	2,705,211	340,711	375,174	312,068
1997	2,728	658,929	303,286	315,726	391,411	1,669,352	2,708,193	340,835	375,522	313,669
1998	2,728	659,125	303,288	315,852	391,475	1,669,740	2,708,363	340,853	375,572	313,912
1999	2,728	659,572	303,291	316,138	391,622	1,670,623	2,708,746	340,889	375,671	314,392
2000	2,728	659,552	303,291	316,124	391,616	1,670,583	2,708,731	340,888	375,671	314,395
2001	2,731	660,453	303,617	316,593	392,070	1,672,733	2,711,369	341,269	376,121	315,291
2002	2,731	663,366	303,635	318,455	393,024	1,678,480	2,713,877	341,513	376,803	318,611
2003	2,731	663,423	303,635	318,491	393,044	1,678,593	2,796,626	348,255	391,688	325,236
2004	2,731	675,346	304,995	318,705	396,279	1,695,325	2,800,480	348,574	392,409	325,909
2005	2,731	675,334	304,995	318,697	396,276	1,695,302	2,800,468	348,572	392,402	325,880
2006	2,731	675,457	304,996	318,775	396,315	1,695,543	2,800,574	348,582	392,432	326,022
2007	2,731	676,400	305,002	319,379	396,625	1,697,406	2,801,385	348,660	392,651	327,089
2008	2,731	676,520	305,004	319,455	396,664	1,697,643	2,801,488	348,670	392,679	327,225
2009	2,731	676,647	305,005	319,535	396,705	1,697,892	2,801,598	348,681	392,708	327,366
2010	2,731	676,673	305,005	319,551	396,713	1,697,942	2,801,618	348,682	392,713	327,393
2011	2,726	675,423	304,358	318,966	395,988	1,694,735	2,796,813	347,964	391,939	326,203
2012	2,726	675,541	304,359	319,042	396,028	1,694,970	2,796,915	347,974	391,968	326,340
2013	2,726	675,580	304,360	319,066	396,041	1,695,047	2,796,947	347,977	391,976	326,381
2014	2,726	675,673	304,361	319,125	396,071	1,695,230	2,797,027	347,984	391,997	326,483
2015	2,726	676,791	304,368	319,840	396,438	1,697,437	2,797,989	348,077	392,258	327,751
2016	2,726	676,888	304,370	319,900	396,470	1,697,628	2,798,070	348,086	392,280	327,859
2017	2,726	676,845	304,371	319,872	396,457	1,697,545	2,798,032	348,081	392,269	327,807
2018	2,726	677,527	304,377	320,306	396,681	1,698,891	2,798,616	348,137	392,424	328,565
2019	2,726	677,531	304,379	320,308	396,683	1,698,901	2,798,618	348,138	392,425	328,571
2020	2,726	677,329	304,373	320,182	396,615	1,698,499	2,798,446	348,118	392,370	328,302
2021	2,726	677,471	304,374	320,272	396,661	1,698,778	2,701,493	340,222	374,948	320,769
2022	2,726	664,785	302,901	320,206	393,340	1,681,232	2,701,400	340,211	374,917	320,618
2023	2,726	664,749	302,900	320,182	393,328	1,681,159	2,701,368	340,207	374,905	320,561
2024	2,726	663,636	302,773	320,168	392,895	1,679,472	2,696,239	339,788	373,980	320,124
2025	2,726	663,670	302,774	320,190	392,907	1,679,541	2,696,265	339,789	373,983	320,143
2026	2,726	663,622	302,773	320,159	392,891	1,679,445	2,696,223	339,784	373,969	320,072
2027	2,726	663,626	302,773	320,162	392,892	1,679,453	2,696,227	339,785	373,969	320,076
2028	2,726	663,598	302,773	320,144	392,883	1,679,398	2,696,201	339,780	373,957	320,017
2029	2,726	663,596	302,773	320,142	392,882	1,679,393	2,696,199	339,779	373,953	320,000
2030	2,726	663,535	302,773	320,104	392,862	1,679,274	2,696,144	339,772	373,934	319,904
2031	2,726	664,214	302,777	320,538	393,085	1,680,614	2,696,728	339,827	374,089	320,658
2032	2,726	664,112	302,776	320,472	393,052	1,680,412	2,696,639	339,817	374,062	320,532
2033	2,726	664,746	302,781	320,876	393,258	1,681,661	2,697,184	339,870	374,209	321,247
2034	2,726	664,641	302,780	320,810	393,224	1,681,455	2,697,094	339,861	374,184	321,126
2035	2,726	664,632	302,780	320,804	393,221	1,681,437	2,697,086	339,860	374,182	321,111

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

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
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
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	1,176,751	1,849,068	231,339	145,205	2,225,612
1980	3,621	24,270	17,404	110,852	1,851,095	2,366,977	472,660	247,608	3,087,245
1981	4,038	20,109	17,586	98,143	1,559,529	2,659,833	435,366	154,229	3,249,428
1982	2,236	22,870	21,919	202,590	1,895,001	3,203,491	600,012	244,727	4,048,230
1983	4,264	48,410	69,861	204,880	2,166,904	4,105,343	755,143	260,907	5,121,393
1984	4,195	40,593	23,260	413,137	2,834,203	4,633,906	739,587	273,733	5,647,226
1985	19,127	72,408	62,776	219,303	3,195,294	5,560,522	745,796	264,227	6,570,545
1986	18,255	49,282	55,483	311,501	2,925,546	5,503,645	889,069	344,232	6,736,946
1987	42,919	48,553	53,734	197,477	3,928,967	6,984,408	862,900	376,149	8,223,457
1988	62,060	63,545	70,054	214,874	4,121,219	7,662,699	979,688	278,670	8,921,057
1989	64,918	68,120	74,444	224,182	4,173,539	8,044,396	1,165,410	272,160	9,481,966
1990	66,567	69,220	74,488	222,560	4,117,034	7,948,075	1,170,242	268,006	9,386,323
1991	66,358	69,007	74,262	221,783	4,104,396	7,820,196	1,155,412	261,064	9,236,672
1992	66,429	69,081	74,341	222,021	4,115,457	7,781,888	1,156,476	261,256	9,199,620
1993	66,607	69,264	74,540	222,614	4,131,692	7,801,697	1,158,944	261,705	9,222,346
1994	66,968	69,636	74,940	223,816	4,161,604	7,836,390	1,166,941	263,631	9,266,962
1995	66,968	69,636	74,940	223,816	4,165,949	7,837,062	1,167,234	263,721	9,268,017
1996	66,968	69,636	74,940	223,816	4,168,524	7,837,356	1,167,471	263,793	9,268,620
1997	66,968	69,636	74,940	223,816	4,173,579	7,843,901	1,170,837	264,822	9,279,560
1998	66,968	69,636	74,940	223,816	4,174,060	7,844,757	1,171,472	265,017	9,281,246
1999	66,968	69,636	74,940	223,816	4,175,058	7,846,692	1,172,299	265,271	9,284,262
2000	66,968	69,636	74,940	223,816	4,175,045	7,846,612	1,172,459	265,318	9,284,389
2001	67,039	69,710	75,019	224,053	4,179,871	7,854,288	1,174,172	265,739	9,294,199
2002	67,039	69,710	75,019	224,053	4,186,625	7,961,918	1,181,105	267,860	9,410,883
2003	68,730	71,542	77,689	230,769	4,310,535	7,962,164	1,181,160	267,877	9,411,201
2004	68,803	71,621	77,805	231,059	4,316,660	8,078,586	1,208,831	281,628	9,569,045
2005	68,803	71,621	77,805	231,059	4,316,610	8,078,523	1,208,679	281,582	9,568,784
2006	68,803	71,621	77,805	231,059	4,316,898	8,079,059	1,208,992	281,677	9,569,728
2007	68,803	71,621	77,805	231,059	4,319,073	8,083,156	1,211,176	282,344	9,576,676
2008	68,803	71,621	77,805	231,059	4,319,350	8,083,675	1,211,451	282,429	9,577,555
2009	68,803	71,621	77,805	231,059	4,319,641	8,084,225	1,211,740	282,518	9,578,483
2010	68,803	71,621	77,805	231,059	4,319,694	8,084,333	1,211,778	282,529	9,578,640
2011	68,662	71,473	77,647	230,584	4,311,285	8,071,370	1,209,464	282,027	9,562,861
2012	68,662	71,473	77,647	230,584	4,311,563	8,071,886	1,209,761	282,118	9,563,765
2013	68,662	71,473	77,647	230,584	4,311,647	8,072,050	1,209,835	282,141	9,564,026
2014	68,662	71,473	77,647	230,584	4,311,857	8,072,452	1,210,024	282,198	9,564,674
2015	68,662	71,473	77,647	230,584	4,314,441	8,077,309	1,212,654	283,003	9,572,966
2016	68,662	71,473	77,647	230,584	4,314,661	8,077,720	1,212,872	283,070	9,573,662
2017	68,662	71,473	77,647	230,584	4,314,555	8,077,525	1,212,755	283,035	9,573,315
2018	68,662	71,473	77,647	230,584	4,316,108	8,080,479	1,214,236	283,486	9,578,201
2019	68,662	71,473	77,647	230,584	4,316,118	8,080,489	1,214,270	283,497	9,578,256
2020	68,662	71,473	77,647	230,584	4,315,602	7,966,778	1,213,443	283,244	9,463,465
2021	66,678	69,323	74,513	222,701	4,170,647	7,967,402	1,213,944	283,397	9,464,743
2022	66,678	69,323	74,513	222,701	4,170,361	7,844,424	1,184,549	270,904	9,299,877
2023	66,678	69,323	74,513	222,701	4,170,256	7,844,262	1,184,342	270,840	9,299,444
2024	66,574	69,210	74,348	222,286	4,162,549	7,830,479	1,181,442	266,692	9,278,613
2025	66,574	69,210	74,348	222,286	4,162,598	7,830,618	1,181,360	266,668	9,278,646
2026	66,574	69,210	74,348	222,286	4,162,466	7,830,402	1,181,111	266,590	9,278,103
2027	66,574	69,210	74,348	222,286	4,162,475	7,830,419	1,181,112	266,591	9,278,122
2028	66,574	69,210	74,348	222,286	4,162,373	7,830,285	1,180,835	266,506	9,277,626
2029	66,574	69,210	74,348	222,286	4,162,349	7,830,274	1,180,711	266,469	9,277,454
2030	66,574	69,210	74,348	222,286	4,162,172	7,829,998	1,180,359	266,362	9,276,719
2031	66,574	69,210	74,348	222,286	4,163,720	7,832,944	1,181,815	266,806	9,281,565
2032	66,574	69,210	74,348	222,286	4,163,468	7,832,497	1,181,488	266,707	9,280,692
2033	66,574	69,210	74,348	222,286	4,164,928	7,835,246	1,182,956	267,154	9,285,356
2034	66,574	69,210	74,348	222,286	4,164,683	7,834,790	1,182,686	267,072	9,284,548
2035	66,574	69,210	74,348	222,286	4,164,657	7,834,753	1,182,639	267,058	9,284,450

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

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
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
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	843,618	144,213	99,760	180,894	1,492,581	69,973	150,679	129,756
1980	243,507	1,167,341	222,942	127,625	281,860	2,043,275	57,726	274,848	185,155
1981	266,748	1,061,021	192,621	90,381	1,611,950	3,222,721	80,124	198,362	144,291
1982	278,814	1,236,501	209,479	114,460	1,433,232	3,272,486	59,422	268,998	233,409
1983	190,768	1,621,808	300,343	118,170	2,162,195	4,393,284	48,103	356,200	208,044
1984	184,250	2,092,663	291,805	142,300	2,013,109	4,724,127	39,582	420,637	280,537
1985	305,517	3,196,726	287,770	145,162	1,490,672	5,425,847	57,604	471,463	222,636
1986	332,394	2,507,016	292,326	145,239	680,140	3,957,115	74,200	430,925	432,951
1987	360,133	2,738,128	446,626	154,774	494,463	4,194,124	141,513	578,733	460,910
1988	428,875	3,267,855	524,170	224,764	409,035	4,854,699	152,121	611,603	488,333
1989	451,553	3,600,586	550,702	257,531	440,979	5,301,351	167,632	675,841	537,477
1990	449,487	3,591,113	556,207	261,504	442,675	5,300,986	166,506	685,021	543,348
1991	441,541	3,571,173	553,628	260,318	440,629	5,267,289	165,875	682,856	541,742
1992	443,954	3,578,541	555,529	261,080	441,729	5,280,833	166,016	683,493	542,243
1993	449,288	3,594,421	559,430	262,678	444,199	5,310,016	166,851	687,914	545,539
1994	458,691	3,623,524	566,000	265,491	448,664	5,362,370	167,761	692,585	549,398
1995	458,999	3,624,375	566,297	265,586	448,783	5,364,040	167,765	692,741	549,544
1996	459,250	3,624,871	566,622	265,689	448,915	5,365,347	167,767	692,913	549,704
1997	462,818	3,633,668	570,300	266,864	450,398	5,384,048	167,806	694,848	551,517
1998	463,492	3,634,928	570,963	267,074	450,664	5,387,121	167,813	695,197	551,843
1999	464,371	3,637,483	571,971	267,396	451,070	5,392,291	167,823	695,728	552,340
2000	464,540	3,637,546	572,193	267,468	451,161	5,392,908	167,826	695,845	552,450
2001	466,720	3,644,429	573,821	268,146	452,219	5,405,335	168,009	696,882	553,319
2002	474,070	3,661,575	581,159	270,487	455,176	5,442,467	168,084	700,743	556,934
2003	474,129	3,661,866	581,233	270,511	455,205	5,442,944	168,086	700,781	556,970
2004	485,239	3,733,182	594,415	274,694	463,323	5,550,853	168,408	702,360	558,326
2005	485,077	3,733,026	594,266	274,647	463,262	5,550,278	168,406	702,281	558,252
2006	485,410	3,733,769	594,605	274,754	463,399	5,551,937	170,446	714,128	566,263
2007	487,726	3,739,259	596,887	275,482	464,319	5,563,673	170,468	715,329	567,387
2008	488,015	3,739,943	597,160	275,569	464,429	5,565,116	170,471	715,473	567,522
2009	488,323	3,740,698	597,494	275,676	464,563	5,566,754	170,475	715,648	567,686
2010	488,361	3,740,808	597,499	275,677	464,564	5,566,909	170,475	715,651	567,690
2011	485,176	3,730,273	595,614	274,756	462,996	5,548,815	170,569	716,845	568,338
2012	485,491	3,730,960	595,902	274,847	463,112	5,550,312	170,571	716,997	568,479
2013	485,569	3,731,095	595,861	274,835	463,097	5,550,457	170,570	716,975	568,461
2014	485,770	3,731,596	596,029	274,887	463,163	5,551,445	170,573	717,063	568,542
2015	488,557	3,738,136	598,784	275,768	464,274	5,565,519	170,602	718,514	569,901
2016	488,789	3,738,652	598,959	275,823	464,344	5,566,567	170,603	718,606	569,986
2017	488,665	3,738,355	598,797	275,771	464,279	5,565,867	170,601	718,519	569,907
2018	490,234	3,742,244	600,333	276,261	464,898	5,573,970	170,618	719,329	570,663
2019	490,269	3,742,190	600,239	276,232	464,860	5,573,790	170,616	719,279	570,617
2020	489,395	3,740,780	599,368	275,953	464,510	5,570,006	170,607	718,821	570,188
2021	489,922	3,741,660	599,792	276,090	464,680	5,572,144	170,612	719,044	570,397
2022	478,739	3,665,984	586,130	271,791	456,157	5,458,801	170,604	718,649	570,026
2023	478,517	3,665,683	585,906	271,720	456,068	5,457,894	170,601	718,533	569,917
2024	476,928	3,658,192	583,876	271,030	454,948	5,444,974	166,861	697,917	555,768
2025	476,839	3,658,311	583,838	271,018	454,934	5,444,940	166,860	697,899	555,750
2026	476,577	3,657,964	583,621	270,949	454,848	5,443,959	166,858	697,786	555,644
2027	476,578	3,657,986	583,629	270,952	454,851	5,443,996	166,858	697,788	555,648
2028	476,283	3,657,717	583,405	270,881	454,760	5,443,046	166,857	697,671	555,537
2029	476,155	3,657,653	583,318	270,853	454,725	5,442,704	165,771	691,404	551,313
2030	475,780	3,657,121	582,905	270,720	454,558	5,441,084	165,766	691,187	551,111
2031	477,321	3,660,955	584,369	271,187	455,147	5,448,979	165,781	691,956	551,831
2032	476,977	3,660,243	583,942	271,051	454,976	5,447,189	165,776	691,732	551,620
2033	478,531	3,663,937	585,490	271,545	455,599	5,455,102	165,793	692,546	552,383
2034	478,245	3,663,313	585,215	271,457	455,489	5,453,719	165,790	692,402	552,248
2035	478,196	3,663,251	585,175	271,445	455,473	5,453,540	165,790	692,381	552,228

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

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
	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
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	1,491,063	201,935	260,981	1,216,753
1980	284,207	120,896	123,120	167,249	164,749	1,989,692	189,132	238,607	1,438,703
1981	200,037	77,031	33,416	113,268	171,775	1,740,456	163,808	161,092	1,801,079
1982	264,855	158,123	142,551	224,118	223,965	1,800,753	195,176	15,828	1,940,781
1983	285,942	128,391	115,630	191,476	203,010	2,355,096	185,467	159,897	2,483,851
1984	364,636	152,151	102,049	198,532	224,895	3,096,084	273,448	177,390	3,080,599
1985	303,008	231,067	188,725	274,516	322,262	3,363,928	206,425	156,751	3,399,931
1986	348,280	226,367	213,453	299,276	292,932	3,437,341	256,672	302,973	3,323,642
1987	436,450	301,506	272,212	439,975	535,441	4,059,065	402,783	353,342	4,086,594
1988	458,396	318,990	286,974	457,462	559,754	4,144,179	380,468	330,671	4,243,857
1989	501,094	351,956	315,088	500,115	621,596	4,333,729	419,163	367,357	4,270,040
1990	507,799	357,002	319,610	507,362	633,128	4,279,706	425,240	370,403	4,122,936
1991	506,187	355,887	318,816	505,930	631,439	4,262,550	423,855	369,259	4,105,945
1992	506,552	356,207	319,058	506,337	632,013	4,267,495	424,394	369,686	4,110,227
1993	509,781	358,361	321,330	509,070	636,154	4,287,279	427,219	371,976	4,126,117
1994	513,514	360,831	323,943	512,382	640,369	4,308,733	430,451	374,662	4,144,883
1995	513,670	360,918	324,082	512,472	640,497	4,309,359	430,573	374,751	4,145,276
1996	513,843	361,013	324,237	512,571	640,638	4,309,800	430,767	374,892	4,145,488
1997	515,789	362,086	325,973	513,691	642,223	4,316,643	432,571	376,212	4,149,493
1998	516,138	362,279	326,286	513,892	642,508	4,317,639	432,894	376,449	4,150,037
1999	516,671	362,572	326,760	514,200	642,941	4,319,604	433,378	376,802	4,151,209
2000	516,789	362,638	326,867	514,268	643,037	4,319,656	433,471	376,872	4,151,188
2001	517,641	363,187	327,485	514,986	643,964	4,324,323	434,232	377,491	4,155,136
2002	521,522	365,326	330,949	517,220	647,124	4,337,719	437,864	380,149	4,162,919
2003	521,561	365,347	330,984	517,243	647,158	4,337,991	437,942	380,207	4,163,082
2004	523,115	366,277	331,812	518,536	648,348	4,492,446	439,476	381,263	4,316,281
2005	523,033	366,233	331,742	518,491	648,285	4,492,334	439,418	381,221	4,316,236
2006	530,909	371,644	337,575	525,011	659,874	4,538,928	445,997	386,723	4,349,567
2007	532,116	372,310	338,654	525,706	660,857	4,543,190	447,109	387,538	4,352,066
2008	532,261	372,390	338,782	525,789	660,974	4,543,720	447,245	387,633	4,352,382
2009	532,437	372,486	338,940	525,890	661,118	4,544,331	447,426	387,769	4,352,727
2010	532,440	372,488	338,943	525,892	661,121	4,544,393	447,415	387,760	4,352,780
2011	533,142	372,945	339,589	526,269	662,358	4,547,682	448,009	388,217	4,353,564
2012	533,294	373,028	339,725	526,357	662,482	4,548,217	448,150	388,321	4,353,878
2013	533,272	373,018	339,706	526,344	662,464	4,548,345	448,159	388,326	4,353,976
2014	533,361	373,067	339,785	526,395	662,536	4,548,718	448,231	388,380	4,354,210
2015	534,819	373,870	341,087	527,235	663,724	4,553,834	449,603	389,384	4,357,192
2016	534,911	373,922	341,168	527,288	663,798	4,554,215	449,677	389,438	4,357,432
2017	534,825	373,873	341,092	527,237	663,729	4,554,002	449,617	389,394	4,357,314
2018	535,638	374,320	341,817	527,706	664,391	4,557,029	450,378	389,952	4,359,109
2019	535,588	374,294	341,772	527,677	664,350	4,556,962	450,319	389,908	4,359,085
2020	535,127	374,041	341,361	527,413	663,975	4,555,787	449,853	389,567	4,358,494
2021	535,352	374,163	341,562	527,542	664,158	4,556,271	449,893	389,595	4,358,825
2022	534,955	373,946	341,207	527,313	663,835	4,385,809	449,551	389,346	4,188,767
2023	534,837	373,880	341,103	527,245	663,739	4,385,580	449,458	389,275	4,188,658
2024	520,680	364,242	331,196	515,313	643,954	4,301,320	437,470	379,489	4,126,351
2025	520,660	364,230	331,178	515,301	643,938	4,301,425	437,470	379,489	4,126,432
2026	520,545	364,167	331,076	515,235	643,845	4,301,165	437,380	379,424	4,126,295
2027	520,550	364,170	331,081	515,237	643,848	4,301,187	437,388	379,430	4,126,309
2028	520,432	364,104	330,974	515,170	643,751	4,300,994	437,301	379,367	4,126,222
2029	516,283	361,247	327,909	511,722	637,613	4,276,451	433,876	376,494	4,108,623
2030	516,063	361,126	327,714	511,597	637,435	4,276,069	433,718	376,377	4,108,441
2031	516,838	361,553	328,404	512,042	638,064	4,279,027	434,429	376,897	4,110,225
2032	516,613	361,430	328,203	511,912	637,880	4,278,426	434,195	376,725	4,109,916
2033	517,430	361,880	328,934	512,383	638,548	4,281,247	434,911	377,251	4,111,581
2034	517,286	361,800	328,804	512,300	638,429	4,280,749	434,764	377,142	4,111,283
2035	517,265	361,788	328,786	512,288	638,411	4,280,685	434,736	377,121	4,111,252

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

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
	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)
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	1,799,940	5,962,636	3,544,261	45,997	3,590,258	99,670	307,386	0	261,205
1980	2,233,790	7,467,874	4,757,403	54,806	4,812,209	116,487	438,643	0	290,719
1981	2,766,638	7,651,377	5,510,475	65,158	5,575,633	317,900	582,862	0	329,201
1982	2,976,927	8,504,906	6,404,198	55,996	6,460,194	447,734	631,061	0	275,744
1983	4,219,689	10,940,796	13,978,917	89,983	14,068,900	509,115	542,968	0	347,332
1984	4,901,651	13,312,191	18,906,773	76,975	18,983,748	584,045	624,796	0	452,685
1985	5,741,181	14,939,497	19,547,358	122,994	19,670,352	531,106	501,656	0	430,978
1986	5,679,984	15,318,996	19,696,864	93,304	19,790,168	489,940	322,152	0	282,843
1987	6,470,676	18,539,200	18,038,432	81,820	18,120,252	586,702	658,326	0	480,176
1988	6,680,184	19,112,992	18,123,080	99,276	18,222,356	551,031	761,181	0	561,198
1989	6,998,701	20,059,789	18,213,508	170,872	18,384,380	587,486	823,540	0	608,677
1990	6,884,513	19,802,574	17,437,649	173,363	17,611,012	594,731	834,660	0	614,124
1991	6,855,527	19,725,868	17,359,767	172,889	17,532,656	593,343	833,062	0	612,705
1992	6,862,678	19,746,399	17,372,783	173,204	17,545,987	594,923	838,783	0	616,392
1993	6,889,049	19,836,640	17,401,775	173,838	17,575,613	597,760	846,791	0	621,735
1994	6,918,765	19,938,277	17,456,492	174,985	17,631,477	602,506	859,158	0	630,087
1995	6,919,587	19,941,235	17,457,688	175,016	17,632,704	602,812	860,339	0	630,848
1996	6,920,380	19,944,013	17,458,203	175,054	17,633,257	602,988	861,668	0	631,699
1997	6,930,443	19,979,295	17,469,805	175,472	17,645,277	606,142	876,647	0	641,322
1998	6,932,040	19,985,015	17,471,307	175,543	17,646,850	606,585	879,116	0	642,909
1999	6,934,932	19,994,960	17,474,752	175,659	17,650,411	607,507	883,349	0	645,627
2000	6,935,143	19,996,050	17,474,594	175,670	17,650,264	607,496	883,693	0	645,849
2001	6,941,659	20,018,314	17,486,100	175,923	17,662,023	608,624	887,050	0	648,089
2002	6,961,481	20,088,034	17,508,515	176,750	17,685,265	614,759	916,675	0	667,122
2003	6,961,924	20,089,276	17,508,958	176,771	17,685,729	612,089	917,438	0	667,611
2004	7,120,639	20,567,287	17,526,487	177,577	17,704,064	613,061	922,584	0	670,826
2005	7,120,462	20,566,394	17,526,383	177,569	17,703,952	613,024	922,270	0	670,625
2006	7,178,596	20,775,661	17,817,941	177,608	17,995,549	613,291	923,644	0	671,509
2007	7,184,822	20,797,552	17,825,203	180,954	18,006,157	617,794	947,000	0	689,782
2008	7,185,574	20,800,216	17,826,119	180,985	18,007,104	618,037	948,086	0	690,477
2009	7,186,515	20,803,448	17,827,094	181,027	18,008,121	618,310	949,496	0	691,383
2010	7,186,523	20,803,571	17,827,287	181,026	18,008,313	618,345	949,449	0	691,351
2011	7,189,856	20,817,383	17,808,520	180,684	17,989,204	617,261	948,520	0	690,597
2012	7,190,623	20,820,122	17,809,427	180,716	17,990,143	617,509	949,702	0	691,357
2013	7,190,868	20,820,484	17,809,724	180,727	17,990,451	617,590	950,117	0	691,622
2014	7,191,382	20,822,243	17,810,437	180,749	17,991,186	617,776	950,881	0	692,116
2015	7,198,789	20,848,554	17,819,038	181,061	18,000,099	620,121	962,072	0	699,302
2016	7,199,321	20,850,365	17,819,767	181,084	18,000,851	620,309	962,835	0	699,793
2017	7,199,062	20,849,172	17,819,422	181,073	18,000,495	620,222	962,493	0	699,573
2018	7,203,500	20,864,450	17,824,662	181,259	18,005,921	621,639	969,121	0	703,832
2019	7,203,286	20,863,753	17,824,675	181,251	18,005,926	621,626	968,854	0	703,662
2020	7,201,514	20,856,748	17,823,157	181,179	18,004,336	621,173	966,191	0	701,951
2021	7,202,097	20,859,511	17,824,248	181,196	18,005,444	621,431	966,854	0	702,375
2022	7,031,098	20,345,106	17,823,447	181,135	18,004,582	621,152	964,719	0	701,003
2023	7,030,580	20,343,406	17,823,168	181,107	18,004,275	621,033	963,670	0	700,330
2024	6,922,985	19,963,546	17,332,238	180,069	17,512,307	620,578	960,444	0	698,387
2025	6,923,026	19,963,658	17,332,497	174,754	17,507,251	616,269	936,142	0	677,158
2026	6,922,556	19,961,976	17,332,127	174,734	17,506,861	616,157	935,458	0	676,723
2027	6,922,547	19,962,041	17,332,159	174,736	17,506,895	616,165	935,477	0	676,731
2028	6,922,284	19,960,664	17,331,939	174,724	17,506,663	616,098	935,095	0	676,487
2029	6,891,748	19,850,454	17,331,927	174,724	17,506,651	616,093	935,044	0	676,454
2030	6,891,212	19,847,816	17,331,454	174,701	17,506,155	615,952	934,211	0	675,919
2031	6,895,625	19,862,672	17,336,685	174,881	17,511,566	617,362	940,712	0	680,094
2032	6,894,697	19,859,125	17,335,897	174,839	17,510,736	617,122	939,241	0	679,148
2033	6,898,792	19,873,679	17,340,769	175,002	17,515,771	618,419	945,044	0	682,878
2034	6,897,971	19,870,968	17,339,963	174,967	17,514,930	618,184	943,728	0	682,032
2035	6,897,838	19,870,569	17,339,897	174,960	17,514,857	618,159	943,483	0	681,874

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

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
	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)
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	2,105,305	76,960	202,566	3,571,860	84,462	1,235,824
1980	237,250	156,794	117,274	2,685,789	147,009	688,605	4,878,570	72,651	1,533,618
1981	296,274	183,496	121,461	3,039,059	134,895	21,983	5,027,131	35,662	1,576,071
1982	330,484	186,098	125,423	3,254,334	299,712	623,772	6,174,362	26,852	1,829,441
1983	315,205	209,466	133,715	3,813,504	303,362	212,905	6,387,572	19,204	1,740,141
1984	383,969	304,638	168,344	5,266,341	162,737	1,651,558	9,599,113	12,379	2,326,102
1985	390,504	561,058	166,901	5,404,528	282,408	686,977	8,956,116	18,335	2,735,591
1986	282,490	494,456	175,591	5,724,953	196,606	366,475	8,335,506	24,418	2,532,762
1987	554,171	482,473	288,896	6,466,744	288,975	866,235	10,672,698	38,561	3,063,515
1988	648,347	569,688	331,975	7,245,421	355,032	1,074,624	12,098,497	44,376	3,572,273
1989	705,853	622,987	359,783	7,624,420	451,085	378,055	12,161,886	47,794	3,775,903
1990	714,482	625,326	364,854	7,521,093	469,509	1,753,658	13,492,437	48,750	3,813,554
1991	712,870	623,680	363,918	7,493,171	478,542	1,551,491	13,262,782	48,306	3,802,318
1992	716,708	626,079	365,676	7,511,941	428,837	1,176,074	12,875,413	48,356	3,807,183
1993	722,327	629,830	368,300	7,543,600	379,423	724,960	12,434,726	48,483	3,818,326
1994	731,232	636,024	372,512	7,596,438	362,081	1,872,528	13,662,566	48,738	3,839,682
1995	731,993	636,454	372,851	7,599,882	370,969	1,366,032	13,172,180	48,738	3,840,041
1996	732,844	636,937	373,227	7,602,973	371,085	1,483,002	13,296,423	48,738	3,840,195
1997	742,467	642,374	377,497	7,643,193	373,694	851,169	12,754,505	48,738	3,843,673
1998	744,054	643,273	378,198	7,649,432	374,033	3,249,877	15,167,477	48,738	3,844,122
1999	746,772	644,809	379,404	7,660,952	374,808	255,604	12,198,832	48,738	3,845,155
2000	746,994	644,933	379,502	7,661,477	374,772	1,212,467	13,157,183	48,738	3,845,108
2001	749,344	646,491	380,595	7,674,364	375,799	1,745,839	13,716,195	48,788	3,849,536
2002	768,377	657,249	389,036	7,753,477	380,842	2,791,752	14,939,289	48,788	3,856,254
2003	768,866	657,528	389,253	7,755,494	380,942	284,333	12,433,554	48,788	3,856,387
2004	771,945	659,400	390,965	7,773,305	382,173	2,391,528	14,575,787	49,011	3,862,697
2005	771,744	659,285	390,879	7,772,763	382,150	1,040,753	13,223,493	49,011	3,862,667
2006	772,628	659,786	391,268	7,776,425	382,363	1,748,654	13,939,568	49,011	3,862,950
2007	789,565	668,558	398,680	7,992,030	387,797	1,568,919	14,060,125	50,969	3,909,300
2008	790,260	668,950	398,989	7,994,987	388,003	972,745	13,470,534	50,969	3,909,575
2009	791,166	669,465	399,391	7,998,685	388,223	2,191,986	14,698,105	50,969	3,909,867
2010	791,134	669,446	399,375	7,998,735	388,266	1,269,592	13,775,693	50,969	3,909,925
2011	790,160	668,436	398,840	7,988,305	387,166	1,352,792	13,842,077	50,867	3,902,342
2012	790,920	668,862	399,179	7,991,479	387,369	2,254,004	14,750,381	50,867	3,902,614
2013	791,185	669,015	399,296	7,992,590	387,436	484,751	12,983,602	50,867	3,902,702
2014	791,679	669,293	399,513	7,994,750	387,597	1,627,459	14,131,064	50,867	3,902,916
2015	798,865	673,356	402,702	8,024,686	389,531	1,136,698	13,707,333	50,867	3,905,495
2016	799,356	673,633	402,919	8,026,817	389,695	2,021,376	14,596,733	50,867	3,905,713
2017	799,136	673,509	402,824	8,025,795	389,617	3,942,308	16,515,477	50,867	3,905,609
2018	803,395	675,916	404,712	8,043,694	390,797	167,299	12,780,405	50,867	3,907,180
2019	803,225	675,821	404,634	8,043,171	390,799	1,108,773	13,720,565	50,867	3,907,184
2020	801,514	674,853	403,876	8,036,531	390,458	4,476,980	17,073,527	50,867	3,906,729
2021	801,938	675,092	404,065	8,038,778	390,703	353,534	12,954,770	50,867	3,907,056
2022	800,566	674,317	403,457	8,033,858	390,523	2,144,658	14,734,253	50,867	3,906,816
2023	799,893	673,937	403,159	8,031,553	390,460	1,126,048	13,710,083	50,867	3,906,732
2024	798,145	672,757	401,884	8,017,560	389,488	1,933,289	14,492,532	50,548	3,898,740
2025	779,211	663,434	393,662	7,689,764	383,015	3,014,031	15,152,686	47,183	3,822,907
2026	778,776	663,184	393,468	7,688,117	382,931	-1,492,610	10,642,204	47,183	3,822,797
2027	778,784	663,190	393,473	7,688,160	382,938	3,157,439	15,292,357	47,183	3,822,806
2028	778,540	663,054	393,365	7,687,198	382,889	1,540,510	13,673,236	47,183	3,822,740
2029	778,507	663,037	393,350	7,687,115	382,886	1,361,691	13,494,177	47,183	3,822,737
2030	777,972	662,731	393,113	7,685,026	382,780	2,509,360	14,637,064	47,183	3,822,595
2031	782,147	665,093	394,965	7,702,678	383,956	726,031	12,893,038	47,183	3,824,163
2032	781,201	664,558	394,545	7,698,819	383,779	1,602,274	13,760,687	47,183	3,823,927
2033	784,931	666,665	396,198	7,714,535	384,875	1,419,558	13,613,103	47,183	3,825,387
2034	784,085	666,188	395,824	7,710,976	384,694	3,004,585	15,190,296	47,183	3,825,145
2035	783,927	666,100	395,753	7,710,217	384,679	-365,337	11,818,855	47,183	3,825,126

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SANTA ANA DIVISION (continued)				WEST BRANCH				
	Reach 28G[a]	Reach 28H	Reach 28J	Subtotal	Reach 29A	Reach 29 F	Reach 29G	Reach 29H	Reach 29J
	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)
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	1,821,209	1,367,334	285,575	284,188	972,584	29,850
1980	158,340	129,897	1,120,131	3,014,637	1,698,895	224,472	455,619	874,259	288,303
1981	160,053	111,722	317,837	2,201,345	1,785,003	122,502	615,011	2,376,454	8,794
1982	205,350	135,463	1,478,782	3,675,888	1,924,075	190,501	702,264	2,207,061	414,230
1983	229,397	120,917	503,556	2,613,215	2,671,066	149,600	804,690	955,283	560,355
1984	233,347	180,373	1,161,780	3,913,981	3,505,813	45,339	1,827,397	1,417,461	781,868
1985	390,593	171,093	712,258	4,027,870	3,993,083	255,264	2,454,193	895,318	695,495
1986	267,604	201,334	897,722	3,923,840	3,659,201	452,105	2,127,105	1,382,657	953,937
1987	352,614	226,847	843,642	4,525,179	3,964,343	369,975	1,808,961	1,563,762	301,951
1988	389,033	263,633	1,129,010	5,398,325	4,343,380	409,694	1,848,940	2,129,635	527,530
1989	420,351	277,914	1,372,378	5,894,340	4,638,906	441,949	1,975,022	2,668,551	555,721
1990	424,187	279,269	1,289,755	5,855,515	4,564,112	441,200	1,974,591	2,640,918	552,936
1991	422,045	277,415	1,045,223	5,595,307	4,547,350	440,877	1,965,236	2,636,392	550,549
1992	422,491	277,712	1,279,205	5,834,947	4,552,327	446,470	1,939,487	2,656,602	551,335
1993	423,610	278,455	1,281,839	5,850,713	4,563,977	454,230	1,946,053	2,685,802	553,419
1994	425,873	279,957	1,369,300	5,963,550	4,586,491	465,338	1,957,757	2,730,686	557,632
1995	425,873	279,957	1,231,191	5,825,800	4,586,776	466,140	1,958,213	2,733,143	557,632
1996	425,873	279,957	1,436,473	6,031,236	4,586,985	468,082	1,958,500	2,740,327	557,632
1997	425,873	279,957	1,299,774	5,898,015	4,590,180	483,950	1,963,338	2,793,460	557,632
1998	425,873	279,957	1,452,192	6,050,882	4,590,663	487,168	1,964,026	2,804,525	557,632
1999	425,873	279,957	1,245,939	5,845,662	4,591,584	491,418	1,965,438	2,818,645	557,632
2000	425,873	279,957	1,434,701	6,034,377	4,591,601	492,268	1,965,432	2,822,042	557,632
2001	426,319	280,254	1,489,862	6,094,759	4,596,236	495,336	1,964,568	2,833,454	558,465
2002	426,319	280,254	1,703,393	6,315,008	4,602,502	527,617	1,974,015	2,942,718	558,465
2003	426,319	280,254	1,554,630	6,166,378	4,602,632	528,340	1,974,210	2,945,432	558,465
2004	427,069	280,772	1,619,834	6,239,383	4,756,546	534,037	1,976,388	2,964,965	558,927
2005	427,069	280,772	1,687,406	6,306,925	4,756,499	533,545	1,976,329	2,963,427	558,927
2006	427,069	280,772	1,598,640	6,218,442	4,756,790	535,385	1,976,751	2,969,493	558,927
2007	435,403	283,079	1,709,303	6,388,054	4,810,425	565,203	1,988,024	3,017,689	578,208
2008	435,403	283,079	1,720,990	6,400,016	4,810,667	566,274	1,988,398	3,021,165	578,208
2009	435,403	283,079	1,504,529	6,183,847	4,810,956	567,997	1,988,829	3,027,566	578,208
2010	435,403	283,079	1,842,097	6,521,473	4,810,981	567,766	1,988,877	3,026,102	578,208
2011	434,510	282,485	1,775,309	6,445,513	4,802,907	567,887	1,985,479	3,023,895	576,543
2012	434,510	282,485	1,762,611	6,433,087	4,803,162	569,192	1,985,869	3,028,779	576,543
2013	434,510	282,485	1,767,179	6,437,743	4,803,250	569,761	1,986,000	3,030,639	576,543
2014	434,510	282,485	1,752,244	6,423,022	4,803,417	570,188	1,986,270	3,031,980	576,543
2015	434,510	282,485	1,731,966	6,405,323	4,805,829	582,669	1,989,901	3,074,339	576,543
2016	434,510	282,485	1,729,440	6,403,015	4,806,006	583,269	1,990,181	3,076,149	576,543
2017	434,510	282,485	1,902,901	6,576,372	4,805,940	583,281	1,990,060	3,076,127	576,543
2018	434,510	282,485	1,977,336	6,652,378	4,807,361	590,049	1,992,227	3,098,853	576,543
2019	434,510	282,485	1,729,403	6,404,449	4,807,336	589,561	1,992,208	3,097,259	576,543
2020	434,510	282,485	1,945,487	6,620,078	4,806,864	586,547	1,991,534	3,087,274	576,543
2021	434,510	282,485	1,808,860	6,483,778	4,807,143	587,577	1,991,966	3,090,774	576,543
2022	434,510	282,485	1,826,442	6,501,120	4,637,120	585,114	1,991,560	3,082,280	576,543
2023	434,510	282,485	1,909,976	6,584,570	4,637,011	584,175	1,991,408	3,078,530	576,543
2024	433,434	281,742	1,798,156	6,462,620	4,626,725	581,207	1,989,777	3,068,307	575,881
2025	419,114	277,778	1,804,712	6,371,694	4,538,064	547,323	1,975,731	3,044,983	542,749
2026	419,114	277,778	1,775,470	6,342,342	4,537,931	546,269	1,975,539	3,040,804	542,749
2027	419,114	277,778	1,677,291	6,244,172	4,537,951	546,515	1,975,568	3,041,863	542,749
2028	419,114	277,778	1,964,693	6,531,508	4,537,856	545,599	1,975,443	3,038,586	542,749
2029	419,114	277,778	1,765,456	6,332,268	4,537,840	545,378	1,975,430	3,037,962	542,749
2030	419,114	277,778	1,793,018	6,359,688	4,537,691	544,370	1,975,215	3,034,707	542,749
2031	419,114	277,778	1,794,821	6,363,059	4,539,127	551,407	1,977,389	3,058,122	542,749
2032	419,114	277,778	1,810,965	6,378,967	4,538,863	549,468	1,977,022	3,051,884	542,749
2033	419,114	277,778	1,665,150	6,234,612	4,540,179	555,651	1,979,028	3,072,400	542,749
2034	419,114	277,778	1,881,728	6,450,948	4,539,911	553,740	1,978,659	3,066,349	542,749
2035	419,114	277,778	1,987,834	6,557,035	4,539,858	553,011	1,978,599	3,064,083	542,749

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								GRAND TOTAL
	WEST BRANCH (continued)		COASTAL BRANCH					TOTAL	
	Reach 30	Subtotal	Reach 31A	Reach 33A	Reach 34	Reach 35	Subtotal		
	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)
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	3,897,599	871,755	0	0	0	871,755	23,433,510	24,687,360
1980	222,549	3,764,097	1,047,550	0	0	0	1,047,550	30,115,457	32,048,759
1981	1,096,571	6,004,335	1,032,785	0	0	0	1,032,785	33,964,755	35,629,007
1982	978,609	6,416,740	1,015,994	0	0	0	1,015,994	39,568,800	41,666,876
1983	2,055,401	7,196,395	1,132,240	0	0	0	1,132,240	51,853,795	54,127,126
1984	1,019,849	8,597,727	1,282,803	0	0	0	1,282,803	66,060,916	69,038,754
1985	-4,558,050	3,735,303	1,693,096	0	0	0	1,693,096	65,018,626	68,439,477
1986	886,635	9,461,640	1,552,443	0	0	0	1,552,443	69,076,654	72,133,413
1987	1,536,831	9,545,823	2,337,563	0	0	0	2,337,563	76,158,296	80,204,136
1988	1,220,553	10,479,732	2,733,591	0	0	0	2,733,591	81,821,249	87,143,838
1989	873,404	11,153,553	2,686,716	0	0	0	2,686,716	85,123,981	90,944,036
1990	1,056,119	11,229,876	2,574,753	0	0	0	2,574,753	85,253,476	91,025,852
1991	762,159	10,902,563	2,566,892	0	0	0	2,566,892	84,090,029	89,845,030
1992	927,288	11,073,509	2,587,081	0	0	0	2,587,081	84,143,789	89,912,494
1993	804,508	11,007,989	2,605,190	709,572	32,523	38,473	3,385,758	84,623,801	90,414,172
1994	824,461	11,122,365	2,614,357	1,309,940	30,383	32,113	3,986,793	86,934,360	92,764,630
1995	1,649,840	11,951,744	2,614,689	1,310,210	30,411	32,183	3,987,493	87,143,213	92,978,135
1996	474,358	10,785,884	2,614,862	1,310,329	30,425	32,220	3,987,836	86,312,616	92,150,248
1997	1,106,477	11,495,037	2,618,206	1,312,948	30,695	32,939	3,994,788	86,430,525	92,276,184
1998	761,156	11,165,170	2,618,668	1,313,291	30,732	33,037	3,995,728	88,679,489	94,526,017
1999	2,085,035	12,509,752	2,619,648	1,314,066	30,811	33,248	3,997,773	86,873,943	92,722,352
2000	302,971	10,731,946	2,619,645	1,314,036	30,810	33,245	3,997,736	86,244,853	92,093,209
2001	1,499,687	11,947,746	2,622,749	1,314,518	30,861	33,370	4,001,498	88,140,069	93,995,404
2002	15,900	10,621,217	2,629,244	1,319,584	31,385	34,765	4,014,978	88,517,141	94,384,977
2003	2,476,455	13,085,534	2,629,363	1,319,681	31,396	34,790	4,015,230	88,329,846	94,321,705
2004	551,838	11,342,701	2,635,434	1,321,111	31,461	34,967	4,022,973	89,572,093	95,586,809
2005	2,444,971	13,233,698	2,635,385	1,321,086	31,457	34,956	4,022,884	90,176,408	96,191,051
2006	236,934	11,034,280	2,664,442	1,328,036	31,522	35,121	4,059,121	89,144,286	95,159,458
2007	1,760,066	12,719,615	2,666,533	1,329,676	31,692	35,570	4,063,471	91,175,323	97,194,533
2008	2,851,400	13,816,112	2,666,794	1,329,883	31,711	35,628	4,064,016	91,700,669	97,720,393
2009	-356,567	10,616,989	2,667,078	1,330,103	31,735	35,689	4,064,605	89,520,352	95,540,616
2010	1,694,041	12,665,975	2,667,125	1,330,145	31,738	35,700	4,064,708	90,985,282	97,005,649
2011	2,366,143	13,322,854	2,662,141	1,330,144	31,735	35,714	4,059,734	91,588,441	97,597,187
2012	-161,001	10,802,544	2,662,404	1,330,349	31,757	35,771	4,060,281	89,970,635	95,979,894
2013	1,201,237	12,167,430	2,662,469	1,330,413	31,762	35,786	4,060,430	89,574,623	95,584,043
2014	1,750,429	12,718,827	2,662,664	1,330,572	31,778	35,827	4,060,841	91,263,302	97,273,115
2015	2,304,719	13,334,000	2,665,147	1,332,516	31,979	36,361	4,066,003	91,499,797	97,514,401
2016	77,543	11,109,691	2,665,348	1,332,680	31,995	36,405	4,066,428	90,167,312	96,182,327
2017	-1,077,697	9,954,254	2,665,241	1,332,600	31,986	36,382	4,066,209	91,101,161	97,115,987
2018	2,740,141	13,805,174	2,666,730	1,333,780	32,107	36,704	4,069,321	91,329,820	97,347,545
2019	1,512,255	12,575,162	2,666,720	1,333,781	32,107	36,702	4,069,310	90,791,211	96,808,956
2020	4,967,325	16,016,087	2,666,219	1,333,431	32,067	36,598	4,068,315	97,672,562	103,689,389
2021	-523,118	10,530,885	2,666,547	1,333,680	32,093	36,666	4,068,986	87,940,261	93,812,412
2022	217,751	11,090,368	2,666,238	1,333,488	32,070	36,604	4,068,400	89,502,507	95,356,826
2023	1,890,621	12,758,288	2,666,137	1,333,423	32,061	36,584	4,068,205	90,226,165	96,080,306
2024	4,774,760	15,616,657	2,611,943	1,321,286	31,980	36,375	4,001,584	92,772,833	98,617,580
2025	-3,145,659	7,503,191	2,611,999	1,321,342	31,985	36,388	4,001,714	85,223,780	91,068,645
2026	3,844,724	14,488,016	2,611,876	1,321,258	31,974	36,363	4,001,471	87,664,932	93,509,569
2027	1,211,247	11,855,893	2,611,885	1,321,265	31,976	36,363	4,001,489	89,584,965	95,429,619
2028	821,796	11,462,029	2,611,797	1,321,212	31,969	36,346	4,001,324	87,856,096	93,700,593
2029	939,384	11,578,743	2,611,781	1,321,207	31,968	36,343	4,001,299	87,483,750	93,328,218
2030	944,030	11,578,762	2,611,603	1,321,096	31,954	36,307	4,000,960	88,648,248	94,492,420
2031	1,654,237	12,323,031	2,613,080	1,322,272	32,075	36,625	4,004,052	87,687,962	93,535,022
2032	1,770,411	12,430,397	2,612,825	1,322,091	32,054	36,572	4,003,542	88,671,335	94,517,941
2033	1,763,009	12,453,016	2,614,230	1,323,192	32,168	36,874	4,006,464	88,437,103	94,286,418
2034	1,631,991	12,313,399	2,613,995	1,323,010	32,150	36,823	4,005,978	90,084,786	95,933,650
2035	-542,581	10,135,719	2,613,973	1,322,994	32,147	36,819	4,005,933	84,640,958	90,489,778

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)

Calendar Year	NORTH BAY AQUEDUCT Reach 1 Barker Slough Pumping Plant	NORTH BAY AQUEDUCT Reach 3A Cordelia Pumping Plant (Solano)	NORTH BAY AQUEDUCT Reach 3B Cordelia Pumping Plant (Napa) [a]	NORTH BAY AQUEDUCT Total	SOUTH BAY AQUEDUCT Reach 1 South Bay and Del Valle Pumping Plants [b]	CALIFORNIA AQUEDUCT Reach 1 Harvey O. Banks Delta Pumping Plant	CALIFORNIA AQUEDUCT Reach 4 Dos Amigos Pumping Plant [c]	CALIFORNIA AQUEDUCT Reach 14A Buena Vista Pumping Plant	CALIFORNIA AQUEDUCT Reach 15A Wheeler Ridge Pumping Plant
	(1)	(2A)	(2B)	(3)	(4)	(5)	(6)	(7)	(8)
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	0	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	20,779	20,779	567,692	3,927,256	1,900,825	1,293,991	1,273,998
1982	0	0	12,512	12,512	523,766	3,050,374	1,445,741	1,198,167	1,216,356
1983	0	0	2,553	2,553	142,803	904,919	385,131	337,569	301,033
1984	0	0	4,483	4,483	244,518	1,592,644	824,661	621,600	548,556
1985	0	0	11,481	11,481	512,362	3,332,514	1,676,176	1,459,351	1,447,591
1986	0	0	15,699	15,699	843,651	5,758,087	2,716,313	2,417,956	2,444,443
1987	0	0	13,019	13,019	791,861	6,620,457	2,738,090	2,602,346	2,708,852
1988	36,294	47,301	23,880	107,475	1,049,479	9,543,595	4,078,076	4,186,205	4,598,094
1989	39,382	42,748	25,841	107,971	1,268,129	10,155,250	4,417,683	4,428,603	4,810,869
1990	46,757	49,085	29,175	125,017	1,335,060	10,807,352	4,661,670	4,595,219	5,023,131
1991	49,944	51,426	31,478	132,848	1,373,800	10,849,283	4,681,217	4,538,183	4,980,357
1992	53,478	55,064	33,705	142,247	1,524,334	11,416,984	4,970,325	4,844,225	5,324,275
1993	69,693	62,686	43,750	176,129	1,703,013	12,551,005	5,455,132	5,318,681	5,866,032
1994	89,555	71,917	55,828	217,300	1,946,525	14,018,708	6,113,906	5,908,102	6,531,638
1995	105,142	76,523	64,695	246,360	2,038,717	14,283,982	6,212,996	6,000,475	6,643,426
1996	110,569	79,745	69,438	259,752	2,076,953	14,519,264	6,372,969	6,194,361	6,857,315
1997	134,325	96,176	85,887	316,388	2,445,526	16,768,067	7,468,790	7,289,010	8,099,724
1998	142,530	101,219	92,517	336,266	2,490,202	17,344,960	7,723,372	7,610,257	8,466,845
1999	154,485	108,807	101,696	364,988	2,592,683	17,958,800	8,105,685	7,938,399	8,855,598
2000	160,249	112,195	106,806	379,250	2,587,979	18,201,256	8,262,231	8,089,835	9,041,676
2001	167,648	117,710	114,821	400,179	2,644,349	18,687,747	8,550,620	8,419,960	9,391,848
2002	214,822	151,328	151,033	517,183	3,311,243	23,007,195	10,482,984	10,435,620	11,669,296
2003	220,590	155,966	158,873	535,429	3,324,408	23,302,922	10,638,464	10,731,722	12,017,571
2004	230,928	163,468	169,989	564,385	3,401,083	24,036,625	10,961,336	11,152,182	12,537,929
2005	235,921	167,446	177,280	580,647	3,398,019	24,367,731	11,133,740	11,483,119	12,944,198
2006	241,401	168,878	186,254	596,533	3,426,140	24,695,327	11,291,695	11,741,151	13,198,740
2007	260,468	179,527	205,834	645,829	3,642,193	26,482,637	12,081,798	12,689,795	14,296,000
2008	266,389	181,307	215,463	663,159	3,669,470	26,855,803	12,241,542	12,927,782	14,578,567
2009	272,446	182,788	225,122	680,356	3,698,459	27,104,869	12,377,479	13,104,882	14,770,544
2010	276,829	183,072	233,637	693,538	3,704,206	27,574,286	12,574,651	13,445,179	15,176,801
2011	282,301	183,788	243,760	709,849	3,717,684	27,805,515	12,714,163	13,647,762	15,403,780
2012	288,847	185,171	254,921	728,939	3,744,683	28,003,362	12,778,047	13,732,140	15,500,431
2013	294,282	185,606	265,378	745,266	3,753,496	28,290,897	12,810,290	13,966,043	15,785,489
2014	300,577	186,855	276,842	764,274	3,774,705	28,684,084	12,964,262	14,217,559	16,098,017
2015	326,007	199,523	306,674	832,204	4,030,606	30,621,872	13,815,160	15,233,932	17,273,993
2016	334,869	200,594	317,896	853,359	4,052,273	30,872,323	13,879,565	15,350,221	17,428,534
2017	341,113	200,138	326,906	868,157	4,042,006	30,879,483	13,849,608	15,407,181	17,496,619
2018	361,912	207,913	350,318	920,143	4,197,906	32,314,954	14,476,400	16,251,057	18,489,324
2019	369,478	208,151	361,321	938,950	4,198,288	32,618,606	14,498,133	16,422,005	18,610,213
2020	357,347	183,061	368,398	908,806	4,153,147	32,299,725	14,361,059	16,269,889	18,517,424
2021	360,196	184,492	371,664	916,352	4,185,611	32,485,913	14,344,229	15,947,543	18,305,247
2022	358,418	183,440	369,822	911,680	4,161,766	32,432,751	14,125,217	15,994,350	18,390,884
2023	357,757	183,074	369,357	910,188	4,153,456	32,511,735	14,161,633	16,126,769	18,554,374
2024	357,540	182,852	369,455	909,847	4,148,394	32,608,960	13,967,460	16,201,827	18,647,675
2025	358,257	183,190	370,469	911,916	4,156,087	32,141,177	13,805,020	15,903,307	18,281,284
2026	357,308	182,705	369,487	909,500	4,145,068	32,332,041	13,935,922	16,154,279	18,590,442
2027	357,390	182,748	369,572	909,710	4,146,024	32,619,215	14,072,594	16,392,810	18,880,523
2028	356,825	182,459	368,988	908,272	4,139,477	32,454,656	14,065,830	16,393,911	18,883,462
2029	356,794	182,442	368,956	908,192	4,139,118	32,441,978	14,102,153	16,459,334	18,938,946
2030	355,584	181,824	367,704	905,112	4,125,077	32,278,713	13,990,273	16,479,828	18,943,305
2031	368,998	188,682	381,575	939,255	4,280,683	33,734,921	14,574,184	17,293,938	20,000,454
2032	366,978	187,649	379,486	934,113	4,257,247	33,954,045	14,591,715	17,457,861	20,210,505
2033	379,473	194,039	392,408	965,920	4,402,201	35,445,055	15,261,213	18,242,497	21,135,980
2034	377,405	192,981	390,268	960,654	4,378,207	35,677,319	15,377,709	18,460,807	21,316,834
2035	377,237	192,896	390,095	960,228	4,376,260	35,680,430	15,387,987	18,453,873	21,293,340

a) Costs for the period 1968 through 1987 are for an interim facility.

b) The relatively minor costs of Del Valle Pumping Plant have been combined with those of South Bay Pumping Plant to simplify the allocation procedures.

c) 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 COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (Continued)								
	Reach 16A Ira J. Chrisman Wind Gap Pumping Plant	Reach 17E A.D. Edmonston Pumping Plant	Reach 18A Alamo Powerplant	Reach 22B Pear-blossom Pumping Plant	Reach 23 Mojave Siphon Powerplant	Reach 24 Silver-wood Lake (d	Reach 26A Devil Canyon Powerplant	Reach 28J Lake Perris (d	Reach 29A Oso Pumping Plant
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
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	1,160,084	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	9,009,227	0	2,165,036	0	291,630	-3,675,067	375,051	443,815
1982	2,602,926	8,336,824	0	1,510,506	0	3,067	-3,067,524	0	537,869
1983	535,141	1,566,021	0	320,172	0	379,874	-4,483,255	0	81,371
1984	1,011,484	3,064,133	0	534,945	0	358,481	-7,338,956	-12,947	236,084
1985	2,894,937	9,558,069	0	1,185,737	0	0	-9,861,468	-39,333	910,249
1986	5,025,932	17,166,382	-764,053	2,393,759	0	0	-11,480,177	0	1,278,910
1987	5,027,108	16,117,412	-1,101,128	2,153,883	0	76,803	-12,647,468	93,975	1,585,860
1988	8,967,911	30,025,933	-2,867,819	5,331,534	0	23,359	-23,350,172	0	1,999,720
1989	9,630,013	31,851,294	-2,965,768	5,825,183	0	1,012,450	-23,031,206	0	1,967,632
1990	10,130,873	33,834,424	-3,057,723	6,194,863	0	0	-23,041,685	0	2,021,874
1991	10,074,241	33,528,833	-3,028,407	6,208,317	0	0	-22,843,369	218,543	1,999,188
1992	10,798,152	36,020,769	-2,759,258	6,532,120	0	218,236	-23,702,355	0	2,172,643
1993	11,949,578	40,096,503	-3,135,336	7,464,967	0	705,928	-23,753,533	30,888	2,246,806
1994	13,330,055	44,778,072	-3,210,065	8,351,916	-2,815,532	0	-23,830,539	0	2,536,707
1995	13,615,190	45,888,610	-3,197,772	8,497,599	-4,015,469	48,134	-23,864,727	102,555	2,492,628
1996	14,000,202	47,043,779	-3,355,655	8,949,958	-4,085,538	0	-24,979,178	0	2,558,869
1997	16,676,866	56,207,387	-3,409,697	10,543,046	-4,121,652	630,492	-25,600,313	124,132	2,942,574
1998	17,507,279	58,732,795	-3,563,395	11,191,562	-4,475,980	0	-26,312,836	0	3,132,213
1999	18,414,773	61,741,704	-3,585,589	11,693,304	-4,256,762	1,259,534	-26,948,491	217,034	3,200,181
2000	18,829,935	62,798,291	-3,766,924	12,219,903	-4,524,874	272,493	-27,714,013	23,761	3,222,789
2001	19,622,766	65,333,377	-3,781,550	12,504,609	-4,493,486	0	-27,738,745	0	3,415,384
2002	24,374,476	81,577,338	-3,873,340	15,949,441	-4,608,307	0	-28,262,144	0	4,001,836
2003	25,015,790	83,847,389	-3,899,926	16,150,871	-4,699,320	1,305,566	-28,729,218	84,097	4,190,370
2004	26,002,105	87,163,779	-4,048,877	17,114,987	-4,825,172	0	-29,314,485	40,281	4,387,860
2005	26,833,864	90,033,584	-4,212,152	17,851,748	-4,882,634	546,744	-30,574,203	0	4,431,432
2006	27,351,450	91,653,744	-4,341,035	18,538,144	-5,022,922	0	-31,177,756	70,769	4,431,906
2007	29,712,076	99,887,034	-4,451,427	20,094,697	-5,149,835	43,717	-31,839,263	32,261	4,744,810
2008	30,296,008	101,934,501	-4,541,073	20,602,218	-5,296,977	652,603	-32,470,724	26,102	4,737,125
2009	30,683,044	103,162,941	-4,660,838	21,299,184	-5,296,924	0	-33,076,727	258,029	4,607,143
2010	31,573,376	106,399,697	-4,793,277	21,785,520	-5,036,272	375,784	-34,446,421	0	4,763,860
2011	32,044,736	108,039,257	-4,868,635	22,183,239	-5,463,660	265,245	-34,661,106	0	4,815,296
2012	32,235,732	108,810,934	-4,950,717	22,684,811	-5,642,435	0	-35,037,248	0	4,653,003
2013	32,831,859	110,812,055	-4,983,671	22,849,934	-5,061,925	1,179,124	-35,658,027	0	4,878,256
2014	33,514,574	113,262,745	-5,093,527	23,459,974	-5,204,295	0	-36,013,101	17,648	4,786,490
2015	35,751,633	121,763,754	-5,148,010	25,215,540	-5,361,761	518,585	-36,294,020	100,318	5,164,417
2016	36,103,203	123,042,907	-5,255,097	25,820,059	-6,390,980	0	-36,829,599	100,611	4,946,353
2017	36,243,447	123,447,676	-5,350,391	26,171,018	-6,568,610	0	-37,360,894	0	4,911,634
2018	38,397,661	130,956,886	-5,392,599	27,328,367	-6,130,236	1,558,717	-38,093,920	0	5,245,265
2019	38,924,851	132,953,772	-5,507,165	27,878,102	-6,808,532	563,845	-38,296,634	136,455	5,174,229
2020	39,017,922	133,345,904	-5,661,751	28,108,700	-6,680,024	0	-39,073,476	0	5,054,759
2021	38,846,386	132,685,736	-5,658,297	28,327,567	-6,839,002	1,337,430	-39,246,308	45,090	4,946,063
2022	38,958,411	133,647,965	-5,740,748	28,607,155	-6,807,265	0	-39,555,540	16,908	4,942,439
2023	39,075,318	134,556,294	-5,765,097	28,679,658	-6,820,524	539,804	-39,895,743	0	5,130,305
2024	39,050,910	135,153,547	-5,820,730	28,946,700	-6,958,803	0	-40,096,158	30,327	5,031,530
2025	38,095,871	132,233,698	-5,908,771	29,219,070	-6,421,300	0	-40,628,130	0	4,601,237
2026	38,598,454	134,509,987	-5,841,990	28,804,833	-6,904,889	3,190,617	-40,559,385	9,861	5,043,493
2027	39,125,900	136,634,049	-5,972,803	29,496,098	-7,292,395	0	-40,729,313	110,479	5,100,659
2028	39,141,944	136,684,484	-6,008,633	29,641,413	-6,945,511	69,371	-41,124,581	0	4,882,602
2029	39,301,346	137,254,539	-6,036,012	29,797,048	-7,083,354	253,456	-41,283,748	19,151	4,842,134
2030	39,370,880	137,397,341	-6,079,483	29,917,774	-7,038,270	0	-41,477,952	0	4,787,990
2031	41,652,677	145,163,861	-6,219,975	31,810,212	-7,242,712	913,199	-42,384,221	23,050	4,984,754
2032	42,364,306	147,539,173	-6,417,823	32,605,889	-7,230,228	11,859	-43,464,747	0	4,838,033
2033	44,570,681	154,833,331	-6,574,465	34,474,275	-7,598,840	213,420	-44,510,531	182,920	4,937,630
2034	45,220,799	157,021,871	-6,758,140	35,192,971	-7,774,528	0	-45,643,009	0	4,749,167
2035	45,248,287	157,128,470	-6,865,673	35,668,505	-7,850,922	2,054,580	-46,706,228	0	4,388,741

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 COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (Continued)							GRAND TOTAL
	Reach 29G William E. Warne Powerplant	Reach 29H Pyramid Lake (d	Reach 29J Castaic Powerplant	Reach 30 Castaic Lake (d	Reach 31A Las Perillas and Badger Hill Pumping Plants (e	Reach 33A Devil's Den Sawtooth and Polonio PP's and San Luis Obispo Pwp.	Total	
	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
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	-611,049	-1,229,943	71,311	0	606,233	1,141,864
1978	0	1,061,100	-1,377,265	0	179,925	0	7,144,475	7,752,522
1979	0	0	-2,294,923	2,430	192,126	0	9,344,488	9,965,861
1980	0	456,691	-973,953	34,775	168,458	0	9,917,893	10,461,207
1981	0	0	-2,807,008	0	169,178	0	17,104,637	17,693,108
1982	-783,626	0	-3,454,406	0	166,519	0	12,762,793	13,299,071
1983	-415,983	107,385	-3,511,364	-3,302,447	13,221	0	-6,781,212	-6,635,856
1984	-2,068,588	0	-2,192,236	-2,076,597	105,301	0	-4,791,435	-4,542,434
1985	-5,949,505	0	-13,756,877	0	155,428	0	-6,987,131	-6,463,288
1986	-5,615,842	0	-11,139,195	0	303,303	0	10,505,818	11,365,168
1987	-7,530,527	0	-13,471,326	-37,384	238,265	0	5,175,218	5,980,098
1988	-7,649,348	0	-13,707,507	45,086	353,036	0	21,577,703	22,734,657
1989	-7,756,365	0	-13,717,723	70,684	378,916	0	27,077,515	28,453,615
1990	-8,014,990	0	-13,976,995	0	392,074	0	29,570,087	31,030,164
1991	-7,680,138	0	-13,414,035	187,876	396,203	0	30,696,292	32,202,940
1992	-7,970,483	0	-13,813,670	35,125	424,233	0	34,511,321	36,177,902
1993	-7,917,862	0	-13,635,925	186,475	520,853	234,118	44,184,310	46,063,452
1994	-7,985,051	0	-13,781,978	206,678	768,526	1,148,226	52,069,369	54,233,194
1995	-8,221,126	0	-14,115,842	0	781,872	1,188,243	52,340,774	54,625,851
1996	-7,823,256	0	-13,553,689	576,893	787,604	1,205,430	55,269,328	57,606,033
1997	-8,356,643	0	-14,273,569	0	917,056	1,593,596	73,498,866	76,260,780
1998	-8,257,263	0	-14,124,327	344,620	933,809	1,643,830	77,897,741	80,724,209
1999	-8,483,425	0	-14,420,272	0	972,239	1,759,063	84,421,775	87,379,446
2000	-8,110,546	0	-13,884,006	838,613	970,475	1,753,773	86,524,668	89,491,897
2001	-8,528,521	0	-14,498,495	0	991,614	1,817,158	89,694,286	92,738,814
2002	-8,224,020	0	-13,961,849	1,254,204	1,241,694	2,567,032	127,631,456	131,459,882
2003	-8,610,812	0	-14,620,423	0	1,246,630	2,581,836	130,553,529	134,413,366
2004	-8,431,619	0	-14,320,916	723,155	1,275,383	2,668,050	137,122,603	141,088,071
2005	-8,610,833	0	-14,628,692	0	1,274,235	2,664,607	140,656,488	144,635,154
2006	-8,356,433	0	-14,191,109	1,050,665	1,284,780	2,696,227	144,915,343	148,938,016
2007	-8,617,750	0	-14,625,939	0	1,365,797	2,939,160	159,685,568	163,973,590
2008	-8,633,803	0	-14,620,757	0	1,376,026	2,969,833	163,634,776	167,967,405
2009	-8,179,314	0	-13,978,511	1,755,555	1,386,898	3,002,430	168,320,684	172,699,499
2010	-8,644,922	0	-14,630,463	0	1,389,052	3,008,889	170,515,740	174,913,484
2011	-8,633,559	0	-14,627,540	0	1,394,107	3,024,046	173,082,646	177,510,179
2012	-8,240,092	0	-14,062,826	1,555,158	1,404,231	3,054,404	176,478,935	180,952,557
2013	-8,559,691	0	-14,574,155	162,713	1,407,536	3,064,315	179,201,042	183,699,804
2014	-8,606,335	0	-14,629,696	0	1,415,489	3,088,162	181,962,050	186,501,029
2015	-8,602,564	0	-14,632,027	0	1,511,451	3,375,905	200,308,178	205,170,988
2016	-8,351,391	0	-14,171,213	1,348,653	1,519,576	3,400,269	202,813,994	207,719,626
2017	-8,115,609	0	-13,781,279	2,545,119	1,515,725	3,388,724	204,679,451	209,589,614
2018	-8,651,163	0	-14,605,737	0	1,574,187	3,564,023	217,283,186	222,401,235
2019	-8,644,891	0	-14,607,588	0	1,574,330	3,564,452	219,054,183	224,191,421
2020	-8,622,763	0	-14,616,915	0	1,557,402	3,513,693	217,391,548	222,453,501
2021	-8,231,399	0	-13,992,985	2,002,275	1,569,576	3,550,197	220,425,261	225,527,224
2022	-8,390,945	0	-14,230,209	1,225,995	1,560,635	3,523,386	218,701,389	223,774,835
2023	-8,689,612	0	-14,622,952	0	1,557,519	3,514,041	218,613,522	223,677,166
2024	-8,667,454	0	-14,615,292	0	1,555,620	3,508,349	218,544,468	223,602,709
2025	-7,685,459	0	-13,106,775	4,627,549	1,558,505	3,516,999	220,233,282	225,301,285
2026	-8,677,883	0	-14,620,711	0	1,554,372	3,504,608	219,624,051	224,678,619
2027	-8,629,599	0	-14,586,740	129,207	1,554,731	3,505,683	220,411,098	225,466,832
2028	-8,564,101	0	-14,451,095	526,808	1,552,277	3,498,322	220,701,159	225,748,908
2029	-8,577,508	0	-14,492,523	402,209	1,552,142	3,497,919	221,389,210	226,436,520
2030	-8,560,504	0	-14,493,967	408,367	1,546,876	3,482,131	220,953,302	225,983,491
2031	-8,687,240	0	-14,628,211	0	1,605,228	3,657,098	236,251,217	241,471,155
2032	-8,655,753	0	-14,630,309	0	1,596,439	3,630,746	238,401,711	243,593,071
2033	-8,697,323	0	-14,625,366	0	1,650,796	3,793,737	252,735,010	258,103,131
2034	-8,657,302	0	-14,631,322	0	1,641,798	3,766,757	254,961,731	260,300,592
2035	-8,253,456	0	-14,009,308	1,978,186	1,641,069	3,764,567	259,002,448	264,338,936

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	Application of Oroville Power Revenues to: Operating Costs (e	(a & (f	
	(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	1,293,465	-951,000	0	793,399	40,592,732
1969	5,279,787	-259,015	2,870,059	-11,007,000	0	601,867	-2,514,302
1970	4,130,490	-203,733	4,797,921	-14,650,000	-1,500,000	516,659	-6,908,663
1971	3,877,493	-193,631	6,005,767	-14,650,000	-1,500,000	408,754	-6,051,617
1972	4,569,025	-196,361	5,357,688	-14,650,000	-1,500,000	287,374	-6,132,274
1973	3,985,415	-136,997	6,062,679	-14,650,000	-1,500,000	203,384	-6,035,519
1974	6,659,999	-137,503	6,852,839	-17,950,000	-1,500,000	201,907	-5,872,758
1975	8,084,449	-234,567	7,601,709	-14,650,000	-1,500,000	146,188	-552,221
1976	5,870,528	-204,944	6,936,129	-14,650,000	-1,500,000	205,234	-3,343,053
1977	21,282,912	-150,214	10,393,180	-14,650,000	-1,500,000	860,353	16,236,231
1978	7,617,057	-64,566	13,684,813	-14,650,000	-1,500,000	2,227,479	7,314,783
1979	9,011,359	0	9,452,860	-14,650,000	-1,500,000	2,151,325	4,465,544
1980	10,352,862	0	12,509,959	-14,650,000	-1,500,000	3,669,698	10,382,519
1981	11,081,930	0	10,143,417	-14,650,000	-1,500,000	4,543,858	9,619,205
1982	16,884,099	0	16,195,394	-14,650,000	-1,500,000	4,427,147	21,356,640
1983	12,925,332	0	23,896,091	-34,705,000	-8,735,000	3,732,559	-2,886,018
1984	10,465,259	0	24,618,584	-14,650,000	-9,348,000	3,739,468	14,825,311
1985	11,244,341	0	24,499,318	-14,650,000	-7,033,000	3,731,469	17,792,128
1986	17,896,482	0	24,650,893	-14,650,000	-7,842,000	4,090,753	24,146,128
1987	15,660,510	0	28,197,617	-14,650,000	-8,385,000	4,792,500	25,615,627
1988	12,731,193	0	30,725,978	-14,650,000	-8,677,000	3,890,000	24,020,171
1989	9,363,930	0	33,528,639	-16,116,000	-8,773,000	2,645,000	20,648,569
1990	7,685,468	0	31,272,342	-16,126,000	-8,909,000	2,145,000	16,067,810
1991	3,049,588	0	32,060,669	-16,126,000	-8,897,000	1,300,000	11,387,257
1992	1,838,846	0	33,504,930	-16,126,000	-8,894,000	1,300,000	11,623,776
1993	668,528	0	32,915,577	-16,126,000	-8,894,000	1,300,000	9,864,105
1994	556,690	0	32,337,425	-16,126,000	-8,900,000	1,300,000	9,168,115
1995	556,690	0	32,634,096	-16,126,000	-8,915,000	1,300,000	9,449,786
1996	556,690	0	33,014,126	-16,126,000	-8,936,000	1,300,000	9,808,816
1997	107,500	0	34,563,851	-16,126,000	-8,965,000	1,300,000	10,880,351
1998	107,500	0	33,157,787	-16,126,000	-8,965,000	1,300,000	9,474,287
1999	107,500	0	34,707,698	-16,126,000	-9,015,000	1,300,000	10,974,198
2000	107,500	0	33,986,977	-16,126,000	-9,070,000	1,300,000	10,198,477
2001	0	0	35,067,988	-16,126,000	-9,255,000	1,200,000	10,886,988
2002	0	0	36,019,963	-16,126,000	-9,396,000	1,200,000	11,697,963
2003	0	0	37,587,967	-16,126,000	-10,089,000	1,200,000	12,572,967
2004	0	0	36,967,288	-16,126,000	-10,245,000	1,200,000	11,796,288
2005	0	0	37,559,793	-16,126,000	-10,171,000	1,200,000	12,462,793
2006	0	0	37,512,467	-16,126,000	-10,100,000	1,200,000	12,486,467
2007	0	0	37,730,962	-16,126,000	-10,247,000	1,200,000	12,557,962
2008	0	0	37,305,986	-16,126,000	-10,241,000	1,200,000	12,138,986
2009	0	0	38,026,192	-16,126,000	-10,208,000	1,200,000	12,892,192
2010	0	0	37,616,068	-16,126,000	-10,164,000	1,200,000	12,526,068
2011	0	0	37,980,475	-16,126,000	-10,117,000	0	11,737,475
2012	0	0	38,060,434	-16,126,000	-10,069,000	0	11,865,434
2013	0	0	37,920,482	-16,126,000	-10,069,000	0	11,725,482
2014	0	0	38,002,550	-16,126,000	-10,083,000	0	11,793,550
2015	0	0	38,096,124	-16,126,000	-10,093,000	0	11,877,124
2016	0	0	38,381,555	-16,126,000	-9,932,000	0	12,323,555
2017	0	0	38,090,900	-16,126,000	-9,762,000	0	12,202,900
2018	0	0	37,847,924	-16,126,000	-9,335,000	0	12,386,924
2019	0	0	35,678,811	-16,126,000	-9,018,000	0	10,534,811
2020	0	0	39,095,775	-16,126,000	-8,952,000	0	14,017,775
2021	0	0	35,430,564	-16,126,000	-8,357,000	0	10,947,564
2022	0	0	36,967,739	-16,126,000	-8,025,000	0	12,816,739
2023	0	0	37,457,587	-16,126,000	-8,025,000	0	13,306,587
2024	0	0	33,810,730	-16,126,000	-7,979,000	0	9,705,730
2025	0	0	37,009,016	-16,126,000	-7,979,000	0	12,904,016
2026	0	0	37,077,530	-16,126,000	-7,979,000	0	12,972,530
2027	0	0	34,683,645	-16,126,000	-7,914,000	0	10,643,645
2028	0	0	36,186,462	-16,126,000	-7,848,000	0	12,212,462
2029	0	0	34,953,192	-16,126,000	-7,696,000	0	11,131,192
2030	0	0	36,348,341	-16,126,000	-7,543,000	0	12,679,341
2031	0	0	34,222,465	-16,126,000	-7,390,000	0	10,706,465
2032	0	0	34,396,181	-16,126,000	-7,285,000	0	10,985,181
2033	0	0	34,058,924	-16,126,000	-7,285,000	0	10,647,924
2034	0	0	34,485,419	-16,126,000	-7,285,000	0	11,074,419
2035	0	0	36,105,413	-16,126,000	-7,285,000	0	12,694,413
TOTAL	761,685,804	-11,528,320	1,958,103,943	-1,071,575,000	-490,074,000	77,941,240	1,224,553,667

a) Reimbursed through the capital cost component of the Delta Water Charge.
b) Negotiated settlements as to the magnitude of SWP planning costs from 1952 through 1978.
c) Reimbursed through the minimum OMP&R component of the Delta Water Charge. Credits for San Luis power generation are reflected in these net costs.
d) Revenues credited through the capital cost component of the Delta Water Charge.
e) Revenue credits through the minimum OMP&R component of the Delta Water Charge.
f) Under amendments of Articles 22(e) and 22(g), planning and preoperating costs of additional Project conservation facilities incurred through the previous year (1986) are reflected in the Delta Water Charge.

TABLE B-14: CAPITAL COSTS OF TRANSPORTATION

(in dollars)

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	80,046	144,301	46,231	43,246	133,380	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	194,353	279,342	473,695	45,492	42,504	110,696	198,692	52,626	99,698	152,324
1980	278,874	339,561	618,435	134,838	124,183	305,143	564,164	195,984	363,404	559,388
1981	185,008	346,468	531,476	-34,501	-30,868	-67,199	-132,568	-79,397	-144,254	-223,651
1982	495,614	786,754	1,282,368	17,912	16,907	45,889	80,708	-26,385	-47,866	-74,251
1983	1,216,197	1,358,109	2,574,306	129,814	121,045	312,996	563,855	22,241	42,211	64,452
1984	2,442,063	2,643,338	5,085,401	119,315	109,711	274,631	503,657	-15,844	-27,541	-43,385
1985	7,053,831	6,292,167	13,345,998	16,977	16,061	44,950	77,988	56,822	106,656	163,478
1986	10,451,910	16,654,010	27,105,920	21,907	21,088	60,254	103,249	32,625	62,339	94,964
1987	10,720,788	19,128,999	29,849,787	219,087	205,400	550,993	975,480	953,004	1,999,238	2,952,242
1988	2,282,996	4,426,004	6,709,000	347,698	322,050	814,174	1,483,922	696,751	1,454,553	2,151,304
1989	431,881	938,119	1,370,000	258,422	237,704	580,123	1,076,249	1,804,471	3,818,530	5,623,001
1990	5,404	6,596	12,000	116,694	107,293	261,357	485,344	2,582,227	5,514,180	8,096,407
1991	0	0	0	54,946	50,237	119,719	224,902	23,003,628	49,301,424	72,305,052
1992	0	0	0	31,693	28,977	69,052	129,722	29,614,348	63,397,160	93,011,508
1993	0	0	0	10,278	9,397	22,393	42,068	22,685,534	44,792,987	67,478,521
1994	0	0	0	9,546	8,728	20,799	39,073	448,075	1,095,086	1,543,161
1995	0	0	0	9,546	8,728	20,799	39,073	275,510	780,651	1,056,161
1996	0	0	0	9,546	8,728	20,799	39,073	187,099	528,062	715,161
1997	0	0	0	0	0	0	0	129,849	370,151	500,000
1998	0	0	0	0	0	0	0	51,987	148,013	200,000
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	39,640,562	54,109,509	93,750,071	7,863,418	8,635,633	32,294,394	48,793,445	85,663,994	179,240,131	264,904,125

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.

FACILITES ALLOCATED TO EACH CONTRACTOR

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA										
	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	Total
					Municipal and Industrial	Municipal and Industrial (d	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(15A)	(16)	(17)	(18)	(19)	(20)
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	1,879	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	37,487	103,080	-6,793	25,433	260,912	27,195	2,512,449	5,457	6,181	211,220	3,182,621
1981	6,472	25,355	-13,864	4,378	121	6,811	128,284	1,339	2,402	51,852	213,150
1982	17,475	82,541	4,280	11,752	141,745	21,613	1,273,743	4,374	2,584	169,314	1,729,421
1983	16,715	52,954	-35,263	11,315	107,678	13,962	1,064,629	2,802	1,233	108,515	1,344,540
1984	12,216	64,709	3,353	8,196	100,645	17,114	1,128,041	3,424	1,218	132,638	1,471,554
1985	214	-11,658	-612	174	-6,202	-2,942	-121,680	-628	230	-24,060	-167,164
1986	9,744	21,626	-41,943	6,618	49,907	6,149	521,074	1,112	286	43,707	618,280
1987	35,487	91,280	4,710	24,087	252,007	27,249	2,743,078	4,815	5,118	186,726	3,374,557
1988	44,964	166,751	8,625	30,397	287,561	44,918	3,176,889	8,821	13,013	341,559	4,123,498
1989	56,995	220,799	11,427	38,511	369,439	58,624	4,095,586	11,684	20,333	452,357	5,335,755
1990	46,601	190,952	9,879	31,463	314,475	50,366	3,479,975	10,105	18,295	391,165	4,543,276
1991	23,579	99,585	5,151	15,912	163,868	26,278	1,806,583	5,269	9,653	203,986	2,359,864
1992	40,645	57,888	2,999	27,707	94,373	15,211	1,252,923	3,067	5,626	118,662	1,619,101
1993	37,945	18,385	955	25,955	29,517	4,797	589,672	976	1,799	37,733	747,734
1994	3,778	17,076	887	2,547	27,416	4,455	301,821	907	1,671	35,046	395,604
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
	2,291,232	4,842,002	99,483	1,567,680	11,489,148	1,434,816	126,257,662	244,860	239,554	9,693,001	158,159,438

b) 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.

c) 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, $38,004 in 1983, and $43,033 in 1986 in accordance with letters of agreement with the District.

d) 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)

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)
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	2,409,562	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	1,892,918	1,376,961	431,911	115,361	712,307	32,859	880,597	244,088	2,079,577	558,686
1981	-200,518	462,504	-57,023	-10,674	-94,037	-3,274	-123,526	-24,837	-175,883	-52,300
1982	1,684,931	707,732	325,341	89,539	536,544	28,348	665,173	212,538	1,606,427	439,232
1983	2,030,439	398,370	388,056	116,554	639,974	34,138	785,330	255,788	2,138,890	585,911
1984	1,171,213	127,912	229,900	69,552	379,143	20,366	464,772	146,360	1,265,028	346,127
1985	970,393	152,758	243,980	69,549	402,369	16,369	496,477	122,527	1,235,624	337,969
1986	889,021	103,086	244,518	64,435	403,259	15,977	502,578	119,201	1,156,180	315,477
1987	1,211,127	341,164	375,136	97,168	618,668	20,460	772,703	152,813	1,821,190	497,362
1988	484,950	254,727	212,220	57,726	349,989	8,297	434,799	61,669	1,045,377	285,070
1989	499,461	195,009	249,745	74,375	411,882	8,501	506,277	63,328	1,337,195	365,242
1990	364,446	203,778	267,855	89,544	441,741	6,191	534,140	46,202	1,613,622	441,695
1991	182,397	158,883	133,310	67,298	219,861	3,080	245,313	23,071	1,229,158	336,917
1992	102,438	31,047	71,444	47,269	117,826	1,715	121,349	12,866	835,901	229,402
1993	31,643	9,590	13,416	19,413	22,127	529	13,232	3,974	343,296	94,203
1994	29,389	8,907	7,884	7,894	13,002	492	11,011	3,691	139,591	38,317
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	47,022,985	23,038,254	13,390,209	4,078,311	22,083,276	866,047	26,469,433	6,303,087	82,758,344	21,531,757

FACILITES ALLOCATED TO EACH CONTRACTOR

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio 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	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
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	15,573,645
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	31,957,507
1980	344,352	60,546,168	653,183	69,868,968	0	0	26	26	57,222	74,850,824
1981	-31,752	15,284,515	221,420	15,194,615	0	0	34	34	-4,944	15,578,112
1982	270,070	33,501,425	339,000	40,406,300	0	0	11	11	20,610	43,445,167
1983	360,333	25,271,789	189,038	33,194,610	0	0	19	19	69,678	37,811,460
1984	212,828	11,367,179	56,088	15,856,468	0	0	26	26	71,106	22,944,827
1985	207,774	12,030,821	72,234	16,358,844	0	0	29	29	12,992	29,792,165
1986	193,956	9,998,171	48,498	14,054,357	0	0	34	34	11,099	41,987,903
1987	306,114	21,747,062	162,346	28,123,313	0	0	0	0	106,167	65,381,546
1988	175,281	14,742,820	111,000	18,223,925	0	0	0	0	131,264	32,822,913
1989	224,477	14,197,575	90,024	18,223,091	0	0	0	0	93,259	31,721,355
1990	271,482	15,871,660	97,709	20,250,065	0	0	0	0	43,347	33,430,439
1991	207,155	12,148,497	76,517	15,031,457	0	0	0	0	19,784	89,941,059
1992	140,936	5,565,296	14,961	7,292,450	0	0	0	0	11,369	102,064,150
1993	57,881	2,174,545	4,622	2,788,471	0	0	0	0	3,687	71,060,481
1994	23,536	1,060,090	4,293	1,348,097	0	0	0	0	3,425	3,329,360
1995	3,984	439,318	4,293	546,547	0	0	0	0	3,425	2,040,810
1996	3,984	439,318	4,293	546,547	0	0	0	0	3,425	1,699,810
1997	0	0	0	0	0	0	0	0	0	500,000
1998	0	0	0	0	0	0	0	0	0	200,000
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	13,355,764	1,310,160,966	10,351,305	1,581,409,738	0	0	340,721	340,721	8,087,346	2,155,444,884

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)

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	68,735	281,365	349,312	382,116	1,525,102	2,256,530	191,271	356,474	547,745
1981	227,066	86,312	313,378	356,292	388,544	1,540,897	2,285,733	201,416	375,285	576,701
1982	236,642	104,247	340,889	354,506	386,946	1,537,418	2,278,870	197,306	367,818	565,124
1983	262,297	144,972	407,269	355,433	387,821	1,539,794	2,283,048	195,941	365,340	561,281
1984	325,251	215,272	540,523	362,153	394,087	1,555,996	2,312,236	197,092	367,525	564,617
1985	451,661	352,100	803,761	368,329	399,766	1,570,211	2,338,306	196,272	366,100	562,372
1986	816,791	677,804	1,494,595	369,208	400,597	1,572,538	2,342,343	199,213	371,620	570,833
1987	1,360,665	1,544,410	2,905,075	370,348	401,695	1,575,673	2,347,716	200,911	374,864	575,775
1988	1,921,623	2,545,320	4,466,943	381,811	412,442	1,604,504	2,398,757	250,776	479,473	730,249
1989	2,041,776	2,778,260	4,820,036	400,110	429,391	1,647,354	2,476,855	287,446	556,026	843,472
1990	2,064,646	2,827,936	4,892,582	413,795	441,979	1,678,073	2,533,847	382,999	758,230	1,141,229
1991	2,064,934	2,828,288	4,893,222	420,014	447,697	1,692,002	2,559,713	520,623	1,052,117	1,572,740
1992	2,064,934	2,828,288	4,893,222	422,963	450,393	1,698,427	2,571,783	1,755,017	3,697,673	5,452,690
1993	2,064,934	2,828,288	4,893,222	424,675	451,959	1,702,159	2,578,793	3,355,601	7,124,138	10,479,739
1994	2,064,934	2,828,288	4,893,222	425,235	452,471	1,703,378	2,581,084	4,591,024	9,563,502	14,154,526
1995	2,064,934	2,828,288	4,893,222	425,759	452,950	1,704,520	2,583,229	4,615,622	9,623,617	14,239,239
1996	2,064,934	2,828,288	4,893,222	426,288	453,433	1,705,671	2,585,392	4,630,874	9,666,835	14,297,709
1997	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,641,325	9,696,331	14,337,656
1998	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,648,646	9,717,202	14,365,848
1999	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2000	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2001	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2002	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2003	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2004	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2005	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2006	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2007	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2008	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2009	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2010	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2011	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2012	2,064,934	2,828,288	4,893,222	426,821	453,921	1,706,833	2,587,575	4,651,607	9,725,631	14,377,238
2013	2,064,934	2,828,288	4,893,222	314,083	349,572	1,334,221	1,997,876	4,651,607	9,725,631	14,377,238
2014	2,064,934	2,828,288	4,893,222	278,280	293,777	1,166,309	1,738,366	4,642,540	9,707,677	14,350,217
2015	2,064,934	2,828,288	4,893,222	239,763	229,380	790,931	1,260,074	4,636,669	9,696,679	14,333,348
2016	2,046,534	2,828,288	4,874,822	220,403	205,148	614,186	1,039,737	4,627,219	9,679,033	14,306,252
2017	2,022,639	2,828,288	4,850,927	188,813	176,045	497,966	862,824	4,608,595	9,644,503	14,253,098
2018	1,941,397	2,828,288	4,769,685	146,609	136,078	373,636	656,323	4,594,044	9,617,471	14,211,515
2019	1,896,900	2,828,288	4,725,188	107,849	100,809	270,217	478,875	4,590,215	9,610,277	14,200,492
2020	1,893,050	2,828,288	4,721,338	93,737	87,446	230,620	411,803	4,588,167	9,606,412	14,194,579
2021	1,890,805	2,828,288	4,719,093	90,684	84,503	223,602	398,789	4,586,809	9,603,823	14,190,632
2022	1,889,420	2,828,288	4,717,708	90,058	83,758	219,249	393,065	4,585,759	9,601,770	14,187,529
2023	1,888,403	2,796,226	4,684,629	89,422	83,151	215,957	388,530	4,585,230	9,600,743	14,185,973
2024	1,885,478	2,794,628	4,680,106	88,878	82,607	213,918	385,403	4,584,805	9,599,907	14,184,712
2025	1,876,894	2,791,220	4,668,114	88,065	81,687	210,133	379,885	4,584,291	9,598,916	14,183,207
2026	1,872,141	2,786,601	4,658,742	87,199	80,880	207,990	376,069	4,474,529	9,396,216	13,870,745
2027	1,869,150	2,782,271	4,651,421	85,439	79,180	202,316	366,935	4,471,704	9,390,547	13,862,251
2028	1,865,824	2,778,128	4,643,952	83,045	76,941	195,412	355,398	4,464,972	9,377,963	13,842,935
2029	1,862,364	2,774,012	4,636,376	79,864	74,005	187,462	341,331	4,463,060	9,374,318	13,837,378
2030	1,852,303	2,759,552	4,611,855	77,509	71,805	181,732	331,046	4,460,336	9,369,158	13,829,494
2031	1,837,868	2,741,976	4,579,844	70,529	65,377	165,936	301,842	4,450,191	9,350,347	13,800,538
2032	1,828,291	2,724,041	4,552,332	72,315	66,974	169,415	308,704	4,454,301	9,357,814	13,812,115
2033	1,802,637	2,683,316	4,485,953	71,388	66,099	167,039	304,526	4,455,666	9,360,291	13,815,957
2034	1,739,682	2,613,016	4,352,698	64,668	59,834	150,838	275,340	4,454,515	9,358,106	13,812,621
2035	1,613,273	2,476,188	4,089,461	58,492	54,155	136,622	249,269	4,455,335	9,359,532	13,814,867
TOTAL	101,127,523	137,646,689	238,774,212	20,832,979	22,497,919	84,850,795	128,181,693	202,189,536	422,529,987	624,719,523

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)

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)	(15A)	(16)	(17)	(18)	(19)	(20)
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	34,112	73,406	2,335	49,755	341,655	49,804	411,306	8,657	4,622	62,641	1,038,293
1969	46,097	73,534	7,004	58,362	398,970	53,435	844,678	9,173	5,024	237,011	1,733,288
1970	52,550	80,592	7,004	60,198	430,989	54,844	1,027,382	9,427	5,225	175,393	1,903,604
1971	61,770	91,885	7,004	61,320	452,529	55,648	1,364,547	9,571	5,626	186,643	2,296,543
1972	70,989	102,665	7,004	61,946	462,429	56,016	2,043,290	9,639	10,783	575,781	3,400,542
1973	80,208	112,932	7,004	62,379	466,734	56,193	2,356,624	9,670	6,229	222,704	3,380,677
1974	89,428	171,400	7,004	62,907	468,810	56,295	2,639,066	9,688	6,975	369,651	3,881,224
1975	98,647	208,180	7,004	63,479	471,168	56,439	3,160,877	9,713	7,186	441,081	4,523,774
1976	107,866	158,726	7,004	63,750	473,060	56,631	3,407,396	9,748	8,116	315,539	4,607,836
1977	117,086	156,051	7,004	64,403	475,813	56,922	3,733,528	9,793	7,435	301,697	4,929,732
1978	117,086	166,831	7,004	66,876	477,693	57,114	4,150,130	9,815	7,837	323,685	5,384,071
1979	117,086	197,857	7,004	67,059	479,131	57,288	4,557,022	9,844	8,038	364,292	5,864,621
1980	117,086	210,464	7,004	67,313	481,501	57,555	4,972,741	9,897	11,454	366,639	6,301,654
1981	117,086	210,464	7,004	68,630	495,007	58,963	5,442,301	10,180	8,641	388,627	6,806,903
1982	117,086	210,464	7,004	68,856	495,013	59,315	5,875,673	10,249	9,042	410,104	7,262,806
1983	117,086	220,217	7,004	69,465	502,350	60,434	6,369,063	10,475	9,243	48,824	7,414,161
1984	117,086	231,510	7,004	70,050	507,924	61,157	6,681,514	10,620	9,645	320,162	8,016,672
1985	117,086	242,290	7,004	70,475	513,133	62,042	7,114,886	10,798	9,846	232,915	8,380,475
1986	117,086	253,070	7,004	70,484	512,812	61,890	7,544,727	10,765	10,248	497,033	9,085,119
1987	117,086	263,850	7,004	70,828	515,409	62,210	7,982,512	10,823	10,449	518,510	9,558,681
1988	117,086	274,630	7,004	72,088	528,595	63,636	8,391,170	11,075	10,851	539,987	10,016,122
1989	117,086	285,410	7,004	73,688	543,730	66,000	8,685,969	11,539	11,253	561,975	10,363,654
1990	117,086	296,189	7,004	75,727	563,293	69,104	8,992,242	12,158	11,454	605,951	10,750,208
1991	117,086	296,189	7,004	77,404	580,053	71,789	8,992,242	12,696	11,454	605,951	10 771,868
1992	117,086	296,189	7,004	78,258	588,847	73,199	8,992,242	12,979	11,454	605,951	10,783,209
1993	117,086	296,189	7,004	79,756	593,947	74,021	8,992,242	13,145	11,454	605,951	10,790,795
1994	117,086	296,189	7,004	81,169	595,555	74,282	8,992,242	13,198	11,454	605,951	10,794,130
1995	117,086	296,189	7,004	81,309	597,060	74,527	8,992,242	13,248	11,454	605,951	10,796,070
1996	117,086	296,189	7,004	81,450	598,577	74,773	8,992,242	13,298	11,454	605,951	10,798,024
1997	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
1998	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
1999	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2000	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2001	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2002	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2003	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2004	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2005	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2006	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2007	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2008	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2009	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2010	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2011	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2012	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2013	117,086	296,189	7,004	81,592	600,109	75,022	8,992,242	13,349	11,454	605,951	10,799,998
2014	117,086	296,189	7,004	78,820	600,109	75,022	8,992,242	13,349	11,454	605,951	10,797,226
2015	117,086	296,189	7,004	75,461	534,653	65,574	8,992,242	13,349	11,454	605,951	10,718,963
2016	117,086	296,189	7,004	69,353	477,715	57,655	8,992,242	13,349	11,454	605,951	10,647,998
2017	117,086	296,189	7,004	54,901	362,769	40,086	8,992,242	13,349	11,454	605,951	10,501,031
2018	117,086	296,189	7,004	31,837	258,454	25,218	8,992,242	4,692	11,454	605,951	10,350,127
2019	117,086	296,189	7,004	23,231	201,138	21,587	8,992,242	4,176	11,454	605,951	10,280,058
2020	117,086	296,189	7,004	21,394	169,120	20,178	8,992,242	3,922	11,454	605,951	10,244,540
2021	117,086	296,189	7,004	20,272	147,579	19,374	8,992,242	3,778	11,454	605,951	10,220,929
2022	117,086	296,189	7,004	19,646	137,680	19,006	8,992,242	3,710	11,454	605,951	10,209,968
2023	117,086	296,189	7,004	19,213	133,375	18,829	8,992,242	3,679	11,454	605,951	10,205,022
2024	117,086	296,189	7,004	18,685	131,299	18,727	8,992,242	3,661	11,454	605,951	10,202,298
2025	117,086	296,189	7,004	18,113	128,940	18,583	8,992,242	3,636	11,454	605,951	10,199,198
2026	117,086	296,189	7,004	17,842	127,049	18,391	8,992,242	3,600	11,454	605,951	10,196,808
2027	117,086	296,189	7,004	17,189	124,296	18,100	8,992,242	3,556	11,454	605,951	10,193,067
2028	117,086	296,189	7,004	14,716	122,416	17,908	8,992,242	3,533	11,454	605,951	10,188,499
2029	117,086	296,189	7,004	14,533	120,978	17,735	8,992,242	3,505	11,454	605,951	10,186,677
2030	117,086	296,189	7,004	14,279	118,608	17,467	8,992,242	3,452	11,454	605,951	10,183,732
2031	117,086	296,189	7,004	12,962	105,102	16,060	8,992,242	3,169	11,454	605,951	10,167,219
2032	117,086	296,189	7,004	12,736	105,096	15,707	8,992,242	3,100	11,454	605,951	10,166,565
2033	117,086	296,189	7,004	12,128	97,759	14,588	8,992,242	2,873	11,454	605,951	10,157,274
2034	117,086	296,189	7,004	11,542	92,185	13,866	8,992,242	2,728	11,454	605,951	10,150,247
2035	117,086	296,189	7,004	11,118	86,975	12,980	8,992,242	2,551	11,454	605,951	10,143,550
TOTAL	7,549,741	17,621,122	471,603	4,024,252	29,622,125	3,691,292	512,399,534	655,531	710,652	35,334,640	612,080,492

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)

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)
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	1,944,863	1,029,641	553,669	166,824	912,477	36,526	1,090,222	264,418	3,479,368	894,628
1982	1,934,483	1,053,582	550,717	166,271	907,609	36,356	1,083,828	263,132	3,470,264	891,921
1983	2,021,701	1,090,216	567,558	170,906	935,382	37,824	1,118,260	274,134	3,553,418	914,657
1984	2,126,803	1,110,837	587,645	176,940	968,510	39,591	1,158,911	287,375	3,664,134	944,986
1985	2,187,429	1,117,458	599,546	180,540	988,135	40,645	1,182,969	294,951	3,729,617	962,902
1986	2,237,660	1,125,366	612,175	184,140	1,008,963	41,492	1,208,669	301,293	3,793,577	980,397
1987	2,283,921	1,130,730	624,898	187,493	1,029,947	42,324	1,234,821	307,496	3,853,739	996,813
1988	2,347,292	1,148,581	644,527	192,577	1,062,319	43,394	1,275,252	315,492	3,949,032	1,022,837
1989	2,372,815	1,161,987	655,696	195,615	1,080,738	43,831	1,298,135	318,737	4,004,050	1,037,840
1990	2,399,263	1,172,313	668,921	199,554	1,102,549	44,281	1,324,944	322,091	4,074,859	1,057,181
1991	2,418,687	1,183,174	683,197	204,326	1,126,092	44,611	1,353,412	324,553	4,160,859	1,080,722
1992	2,428,475	1,191,700	690,350	207,937	1,137,890	44,776	1,366,576	325,791	4,226,817	1,098,801
1993	2,434,011	1,193,378	694,212	210,492	1,144,258	44,869	1,373,135	326,487	4,271,996	1,111,200
1994	2,435,734	1,193,900	694,942	211,549	1,145,463	44,898	1,373,855	326,703	4,290,691	1,116,330
1995	2,437,348	1,194,389	695,375	211,983	1,146,177	44,925	1,374,460	326,906	4,298,354	1,118,433
1996	2,438,975	1,194,882	695,668	212,056	1,146,659	44,952	1,375,069	327,110	4,299,662	1,118,793
1997	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
1998	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
1999	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2000	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2001	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2002	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2003	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2004	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2005	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2006	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2007	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2008	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2009	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2010	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2011	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2012	2,440,616	1,195,380	695,963	212,131	1,147,146	44,980	1,375,684	327,316	4,300,982	1,119,156
2013	2,406,598	1,195,380	695,963	212,131	1,133,508	44,980	1,375,684	327,316	4,248,222	1,105,793
2014	2,376,530	1,174,867	681,250	207,675	1,123,526	43,813	1,346,682	318,947	4,216,601	1,097,470
2015	2,319,783	1,156,473	670,390	204,801	1,105,614	42,857	1,324,407	311,803	4,163,408	1,083,155
2016	2,220,818	1,121,824	650,398	199,421	1,072,644	41,155	1,283,596	299,118	4,064,221	1,056,564
2017	2,015,411	1,044,120	608,258	188,229	1,003,147	37,560	1,197,279	272,291	3,859,758	1,001,479
2018	1,757,068	897,968	552,353	172,870	910,948	32,977	1,084,041	238,384	3,557,809	921,069
2019	1,449,377	743,639	482,249	153,767	795,333	27,403	941,931	197,677	3,143,766	810,952
2020	1,146,843	618,912	394,551	125,770	650,699	21,105	772,939	152,736	2,578,724	667,334
2021	885,345	484,004	288,218	89,732	475,331	15,582	572,127	114,475	1,863,816	488,166
2022	751,390	393,571	232,656	72,182	383,696	13,070	463,885	96,443	1,442,182	385,187
2023	700,801	377,389	215,446	67,406	355,314	12,077	429,203	89,463	1,302,717	349,014
2024	682,379	336,508	207,224	63,147	341,752	11,749	416,850	87,067	1,211,522	328,105
2025	658,915	324,360	193,791	59,306	319,598	11,326	389,977	83,993	1,127,723	306,037
2026	645,748	314,236	183,759	56,570	303,054	11,069	369,662	82,227	1,048,296	284,911
2027	633,412	304,266	176,673	54,640	291,368	10,848	355,267	80,618	998,453	271,656
2028	623,051	292,000	171,936	53,300	283,556	10,653	345,749	79,225	967,809	263,597
2029	613,263	274,633	169,092	52,459	278,866	10,480	340,111	77,958	951,074	259,313
2030	593,737	237,015	164,651	51,279	271,541	10,155	331,044	75,533	929,259	253,448
2031	495,754	165,739	142,294	45,307	234,669	8,454	285,462	62,898	821,613	224,529
2032	506,133	141,798	145,245	45,860	239,537	8,623	291,856	64,184	830,717	227,236
2033	418,915	105,164	128,405	41,225	211,764	7,156	257,424	53,182	747,563	204,500
2034	313,813	84,543	108,318	35,192	178,637	5,389	216,773	39,941	636,847	174,171
2035	253,187	77,922	96,417	31,591	159,011	4,335	192,715	32,365	571,365	156,254
TOTAL	121,418,208	59,510,218	34,502,514	10,490,833	56,870,398	2,238,565	68,210,009	16,287,983	212,961,928	55,387,073

TRANSPORTATION CHARGE FOR EACH CONTRACTOR (a(b

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio 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)
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	21,127,338
1969	190,490	22,298,744	206,873	26,809,370	0	0	3,243	3,243	351,990	31,307,765
1970	280,034	29,577,589	263,330	35,850,695	0	0	15,368	15,368	374,420	40,629,249
1971	391,982	37,991,283	323,059	46,288,885	0	0	16,208	16,208	378,477	51,484,161
1972	456,116	44,940,160	361,502	54,382,869	0	0	17,616	17,616	379,320	60,740,080
1973	478,635	47,211,227	364,910	57,015,296	0	0	17,617	17,617	380,056	63,392,549
1974	491,934	49,272,731	379,982	59,317,700	0	0	17,618	17,618	380,559	66,204,915
1975	505,630	50,252,070	384,461	60,526,490	0	0	17,620	17,620	382,381	68,077,095
1976	518,777	51,120,250	388,832	61,587,682	0	0	17,621	17,621	382,819	69,548,437
1977	527,004	51,823,491	393,238	62,425,887	0	0	17,624	17,624	383,766	70,734,436
1978	532,005	52,437,537	399,039	63,137,059	0	0	17,625	17,625	384,959	71,939,461
1979	534,662	53,162,991	407,236	63,936,993	0	0	17,627	17,627	386,279	73,248,471
1980	538,279	54,611,263	425,191	65,516,425	0	0	17,628	17,628	387,667	75,309,014
1981	556,103	57,745,337	459,002	69,133,078	0	0	17,630	17,630	390,629	79,524,052
1982	554,460	58,536,515	470,464	69,919,602	0	0	17,632	17,632	390,373	80,775,296
1983	568,440	60,270,662	488,012	72,011,170	0	0	17,632	17,632	391,440	83,086,001
1984	587,092	61,578,815	497,797	73,729,436	0	0	17,633	17,633	395,046	85,576,163
1985	598,108	62,167,219	500,700	74,550,219	0	0	17,634	17,634	398,727	87,051,494
1986	608,863	62,789,975	504,439	75,397,009	0	0	17,636	17,636	399,400	89,306,935
1987	618,956	63,310,238	506,963	76,128,339	0	0	17,638	17,638	399,977	91,933,201
1988	634,973	64,448,137	515,458	77,599,871	0	0	17,638	17,638	405,532	95,635,112
1989	644,198	65,224,048	521,299	78,558,989	0	0	17,638	17,638	412,441	97,493,085
1990	656,085	65,975,858	526,067	79,523,966	0	0	17,638	17,638	417,379	99,276,849
1991	670,554	66,821,764	531,274	80,603,225	0	0	17,638	17,638	419,689	100,838,095
1992	681,670	67,473,662	535,380	81,409,825	0	0	17,638	17,638	420,751	105,549,118
1993	689,288	67,774,453	536,189	81,803,968	0	0	17,638	17,638	421,365	110,985,520
1994	692,440	67,892,876	536,440	81,955,821	0	0	17,638	17,638	421,566	114,817,987
1995	693,732	67,951,070	536,676	82,029,828	0	0	17,638	17,638	421,754	114,980,980
1996	693,952	67,975,392	536,914	82,060,084	0	0	17,638	17,638	421,944	115,074,013
1997	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,148,836
1998	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,177,028
1999	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2000	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2001	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2002	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2003	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2004	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2005	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2006	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2007	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2008	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2009	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2010	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2011	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2012	694,175	67,999,930	537,153	82,090,612	0	0	17,638	17,638	422,135	115,188,418
2013	685,860	67,294,646	537,153	81,263,234	0	0	17,638	17,638	375,057	113,724,263
2014	680,716	66,714,709	527,579	80,510,365	0	0	17,638	17,638	337,173	112,644,207
2015	671,903	65,777,494	519,031	79,351,119	0	0	17,226	17,226	280,556	110,854,508
2016	655,514	64,025,585	503,072	77,193,930	0	0	17,064	17,064	256,197	108,336,000
2017	621,596	60,160,028	467,668	72,476,824	0	0	17,066	17,066	214,057	103,175,827
2018	571,885	53,371,307	401,123	64,469,802	0	0	17,064	17,064	135,828	94,610,344
2019	503,685	45,701,186	330,280	55,281,245	0	0	14,394	14,394	70,145	85,050,397
2020	414,141	38,422,342	273,823	46,239,919	0	0	2,270	2,270	47,715	75,862,164
2021	302,192	30,008,647	214,094	35,801,729	0	0	1,430	1,430	43,658	65,376,260
2022	238,059	23,059,770	175,651	27,707,742	0	0	22	22	42,815	57,258,849
2023	215,540	20,788,703	172,243	25,075,316	0	0	21	21	42,079	54,581,570
2024	202,241	18,727,200	157,171	22,772,915	0	0	20	20	41,576	52,267,030
2025	188,544	17,747,860	152,692	21,564,122	0	0	18	18	39,754	51,034,298
2026	175,398	16,879,680	148,321	20,502,931	0	0	17	17	39,316	49,644,628
2027	167,170	16,176,439	143,916	19,664,726	0	0	14	14	38,369	48,776,783
2028	162,169	15,562,393	138,115	18,953,553	0	0	12	12	37,176	48,021,525
2029	159,512	14,836,939	129,917	18,153,617	0	0	10	10	35,856	47,191,245
2030	155,896	13,388,668	111,962	16,574,188	0	0	9	9	34,468	45,564,792
2031	138,071	10,254,593	78,151	12,957,534	0	0	8	8	31,506	41,838,491
2032	139,715	9,463,415	66,690	12,171,009	0	0	6	6	31,762	41,042,493
2033	125,735	7,729,268	49,142	10,079,443	0	0	6	6	30,695	38,873,854
2034	107,083	6,421,115	39,357	8,361,179	0	0	5	5	27,089	36,979,179
2035	96,066	5,832,711	36,453	7,540,392	0	0	3	3	23,408	35,860,950
TOTAL	34,357,919	3,379,634,750	26,736,073	4,078,606,471	0	0	881,891	881,891	21,025,063	5,704,269,345

TABLE B-16A: MINIMUM OMP&R COMPONENT OF

(in dollars)

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	73,864	0	73,864	237,022	232,137	666,822	1,135,981	100,770	185,910	286,680
1980	81,791	0	81,791	389,643	372,246	1,010,975	1,772,864	124,597	229,865	354,462
1981	100,876	0	100,876	322,167	306,546	845,392	1,474,105	138,292	255,131	393,423
1982	192,119	0	192,119	387,178	370,115	1,099,796	1,857,089	140,621	259,430	400,051
1983	106,849	0	106,849	431,307	423,592	1,258,831	2,113,730	164,560	303,594	468,154
1984	142,992	0	142,992	563,489	539,182	1,712,300	2,814,971	184,592	340,548	525,140
1985	222,958	0	222,958	659,711	641,654	1,791,429	3,092,794	231,459	427,015	658,474
1986	128,618	0	128,618	592,138	569,109	1,705,182	2,866,429	211,965	391,051	603,016
1987	114,278	0	114,278	846,569	806,302	2,158,208	3,811,079	297,033	547,990	845,023
1988	529,203	669,567	1,198,770	884,297	848,477	2,284,975	4,017,749	342,764	632,359	975,123
1989	684,072	959,772	1,643,844	894,747	858,595	2,321,453	4,074,795	344,236	635,075	979,311
1990	686,142	966,486	1,652,628	881,617	846,147	2,290,243	4,018,007	333,025	614,390	947,415
1991	684,099	963,797	1,647,896	878,033	842,751	2,281,184	4,001,968	331,323	611,248	942,571
1992	685,081	965,455	1,650,536	879,974	844,568	2,285,829	4,010,371	332,980	614,311	947,291
1993	687,175	968,787	1,655,962	883,387	847,797	2,294,293	4,025,477	623,405	1,178,534	1,801,939
1994	691,102	974,836	1,665,938	889,624	853,718	2,309,944	4,053,286	834,295	1,563,869	2,398,164
1995	691,197	975,048	1,666,245	890,615	854,627	2,312,104	4,057,346	834,459	1,564,219	2,398,678
1996	691,239	975,141	1,666,380	891,203	855,163	2,313,383	4,059,749	834,544	1,564,390	2,398,934
1997	692,157	977,195	1,669,352	892,267	856,145	2,315,768	4,064,180	836,187	1,567,856	2,404,043
1998	692,277	977,463	1,669,740	892,363	856,234	2,315,984	4,064,581	836,410	1,568,330	2,404,740
1999	692,550	978,073	1,670,623	892,564	856,421	2,316,444	4,065,429	836,895	1,569,343	2,406,238
2000	692,538	978,045	1,670,583	892,561	856,417	2,316,434	4,065,412	836,889	1,569,329	2,406,218
2001	693,369	979,364	1,672,733	893,545	857,360	2,318,986	4,069,891	837,546	1,570,626	2,408,172
2002	695,145	983,335	1,678,480	895,807	859,445	2,324,048	4,079,300	841,249	1,578,288	2,419,537
2003	695,181	983,412	1,678,593	920,139	882,978	2,388,558	4,191,675	841,306	1,578,413	2,419,719
2004	702,271	993,054	1,695,325	922,443	885,142	2,394,086	4,201,671	843,963	1,583,417	2,427,380
2005	702,265	993,037	1,695,302	922,432	885,133	2,394,067	4,201,632	843,941	1,583,370	2,427,311
2006	702,339	993,204	1,695,543	922,490	885,186	2,394,197	4,201,873	849,589	1,593,894	2,443,483
2007	702,915	994,491	1,697,406	922,927	885,592	2,395,191	4,203,710	850,620	1,596,061	2,446,681
2008	702,989	994,654	1,697,643	922,981	885,643	2,395,320	4,203,944	850,750	1,596,334	2,447,084
2009	703,065	994,827	1,697,892	923,041	885,697	2,395,452	4,204,190	850,889	1,596,628	2,447,517
2010	703,080	994,862	1,697,942	923,052	885,706	2,395,476	4,204,234	850,912	1,596,679	2,447,591
2011	701,758	992,977	1,694,735	921,338	884,055	2,390,939	4,196,332	850,211	1,595,388	2,445,599
2012	701,831	993,139	1,694,970	921,394	884,107	2,391,067	4,196,568	850,341	1,595,662	2,446,003
2013	701,856	993,191	1,695,047	921,410	884,123	2,391,105	4,196,638	850,378	1,595,735	2,446,113
2014	701,912	993,318	1,695,230	921,451	884,161	2,391,204	4,196,816	850,473	1,595,938	2,446,411
2015	702,594	994,843	1,697,437	921,970	884,642	2,392,384	4,198,996	851,697	1,598,517	2,450,214
2016	702,654	994,974	1,697,628	922,014	884,684	2,392,485	4,199,183	851,796	1,598,729	2,450,525
2017	702,630	994,915	1,697,545	921,992	884,664	2,392,437	4,199,093	851,744	1,598,619	2,450,363
2018	703,046	995,845	1,698,891	922,306	884,954	2,393,147	4,200,407	852,481	1,600,170	2,452,651
2019	703,050	995,851	1,698,901	922,309	884,955	2,393,150	4,200,414	852,481	1,600,164	2,452,645
2020	702,924	995,575	1,698,499	921,129	883,875	2,390,574	4,195,578	851,640	1,598,551	2,450,191
2021	703,010	995,768	1,698,778	892,664	856,344	2,315,077	4,064,085	851,799	1,598,891	2,450,690
2022	695,575	985,657	1,681,232	891,440	855,223	2,312,399	4,059,062	850,160	1,595,825	2,445,985
2023	695,553	985,606	1,681,159	891,418	855,204	2,312,354	4,058,976	850,111	1,595,726	2,445,837
2024	694,760	984,712	1,679,472	889,775	853,621	2,308,060	4,051,456	839,742	1,576,473	2,416,215
2025	694,782	984,759	1,679,541	889,785	853,631	2,308,085	4,051,501	839,772	1,576,534	2,416,306
2026	694,752	984,693	1,679,445	889,760	853,608	2,308,025	4,051,393	839,715	1,576,410	2,416,125
2027	694,754	984,699	1,679,453	889,761	853,609	2,308,031	4,051,401	839,719	1,576,420	2,416,139
2028	694,738	984,660	1,679,398	889,743	853,592	2,307,985	4,051,320	839,677	1,576,332	2,416,009
2029	694,736	984,657	1,679,393	889,739	853,587	2,307,975	4,051,301	839,630	1,576,240	2,415,870
2030	694,699	984,575	1,679,274	889,704	853,556	2,307,898	4,051,158	839,547	1,576,067	2,415,614
2031	695,113	985,501	1,680,614	890,015	853,845	2,308,608	4,052,468	840,277	1,577,606	2,417,883
2032	695,051	985,361	1,680,412	889,965	853,798	2,308,494	4,052,257	840,156	1,577,351	2,417,507
2033	695,437	986,224	1,681,661	890,258	854,071	2,309,160	4,053,489	840,849	1,578,809	2,419,658
2034	695,373	986,082	1,681,455	890,210	854,025	2,309,049	4,053,284	840,732	1,578,569	2,419,301
2035	695,368	986,069	1,681,437	890,204	854,019	2,309,040	4,053,263	840,722	1,578,542	2,419,264
TOTAL	34,997,722	46,967,556	81,965,278	49,818,656	47,799,125	130,070,394	227,688,175	40,209,214	75,331,313	115,540,527

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)

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)
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	70,523	68,925	3,439	48,154	173,777	2,379,346	3,518	3,494	138,587	2,889,763
1980	87,231	95,763	4,716	59,539	235,570	3,144,565	4,823	4,780	191,306	3,828,293
1981	96,875	118,552	5,970	66,083	266,615	3,438,930	6,105	5,205	239,534	4,243,869
1982	98,553	134,181	6,714	67,195	312,329	3,852,034	6,869	6,400	270,265	4,754,540
1983	115,396	174,053	8,705	78,635	404,571	4,785,528	8,901	8,178	350,435	5,934,402
1984	129,421	189,955	9,470	88,204	459,800	5,395,751	9,684	9,034	381,842	6,673,161
1985	162,206	219,483	10,955	110,602	523,877	6,296,538	11,205	10,594	441,478	7,786,938
1986	148,521	195,791	9,762	101,286	496,379	5,886,223	9,985	10,749	393,630	7,252,326
1987	207,961	229,271	11,364	141,938	579,387	7,296,418	11,623	13,178	459,526	8,950,666
1988	239,944	253,781	12,605	163,789	625,344	8,035,764	12,891	14,515	509,199	9,867,832
1989	241,038	272,906	13,538	164,491	667,847	8,458,634	13,846	15,476	547,228	10,395,004
1990	233,212	271,412	13,452	159,134	663,021	8,351,192	13,759	15,324	543,987	10,264,493
1991	232,015	268,188	13,287	158,321	657,001	8,281,380	13,590	15,085	537,411	10,176,278
1992	233,170	267,812	13,267	159,111	656,610	8,289,609	13,569	15,023	536,627	10,184,798
1993	251,334	268,819	13,315	171,558	659,254	8,231,953	13,617	15,060	538,609	10,163,519
1994	252,409	270,624	13,404	172,289	663,371	8,280,472	13,710	15,132	542,226	10,223,637
1995	252,444	270,675	13,408	172,313	663,488	8,281,925	13,711	15,134	542,327	10,225,425
1996	252,464	270,711	13,410	172,329	663,588	8,283,032	13,714	15,134	542,399	10,226,781
1997	252,834	271,271	13,436	172,579	664,955	8,299,203	13,740	15,151	543,511	10,246,680
1998	252,890	271,361	13,441	172,615	665,180	8,301,801	13,746	15,154	543,691	10,249,879
1999	252,995	271,517	13,447	172,689	665,559	8,306,309	13,755	15,158	544,000	10,255,429
2000	252,997	271,533	13,447	172,691	665,601	8,306,755	13,755	15,159	544,027	10,255,965
2001	253,318	271,944	13,469	172,911	666,532	8,318,351	13,775	15,175	544,857	10,270,332
2002	254,401	274,679	13,606	173,644	671,851	8,379,464	13,918	15,366	550,395	10,347,324
2003	254,412	274,695	13,607	173,653	671,886	8,379,917	13,919	15,367	550,425	10,347,881
2004	255,899	279,384	13,849	174,658	682,708	8,507,226	14,165	15,609	560,018	10,503,516
2005	255,892	279,370	13,849	174,653	682,669	8,506,777	14,164	15,609	559,988	10,502,971
2006	258,095	279,664	13,852	176,165	686,050	8,551,633	14,170	15,610	560,368	10,555,607
2007	258,328	280,018	13,870	176,324	686,906	8,561,771	14,187	15,621	561,067	10,568,092
2008	258,358	280,059	13,871	176,345	687,014	8,563,022	14,189	15,623	561,156	10,569,637
2009	258,389	280,109	13,876	176,364	687,131	8,564,440	14,192	15,624	561,251	10,571,376
2010	258,394	280,114	13,876	176,368	687,143	8,564,582	14,192	15,624	561,262	10,571,555
2011	257,899	279,542	13,844	176,033	686,356	8,553,134	14,160	15,598	560,066	10,556,632
2012	257,932	279,587	13,846	176,050	686,467	8,554,426	14,161	15,600	560,157	10,558,226
2013	257,936	279,595	13,846	176,054	686,478	8,554,592	14,163	15,601	560,172	10,558,437
2014	257,958	279,624	13,848	176,069	686,548	8,555,455	14,165	15,601	560,231	10,559,499
2015	258,233	280,047	13,869	176,257	687,577	8,567,608	14,185	15,614	561,071	10,574,461
2016	258,256	280,081	13,870	176,274	687,650	8,568,515	14,188	15,615	561,137	10,575,586
2017	258,243	280,062	13,869	176,262	687,601	8,567,934	14,185	15,615	561,097	10,574,868
2018	258,406	280,303	13,882	176,377	688,193	8,574,975	14,198	15,622	561,584	10,583,540
2019	258,407	280,300	13,882	176,376	688,177	8,574,823	14,198	15,623	561,578	10,583,364
2020	257,916	278,264	13,775	176,046	684,806	8,537,098	14,091	15,431	557,404	10,534,831
2021	257,956	278,329	13,779	176,072	684,958	8,538,827	14,094	15,433	557,533	10,536,981
2022	256,852	273,448	13,526	175,329	673,750	8,409,124	13,834	15,176	547,525	10,378,564
2023	256,841	273,423	13,525	175,321	673,689	8,408,387	13,834	15,175	547,474	10,377,669
2024	252,620	272,392	13,492	172,431	666,874	8,317,665	13,798	15,147	545,753	10,270,172
2025	252,626	272,392	13,492	172,433	666,872	8,317,689	13,800	15,147	545,753	10,270,204
2026	252,609	272,361	13,490	172,424	666,804	8,316,881	13,797	15,147	545,696	10,269,209
2027	252,609	272,362	13,490	172,425	666,806	8,316,915	13,797	15,147	545,697	10,269,248
2028	252,599	272,336	13,488	172,413	666,735	8,316,167	13,796	15,145	545,641	10,268,320
2029	252,568	272,196	13,486	172,393	665,296	8,301,595	13,794	15,145	545,472	10,251,945
2030	252,541	272,149	13,484	172,378	665,180	8,300,298	13,792	15,144	545,382	10,250,348
2031	252,704	272,389	13,496	172,488	665,757	8,307,172	13,804	15,152	545,859	10,258,821
2032	252,675	272,337	13,493	172,467	665,627	8,305,660	13,802	15,150	545,756	10,256,967
2033	252,828	272,575	13,505	172,573	666,206	8,312,475	13,815	15,158	546,230	10,265,365
2034	252,804	272,535	13,503	172,554	666,102	8,311,281	13,811	15,156	546,146	10,263,892
2035	252,802	272,527	13,503	172,554	666,089	8,311,124	13,811	15,156	546,136	10,263,702
TOTAL	13,862,618	15,212,541	753,819	9,461,477	37,165,277	465,462,326	771,010	836,271	30,487,021	574,012,360

TABLE B-16A: MINIMUM OMP&R COMPONENT OF

(in dollars)

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	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	661,583	278,716	196,361	52,235	323,837	12,133	401,669	87,182	1,125,978	302,652
1980	864,991	328,464	253,418	72,004	417,942	15,424	509,058	112,781	1,520,042	401,671
1981	1,011,077	416,562	285,576	73,431	470,966	18,098	589,822	132,342	1,546,601	420,497
1982	1,139,654	460,572	321,720	89,758	530,581	20,254	650,821	148,450	1,875,127	499,118
1983	1,726,034	658,380	440,387	115,718	726,279	30,128	905,119	222,133	2,320,719	628,435
1984	2,153,398	816,348	578,785	163,962	954,531	37,713	1,161,851	277,248	3,262,407	860,812
1985	2,298,486	738,318	604,854	161,860	997,521	40,650	1,235,585	294,394	3,302,466	883,608
1986	2,235,464	883,313	593,264	155,119	978,406	39,045	1,218,899	283,630	3,138,699	848,928
1987	2,415,836	917,915	664,971	178,893	1,096,672	42,950	1,356,200	313,160	3,645,046	977,440
1988	2,508,290	965,077	712,177	193,389	1,174,519	44,956	1,449,047	326,540	3,980,158	1,064,738
1989	2,609,141	1,007,791	738,010	193,713	1,217,120	46,913	1,516,689	340,235	4,017,619	1,086,698
1990	2,555,718	992,667	740,065	208,017	1,220,517	46,053	1,491,661	333,725	4,278,090	1,133,812
1991	2,541,953	980,023	734,639	204,707	1,211,570	45,815	1,484,647	331,976	4,217,454	1,120,771
1992	2,544,343	984,816	731,830	199,904	1,206,932	45,870	1,487,123	332,355	4,132,870	1,104,173
1993	2,553,640	985,295	729,968	194,592	1,203,856	46,052	1,493,166	333,638	4,040,180	1,086,674
1994	2,567,425	991,530	746,205	209,959	1,230,645	46,324	1,502,555	335,554	4,316,548	1,142,216
1995	2,567,990	1,013,489	741,290	203,760	1,222,534	46,337	1,503,063	335,639	4,206,322	1,120,905
1996	2,568,494	982,810	742,718	205,280	1,224,892	46,350	1,503,538	335,724	4,233,409	1,126,273
1997	2,575,106	1,002,477	739,163	198,127	1,219,022	46,500	1,509,551	336,763	4,106,776	1,102,667
1998	2,576,157	993,929	764,198	228,269	1,260,337	46,524	1,510,507	336,929	4,642,498	1,207,359
1999	2,578,034	1,029,659	734,352	191,006	1,211,086	46,570	1,512,219	337,224	3,980,448	1,078,508
2000	2,578,163	982,796	744,208	202,994	1,227,344	46,573	1,512,327	337,247	4,193,501	1,120,092
2001	2,581,330	1,015,564	750,754	209,954	1,238,148	46,635	1,514,563	337,694	4,317,814	1,144,785
2002	2,597,159	983,331	767,723	224,664	1,266,138	46,984	1,527,466	340,100	4,580,074	1,198,298
2003	2,597,069	1,048,350	742,102	193,302	1,223,869	46,983	1,527,613	340,102	4,022,695	1,089,582
2004	2,630,498	1,012,170	770,354	221,368	1,270,470	47,549	1,541,408	344,307	4,522,348	1,189,511
2005	2,630,355	1,062,016	756,460	204,447	1,247,554	47,547	1,541,301	344,289	4,221,652	1,130,830
2006	2,655,392	1,011,508	768,397	214,494	1,267,254	47,972	1,551,008	347,449	4,400,151	1,167,325
2007	2,663,361	1,056,700	775,098	214,444	1,278,295	48,176	1,568,617	348,821	4,406,650	1,172,120
2008	2,663,856	1,085,688	769,208	207,037	1,268,569	48,184	1,569,059	348,896	4,275,076	1,146,530
2009	2,664,458	1,001,413	781,969	222,368	1,289,624	48,200	1,569,612	348,994	4,547,542	1,199,790
2010	2,664,474	1,055,454	772,518	210,823	1,274,038	48,200	1,569,617	348,995	4,342,405	1,159,769
2011	2,662,661	1,072,328	772,675	211,680	1,274,301	48,164	1,568,194	348,753	4,356,481	1,162,184
2012	2,663,181	1,005,945	782,144	223,021	1,289,917	48,177	1,568,670	348,833	4,558,032	1,201,593
2013	2,663,323	1,041,951	764,088	200,898	1,260,129	48,181	1,568,820	348,858	4,164,849	1,124,911
2014	2,663,674	1,056,544	775,951	215,241	1,279,701	48,188	1,569,138	348,913	4,419,764	1,174,707
2015	2,668,613	1,073,490	773,099	209,664	1,274,993	48,304	1,573,627	349,691	4,320,975	1,156,253
2016	2,668,967	1,014,886	782,319	220,775	1,290,204	48,311	1,573,947	349,746	4,518,498	1,194,847
2017	2,668,784	984,384	801,926	244,796	1,322,548	48,309	1,573,787	349,721	4,945,408	1,278,105
2018	2,671,702	1,086,361	764,539	197,886	1,260,866	48,375	1,576,453	350,179	4,111,902	1,115,979
2019	2,671,611	1,053,915	774,142	209,656	1,276,713	48,372	1,576,369	350,166	4,321,128	1,156,788
2020	2,667,121	1,143,475	807,553	251,530	1,331,838	48,290	1,574,083	349,563	5,065,283	1,301,564
2021	2,667,570	998,909	765,478	199,969	1,262,414	48,300	1,574,438	349,626	4,148,957	1,122,861
2022	2,633,524	1,003,486	777,552	220,796	1,282,339	47,730	1,561,415	345,388	4,519,218	1,192,855
2023	2,633,161	1,047,434	766,944	208,006	1,264,840	47,722	1,561,066	345,325	4,291,866	1,148,439
2024	2,588,591	1,109,514	766,630	215,931	1,264,329	46,968	1,543,302	339,694	4,431,615	1,172,559
2025	2,581,975	895,315	766,134	226,486	1,263,521	46,777	1,519,443	338,451	4,606,962	1,201,873
2026	2,581,679	1,079,468	719,834	170,049	1,187,128	46,771	1,519,181	338,401	3,603,952	1,006,151
2027	2,581,689	1,010,059	767,480	228,249	1,265,739	46,771	1,519,189	338,404	4,638,282	1,207,942
2028	2,581,488	999,634	750,835	207,990	1,238,280	46,767	1,519,026	338,376	4,278,265	1,137,673
2029	2,576,527	1,001,212	748,100	205,524	1,233,771	46,682	1,517,155	337,752	4,234,459	1,128,809
2030	2,576,123	1,001,147	759,695	219,846	1,252,898	46,674	1,516,819	337,690	4,488,964	1,178,398
2031	2,578,987	1,021,191	742,696	197,852	1,224,850	46,745	1,519,437	338,142	4,098,370	1,102,678
2032	2,578,372	1,023,934	751,397	208,751	1,239,205	46,728	1,518,863	338,045	4,291,972	1,140,344
2033	2,581,033	1,024,934	750,677	206,764	1,238,019	46,787	1,521,242	338,459	4,256,845	1,133,929
2034	2,580,502	1,021,176	766,671	226,537	1,264,404	46,777	1,520,731	338,373	4,608,231	1,202,388
2035	2,580,411	963,738	732,093	184,348	1,207,353	46,775	1,520,636	338,358	3,858,450	1,056,093
TOTAL	143,799,974	56,120,357	41,459,122	11,447,707	68,374,408	2,593,119	83,956,845	18,796,032	235,437,891	62,662,829

TRANSPORTATION CHARGE FOR EACH CONTRACTOR (a

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio 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	186,775	16,422,520	126,831	20,178,472	0	0	3,235	3,235	119,365	24,687,360
1980	248,675	20,940,991	154,164	25,839,625	0	0	416	416	178,840	32,056,291
1981	259,182	23,810,264	187,520	29,221,938	0	0	3,847	3,847	198,481	35,636,539
1982	308,724	28,030,957	209,838	34,285,574	0	0	10,956	10,956	174,079	41,674,408
1983	387,372	36,818,441	305,388	45,284,533	0	0	-422	-422	227,675	54,134,921
1984	533,065	47,489,403	384,036	58,673,559	0	0	643	643	216,199	69,046,665
1985	545,571	44,870,107	371,107	56,344,527	0	0	2,599	2,599	338,853	68,447,143
1986	523,563	49,679,728	416,984	60,995,042	0	0	2,595	2,595	293,053	72,141,079
1987	603,668	53,422,644	430,336	66,065,731	0	0	2,595	2,595	414,764	80,204,136
1988	657,968	57,123,453	452,274	70,652,586	0	0	2,600	2,600	429,178	87,143,838
1989	670,328	59,491,192	472,285	73,407,734	0	0	2,672	2,672	440,676	90,944,036
1990	701,736	59,537,318	464,351	73,703,730	0	0	2,714	2,714	436,865	91,025,852
1991	693,370	58,612,373	459,480	72,638,778	0	0	2,709	2,709	434,830	89,845,030
1992	682,505	58,767,168	461,037	72,680,926	0	0	2,712	2,712	435,860	89,912,494
1993	670,959	58,527,045	461,662	72,326,727	0	0	2,717	2,717	437,831	90,414,172
1994	707,131	59,718,955	464,422	73,979,469	0	0	2,728	2,728	441,408	92,764,630
1995	693,140	60,059,896	471,627	74,185,992	0	0	2,728	2,728	441,721	92,978,135
1996	696,648	59,226,028	461,607	73,353,771	0	0	2,728	2,728	441,905	92,150,248
1997	681,027	59,460,900	468,313	73,446,392	0	0	2,728	2,728	442,809	92,276,184
1998	749,601	60,909,555	465,561	75,691,424	0	0	2,728	2,728	442,925	94,526,017
1999	665,125	60,037,187	477,330	73,878,748	0	0	2,728	2,728	443,157	92,722,352
2000	692,373	59,149,525	462,002	73,249,145	0	0	2,728	2,728	443,158	92,093,209
2001	708,490	60,789,113	472,870	75,127,714	0	0	2,731	2,731	443,831	93,995,404
2002	743,225	60,673,707	462,984	75,411,853	0	0	2,731	2,731	445,752	94,384,977
2003	671,986	61,235,885	484,271	75,223,809	0	0	2,731	2,731	457,297	94,321,705
2004	737,113	61,536,101	474,614	76,297,811	0	0	2,731	2,731	458,375	95,586,809
2005	698,663	62,526,710	490,920	76,902,744	0	0	2,731	2,731	458,360	96,191,051
2006	722,341	61,172,937	475,564	75,801,792	0	0	2,731	2,731	458,429	95,159,458
2007	724,993	63,068,745	490,951	77,816,971	0	0	2,731	2,731	458,942	97,194,533
2008	708,217	63,749,567	500,460	78,340,347	0	0	2,731	2,731	459,007	97,720,393
2009	743,098	61,267,864	472,903	76,157,835	0	0	2,731	2,731	459,075	95,540,616
2010	716,876	62,968,750	490,589	77,622,508	0	0	2,731	2,731	459,088	97,005,649
2011	718,501	63,551,218	495,992	78,243,132	0	0	2,726	2,726	458,031	97,597,187
2012	744,313	61,715,190	474,289	76,623,305	0	0	2,726	2,726	458,096	95,979,894
2013	694,062	61,860,820	486,076	76,226,966	0	0	2,726	2,726	458,116	95,584,043
2014	726,683	63,144,898	490,865	77,914,267	0	0	2,726	2,726	458,166	97,273,115
2015	714,474	63,471,994	496,615	78,131,792	0	0	2,726	2,726	458,775	97,514,401
2016	739,757	61,918,146	477,449	76,797,852	0	0	2,726	2,726	458,827	96,182,327
2017	794,318	62,253,043	467,461	77,732,590	0	0	2,726	2,726	458,802	97,115,987
2018	688,014	63,576,954	500,953	77,950,163	0	0	2,726	2,726	459,167	97,347,545
2019	714,754	62,767,795	490,327	77,411,736	0	0	2,726	2,726	459,170	96,808,956
2020	809,678	68,479,495	519,434	84,348,907	0	0	2,726	2,726	458,657	103,689,389
2021	692,573	60,310,688	472,147	74,613,930	0	0	2,726	2,726	445,222	93,812,412
2022	738,759	61,550,103	471,361	76,344,526	0	0	2,726	2,726	444,731	95,356,826
2023	709,663	62,559,040	485,728	77,069,234	0	0	2,726	2,726	444,705	96,080,306
2024	725,918	65,044,629	503,927	79,753,607	0	0	2,726	2,726	443,932	98,617,580
2025	745,807	57,578,596	433,086	72,204,426	0	0	2,726	2,726	443,941	91,068,645
2026	617,558	61,283,254	493,335	74,646,761	0	0	2,726	2,726	443,910	93,509,569
2027	749,787	61,742,526	470,624	76,566,741	0	0	2,726	2,726	443,911	95,429,619
2028	703,745	60,569,655	467,202	74,838,936	0	0	2,726	2,726	443,884	93,700,593
2029	697,979	60,287,649	467,486	74,483,105	0	0	2,726	2,726	443,878	93,328,218
2030	730,487	61,073,285	467,442	75,649,468	0	0	2,726	2,726	443,832	94,492,420
2031	680,802	60,652,441	474,123	74,678,314	0	0	2,726	2,726	444,196	93,535,022
2032	705,493	61,345,839	474,993	75,663,936	0	0	2,726	2,726	444,136	94,517,941
2033	701,229	61,143,690	475,431	75,419,039	0	0	2,726	2,726	444,480	94,286,418
2034	746,105	62,272,501	474,174	77,068,570	0	0	2,726	2,726	444,422	95,933,650
2035	650,244	58,031,099	455,373	71,624,971	0	0	2,726	2,726	444,415	90,489,778
TOTAL	38,754,079	3,357,111,657	26,186,261	4,146,700,281	0	0	159,521	159,521	24,645,232	5,170,711,374

TABLE B-16B: MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

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	29,784	0	29,784	156,375	76,942	2,028,438	2,261,755	0	0	0
1985	53,583	0	53,583	452,319	570,681	2,640,929	3,663,929	0	0	0
1986	51,612	0	51,612	351,986	410,711	2,919,668	3,682,365	0	0	0
1987	51,501	0	51,501	675,603	910,851	2,564,956	4,151,410	0	0	0
1988	68,921	128,505	197,426	536,999	898,803	1,969,242	3,405,044	0	0	0
1989	77,773	162,902	240,675	572,920	930,262	2,069,547	3,572,729	0	0	0
1990	87,969	194,515	282,484	607,380	971,807	2,197,793	3,776,980	0	0	0
1991	93,182	199,765	292,947	616,277	970,392	2,225,342	3,812,011	0	0	0
1992	93,388	200,205	293,593	686,752	995,666	2,277,705	3,960,123	0	0	0
1993	105,793	210,300	316,093	751,173	916,010	2,211,058	3,878,241	429,174	841,958	1,271,132
1994	118,380	222,042	340,422	819,190	898,630	2,175,861	3,893,681	1,648,984	3,221,449	4,870,433
1995	134,240	240,336	374,576	910,316	910,317	2,167,420	3,988,053	1,642,588	3,208,953	4,851,541
1996	139,098	240,280	379,378	928,166	885,935	2,109,371	3,923,472	1,598,595	3,123,008	4,721,603
1997	145,118	242,594	387,712	954,304	871,322	2,074,576	3,900,202	1,572,225	3,071,493	4,643,718
1998	147,580	239,346	386,926	917,907	838,089	1,995,449	3,751,445	1,512,260	2,954,342	4,466,602
1999	147,140	232,056	379,196	868,051	792,569	1,887,068	3,547,688	1,430,123	2,793,880	4,224,003
2000	145,202	223,175	368,377	814,810	743,958	1,771,328	3,330,096	1,342,408	2,622,521	3,964,929
2001	146,278	216,305	362,583	780,508	712,638	1,696,758	3,189,904	1,285,894	2,512,118	3,798,012
2002	143,938	205,165	349,103	731,771	668,138	1,590,806	2,990,715	1,205,598	2,355,252	3,560,850
2003	141,841	195,361	337,202	688,754	628,861	1,497,291	2,814,906	1,134,727	2,216,798	3,351,525
2004	138,358	184,488	322,846	643,082	587,162	1,398,005	2,628,249	1,059,484	2,069,802	3,129,286
2005	133,506	172,601	306,107	594,936	543,203	1,293,341	2,431,480	980,163	1,914,843	2,895,006
2006	128,655	159,951	288,606	550,957	503,048	1,197,733	2,251,738	907,706	1,773,291	2,680,997
2007	124,290	148,852	273,142	512,373	467,819	1,113,855	2,094,047	844,140	1,649,107	2,493,247
2008	118,404	136,786	255,190	470,449	429,539	1,022,714	1,922,702	775,068	1,514,168	2,289,236
2009	113,182	126,273	239,455	433,993	396,255	943,463	1,773,711	715,008	1,396,836	2,111,844
2010	106,454	114,850	221,304	394,463	360,162	857,527	1,612,152	649,881	1,269,604	1,919,485
2011	101,459	105,522	206,981	362,176	330,682	787,339	1,480,197	596,688	1,165,687	1,762,375
2012	95,226	95,608	190,834	327,923	299,408	712,878	1,340,209	540,256	1,055,443	1,595,699
2013	36,696	35,612	72,308	122,046	111,433	265,317	498,796	201,072	392,812	593,884
2014	58,850	55,264	114,114	189,265	172,806	411,445	773,516	311,814	609,160	920,974
2015	16,541	15,047	31,588	51,496	47,018	111,948	210,462	84,840	165,743	250,583
2016	5,281	4,638	9,919	16,001	14,609	34,785	65,395	26,362	51,500	77,862
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	3,309,286	4,708,344	8,017,630	18,538,158	19,897,149	53,084,237	91,519,544	22,495,058	43,949,768	66,444,826

a) Unadjusted for prior overpayments or underpayments of charges.

FOR EACH CONTRACTOR FOR OFF-AQUEDUCT POWER FACILITIES (a

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA								
	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	Total
				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	179,237	387,275	0	813,862	9,070,546	26,619	33,382	49,315	10,560,236
1985	221,599	517,081	58,102	1,030,528	11,711,771	38,011	41,427	1,227,452	14,845,971
1986	269,326	621,072	14,462	996,543	13,259,723	45,732	43,051	980,819	16,230,728
1987	225,915	558,116	32,575	1,209,968	12,741,924	43,433	38,509	1,101,030	15,951,470
1988	173,446	445,999	25,009	1,101,480	10,011,051	33,346	30,703	987,867	12,808,901
1989	178,230	476,290	25,699	1,168,695	10,573,289	34,265	32,718	1,015,114	13,504,300
1990	185,160	513,498	26,698	1,271,093	11,293,210	35,598	34,597	1,054,585	14,414,439
1991	183,492	508,872	26,457	1,259,642	11,191,474	35,277	34,285	1,045,084	14,284,583
1992	183,897	509,995	26,516	1,262,422	11,216,172	35,355	34,361	1,047,390	14,316,108
1993	174,872	484,969	25,215	1,200,473	10,665,773	33,620	32,675	995,992	13,613,589
1994	168,647	467,703	24,318	1,157,735	10,286,067	32,423	31,512	960,535	13,128,940
1995	167,993	465,889	24,223	1,153,245	10,246,168	32,297	31,389	956,809	13,078,013
1996	163,493	453,411	23,575	1,122,357	9,971,747	31,433	30,549	931,183	12,727,748
1997	160,796	445,932	23,186	1,103,843	9,807,258	30,914	30,045	915,823	12,517,797
1998	154,664	428,924	22,301	1,061,741	9,433,200	29,735	28,899	880,893	12,040,357
1999	146,263	405,627	21,090	1,004,075	8,920,844	28,120	27,329	833,048	11,386,396
2000	137,293	380,749	19,796	942,491	8,373,697	26,395	25,653	781,954	10,688,028
2001	131,513	364,720	18,963	902,813	8,021,177	25,283	24,573	749,035	10,238,077
2002	123,300	341,946	17,779	846,438	7,520,305	23,705	23,039	702,262	9,598,774
2003	116,053	321,844	16,733	796,681	7,078,224	22,311	21,684	660,980	9,034,510
2004	108,356	300,503	15,624	743,853	6,608,866	20,832	20,246	617,150	8,435,430
2005	100,245	278,005	14,454	688,163	6,114,082	19,272	18,730	570,946	7,803,897
2006	92,834	257,454	13,386	637,291	5,662,108	17,848	17,346	528,740	7,227,007
2007	86,332	239,425	12,448	592,662	5,265,589	16,598	16,131	491,713	6,720,898
2008	79,269	219,833	11,430	544,167	4,834,732	15,240	14,811	451,478	6,170,960
2009	73,126	202,799	10,544	502,000	4,460,088	14,058	13,663	416,493	5,692,771
2010	66,465	184,327	9,583	456,275	4,053,838	12,778	12,419	378,556	5,174,241
2011	61,025	169,240	8,799	418,928	3,722,031	11,732	11,403	347,571	4,750,729
2012	55,254	153,234	7,967	379,308	3,370,024	10,623	10,324	314,700	4,301,434
2013	20,564	57,030	2,965	141,170	1,254,248	3,954	3,843	117,124	1,600,898
2014	31,891	88,440	4,598	218,922	1,945,044	6,131	5,959	181,632	2,482,617
2015	8,677	24,063	1,251	59,566	529,217	1,668	1,621	49,419	675,482
2016	2,696	7,477	389	18,508	164,439	518	504	15,356	209,887
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	4,308,820	11,440,812	586,135	26,841,289	252,340,756	808,288	787,045	22,361,778	319,474,923

TABLE B-16B: MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

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	2,485,451	936,938	1,419,206	101,526	2,250,138	76	0	0	500,070	689,082
1985	3,672,059	1,318,056	1,990,819	166,634	3,163,937	0	0	154,356	865,982	589,195
1986	3,554,148	1,636,601	2,359,124	195,104	3,756,980	17,853	0	339,106	831,847	1,224,776
1987	3,744,244	1,617,801	2,211,476	230,128	3,585,071	138,851	0	592,832	1,929,110	1,195,024
1988	2,666,016	1,355,001	1,804,549	144,263	2,970,882	0	0	339,827	1,722,238	917,478
1989	2,937,682	1,500,771	1,963,953	157,041	3,277,297	0	0	370,075	1,769,741	942,783
1990	3,196,226	1,683,072	2,154,771	172,848	3,553,973	126,183	0	414,040	1,838,551	979,441
1991	3,304,594	1,752,341	2,135,359	181,552	3,521,956	132,862	0	449,386	1,956,026	970,618
1992	3,449,741	1,756,208	2,140,072	192,792	3,529,728	140,988	0	489,542	1,960,342	1,001,017
1993	3,304,366	1,819,211	2,035,054	194,167	3,356,519	141,517	4,475,358	496,578	2,064,479	978,764
1994	3,209,212	1,898,242	1,962,606	197,620	3,237,025	143,663	4,316,033	508,781	2,355,467	969,408
1995	3,219,875	2,034,194	1,954,993	207,348	3,224,468	150,261	4,299,291	536,646	2,708,215	990,191
1996	3,272,701	2,100,662	1,902,632	211,678	3,138,108	153,201	4,184,144	571,088	2,734,849	987,557
1997	3,355,692	2,185,038	1,871,247	218,312	3,086,344	157,522	4,115,124	609,609	2,786,620	993,949
1998	3,359,519	2,216,328	1,799,876	219,492	2,968,627	151,514	3,958,170	632,339	2,773,758	977,855
1999	3,301,770	2,204,219	1,702,118	216,486	2,807,389	143,284	3,743,186	641,602	2,711,894	945,375
2000	3,216,214	2,170,593	1,597,721	211,853	2,635,202	134,496	3,513,603	643,243	2,628,285	906,067
2001	3,220,853	2,162,202	1,530,459	210,952	2,524,264	128,834	3,365,685	649,716	2,596,812	890,117
2002	3,150,972	2,104,936	1,434,892	205,419	2,366,640	120,789	3,155,520	640,761	2,509,569	854,413
2003	3,089,365	2,200,683	1,350,541	200,535	2,227,517	113,688	2,970,023	632,652	2,432,144	822,895
2004	2,999,844	2,054,755	1,260,987	193,789	2,079,809	106,150	2,773,080	618,485	2,336,156	785,797
2005	2,882,041	1,900,922	1,166,581	185,491	1,924,101	98,203	2,565,469	597,756	2,222,059	742,370
2006	2,787,612	1,760,400	1,080,343	177,532	1,781,865	90,943	2,375,821	579,625	2,263,670	704,094
2007	2,702,709	1,637,118	1,004,687	170,449	1,657,080	84,575	2,209,441	563,267	2,296,687	669,574
2008	2,582,780	1,503,161	922,478	161,414	1,521,490	77,654	2,028,653	539,562	2,284,471	628,363
2009	2,476,080	1,386,680	850,995	153,327	1,403,589	71,637	1,871,453	518,339	2,269,467	592,197
2010	2,335,530	1,260,374	773,482	143,546	1,275,743	65,111	1,700,991	489,753	2,209,948	549,138
2011	2,235,366	1,157,212	710,172	135,578	1,171,323	59,783	1,561,764	449,667	2,065,863	516,335
2012	2,106,375	1,047,770	643,008	126,153	1,060,546	54,128	1,414,062	407,140	1,903,973	478,081
2013	814,567	389,956	239,314	48,215	394,711	20,146	526,282	151,528	721,090	181,868
2014	1,310,770	604,731	371,119	76,730	612,105	31,241	816,141	234,985	1,137,375	288,139
2015	369,572	164,538	100,976	21,419	166,545	8,500	222,059	63,936	314,730	79,994
2016	119,422	51,125	31,376	6,925	51,749	2,641	68,999	19,866	105,403	25,480
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	91,516,427	51,905,877	47,042,354	5,471,724	77,176,615	2,867,543	62,230,352	14,946,088	64,039,847	25,095,962

FOR EACH CONTRACTOR FOR OFF-AQUEDUCT POWER FACILITIES (a

(in dollars)

Sheet 4 of 4

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				TOTAL STATE WATER PROJECT
	San Gorgonio 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	39,003,632	0	47,386,119	0	0	0	0	60,237,894
1985	0	75,851,885	0	87,772,923	0	0	0	0	106,336,406
1986	0	87,261,965	0	101,177,504	0	0	0	0	121,142,209
1987	125,193	91,680,376	0	107,050,106	0	0	0	0	127,204,487
1988	157,282	103,537,384	59,440	115,674,360	0	0	0	0	132,085,731
1989	269,367	106,059,812	122,160	119,370,682	0	0	0	0	136,688,386
1990	373,121	109,919,091	190,364	124,601,681	0	0	0	0	143,075,584
1991	415,979	108,928,868	272,493	124,022,034	0	0	0	0	142,411,575
1992	452,843	106,982,639	357,124	122,453,036	0	0	0	0	141,022,860
1993	464,451	101,732,802	419,504	121,482,770	0	0	0	0	140,561,825
1994	480,541	98,111,074	539,427	117,929,099	0	0	0	0	140,162,575
1995	513,207	97,730,503	671,668	118,240,860	0	0	0	0	140,533,043
1996	531,089	97,748,687	840,444	118,376,840	0	0	0	0	140,129,041
1997	553,435	98,120,932	1,028,633	119,082,457	0	0	0	0	140,531,886
1998	562,247	96,287,466	1,236,750	117,143,941	0	0	0	0	137,789,271
1999	561,183	92,862,978	1,219,702	113,061,186	0	0	0	0	132,598,469
2000	553,324	88,861,913	1,191,944	108,264,458	0	0	0	0	126,615,888
2001	530,030	84,853,954	1,153,783	103,817,661	0	0	0	0	121,406,237
2002	496,932	80,795,832	1,093,005	98,929,680	0	0	0	0	115,429,122
2003	467,720	77,213,790	1,039,358	94,760,911	0	0	0	0	110,299,054
2004	436,705	73,181,682	980,341	89,807,580	0	0	0	0	104,323,391
2005	873,673	69,587,011	916,107	85,661,784	0	0	0	0	99,098,274
2006	809,089	65,476,013	848,385	80,735,392	0	0	0	0	93,183,740
2007	752,428	61,851,468	788,973	76,388,456	0	0	0	0	87,969,790
2008	690,860	57,672,608	724,415	71,337,909	0	0	0	0	81,975,997
2009	637,326	54,017,338	668,280	66,916,708	0	0	0	0	76,734,489
2010	579,275	49,836,800	607,409	61,827,100	0	0	0	0	70,754,282
2011	531,860	46,218,803	557,693	57,371,419	0	0	0	0	65,571,701
2012	481,560	42,265,246	504,949	52,492,991	0	0	0	0	59,921,167
2013	179,226	15,885,580	187,931	19,740,414	0	0	0	0	22,506,300
2014	277,938	24,875,796	291,437	30,928,507	0	0	0	0	35,219,728
2015	75,623	6,833,895	79,296	8,501,083	0	0	0	0	9,669,198
2016	23,498	2,143,814	24,639	2,674,937	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	13,857,005	2,426,173,297	18,615,654	2,900,938,745	0	0	0	0	3,386,395,668

TABLE B-17: UNIT VARIABLE OMP&R COMPONENT

(in dollars per acre-foot)

Calendar Year	NORTH BAY AQUEDUCT						SOUTH BAY AQUEDUCT		CALIFORNIA AQUEDUCT	
	Reach 1 Barker Slough Pumping Plant		Reach 3A Cordelia Pumping Plant Solano County FC&WCD		Reach 3B Cordelia Pumping Plant Napa County FC&WCD (b		Reach 1 South Bay and Del Valle Pumping Plant (c		Reach 1 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	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	4.1511341	4.1511341	0	0
1963	0	0	0	0	0	0	4.5639383	4.5639383	0	0
1964	0	0	0	0	0	0	3.5452154	3.5452154	0	0
1965	0	0	0	0	0	0	4.1911773	4.1911773	0	0
1966	0	0	0	0	0	0	3.5074573	3.5074573	0	0
1967	0	0	0	0	0	0	3.9306767	5.1337448	1.2030681	1.2030681
1968	0	0	0	0	5.7570016	5.7570016	3.3315620	4.8750942	1.5435322	1.5435322
1969	0	0	0	0	3.1823595	3.1823595	3.6949019	4.8016170	1.1067151	1.1067151
1970	0	0	0	0	3.7584301	3.7584301	4.4256141	5.3721490	0.9465349	0.9465349
1971	0	0	0	0	4.2082507	4.2082507	3.8714396	4.7522833	0.8808437	0.8808437
1972	0	0	0	0	3.9577735	3.9577735	4.3250690	5.2281686	0.9030996	0.9030996
1973	0	0	0	0	3.8103903	3.8103903	5.2455409	6.1841800	0.9386391	0.9386391
1974	0	0	0	0	3.5878850	3.5878850	6.3321503	7.2293909	0.8972406	0.8972406
1975	0	0	0	0	2.1606725	2.1606725	3.7365711	4.8327731	1.0962020	1.0962020
1976	0	0	0	0	2.9283909	2.9283909	4.5191527	5.7132795	1.1941268	1.1941268
1977	0	0	0	0	2.7516411	2.7516411	4.7630172	6.5309908	1.7679736	1.7679736
1978	0	0	0	0	3.5949619	3.5949619	5.2086183	6.8200209	1.6114026	1.6114026
1979	0	0	0	0	2.4747752	2.4747752	4.9524184	7.0889234	2.1365050	2.1365050
1980	0	0	0	0	2.9737588	2.9737588	4.5186576	5.8810390	1.3623814	1.3623814
1981	0	0	0	0	2.3085213	2.3085213	4.3834851	6.4805853	2.0971002	2.0971002
1982	0	0	0	0	10.3149217	10.3149217	4.9087723	6.6537049	1.7449326	1.7449326
1983	0	0	0	0	1.1163096	1.1163096	1.5086524	2.3784402	0.8697878	0.8697878
1984	0	0	0	0	1.5336983	1.5336983	2.4919794	3.6073411	1.1153617	1.1153617
1985	0	0	0	0	2.8425353	2.8425353	4.1966614	5.9015242	1.7048628	1.7048628
1986	0	0	0	0	4.4612106	4.4612106	7.6012812	10.4900338	2.8887526	2.8887526
1987	0	0	0	0	3.2571929	3.2571929	5.5596894	8.4363040	2.8766146	2.8766146
1988	1.9591903	1.9591903	3.6497685	5.6089588	5.2311062	7.1902965	6.8971162	10.3187122	3.4215960	3.4215960
1989	1.6806213	1.6806213	2.8460719	4.5266932	5.1547975	6.8354188	8.1619939	11.7648635	3.6028696	3.6028696
1990	1.7506740	1.7506740	2.8537791	4.6044531	5.3453646	7.0960386	8.4441352	12.1635119	3.7193767	3.7193767
1991	1.7752186	1.7752186	2.9219318	4.6971504	5.3956119	7.1708305	8.5317534	12.2997982	3.7680448	3.7680448
1992	1.9008317	1.9008317	3.1286364	5.0294681	5.7773397	7.6781714	9.1326703	13.0781802	3.9455099	3.9455099
1993	2.0972916	2.0972916	3.4612114	5.5585030	6.2949640	8.3922556	9.9073441	14.1550635	4.2477194	4.2477194
1994	2.3369083	2.3369083	3.8609008	6.1978091	6.9231151	9.2600234	10.8775405	15.4883387	4.6107982	4.6107982
1995	2.4215108	2.4215108	3.9980669	6.4195777	7.0473856	9.4688964	11.0799837	15.7466277	4.6666440	4.6666440
1996	2.4520758	2.4520758	4.0798629	6.5319387	7.1043585	9.5564343	11.1662939	15.8781455	4.7118516	4.7118516
1997	2.8724633	2.8724633	4.8201273	7.6925906	8.2838542	11.1563175	13.0081170	18.3625829	5.3544659	5.3544659
1998	2.9431321	2.9431321	4.9719521	7.9150842	8.4397920	11.3829241	13.2457553	18.7214400	5.4756847	5.4756847
1999	3.0835329	3.0835329	5.2399229	8.3234558	8.7995154	11.8830483	13.7908670	19.4246788	5.6338118	5.6338118
2000	3.0954027	3.0954027	5.2997166	8.3951193	8.7906173	11.8860200	13.7658457	19.4301394	5.6642937	5.6642937
2001	3.1768362	3.1768362	5.4759025	8.6527387	8.9858350	12.1626712	14.0656862	19.8268413	5.7611551	5.7611551
2002	3.9945332	3.9945332	6.9346531	10.9291863	11.2618746	15.2564078	17.6129947	24.6981050	7.0851103	7.0851103
2003	4.0258792	4.0258792	7.0419902	11.0678694	11.3319938	15.3403143	17.6859213	24.7953325	7.0955112	7.0955112
2004	4.1388655	4.1388655	7.2736496	11.4125151	11.5883155	15.7271810	18.0908670	25.3506455	7.2597785	7.2597785
2005	4.1535387	4.1535387	7.3441228	11.4976615	11.5869281	15.7404668	18.0745691	25.3054892	7.2309201	7.2309201
2006	4.2005429	4.2005429	7.4069298	11.6074727	11.6986370	15.8991799	18.2241489	25.5147775	7.2906286	7.2906286
2007	4.4803991	4.4803991	7.8739912	12.3543903	12.4453715	16.9257706	19.3733670	27.0809542	7.7075872	7.7075872
2008	4.5293468	4.5293468	7.9520614	12.4814082	12.5561189	17.0854657	19.5184574	27.2782833	7.7598259	7.7598259
2009	4.5802330	4.5802330	8.0170175	12.5972505	12.6608177	17.2410507	19.6726543	27.4880247	7.8153704	7.8153704
2010	4.6023109	4.6023109	8.0294737	12.6317846	12.6976630	17.2999739	19.7032234	27.5255493	7.8223259	7.8223259
2011	4.6356366	4.6356366	8.0608772	12.6965138	12.7623037	17.3979403	19.7749149	27.6155732	7.8406583	7.8406583
2012	4.6856517	4.6856517	8.1215351	12.8071868	12.8754483	17.5611000	19.9185266	27.8160053	7.8974787	7.8974787
2013	4.7157554	4.7157554	8.1406140	12.8563694	12.9452683	17.6610237	19.9654043	27.8767664	7.9113621	7.9113621
2014	4.7595801	4.7595801	8.1953947	12.9549748	13.0585849	17.8181650	20.0782181	28.0257641	7.9475460	7.9475460
2015	5.1018310	5.1018310	8.7510088	13.8528398	14.0033790	19.1052100	21.4393936	29.8890722	8.4496786	8.4496786
2016	5.1916870	5.1916870	8.9751230	14.1668100	14.1280832	19.3197702	21.5546436	30.0459023	8.4912587	8.4912587
2017	5.2398310	5.2398310	9.1387215	14.3785525	14.1517749	19.3916059	21.5000319	29.9688837	8.4688518	8.4688518
2018	5.5086379	5.5086379	9.6929138	15.2015517	14.7819739	20.2906118	22.3292872	31.0807744	8.7514872	8.7514872
2019	5.5726524	5.5726524	9.9119524	15.4846048	14.8679533	20.4406057	22.3313191	31.0893204	8.7580013	8.7580013
2020	5.3415097	5.3415097	8.9080779	14.2495876	14.7951004	20.1366101	22.0912074	30.6916562	8.6004488	8.6004488
2021	5.3823257	5.3823257	8.9777129	14.3600386	14.9130888	20.2954145	22.2638883	30.9596079	8.6957196	8.6957196
2022	5.3543173	5.3543173	8.9265207	14.2808380	14.8284683	20.1827856	22.1370532	30.7351224	8.5980692	8.5980692
2023	5.3430061	5.3430061	8.9087105	14.2517166	14.7991426	20.1421487	22.0928511	30.6511135	8.5582624	8.5582624
2024	5.3380113	5.3380113	8.8979075	14.2359188	14.7900320	20.1280443	22.0659255	30.6063581	8.5404326	8.5404326
2025	5.3471194	5.3471194	8.9143552	14.2614746	14.8187600	20.1658794	22.1068457	30.6314478	8.5246021	8.5246021
2026	5.3329552	5.3329552	8.8907543	14.2237095	14.7794800	20.1124352	22.0482340	30.5255053	8.4772713	8.4772713
2027	5.3341791	5.3341791	8.8928467	14.2270258	14.7828800	20.1170591	22.0533191	30.5307856	8.4774665	8.4774665
2028	5.3257463	5.3257463	8.8787835	14.2045298	14.7595200	20.0852663	22.0184947	30.4430523	8.4245576	8.4245576
2029	5.3252836	5.3252836	8.8779562	14.2032398	14.7582400	20.0835236	22.0165851	30.4177014	8.4011163	8.4011163
2030	5.3072239	5.3072239	8.8478832	14.1551071	14.7081600	20.0153839	21.9418989	30.2757067	8.3338078	8.3338078
2031	5.5074328	5.5074328	9.1816058	14.6890386	15.2630000	20.7704328	22.7695904	31.3811164	8.6115260	8.6115260
2032	5.4772836	5.4772836	9.1313382	14.6086218	15.1794400	20.6567236	22.6449309	31.1942448	8.5493139	8.5493139
2033	5.6637761	5.6637761	9.4422871	15.1060632	15.6963200	21.3600961	23.4159628	32.2453459	8.8293831	8.8293831
2034	5.6329104	5.6329104	9.3908029	15.0237133	15.6107200	21.2436304	23.2883351	32.0661425	8.7778074	8.7778074
2035	5.6304030	5.6304030	9.3866667	15.0170697	15.6038000	21.2342030	23.2779787	32.0470844	8.7691057	8.7691057

a) Unit rates as shown constitute the rate for the indicated pumping plants, power plants, and reservoirs. Cumulative unit rates as shown constitute the total rate, cumulative from the Sacramento - San Joaquin Delta, applicable to deliveries from or downstream of the indicated pumping plants and power plants. Excludes extra peaking service costs.

OF TRANSPORTATION CHARGE (a

(in dollars per acre-foot)

Calendar Year	CALIFORNIA AQUEDUCT (continued)									
	Reach 4 Dos Amigos Pumping Plant		Reach 14A Buena Vista Pumping Plant		Reach 15A Wheeler Ridge Pumping Plant		Reach 16A Ira J. Chrisman Wind Gap Pumping Plant		Reach 17E 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	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	1.0732031	2.6167353	0	0	0	0	0	0	0	0
1969	0.7028165	1.8095316	0	0	0	0	0	0	0	0
1970	0.7813430	1.7278779	0.3333333	2.0612112	0	0	0	0	0	0
1971	0.4125312	1.2933749	1.3594550	2.6528299	4.9729730	7.6258029	0	0	0	0
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	2.5228090	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	12.2903070
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	9.9990004	17.7795472
1978	0.4199303	2.0313329	0.9606230	2.9919559	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	0.8021465	2.1645279	1.3516057	3.5161336	1.5041463	5.0202799	3.1923433	8.2126232	10.9860288	19.1986520
1981	1.0931185	3.1902187	1.2429747	4.4331934	1.3242820	5.7574754	2.9650235	8.7224989	9.9857983	18.7082972
1982	0.8828442	2.6277768	1.2022668	3.8300436	1.3756370	5.2056806	3.1119429	8.3176235	10.1925517	18.5101752
1983	0.4088813	1.2786691	0.7501044	2.0287735	0.8750336	2.9038071	1.7454144	4.6492215	5.4509952	10.1002167
1984	0.6228113	1.7381730	0.9994603	2.7376333	1.1615960	3.8992293	2.3946402	6.2938695	7.7218990	14.0157685
1985	0.9173516	2.6222144	1.5006349	4.1228493	1.7345416	5.8573909	3.6622106	9.5196015	12.3751480	21.8947495
1986	1.4470156	4.3357682	2.3838808	6.7196490	2.7705350	9.4901840	5.9843994	15.4745834	20.8566034	36.3311868
1987	1.2712561	4.1478707	2.2212613	6.3691320	2.6636844	9.0328164	5.1506621	14.1834785	16.8267259	31.0102044
1988	1.5496206	4.9712166	2.6825863	7.6538029	3.2191394	10.8729423	6.4756759	17.3486182	21.9912043	39.3398225
1989	1.6622290	5.2650986	2.8631928	8.1282914	3.4009019	11.5291933	7.0236390	18.5528323	23.5658654	42.1186977
1990	1.7001704	5.4195471	2.8941995	8.3137466	3.4509386	11.7646852	7.1744124	18.9390976	24.2961459	43.2352435
1991	1.7257530	5.4937978	2.9120507	8.4058485	3.4918875	11.8977360	7.2855770	19.1833130	24.5945088	43.7778218
1992	1.8266166	5.7721265	3.0915882	8.8637147	3.7109300	12.5746447	7.7614473	20.3360920	26.2588936	46.5949856
1993	1.9642777	6.2119971	3.3132441	9.5252412	3.9820218	13.5072630	8.3585165	21.8657795	28.4346349	50.3004144
1994	2.1409039	6.7517021	3.6221068	10.3738089	4.3574088	14.7312177	9.1585726	23.8897903	31.1830879	55.0728782
1995	2.1639263	6.8305703	3.6443117	10.4748820	4.3868894	14.8617714	9.2564800	24.1182514	31.6171828	55.7354342
1996	2.2053832	6.9172348	3.7201200	10.6373548	4.4732893	15.1106441	9.3995973	24.5102414	32.0037244	56.5139658
1997	2.5422171	7.8966830	4.2544481	12.1511311	5.1227824	17.2739135	10.8459098	28.1198233	37.0243863	65.1442096
1998	2.5970229	8.0727076	4.3504662	12.4231738	5.2356681	17.6588419	11.1252900	28.7841319	37.7910163	66.5751482
1999	2.7073258	8.3411376	4.4866290	12.8277666	5.4090030	18.2367696	11.5547590	29.7915286	39.2211031	69.0126317
2000	2.7361715	8.4004652	4.5068825	12.9073477	5.4374702	18.3448179	11.6281106	29.9729285	39.2527097	69.2256382
2001	2.8034360	8.5645911	4.6126303	13.1772214	5.5465940	18.7238154	11.8942867	30.6181021	40.0753357	70.6934378
2002	3.4330369	10.5181472	5.7058795	16.2240267	6.8773427	23.1013694	14.7431560	37.8445254	49.9318378	87.7763632
2003	3.4423363	10.5378475	5.7516780	16.2895255	6.9317797	23.2213052	14.8005611	38.0218663	50.1872214	88.2090877
2004	3.5163697	10.7761482	5.8925348	16.6686830	7.1220222	23.7907052	15.1444016	38.9351068	51.3499869	90.2850937
2005	3.5053264	10.7362465	5.8839541	16.6202006	7.1143503	23.7345509	15.1095916	38.8441425	51.2588661	90.1030086
2006	3.5357594	10.8263880	5.9632021	16.7895901	7.1857875	23.9753776	15.2521577	39.2275353	51.6713110	90.8988463
2007	3.7263989	11.4339861	6.2896055	17.7235916	7.5823473	25.3059389	16.1309297	41.4368686	54.8097455	96.2466141
2008	3.7468256	11.5066515	6.3292643	17.8359158	7.6311953	25.4671111	16.2280539	41.6951650	55.1775458	96.8727108
2009	3.7800190	11.5953894	6.3932087	17.9885981	7.7023668	25.6909649	16.3715984	42.0625633	55.6235503	97.6861136
2010	3.7746130	11.5969389	6.3819860	17.9789249	7.6860558	25.6649807	16.3500365	42.0150172	55.6603418	97.6753590
2011	3.7923021	11.6329604	6.4134581	18.0464185	7.7179512	25.7643697	16.4135184	42.1778881	55.8966952	98.0745833
2012	3.8118835	11.7093622	6.4545140	18.1638762	7.7681795	25.9320557	16.5152647	42.4473204	56.3094298	98.7567502
2013	3.7874683	11.6988304	6.4728117	18.1716421	7.7933901	25.9650322	16.5650397	42.5300719	56.4648279	98.9948998
2014	3.7957419	11.7432879	6.4895500	18.2328379	7.8195479	26.0523858	16.6309832	42.6833690	56.7537050	99.4370740
2015	4.0273583	12.4770369	6.9066451	19.3836820	8.3306695	27.7143515	17.6112778	45.3256293	60.5626512	105.8882805
2016	4.0323226	12.5235813	6.9224934	19.4460747	8.3578425	27.8039172	17.6821248	45.4860420	60.8433242	106.3293662
2017	4.0114236	12.4802754	6.9155436	19.3958190	8.3485952	27.7444142	17.6602951	45.4047093	60.7292151	106.1339244
2018	4.1375210	12.8890082	7.1459164	20.0349246	8.6317070	28.6666316	18.2974608	46.9640924	62.9895982	109.9536906
2019	4.1062647	12.8642660	7.1211186	19.9853846	8.5605568	28.5459414	18.2707262	46.8166676	62.9829392	109.7996068
2020	4.0318694	12.6323182	6.9611248	19.5934430	8.3975439	27.9909869	18.0504821	46.0414690	62.2500836	108.2915526
2021	4.0495812	12.7453008	6.8813121	19.6266129	8.3762885	28.0029014	18.1367104	46.1396118	62.5178683	108.6574801
2022	3.9473587	12.5454279	6.7952313	19.3406592	8.2781749	27.6188341	17.8863296	45.5051637	61.9138720	107.4190357
2023	3.9281445	12.4864069	6.7744305	19.2608374	8.2523116	27.5131490	17.7221570	45.2353060	61.5709789	106.8062849
2024	3.8536388	12.3940714	6.7511830	19.1452544	8.2231667	27.3684211	17.5572833	44.9257044	61.3024662	106.2281706
2025	3.8597065	12.3843086	6.7614203	19.1457289	8.2351243	27.3808532	17.5039473	44.8848005	61.3068371	106.1916376
2026	3.8494171	12.3266884	6.7432220	19.0699104	8.2132054	27.2831158	17.3868318	44.6699476	61.1275106	105.7974582
2027	3.8512266	12.3286931	6.7476257	19.0763188	8.2186819	27.2950007	17.3602086	44.6552093	61.1538039	105.8090132
2028	3.8445021	12.2690597	6.7352376	19.0042973	8.2034205	27.2077178	17.3317066	44.5394244	61.0498116	105.5892360
2029	3.8447202	12.2458365	6.7365428	18.9823793	8.1946304	27.1770097	17.3313793	44.5083890	61.0524600	105.5608490
2030	3.8021954	12.1360032	6.7130643	18.8490675	8.1555891	27.0046566	17.2736953	44.2783519	60.8023057	105.0806576
2031	3.9138828	12.5254088	6.9201247	19.4455335	8.4499595	27.8954930	17.9272432	45.8227362	63.0070899	108.8298261
2032	3.8624368	12.4117507	6.8375966	19.2493473	8.3477710	27.5971183	17.8183512	45.4154695	62.5678725	107.9833420
2033	3.9943049	12.8236880	7.0268662	19.8505542	8.5780636	28.4286178	18.4141596	46.8427774	64.4881736	111.3309510
2034	3.9727562	12.7505636	6.9764647	19.7270283	8.4792329	28.2062612	18.3042734	46.5105346	64.0642802	110.5748148
2035	3.9709100	12.7400157	6.9622989	19.7023146	8.4551297	28.1574443	18.2829266	46.4403709	63.9932057	110.4335766

b) For the period 1968 through 1987, rates are for an interim facility.

c) The relatively minor costs of Del Valle Pumping Plant have been combined with those of South Bay Pumping Plant to simplify the allocation procedure.

TABLE B-17: UNIT VARIABLE OMP&R COMPONENT

(in dollars per acre-foot)

Calendar Year	CALIFORNIA AQUEDUCT (continued)									
	Reach 18A Alamo Powerplant		Reach 22B Pearblossom Pumping Plant		Reach 23 Mojave Siphon Pumping Plant		Reach 26A Devil Canyon Powerplant		Reach 29A 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	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	14.2519509	27.5431181	0	0	-2.3717647	25.1713534	1.4212193	14.7123865
1973	0	0	4.4326545	17.7262422	0	0	-8.4298618	9.2963804	1.0210537	14.3146414
1974	0	0	3.4431782	15.7742225	0	0	-5.1043660	10.6698565	0.9241725	13.2552168
1975	0	0	3.1739313	15.4642383	0	0	-5.6510611	9.8131772	0.9362286	13.2265356
1976	0	0	3.9391330	17.7995236	0	0	-6.4449941	11.3545295	0.8622774	14.7226680
1977	0	0	3.4988957	21.2784429	0	0	-11.6274558	9.6509871	0.9076172	18.6871644
1978	0	0	4.1377503	17.2318705	0	0	-8.1314274	9.1004431	0.7314697	13.8255899
1979	0	0	5.1961178	22.6951308	0	0	-9.5825772	13.1125536	0.9504526	18.4494656
1980	0	0	4.3918283	23.5904803	0	0	-8.3797007	15.2107796	1.4269064	20.6255584
1981	0	0	4.0220251	22.7303223	0	0	-6.7353327	15.9949896	1.5667893	20.2750865
1982	0	0	3.7134691	22.2236443	0	0	-7.7626606	14.4609837	1.4904455	20.0006207
1983	0	0	1.6109184	11.7111351	0	0	-19.4689656	-7.7578305	1.4650678	11.5652845
1984	0	0	2.3659457	16.3817142	0	0	-29.7295856	-13.3478714	1.7101834	15.7259519
1985	0	0	3.5861758	25.4809253	0	0	-29.9541288	-4.4732035	2.2581389	24.1528884
1986	-1.7774296	34.5537572	6.0731259	40.6268831	0	0	-29.2376850	11.3891981	3.2525439	39.5837307
1987	-2.3893970	28.6208074	5.1985608	33.8193682	0	0	-30.5072887	3.3120795	3.1908208	34.2010252
1988	-3.3707328	35.9690897	6.5812306	42.5503203	0	0	-28.8626494	13.6876709	3.8862644	43.2260869
1989	-3.5582094	38.5604883	7.3743313	45.9348196	0	0	-28.4259021	17.5089175	3.7978876	45.9165853
1990	-3.5536696	39.6815739	7.6191673	47.3007412	0	0	-28.4040939	18.8966473	3.7994937	47.0347372
1991	-3.5476767	40.2301451	7.7227673	47.9529124	0	0	-28.4853485	19.4675639	3.9227914	47.7006132
1992	-3.2727684	43.3222172	8.2580222	51.5802394	0	0	-29.8837110	21.6965284	4.1097246	50.7047102
1993	-3.5300565	46.7703579	8.9373834	55.7027413	0	0	-29.8816642	25.8260771	4.3046706	54.6050850
1994	-3.5354073	51.5374709	9.7772882	61.3147591	-3.5044510	57.8103081	-29.7476426	28.0626655	4.8043972	59.8772754
1995	-3.5166164	52.2188178	9.9418280	62.1606458	-4.9947880	57.1658578	-29.7445004	27.4213574	4.5985204	60.3339546
1996	-3.5296305	52.9843353	10.0188490	63.0031843	-4.8492342	58.1539501	-29.7391701	28.4147800	4.9281340	61.4420998
1997	-3.5239476	61.6202620	11.6192051	73.2394671	-4.8117473	68.4277198	-29.6608885	38.7668313	5.3448965	70.4891061
1998	-3.5309841	63.0441641	11.8268782	74.8710423	-4.9984031	69.8726392	-29.4767197	40.3959195	5.7475169	72.3226651
1999	-3.5285505	65.4840812	12.3014120	77.7854932	-4.7309661	73.0545271	-29.4818998	43.5726273	5.7347728	74.7474045
2000	-3.5426827	65.6829555	12.2813464	77.9643019	-4.7922987	73.1720032	-29.3314058	43.8405974	6.0065132	75.2321514
2001	-3.5398392	67.1535986	12.5436952	79.6972938	-4.7495635	74.9477303	-29.4185439	45.5291864	6.0774012	76.7708390
2002	-3.5437597	84.2326035	15.6596898	99.8922933	-4.7621088	95.1301845	-29.3055384	65.8246461	7.4002406	95.1766038
2003	-3.5364109	84.6726768	15.7539811	100.4266579	-4.8228178	95.6038401	-29.1780045	66.4258356	7.3787110	95.5877987
2004	-3.5460569	86.7390368	16.1295220	102.8685588	-4.7759934	98.0925654	-29.1180258	68.9745396	7.8968333	98.1819270
2005	-3.5451382	86.5578704	16.1649511	102.7228215	-4.6344627	98.0883588	-28.9679312	69.1204276	7.7976984	97.9007070
2006	-3.5484991	87.3503472	16.3204409	103.6707881	-4.6290585	99.0417296	-28.8338792	70.2078504	8.0515696	98.9504159
2007	-3.5494084	92.6972057	17.2781209	109.9753266	-4.6302556	105.3450710	-28.7173950	76.6276760	8.3491290	104.5957431
2008	-3.5502341	93.3224767	17.3959379	110.7184146	-4.6730666	106.0453480	-28.5928478	77.4525002	8.3356062	105.2083170
2009	-3.5500114	94.1361022	17.5378719	111.6739741	-4.5519203	107.1220538	-28.5265684	78.5954854	8.5041087	106.1902223
2010	-3.5683141	94.1070449	17.5521372	111.6591821	-4.2307781	107.4284040	-28.9563055	78.4720985	8.3826500	106.0580090
2011	-3.5679732	94.5066101	17.6206110	112.1272211	-4.5223847	107.6048364	-28.7359774	78.8688590	8.4731585	106.5477418
2012	-3.5688302	95.1879200	17.7487573	112.9366773	-4.5974112	108.3392661	-28.6538799	79.6853862	8.5350361	107.2917863
2013	-3.5684156	95.4264842	17.7958014	113.2222856	-4.1946838	109.1176018	-28.7713463	80.3462555	8.6204874	107.6153872
2014	-3.5684225	95.8686515	17.8907866	113.7594381	-4.1287937	109.6306444	-28.6794272	80.9512172	8.4224705	107.8595445
2015	-3.5694495	102.3188310	19.0645242	121.3833552	-4.2157445	117.1676107	-28.5472181	88.6203926	9.0874837	114.9757642
2016	-3.5702349	102.7591313	19.1497435	121.9088748	-4.9255194	116.9833554	-28.4965081	88.4868473	8.9872902	115.3166564
2017	-3.5709840	102.5629404	19.0932329	121.6561733	-4.9766118	116.6795615	-28.4200360	88.2595255	9.1898997	115.3238241
2018	-3.5695464	106.3841442	19.8157718	126.1999160	-4.6150229	121.5848931	-28.5210344	93.0638587	9.2297466	119.1834372
2019	-3.5699399	106.2296669	19.8131281	126.0427950	-5.0201089	121.0226861	-28.2587775	92.7639086	9.1047493	118.9043561
2020	-3.5975035	104.6940491	19.5988705	124.2929196	-4.8287003	119.4642193	-28.3613820	91.1028373	8.8945258	117.1860784
2021	-3.5815407	105.0759394	19.7232841	124.7992235	-4.9363038	119.8629197	-28.2163217	91.6465980	9.1169154	117.7743955
2022	-3.5736882	103.8453475	19.6101537	123.4555012	-4.8347292	118.6207720	-28.2077570	90.4130150	8.9501584	116.3691941
2023	-3.5651166	103.2411683	19.5700795	122.8112478	-4.8212315	117.9900163	-28.2235936	89.7664227	9.0274591	115.8337440
2024	-3.5570335	102.6711371	19.5480144	122.2191515	-4.8662961	117.3528554	-28.1514839	89.2013715	8.8536512	115.0818218
2025	-3.5806393	102.6109983	19.5812023	122.1922006	-4.4549050	117.7372956	-28.2984816	89.4388140	9.0805050	115.2721426
2026	-3.5792514	102.2182068	19.5395366	121.7577434	-4.8510441	116.9066993	-28.0692838	88.8374155	8.8747017	114.6721599
2027	-3.5814613	102.2275519	19.5377211	121.7652730	-4.9985570	116.7667160	-28.0273279	88.7393881	9.0027151	114.8117283
2028	-3.5814468	102.0077892	19.5046382	121.5124274	-4.7283405	116.7840869	-28.0943029	88.6897840	8.7004434	114.2896794
2029	-3.5816142	101.9792348	19.5099175	121.4891523	-4.7974697	116.6916826	-28.0279548	88.6637278	8.6026711	114.1635201
2030	-3.5824885	101.4981691	19.4397492	120.9379183	-4.7293845	116.2085338	-27.9783825	88.2301513	8.5083671	113.5890247
2031	-3.5837007	105.2461254	20.1633030	125.4094284	-4.7436300	120.6657984	-27.7257174	92.9400810	8.7713426	117.6011687
2032	-3.5858447	104.3974973	19.9819636	124.3794609	-4.5732977	119.8061632	-27.5902708	92.2158924	8.5131673	116.4965093
2033	-3.5873952	107.7435558	20.5858719	128.3294277	-4.6795006	123.6499271	-27.4776206	96.1723065	8.6884216	120.0193726
2034	-3.5895905	106.9852243	20.4052119	127.3904362	-4.6445455	122.7458907	-27.3605516	95.3853391	8.3567957	118.9316105
2035	-3.5902006	106.8433760	20.3316154	127.1749914	-4.6086008	122.5663906	-27.2403056	95.3260850	8.0815626	118.5151392

OF TRANSPORTATION CHARGE (a

(in dollars per acre-foot)

Calendar Year	CALIFORNIA AQUEDUCT (continued)							
	Reach 29G William E. Warne Powerplant		Reach 29J Castaic Powerplant		Reach 31A Las Perillas and Badger Hill Pumping Plants		Reach 33A 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	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	1.5014866	4.1182219	0	0
1969	0	0	0	0	1.2624065	3.0719381	0	0
1970	0	0	0	0	1.6309699	3.3588478	0	0
1971	0	0	0	0	1.4985537	2.7919286	0	0
1972	0	0	-2.9350830	11.7773035	1.7489056	3.2074977	0	0
1973	0	0	-6.8099448	7.5046966	1.4609575	2.9992858	0	0
1974	0	0	-7.4013274	5.8538894	1.4255635	2.8964935	0	0
1975	0	0	-6.5604921	6.6660435	1.0379624	2.5944238	0	0
1976	0	0	-6.7213324	8.0013356	1.5465478	3.2570573	0	0
1977	0	0	-30.6828669	-11.9957025	1.7573375	4.1392042	0	0
1978	0	0	-8.0476396	5.7779503	1.9022180	3.9335509	0	0
1979	0	0	-18.3303479	0.1191177	1.5336852	4.3289836	0	0
1980	0	0	-20.3309207	0.2946377	1.5124754	3.6770033	0	0
1981	0	0	-9.9095120	10.3655745	1.5414290	4.7316477	0	0
1982	-2.1714430	17.8291777	-9.5722266	8.2569511	1.7386297	4.3664065	0	0
1983	-7.4896554	4.0756291	-42.8795533	-38.8039242	0.1315287	1.4101978	0	0
1984	-14.9847754	0.7411765	-15.8804776	-15.1393011	0.8331632	2.5713362	0	0
1985	-14.7594872	9.3934012	-34.1279568	-24.7345556	1.2808980	3.9031124	0	0
1986	-14.2822969	25.3014338	-28.3293744	-3.0279406	2.3047516	6.6405198	0	0
1987	-15.1517530	19.0492722	-27.0820635	-8.0327913	1.8229916	5.9708623	0	0
1988	-14.8657755	28.3603114	-26.5971295	1.7631819	2.6150815	7.5862981	0	0
1989	-14.9711923	30.9453930	-26.4441471	4.5012459	2.8067852	8.0718838	0	0
1990	-15.0617221	31.9730151	-26.2654869	5.7075282	2.9042519	8.3237990	0	0
1991	-15.0699092	32.6307040	-26.2710863	6.3596177	2.9348370	8.4286348	0	0
1992	-15.0767948	35.6279154	-26.1469489	9.4809665	3.1424667	8.9145932	0	0
1993	-15.1698880	39.4351970	-26.1334608	13.3017362	3.4100629	9.6220600	13.1971815	22.8192415
1994	-15.1232892	44.7539862	-26.1285630	18.6254232	3.7400407	10.4917428	16.2901285	26.7818713
1995	-15.1667300	45.1672246	-26.1017788	19.0654458	3.8049891	10.6355594	16.8578583	27.4934177
1996	-15.0668310	46.3752688	-26.1182021	20.2570667	3.8328840	10.7501188	17.1016940	27.8518128
1997	-15.1790209	55.3100852	-26.0210650	29.2890202	4.4628637	12.3595467	22.6086883	34.9682350
1998	-15.1518318	57.1708333	-26.0159953	31.1548380	4.5443923	12.6170999	23.3213688	35.9384687
1999	-15.2024260	59.5449785	-25.9927287	33.5522498	4.7314124	13.0725500	24.9562041	38.0287541
2000	-15.1161331	60.1160183	-26.0230392	34.0929791	4.7228278	13.1232930	24.8811537	38.0044467
2001	-15.1758173	61.5950217	-25.9931676	35.6018541	4.8257010	13.3902921	25.7804103	39.1707024
2002	-15.2079526	79.9686512	-25.9855963	53.9830549	6.0427182	16.5608654	36.4190336	52.9798990
2003	-15.1625497	80.4252490	-25.9549494	54.4702996	6.0667393	16.6045868	36.6290611	53.2336479
2004	-15.1743883	83.0075387	-25.9743479	57.0331538	6.2066661	16.9828143	37.8521976	54.8350119
2005	-15.1519145	82.7487925	-25.9696290	56.7791635	6.2010794	16.9373259	37.8033510	54.7406769
2006	-15.1813690	83.7690469	-25.9835984	57.7854485	6.2523968	17.0787848	38.2519507	55.3307355
2007	-15.1640859	89.4316572	-25.9647417	63.4669155	6.6466669	18.0806530	41.6984933	59.7791463
2008	-15.1923333	90.0159837	-25.9555423	64.0604414	6.6964465	18.2030980	42.1336577	60.3367557
2009	-15.0978093	91.0924130	-25.9914877	65.1009253	6.7493552	18.3447446	42.5961184	60.9408630
2010	-15.2118986	90.8461104	-25.9727729	64.8733375	6.7598377	18.3567766	42.6877536	61.0445302
2011	-15.1919039	91.3558379	-25.9675839	65.3882540	6.7844379	18.4173983	42.9027892	61.3201875
2012	-15.1148583	92.1769280	-25.9900266	66.1869014	6.8337064	18.5430686	43.3334847	61.8765533
2013	-15.1260426	92.4893446	-25.9794923	66.5098523	6.8497903	18.5486207	43.4740941	62.0227148
2014	-15.1439996	92.7155449	-25.9714113	66.7441336	6.8884936	18.6317815	43.8124167	62.4441982
2015	-15.1373641	99.8384001	-25.9755494	73.8628507	7.3554938	19.8325307	47.8946883	67.7272190
2016	-15.1740841	100.1425723	-25.9504953	74.1920770	7.3950342	19.9186155	48.2403456	68.1589611
2017	-15.1846894	100.1391347	-25.9628404	74.1762943	7.3762933	19.8565687	48.0765542	67.9331229
2018	-15.2228805	103.9605567	-25.9288780	78.0316787	7.6607993	20.5498075	50.5635587	71.1133662
2019	-15.2118441	103.6925120	-25.9321640	77.7603480	7.6614952	20.5257612	50.5696450	71.0954062
2020	-15.1729069	102.0131715	-25.9487218	76.0644497	7.5791149	20.2114331	49.8495162	70.0609493
2021	-15.1726658	102.6017297	-25.9831280	76.6186017	7.6383598	20.3836606	50.3674063	70.7510669
2022	-15.1949868	101.1742073	-25.9742535	75.1999538	7.5948483	20.1402762	49.9870329	70.1273091
2023	-15.2905367	100.5432073	-25.9594390	74.5837683	7.5796843	20.0660912	49.8544534	69.9205446
2024	-15.2515467	99.8302751	-25.9458406	73.8844345	7.5704428	19.9645142	49.7736997	69.7382139
2025	-15.1671916	100.1049510	-25.9969625	74.1079885	7.5844826	19.9687912	49.8964191	69.8652103
2026	-15.2698979	99.4022620	-25.9554607	73.4468013	7.5643693	19.8910577	49.7206254	69.6116831
2027	-15.2313285	99.5803998	-25.9717859	73.6086139	7.5661164	19.8948095	49.7358766	69.6306861
2028	-15.2606088	99.0290706	-25.9690804	73.0599902	7.5541740	19.8232337	49.6314445	69.4546782
2029	-15.2390410	98.9244791	-25.9685194	72.9559597	7.5535170	19.7993535	49.6257271	69.4250806
2030	-15.2122101	98.3768146	-25.9766963	72.4001183	7.5278900	19.6638932	49.4017394	69.0656326
2031	-15.2863628	102.3148059	-25.9687751	76.3460308	7.8118607	20.3372695	51.8840337	72.2213032
2032	-15.2309572	101.2655521	-25.9724996	75.2930525	7.7690889	20.1808396	51.5101722	71.6910118
2033	-15.3041052	104.7152674	-25.9637245	78.7515429	8.0336179	20.8573059	53.8225605	74.6798664
2034	-15.2336829	103.6979276	-25.9742979	77.7236297	7.9898290	20.7403926	53.4397895	74.1801821
2035	-15.1981682	103.3169710	-25.9883792	77.3285918	7.9862813	20.7262970	53.4087195	74.1350165

TABLE B-18: VARIABLE OMP&R COMPONENT OF

(in dollars)

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	20,779	0	20,779	126,954	142,035	570,292	839,281	0	0	0
1982	12,512	0	12,512	87,317	42,025	580,609	709,951	0	0	0
1983	2,553	0	2,553	11,335	7,509	206,289	225,133	0	0	0
1984	4,483	0	4,483	24,473	12,041	317,446	353,960	0	0	0
1985	11,481	0	11,481	88,948	112,224	519,334	720,506	0	0	0
1986	15,699	0	15,699	111,289	129,856	923,123	1,164,268	0	0	0
1987	13,019	0	13,019	195,545	263,634	742,395	1,201,574	0	0	0
1988	32,824	74,651	107,475	247,618	414,451	908,046	1,570,115	0	0	0
1989	34,266	73,705	107,971	293,121	475,947	1,058,838	1,827,906	0	0	0
1990	38,730	86,287	125,017	309,257	494,811	1,119,044	1,923,112	0	0	0
1991	41,835	91,013	132,848	320,189	504,169	1,156,180	1,980,538	0	0	0
1992	44,794	97,453	142,247	378,548	548,826	1,255,505	2,182,879	0	0	0
1993	58,326	117,803	176,129	471,279	574,695	1,387,197	2,433,171	143,190	261,622	404,812
1994	74,673	142,627	217,300	583,121	639,668	1,548,834	2,771,623	669,547	1,218,200	1,887,747
1995	86,924	159,436	246,360	661,358	661,358	1,574,663	2,897,379	687,335	1,250,566	1,937,901
1996	93,405	166,347	259,752	698,670	666,882	1,587,815	2,953,367	696,295	1,266,868	1,963,163
1997	115,669	200,719	316,388	844,678	771,229	1,836,259	3,452,166	874,206	1,590,565	2,464,771
1998	124,780	211,486	336,266	861,186	786,301	1,872,143	3,519,630	898,462	1,634,697	2,533,159
1999	137,332	227,656	364,988	893,535	815,836	1,942,468	3,651,839	950,718	1,729,776	2,680,494
2000	144,415	234,835	379,250	893,787	816,066	1,943,013	3,652,866	950,111	1,728,670	2,678,781
2001	155,415	244,764	400,179	912,035	832,728	1,982,684	3,727,447	979,268	1,781,719	2,760,987
2002	204,604	312,579	517,183	1,136,113	1,037,321	2,469,810	4,643,244	1,324,498	2,409,843	3,734,341
2003	215,400	320,029	535,429	1,139,813	1,040,698	2,477,853	4,658,364	1,330,841	2,421,385	3,752,226
2004	230,702	333,683	564,385	1,166,130	1,064,727	2,535,065	4,765,922	1,370,875	2,494,225	3,865,100
2005	240,829	339,818	580,647	1,164,052	1,062,831	2,530,549	4,757,432	1,368,517	2,489,934	3,858,451
2006	253,131	343,402	596,533	1,173,680	1,071,620	2,551,478	4,796,778	1,383,269	2,516,775	3,900,044
2007	279,935	365,894	645,829	1,245,724	1,137,400	2,708,096	5,091,220	1,494,479	2,719,114	4,213,593
2008	293,187	369,972	663,159	1,254,801	1,145,688	2,727,829	5,128,318	1,508,419	2,744,478	4,252,897
2009	306,563	373,793	680,356	1,264,449	1,154,497	2,748,803	5,167,749	1,523,521	2,771,956	4,295,477
2010	318,320	375,218	693,538	1,266,175	1,156,073	2,752,556	5,174,804	1,526,113	2,776,671	4,302,784
2011	332,301	377,548	709,849	1,270,316	1,159,854	2,761,558	5,191,728	1,533,005	2,789,210	4,322,215
2012	347,692	381,247	728,939	1,279,536	1,168,272	2,781,601	5,229,409	1,546,914	2,814,517	4,361,431
2013	362,051	383,215	745,266	1,282,332	1,170,824	2,787,676	5,240,832	1,550,568	2,821,166	4,371,734
2014	377,745	386,529	764,274	1,289,185	1,177,082	2,802,577	5,268,844	1,561,105	2,840,337	4,401,442
2015	418,404	413,800	832,204	1,374,897	1,255,342	2,988,907	5,619,146	1,693,180	3,080,640	4,773,820
2016	434,714	418,645	853,359	1,382,112	1,261,928	3,004,590	5,648,630	1,703,974	3,100,278	4,804,252
2017	447,946	420,211	868,157	1,378,568	1,258,693	2,996,889	5,634,150	1,698,328	3,090,006	4,788,334
2018	480,867	439,276	920,143	1,429,715	1,305,392	3,108,078	5,843,185	1,777,834	3,234,662	5,012,496
2019	496,748	442,202	938,950	1,430,109	1,305,751	3,108,932	5,844,792	1,777,385	3,233,846	5,011,231
2020	501,402	407,404	908,806	1,411,817	1,289,050	3,069,165	5,770,032	1,751,524	3,186,793	4,938,317
2021	505,802	410,550	916,352	1,424,142	1,300,303	3,095,961	5,820,406	1,768,777	3,218,183	4,986,960
2022	503,359	408,321	911,680	1,413,815	1,290,875	3,073,513	5,778,203	1,753,183	3,189,811	4,942,994
2023	502,708	407,480	910,188	1,409,951	1,287,347	3,065,111	5,762,409	1,748,014	3,180,407	4,928,421
2024	502,799	407,048	909,847	1,407,893	1,285,467	3,060,635	5,753,995	1,743,455	3,172,113	4,915,568
2025	504,147	407,769	911,916	1,409,047	1,286,521	3,063,144	5,758,712	1,746,630	3,177,890	4,924,520
2026	502,811	406,689	909,500	1,404,173	1,282,071	3,052,550	5,738,794	1,740,292	3,166,357	4,906,649
2027	502,926	406,784	909,710	1,404,416	1,282,293	3,053,079	5,739,788	1,740,768	3,167,221	4,907,989
2028	502,132	406,140	908,272	1,400,381	1,278,608	3,044,305	5,723,294	1,736,367	3,159,215	4,895,582
2029	502,088	406,104	908,192	1,399,214	1,277,544	3,041,770	5,718,528	1,735,627	3,157,869	4,893,496
2030	500,385	404,727	905,112	1,392,682	1,271,580	3,027,571	5,691,833	1,726,640	3,141,521	4,868,161
2031	519,261	419,994	939,255	1,443,531	1,318,007	3,138,112	5,899,650	1,805,533	3,285,058	5,090,591
2032	516,418	417,695	934,113	1,434,935	1,310,158	3,119,424	5,864,517	1,792,275	3,260,938	5,053,213
2033	534,002	431,918	965,920	1,483,286	1,354,304	3,224,535	6,062,125	1,866,997	3,396,888	5,263,885
2034	531,091	429,563	960,654	1,475,042	1,346,778	3,206,615	6,028,435	1,854,505	3,374,159	5,228,664
2035	530,855	429,373	960,228	1,474,166	1,345,977	3,204,709	6,024,852	1,853,376	3,372,106	5,225,482
TOTAL	15,669,486	15,533,402	31,202,888	55,527,408	52,528,920	131,205,003	239,261,331	62,885,920	114,418,255	177,304,175

TRANSPORTATION CHARGE FOR EACH CONTRACTOR (a

(in dollars)

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	60,092	130,799	18,692	0	261,893	2,406,874	7,337	9,018	266,186	3,160,891
1982	55,454	107,739	949	0	141,418	2,325,038	4,599	6,697	48,748	2,690,642
1983	17,852	54,855	0	0	14,359	962,786	4,540	3,324	1,286	1,059,002
1984	32,761	78,392	0	0	160,289	1,804,158	5,389	6,358	9,983	2,097,330
1985	47,224	121,280	13,627	0	241,443	2,675,645	8,916	9,263	287,896	3,405,294
1986	88,326	217,868	5,073	0	348,835	4,573,836	16,042	14,753	344,065	5,608,798
1987	75,830	213,201	12,444	0	459,150	4,727,048	16,591	14,958	420,594	5,939,816
1988	96,346	265,960	14,914	0	653,676	5,860,806	19,884	18,477	589,089	7,519,152
1989	102,512	292,740	15,796	0	715,485	6,394,125	21,060	20,176	623,914	8,185,808
1990	105,712	312,708	16,259	0	770,654	6,757,556	21,679	21,200	642,216	8,647,984
1991	107,043	316,992	16,481	0	781,145	6,844,677	21,975	21,478	651,015	8,760,806
1992	113,215	333,052	17,317	0	821,264	7,209,092	23,088	22,489	683,997	9,223,514
1993	122,200	358,432	18,636	0	883,776	7,758,631	24,848	24,212	736,122	9,926,857
1994	133,245	389,573	20,255	0	960,931	8,443,852	27,007	26,282	800,077	10,801,222
1995	135,071	394,124	20,492	0	971,990	8,539,801	27,323	26,600	809,422	10,924,823
1996	136,527	399,125	20,752	0	984,598	8,653,591	27,669	26,858	819,692	11,068,812
1997	156,966	455,639	23,690	0	1,124,411	9,893,918	31,587	30,520	935,757	12,652,488
1998	160,237	465,795	24,218	0	1,149,581	10,113,042	32,291	31,211	956,616	12,932,991
1999	166,021	481,284	25,023	0	1,187,937	10,453,032	33,364	32,113	988,425	13,367,199
2000	166,666	484,707	25,202	0	1,196,289	10,519,236	33,602	32,286	995,455	13,453,443
2001	170,057	494,177	25,693	0	1,219,847	10,730,264	34,259	32,839	1,014,904	13,722,040
2002	210,324	606,897	31,554	0	1,498,819	13,206,103	42,072	40,385	1,246,401	16,882,555
2003	210,879	608,034	31,614	0	1,501,964	13,242,104	42,151	40,444	1,248,735	16,925,925
2004	215,682	621,784	32,328	0	1,536,091	13,546,125	43,104	41,381	1,276,974	17,313,469
2005	215,105	619,481	32,209	0	1,530,568	13,502,106	42,945	41,216	1,272,245	17,255,875
2006	216,900	624,682	32,479	0	1,543,613	13,622,051	43,306	41,557	1,282,926	17,407,514
2007	229,624	659,741	34,302	0	1,630,256	14,390,249	45,736	43,933	1,354,927	18,388,768
2008	231,180	663,934	34,519	0	1,640,603	14,482,514	46,026	44,231	1,363,538	18,506,545
2009	232,978	669,054	34,786	0	1,653,400	14,598,298	46,381	44,548	1,374,053	18,653,498
2010	233,132	669,143	34,791	0	1,653,458	14,597,673	46,387	44,587	1,374,238	18,653,409
2011	233,900	671,222	34,899	0	1,658,698	14,646,377	46,532	44,692	1,378,506	18,714,826
2012	235,497	675,631	35,128	0	1,669,570	14,742,812	46,838	45,016	1,387,559	18,838,051
2013	235,567	675,023	35,096	0	1,668,433	14,739,898	46,795	45,095	1,386,311	18,832,218
2014	236,624	677,587	35,230	0	1,674,743	14,795,801	46,973	45,301	1,391,579	18,903,838
2015	251,873	719,925	37,431	0	1,779,328	15,727,348	49,908	48,163	1,478,529	20,092,505
2016	252,966	722,611	37,571	0	1,785,930	15,785,450	50,094	48,400	1,484,044	20,167,066
2017	252,178	720,112	37,441	0	1,779,986	15,736,789	49,921	48,272	1,478,913	20,103,612
2018	260,983	743,696	38,667	0	1,838,488	16,259,733	51,556	49,883	1,527,347	20,770,353
2019	260,678	742,268	38,593	0	1,834,786	16,225,140	51,457	49,921	1,524,415	20,727,258
2020	256,686	728,885	37,897	0	1,801,860	15,934,673	50,529	49,023	1,496,930	20,356,483
2021	258,873	735,404	38,236	0	1,816,936	16,041,927	50,981	49,566	1,510,318	20,502,241
2022	255,781	723,872	37,636	0	1,788,716	15,806,428	50,181	49,009	1,486,633	20,198,256
2023	254,839	720,466	37,459	0	1,780,157	15,736,167	49,946	48,782	1,479,639	20,107,455
2024	253,549	715,138	37,182	0	1,767,094	15,632,013	49,577	48,680	1,468,697	19,971,930
2025	253,603	714,575	37,153	0	1,765,704	15,625,570	49,537	48,590	1,467,540	19,962,272
2026	252,616	711,250	36,980	0	1,757,489	15,557,652	49,307	48,320	1,460,713	19,874,327
2027	252,665	711,366	36,986	0	1,757,716	15,560,635	49,315	48,322	1,460,950	19,877,955
2028	251,755	707,925	36,808	0	1,749,518	15,494,657	49,076	48,020	1,453,883	19,791,642
2029	251,452	706,584	36,737	0	1,746,371	15,470,631	48,983	47,886	1,451,131	19,759,775
2030	249,731	700,248	36,408	0	1,731,226	15,347,796	48,544	47,503	1,438,116	19,599,572
2031	258,283	722,716	37,577	0	1,787,110	15,847,478	50,102	49,086	1,484,261	20,236,613
2032	256,296	716,158	37,235	0	1,770,896	15,702,702	49,647	48,731	1,470,793	20,052,458
2033	264,888	739,926	38,471	0	1,829,403	16,214,738	51,295	50,327	1,519,607	20,708,655
2034	263,403	735,707	38,251	0	1,818,777	16,117,461	51,002	50,034	1,510,942	20,585,577
2035	263,225	735,099	38,220	0	1,817,173	16,101,766	50,960	49,984	1,509,692	20,566,119
TOTAL	11,064,803	30,842,433	1,619,980	0	74,178,014	666,245,104	2,117,564	2,092,181	62,845,326	851,005,405

a) Unadjusted for prior overpayments or underpayments of charges.

TABLE B-18: VARIABLE OMP&R COMPONENT OF

(in dollars)

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	2	228,381	28,596	340,428	2,327	90,780	0	236	3,803
1980	1,390,117	357	256,759	29,229	401,036	3,666	94,362	0	0	16,503
1981	1,484,971	59,715	275,150	33,755	431,875	23,760	90,920	0	256,256	57,886
1982	930,895	78,574	296,153	27,512	466,698	0	233,348	0	121,603	182,193
1983	332,913	-367,705	170,363	10,668	269,356	384	0	0	-46,500	-5,695
1984	457,783	-173,753	258,306	18,478	409,543	14	0	0	-74,161	-102,192
1985	811,507	-306,734	432,895	36,234	687,985	0	0	34,111	-33,057	-22,492
1986	1,121,235	-42,173	739,815	61,183	1,178,181	5,633	0	106,979	73,131	107,673
1987	1,113,694	-125,890	657,144	68,383	1,065,311	41,299	0	176,332	56,140	34,776
1988	1,298,053	30,146	878,751	70,250	1,446,711	0	0	165,458	269,785	143,721
1989	1,492,214	82,950	1,004,733	80,340	1,676,621	0	0	187,982	345,102	183,843
1990	1,608,216	113,540	1,092,648	87,648	1,802,157	63,491	0	208,329	372,453	198,414
1991	1,701,051	132,915	1,107,713	94,179	1,827,006	68,391	0	231,322	411,934	204,409
1992	1,908,039	198,151	1,191,502	107,339	1,965,208	77,981	0	270,762	459,098	234,432
1993	2,074,920	302,840	1,286,850	122,779	2,122,465	88,864	2,829,953	311,818	605,209	286,927
1994	2,302,541	458,800	1,416,370	134,468	2,336,092	103,075	3,114,789	365,040	778,009	320,194
1995	2,349,847	505,235	1,435,911	140,056	2,368,321	109,659	3,157,761	391,641	877,483	320,830
1996	2,490,104	569,608	1,455,374	149,455	2,400,422	116,565	3,200,562	434,525	943,485	340,694
1997	3,019,208	871,026	1,691,832	184,413	2,790,423	141,726	3,720,565	548,481	1,333,579	475,669
1998	3,215,127	977,046	1,729,520	196,830	2,852,589	145,001	3,803,450	605,161	1,438,053	506,968
1999	3,470,655	1,106,588	1,796,844	214,635	2,963,627	150,614	3,951,504	674,420	1,603,646	559,038
2000	3,612,562	1,179,618	1,800,976	224,127	2,970,440	151,071	3,960,587	722,512	1,665,944	574,312
2001	3,861,331	1,280,990	1,841,007	238,633	3,036,466	154,453	4,048,624	778,915	1,784,517	611,685
2002	5,053,873	2,016,860	2,307,512	314,596	3,805,897	193,735	5,074,528	1,027,720	2,659,382	905,417
2003	5,292,041	2,260,519	2,319,856	327,921	3,826,256	194,747	5,101,674	1,083,724	2,763,314	934,944
2004	5,637,951	2,366,876	2,376,265	348,227	3,919,294	199,500	5,225,724	1,162,389	2,951,835	992,890
2005	5,842,656	2,356,335	2,372,896	360,280	3,913,740	199,082	5,218,320	1,211,810	3,041,298	1,016,069
2006	6,158,199	2,398,096	2,394,796	375,961	3,949,857	200,904	5,266,477	1,280,469	3,398,201	1,056,979
2007	6,813,244	2,633,877	2,540,430	412,847	4,190,059	213,202	5,586,746	1,419,936	4,046,400	1,179,683
2008	7,138,983	2,658,508	2,557,596	428,635	4,218,371	214,642	5,624,496	1,491,387	4,430,749	1,218,715
2009	7,483,631	2,701,688	2,579,669	445,843	4,254,779	216,512	5,673,037	1,566,613	4,841,796	1,263,423
2010	7,763,832	2,692,243	2,579,328	460,547	4,254,215	216,447	5,672,287	1,628,052	5,179,159	1,286,944
2011	8,127,664	2,713,613	2,590,139	474,536	4,272,047	217,365	5,696,063	1,634,965	5,299,750	1,324,603
2012	8,519,604	2,746,754	2,608,838	490,992	4,302,889	218,932	5,737,183	1,646,751	5,450,481	1,368,595
2013	8,874,568	2,760,159	2,615,435	507,833	4,313,769	219,481	5,751,691	1,650,879	5,592,421	1,410,477
2014	9,251,421	2,769,881	2,627,844	523,595	4,334,235	220,498	5,778,979	1,658,527	5,730,943	1,451,860
2015	10,231,884	3,065,309	2,803,957	574,121	4,624,706	235,333	6,166,276	1,770,116	6,380,668	1,621,754
2016	10,686,436	3,078,970	2,816,096	596,499	4,644,728	236,346	6,192,971	1,777,734	6,866,756	1,660,013
2017	11,076,798	3,078,315	2,810,258	618,284	4,635,099	235,895	6,180,134	1,774,339	7,342,928	1,694,582
2018	11,915,237	3,238,315	2,915,217	668,595	4,808,217	244,683	6,410,957	1,840,446	8,264,349	1,827,775
2019	12,322,322	3,227,053	2,911,589	689,709	4,802,231	244,328	6,402,973	1,837,773	8,757,192	1,862,700
2020	12,563,286	3,156,675	2,871,166	680,946	4,735,559	240,796	6,314,080	1,811,206	9,110,283	1,867,609
2021	13,029,417	3,179,671	2,882,861	683,219	4,754,851	241,673	6,339,802	1,817,814	9,402,940	1,924,579
2022	13,292,205	3,120,798	2,851,822	676,139	4,703,653	238,846	6,271,541	1,796,525	9,276,376	1,942,071
2023	13,627,835	3,095,228	2,836,940	672,542	4,679,108	237,454	6,238,812	1,786,072	9,210,035	1,971,271
2024	13,963,275	3,066,204	2,823,262	668,912	4,656,549	236,144	6,208,733	1,776,210	9,152,059	2,001,678
2025	14,201,362	3,075,483	2,822,639	671,101	4,655,522	236,006	6,207,364	1,775,171	9,176,422	2,048,149
2026	14,147,000	3,048,043	2,812,603	666,367	4,638,970	235,102	6,185,293	1,768,375	9,114,719	2,084,570
2027	14,148,293	3,054,758	2,812,777	665,570	4,639,257	235,124	6,185,675	1,768,537	9,104,660	2,130,190
2028	14,117,878	3,031,989	2,806,937	665,669	4,629,625	234,618	6,172,833	1,764,736	9,099,573	2,176,890
2029	14,113,926	3,027,672	2,806,400	665,142	4,628,737	234,553	6,171,649	1,764,241	9,096,899	2,224,129
2030	14,047,347	3,004,604	2,793,666	662,390	4,607,735	233,445	6,143,647	1,755,919	9,052,413	2,258,691
2031	14,566,062	3,168,360	2,896,958	687,795	4,778,099	242,066	6,370,799	1,820,757	9,535,652	2,441,071
2032	14,448,614	3,124,661	2,873,165	682,895	4,738,857	240,114	6,318,477	1,806,075	9,461,350	2,481,070
2033	14,911,709	3,268,189	2,964,410	704,805	4,889,350	247,812	6,519,135	1,863,963	9,867,278	2,649,066
2034	14,806,755	3,225,530	2,942,718	699,652	4,853,576	246,066	6,471,434	1,850,845	9,786,535	2,688,436
2035	14,787,123	3,209,136	2,937,741	698,628	4,845,368	245,740	6,460,491	1,848,392	9,780,456	2,745,390
TOTAL	417,348,300	105,552,218	116,129,840	21,934,574	191,278,792	9,227,693	235,640,925	62,452,256	256,529,907	65,232,358

TRANSPORTATION CHARGE FOR EACH CONTRACTOR (a

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio 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	-819,251	0	-266,326	0	0	0	0	0	1,141,864
1978	0	3,844,052	0	4,992,899	0	0	0	0	0	7,752,522
1979	0	4,123,764	0	5,876,884	0	0	0	0	0	9,965,861
1980	0	5,397,323	0	7,589,352	0	0	0	0	0	10,461,207
1981	0	10,957,869	0	13,672,157	0	0	0	0	0	17,693,108
1982	0	7,548,990	0	9,885,966	0	0	0	0	0	13,299,071
1983	0	-8,286,328	0	-7,922,544	0	0	0	0	0	-6,635,856
1984	0	-7,792,225	0	-6,998,207	0	0	0	0	0	-4,542,434
1985	0	-12,241,018	0	-10,600,569	0	0	0	0	0	-6,463,288
1986	0	1,224,746	0	4,576,403	0	0	0	0	0	11,365,168
1987	3,642	-4,265,142	0	-1,174,311	0	0	0	0	0	5,980,098
1988	24,637	9,209,081	1,322	13,537,915	0	0	0	0	0	22,734,657
1989	52,528	13,218,866	6,751	18,331,930	0	0	0	0	0	28,453,615
1990	75,589	14,698,724	12,842	20,334,051	0	0	0	0	0	31,030,164
1991	87,602	15,434,989	27,237	21,328,748	0	0	0	0	0	32,202,940
1992	106,053	18,057,331	53,366	24,629,262	0	0	0	0	0	36,177,902
1993	136,155	22,864,268	89,435	33,122,483	0	0	0	0	0	46,063,452
1994	158,724	26,910,692	156,508	38,555,302	0	0	0	0	0	54,233,194
1995	166,283	26,596,912	199,449	38,619,388	0	0	0	0	0	54,625,851
1996	183,219	28,809,856	267,070	41,360,939	0	0	0	0	0	57,606,033
1997	264,854	41,871,102	462,089	57,374,967	0	0	0	0	0	76,260,780
1998	291,498	45,030,670	610,250	61,402,163	0	0	0	0	0	80,724,209
1999	331,850	49,794,700	696,805	67,314,926	0	0	0	0	0	87,379,446
2000	350,726	51,362,824	751,858	69,327,557	0	0	0	0	0	89,491,897
2001	364,233	53,334,581	792,726	72,128,161	0	0	0	0	0	92,738,814
2002	526,598	80,634,833	1,161,608	105,682,559	0	0	0	0	0	131,459,882
2003	531,406	82,718,008	1,187,012	108,541,422	0	0	0	0	0	134,413,366
2004	551,796	87,592,515	1,253,933	114,579,195	0	0	0	0	0	141,088,071
2005	1,195,783	90,189,048	1,265,432	118,182,749	0	0	0	0	0	144,635,154
2006	1,214,596	93,256,985	1,285,627	122,237,147	0	0	0	0	0	148,938,016
2007	1,325,659	103,872,934	1,399,163	135,634,180	0	0	0	0	0	163,973,590
2008	1,339,929	106,683,488	1,410,987	139,416,486	0	0	0	0	0	167,967,405
2009	1,359,702	110,083,751	1,431,975	143,902,419	0	0	0	0	0	172,699,499
2010	1,357,568	111,570,996	1,427,331	146,088,949	0	0	0	0	0	174,913,484
2011	1,364,433	113,418,781	1,437,602	148,571,561	0	0	0	0	0	177,510,179
2012	1,378,558	115,871,460	1,453,690	151,794,727	0	0	0	0	0	180,952,557
2013	1,389,991	117,962,955	1,460,095	154,509,754	0	0	0	0	0	183,699,804
2014	1,400,456	119,949,652	1,464,740	157,162,631	0	0	0	0	0	186,501,029
2015	1,533,133	133,238,920	1,607,136	173,853,313	0	0	0	0	0	205,170,988
2016	1,530,824	134,545,353	1,613,593	176,246,319	0	0	0	0	0	207,719,626
2017	1,526,890	135,608,500	1,613,339	178,195,361	0	0	0	0	0	209,589,614
2018	1,610,005	144,420,985	1,690,277	189,855,058	0	0	0	0	0	222,401,235
2019	1,604,815	145,321,637	1,684,868	191,669,190	0	0	0	0	0	224,191,421
2020	1,576,077	143,901,147	1,651,033	190,479,863	0	0	0	0	0	222,453,501
2021	1,585,487	145,796,664	1,662,287	193,301,265	0	0	0	0	0	225,527,224
2022	1,564,146	144,575,711	1,633,869	191,943,702	0	0	0	0	0	223,774,835
2023	1,552,959	144,438,965	1,621,472	191,968,693	0	0	0	0	0	223,677,166
2024	1,543,183	144,347,742	1,607,418	192,051,369	0	0	0	0	0	223,602,709
2025	1,547,292	145,715,210	1,612,144	193,743,865	0	0	0	0	0	225,301,285
2026	1,536,887	145,412,708	1,598,712	193,249,349	0	0	0	0	0	224,678,619
2027	1,535,192	146,149,326	1,602,031	194,031,390	0	0	0	0	0	225,466,832
2028	1,534,335	146,603,990	1,591,045	194,430,118	0	0	0	0	0	225,748,908
2029	1,533,883	147,300,337	1,588,961	195,156,529	0	0	0	0	0	226,436,520
2030	1,526,383	147,254,687	1,577,886	194,918,813	0	0	0	0	0	225,983,491
2031	1,607,862	159,532,800	1,656,765	209,305,046	0	0	0	0	0	241,471,155
2032	1,595,333	162,282,436	1,635,723	211,688,770	0	0	0	0	0	243,593,071
2033	1,663,781	173,848,200	1,704,848	225,102,546	0	0	0	0	0	258,103,131
2034	1,650,166	176,591,205	1,684,344	227,497,262	0	0	0	0	0	260,300,592
2035	1,649,143	180,678,133	1,676,514	231,562,255	0	0	0	0	0	264,338,936
TOTAL	50,541,844	4,911,432,489	56,081,168	6,499,382,364	0	0	0	0	0	7,798,156,163

TABLE B-19: TOTAL TRANSPORTATION

(in dollars)

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	351,220	458,491	1,704,742	2,514,453	43,012	81,129	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	292,671	54,276	346,947	720,972	689,138	2,838,311	4,248,421	289,317	537,223	826,540
1980	314,366	68,735	383,101	837,697	819,254	3,053,609	4,710,560	315,868	586,339	902,207
1981	348,721	86,312	435,033	805,413	837,125	2,956,581	4,599,119	339,708	630,416	970,124
1982	441,273	104,247	545,520	829,001	799,086	3,217,823	4,845,910	337,927	627,248	965,175
1983	381,762	144,972	526,734	845,512	850,345	3,868,195	5,564,052	360,501	668,934	1,029,435
1984	502,510	215,272	717,782	1,106,490	1,022,252	5,614,180	7,742,922	381,684	708,073	1,089,757
1985	739,683	352,100	1,091,783	1,569,307	1,724,325	6,521,903	9,815,535	427,731	793,115	1,220,846
1986	1,012,720	677,804	1,690,524	1,424,621	1,510,273	7,120,511	10,055,405	411,178	762,671	1,173,849
1987	1,539,463	1,544,410	3,083,873	2,088,065	2,382,482	7,041,232	11,511,779	497,944	922,854	1,420,798
1988	2,552,571	3,418,043	5,970,614	2,050,725	2,574,173	6,766,767	11,391,665	593,540	1,111,832	1,705,372
1989	2,837,887	3,974,639	6,812,526	2,160,898	2,694,195	7,097,192	11,952,285	631,682	1,191,101	1,822,783
1990	2,877,487	4,075,224	6,952,711	2,212,049	2,754,744	7,285,153	12,251,946	716,024	1,372,620	2,088,644
1991	2,884,050	4,082,863	6,966,913	2,234,513	2,765,009	7,354,708	12,354,230	851,946	1,663,365	2,515,311
1992	2,888,197	4,091,401	6,979,598	2,368,237	2,839,453	7,517,466	12,725,156	2,087,997	4,311,984	6,399,981
1993	2,916,228	4,125,178	7,041,406	2,530,514	2,790,461	7,594,707	12,915,682	4,551,370	9,406,252	13,957,622
1994	2,949,089	4,167,793	7,116,882	2,717,170	2,844,487	7,738,017	13,299,674	7,743,850	15,567,020	23,310,870
1995	2,977,295	4,203,108	7,180,403	2,888,048	2,879,252	7,758,707	13,526,007	7,780,004	15,647,355	23,427,359
1996	2,988,676	4,210,056	7,198,732	2,944,327	2,861,413	7,716,240	13,521,980	7,760,308	15,621,101	23,381,409
1997	3,017,878	4,248,796	7,266,674	3,118,070	2,952,617	7,933,436	14,004,123	7,923,943	15,926,245	23,850,188
1998	3,029,571	4,256,583	7,286,154	3,098,277	2,934,545	7,890,409	13,923,231	7,895,778	15,874,571	23,770,349
1999	3,041,956	4,266,073	7,308,029	3,080,971	2,918,747	7,852,813	13,852,531	7,869,343	15,818,630	23,687,973
2000	3,047,089	4,264,343	7,311,432	3,027,979	2,870,362	7,737,608	13,635,949	7,781,015	15,646,151	23,427,166
2001	3,059,996	4,268,721	7,328,717	3,012,909	2,856,647	7,705,261	13,574,817	7,754,315	15,590,094	23,344,409
2002	3,108,621	4,329,367	7,437,988	3,190,512	3,018,825	8,091,497	14,300,834	8,022,952	16,069,014	24,091,966
2003	3,117,356	4,327,090	7,444,446	3,175,527	3,006,458	8,070,535	14,252,520	7,958,481	15,942,227	23,900,708
2004	3,136,265	4,339,513	7,475,778	3,158,476	2,990,952	8,033,989	14,183,417	7,925,929	15,873,075	23,799,004
2005	3,141,534	4,333,744	7,475,278	3,108,241	2,945,088	7,924,790	13,978,119	7,844,228	15,713,778	23,558,006
2006	3,149,059	4,324,845	7,473,904	3,073,948	2,913,775	7,850,241	13,837,964	7,792,171	15,609,591	23,401,762
2007	3,172,074	4,337,525	7,509,599	3,107,845	2,944,732	7,923,975	13,976,552	7,840,846	15,689,913	23,530,759
2008	3,179,514	4,329,700	7,509,214	3,075,052	2,914,791	7,852,696	13,842,539	7,785,844	15,580,611	23,366,455
2009	3,187,744	4,323,181	7,510,925	3,048,304	2,890,370	7,794,551	13,733,225	7,741,025	15,491,051	23,232,076
2010	3,192,788	4,313,218	7,506,006	3,010,511	2,855,862	7,712,392	13,578,765	7,678,513	15,368,585	23,047,098
2011	3,200,452	4,304,335	7,504,787	2,980,651	2,828,512	7,646,669	13,455,832	7,631,511	15,275,916	22,907,427
2012	3,209,683	4,298,282	7,507,965	2,955,674	2,805,708	7,592,379	13,353,761	7,589,118	15,191,253	22,780,371
2013	3,165,537	4,240,306	7,405,843	2,639,871	2,515,952	6,778,319	11,934,142	7,253,625	14,535,344	21,788,969
2014	3,203,441	4,263,399	7,466,840	2,678,181	2,527,826	6,771,535	11,977,542	7,365,932	14,753,112	22,119,044
2015	3,202,473	4,251,978	7,454,451	2,588,126	2,416,382	6,284,170	11,288,678	7,266,386	14,541,579	21,807,965
2016	3,189,183	4,246,545	7,435,728	2,540,530	2,366,369	6,046,046	10,952,945	7,209,351	14,429,540	21,638,891
2017	3,173,215	4,243,414	7,416,629	2,489,373	2,319,402	5,887,292	10,696,067	7,158,667	14,333,128	21,491,795
2018	3,125,310	4,263,409	7,388,719	2,498,630	2,326,424	5,874,861	10,699,915	7,224,359	14,452,303	21,676,662
2019	3,096,698	4,266,341	7,363,039	2,460,267	2,291,515	5,772,299	10,524,081	7,220,081	14,444,287	21,664,368
2020	3,097,376	4,231,267	7,328,643	2,426,683	2,260,371	5,690,359	10,377,413	7,191,331	14,391,756	21,583,087
2021	3,099,617	4,234,606	7,334,223	2,407,490	2,241,150	5,634,640	10,283,280	7,207,385	14,420,897	21,628,282
2022	3,088,354	4,222,266	7,310,620	2,395,313	2,229,856	5,605,161	10,230,330	7,189,102	14,387,406	21,576,508
2023	3,086,664	4,189,312	7,275,976	2,390,791	2,225,702	5,593,422	10,209,915	7,183,355	14,376,876	21,560,231
2024	3,083,037	4,186,388	7,269,425	2,386,546	2,221,695	5,582,613	10,190,854	7,168,002	14,348,493	21,516,495
2025	3,075,823	4,183,748	7,259,571	2,386,897	2,221,839	5,581,362	10,190,098	7,170,693	14,353,340	21,524,033
2026	3,069,704	4,177,983	7,247,687	2,381,132	2,216,559	5,568,565	10,166,256	7,054,536	14,138,983	21,193,519
2027	3,066,830	4,173,754	7,240,584	2,379,616	2,215,082	5,563,426	10,158,124	7,052,191	14,134,188	21,186,379
2028	3,062,694	4,168,928	7,231,622	2,373,169	2,209,141	5,547,702	10,130,012	7,041,016	14,113,510	21,154,526
2029	3,059,188	4,164,773	7,223,961	2,368,817	2,205,136	5,537,207	10,111,160	7,038,317	14,108,427	21,146,744
2030	3,047,387	4,148,854	7,196,241	2,359,895	2,196,941	5,517,201	10,074,037	7,026,523	14,086,746	21,113,269
2031	3,052,242	4,147,471	7,199,713	2,404,075	2,237,229.	5,612,656	10,253,960	7,096,001	14,213,011	21,309,012
2032	3,039,760	4,127,097	7,166,857	2,397,215	2,230,930	5,597,333	10,225,478	7,086,732	14,196,103	21,282,835
2033	3,032,076	4,101,458	7,133,534	2,444,932	2,274,474	5,700,734	10,420,140	7,163,512	14,335,988	21,499,500
2034	2,966,146	4,028,661	6,994,807	2,429,920	2,260,637	5,666,502	10,357,059	7,149,752	14,310,834	21,460,586
2035	2,839,496	3,891,630	6,731,126	2,422,862	2,254,151	5,650,371	10,327,384	7,149,433	14,310,180	21,459,613
TOTAL	155,104,017	204,855,991	359,960,008	144,717,201	142,723,113	399,210,429	686,650,743	327,779,728	656,229,323	984,009,051

a) Unadjusted for prior overpayments or underpayments of charges.

CHARGE FOR EACH CONTRACTOR (a

(in dollars)

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	72,875	180,190	9,474	55,394	452,161	1,530,314	13,019	11,455	205,913	2,530,795
1969	120,900	175,787	9,342	88,521	532,958	2,363,191	11,640	10,448	345,739	3,658,526
1970	143,884	197,380	16,107	95,648	582,505	2,879,741	11,772	12,978	285,350	4,225,365
1971	148,427	192,979	17,066	96,685	614,831	3,776,762	16,722	14,267	439,936	5,317,675
1972	171,000	214,439	17,870	99,791	640,757	4,896,060	14,151	20,412	1,051,457	7,125,937
1973	161,435	196,868	14,005	98,559	648,480	4,841,320	14,417	11,556	398,663	6,385,303
1974	171,084	273,330	13,974	99,478	707,518	5,133,535	14,510	12,618	580,593	7,006,640
1975	191,226	338,264	14,916	107,729	724,920	6,238,601	15,520	14,297	708,001	8,353,474
1976	212,416	296,081	15,462	109,115	783,648	6,588,488	15,889	15,945	550,076	8,587,120
1977	210,173	258,286	12,576	113,606	807,391	6,755,773	17,341	13,753	497,753	8,686,652
1978	236,137	348,722	11,639	117,643	908,551	8,279,584	17,860	18,035	498,055	10,436,226
1979	270,457	374,524	15,304	115,213	903,893	9,301,427	18,953	24,669	936,489	11,960,929
1980	255,361	394,973	13,655	126,852	896,228	9,848,894	19,482	24,000	721,246	12,300,691
1981	274,053	459,815	31,666	134,713	1,082,478	11,288,105	23,622	22,864	894,347	14,211,663
1982	271,093	452,384	14,667	136,051	1,008,075	12,052,745	21,717	22,139	729,117	14,707,988
1983	327,231	608,195	15,709	148,100	1,016,065	15,080,207	37,080	30,410	404,275	17,667,272
1984	458,505	887,132	16,474	158,254	2,003,032	22,951,969	52,312	58,419	761,302	27,347,399
1985	548,115	1,100,134	89,688	181,077	2,371,023	27,798,840	68,930	71,130	2,189,741	34,418,678
1986	623,259	1,287,801	36,301	171,770	2,416,459	31,264,509	82,524	78,801	2,215,547	38,176,971
1987	626,792	1,264,438	63,387	212,766	2,826,124	32,747,902	82,470	77,094	2,499,660	40,400,633
1988	626,822	1,240,370	59,532	235,877	2,972,731	32,298,791	77,196	74,546	2,626,142	40,212,007
1989	638,866	1,327,346	62,037	238,179	3,161,757	34,112,017	80,710	79,623	2,748,231	42,448,766
1990	641,170	1,393,807	63,413	234,861	3,337,165	35,394,200	83,194	82,575	2,846,739	44,077,124
1991	639,636	1,390,241	63,229	235,725	3,349,630	35,309,773	83,538	82,302	2,839,461	43,993,535
1992	647,368	1,407,048	64,104	237,369	3,402,342	35,707,115	84,991	83,327	2,873,965	44,507,629
1993	665,492	1,408,409	64,170	251,314	3,411,471	35,648,599	85,230	83,401	2,876,674	44,494,760
1994	671,387	1,424,089	64,981	253,458	3,451,874	36,002,633	86,338	84,380	2,908,789	44,947,929
1995	672,594	1,426,877	65,127	253,622	3,460,310	36,060,136	86,579	84,577	2,914,509	45,024,331
1996	669,570	1,419,436	64,741	253,779	3,443,893	35,900,612	86,114	83,995	2,899,225	44,821,365
1997	687,682	1,469,031	67,316	254,171	3,568,340	36,992,621	89,590	87,170	3,001,042	46,216,963
1998	684,877	1,462,269	66,964	254,207	3,551,633	36,840,285	89,121	86,718	2,987,151	46,023,225
1999	682,365	1,454,617	66,564	254,281	3,532,702	36,672,427	88,588	86,054	2,971,424	45,809,022
2000	674,042	1,433,178	65,449	254,283	3,479,512	36,191,930	87,101	84,552	2,927,387	45,197,434
2001	671,974	1,427,030	65,129	254,503	3,464,323	36,062,034	86,666	84,041	2,914,747	45,030,447
2002	705,111	1,519,711	69,943	255,236	3,692,239	38,098,114	93,044	90,244	3,105,009	47,628,651
2003	698,430	1,500,762	68,958	255,245	3,645,662	37,692,487	91,730	88,949	3,066,091	47,108,314
2004	697,023	1,497,860	68,805	256,250	3,637,783	37,654,459	91,450	88,690	3,060,093	47,052,413
2005	688,328	1,473,045	67,516	256,245	3,576,531	37,115,207	89,730	87,009	3,009,130	46,362,741
2006	684,915	1,457,989	66,721	257,757	3,542,085	36,828,034	88,673	85,967	2,977,985	45,990,126
2007	691,370	1,475,373	67,624	257,916	3,584,955	37,209,851	89,870	87,139	3,013,658	46,477,756
2008	685,893	1,460,015	66,824	257,937	3,546,915	36,872,510	88,804	86,119	2,982,123	46,047,140
2009	681,579	1,448,151	66,210	257,956	3,517,662	36,615,068	87,980	85,289	2,957,748	45,717,643
2010	675,077	1,429,773	65,254	257,960	3,472,007	36,208,335	86,706	84,084	2,920,007	45,199,203
2011	669,910	1,416,193	64,546	257,625	3,439,113	35,913,784	85,773	83,147	2,892,094	44,822,185
2012	665,769	1,404,641	63,945	257,642	3,410,476	35,659,504	84,971	82,394	2,868,367	44,497,709
2013	631,153	1,307,837	58,911	257,646	3,171,212	33,540,980	78,261	75,993	2,669,558	41,791,551
2014	643,559	1,341,840	60,680	254,889	3,255,344	34,288,542	80,618	78,315	2,739,393	42,743,180
2015	635,869	1,320,224	59,555	251,718	3,126,698	33,816,415	79,110	76,852	2,694,970	42,061,411
2016	631,004	1,306,358	58,834	245,627	3,027,458	33,510,646	78,149	75,973	2,666,488	41,600,537
2017	627,507	1,296,363	58,314	231,163	2,870,442	33,296,965	77,455	75,341	2,645,961	41,179,511
2018	636,475	1,320,188	59,553	208,214	2,810,353	33,826,950	70,446	76,959	2,694,882	41,704,020
2019	636,171	1,318,757	59,479	199,607	2,745,688	33,792,205	69,831	76,998	2,691,944	41,590,680
2020	631,688	1,303,338	58,676	197,440	2,675,964	33,464,013	68,542	75,908	2,660,285	41,135,854
2021	633,915	1,309,922	59,019	196,344	2,668,847	33,572,996	68,853	76,453	2,673,802	41,260,151
2022	629,719	1,293,509	58,166	194,975	2,619,152	33,207,794	67,725	75,639	2,640,109	40,786,788
2023	628,766	1,290,078	57,988	194,534	2,606,050	33,136,796	67,459	75,411	2,633,064	40,690,146
2024	623,255	1,283,719	57,678	191,116	2,583,994	32,941,920	67,036	75,281	2,620,401	40,444,400
2025	623,315	1,283,156	57,649	190,546	2,580,099	32,935,501	66,973	75,191	2,619,244	40,431,674
2026	622,311	1,279,800	57,474	190,266	2,569,733	32,866,775	66,704	74,921	2,612,360	40,340,344
2027	622,360	1,279,917	57,480	189,614	2,566,918	32,869,792	66,668	74,923	2,612,598	40,340,270
2028	621,440	1,276,450	57,300	187,129	2,556,577	32,803,066	66,405	74,619	2,605,475	40,248,461
2029	621,106	1,274,969	57,227	186,926	2,550,380	32,764,468	66,282	74,485	2,602,554	40,198,397
2030	619,358	1,268,586	56,896	186,657	2,532,481	32,640,336	65,788	74,101	2,589,449	40,033,652
2031	628,073	1,291,294	58,077	185,450	2,574,029	33,146,892	67,075	75,692	2,636,071	40,662,653
2032	626,057	1,284,684	57,732	185,203	2,557,326	33,000,604	66,549	75,335	2,622,500	40,475,990
2033	634,802	1,308,690	58,980	184,701	2,607,956	33,519,455	67,983	76,939	2,671,788	41,131,294
2034	633,293	1,304,431	58,758	184,096	2,590,930	33,420,984	67,541	76,644	2,663,039	40,999,716
2035	633,113	1,303,815	58,727	183,672	2,583,217	33,405,132	67,322	76,594	2,661,779	40,973,371
TOTAL	36,785,982	75,116,908	3,431,537	13,485,729	171,497,997	1,896,447,720	4,352,393	4,426,149	151,028,765	2,356,573,180

TABLE B-19: TOTAL TRANSPORTATION

(in dollars)

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	3,547,503	1,199,465	951,612	240,503	1,532,546	48,959	1,528,022	336,540	4,476,122	1,166,298
1980	4,101,987	1,287,186	1,041,489	262,085	1,694,583	53,915	1,648,060	364,564	4,891,765	1,283,882
1981	4,440,911	1,505,918	1,114,395	274,010	1,815,318	78,384	1,770,964	396,760	5,282,225	1,373,011
1982	4,005,032	1,592,728	1,168,590	283,541	1,904,888	56,610	1,967,997	411,582	5,466,994	1,573,232
1983	5,163,707	1,714,929	1,743,676	332,698	2,824,911	69,585	2,023,379	496,267	6,060,593	1,565,924
1984	7,223,435	2,690,370	2,843,942	460,906	4,582,722	77,394	2,320,762	564,623	7,352,450	2,392,688
1985	8,969,481	2,867,098	3,628,114	545,268	5,837,578	81,295	2,418,554	777,812	7,865,008	2,413,213
1986	9,148,507	3,603,107	4,304,378	595,546	6,922,530	104,023	2,427,568	1,031,008	7,837,254	3,161,774
1987	9,557,695	3,540,556	4,158,489	664,897	6,777,001	265,424	2,591,021	1,389,820	9,484,035	3,204,053
1988	8,819,651	3,498,805	4,040,004	600,479	6,654,431	88,350	2,724,299	1,147,317	9,921,213	3,148,774
1989	9,411,852	3,753,499	4,362,392	626,709	7,251,776	90,744	2,814,824	1,217,029	10,136,512	3,251,164
1990	9,759,423	3,961,592	4,656,405	668,067	7,679,196	280,008	2,816,605	1,278,185	10,563,953	3,368,848
1991	9,966,285	4,048,453	4,660,908	684,764	7,686,624	291,679	2,838,059	1,337,237	10,746,273	3,376,520
1992	10,330,598	4,130,875	4,753,754	707,972	7,839,758	309,615	2,853,699	1,418,450	10,779,127	3,438,423
1993	10,366,937	4,300,724	4,746,084	722,030	7,827,098	321,302	10,171,612	1,468,521	10,981,864	3,463,565
1994	10,514,912	4,542,472	4,820,123	753,596	7,949,225	337,960	10,307,232	1,536,078	11,740,715	3,548,148
1995	10,575,060	4,747,307	4,827,569	763,147	7,961,500	351,182	10,334,575	1,590,832	12,090,374	3,550,359
1996	10,770,274	4,847,962	4,796,392	778,469	7,910,081	361,068	10,263,313	1,668,447	12,211,405	3,573,317
1997	11,390,622	5,253,921	4,998,205	812,983	8,242,935	390,728	10,720,924	1,822,169	12,527,957	3,691,441
1998	11,591,419	5,382,683	4,989,557	856,722	8,228,699	388,019	10,647,811	1,901,745	13,155,291	3,811,338
1999	11,791,075	5,535,846	4,929,277	834,258	8,129,248	385,448	10,582,593	1,980,562	12,596,970	3,702,077
2000	11,847,555	5,528,387	4,838,868	851,105	7,980,132	377,120	10,362,201	2,030,318	12,788,712	3,719,627
2001	12,104,130	5,654,136	4,818,183	871,670	7,946,024	374,902	10,304,556	2,093,641	13,000,125	3,765,743
2002	13,242,620	6,300,507	5,206,090	956,810	8,585,821	406,488	11,133,198	2,335,897	14,050,007	4,077,284
2003	13,419,091	6,704,932	5,108,462	933,889	8,424,788	400,398	10,974,994	2,383,794	13,519,135	3,966,577
2004	13,708,909	6,629,181	5,103,569	975,515	8,416,719	398,179	10,915,896	2,452,497	14,111,321	4,087,354
2005	13,795,668	6,514,653	4,991,900	962,349	8,232,541	389,812	10,700,774	2,481,171	13,785,991	4,008,425
2006	14,041,819	6,365,384	4,939,499	980,118	8,146,122	384,799	10,568,990	2,534,859	14,363,004	4,047,554
2007	14,619,930	6,523,075	5,016,178	1,009,871	8,272,580	390,933	10,740,488	2,659,340	15,050,719	4,140,533
2008	14,826,235	6,442,737	4,945,245	1,009,217	8,155,576	385,460	10,597,892	2,707,161	15,291,278	4,112,764
2009	15,064,785	6,285,161	4,908,596	1,033,669	8,095,138	381,329	10,489,786	2,761,262	15,959,787	4,174,566
2010	15,204,452	6,203,451	4,821,291	1,027,047	7,951,142	374,738	10,318,579	2,794,116	16,032,494	4,115,007
2011	15,466,307	6,138,533	4,768,949	1,033,925	7,864,817	370,292	10,201,705	2,760,701	16,023,076	4,122,278
2012	15,729,776	5,995,849	4,729,953	1,052,297	7,800,498	366,217	10,095,599	2,730,040	16,213,468	4,167,425
2013	14,759,056	5,387,446	4,314,800	969,077	7,102,117	332,788	9,222,477	2,478,581	14,726,582	3,823,049
2014	15,602,395	5,606,023	4,456,164	1,023,241	7,349,567	343,740	9,510,940	2,561,372	15,504,683	4,012,176
2015	15,589,852	5,459,810	4,348,422	1,010,005	7,171,858	334,994	9,286,369	2,495,546	15,179,781	3,941,156
2016	15,695,643	5,266,805	4,280,189	1,023,620	7,059,325	328,453	9,119,513	2,446,464	15,554,878	3,936,904
2017	15,760,993	5,106,819	4,220,442	1,051,309	6,960,794	321,764	8,951,200	2,396,351	16,148,094	3,974,166
2018	16,344,007	5,222,644	4,232,109	1,039,351	6,980,031	326,035	9,071,451	2,429,009	15,934,060	3,864,823
2019	16,443,310	5,024,607	4,167,980	1,053,132	6,874,277	320,103	8,921,273	2,385,616	16,222,086	3,830,440
2020	16,377,250	4,919,062	4,073,270	1,058,246	6,718,096	310,191	8,661,102	2,313,505	16,754,290	3,836,507
2021	16,582,332	4,662,584	3,936,557	972,920	6,492,596	305,555	8,486,367	2,281,915	15,415,713	3,535,606
2022	16,677,119	4,517,855	3,862,030	969,117	6,369,688	299,646	8,296,841	2,238,356	15,237,776	3,520,113
2023	16,961,797	4,520,051	3,819,330	947,954	6,299,262	297,253	8,229,081	2,220,860	14,804,618	3,468,724
2024	17,234,245	4,512,226	3,797,116	947,990	6,262,630	294,861	8,168,885	2,202,971	14,795,196	3,502,342
2025	17,442,252	4,295,158	3,782,564	956,893	6,238,641	294,109	8,116,784	2,197,615	14,911,107	3,556,059
2026	17,374,427	4,441,747	3,716,196	892,986	6,129,152	292,942	8,074,136	2,189,003	13,766,967	3,375,632
2027	17,363,394	4,369,083	3,756,930	948,459	6,196,364	292,743	8,060,131	2,187,559	14,741,395	3,609,788
2028	17,322,417	4,323,623	3,729,708	926,959	6,151,461	292,038	8,037,608	2,182,337	14,345,647	3,578,160
2029	17,303,716	4,303,517	3,723,592	923,125	6,141,374	291,715	8,028,915	2,179,951	14,282,432	3,612,251
2030	17,217,207	4,242,766	3,718,012	933,515	6,132,174	290,274	7,991,510	2,169,142	14,470,636	3,690,537
2031	17,640,803	4,355,290	3,781,948	930,954	6,237,618	297,265	8,175,698	2,221,797	14,455,635	3,768,278
2032	17,533,119	4,290,393	3,769,807	937,506	6,217,599	295,465	8,129,196	2,208,304	14,584,039	3,848,650
2033	17,911,657	4,398,287	3,843,492	952,794	6,339,133	301,755	8,297,801	2,255,604	14,871,686	3,987,495
2034	17,701,070	4,331,249	3,817,707	961,381	6,296,617	298,232	8,208,938	2,229,159	15,031,613	4,064,995
2035	17,620,721	4,250,796	3,766,251	914,567	6,211,732	296,850	8,173,842	2,219,115	14,210,271	3,957,737
TOTAL	774,082,909	273,088,670	239,133,830	49,344,838	393,700,213	16,926,920	450,038,131	112,482,359	768,969,573	208,378,222

CHARGE FOR EACH CONTRACTOR (a

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio 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	24,990,411
1969	202,196	23,594,357	219,483	28,420,006	0	0	3,243	3,243	404,953	36,156,350
1970	294,655	31,202,162	279,075	37,868,713	0	0	15,368	15,368	444,165	46,409,329
1971	416,284	40,707,865	349,179	49,658,656	0	0	16,262	16,262	434,009	59,183,310
1972	545,248	53,825,852	429,870	65,262,211	0	0	17,656	17,656	459,732	77,000,871
1973	596,416	58,184,874	443,222	70,909,772	0	0	17,618	17,618	434,275	81,755,757
1974	620,100	62,726,529	463,433	75,775,988	0	0	17,761	17,761	457,342	87,497,396
1975	653,530	67,723,531	486,353	81,528,780	0	0	18,689	18,689	466,927	94,648,089
1976	677,440	69,468,010	483,631	84,012,175	0	0	17,760	17,760	489,536	98,054,436
1977	705,795	67,209,854	515,223	81,982,558	0	0	18,516	18,516	482,397	96,094,140
1978	731,992	75,341,236	542,340	91,174,702	0	0	17,664	17,664	487,967	107,422,518
1979	721,437	73,709,275	534,067	89,992,349	0	0	20,862	20,862	505,644	107,901,692
1980	786,954	80,949,577	579,355	98,945,402	0	0	18,044	18,044	566,507	117,826,512
1981	815,285	92,513,470	646,522	112,027,173	0	0	21,477	21,477	589,110	132,853,699
1982	863,184	94,116,462	680,302	114,091,142	0	0	28,588	28,588	564,452	135,748,775
1983	955,812	101,584,435	793,400	125,329,316	0	0	17,210	17,210	619,115	150,753,134
1984	1,120,157	140,279,625	881,833	172,790,907	0	0	18,276	18,276	611,245	210,318,288
1985	1,143,679	170,648,193	871,807	208,067,100	0	0	20,233	20,233	737,580	255,371,755
1986	1,132,426	200,956,414	921,423	242,145,958	0	0	20,231	20,231	692,453	293,955,391
1987	1,351,459	204,148,116	937,299	248,069,865	0	0	20,233	20,233	814,741	305,321,922
1988	1,474,860	234,318,055	1,028,494	277,464,732	0	0	20,238	20,238	834,710	337,599,338
1989	1,636,421	243,993,918	1,122,495	289,669,335	0	0	20,310	20,310	853,117	353,579,122
1990	1,806,531	250,130,991	1,193,624	298,163,428	0	0	20,352	20,352	854,244	364,408,449
1991	1,867,505	249,797,994	1,290,484	298,592,785	0	0	20,347	20,347	854,519	365,297,640
1992	1,923,071	251,280,800	1,406,907	301,173,049	0	0	20,350	20,350	856,611	372,662,374
1993	1,960,853	250,898,568	1,506,790	308,735,948	0	0	20,355	20,355	859,196	388,024,969
1994	2,038,836	252,633,597	1,696,797	312,419,691	0	0	20,366	20,366	862,974	401,978,386
1995	2,066,362	252,338,381	1,879,420	313,076,068	0	0	20,366	20,366	863,475	403,118,009
1996	2,104,908	253,759,963	2,106,035	315,151,634	0	0	20,366	20,366	863,849	404,959,335
1997	2,193,491	267,452,864	2,496,188	331,994,428	0	0	20,366	20,366	864,944	424,217,686
1998	2,297,521	270,227,621	2,849,714	336,328,140	0	0	20,366	20,366	865,060	428,216,525
1999	2,252,333	270,694,795	2,930,990	336,345,472	0	0	20,366	20,366	865,292	427,888,685
2000	2,290,598	267,374,192	2,942,957	332,931,772	0	0	20,366	20,366	865,293	423,389,412
2001	2,296,928	266,977,578	2,956,532	333,164,148	0	0	20,369	20,369	865,966	423,328,873
2002	2,460,930	290,104,302	3,254,750	362,114,704	0	0	20,369	20,369	867,887	456,462,399
2003	2,365,287	289,167,613	3,247,794	360,616,754	0	0	20,369	20,369	879,432	454,222,543
2004	2,419,789	290,310,228	3,246,041	362,775,198	0	0	20,369	20,369	880,510	456,186,689
2005	3,462,294	290,302,699	3,209,612	362,837,889	0	0	20,369	20,369	880,495	455,112,897
2006	3,440,201	287,905,865	3,146,729	360,864,943	0	0	20,369	20,369	880,564	452,469,632
2007	3,497,255	296,793,077	3,216,240	371,930,219	0	0	20,369	20,369	881,077	464,326,331
2008	3,433,181	296,105,593	3,173,015	371,185,354	0	0	20,369	20,369	881,142	462,852,213
2009	3,434,301	293,368,883	3,110,311	369,067,574	0	0	20,369	20,369	881,210	460,163,022
2010	3,347,894	292,376,476	3,062,482	367,629,169	0	0	20,369	20,369	881,223	457,861,833
2011	3,308,969	291,188,732	3,028,440	366,276,724	0	0	20,364	20,364	880,166	455,867,485
2012	3,298,606	287,851,826	2,970,081	363,001,635	0	0	20,364	20,364	880,231	452,042,036
2013	2,949,139	263,004,001	2,671,255	331,740,368	0	0	20,364	20,364	833,173	415,514,410
2014	3,085,793	274,685,055	2,774,621	346,515,770	0	0	20,364	20,364	795,339	431,638,079
2015	2,995,133	269,322,303	2,702,078	339,837,307	0	0	19,952	19,952	739,331	423,209,095
2016	2,949,593	262,632,898	2,618,753	332,913,038	0	0	19,790	19,790	715,024	415,275,953
2017	2,942,804	258,021,571	2,548,468	328,404,775	0	0	19,792	19,792	672,859	409,881,428
2018	2,869,904	261,369,246	2,592,353	332,275,023	0	0	19,790	19,790	594,995	414,359,124
2019	2,823,254	253,790,618	2,505,475	324,362,171	0	0	17,120	17,120	529,315	406,050,774
2020	2,799,896	250,802,984	2,444,290	321,068,689	0	0	4,996	4,996	506,372	402,005,054
2021	2,580,252	236,115,999	2,348,528	303,716,924	0	0	4,156	4,156	488,880	384,715,896
2022	2,540,964	229,185,584	2,280,881	295,995,970	0	0	2,748	2,748	487,546	376,390,510
2023	2,478,162	227,786,708	2,279,443	294,113,243	0	0	2,747	2,747	486,784	374,339,042
2024	2,471,342	228,119,571	2,268,516	294,577,891	0	0	2,746	2,746	485,508	374,487,319
2025	2,481,643	221,041,666	2,197,922	287,512,413	0	0	2,744	2,744	483,695	367,404,228
2026	2,329,843	223,575,642	2,240,368	288,399,041	0	0	2,743	2,743	483,226	367,832,816
2027	2,452,149	224,068,291	2,216,571	290,262,857	0	0	2,740	2,740	482,280	369,673,234
2028	2,400,249	222,736,038	2,196,362	288,222,607	0	0	2,738	2,738	481,060	367,471,026
2029	2,391,374	222,424,925	2,186,364	287,793,251	0	0	2,736	2,736	479,734	366,955,983
2030	2,412,766	221,716,640	2,157,290	287,142,469	0	0	2,735	2,735	478,300	366,040,703
2031	2,426,735	230,439,834	2,209,039	296,940,894	0	0	2,734	2,734	475,702	376,844,668
2032	2,440,541	233,091,690	2,177,406	299,523,715	0	0	2,732	2,732	475,898	379,153,505
2033	2,490,745	242,721,158	2,229,421	310,601,028	0	0	2,732	2,732	475,175	391,263,403
2034	2,503,354	245,284,821	2,197,875	312,927,011	0	0	2,731	2,731	471,511	393,213,421
2035	2,395,453	244,541,943	2,168,340	310,727,618	0	0	2,729	2,729	467,823	390,689,664
TOTAL	137,510,847	14,074,352,193	127,619,156	17,625,627,861	0	0	1,041,412	1,041,412	45,670,295	22,059,532,550

TABLE B-20A: CALCULATION OF DELTA WATER RATES

(Values in Millions of Dollars ($) or Millions of Acre-Feet (AF) Discounted to 1987)

Procedure	Capital Cost Component (1)		Minimum Operation, Maintenance, Power and Replacement Component(a (2)		Total Delta Water Rate (3)	
	Calculation at 4.713 Percent per Annum for All Contractors Except the City of Yuba City					
Commencing in 1988						
Total Costs of "Initial" Project Conservation Facilities to be Reimbursed and Project Water Entitlements during the Project Repayment Period.	$1,865.18(b	126.21 AF	$990.33(c	126.21 AF	$2,855.51	126.21 AF
Less, Project Power Revenues to be Realized During the Project Repayment Period.	-762.12		-250.95		-1,013.07	
Less, Delta Water Charges Paid and Project Water Entitlements, Prior to 1988.	-436.77(d	-47.64 AF	-186.84	-47.64 AF	-623.61	-47.64 AF
TOTAL	$ 666.29	78.57 AF	$552.54	78.57 AF	$1,218.83	78.57 AF
Rate Applicable 1988 through 2035	$8.48 per acre-foot		$7.03 per acre-foot		$15.51 per acre-foot	
	Calculation at 4.817 Percent per Annum for the City of Yuba City					
Commencing in 1988						
Total Costs of "Initial" Project Conservation Facilities to be Reimbursed and Project Water Entitlements during the Project Repayment Period.	$1,902.04(b	125.28 AF	$981.79(c	125.28 AF	$2,883.83	125.28 AF
Less, Project Power Revenues to be Realized during the Project Repayment Period.	-761.82		-248.69		-1,010.51	
Less, Delta Water Charges Paid and Project Water Entitlements, Prior to 1988.	-440.26(d	-47.98 AF	-187.75	-47.98 AF	-628.01	-47.98 AF
TOTAL	$ 699.96	77.30 AF	$545.35	77.30 AF	$1,245.31	77.30 AF
Rate Applicable 1988 through 2035	$9.06 per acre-foot		$7.05 per acre-foot		$16.11 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
Initial Conservation Facilities			
Oroville Division			
Water Supply and Power Costs(a	$15.75/AF	$7.18/AF	$22.93/AF
Less, Oroville Power Revenues	-9.70	-3.19	-12.89
Subtotal	6.05	3.99	10.04
Delta Facilities[b]	2.19	1.78	3.97
California Aqueduct, portion			
Reach 1	0.98	1.26	2.24
Reach 2A	0.60	0.20	0.80
Reach 2B	0.29	0.07	0.36
Reach 3	0.20	0.07	0.27
Subtotal	2.07	1.60	3.67
San Luis Facilities	3.01	2.04	5.05
Planning and Preoperating Costs through 1986	0.72	0.00	0.72
Less, Capital Cost Credits	-0.43	0.00	-0.43
Less, Delta Water Charges Paid Prior to 1988	-5.13	-2.38	-7.51
Rate Applicable 1988 through 2035	$ 8.48/AF	$ 7.03/AF	$15.51/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)

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	203,891	203,891	430,024	493,786	1,304,900	2,228,710	185,355	336,664	522,019
1988	89,125	242,943	332,068	465,407	535,218	1,365,195	2,365,820	240,460	437,824	678,284
1989	96,107	285,760	381,867	480,921	553,835	1,396,222	2,430,978	310,271	563,794	874,065
1990	104,639	329,663	434,302	496,434	572,451	1,427,249	2,496,134	387,839	705,650	1,093,489
1991	113,094	345,953	459,047	527,462	595,721	1,458,276	2,581,459	387,839	705,650	1,093,489
1992	121,626	374,963	496,589	558,489	618,992	1,489,303	2,666,784	387,839	705,650	1,093,489
1993	131,710	405,370	537,080	589,516	642,262	1,520,330	2,752,108	387,839	705,650	1,093,489
1994	141,717	435,621	577,338	620,543	651,570	1,551,357	2,823,470	387,839	705,650	1,093,489
1995	151,723	531,340	683,063	651,570	651,570	1,551,357	2,854,497	387,839	705,650	1,093,489
1996	161,729	586,413	748,142	682,597	651,570	1,551,357	2,885,524	387,839	705,650	1,093,489
1997	171,658	593,394	765,052	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
1998	181,664	600,530	782,194	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
1999	191,282	607,667	798,949	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2000	202,452	614,648	817,100	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2001	211,993	621,784	833,777	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2002	220,060	628,920	848,980	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2003	229,601	636,057	865,658	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2004	238,909	643,038	881,947	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2005	248,217	643,813	892,030	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2006	255,198	644,589	899,787	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2007	263,731	645,365	909,096	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2008	273,815	646,140	919,955	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2009	282,347	646,916	929,263	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2010	290,880	647,692	938,572	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2011	300,963	648,467	949,430	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2012	309,496	649,243	958,739	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2013	319,580	650,019	969,599	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2014	329,663	650,794	980,457	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2015	339,747	651,570	991,317	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2016	349,055	651,570	1,000,625	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2017	358,364	651,570	1,009,934	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2018	367,672	651,570	1,019,242	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2019	376,980	651,570	1,028,550	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2020	386,288	651,570	1,037,858	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2021	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2022	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2023	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2024	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2025	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2026	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2027	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2028	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2029	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2030	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2031	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2032	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2033	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2034	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
2035	387,839	651,570	1,039,409	713,624	651,570	1,551,357	2,916,551	387,839	705,650	1,093,489
TOTAL	13,664,028	29,000,901	42,664,929	37,428,919	36,305,273	92,843,483	166,577,675	18,998,532	34,554,547	53,553,079

CHARGE FOR EACH CONTRACTOR

(in dollars)

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	782,396	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	1,333,200	9,741,623	39,893	61,770	1,140,169	13,174,757
1985	179,667	667,740	42,441	0	1,540,611	11,403,920	48,100	69,320	644,383	14,596,182
1986	192,032	745,447	45,362	0	1,714,679	12,925,113	55,946	77,115	1,469,725	17,225,419
1987	188,321	762,180	44,485	0	1,766,064	13,410,818	59,314	77,108	1,503,601	17,811,891
1988	197,022	829,976	46,541	0	1,922,132	14,748,755	62,054	83,773	1,638,233	19,528,486
1989	197,022	862,555	46,541	0	1,988,841	15,266,908	62,054	86,876	1,704,942	20,215,739
1990	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
1991	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
1992	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
1993	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
1994	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
1995	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
1996	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
1997	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
1998	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
1999	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2000	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2001	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2002	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2003	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2004	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2005	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2006	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2007	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2008	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2009	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2010	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2011	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2012	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2013	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2014	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2015	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2016	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2017	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2018	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2019	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2020	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2021	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2022	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2023	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2024	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2025	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2026	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2027	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2028	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2029	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2030	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2031	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2032	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2033	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2034	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
2035	197,022	895,133	46,541	0	2,088,127	15,805,229	62,054	88,427	1,838,359	21,020,892
TOTAL	11,928,025	50,957,041	2,952,665	0	115,010,542	876,580,666	3,486,964	5,167,741	102,767,189	1,168,850,833

TABLE B-21: TOTAL DELTA WATER

(in dollars)

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	434,517	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	73,104	467,095	29,064	648,002	228,654	1,319,729	364,779
1988	713,624	547,629	320,386	80,981	527,462	32,113	713,624	248,838	1,442,762	403,353
1989	1,950,056	580,208	339,328	85,480	566,245	33,975	752,408	258,456	1,504,817	425,072
1990	2,049,343	609,683	358,364	89,979	591,067	35,681	788,090	268,385	1,574,628	446,791
1991	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
1992	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
1993	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
1994	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
1995	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
1996	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
1997	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
1998	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
1999	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2000	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2001	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2002	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2003	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2004	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2005	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2006	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2007	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2008	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2009	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2010	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2011	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2012	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2013	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2014	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2015	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2016	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2017	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2018	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2019	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2020	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2021	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2022	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2023	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2024	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2025	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2026	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2027	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2028	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2029	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2030	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2031	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2032	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2033	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2034	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
2035	2,147,079	643,813	358,364	89,979	591,067	35,681	788,090	268,385	1,591,693	446,791
TOTAL	111,713,894	34,418,433	19,526,199	4,896,669	32,034,659	1,939,155	43,006,381	14,919,807	89,040,362	24,799,077

CHARGE FOR EACH CONTRACTOR

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio 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	37,536,160
1985	166,935	22,050,974	84,882	26,202,406	24,050	16,976	12,166	53,192	0	43,235,458
1986	195,056	25,089,658	120,965	29,805,630	31,753	18,145	13,457	63,355	0	49,817,447
1987	207,598	26,095,043	148,284	31,009,788	37,071	17,794	13,642	68,507	0	51,844,806
1988	234,255	28,861,453	201,676	34,328,156	46,722	18,616	14,893	80,231	0	57,313,045
1989	251,320	30,422,119	248,217	37,417,701	53,166	18,616	15,514	87,296	0	61,407,646
1990	268,385	31,205,555	310,271	38,596,222	61,222	18,616	16,134	95,972	0	63,737,011
1991	268,385	31,205,555	310,271	38,745,153	154,665	426,623	16,755	598,043	0	64,498,083
1992	268,385	31,205,555	310,271	38,745,153	154,665	426,623	17,375	598,663	0	64,621,570
1993	268,385	31,205,555	310,271	38,745,153	154,665	426,623	17,996	599,284	0	64,748,006
1994	268,385	31,205,555	310,271	38,745,153	154,665	426,623	18,616	599,904	0	64,860,246
1995	268,385	31,205,555	310,271	38,745,153	154,665	426,623	19,392	600,680	0	64,997,774
1996	268,385	31,205,555	310,271	38,745,153	154,665	426,623	20,168	601,456	0	65,094,656
1997	268,385	31,205,555	310,271	38,745,153	154,665	426,623	20,943	602,231	0	65,143,368
1998	268,385	31,205,555	310,271	38,745,153	154,665	426,623	21,719	603,007	0	65,161,286
1999	268,385	31,205,555	310,271	38,745,153	154,665	426,623	22,495	603,783	0	65,178,817
2000	268,385	31,205,555	310,271	38,745,153	154,665	426,623	23,425	604,713	0	65,197,898
2001	268,385	31,205,555	310,271	38,745,153	154,665	426,623	24,356	605,644	0	65,215,506
2002	268,385	31,205,555	310,271	38,745,153	154,665	426,623	25,287	606,575	0	65,231,640
2003	268,385	31,205,555	310,271	38,745,153	154,665	426,623	26,218	607,506	0	65,249,249
2004	268,385	31,205,555	310,271	38,745,153	154,665	426,623	27,149	608,437	0	65,266,469
2005	268,385	31,205,555	310,271	38,745,153	154,665	426,623	28,080	609,368	0	65,277,483
2006	268,385	31,205,555	310,271	38,745,153	154,665	426,623	29,166	610,454	0	65,286,326
2007	268,385	31,205,555	310,271	38,745,153	154,665	426,623	30,251	611,539	0	65,296,720
2008	268,385	31,205,555	310,271	38,745,153	154,665	426,623	31,337	612,625	0	65,308,665
2009	268,385	31,205,555	310,271	38,745,153	154,665	426,623	32,423	613,711	0	65,319,059
2010	268,385	31,205,555	310,271	38,745,153	154,665	426,623	33,509	614,797	0	65,329,454
2011	268,385	31,205,555	310,271	38,745,153	154,665	426,623	34,750	616,038	0	65,341,553
2012	268,385	31,205,555	310,271	38,745,153	154,665	426,623	35,991	617,279	0	65,352,103
2013	268,385	31,205,555	310,271	38,745,153	154,665	426,623	37,388	618,676	0	65,364,360
2014	268,385	31,205,555	310,271	38,745,153	154,665	426,623	38,784	620,072	0	65,376,614
2015	268,385	31,205,555	310,271	38,745,153	154,665	426,623	40,335	621,623	0	65,389,025
2016	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,399,885
2017	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,409,194
2018	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,418,502
2019	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,427,810
2020	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,437,118
2021	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2022	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2023	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2024	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2025	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2026	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2027	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2028	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2029	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2030	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2031	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2032	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2033	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2034	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
2035	268,385	31,205,555	310,271	38,745,153	154,665	426,623	41,887	623,175	0	65,438,669
TOTAL	14,057,157	1,709,100,346	15,297,286	2,114,749,425	7,234,499	19,488,615	1,706,613	28,429,727	0	3,574,825,668

TABLE B-22: WATER SYSTEM REVENUE

(in dollars)

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	35,998	54,296	90,294	31,180	37,089	121,627	189,896	19,293	35,834	55,127
1990	34,410	57,230	91,640	32,441	37,982	121,109	191,532	31,601	61,706	93,307
1991	35,140	55,667	90,807	31,755	37,470	121,152	190,377	25,412	48,706	74,118
1992	33,796	58,997	92,793	33,241	38,628	121,485	193,354	37,920	74,966	112,886
1993	33,503	60,491	93,994	34,349	39,454	122,256	196,059	53,656	108,719	162,375
1994	33,668	65,807	99,475	35,838	39,722	123,345	198,905	59,628	120,565	180,193
1995	33,824	71,103	104,927	37,316	39,978	124,399	201,693	65,582	132,375	197,957
1996	34,214	73,690	107,904	37,977	40,026	124,547	202,550	65,731	132,722	198,453
1997	34,551	76,168	110,719	38,580	40,012	124,499	203,091	65,777	132,862	198,639
1998	34,870	78,603	113,473	39,163	39,976	124,384	203,523	65,788	132,929	198,717
1999	35,160	80,974	116,134	39,713	39,909	124,172	203,794	65,747	132,892	198,639
2000	35,469	83,383	118,852	40,284	39,863	124,026	204,173	65,741	132,926	198,667
2001	35,768	85,032	120,800	40,137	39,717	123,571	203,425	65,514	132,467	197,981
2002	36,067	86,686	122,753	39,991	39,571	123,115	202,677	65,286	132,008	197,294
2003	36,324	88,238	124,562	39,796	39,378	122,512	201,686	64,980	131,390	196,370
2004	36,548	89,709	126,257	39,566	39,149	121,799	200,514	64,616	130,655	195,271
2005	36,761	91,151	127,912	39,325	38,910	121,053	199,288	64,235	129,884	194,119
2006	37,071	92,300	129,371	39,155	38,741	120,528	198,424	63,968	129,344	193,312
2007	37,418	93,540	130,958	39,023	38,610	120,120	197,753	63,763	128,928	192,691
2008	37,704	94,627	132,331	38,826	38,415	119,513	196,754	63,452	128,299	191,751
2009	37,968	95,660	133,628	38,608	38,198	118,839	195,645	63,107	127,599	190,706
2010	38,248	96,733	134,981	38,407	37,999	118,219	194,625	62,789	126,956	189,745
2011	38,762	96,653	135,415	38,153	37,732	117,296	193,181	62,494	126,365	188,859
2012	39,279	96,576	135,855	37,899	37,464	116,373	191,736	62,200	125,775	187,975
2013	39,790	96,474	136,264	37,634	37,186	115,416	190,236	61,890	125,151	187,041
2014	40,283	96,322	136,605	37,349	36,888	114,395	188,632	61,545	124,459	186,004
2015	40,795	96,211	137,006	37,078	36,604	113,418	187,100	61,226	123,817	185,043
2016	41,261	95,987	137,248	36,763	36,276	112,305	185,344	60,834	123,029	183,863
2017	41,604	95,476	137,080	36,339	35,840	110,857	183,036	60,260	121,873	182,133
2018	41,856	94,765	136,621	35,839	35,330	109,181	180,350	59,561	120,464	180,025
2019	42,109	94,064	136,173	35,345	34,826	107,524	177,695	58,871	119,072	177,943
2020	42,340	93,326	135,666	34,839	34,310	105,831	174,980	58,159	117,638	175,797
2021	41,731	91,983	133,714	34,337	33,816	104,308	172,461	57,322	115,945	173,267
2022	41,009	90,392	131,401	33,743	33,231	102,503	169,477	56,330	113,940	170,270
2023	40,323	88,879	129,202	33,178	32,675	100,788	166,641	55,387	112,033	167,420
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	1,352,485	3,008,449	4,360,934	1,325,354	1,359,160	4,243,051	6,927,565	2,056,275	4,145,159	6,201,434

BOND SURCHARGE FOR EACH CONTRACTOR

(in dollars)

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	12,074	42,012	1,969	0	86,291	891,163	2,658	3,519	82,590	1,122,276
1990	11,620	41,414	1,896	0	86,102	876,934	2,568	3,658	83,493	1,107,685
1991	11,826	41,638	1,929	0	86,043	882,467	2,608	3,582	82,895	1,112,988
1992	11,454	41,332	1,869	0	86,459	874,417	2,536	3,747	84,382	1,106,196
1993	11,336	40,914	1,852	0	85,647	865,575	2,514	3,707	83,527	1,095,072
1994	11,342	40,934	1,851	0	85,716	866,009	2,514	3,710	83,568	1,095,644
1995	11,345	40,942	1,850	0	85,760	866,190	2,513	3,712	83,584	1,095,896
1996	11,358	40,992	1,853	0	85,885	867,251	2,517	3,719	83,687	1,097,262
1997	11,354	40,977	1,853	0	85,875	866,953	2,516	3,720	83,659	1,096,907
1998	11,344	40,941	1,852	0	85,819	866,186	2,515	3,719	83,586	1,095,962
1999	11,324	40,872	1,849	0	85,695	864,740	2,511	3,715	83,447	1,094,153
2000	11,311	40,825	1,848	0	85,617	863,755	2,509	3,713	83,353	1,092,931
2001	11,270	40,678	1,840	0	85,329	860,625	2,500	3,701	83,052	1,088,995
2002	11,229	40,530	1,832	0	85,041	857,497	2,491	3,689	82,751	1,085,060
2003	11,175	40,334	1,822	0	84,651	853,338	2,478	3,672	82,350	1,079,820
2004	11,110	40,102	1,810	0	84,186	848,416	2,464	3,653	81,876	1,073,617
2005	11,043	39,859	1,798	0	83,697	843,263	2,449	3,632	81,380	1,067,121
2006	10,995	39,688	1,790	0	83,380	839,640	2,438	3,619	81,031	1,062,581
2007	10,958	39,554	1,784	0	83,142	836,823	2,430	3,609	80,759	1,059,059
2008	10,903	39,355	1,775	0	82,768	832,626	2,417	3,594	80,355	1,053,793
2009	10,842	39,135	1,765	0	82,348	827,966	2,404	3,576	79,906	1,047,942
2010	10,786	38,932	1,756	0	81,964	823,676	2,391	3,560	79,492	1,042,557
2011	10,737	38,754	1,749	0	81,582	819,923	2,378	3,544	79,130	1,037,797
2012	10,688	38,577	1,741	0	81,200	816,181	2,365	3,528	78,769	1,033,049
2013	10,636	38,389	1,733	0	80,797	812,218	2,351	3,511	78,386	1,028,021
2014	10,578	38,181	1,725	0	80,350	807,816	2,336	3,492	77,961	1,022,439
2015	10,524	37,988	1,717	0	79,936	803,739	2,322	3,475	77,568	1,017,269
2016	10,458	37,750	1,706	0	79,426	798,708	2,305	3,453	77,082	1,010,888
2017	10,361	37,399	1,691	0	78,679	791,293	2,281	3,421	76,367	1,001,492
2018	10,242	36,971	1,673	0	77,769	782,236	2,252	3,382	75,493	990,018
2019	10,125	36,547	1,654	0	76,870	773,289	2,224	3,344	74,629	978,682
2020	10,004	36,111	1,635	0	75,944	764,064	2,195	3,304	73,739	966,996
2021	9,860	35,591	1,612	0	74,851	753,067	2,163	3,257	72,677	953,078
2022	9,689	34,975	1,584	0	73,556	740,040	2,126	3,200	71,420	936,590
2023	9,527	34,390	1,557	0	72,325	727,655	2,090	3,147	70,225	920,916
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	394,249	1,416,589	64,317	0	2,969,217	29,981,694	87,149	128,192	2,882,632	37,924,039

TABLE B-22: WATER SYSTEM REVENUE

(in dollars)

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	146,572	58,286	33,636	9,496	55,900	2,679	69,525	19,940	185,819	49,419
1990	148,480	59,107	33,488	9,453	55,352	2,650	68,951	19,612	185,142	49,132
1991	147,266	58,593	33,502	9,458	55,527	2,660	69,114	19,741	185,151	49,188
1992	150,213	59,828	33,589	9,481	55,368	2,650	69,025	19,551	185,774	49,246
1993	148,755	59,241	33,292	9,412	54,877	2,625	68,396	19,358	184,361	48,875
1994	148,846	56,194	31,600	8,992	52,084	2,455	64,664	18,085	176,960	46,795
1995	148,894	53,131	29,898	8,570	49,275	2,284	60,913	16,807	169,507	44,702
1996	149,080	53,162	29,916	8,576	49,305	2,285	60,947	16,814	169,631	44,733
1997	149,033	53,111	29,887	8,568	49,258	2,282	60,885	16,795	169,490	44,694
1998	148,905	53,030	29,843	8,556	49,184	2,278	60,791	16,766	169,257	44,631
1999	148,660	52,908	29,774	8,537	49,072	2,272	60,649	16,725	168,891	44,533
2000	148,494	52,814	29,722	8,522	48,986	2,267	60,539	16,692	168,615	44,459
2001	147,955	53,857	30,301	8,664	49,942	2,328	61,831	17,146	171,055	45,155
2002	147,416	54,902	30,881	8,807	50,900	2,389	63,126	17,602	173,502	45,853
2003	146,700	55,883	31,426	8,939	51,798	2,447	64,348	18,037	175,743	46,496
2004	145,852	56,813	31,941	9,063	52,649	2,503	65,510	18,455	177,825	47,098
2005	144,965	57,724	32,446	9,184	53,483	2,558	66,651	18,867	179,851	47,684
2006	144,342	57,476	32,307	9,144	53,253	2,546	66,364	18,786	179,078	47,479
2007	143,858	57,283	32,199	9,113	53,075	2,536	66,142	18,723	178,476	47,320
2008	143,136	56,995	32,038	9,067	52,809	2,522	65,810	18,629	177,581	47,083
2009	142,335	56,676	31,859	9,015	52,514	2,506	65,441	18,525	176,587	46,819
2010	141,597	56,382	31,694	8,968	52,242	2,492	65,102	18,429	175,671	46,577
2011	140,690	56,011	31,490	8,910	51,906	2,476	64,686	18,310	174,532	46,276
2012	139,784	55,640	31,286	8,852	51,569	2,460	64,269	18,190	173,393	45,974
2013	138,838	55,254	31,073	8,792	51,218	2,444	63,835	18,066	172,206	45,660
2014	137,817	54,837	30,842	8,727	50,839	2,426	63,366	17,931	170,924	45,321
2015	136,849	54,442	30,625	8,665	50,480	2,409	62,922	17,804	169,709	45,000
2016	135,718	53,982	30,370	8,593	50,061	2,389	62,402	17,656	168,291	44,624
2017	134,182	53,360	30,025	8,495	49,492	2,362	61,696	17,454	166,371	44,116
2018	132,369	52,629	29,618	8,380	48,822	2,331	60,863	17,217	164,109	43,517
2019	130,577	51,906	29,215	8,266	48,159	2,299	60,040	16,982	161,871	42,924
2020	128,740	51,165	28,803	8,149	47,479	2,267	59,196	16,742	159,579	42,317
2021	126,887	50,429	28,389	8,032	46,796	2,235	58,344	16,501	157,282	41,708
2022	124,692	49,556	27,898	7,893	45,986	2,196	57,334	16,216	154,561	40,987
2023	122,605	48,727	27,431	7,761	45,217	2,159	56,375	15,945	151,974	40,301
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	5,042,425	1,980,782	1,116,510	316,789	1,841,178	87,393	2,290,910	645,649	6,220,076	1,647,196

BOND SURCHARGE FOR EACH CONTRACTOR

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio 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	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	24,948	3,274,451	24,660	3,955,331	0	657	1,038	1,695	0	5,414,619
1990	28,403	3,206,963	26,487	3,893,220	0	9,700	1,039	10,739	0	5,388,123
1991	26,631	3,234,895	25,530	3,917,256	0	5,177	1,037	6,214	0	5,391,760
1992	30,279	3,190,035	27,539	3,882,578	0	14,273	1,045	15,318	0	5,403,125
1993	30,050	3,160,993	27,269	3,847,504	0	14,127	1,054	15,181	0	5,410,185
1994	30,086	3,163,458	27,286	3,827,505	0	14,135	1,078	15,213	0	5,416,935
1995	30,114	3,165,000	27,295	3,806,390	0	14,138	1,101	15,239	0	5,422,102
1996	30,151	3,168,912	27,329	3,810,841	0	14,155	1,132	15,287	0	5,432,297
1997	30,141	3,167,860	27,321	3,809,325	0	14,151	1,161	15,312	0	5,433,993
1998	30,114	3,165,097	27,297	3,805,749	0	14,138	1,190	15,328	0	5,432,752
1999	30,064	3,159,851	27,252	3,799,188	0	14,115	1,218	15,333	0	5,427,241
2000	30,030	3,156,287	27,222	3,794,649	0	14,099	1,246	15,345	0	5,424,617
2001	29,921	3,144,812	27,123	3,790,090	0	14,049	1,277	15,326	0	5,416,617
2002	29,812	3,133,338	27,025	3,785,553	0	13,998	1,308	15,306	0	5,408,643
2003	29,668	3,118,103	26,894	3,776,482	0	13,931	1,337	15,268	0	5,394,188
2004	29,496	3,100,077	26,738	3,764,020	0	13,851	1,365	15,216	0	5,374,895
2005	29,317	3,081,209	26,576	3,750,515	0	13,768	1,393	15,161	0	5,354,116
2006	29,191	3,067,958	26,462	3,734,386	0	13,709	1,428	15,137	0	5,333,211
2007	29,093	3,057,651	26,373	3,721,842	0	13,663	1,465	15,128	0	5,317,431
2008	28,947	3,042,302	26,241	3,703,160	0	13,594	1,499	15,093	0	5,292,882
2009	28,785	3,025,263	26,094	3,682,419	0	13,518	1,533	15,051	0	5,265,391
2010	28,636	3,009,574	25,959	3,663,323	0	13,448	1,567	15,015	0	5,240,246
2011	28,451	2,990,002	25,788	3,639,528	0	13,386	1,590	14,976	0	5,209,756
2012	28,265	2,970,439	25,617	3,615,738	0	13,325	1,613	14,938	0	5,179,291
2013	28,072	2,950,039	25,439	3,590,936	0	13,260	1,635	14,895	0	5,147,393
2014	27,863	2,928,018	25,247	3,564,158	0	13,188	1,657	14,845	0	5,112,683
2015	27,665	2,907,148	25,065	3,538,783	0	13,121	1,680	14,801	0	5,080,002
2016	27,434	2,882,803	24,853	3,509,176	0	13,039	1,700	14,739	0	5,041,258
2017	27,122	2,849,858	24,567	3,469,100	0	12,917	1,716	14,633	0	4,987,474
2018	26,753	2,811,037	24,230	3,421,875	0	12,769	1,728	14,497	0	4,923,386
2019	26,388	2,772,655	23,897	3,375,179	0	12,623	1,740	14,363	0	4,860,035
2020	26,015	2,733,327	23,556	3,327,335	0	12,472	1,751	14,223	0	4,794,997
2021	25,641	2,693,987	23,217	3,279,448	0	12,293	1,726	14,019	0	4,725,987
2022	25,197	2,647,387	22,816	3,222,719	0	12,080	1,696	13,776	0	4,644,233
2023	24,776	2,603,077	22,434	3,168,782	0	11,878	1,668	13,546	0	4,566,507
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	1,023,912	109,077,540	927,626	132,217,986	0	447,444	50,491	497,935	0	188,129,893

TABLE B-23: TOTAL TRANSPORTATION[a] AND

(in dollars)

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	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	2,323,652	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	292,671	54,276	346,947	958,743	962,346	3,844,266	5,765,355	289,317	537,223	826,540
1980	314,366	87,060	401,426	1,110,414	1,126,680	4,144,476	6,381,570	328,264	589,818	918,082
1981	348,721	111,752	460,473	1,220,977	1,306,893	4,546,565	7,074,435	357,776	640,830	998,606
1982	441,273	139,164	580,437	1,286,989	1,318,139	4,897,112	7,502,240	376,093	727,036	1,103,129
1983	381,762	157,007	538,769	1,162,215	1,210,120	4,982,990	7,355,325	398,505	737,836	1,136,341
1984	502,510	237,725	740,235	1,441,077	1,403,166	6,746,628	9,590,871	439,593	813,571	1,253,164
1985	739,683	374,101	1,113,784	1,951,277	2,160,053	7,766,842	11,878,172	533,834	986,052	1,519,886
1986	1,048,078	699,571	1,747,649	1,847,999	1,995,645	8,451,126	12,294,770	562,384	1,038,018	1,600,402
1987	1,539,463	1,748,301	3,287,764	2,518,089	2,876,268	8,346,132	13,740,489	683,299	1,259,518	1,942,817
1988	2,678,559	3,712,242	6,390,801	2,548,319	3,147,576	8,258,548	13,954,443	850,610	1,580,522	2,431,132
1989	2,969,992	4,314,695	7,284,687	2,672,999	3,285,119	8,615,041	14,573,159	961,246	1,790,729	2,751,975
1990	3,016,536	4,462,117	7,478,653	2,740,924	3,365,177	8,833,511	14,939,612	1,135,464	2,139,976	3,275,440
1991	3,032,284	4,484,483	7,516,767	2,793,730	3,398,200	8,934,136	15,126,066	1,265,197	2,417,721	3,682,918
1992	3,043,619	4,525,361	7,568,980	2,959,967	3,497,073	9,128,254	15,585,294	2,513,756	5,092,600	7,606,356
1993	3,081,441	4,591,039	7,672,480	3,154,379	3,472,177	9,237,293	15,863,849	4,992,865	10,220,621	15,213,486
1994	3,124,474	4,669,221	7,793,695	3,373,551	3,535,779	9,412,719	16,322,049	8,191,317	16,393,235	24,584,552
1995	3,162,842	4,805,551	7,968,393	3,576,934	3,570,800	9,434,463	16,582,197	8,233,425	16,485,380	24,718,805
1996	3,184,619	4,870,159	8,054,778	3,664,901	3,553,009	9,392,144	16,610,054	8,213,878	16,459,473	24,673,351
1997	3,224,087	4,918,358	8,142,445	3,870,274	3,644,199	9,609,292	17,123,765	8,377,559	16,764,757	25,142,316
1998	3,246,105	4,935,716	8,181,821	3,851,064	3,626,091	9,566,150	17,043,305	8,349,405	16,713,150	25,062,555
1999	3,268,398	4,954,714	8,223,112	3,834,308	3,610,226	9,528,342	16,972,876	8,322,929	16,657,172	24,980,101
2000	3,285,010	4,962,374	8,247,384	3,781,887	3,561,795	9,412,991	16,756,673	8,234,595	16,484,727	24,719,322
2001	3,307,757	4,975,537	8,283,294	3,766,670	3,547,934	9,380,189	16,694,793	8,207,668	16,428,211	24,635,879
2002	3,364,748	5,044,973	8,409,721	3,944,127	3,709,966	9,765,969	17,420,062	8,476,077	16,906,672	25,382,749
2003	3,383,281	5,051,385	8,434,666	3,928,947	3,697,406	9,744,404	17,370,757	8,411,300	16,779,267	25,190,567
2004	3,411,722	5,072,260	8,483,982	3,911,666	3,681,671	9,707,145	17,300,482	8,378,384	16,709,380	25,087,764
2005	3,426,512	5,068,708	8,495,220	3,861,190	3,635,568	9,597,200	17,093,958	8,296,302	16,549,312	24,845,614
2006	3,441,328	5,061,734	8,503,062	3,826,727	3,604,086	9,522,126	16,952,939	8,243,978	16,444,585	24,688,563
2007	3,473,223	5,076,430	8,549,653	3,860,492	3,634,912	9,595,452	17,090,856	8,292,448	16,524,491	24,816,939
2008	3,491,033	5,070,467	8,561,500	3,827,502	3,604,776	9,523,566	16,955,844	8,237,135	16,414,560	24,651,695
2009	3,508,059	5,065,757	8,573,816	3,800,536	3,580,138	9,464,747	16,845,421	8,191,971	16,324,300	24,516,271
2010	3,521,916	5,057,643	8,579,559	3,762,542	3,545,431	9,381,968	16,689,941	8,129,141	16,201,191	24,330,332
2011	3,540,177	5,049,455	8,589,632	3,732,428	3,517,814	9,315,322	16,565,564	8,081,844	16,107,931	24,189,775
2012	3,558,458	5,044,101	8,602,559	3,707,197	3,494,742	9,260,109	16,462,048	8,039,157	16,022,678	24,061,835
2013	3,524,907	4,986,799	8,511,706	3,391,129	3,204,708	8,445,092	15,040,929	7,703,354	15,366,145	23,069,499
2014	3,573,387	5,010,515	8,583,902	3,429,154	3,216,284	8,437,287	15,082,725	7,815,316	15,583,221	23,398,537
2015	3,583,015	4,999,759	8,582,774	3,338,828	3,104,556	7,948,945	14,392,329	7,715,451	15,371,046	23,086,497
2016	3,579,499	4,994,102	8,573,601	3,290,917	3,054,215	7,709,708	14,054,840	7,658,024	15,258,219	22,916,243
2017	3,573,183	4,990,460	8,563,643	3,239,336	3,006,812	7,549,506	13,795,654	7,606,766	15,160,651	22,767,417
2018	3,534,838	5,009,744	8,544,582	3,248,093	3,013,324	7,535,399	13,796,816	7,671,759	15,278,417	22,950,176
2019	3,515,787	5,011,975	8,527,762	3,209,236	2,977,911	7,431,180	13,618,327	7,666,791	15,269,009	22,935,800
2020	3,526,004	4,976,163	8,502,167	3,175,146	2,946,251	7,347,547	13,468,944	7,637,329	15,215,044	22,852,373
2021	3,529,187	4,978,159	8,507,346	3,155,451	2,926,536	7,290,305	13,372,292	7,652,546	15,242,492	22,895,038
2022	3,517,202	4,964,228	8,481,430	3,142,680	2,914,657	7,259,021	13,316,358	7,633,271	15,206,996	22,840,267
2023	3,514,826	4,929,761	8,444,587	3,137,593	2,909,947	7,245,567	13,293,107	7,626,581	15,194,559	22,821,140
2024	3,470,876	4,837,958	8,308,834	3,100,170	2,873,265	7,133,970	13,107,405	7,555,841	15,054,143	22,609,984
2025	3,463,662	4,835,318	8,298,980	3,100,521	2,873,409	7,132,719	13,106,649	7,558,532	15,058,990	22,617,522
2026	3,457,543	4,829,553	8,287,096	3,094,756	2,868,129	7,119,922	13,082,807	7,442,375	14,844,633	22,287,008
2027	3,454,669	4,825,324	8,279,993	3,093,240	2,866,652	7,114,783	13,074,675	7,440,030	14,839,838	22,279,868
2028	3,450,533	4,820,498	8,271,031	3,086,793	2,860,711	7,099,059	13,046,563	7,428,855	14,819,160	22,248,015
2029	3,447,027	4,816,343	8,263,370	3,082,441	2,856,706	7,088,564	13,027,711	7,426,156	14,814,077	22,240,233
2030	3,435,226	4,800,424	8,235,650	3,073,519	2,848,511	7,068,558	12,990,588	7,414,362	14,792,396	22,206,758
2031	3,440,081	4,799,041	8,239,122	3,117,699	2,888,799	7,164,013	13,170,511	7,483,840	14,918,661	22,402,501
2032	3,427,599	4,778,667	8,206,266	3,110,839	2,882,500	7,148,690	13,142,029	7,474,571	14,901,753	22,376,324
2033	3,419,915	4,753,028	8,172,943	3,158,556	2,926,044	7,252,091	13,336,691	7,551,351	15,041,638	22,592,989
2034	3,353,985	4,680,231	8,034,216	3,143,544	2,912,207	7,217,859	13,273,610	7,537,591	15,016,484	22,554,075
2035	3,227,335	4,543,200	7,770,535	3,136,486	2,905,721	7,201,728	13,243,935	7,537,272	15,015,830	22,553,102
TOTAL	170,120,530	236,865,341	406,985,871	183,471,474	180,387,546	496,296,963	860,155,983	348,834,535	694,929,029	1,043,763,564

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)

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	85,935	220,885	19,943	55,394	452,161	1,695,836	16,196	19,528	304,521	2,870,399
1969	138,704	237,054	12,623	88,521	532,958	2,700,877	15,840	19,253	448,217	4,194,047
1970	181,789	301,785	36,057	95,648	582,505	3,844,656	20,417	30,268	513,445	5,606,570
1971	196,935	322,575	38,786	96,685	614,831	5,154,534	26,134	34,539	704,196	7,189,215
1972	232,891	375,195	41,983	99,791	640,757	7,071,895	25,404	63,543	1,956,514	10,507,973
1973	238,763	392,409	40,669	98,559	1,035,118	7,214,487	27,750	39,109	771,970	9,858,834
1974	261,323	497,532	41,883	99,478	1,154,063	7,915,130	28,464	42,388	1,025,731	11,065,992
1975	289,000	667,952	42,329	107,729	1,206,480	9,279,649	30,140	47,999	1,535,592	13,206,870
1976	327,028	710,326	44,850	109,115	1,333,197	10,520,273	31,562	51,911	1,427,227	14,555,489
1977	329,533	570,818	40,771	113,606	1,376,936	10,826,991	33,318	54,042	1,123,963	14,469,978
1978	369,861	690,930	43,227	117,643	1,583,490	13,230,543	37,866	59,100	1,164,571	17,297,231
1979	415,635	770,047	49,598	115,213	1,676,650	15,203,413	41,816	70,394	1,708,102	20,050,868
1980	412,793	950,314	51,334	126,852	1,777,599	16,832,920	46,754	94,658	1,654,727	21,947,951
1981	503,517	1,200,604	85,870	134,713	2,433,965	22,428,835	65,178	100,556	2,267,515	29,220,753
1982	513,445	1,234,780	71,915	136,051	2,527,068	24,756,181	69,424	108,012	2,259,560	31,676,436
1983	488,116	1,151,657	53,713	148,100	2,073,854	24,221,522	72,551	88,683	482,781	28,780,977
1984	621,938	1,467,511	130,764	158,254	3,336,232	32,693,592	92,205	120,189	1,901,471	40,522,156
1985	727,782	1,767,874	132,129	181,077	3,911,634	39,202,760	117,030	140,450	2,834,124	49,014,860
1986	815,291	2,033,248	81,663	171,770	4,131,138	44,189,622	138,470	155,916	3,685,272	55,402,390
1987	815,113	2,026,618	107,872	212,766	4,592,188	46,158,720	141,784	154,202	4,003,261	58,212,524
1988	836,665	2,113,352	108,170	235,877	4,983,380	47,963,501	142,070	161,927	4,348,838	60,893,780
1989	847,962	2,231,913	110,547	238,179	5,236,889	50,270,088	145,422	170,018	4,535,763	63,786,781
1990	849,812	2,330,354	111,850	234,861	5,511,394	52,076,363	147,816	174,660	4,768,591	66,205,701
1991	848,484	2,327,012	111,699	235,725	5,523,800	51,997,469	148,200	174,311	4,760,715	66,127,415
1992	855,844	2,343,513	112,514	237,369	5,576,928	52,386,761	149,581	175,501	4,796,706	66,634,717
1993	873,850	2,344,456	112,563	251,314	5,585,245	52,319,403	149,798	175,535	4,798,560	66,610,724
1994	879,751	2,360,156	113,373	253,458	5,625,717	52,673,871	150,906	176,517	4,830,716	67,064,465
1995	880,961	2,362,952	113,518	253,622	5,634,197	52,731,555	151,146	176,716	4,836,452	67,141,119
1996	877,950	2,355,561	113,135	253,779	5,617,905	52,573,092	150,685	176,141	4,821,271	66,939,519
1997	896,058	2,405,141	115,710	254,171	5,742,342	53,664,803	154,160	179,317	4,923,060	68,334,762
1998	893,243	2,398,343	115,357	254,207	5,725,579	53,511,700	153,690	178,864	4,909,096	68,140,079
1999	890,711	2,390,622	114,954	254,281	5,706,524	53,342,396	153,153	178,196	4,893,230	67,924,067
2000	882,375	2,369,136	113,838	254,283	5,653,256	52,860,914	151,664	176,692	4,849,099	67,311,257
2001	880,266	2,362,841	113,510	254,503	5,637,779	52,727,888	151,220	176,169	4,836,158	67,140,334
2002	913,362	2,455,374	118,316	255,236	5,865,407	54,760,840	157,589	182,360	5,026,119	69,734,603
2003	906,627	2,436,229	117,321	255,245	5,818,440	54,351,054	156,262	181,048	4,986,800	69,209,026
2004	905,155	2,433,095	117,156	256,250	5,810,096	54,308,104	155,968	180,770	4,980,328	69,146,922
2005	896,393	2,408,037	115,855	256,245	5,748,355	53,763,699	154,233	179,068	4,928,869	68,450,754
2006	892,932	2,392,810	115,052	257,757	5,713,592	53,472,903	153,165	178,013	4,897,375	68,073,599
2007	899,350	2,410,060	115,949	257,916	5,756,224	53,851,903	154,354	179,175	4,932,776	68,557,707
2008	893,818	2,394,503	115,140	257,937	5,717,810	53,510,365	153,275	178,140	4,900,837	68,121,825
2009	889,443	2,382,419	114,516	257,956	5,688,137	53,248,263	152,438	177,292	4,876,013	67,786,477
2010	882,885	2,363,838	113,551	257,960	5,642,098	52,837,240	151,151	176,071	4,837,858	67,262,652
2011	877,669	2,350,080	112,836	257,625	5,608,822	52,538,936	150,205	175,118	4,809,583	66,880,874
2012	873,479	2,338,351	112,227	257,642	5,579,803	52,280,914	149,390	174,349	4,785,495	66,551,650
2013	838,811	2,241,359	107,185	257,646	5,340,136	50,158,427	142,666	167,931	4,586,303	63,840,464
2014	851,159	2,275,154	108,946	254,889	5,423,821	50,901,587	145,008	170,234	4,655,713	64,786,511
2015	843,415	2,253,345	107,813	251,718	5,294,761	50,425,383	143,486	168,754	4,610,897	64,099,572
2016	838,484	2,239,241	107,081	245,627	5,195,011	50,114,583	142,508	167,853	4,581,929	63,632,317
2017	834,890	2,228,895	106,546	231,163	5,037,248	49,893,487	141,790	167,189	4,560,687	63,201,895
2018	843,739	2,252,292	107,767	208,214	4,976,249	50,414,415	134,752	168,768	4,608,734	63,714,930
2019	843,318	2,250,437	107,674	199,607	4,910,685	50,370,723	134,109	168,769	4,604,932	63,590,254
2020	838,714	2,234,582	106,852	197,440	4,840,035	50,033,306	132,791	167,639	4,572,383	63,123,742
2021	840,797	2,240,646	107,172	196,344	4,831,825	50,131,292	133,070	168,137	4,584,838	63,234,121
2022	836,430	2,223,617	106,291	194,975	4,780,835	49,753,063	131,905	167,266	4,549,888	62,744,270
2023	835,315	2,219,601	106,086	194,534	4,766,502	49,669,680	131,603	166,985	4,541,648	62,631,954
2024	820,277	2,178,852	104,219	191,116	4,672,121	48,747,149	129,090	163,708	4,458,760	61,465,292
2025	820,337	2,178,289	104,190	190,546	4,668,226	48,740,730	129,027	163,618	4,457,603	61,452,566
2026	819,333	2,174,933	104,015	190,266	4,657,860	48,672,004	128,758	163,348	4,450,719	61,361,236
2027	819,382	2,175,050	104,021	189,614	4,655,045	48,675,021	128,722	163,350	4,450,957	61,361,162
2028	818,462	2,171,583	103,841	187,129	4,644,704	48,608,295	128,459	163,046	4,443,834	61,269,353
2029	818,128	2,170,102	103,768	186,926	4,638,507	48,569,697	128,336	162,912	4,440,913	61,219,289
2030	816,380	2,163,719	103,437	186,657	4,620,608	48,445,565	127,842	162,528	4,427,808	61,054,544
2031	825,095	2,186,427	104,618	185,450	4,662,156	48,952,121	129,129	164,119	4,474,430	61,683,545
2032	823,079	2,179,817	104,273	185,203	4,645,453	48,805,833	128,603	163,762	4,460,859	61,496,882
2033	831,824	2,203,823	105,521	184,701	4,696,083	49,324,684	130,037	165,366	4,510,147	62,152,186
2034	830,315	2,199,564	105,299	184,096	4,679,057	49,226,213	129,595	165,071	4,501,398	62,020,608
2035	830,135	2,198,948	105,268	183,672	4,671,344	49,210,361	129,376	165,021	4,500,138	61,994,263
TOTAL	49,108,256	127,490,538	6,448,519	13,485,729	289,477,756	2,803,010,080	7,926,506	9,722,082	256,678,586	3,563,348,052

b) See Table B-21 for total Delta Water Charge for each contractor.

TABLE B-23: TOTAL TRANSPORTATION[a] AND

(in dollars)

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	4,267,676	1,374,364	1,066,645	270,339	1,704,016	60,848	1,812,662	453,825	5,190,579	1,356,058
1980	4,959,805	1,506,599	1,176,409	298,034	1,905,319	68,171	1,985,237	503,154	5,703,717	1,499,576
1981	5,796,011	1,869,085	1,333,108	331,647	2,158,610	101,330	2,305,777	608,156	6,519,883	1,703,655
1982	5,556,466	2,014,458	1,422,888	349,949	2,305,627	82,945	2,340,707	646,682	6,808,917	1,937,714
1983	6,274,701	2,026,565	1,927,959	380,457	3,116,278	88,587	2,457,896	660,192	7,004,368	1,818,020
1984	7,673,840	3,036,539	3,046,856	513,153	4,904,440	98,113	2,793,044	739,123	8,356,210	2,659,071
1985	9,535,362	3,278,777	3,868,458	606,808	6,219,548	105,769	2,970,288	978,417	9,017,991	2,721,618
1986	9,783,573	4,070,334	4,579,725	665,706	7,361,028	131,845	3,053,562	1,254,793	9,122,507	3,512,573
1987	10,210,145	4,028,411	4,446,620	738,001	7,244,096	294,488	3,239,023	1,618,474	10,803,764	3,568,832
1988	9,614,598	4,105,882	4,394,596	691,149	7,238,194	123,189	3,508,781	1,416,705	11,555,282	3,602,627
1989	11,508,480	4,391,993	4,735,356	721,685	7,873,921	127,398	3,636,757	1,495,425	11,827,148	3,725,655
1990	11,957,246	4,630,382	5,048,257	767,499	8,325,615	318,339	3,673,646	1,566,182	12,323,723	3,864,771
1991	12,260,630	4,750,859	5,052,774	784,201	8,333,218	330,020	3,695,263	1,625,363	12,523,117	3,872,499
1992	12,627,890	4,834,516	5,145,707	807,432	8,486,193	347,946	3,710,814	1,706,386	12,556,594	3,934,460
1993	12,662,771	5,003,778	5,137,740	821,421	8,473,042	359,608	11,028,098	1,756,264	12,757,918	3,959,231
1994	12,810,837	5,242,479	5,210,087	852,567	8,592,376	376,096	11,159,986	1,822,548	13,509,368	4,041,734
1995	12,871,033	5,444,251	5,215,831	861,696	8,601,842	389,147	11,183,578	1,876,024	13,851,574	4,041,852
1996	13,066,433	5,544,937	5,184,672	877,024	8,550,453	399,034	11,112,350	1,953,646	13,972,729	4,064,841
1997	13,686,734	5,950,845	5,386,456	911,530	8,883,260	428,691	11,569,899	2,107,349	14,289,140	4,182,926
1998	13,887,403	6,079,526	5,377,764	955,257	8,868,950	425,978	11,496,692	2,186,896	14,916,241	4,302,760
1999	14,086,814	6,232,567	5,317,415	932,774	8,769,387	423,401	11,431,332	2,265,672	14,357,554	4,193,401
2000	14,143,128	6,225,014	5,226,954	949,606	8,620,185	415,068	11,210,830	2,315,395	14,549,020	4,210,877
2001	14,399,164	6,351,806	5,206,848	970,313	8,587,033	412,911	11,154,477	2,379,172	14,762,873	4,257,689
2002	15,537,115	6,999,222	5,595,335	1,055,596	9,227,788	444,558	11,984,414	2,621,884	15,815,202	4,569,928
2003	15,712,870	7,404,628	5,498,252	1,032,807	9,067,653	438,526	11,827,432	2,670,216	15,286,571	4,459,864
2004	16,001,840	7,329,807	5,493,874	1,074,557	9,060,435	436,363	11,769,496	2,739,337	15,880,839	4,581,243
2005	16,087,712	7,216,190	5,382,710	1,061,512	8,877,091	428,051	11,555,515	2,768,423	15,557,535	4,502,900
2006	16,333,240	7,066,673	5,330,170	1,079,241	8,790,442	423,026	11,423,444	2,822,030	16,133,775	4,541,824
2007	16,910,867	7,224,171	5,406,741	1,108,963	8,916,722	429,150	11,594,720	2,946,448	16,820,888	4,634,644
2008	17,116,450	7,143,545	5,335,647	1,108,263	8,799,452	423,663	11,451,792	2,994,175	17,060,552	4,606,638
2009	17,354,199	6,985,650	5,298,819	1,132,663	8,738,719	419,516	11,343,317	3,048,172	17,728,067	4,668,176
2010	17,493,128	6,903,646	5,211,349	1,125,994	8,594,451	412,911	11,171,771	3,080,930	17,799,858	4,608,375
2011	17,754,076	6,838,357	5,158,803	1,132,814	8,507,790	408,449	11,054,481	3,047,396	17,789,301	4,615,345
2012	18,016,639	6,695,302	5,119,603	1,151,128	8,443,134	404,358	10,947,958	3,016,615	17,978,554	4,660,190
2013	17,044,973	6,086,513	4,704,237	1,067,848	7,744,402	370,913	10,074,402	2,765,032	16,490,481	4,315,500
2014	17,887,291	6,304,673	4,845,370	1,121,947	7,991,473	381,847	10,362,396	2,847,688	17,267,300	4,504,288
2015	17,873,780	6,158,065	4,737,411	1,108,649	7,813,405	373,084	10,137,381	2,781,735	16,941,183	4,432,947
2016	17,978,440	5,964,600	4,668,923	1,122,192	7,700,453	366,523	9,970,005	2,732,505	17,314,862	4,428,319
2017	18,042,254	5,803,992	4,608,831	1,149,783	7,601,353	359,807	9,800,986	2,682,190	17,906,158	4,465,073
2018	18,623,455	5,919,086	4,620,091	1,137,710	7,619,920	364,047	9,920,404	2,714,611	17,689,862	4,355,131
2019	18,720,966	5,720,326	4,555,559	1,151,377	7,513,503	358,083	9,769,403	2,670,983	17,975,650	4,320,155
2020	18,653,069	5,614,040	4,460,437	1,156,374	7,356,642	348,139	9,508,388	2,598,632	18,505,562	4,325,615
2021	18,856,298	5,356,826	4,323,310	1,070,931	7,130,459	343,471	9,332,801	2,566,801	17,164,688	4,024,105
2022	18,948,890	5,211,224	4,248,292	1,066,989	7,006,741	337,523	9,142,265	2,522,957	16,984,030	4,007,891
2023	19,231,481	5,212,591	4,205,125	1,045,694	6,935,546	335,093	9,073,546	2,505,190	16,548,285	3,955,816
2024	19,381,324	5,156,039	4,155,480	1,037,969	6,853,697	330,542	8,956,975	2,471,356	16,386,889	3,949,133
2025	19,589,331	4,938,971	4,140,928	1,046,872	6,829,708	329,790	8,904,874	2,466,000	16,502,800	4,002,850
2026	19,521,506	5,085,560	4,074,560	982,965	6,720,219	328,623	8,862,226	2,457,388	15,358,660	3,822,423
2027	19,510,473	5,012,896	4,115,294	1,038,438	6,787,431	328,424	8,848,221	2,455,944	16,333,088	4,056,579
2028	19,469,496	4,967,436	4,088,072	1,016,938	6,742,528	327,719	8,825,698	2,450,722	15,937,340	4,024,951
2029	19,450,795	4,947,330	4,081,956	1,013,104	6,732,441	327,396	8,817,005	2,448,336	15,874,125	4,059,042
2030	19,364,286	4,886,579	4,076,376	1,023,494	6,723,241	325,955	8,779,600	2,437,527	16,062,329	4,137,328
2031	19,787,882	4,999,103	4,140,312	1,020,933	6,828,685	332,946	8,963,788	2,490,182	16,047,328	4,215,069
2032	19,680,198	4,934,206	4,128,171	1,027,485	6,808,666	331,146	8,917,286	2,476,689	16,175,732	4,295,441
2033	20,058,736	5,042,100	4,201,856	1,042,773	6,930,200	337,436	9,085,891	2,523,989	16,463,379	4,434,286
2034	19,848,149	4,975,062	4,176,071	1,051,360	6,887,684	333,913	8,997,028	2,497,544	16,623,306	4,511,786
2035	19,767,800	4,894,609	4,124,615	1,004,546	6,802,799	332,531	8,961,932	2,487,500	15,801,964	4,404,528
TOTAL	890,839,228	309,487,885	259,776,539	54,558,296	427,576,050	18,953,468	495,335,422	128,047,815	864,230,011	234,824,495

DELTA WATER[b] CHARGE FOR EACH CONTRACTOR

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio 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	25,574,042
1969	202,196	23,594,357	219,483	28,420,006	0	1,225	4,172	5,397	404,953	36,983,928
1970	294,655	31,202,162	279,075	37,868,713	0	3,848	17,363	21,211	444,165	48,570,215
1971	416,284	40,707,865	349,179	49,658,656	0	4,546	19,448	23,994	434,009	61,880,102
1972	545,248	55,869,063	429,870	68,126,647	0	4,929	21,434	26,363	459,732	84,206,923
1973	596,416	60,502,767	443,222	73,811,590	0	7,059	22,062	29,121	434,275	89,212,755
1974	620,100	66,958,462	463,433	81,248,196	0	8,336	22,692	31,028	457,342	98,180,910
1975	653,530	72,796,817	486,353	87,964,051	0	9,416	23,806	33,222	466,927	107,088,940
1976	677,440	75,890,177	483,631	92,091,605	0	7,004	23,540	30,544	489,536	113,354,196
1977	705,795	74,314,132	515,223	90,837,774	0	16,917	24,343	41,260	482,397	111,964,064
1978	731,992	84,357,625	542,340	102,343,546	0	12,635	24,508	37,143	487,967	126,848,049
1979	721,437	84,644,467	534,067	103,456,983	0	16,575	28,635	45,210	505,644	130,997,547
1980	871,248	94,052,373	591,751	115,121,393	0	19,834	26,845	46,679	566,507	145,383,608
1981	956,215	113,423,569	682,658	137,789,704	0	21,682	34,847	56,529	589,110	176,189,610
1982	1,031,113	118,115,022	737,550	143,350,038	0	16,117	43,282	59,399	564,452	184,836,131
1983	1,079,960	118,787,742	844,072	146,466,797	0	15,202	27,344	42,546	619,115	184,939,870
1984	1,259,139	159,046,083	946,177	195,071,788	20,590	15,442	28,957	64,989	611,245	247,854,448
1985	1,310,614	192,699,167	956,689	234,269,506	24,050	16,976	32,399	73,425	737,580	298,607,213
1986	1,327,482	226,046,072	1,042,388	271,951,588	31,753	18,145	33,688	83,586	692,453	343,772,838
1987	1,559,057	230,243,159	1,085,583	279,079,653	37,071	17,794	33,875	88,740	814,741	357,166,728
1988	1,739,508	266,523,182	1,253,098	315,766,791	46,722	19,315	36,211	102,248	834,710	400,373,905
1989	1,912,689	277,690,488	1,395,372	331,042,367	53,166	19,273	36,862	109,301	853,117	420,401,387
1990	2,103,319	284,543,509	1,530,382	340,652,870	61,222	28,316	37,525	127,063	854,244	433,533,583
1991	2,162,521	284,238,444	1,626,285	341,255,194	154,665	431,800	38,139	624,604	854,519	435,187,483
1992	2,221,735	285,676,390	1,744,717	343,800,780	154,665	440,896	38,770	634,331	856,611	442,687,069
1993	2,259,288	285,265,116	1,844,330	351,328,605	154,665	440,750	39,405	634,820	859,196	458,183,160
1994	2,337,307	287,002,610	2,034,354	354,992,349	154,665	440,758	40,060	635,483	862,974	472,255,567
1995	2,364,861	286,708,936	2,216,986	355,627,611	154,665	440,761	40,859	636,285	863,475	473,537,885
1996	2,403,444	288,134,430	2,443,635	357,707,628	154,665	440,778	41,666	637,109	863,849	475,486,288
1997	2,492,017	301,826,279	2,833,780	374,548,906	154,665	440,774	42,470	637,909	864,944	494,795,047
1998	2,596,020	304,598,273	3,187,282	378,879,042	154,665	440,761	43,275	638,701	865,060	498,810,563
1999	2,550,782	305,060,201	3,268,513	378,889,813	154,665	440,738	44,079	639,482	865,292	498,494,743
2000	2,589,013	301,736,034	3,280,450	375,471,574	154,665	440,722	45,037	640,424	865,293	494,011,927
2001	2,595,234	301,327,945	3,293,926	375,699,391	154,665	440,672	46,002	641,339	865,966	493,960,996
2002	2,759,127	324,443,195	3,592,046	404,645,410	154,665	440,621	46,964	642,250	867,887	527,102,682
2003	2,663,340	323,491,271	3,584,959	403,138,389	154,665	440,554	47,924	643,143	879,432	524,865,980
2004	2,717,670	324,615,860	3,583,050	405,284,371	154,665	440,474	48,883	644,022	880,510	526,828,053
2005	3,759,996	324,589,463	3,546,459	405,333,557	154,665	440,391	49,842	644,898	880,495	525,744,496
2006	3,737,777	322,179,378	3,483,462	403,344,482	154,665	440,332	50,963	645,960	880,564	523,089,169
2007	3,794,733	331,056,283	3,552,884	414,397,214	154,665	440,286	52,085	647,036	881,077	534,940,482
2008	3,730,513	330,353,450	3,509,527	413,633,667	154,665	440,217	53,205	648,087	881,142	533,453,760
2009	3,731,471	327,599,701	3,446,676	411,495,146	154,665	440,141	54,325	649,131	881,210	530,747,472
2010	3,644,915	326,591,605	3,398,712	410,037,645	154,665	440,071	55,445	650,181	881,223	528,431,533
2011	3,605,805	325,384,289	3,364,499	408,661,405	154,665	440,009	56,704	651,378	880,166	526,418,794
2012	3,595,256	322,027,820	3,305,969	405,362,526	154,665	439,948	57,968	652,581	880,231	522,573,430
2013	3,245,596	297,159,595	3,006,965	374,076,457	154,665	439,883	59,387	653,935	833,173	486,026,163
2014	3,382,041	308,818,628	3,110,139	388,825,081	154,665	439,811	60,805	655,281	795,339	502,127,376
2015	3,291,183	303,435,006	3,037,414	382,121,243	154,665	439,744	61,967	656,376	739,331	493,678,122
2016	3,245,412	296,721,256	2,953,877	375,167,367	154,665	439,662	63,377	657,704	715,024	485,717,096
2017	3,238,311	292,076,984	2,883,306	370,619,028	154,665	439,540	63,395	657,600	672,859	480,278,096
2018	3,165,042	295,385,838	2,926,854	374,442,051	154,665	439,392	63,405	657,462	594,995	484,701,012
2019	3,118,027	287,768,828	2,839,643	366,482,503	154,665	439,246	60,747	654,658	529,315	476,338,619
2020	3,094,296	284,741,866	2,778,117	363,141,177	154,665	439,095	48,634	642,394	506,372	472,237,169
2021	2,874,278	270,015,541	2,682,016	345,741,525	154,665	438,916	47,769	641,350	488,880	454,880,552
2022	2,834,546	263,038,526	2,613,968	337,963,842	154,665	438,703	46,331	639,699	487,546	446,473,412
2023	2,771,323	261,595,340	2,612,148	336,027,178	154,665	438,501	46,302	639,468	486,784	444,344,218
2024	2,739,727	259,325,126	2,578,787	333,323,044	154,665	426,623	44,633	625,921	485,508	439,925,988
2025	2,750,028	252,247,221	2,508,193	326,257,566	154,665	426,623	44,631	625,919	483,695	432,842,897
2026	2,598,228	254,781,197	2,550,639	327,144,194	154,665	426,623	44,630	625,918	483,226	433,271,485
2027	2,720,534	255,273,846	2,526,842	329,008,010	154,665	426,623	44,627	625,915	482,280	435,111,903
2028	2,668,634	253,941,593	2,506,633	326,967,760	154,665	426,623	44,625	625,913	481,060	432,909,695
2029	2,659,759	253,630,480	2,496,635	326,538,404	154,665	426,623	44,623	625,911	479,734	432,394,652
2030	2,681,151	252,922,195	2,467,561	325,887,622	154,665	426,623	44,622	625,910	478,300	431,479,372
2031	2,695,120	261,645,389	2,519,310	335,686,047	154,665	426,623	44,621	625,909	475,702	442,283,337
2032	2,708,926	264,297,245	2,487,677	338,268,868	154,665	426,623	44,619	625,907	475,898	444,592,174
2033	2,759,130	273,926,713	2,539,692	349,346,181	154,665	426,623	44,619	625,907	475,175	456,702,072
2034	2,771,739	276,490,376	2,508,146	351,672,164	154,665	426,623	44,618	625,906	471,511	458,652,090
2035	2,663,838	275,747,498	2,478,611	349,472,771	154,665	426,623	44,616	625,904	467,823	456,128,333
TOTAL	152,591,916	15,892,530,079	143,844,068	19,872,595,272	7,234,499	19,936,059	2,798,516	29,969,074	45,670,295	25,822,488,111

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	24.15	24.15
County of Butte	0.00	0.00	0.00	0.00	0.00	15.88	15.88
Plumas County Flood Control and Water Conservation District	17.84	2.02	0.00	0.00	19.86	16.22	36.08
Feather River Area	1.26	0.14	0.00	0.00	1.40	17.44	18.84
NORTH BAY AREA							
Napa County Flood Control and Water Conservation District	117.03	38.70	4.85	11.26	171.84	10.62	182.46
Solano County Flood Control and Water Conservation District	87.26	27.99	4.29	7.34	126.88	16.25	143.13
North Bay Area	98.56	32.06	4.50	8.83	143.95	14.12	158.07
SOUTH BAY AREA							
Alameda County Flood Control and Water Conservation District, Zone 7	17.14	23.41	10.48	17.03	68.06	16.41	84.47
Alameda County Water District	15.93	18.49	9.77	14.43	58.62	14.25	72.87
Santa Clara Valley Water District	17.79	14.42	7.96	11.72	51.89	11.76	63.65
South Bay Area	17.34	16.57	8.69	13.05	55.65	12.95	68.60
SAN JOAQUIN VALLEY AREA							
County of Kings	3.91	2.98	4.31	6.00	17.20	13.66	30.86
Devil's Den Water District	8.37	11.74	5.19	7.77	33.07	11.79	44.86
Dudley Ridge Water District	4.62	3.47	3.58	5.39	17.06	12.14	29.20
Empire West Side Irrigation District	2.48	2.83	2.98	4.85	13.14	13.64	26.78
Kern County Water Agency	8.93	7.59	5.77	8.16	30.45	14.76	45.21
Oak Flat Water District	1.81	1.68	2.24	3.37	9.10	11.67	20.77
Tulare Lake Basin Water Storage District	4.78	3.62	3.53	5.59	17.52	12.57	30.09
San Joaquin Valley Area	7.83	6.60	5.10	7.30	26.83	13.59	40.42
CENTRAL COASTAL AREA							
San Luis Obispo County Flood Control and Water Conservation District	209.37	48.67	34.26	51.94	344.24	22.28	366.52
Santa Barbara County Flood Control and Water Conservation District	239.06	49.95	36.78	51.93	377.72	22.25	399.97
Central Coastal Area	228.53	49.50	35.89	51.93	365.85	22.26	388.11
SOUTHERN CALIFORNIA AREA							
Antelope Valley-East Kern Water Agency	48.30	36.44	30.58	59.81	175.13	26.41	201.54
Castaic Lake Water Agency	66.97	40.27	46.77	40.18	194.19	23.55	217.74
Coachella Valley Water District	41.04	31.88	51.37	64.18	188.47	15.01	203.48
Crestline-Lake Arrowhead Water Agency	91.10	64.55	39.78	73.31	268.74	27.54	296.28
Desert Water Agency	41.69	32.39	51.76	64.88	190.72	15.03	205.75
Littlerock Creek Irrigation District	39.78	29.05	38.49	66.39	173.71	21.30	195.01
Mojave Water Agency	68.71	54.77	44.05	93.39	260.92	28.05	288.97
Palmdale Water District	57.51	42.00	39.04	79.32	217.87	33.92	251.79
San Bernardino Valley Municipal Water District	140.26	99.97	32.48	54.54	327.25	39.84	367.09
San Gabriel Valley Municipal Water District	111.26	81.60	44.71	45.83	283.40	33.50	316.90
San Gorgonio Pass Water Agency	136.50	99.71	38.30	67.69	342.20	33.21	375.41
The Metropolitan Water District of Southern California	71.69	45.58	44.18	36.84	198.29	23.16	221.45
Ventura County Flood Control District	81.73	51.20	37.63	59.47	230.03	24.51	254.54
Southern California Area	71.77	46.74	43.46	41.09	203.06	23.73	226.79
ALL AREAS	40.33	26.00	22.85	23.30	112.48	18.21	130.69

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	46.44	11.76	1.97	3.36	63.53	46.44	11.76	1.97	3.36	63.53
2	48.98	7.31	0.00	0.00	56.29	95.42	19.07	1.97	3.36	119.82
3A	7.57	11.46	2.39	4.55	25.97	102.99	30.53	4.36	7.91	145.79
3B	45.55	24.58	3.61	8.58	82.32	140.97	43.65	5.58	11.94	202.14
South Bay Aqueduct										
1	6.28	10.99	6.49	9.48	33.24	8.02	13.24	9.37	14.07	44.70
2	0.57	1.35	0.00	0.00	1.92	8.59	14.59	9.37	14.07	46.62
4	1.90	1.88	0.00	0.00	3.78	10.49	16.47	9.37	14.07	50.40
5	4.07	1.32	0.00	0.00	5.39	14.56	17.79	9.37	14.07	55.79
6	0.23	0.23	0.00	0.00	0.46	14.79	18.02	9.37	14.07	56.25
7	1.85	0.33	0.00	0.00	2.18	16.64	18.35	9.37	14.07	58.43
8	2.70	0.41	0.00	0.00	3.11	19.34	18.76	9.37	14.07	61.54
9	5.26	1.60	0.00	0.00	6.86	24.60	20.36	9.37	14.07	68.40
California Aqueduct										
1	1.74	2.25	2.88	4.59	11.46	1.74	2.25	2.88	4.59	11.46
2A	1.17	0.38	0.00	0.00	1.55	2.91	2.63	2.88	4.59	13.01
2B	0.57	0.13	0.00	0.00	0.70	3.48	2.76	2.88	4.59	13.71
3	0.47	0.15	0.00	0.00	0.62	3.95	2.91	2.88	4.59	14.33
4	0.76	1.13	1.36	2.20	5.45	4.71	4.04	4.24	6.79	19.78
5	0.64	0.20	0.00	0.00	0.84	5.35	4.24	4.24	6.79	20.62
6	0.18	0.09	0.00	0.00	0.27	5.53	4.33	4.24	6.79	20.89
7	0.67	0.27	0.00	0.00	0.94	6.20	4.60	4.24	6.79	21.83
8C	0.02	0.05	0.00	0.00	0.07	6.22	4.65	4.24	6.79	21.90
8D	0.37	0.23	0.00	0.00	0.60	6.59	4.88	4.24	6.79	22.50
9	0.29	0.20	0.00	0.00	0.49	6.88	5.08	4.24	6.79	22.99
10A	0.32	0.21	0.00	0.00	0.53	7.20	5.29	4.24	6.79	23.52
11B	0.49	0.16	0.00	0.00	0.65	7.69	5.45	4.24	6.79	24.17
12D	0.47	0.15	0.00	0.00	0.62	8.16	5.60	4.24	6.79	24.79
12E	0.32	0.25	0.00	0.00	0.57	8.48	5.85	4.24	6.79	25.36
13B	0.71	0.33	0.00	0.00	1.04	9.19	6.18	4.24	6.79	26.40
14A	2.66	2.41	2.41	3.95	11.43	11.85	8.59	6.65	10.74	37.83
14B	0.41	0.25	0.00	0.00	0.66	12.26	8.84	6.65	10.74	38.49
14C	0.36	0.23	0.00	0.00	0.59	12.62	9.07	6.65	10.74	39.08
15A	1.94	2.54	2.95	4.85	12.28	14.56	11.61	9.60	15.59	51.36
16A	3.22	4.28	6.39	10.34	24.23	17.78	15.89	15.99	25.93	75.59
17E	11.14	10.98	22.36	35.49	79.97	28.92	26.87	38.35	61.42	155.56
17F	2.93	0.11	0.00	0.00	3.04	31.85	26.98	38.35	61.42	158.60
18A	2.21	0.58	0.00	-2.79	0.00	34.06	27.56	38.35	58.63	158.60
19	1.70	0.86	0.00	0.00	2.56	35.76	28.42	38.35	58.63	161.16
19C	0.00	0.00	0.00	0.00	0.00	35.76	28.42	38.35	58.63	161.16
20A	1.30	0.66	0.00	0.00	1.96	37.06	29.08	38.35	58.63	163.12
20B	1.71	0.73	0.00	0.00	2.44	38.77	29.81	38.35	58.63	165.56
21	0.87	0.63	0.00	0.00	1.50	39.64	30.44	38.35	58.63	167.06
22A	0.66	0.38	0.00	0.00	1.04	40.30	30.82	38.35	58.63	168.10
22B	7.74	8.00	6.89	12.13	34.76	48.04	38.82	45.24	70.76	202.86
23	1.20	0.42	0.00	-2.82	-1.20	49.24	39.24	45.24	67.94	201.66
24	4.32	1.50	0.00	0.00	5.82	53.56	40.74	45.24	67.94	207.48
25	2.28	0.07	0.00	0.00	2.35	55.84	40.81	45.24	67.94	209.83
26A	3.18	4.14	0.00	-25.41	-18.09	59.02	44.95	45.24	42.53	191.74
28G	5.01	1.19	0.00	0.00	6.20	64.03	46.14	45.24	42.53	197.94
28H	4.85	0.75	0.00	0.00	5.60	68.88	46.89	45.24	42.53	203.54
28J	58.32	23.18	0.00	0.00	81.50	127.20	70.07	45.24	42.53	285.04
West Branch										
29A	4.39	7.91	2.96	4.73	19.99	36.24	34.89	48.20	66.15	185.48
29F	3.18	0.90	0.00	0.00	4.08	39.42	35.79	45.24	66.15	186.60
29G	10.87	3.20	0.00	-11.44	2.63	50.29	38.99	45.24	54.71	189.23
29H	6.43	4.60	0.00	0.00	11.03	56.72	43.59	45.24	54.71	200.26
29J	11.55	0.98	0.00	-22.53	-10.00	68.27	44.57	45.24	32.18	190.26
30	18.50	2.27	0.00	0.00	20.77	86.77	46.84	45.24	32.18	211.03
Coastal Branch										
31A	5.78	11.73	2.35	3.58	23.44	12.37	16.61	6.59	10.37	45.94
33A	166.94	19.04	0.00	35.74	221.72	179.31	35.65	6.59	46.11	267.66
34	21.25	0.54	0.00	0.00	21.79	200.56	36.19	6.59	46.11	289.45
35	31.42	0.66	0.00	0.00	32.08	231.98	36.85	6.59	46.11	321.53

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	753,000	4,422,000	3,104,000	2,207,000	1,549,000	1,180,000	1,671,000	22,000
1987	32,000	854,000	1,482,000	970,000	614,000	69,000	16,537,000	80,000
1988	622,000	554,000	2,242,000	2,348,000	2,714,000	44,000	20,069,000	169,000
1989	2,326,000	647,000	2,006,000	1,877,000	2,247,000	219,000	20,298,000	368,000
1990	4,003,000	511,000	681,000	511,000	679,000	171,000	21,051,000	8,608,000
1991	3,882,000	0	0	0	0	0	7,914,000	10,226,000
1992	2,593,000	0	0	0	0	0	2,391,000	3,815,000
1993	1,028,000	0	0	0	0	0	0	81,000
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	20,285,000	7,327,000	9,515,000	8,398,000	8,617,000	2,350,000	91,260,000	24,227,000

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
39,000	0	308,000	0	0	0	0	308,000	1980
203,000	0	566,000	0	0	0	0	566,000	1981
356,000	0	2,665,000	0	0	0	0	2,665,000	1982
2,454,000	0	4,638,000	0	0	0	0	4,638,000	1983
1,182,000	0	2,565,000	0	0	50,000	50,000	2,615,000	1984
125,000	0	3,155,000	0	617,000	39,000	656,000	3,811,000	1985
0	0	14,908,000	0	1,936,000	90,000	2,026,000	16,934,000	1986
176,000	0	20,814,000	0	5,323,000	1,249,000	6,572,000	27,386,000	1987
460,000	0	29,222,000	0	25,503,000	3,483,000	28,986,000	58,208,000	1988
1,423,000	0	31,411,000	0	39,225,000	2,273,000	41,498,000	72,909,000	1989
2,768,000	0	38,983,000	0	37,023,000	1,025,000	38,048,000	77,031,000	1990
4,342,000	0	26,364,000	0	15,120,000	0	15,120,000	41,484,000	1991
3,783,000	0	12,582,000	0	2,330,000	0	2,330,000	14,912,000	1992
1,401,000	0	2,510,000	0	0	0	0	2,510,000	1993
546,000	0	546,000	0	0	0	0	546,000	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
19,258,000	0	191,237,000	0	127,077,000	8,209,000	135,286,000	326,523,000	TOTAL

TABLE B-27: MINIMUM OMP&R COSTS REIMBURSED THRU THE MINIMUM EAST BRANCH ENLARGEMENT

(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	116,000	0
1992	0	0	0	0	0	0	650,000	0
1993	0	375,000	0	0	0	0	650,000	0
1994	0	409,000	0	0	0	0	650,000	0
1995	0	409,000	0	0	0	0	650,000	0
1996	0	409,000	0	0	0	0	650,000	0
1997	0	409,000	0	0	0	0	650,000	0
1998	0	409,000	0	0	0	0	650,000	0
1999	0	409,000	0	0	0	0	650,000	0
2000	0	409,000	0	0	0	0	650,000	0
2001	0	409,000	0	0	0	0	650,000	0
2002	0	409,000	0	0	0	0	650,000	0
2003	0	409,000	0	0	0	0	650,000	0
2004	0	409,000	0	0	0	0	650,000	0
2005	0	409,000	0	0	0	0	650,000	0
2006	0	409,000	0	0	0	0	650,000	0
2007	0	409,000	0	0	0	0	650,000	0
2008	0	409,000	0	0	0	0	650,000	0
2009	0	409,000	0	0	0	0	650,000	0
2010	0	409,000	0	0	0	0	650,000	0
2011	0	409,000	0	0	0	0	650,000	0
2012	0	409,000	0	0	0	0	650,000	0
2013	0	409,000	0	0	0	0	650,000	0
2014	0	409,000	0	0	0	0	650,000	0
2015	0	409,000	0	0	0	0	650,000	0
2016	0	409,000	0	0	0	0	650,000	0
2017	0	409,000	0	0	0	0	650,000	0
2018	0	409,000	0	0	0	0	650,000	0
2019	0	409,000	0	0	0	0	650,000	0
2020	0	409,000	0	0	0	0	650,000	0
2021	0	409,000	0	0	0	0	650,000	0
2022	0	409,000	0	0	0	0	650,000	0
2023	0	409,000	0	0	0	0	650,000	0
2024	0	409,000	0	0	0	0	650,000	0
2025	0	409,000	0	0	0	0	650,000	0
2026	0	409,000	0	0	0	0	650,000	0
2027	0	409,000	0	0	0	0	650,000	0
2028	0	409,000	0	0	0	0	650,000	0
2029	0	409,000	0	0	0	0	650,000	0
2030	0	409,000	0	0	0	0	650,000	0
2031	0	409,000	0	0	0	0	650,000	0
2032	0	409,000	0	0	0	0	650,000	0
2033	0	409,000	0	0	0	0	650,000	0
2034	0	409,000	0	0	0	0	650,000	0
2035	0	409,000	0	0	0	0	650,000	0
TOTAL	0	17,553,000	0	0	0	0	28,716,000	0

OF EACH AQUEDUCT REACH TO BE
OMP&R COMPONENT OF THE
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	116,000	0	0	0	0	116,000	1991
0	0	650,000	0	0	0	0	650,000	1992
0	0	1,025,000	0	361,000	0	361,000	1,386,000	1993
422,000	0	1,481,000	0	361,000	0	361,000	1,842,000	1994
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	1995
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	1996
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	1997
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	1998
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	1999
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2000
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2001
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2002
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2003
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2004
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2005
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2006
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2007
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2008
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2009
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2010
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2011
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2012
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2013
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2014
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2015
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2016
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2017
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2018
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2019
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2020
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2021
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2022
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2023
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2024
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2025
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2026
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2027
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2028
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2029
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2030
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2031
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2032
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2033
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2034
531,000	0	1,590,000	0	361,000	0	361,000	1,951,000	2035
22,193,000	0	68,462,000	0	15,523,000	0	15,523,000	83,985,000	TOTAL

TABLE B-28: CAPITAL COSTS 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	32,093	4,661	24,924	1,004	0	245,318	308,000
1981	0	63,042	15,261	36,015	1,100	0	450,582	566,000
1982	0	283,776	58,086	234,017	6,466	0	2,082,655	2,665,000
1983	0	530,844	134,224	199,643	8,442	0	3,764,847	4,638,000
1984	0	288,853	66,635	125,243	2,857	0	2,131,412	2,615,000
1985	44,784	393,389	64,889	270,345	3,474	25,257	3,008,862	3,811,000
1986	182,851	1,721,180	232,366	1,332,146	41,296	79,251	13,344,910	16,934,000
1987	71,264	2,759,722	475,864	1,866,477	13,077	217,901	21,981,695	27,386,000
1988	167,136	6,134,529	1,649,617	2,596,777	22,557	1,043,982	46,593,402	58,208,000
1989	144,421	8,104,715	2,451,203	2,716,921	26,963	1,605,702	57,859,075	72,909,000
1990	46,454	8,718,487	2,709,971	3,594,123	22,625	1,515,561	60,423,779	77,031,000
1991	0	4,764,092	1,530,020	2,371,717	15,466	618,947	32,183,758	41,484,000
1992	0	1,694,702	497,146	937,284	10,331	95,380	11,677,157	14,912,000
1993	0	289,695	76,828	103,160	4,096	0	2,036,221	2,510,000
1994	0	69,238	25,212	0	0	0	451,550	546,000
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	656,910	35,848,357	9,991,983	16,408,792	179,754	5,201,981	258,235,223	326,523,000

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	19,731	1,076,765	300,126	492,865	5,399	0	7,756,524	9,651,410
1988	27,207	1,484,716	413,834	679,596	7,445	0	10,695,215	13,308,013
1989	27,213	1,485,028	413,921	679,739	7,446	0	10,697,466	13,310,813
1990	27,214	1,485,120	413,946	679,781	7,447	0	10,698,130	13,311,638
1991	27,213	1,485,051	413,927	679,749	7,446	0	10,697,627	13,311,013
1992	27,210	1,484,894	413,883	679,677	7,446	0	10,696,503	13,309,613
1993	27,217	1,485,274	413,989	679,851	7,448	0	10,699,240	13,313,019
1994	27,219	1,485,372	414,016	679,896	7,448	0	10,699,943	13,313,894
1995	27,227	1,485,799	414,135	680,091	7,450	0	10,703,017	13,317,719
1996	27,225	1,485,722	414,114	680,056	7,450	0	10,702,464	13,317,031
1997	27,226	1,485,742	414,120	680,065	7,450	0	10,702,610	13,317,213
1998	27,230	1,485,943	414,176	680,158	7,451	0	10,704,055	13,319,013
1999	27,234	1,486,199	414,247	680,275	7,452	0	10,705,899	13,321,306
2000	27,238	1,486,380	414,297	680,358	7,453	0	10,707,205	13,322,931
2001	27,250	1,487,050	414,484	680,664	7,456	0	10,712,034	13,328,938
2002	27,242	1,486,626	414,366	680,470	7,454	0	10,708,980	13,325,138
2003	27,241	1,486,574	414,352	680,446	7,454	0	10,708,602	13,324,669
2004	27,247	1,486,895	414,441	680,593	7,456	0	10,710,912	13,327,544
2005	27,253	1,487,248	414,539	680,755	7,457	0	10,713,461	13,330,713
2006	27,261	1,487,658	414,654	680,942	7,460	0	10,716,406	13,334,381
2007	27,259	1,487,535	414,619	680,886	7,459	0	10,715,523	13,333,281
2008	27,255	1,487,361	414,571	680,806	7,458	0	10,714,268	13,331,719
2009	27,268	1,488,058	414,765	681,126	7,462	0	10,719,290	13,337,969
2010	27,267	1,487,971	414,741	681,086	7,461	0	10,718,662	13,337,188
2011	27,261	1,487,640	414,648	680,934	7,459	0	10,716,277	13,334,219
2012	27,259	1,487,552	414,624	680,894	7,459	0	10,715,650	13,333,438
2013	27,257	1,487,448	414,595	680,846	7,458	0	10,714,896	13,332,500
2014	27,263	1,487,762	414,682	680,990	7,460	0	10,717,156	13,335,313
2015	27,258	1,487,483	414,605	680,862	7,459	0	10,715,146	13,332,813
2016	27,263	1,487,744	414,678	680,982	7,460	0	10,717,029	13,335,156
2017	27,258	1,487,483	414,605	680,862	7,459	0	10,715,146	13,332,813
2018	27,276	1,488,476	414,882	681,317	7,464	0	10,722,304	13,341,719
2019	27,296	1,489,557	415,183	681,812	7,469	0	10,730,089	13,351,406
2020	27,322	1,491,004	415,586	682,474	7,476	0	10,740,513	13,364,375
2021	27,334	1,491,649	415,766	682,769	7,480	0	10,745,158	13,370,156
2022	27,362	1,493,166	416,189	683,463	7,487	0	10,756,083	13,383,750
2023	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0
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	973,556	53,127,945	14,808,306	24,318,136	266,398	0	382,709,483	476,203,824

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 Valley 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	11,677	1,005	10,517	0	0	92,801	116,000
1992	0	65,433	5,633	58,933	0	0	520,001	650,000
1993	0	148,305	28,340	92,798	1,494	14,778	1,100,285	1,386,000
1994	0	205,227	48,119	95,868	1,629	14,778	1,476,379	1,842,000
1995	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
1996	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
1997	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
1998	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
1999	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2000	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2001	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2002	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2003	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2004	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2005	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2006	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2007	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2008	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2009	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2010	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2011	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2012	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2013	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2014	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2015	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2016	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2017	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2018	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2019	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2020	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2021	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2022	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2023	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2024	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2025	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2026	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2027	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2028	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2029	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2030	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2031	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2032	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2033	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2034	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2035	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
TOTAL	0	9,411,651	2,262,329	4,188,704	69,912	635,454	67,416,950	83,985,000

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	19,731	1,076,765	300,126	492,865	5,399	0	7,756,524	9,651,410
1988	27,207	1,484,716	413,834	679,596	7,445	0	10,695,215	13,308,013
1989	27,213	1,485,028	413,921	679,739	7,446	0	10,697,466	13,310,813
1990	27,214	1,485,120	413,946	679,781	7,447	0	10,698,130	13,311,638
1991	27,213	1,496,728	414,932	690,266	7,446	0	10,790,428	13,427,013
1992	27,210	1,550,327	419,516	738,610	7,446	0	11,216,504	13,959,613
1993	27,217	1,633,579	442,329	772,649	8,942	14,778	11,799,525	14,699,019
1994	27,219	1,690,599	462,135	775,764	9,077	14,778	12,176,322	15,155,894
1995	27,227	1,704,848	467,287	775,959	9,079	14,778	12,269,541	15,268,719
1996	27,225	1,704,771	467,266	775,924	9,079	14,778	12,268,988	15,268,031
1997	27,226	1,704,791	467,272	775,933	9,079	14,778	12,269,134	15,268,213
1998	27,230	1,704,992	467,328	776,026	9,080	14,778	12,270,579	15,270,013
1999	27,234	1,705,248	467,399	776,143	9,081	14,778	12,272,423	15,272,306
2000	27,238	1,705,429	467,449	776,226	9,082	14,778	12,273,729	15,273,931
2001	27,250	1,706,099	467,636	776,532	9,085	14,778	12,278,558	15,279,938
2002	27,242	1,705,675	467,518	776,338	9,083	14,778	12,275,504	15,276,138
2003	27,241	1,705,623	467,504	776,314	9,083	14,778	12,275,126	15,275,669
2004	27,247	1,705,944	467,593	776,461	9,085	14,778	12,277,436	15,278,544
2005	27,253	1,706,297	467,691	776,623	9,086	14,778	12,279,985	15,281,713
2006	27,261	1,706,707	467,806	776,810	9,089	14,778	12,282,930	15,285,381
2007	27,259	1,706,584	467,771	776,754	9,088	14,778	12,282,047	15,284,281
2008	27,255	1,706,410	467,723	776,674	9,087	14,778	12,280,792	15,282,719
2009	27,268	1,707,107	467,917	776,994	9,091	14,778	12,285,814	15,288,969
2010	27,267	1,707,020	467,893	776,954	9,090	14,778	12,285,186	15,288,188
2011	27,261	1,706,689	467,800	776,802	9,088	14,778	12,282,801	15,285,219
2012	27,259	1,706,601	467,776	776,762	9,088	14,778	12,282,174	15,284,438
2013	27,257	1,706,497	467,747	776,714	9,087	14,778	12,281,420	15,283,500
2014	27,263	1,706,811	467,834	776,858	9,089	14,778	12,283,680	15,286,313
2015	27,258	1,706,532	467,757	776,730	9,088	14,778	12,281,670	15,283,813
2016	27,263	1,706,793	467,830	776,850	9,089	14,778	12,283,553	15,286,156
2017	27,258	1,706,532	467,757	776,730	9,088	14,778	12,281,670	15,283,813
2018	27,276	1,707,525	468,034	777,185	9,093	14,778	12,288,828	15,292,719
2019	27,296	1,708,606	468,335	777,680	9,098	14,778	12,296,613	15,302,406
2020	27,322	1,710,053	468,738	778,342	9,105	14,778	12,307,037	15,315,375
2021	27,334	1,710,698	468,918	778,637	9,109	14,778	12,311,682	15,321,156
2022	27,362	1,712,215	469,341	779,331	9,116	14,778	12,322,607	15,334,750
2023	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2024	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2025	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2026	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2027	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2028	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2029	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2030	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2031	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2032	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2033	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2034	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
2035	0	219,049	53,152	95,868	1,629	14,778	1,566,524	1,951,000
TOTAL	973,556	62,539,596	17,070,635	28,506,840	336,310	635,454	450,126,433	560,188,824

TABLE B-32: ANNUAL SURPLUS WATER DELIVERIES

Calendar Year	Calendar Year Deliveries (in acre-feet)													Total All Areas
	SOUTH BAY AREA				SAN JOAQUIN VALLEY AREA								SO.CAL. AREA	
	ACFC & WCD, Zone 7	ACWD	SCVWD	Area Total	DDWD	DRWD	EWSID	HWD(a	KCWA	OFWD	TLBWSD	Area Total	LCID	
1973(b	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	422,150	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(c	0	0	14,278	14,278	6,092	39,079	0	0	327,233	718	14,817	387,939	0	402,217
1981(c	0	0	18,920	18,920	10,647	32,327	2,992	0	624,581	2,788	215,926	889,261	247	908,428
1982(c	0	0	1,303	1,303	6,359	14,463	926	0	124,736	721	67,365	214,570	0	215,873
1983	0	0	0	0	0	13,019	0	0	0	0	0	13,019	0	13,019
1984	0	0	3,663	3,663	7,419	19,500	0	0	230,691	1,644	0	259,254	0	262,917
1985	0	0	9,638	9,638	6,095	7,636	0	0	186,486(e	764	96,887	297,868	0	307,506
1986(d	0	0	2,595	2,595	3,970	903	1,130	0	14,987	247	12,788	34,025	0	36,620
Total	3,636	4,147	115,003	122,786	62,036	291,118	16,306	16,051	3,357,731	19,486	797,114	4,559,842	750	4,683,378

a) District merged with Tulare Lake Basin Water Storage District effective January 1, 1981.
b) May through December only.
c) Includes unscheduled water (called extra surplus water in 1980).
d) 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.
e) Revised and corrected from Bulletin 132-86 to reflect 5,662 acre-feet of 1978 exchange water reclassified as agricultural surplus water.

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	19,390	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[b]									
Grand Total	856,503	12,339,254	5,321,542	1,171,210	270,090	92,493	6,050	463,753	20,520,895

a) May through December only.
b) Amounts not available at time of publication.

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	TLBWSD	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	3,398,660
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(b											
Grand Total	3,175	891,166	357,090	908,967	17,868	12,767,711	39,300	2,913,504	370,522	5,181	18,274,484

a) 1982 costs are preliminary and may change when 1982 exchange is taken into consideration.
b) 1986 costs not available at time of publication.

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	3	Historical Summary of Entitlements, Deliveries, and Water Conveyed	3	3	11	14	2	1	1	1	1	1	1
	4	Summary of 1986 Deliveries and Credits to Long-Term Contractors	4	4	12	15	3	2	2	2	2	2	2
	5	Monthly Water Deliveries in 1986	5	5	13	16	4	3	3	3	3	3	3
	6	Monthly Power Operations in 1986	6	6	18	21	6	6	6	6	6	5	6
	6A	Reconciliation of 1986 SWP and CVP Energy Use at SWP Plants and Joint-Use Facilities	6A	none	none	none	none	none	none	none	none	none	none
	7	SWP Power and Transmission Service Purchases in 1986	7	7	none	none	none	none	none	none	none	none	none
	8	SWP Power Sales in 1986	8	8	none	none	none	none	none	none	none	none	none
	9	Recreation Use at SWP Facilities in 1986	9	9	19	22	Ex.26	p.138	p.133	p.95	p.81	p.66	none
	10	Fish Planted at SWP Facilities in 1986	10	10	20	23	Ex.27	none	none	none	none	none	none
CONTRACT AMENDMENTS	11	Water Supply Contract Amendments as of June 30, 1987	11	11	Fig.16	Fig.19	Fig.6	Fig.6	Fig.6	Fig.6	Fig.6	Fig.7	Fig.7
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	13	SWP Construction Activities in Progress, July 1986-June 1987	13	13	10	12	Ex.14	none	none	none	none	none	none
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	15	Projected Water Deliveries and Energy Requirements	15	15	none	none	none	none	none	none	none	none	none
	16	Projected Electrical Capacity Requirements	16	16	none	none	none	none	none	none	none	none	none
	17	Summary of Major SWP Power Contracts	17	17	Fig.17	Fig.20	Fig.19	p.102	none	none	none	none	none
	18	Projected Energy Resources and Costs	18	18	7	9	Ex.29	p.104	none	none	none	none	none
FUTURE COSTS AND FINANCING	19	SWP Financial Analysis, June 30, 1987	19	19	21	24	7	7	7	7	none	7	7
	20	SWP Capital Expenditures	20	20	22	25	8	8	8	8	7	8	8
	21	Application of Revenue Bond Proceeds	21	21	23	26	none	none	none	none	none	none	none
	22	Projected Bond Sales	22	22	26	29	9A	9A	9A	none	none	none	none
	23	Revenue Bond Proceeds Affecting the Project Interest Rate	23	23	24	27	none	none	none	none	none	none	none
	24	Actual Bond Sales and Project Interest Rates	24	24	25	28	9	9	9	9	none	9	9
	25	SWP Operation, Maintenance, Power, and Replacement Costs	25	25	27	30	10	10	10	10	8	10	10
	26	Annual Service on Bonds Sold through June 30, 1987	26	26	28	31	11	11	11	11	none	11	11
	27	Estimated Future Unit Water Charges	27	27	6	7	Ex.2	p.19	Fig.1	none	none	none	none

MATERIAL IN BULLETIN

SUBJECT		APPENDIX B (No Allowance for Future Price Escalation, for Billing Purposes)		CORRESPONDING TABLE OR EXHIBIT NUMBER IN PREVIOUS BULLETIN 132									
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		B-5A	Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor	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	none	B-5B	B-5B	B-5B	B-5B	B-5B	B-5B	B-5	none
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		B-8	Capital Costs of Requested Delivery Structures	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	none	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9
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		B-11	Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge	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	none	B-12	B-12	B-12	B-12	B-12	B-12	B-12	B-12
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		B-16A	Minimum OMP&R Component of Transportation Charge for Each Contractor	B-16A	none	B-16	B-16	B-16	B-16	B-16	B-16	B-16	B-16
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TOTAL CHARGES		B-21	Total Delta Water Charge for Each Contractor	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	none	none	none	none	none	none	none	none	none	none
		B-23	Total Transportation and Delta Water Charge for Each Contractor	B-22	none	B-22	B-22	B-22	B-22	B-22	B-22	none	none
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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	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	none	none	none	none	none	none	none	none	none	none
		B-28	Capital Costs of EBE Transportation Facilities Allocated to Each Contractor	none	none	none	none	none	none	none	none	none	none
		B-29	Capital Cost Component of EBE Transportation Facilities Charge for Each Contractor	none	none	none	none	none	none	none	none	none	none
		B-30	Minimum OMP&R Component of EBE Facilities Transportation Charge for Each Contractor	none	none	none	none	none	none	none	none	none	none
		B-31	Total EBE Facilities Transportation Charge for Each Contractor	none	none	none	none	none	none	none	none	none	none
SURPLUS WATER SERVICE AND CHARGES		B-32	Annual Surplus Water Deliveries	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-26	none	B-26	B-26	B-26	B-26	B-26	B-26	none	none
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* Appendix B tables for Bulletin 132-82 are published under separate cover.

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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 × °C)+32	(°F−32)/1.8

State of California—Resources Agency
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