

STATE WATER PROJECT

OVERVIEW

The State Water Project (SWP), managed and operated by the Department of Water Resources (DWR), is the largest state-built, multipurpose, user-financed water project in the country. It was designed and built primarily to deliver water, but also provides flood control, generates power for pumping, is used for recreation, and enhances habitat for fish and wildlife. The SWP provides irrigation water to 750,000 acres of farmland, mostly in the San Joaquin Valley, and provides municipal and industrial water to approximately 25 million of California's estimated 37 million residents.

The SWP consists of a complex system of dams, reservoirs, power plants, pumping plants, canals and aqueducts to deliver water. Water from rainfall and snowmelt runoff is captured and stored in SWP conservation facilities and then delivered through SWP transportation facilities to water agencies and districts located throughout the Upper Feather River, Bay Area, Central Valley, Central Coast, and Southern California. Metropolitan receives water from the SWP through the California Aqueduct, which is 444 miles long. The budgeted costs for the SWP are as follows:

SWP Cost Summary, \$ millions

	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Delta Water Charge: Capital	\$35.0	\$22.1	\$39.2	\$17.1	\$39.4	\$0.2
Delta Water Charge: OMP&R	68.7	56.5	102.1	45.6	105.3	3.3
Transportation Capital	122.9	147.9	137.3	(10.6)	139.8	2.5
Transportation OMP&R	145.4	128.2	177.4	49.2	184.0	6.6
Power, Variable	116.3	187.0	155.3	(31.7)	162.8	7.5
Power, OAPF	22.5	9.8	9.6	(0.2)	5.8	(3.8)
Credits	(72.5)	(36.3)	(38.6)	(2.3)	(37.9)	0.7
SWP Total ¹	\$438.3	\$515.0	\$582.3	\$67.3	\$599.4	\$17.1
SWC Dues	\$3,260	\$4,545	\$4,266	\$(279)	\$4,616	\$350
Acre-feet delivered	579,000	927,000	865,350	(61,650)	881,850	16,500

¹ Does not include Departmental costs reflected elsewhere in this Budget.

Annually, the DWR reviews and redetermines the water supply and financial aspects of the SWP as required by the SWC. This results in the annual Statement of Charges to the Contractors for each calendar year. The information that supports the Statement of Charges is published by the DWR as Appendix B to the appropriate Bulletin 132 (i.e., the Statement of Charges for Calendar Year 2016 is supported by Appendix B to

Bulletin 132-15). DWR does not charge rates for water service. It does not develop a revenue requirement and then develop rates based on projected billing determinants for a calendar year. Rather, DWR apportions its costs to the Contractors based on their proportionate share of estimated supply costs (Delta Water Charge) and transportation costs (Transportation Charge).

Metropolitan's budgeted SWP costs are based on the 2016 Statement of Charges and supporting Appendix B. Power costs are estimated by Metropolitan assuming a 50 percent allocation and use of the Central Valley storage programs.

STATE WATER CONTRACT

All water supply-related capital expenditures and operations, maintenance, power and replacement (OMP&R) costs associated with the SWP conservation and transportation facilities are paid for by 29 agencies and districts, known collectively as the State Water Contractors (Contractors). Through Calendar Year 2012, Metropolitan has paid about 60 percent of the total payments to DWR by all Contractors. Metropolitan's financial records show that total accumulated amounts paid under the SWC are \$10.7 billion through fiscal year 2013/14. Metropolitan's SWC expires on December 31, 2035.

The Contractors have long-term contracts with DWR for the delivery of SWP water and use of the SWP transportation facilities. Metropolitan signed the first State Water Contract (SWC) on November 4, 1960, and received its first delivery of SWP water in 1972. Metropolitan has a contractual right to a proportionate share of the project water that DWR determines is available for allocation to the Contractors. This determination is made each year based on existing supplies in storage, forecasted hydrology, and other factors. Available project water is then allocated to the Contractors in proportion to the amounts set forth in Table A of their SWCs (Table A Allocation). Under its SWC, Metropolitan is entitled to roughly 46% of the annual Table A Allocation.

Since inception, the SWC provided Contractors the ability to use the SWP to convey non-SWP water under certain circumstances. Specifically, Article 18(c)(2) of the original SWC addresses situations where there is a shortage in the supply of water made available under the contract and states "[T]he District, at its option, shall have the right to use any of the project transportation facilities which by reason of such permanent shortage in the supply of project water to be made available to the District are not required for delivery of project water to the District, to transport water procured by it from any other source: [p]rovided, [t]hat such use shall be within the limits of the capacities provided in the project transportation facilities for service to the District under this contract". However, Article 18(c)(2) only applied in the event a permanent shortage was declared by DWR and it was unclear on how costs would be charged for using SWP facilities to transport nonproject water. In 1994, the Contractors and DWR negotiated the Monterey Amendment to the SWC, including Article 55, which made explicit that the Contractors' rights to use the portion of the SWP conveyance system necessary to deliver water to them (their "reaches") also includes the right to convey non-SWP water at no additional cost as long as capacity exists. Power for the conveyance of non-SWP water is charged at the SWP melded power rate. The Monterey Amendments also expanded the ability to carryover SWP water in SWP storage facilities, allowed Contractors to store water in groundwater storage facilities outside a Contractor's service area for later use, and permitted certain Contractors to borrow water from terminal reservoirs. These amendments, approved by Metropolitan's Board in 1995, offered the means for individual Contractors to increase supply reliability through water transfers and storage outside their service areas.

The SWC is predominantly a 'take-or-pay' agreement, with Contractors paying most water conservation and transportation costs regardless of the amount of water delivered. The charges to the Contractors include a SWP supply charge (Delta Water Charge) and a SWP transportation charge (Transportation Charge). The Delta Water Charge recovers both Capital and OMP&R costs for those facilities that conserve and create the

actual water supply of the SWP. The Delta Water Charge is based on Contractors' cumulative Table A Allocations, and is paid regardless of whether Contractors receive any Table A Allocations in a given year.

The Transportation Charge recovers the costs associated with the various aqueduct reaches that deliver project water to the Contractors. The Capital and fixed OMPR portions of the SWP Transportation Charge recover costs from the Contractors based on their proportionate use of facilities. Unlike the Delta Water Charge, which is uniform for a unit of Table A water, the allocation of these portions of the Transportation Charge will vary based on the aqueduct segments needed to deliver water to a specific Contractor. The further a Contractor is from the Delta and the greater its capacity in the transportation facilities, the greater its allocation of the Capital and fixed OMPR Transportation Charges. The capacity of the SWP to deliver water decreases with distance from the Banks Pumping Plant, located in the Sacramento-San Joaquin Delta, as water is delivered to Contractors through the South Bay Aqueduct and the Coastal Branch Aqueduct, and to turnouts in the San Joaquin Valley and Southern California. Payment of the Transportation Charge entitles Contractors to the right to use their capacity in the SWP facilities for transportation of SWP or non-SWP water, on a space available basis, under the SWC. A Contractor that participates in the repayment of a particular reach, or segment of the SWP, has already paid the costs of using that reach for the conveyance of water supplies through the Transportation Charge. On average, Metropolitan pays about 63 percent of SWP transportation costs.

In addition to the charges for water supply and transportation facilities discussed above, DWR also charges for the power needed to deliver project water throughout the system. Two charges recover these power costs: the variable OMPR portion of the Transportation Charge (Variable Charge) and the Off Aqueduct Power Facilities (OAPF) charge. Because the SWC are cost recovery contracts, DWR invoices Contractors on an estimated basis for any calendar year, and then provides credits in later years once cost true-ups are finished.

The Variable Charge includes the annually estimated cost of purchased power including capacity and energy, cost of SWP power generation facilities, program costs to offset annual fish losses at the Banks Pumping Plant, purchased transmission services, and credits for sales of ancillary services and excess SWP system power sales. The Variable Charge is calculated on the basis of the energy required to pump an acre-foot of water to its take-out point multiplied by the system energy rate, less energy from the recovery generation plants. The system energy rate is a system-wide average rate calculated as the net cost of energy--total costs less revenues--divided by the net energy required to pump all water. That rate is applied to each acre-foot of water delivered to SWP customer based on the power required to pump the water to designated delivery points on the system. DWR can adjust the system energy rate as the calendar year progresses in order to reflect actual costs

The OAPF charge recovers the debt service and environmental remediation costs of power generation facilities not on the aqueduct, namely Reid Gardner Unit 4 and debt service associated with the South Geysers and Bottle Rock geothermal plants. The OAPF rate is calculated as the total annual estimated costs divided by the total energy required to pump all water. Recovery energy is not considered in this calculation. Each contractor's charge is the OAPF rate times the energy required to pump the contractor's water order.

The SWP uses low-cost hydroelectric and recovery generation resources, but they only provide about 50 percent of the SWP energy needs in an average water year. The SWP relies on the wholesale market and contractual resources with exposure to market price volatility for as much as 30 to 35 percent of its needs, using other contractual resources to fill in the difference.

The SWP energy required to move water to Metropolitan is related to the transportation on the East Branch through Devil Canyon and on the West Branch through Castaic. Because Metropolitan moves the largest amount of water on the SWP and Metropolitan's delivery points on the East and West Branch are at or near the southern extreme of the SWP, Metropolitan pays approximately 70 percent of the SWP power costs.

Cost of SWP Power for Metropolitan Terminal Delivery Points, \$ per Acre-Foot

	CY 2011 DWR	CY 2012 DWR	CY 2013 DWR	CY 2014 DWR	CY 2015 Preliminary	CY 2016 Estimated	CY 2017 Estimated
East Branch	\$197.34	\$224.27	\$230.27	\$280.07	\$241.17	\$206.33	\$205.08
West Branch	\$170.79	\$210.93	\$215.61	270.03	\$226.58	\$196.19	\$195.05

The SWP energy costs are impacted by the energy policies of the state of California. The SWP is acquiring renewable resources, primarily solar to date, to meet its obligation to reduce greenhouse gas emissions. The SWP energy costs are also impacted by the increasing cost of using the California Independent System Operator’s (CAISO) grid to deliver power from its generating sources and the wholesale power market to its pumping loads. The SWP does not own high voltage transmission facilities and must use the CAISO grid to move power; the SWP is the largest payer of the CAISO transmission access rates. Finally, the SWP has an obligation to acquire and surrender emissions allowances for the generating facilities the SWP owns, primarily the Lodi Energy Center.

In total, Metropolitan paid 55 percent of the total SWP charges in Calendar Year 2014.

BUDGET HIGHLIGHTS

The budget for the SWP is increasing due to higher costs for salaries and benefits, rehabilitation and replacement expenditures, maintenance of aging infrastructure, and fish restoration agreement costs. Power costs are projected to be lower due to: higher water deliveries which spread fixed power costs over a larger usage base; lower market costs for natural gas, wholesale power, and cap-and-trade emissions allowances; and a recent favorable environment for negotiating renewable power contracts.