PARKER-DAVIS PROJECT SUPPORTING DATA

Rates History

Firm Transmission rate

Schedule PD-FT1. Effective June 16, 1980; increased the rate by 28 percent over the existing charge of $5.30 per kilowatt year (kw-yr) which was implemented in fiscal year 1977. This rate consisted of a firm transmission charge of $6.80/kW-yr or $0.57 kilowatt month (kW-mo).

Schedule PD-FT2. Effective December 15, 1983; increased the rate by 11 percent. This rate consisted of a firm transmission charge of $7.56/kW-yr or $0.63/kW-mo.

Schedule PD-FT3. Effective December 1, 1990; increased the rate by 6 percent. This rate consisted of a firm transmission charge of $8.20/kW-yr or $0.68 kW-mo.

Schedule PD-FT4 (Step One). Effective February 1, 1994; increased the rate by 27 percent. This rate consisted of a firm transmission charge of $10.40/kW-yr or $0.87/kW-mo.

Schedule PD-FT5. Effective October 1, 1995; increased the rate by 10 percent. This rate consisted of a firm transmission charge of $11.51/kW-yr or $0.96/kW-mo.

Schedule PD-FT6. Effective November 1, 1997; defined a rate methodology where the rate is Revenue Requirement divided by the CROD and the monthly rate is the yearly rate divided by 12.

Project Description and History

The P-DP includes Davis Dam and Powerplant, Parker Dam and Powerplant, various high-voltage switchyards, substations, and approximately 1600 miles of high voltage transmission lines. Davis Dam is located on the Colorado River between Arizona and Nevada, about 67 miles downstream from Hoover Dam. Parker Dam is located on the Colorado River between Arizona and California, 155 miles downstream from Hoover Dam. Davis Dam and Parker Dam provide for the delivery of stored water for irrigation and other beneficial consumptive uses, as well as the generation of electrical energy. The P-DP transmission system has served as a major transmission system for delivery of power over long distances in Arizona, with facilities extending into the southern parts of California and Nevada. Furthermore, P-DP provides energy for priority use which includes irrigation and drainage pumping and associated requirements of

the Gila Project, Yuma Auxiliary Project, and the Colorado River Front Work and Levee System.

The Parker Dam Power Project was authorized by section 2 of the Rivers and Harbors Act of August 30, 1935 (49 Stat. 1039), the Davis Dam Project was authorized April 26, 1941, by the Acting Secretary of the Interior under Provisions of the Reclamation Project Act of 1939 (43 U.S.C. 485, et. seq.). The P-DP was formed by the consolidation of the two Projects under the terms of the Act of May 28, 1954 (68 Stat. 142).

Davis Dam, which creates Lake Mohave, provides regulation, both hourly and seasonally, of the water releases from Lake Mead (through Hoover Dam and Powerplant) to facilitate water delivery for downstream irrigation requirements and for water delivery beyond the boundary of the United States as required by the Mexican Water Treaty. Operation of the powerplant began in January 1951 with a generating capacity of 225,000 kW. During the period 1974-1978 the generator nameplate capacity was increased to 240,000 kW by rewinding the generator stators.

Construction of Parker Dam was authorized for the purposes of controlling floods, improving river navigation, regulating the flow of the Colorado River, providing storage and delivery of the stored waters thereof, reclamation of public lands and Indian reservations, other beneficial uses, and for the generation of electric energy as a means of making the P-DP a self-supporting and financially solvent undertaking.

Parker Dam was constructed by the Bureau of Reclamation (Reclamation) with funds advanced by the Metropolitan Water District of Southern California (MWD). Lake Havasu, the reservoir created behind Parker Dam, serves as the forebay from which water is diverted into the MWD aqueduct. The aqueduct delivers a major portion of California's entitlement of Colorado River water to southern California and is the diversion point for delivering Central Arizona Project water to Arizona. The reservoir operation is limited to minor storage fluctuations. The dam provides a head of approximately 75 feet for the Parker Powerplant. Reclamation began operation of Parker Powerplant in December 1942. Although the total generator nameplate capacity is 120,000 kW, the powerplant capacity is essentially limited to 104,000 kW, because of operating constraints of downstream physical structures, primarily Headgate Rock Dam. Under contract MWD is entitled to one-half of the net energy generated at Parker Powerplant at any given time.

All facilities of the P-DP were operated and maintained by Reclamation until the formation of the Department of Energy pursuant to the Department of Energy Organization Act (DOE Act), 42 U.S.C. Sections 7101 et. seq., enacted by Congress on August 4, 1977. Pursuant to section 302 of the DOE Act (42 U.S.C. 7152), responsibility for the power marketing functions of Reclamation, including

the construction, operation, and maintenance of substations, transmission lines and attendant facilities, was transferred to the Department of Energy. The responsibility for operation and maintenance of the dams and powerplants remains with Reclamation.

POWER REPAYMENT STUDY

The proposed annual revenue requirement for firm transmission service is based on the data outlined in this Brochure. Repayment criteria are based on law and policies established by DOE Order R.A. 6120.2 (RA 6120.2). According to RA 6120.2, project revenues are required to repay investment costs including interest.

Generally, the repayment criteria formula is total annual revenues equal total annual expenses plus debt repayment. Annual revenues are first used to pay the annual operating expenses. The annual operating expenses include all costs for operation, maintenance, and interest on capitalized investments and deficits. Secondly, all required payments due on capitalized investments are paid. In the event total annual revenues are insufficient to meet the annual expenses plus the annual investment repayment, the deferred annual expenses are amortized to be repaid over a specified time frame. The deferred annual expenses are referred to as “capitalized deficits”. When the total annual revenues are sufficient to meet the annual operating expenses plus the annual investment repayment, any remaining annual revenue is used to repay capitalized deficits and investments based upon a hierarchy of repayment. The hierarchy of repayment requires that all capitalized deficits are repaid first, followed by capitalized investments, with the highest interest-bearing investments being repaid first.

The P-DP uses the Compound Interest Amortization (CIA) methodology. Under this methodology, revenue requirements are determined for a five year period. In addition, a CIA schedule is prepared for all investments, including replacements, thus ensuring project repayment. By October 1 of each year, new revenue requirements for the following five year period will be determined and implemented. Western first determines an amortization schedule of all existing and future investments. Western then adds the principal portion of the annual amortization to all other project expenses for each of the next five years. Revenues collected in excess of the annual revenue requirement are carried forward to the next year and utilized to cover revenue shortfalls in future years.

This methodology, while relying on the five year cost evaluation period instead of 50 years, provides for guaranteed payment of all costs (including repayment of principal) within the five year rate setting period, thus ensuring total repayment of the project within its prescribed time period. Under this methodology, repayment of the Federal investment becomes a component of the total annual expenses and will be made on an annual basis through a CIA payment. With the CIA

methodology, the scheduled principle payments are distributed in accordance with the hierarchy described above.

Cost Apportionment Study

The proposed annual revenue requirements/charges/rates for firm power and revenue requirements for firm and nonfirm transmission service are based on the "Cost Apportionment Study" (CAS). The CAS allocates P-DP's total cost and other revenue between generation and transmission. There is a separate CAS each year of the cost evaluation period. The CAS can be described in the following steps:

All costs including Western's O&M expenses, Bureau of Reclamation expenses, purchase power, multi-project costs associated with Mead Service Center, CME, interest expense, and scheduled principal payments are allocated to either generation or transmission. Each component is allocated based on whether it is directly related to generation or transmission. If a component is related to both, an appropriate allocation factor is used to separate costs between generation and transmission.

All other sources of revenue including nonfirm transmission service, nonfirm energy sales, spinning reserves, facility use charges, multi-project revenues associated with SCADA and the Phoenix Service Center, and carryover are allocated to either generation or transmission. Each component is allocated based on whether it is directly related to generation or transmission. If a component is related to both, an appropriate allocation factor is used to separate other sources of revenues between generation and transmission. As noted in each section, the generation revenues and costs will not be presented during the MSTR Process.

Transmission Sales

Firm Transmission Service

Historical firm transmission service sales are based on actual sales reported on the Yearly Report of Energy Deliveries and Income. Firm transmission service revenues for the future are based on the average projected firm transmission service sales multiplied by the existing firm transmission service rate. Future firm transmission service sales are based on the average anticipated annual contractual obligations with existing and future contractors. The total average firm transmission obligations for the current year and the cost evaluation period are projected to be as follows:

FY 2005	2,278,164 kW
FY 2006	2,373,858 kW
FY 2007	2,383,191 kW

FY 2008 2,383,191 kW
FY 2009 1,126,086 kW

Revenues

Firm Power Revenue

Firm Power Revenue is not addressed in this ~~rate~~ MSTR process, which deals strictly with Transmission Service rates. Firm power rates and revenue requirements are addressed in customer meetings with Western's firm electric service customers.

Firm Transmission Revenue

Historical firm transmission revenue is based on actual firm transmission revenues reported on the Yearly Report of Energy Deliveries and Income Report and financial statements. Firm transmission revenues starting in FY 2005 are based on the projected firm transmission sales for FY 2005 and out, multiplied by the existing firm transmission rate.

Priority Use Revenue

Priority Use Revenue is not addressed in this ~~rate~~ MSTR process. These rates and revenue requirements will be addressed in customer meetings with Western's priority use power customers

Other Revenue

Other revenue includes receipts from sources not otherwise addressed, including nonfirm transmission sales, nonfirm energy, spinning reserves, fuel replacement, interchange sales, settlements, rental of electric property, facility charges, miscellaneous operating income, and Multi-project revenues. Historical other revenues are based on actual revenue reported on the Yearly Report of Energy Deliveries and Income and financial statements. Future other revenues are based on a five year average of the last four historical years plus the current year's estimate, and anticipated new sources of revenues. The projections for the multi-project revenue stream are derived under a multi-project allocation process. Multi-project revenues are defined as the revenues of those facilities which have been paid for through the appropriation process by one project, but benefit other projects. Multi-project revenues offset the total costs of the facility that was funded under the P-DP. For the purposes of calculating the Revenue Requirement for the MSTR, those other revenues which are in whole or in part applicable to generation will not be included. Table 1 shows the Other Revenue projected during the cost evaluation period.

Table 1: Other Revenue

	2005	2006	2007	2008	2009
Ancillary & losses	$1,133,352.00	$1,337,592.71	$1,000,000.00	$1,000,000.00	$1,000,000.00
Facility Use & Other	1,204,540.97	851,488.97	854,056.97	854,056.97	854,056.97
Multi-Project	2,734,829.00	2,734,829.00	1,270,194.00	1,270,194.00	1,270,194.00
Total Other Revenue	$5,072,721.97	$4,923,910.68	$3,124,250.97	$3,124,250.97	$3,124,250.97

Annual Expenses

Operation and Maintenance (O&M)

The O&M costs are for maintaining and operating P-DP generation plant, switchyards, substations, transmission lines, administrative and general expenses, and water scheduling. While historical O&M data is obtained from Western's financial statements, the O&M projections for future years of the cost evaluation period (2005-2009) are taken from Western and Reclamation's budget documents. For the purposes of calculating the Revenue Requirement for the MSTR, those other ~~revenues~~ expenses which are in whole or in part applicable to generation will not be included.

Comment [S1]: I think this should be expenses.

Table 2 shows estimates of Western's costs in categories. Those categories are Systemwide Expenses, Operations and Maintenance, and Other Expenses which includes P&I.

Table 2: Expenses

	2005	2006	2007	2008	2009
Systemwide Expenses	2,088,437	2,159,094	2,240,060	2,202,492	2,223,975
O & M	17,552,759	17,866,518	18,455,738	18,166,059	18,323,433
Other Expenses	17,828,312	18,165,335	19,903,579	22,365,173	24,863,201
Total Expenses	37,469,508	38,190,947	40,599,377	42,733,724	45,410,609

Other Deductions

Historically, other deductions have not been represented in the PRS. The projections for other deductions in the proposed PRS are entirely attributed to an allocation of multi-project costs to the P-DP. The multi-project costs are attributed to the Mead Service Center which received appropriations under the AC Intertie Project but benefits the P-DP. The P-DP is paying an allocation of costs to the AC Intertie Project for repayment of investment and associated interest for the Mead Service Center.

Interest

Interest expense on the unpaid balance of the federal investments is calculated annually and incorporated into the proposed PRS. Interest is calculated each fiscal year on the interest-bearing investments remaining to be repaid at the end of the previous year and plant placed in service during the current year. All interest rates are in accordance with RA 6120.2. A 3 percent rate was used to compute the interest for the initial P-DP investment. Interest on historical capitalized deficits, additions and replacements are calculated at the RA 6120.2 rate for the year in which the dollar was spent or deficit incurred. Interest on future additions and replacements is calculated at the current annual interest rate of 4.875%.

Capitalized Deficits

Capitalized Deficits occur when the total annual revenues are insufficient to meet the annual expenses plus the annual debt repayment. All deficits have been paid.

Investments

Investment costs are comprised of investments budgeted and managed through Western and Reclamation's construction program. The investments thru Western are planned in an Engineering Ten-Year Planning process which involves working with the customers to plan replacements and addition activities included in the Engineering & Construction Ten Year Plan (Ten Year Plan). The Ten Year Plan is an outline of construction activities and is the source document for the construction additions and replacements in the proposed PRS.

Additions

Additions are projected through the cost evaluation period (2005-2009) and are derived from the FY 2006 Ten-Year Plan. The interest during construction (IDC) calculation for each addition is determined by the interest rate in the year the first dollar is spent. The capitalized costs for future additions also include IDC. The annual interest expense for each addition is based on the same interest rate used to calculate IDC. Additions are amortized over a 50 year period and the annual payments are part of the scheduled principal payments in the PRS.

Replacements

Replacements are projected through the cost evaluation period (2005-2009) and are derived from the FY 2006 Ten-Year Plan. The capitalized costs for future replacements in the cost evaluation period include IDC. The IDC calculation for each replacement is determined by the interest rate in the year the first dollar is spent. The annual interest expense for replacements is based on the interest

rate used to calculate IDC. Replacements are amortized over the weighted average service life of all replacements (32 years) and the annual payments are part of the scheduled principal payments in the PRS.

Capitalized Movable Equipment

CME is capitalized in the existing PRS. It has two components. The first component is the annual cost of depreciation and the second component is the interest expense on the unamortized balance. CME expense currently being used in the PRS is an estimate, but Western is continuing to refine the number and is subject to a minor change upon completion of the research.