

Project data



BOULDER CANYON PROJECT

Hoover Dam, the highest and third largest concrete dam in the United States, sits on the Colorado River along the Arizona-Nevada border. Lake Mead, the reservoir formed behind Hoover Dam, is still the nation's largest man-made reservoir. It can hold a two-year supply of the average flow of the Colorado River with its storage capacity of 27.38 million acre-feet.

This enormous project began with 1928 legislation approving construction of the Boulder Canyon Project. Hoover Powerplant has 19 generating units (two for plant use) and an installed capacity of 2,078,800 kW (4,800 kW for plant use). High-voltage transmission lines and substations make it possible for people from Las Vegas, Phoenix and Los Angeles to receive power from the project.

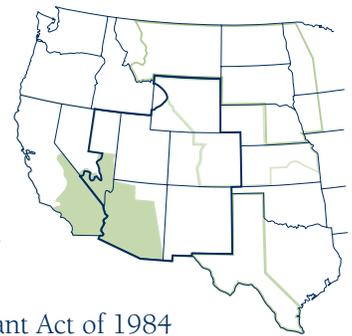
Since the start of commercial power generation in 1936, Hoover, with yearly average generation of 4.3 billion kWh, has served the annual electrical needs of more than 2 million people. This power is marketed under the Hoover Power Plant Act of 1984 and the 1984 Conformed General Consolidated Power Marketing Criteria and Regulations for Boulder City Area Projects. Western's Desert

Southwest Region markets and transmits Boulder Canyon power.

The Hoover Power Plant Act of 1984 sets forth the amounts of Hoover power to be sold to customers after June 1, 1987. The marketing criteria have been amended to reflect the Act's provisions.

Power from the Boulder Canyon Project is marketed as long-term contingent capacity with associated firm energy. This contingent capacity and associated firm energy are available as long as, among other restrictions, sufficient water in the reservoir allows Western to meet its power delivery obligations. If sufficient power to support the customer capacity entitlements is not available, each customer's capacity entitlement is temporarily reduced. Customers are entitled to receive 4.527 billion kWh of firm energy (associated with contingent capacity) each year. If generation at Hoover Powerplant is insufficient, Western can purchase energy to make up the shortfall at individual customers' request on a pass-through cost basis.

The Boulder Canyon Project obligation to



provide power is limited to the available output of Hoover Powerplant. Consequently, power purchases are not needed to meet contractual obligations for the firm energy associated with contingent capacity. However, power purchases are made for those customers requesting firm energy.

Project power is sold in three states: Arizona, California and Nevada. About 55 percent of Boulder Canyon Project energy sales revenue came from California customers. Of the Boulder Canyon Project's 15 customers, 11 are municipalities. These municipalities, however, provide only 28 percent of the energy revenue. Four customers, the Metropolitan Water District of Southern California, Colorado River Commission of Nevada, Arizona Power Authority and Los Angeles Department of Water and Power, accounted for 82 percent of power revenue from the project. Existing power contracts for the Boulder Canyon Project expire on Sept. 30, 2017.

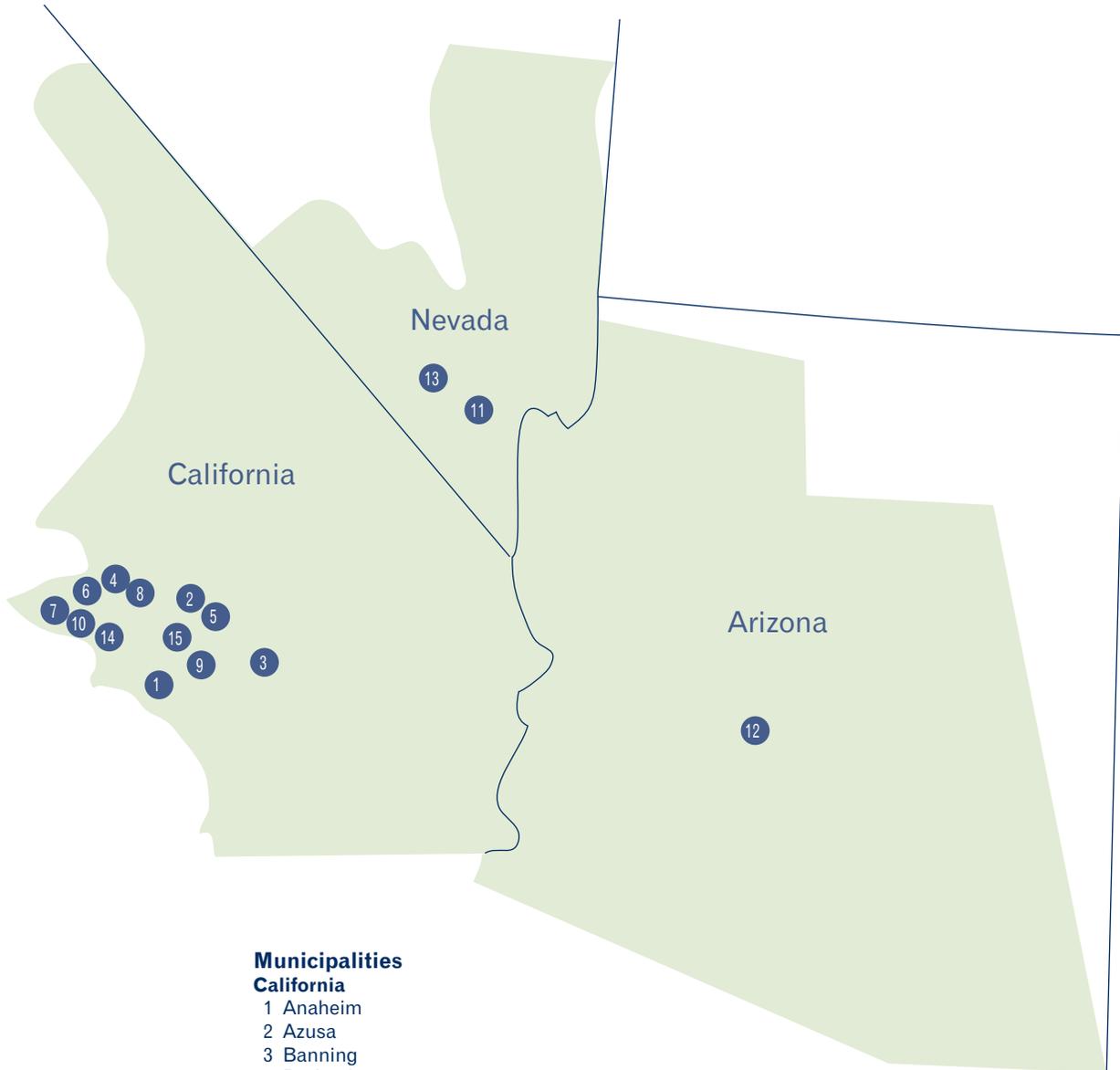
In FY 2003, Boulder Canyon Project energy sales revenue increased about 2 percent from FY 2002. Based on the existing rate methodology and customer billing methods instituted in FY 1996, power customers are billed based on annual reve-

nue requirements and their respective percentage of the entitlement, not on actual energy delivered. The FY 2003 revenue requirement was about \$575,000 more than that in FY 2002.

Net generation from Hoover Powerplant decreased 14 percent from FY 2002. FY 2003 generation was about 4 percent below long-term average. FY 2003 generation was characterized by extremely dry hydrologic conditions in the Colorado River Basin, 53 percent of the average unregulated flow into Lake Powell (which is upstream of Lake Mead and Hoover Dam), and increased storage in the Upper Colorado reservoirs. This is slightly increased from FY 2002, which was 25 percent of the average unregulated flow into Lake Powell. The timing of FY 2003 generation was affected by downstream water orders, variable precipitation patterns and by release and fill patterns in Upper Colorado River Basin reservoirs.

Storage in Lake Mead at the end of FY 2003 was 15.6 million acre-feet, which is 57 percent of capacity (71 percent of conservation capacity). ▼

Firm Power Customers and Marketing Area



Municipalities

California

- 1 Anaheim
- 2 Azusa
- 3 Banning
- 4 Burbank
- 5 Colton
- 6 Glendale
- 7 Los Angeles
- 8 Dept. of Water and Power
- 9 Pasadena
- 10 Riverside
- 11 Vernon

Nevada

- 11 Boulder City

State agencies

- 12 Arizona Power Authority
- 13 Colorado River Commission of Nevada
- 14 Metropolitan Water District of So. California

Investor-owned utilities

- 15 Southern California Edison Co.

BOULDER CANYON PROJECT

Energy Resources and Disposition

	GWh	
	FY 2003	FY 2002
Energy resources		
Net generation	4,094	4,734
Total energy resources	4,094	4,734
Energy disposition		
Sales of electric energy		
Western sales	3,960	4,639
Total energy sales	3,960	4,639
Total energy delivered ¹	3,960	4,639
System and contractual losses	134	95
Total energy disposition	4,094	4,734

¹ Energy delivered does not match energy sales, which are billed on Master Schedule (estimated) deliveries not actuals.

Facilities and Substations

Facility	FY 2003	FY 2002
Substations		
Number of substations ¹	4	4
Number of transformers ²	1	1
Transformer capacity (kVA)	125,000	125,000
Land (easement)³		
Acres	2.57	2.57
Hectares	1.04	1.04
Buildings and communications sites		
Number of communication sites	3	3

¹ The number of substations and communications sites includes all locations where Western owns or partially owns the land or buildings at the facility.

² The number of transformers includes all units that Western owns or partially owns.

³ Includes land for substations only.

Powerplants

Project/state/ plant name	Operating agency	River	Initial In-service date	Existing number of units	Installed capability ¹ FY 2003 (MW)	Actual operating capability (MW)		Net generation (GWh) ²	
						7/1/03	7/1/02	FY 2003	FY 2002
Arizona-Nevada									
Hoover	Reclamation	Colorado	Sep 36	19	2,079	1,840	1,937	4,094	4,734
Boulder Canyon Total				19	2,079	1,840	1,937	4,094	4,734

¹ Installed operating capability is the maximum generating capability of the units at unity power factor without exceeding the specified heat rise on each unit and independent of water constraints.

² Net generation is gross plant generation less plant use. These amounts have not been reduced by other priorities, such as project pumping energy.

Transmission lines

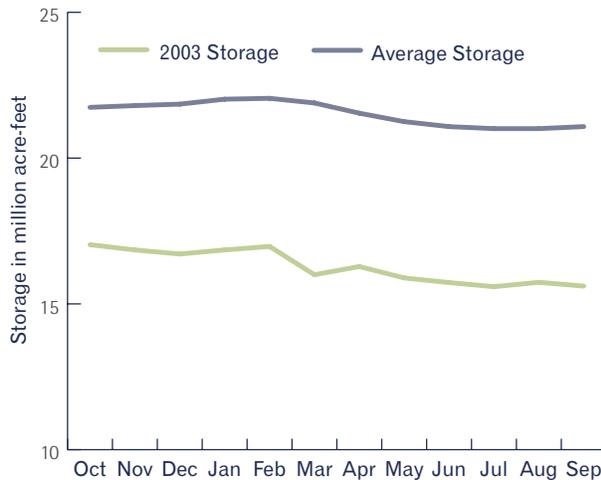
Voltage Rating	Nevada		Totals	
	FY 2003	FY 2002	FY 2003	FY 2002
230-kV				
Circuit miles	45.30	45.30	45.30	45.30
Circuit kilometers	72.89	72.89	72.89	72.89
Acres	1,135.88	1,135.88	1,135.88	1,135.88
Hectares	459.87	459.87	459.87	459.87
69-kV				
Circuit miles ¹	0.00	0.00	0.00	0.00
Circuit kilometers ¹	0.00	0.00	0.00	0.00
Acres	32.17	32.17	32.17	32.17
Hectares	13.02	13.02	13.02	13.02
Totals²				
Circuit miles	45.30	45.30	45.30	45.30
Circuit kilometers	72.89	72.89	72.89	72.89
Acres	1,168.05	1,168.05	1,168.05	1,168.05
Hectares	472.90	472.90	472.90	472.90

¹ In cases where transmission line mileage does not correspond the real estate acreage, the acreage is either classified under a different voltage level or the transmission line is not operational (planned, under construction, retired, decommissioned or removed).

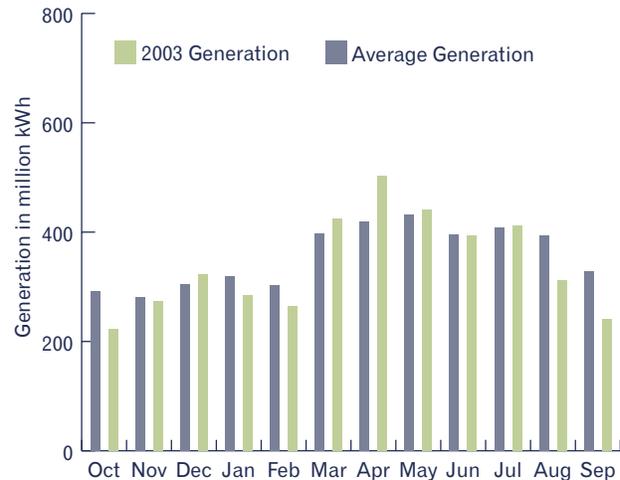
² Transmission line mileage now includes all mileage that Western owns or partially owns.

BOULDER CANYON PROJECT

Storage



Generation



Firm Power Rate Provisions

Fiscal year	Rate schedule designation	Capacity charge (\$/kW of billing demand)	Energy charge not in excess of delivery obligations	Effective date	Annual composite rate
2003	BCP-F6	\$1.08	5.58 mills/kWh	10/1/02	11.16 mills/kWh

Rate Actions Summary

Rate order no.	Project	Type of rate action	Date of notice of public participation	Rate schedule designation	Effective date of rate (first day of first full billing period)	Incremental changes to the annual revenue requirements (\$'000)	Notes	Date submitted to FERC
WAPA-94	Boulder Canyon	Increase	2/13/02	BCP-F6	10/1/02	2,722	Power	8/14/02

Marketing Plan Summary

Project	Expiration Date
Boulder Canyon	Sept. 30, 2017

Firm and Nonfirm Sales by Customer Category

Type of customer	FY 2003			FY 2002		
	Firm	Nonfirm	Total	Firm	Nonfirm ¹	Total
Municipalities						
Energy sales - MWh	950,083	0	950,083	1,056,984	0	1,056,984
Revenues - \$	14,734,555	(279,744)	14,454,811	14,642,534	(308,408)	14,334,126
State agencies						
Energy sales - MWh	2,838,552	0	2,838,552	3,131,419	0	3,131,419
Revenues - \$	31,014,198	367,975	31,382,173	31,158,915	433,009	31,591,923
Investor-owned utilities ²						
Energy sales - MWh	171,712	0	171,712	249,252	0	249,252
Revenues - \$	5,062,604	(88,232)	4,974,372	4,741,216	(124,601)	4,616,615
Total						
Energy sales - MWh	3,960,347	0	3,960,347	4,437,655	0	4,437,655
Revenues - \$	50,811,357	(1)	50,811,356	50,542,665	0	50,542,665

¹ The Boulder Canyon Project had excess energy that was delivered to Arizona Power Authority and the Colorado River Commission under Schedule C, First Priority. All other Boulder Canyon Project customers received less energy in the same amount as these two customers' excess. The total net amount of excess energy is equal to zero.

² Southern California Edison has an entitlement to Boulder Canyon Project firm power.

BOULDER CANYON PROJECT

Firm and Nonfirm Sales by State

State	FY 2003			FY 2002		
	Firm	Nonfirm	Total	Firm	Nonfirm	Total
Arizona						
Energy sales - MWh	824,329	0	824,329	875,110	0	875,110
Power revenues - \$	9,714,805	959,086	10,673,891	9,709,131	996,932	10,706,063
California						
Energy sales - MWh	2,167,253	0	2,167,253	2,511,208	0	2,511,208
Power revenues - \$	29,549,149	(736,847)	28,812,302	29,254,348	(842,837)	28,411,511
Nevada						
Energy sales - MWh	968,765	0	968,765	1,051,337	0	1,051,337
Power revenues - \$	11,547,403	(222,240)	11,325,163	11,579,185	(154,095)	11,425,090
Total Boulder Canyon						
Energy sales - MWh	3,960,347	0	3,960,347	4,437,655	0	4,437,655
Power revenues - \$	50,811,357	(1)	50,811,356	50,542,665	0	50,542,665

Sales by State and Customer Category

Type of customer	FY 2003		FY 2002	
	Energy sales (MWh)	Revenue (\$)	Energy sales (MWh)	Revenue (\$)
Arizona				
State agencies	824,329	10,673,891	875,110	10,706,063
Total Arizona	824,329	10,673,891	875,110	10,706,063
California				
Municipalities	877,577	13,771,401	977,442	13,659,883
State agencies	1,117,964	10,066,529	1,284,514	10,135,013
Investor-owned utilities	171,712	4,974,372	249,252	4,616,615
Total California	2,167,253	28,812,302	2,511,208	28,411,511
Nevada				
Municipalities	72,506	683,410	79,542	674,243
State agencies	896,259	10,641,753	971,795	10,750,847
Total Nevada	968,765	11,325,163	1,051,337	11,425,090
Total Boulder Canyon				
Municipalities	950,083	14,454,811	1,056,984	14,334,126
State agencies	2,838,552	31,382,173	3,131,419	31,591,923
Investor-owned utilities	171,712	4,974,372	249,252	4,616,615
Total Boulder Canyon	3,960,347	50,811,356	4,437,655	50,542,665

Top 5 Customers in Firm Energy Sales

Rank	Customer	MWh	% of total sales
1	Metropolitan Water District	1,117,964	28
2	Colorado River Commission	896,259	23
3	Arizona Power Authority	824,329	21
4	Los Angeles Dept. of Water & Power	617,558	16
5	Southern California Edison	171,712	4
Total		3,627,822	92

Top 5 Customers in Nonfirm Energy Revenue

Rank	Customer	(\$)	Percent of total revenue
1	Arizona Power Authority	959,086	100
Total		959,086	100

Top 5 Customers in Firm Energy Revenue

Rank	Customer	(\$)	% of total revenue
1	Metropolitan Water District	10,463,287	21
2	Colorado River Commission	10,836,106	21
3	Arizona Power Authority	9,714,805	19
4	Los Angeles Dept. of Water & Power	10,300,342	20
5	Southern California Edison	5,062,604	10
Total		46,377,144	91

Customers by State and Customer Category

State/Category	2003				2002			
	Firm only	Firm & nonfirm	Nonfirm only	Total	Firm only	Firm & nonfirm	Nonfirm only	Total
Arizona								
State agencies	1	0	0	1	1	0	0	1
California								
Municipalities	10	0	0	10	10	0	0	10
State agencies	1	0	0	1	1	0	0	1
Investor-owned	1	0	0	1	1	0	0	1
Nevada								
Municipalities	1	0	0	1	1	0	0	1
State agencies	1	0	0	1	1	0	0	1
Total	15	0	0	15	15	0	0	15

Summary by state

State	2003				2002			
	Firm only	Firm & nonfirm	Nonfirm only	Total	Firm only	Firm & nonfirm	Nonfirm only	Total
Arizona	1	0	0	1	1	0	0	1
California	12	0	0	12	12	0	0	12
Nevada	2	0	0	2	2	0	0	2
Total	15	0	0	15	15	0	0	15

Summary by customer category

Category	2003				2002			
	Firm only	Firm & nonfirm	Nonfirm only	Total	Firm only	Firm & nonfirm	Nonfirm only	Total
Municipalities	11	0	0	11	11	0	0	11
State agencies	3	0	0	3	3	0	0	3
Investor-owned utilities	1	0	0	1	1	0	0	1
Total	15	0	0	15	15	0	0	15

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Power Sales and Revenues

Customer	FY 2003		FY 2002	
	Energy (MWh)	Revenue (\$)	Energy (MWh)	Revenue (\$)
Municipalities				
California				
Anaheim	47,207	797,402	51,703	795,579
Azusa	4,320	78,789	4,923	78,329
Banning	1,851	36,734	1,989	36,484
Burbank	24,556	404,066	26,448	395,987
Colton	3,445	60,417	3,979	59,438
Glendale	65,484	642,429	71,449	643,311
Los Angeles Dept. of Water and Power	617,558	10,128,233	694,185	10,042,445
Pasadena	51,168	588,968	61,344	583,925
Riverside	35,612	598,491	38,776	596,622
Vernon	26,376	435,872	22,646	427,763
Subtotal California	877,577	13,771,401	977,442	13,659,883
Nevada				
Boulder City	72,506	683,410	79,542	674,243
Subtotal Nevada	72,506	683,410	79,542	674,243
Total municipalities	950,083	14,454,811	1,056,984	14,334,126
State agencies				
Arizona				
Arizona Power Authority	824,329	10,673,891	875,110	10,706,063
Subtotal Arizona	824,329	10,673,891	875,110	10,706,063
California				
Metropolitan Water Dist. Of So. Calif.	1,117,964	10,066,529	1,284,514	10,135,013
Subtotal California	1,117,964	10,066,529	1,284,514	10,135,013
Nevada				
Colorado River Commission of Nevada	896,259	10,641,753	971,795	10,750,847
Subtotal Nevada	896,259	10,641,753	971,795	10,750,847
Total state agencies	2,838,552	31,382,173	3,131,419	31,591,923
Investor-owned utilities				
California				
Southern California Edison Co	171,712	4,974,372	249,252	4,616,615
Subtotal California	171,712	4,974,372	249,252	4,616,615
Total investor-owned utilities	171,712	4,974,372	249,252	4,616,615
Boulder Canyon Project subtotal	3,960,347	50,811,356	4,437,655	50,542,665
Boulder Canyon Project total	3,960,347	50,811,356	4,437,655	50,542,665

¹ Excess Boulder Canyon Project energy was delivered to Arizona Power Authority and the Colorado River Commission under Schedule C, First Priority. All other Boulder Canyon Project customers received less energy in the same amount as these two customers' excess. The total net amount of excess energy equals zero.

BOULDER CANYON PROJECT

Status of Repayment (Dollars in thousands)

	Cumulative 2002 ¹	Adjustments	Annual 2003 ²	Cumulative 2003
Revenue:				
Gross operating revenue	1,332,813	(168) ³	62,966	1,395,611
Income transfers (net)	5,538	0	0	5,538
Total operating revenue	1,338,351	(168)	62,966	1,401,150
Expenses:				
O & M and other	648,736	(3,569) ^{4,5}	41,711	686,878
Purchase power and other	11,472	0	0	11,472
Interest				
Federally financed	244,528	0	11,438	255,967
Non-Federally financed	145,551	(99) ⁶	6,768	152,220
Total interest	390,080	(99)	18,206	408,186
Total expense	1,050,287	(3,668)	59,917	1,106,536
(Deficit)/Surplus revenue	0	0	0	0
Investment:				
Federally financed power	379,178	2,580 ^{4,9}	0	381,758
Non-Federally financed power	169,047	0	0	169,047
Nonpower	25,000	0	0	25,000
Total investment	573,225	2,580	0	575,805
Investment repaid:				
Federally financed power	241,363	2,580 ^{4,9}	1,410 ⁷	245,353
Non-Federally financed power	43,869	0	3,011 ⁸	46,880
Nonpower	141	0	0	141
Total investment repaid	285,373	2,580	4,421	292,374
Investment unpaid:				
Federally financed power	137,815	0	(1,410)	136,405
Non-Federally financed power	125,178	0	(3,011)	122,167
Nonpower	24,859	0	0	24,859
Total investment unpaid	287,852	0	(4,421)	283,431
Fund balances:				
Colorado River Dam	2,691	920	(1,372)	2,239
Working capital	0	0	0	0
Percent of investment repaid to date:				
Federal	63.65%			50.78%
Non-Federal	25.95%			27.73%
Nonpower	0.56%			N/A

¹ This column ties to the cumulative FY 2002 numbers on page 70 of the FY 2002 Statistical Appendix.

² Based on the FY 2003 audited financial statements except as noted.

³ The (\$175,733) adjustment is a reconciled difference between the financial statements and the Power Repayment Study. It is related to capitalized movable equipment depreciation and gains/losses duplicated in the F/S. The \$8,228 is a FY 2002 crosswalk adjustment.

⁴ Adjustment reflects annual replacement costs of \$2,567,731 which are expensed in the Power Repayment Study but capitalized and made part of the investment repaid on this table for Status of Repayment purposes.

⁵ Includes \$(1,216,201) and \$182,721 which are reconciled differences between financial statements and Power Repayment Studies related to various entries, \$30,044 for FY02 O&M/other crosswalk adjustments, and \$2,632 from FY 2002 other expense crosswalk adjustment.

⁶ The (\$99,349) is a reconciled difference between the financial statements and the Power Repayment Study. It is related to uprating interest.

⁷ Debt service principal payment.

⁸ Uprating principal payment.

⁹ The \$12,744 adjustment is a FY 2002 crosswalk adjustment related to FY 2001 replacements.

BOULDER CANYON PROJECT

Balance Sheet

As of September 30, 2003 (in thousands)

	2003		
	Western	Reclamation	Total
Assets			
Utility plant:			
Completed plant	\$ 32,739	\$ 365,506	\$ 398,245
Accumulated depreciation	(12,564)	(134,182)	(146,746)
Net completed plant	20,175	231,324	251,499
Construction work-in-progress	0	642	642
Net utility plant	20,175	231,966	252,141
Cash	18	11,824	11,842
Accounts receivable	3,828	3,621	7,449
Other assets	1,168	12,838	14,006
Total assets	25,189	260,249	285,438
Federal investment & liabilities			
Federal investment:			
Congressional appropriations	57,700	582,102	639,802
Interest on Federal investment	0	300,567	300,567
Transfer of property & services, net	138,111	(138,361)	(250)
Gross Federal investment	195,811	744,308	940,119
Funds returned to U.S. Treasury	(101,490)	(656,144)	(757,634)
Net outstanding Federal investment	94,321	88,164	182,485
Accumulated net revenues (deficit)	(74,805)	34,426	(40,379)
Total Federal investment	19,516	122,590	142,106
Liabilities:			
Accounts payable	3,709	401	4,110
Other liabilities	1,964	137,258	139,222
Total liabilities	5,673	137,659	143,332
Total Federal investment & liabilities	\$ 25,189	\$ 260,249	\$ 285,438

Statement of Revenues and Expenses, and Accumulated Net Revenues

For the year ended September 30, 2003 (in thousands)

	2003		
	Western	Reclamation	Total
Operating revenues:			
Sales of electric power	\$ 50,811	\$ 0	\$ 50,811
Other operating income	20	11,668	11,688
Gross operating revenues	50,831	11,668	62,499
Income transfers, net	(56,730)	57,196	466
Total operating revenues	(5,899)	68,864	62,965
Operating expenses:			
Operation and maintenance	3,109	28,977	32,086
Administration and general	364	9,261	9,625
Purchased power	0	0	0
Purchased transmission services	0	0	0
Depreciation	1,141	3,573	4,714
Total operating expenses	4,614	41,811	46,425
Net operating revenues (deficit)	(10,513)	27,053	16,540
Interest expenses:			
Interest on Federal investment	13	11,426	11,439
Interest on customer-funded financing	0	6,767	6,767
Net interest expenses	13	18,193	18,206
Net revenues (deficit)	(10,526)	8,860	(1,666)
Accumulated net revenues (deficit):			
Balance, beginning of year	(64,279)	25,566	(38,713)
Balance, end of year	\$ (74,805)	\$ 34,426	\$ (40,379)