

[APPENDIX 43]

MEMORANDUM: FINANCIAL OPERATION

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FINANCIAL OPERATION

Statement accompanying report of the Secretary of the Interior to the Committee
on Appropriations

(1) Revenue from 64 per cent of firm energy alone will more than repay the entire estimated cost of the project in 50 years, exclusive of the \$25,000,000 allocated to flood control.

The financial situation—in case only 64 per cent of firm energy were paid for, and no secondary energy and no water sold—would be as follows:

FINANCIAL OPERATION—BOULDER CANYON PROJECT

Table No. 4. Plate No. 12

Revenue from 64 per cent of firm energy only.		
No revenue from sale of water.		
No revenue from sale of secondary energy.		
Machinery investment repaid separately by lessees of power plant within 10 years.		
Repayment of \$25,000,000 allocated to flood control, including interest charges thereon deferred.		
Repayment period 50 years.		
Revenue from sale of 64 per cent of firm energy at 1.63 mills per kilowatt-hour.....		\$209, 406, 100
Operation and maintenance.....	\$7, 132, 902	
Depreciation.....	8, 641, 293	
Interest charges on all except the \$25,000,000 allocated to flood control.....	106, 289, 395	
Interest on accumulated deficit.....	2, 714, 542	
Repayment (exclusive of flood control).....	81, 273, 674	
Payments to Arizona and Nevada.....	1, 257, 558	
		207, 309, 464
Surplus.....		2, 096, 636

The income above stated for 64 per cent of the firm energy accords with the minimum obligations of the city (37 per cent) and company (27 per cent) and would be derived as follows:

Table No. 4. Plate No. 12

City of Los Angeles.....	\$121, 057, 666
Southern California Edison Co.....	88, 348, 434
Total.....	209, 406, 100
	581

(2) There is, however, under these contracts a firm obligation to pay for 100 per cent of all firm energy, which would result as follows:

FINANCIAL OPERATION—BOULDER CANYON PROJECT

Table No. 1. Plate No. 9

Revenue from 100 per cent of firm energy only.	
No revenue from sale of water.	
No revenue from sale of secondary energy.	
Machinery investment repaid separately by lessees of power plant within 10 years.	
Repayment period 50 years.	
Gross revenue from sale of energy at 1.63 mills per kilowatt-hour	\$327, 866, 350
Operation and maintenance	\$7, 262, 857
Depreciation	8, 875, 553
Interest charges on all except the \$25,000,000 allocated to flood control	108, 107, 007
Repayment (exclusive of flood control)	82, 674, 907
Interest charges on flood control	20, 981, 303
Interest charges on accumulated deficit	63, 973
Repayment of flood control	25, 000, 000
Payments to Arizona and Nevada	45, 330, 881
	<u>298, 296, 181</u>
Surplus	29, 570, 169

NOTE.—If surplus is applied to repayment, the entire cost of the project would be repaid in about 43 years.

In this case the revenue would be derived as follows:

Table No. 1. Plate No. 9

City of Los Angeles	\$121, 310, 549
Metropolitan Water District	118, 031, 886
Southern California Edison Co.	88, 523, 915
Total	<u>327, 866, 350</u>

The revenue from all firm energy alone will repay the entire estimated cost of the project and give Arizona and Nevada an average of \$450,000 per year each in addition to amortizing the flood-control allocation.

In the 50-year period following completion of the dam, in excess of \$29,000,000 would be paid into the Colorado River Dam fund from these power revenues, excluding revenue from water.

The income stated above, from power only, would appear as follows if an average of 1,550,000,000 kilowatt-hours of secondary energy were taken in addition:

Table No. 3. Plate No. 11

City of Los Angeles	\$133, 625, 075
Metropolitan Water District	130, 013, 586
Southern California Edison Co.	97, 510, 189
Total	<u>361, 148, 850</u>

In the 50-year period, in excess of \$50,000,000 would be paid into the Colorado River Dam fund from these power revenues, excluding revenue from water, and the average annual payment to Arizona and to Nevada would be in excess of \$550,000 each.

(3) The estimates of cost included in the above data are as follows:

Estimated cost of Boulder Canyon project exclusive of interest during construction.....	\$109, 446, 000
Interest during construction.....	11, 554, 000
Total estimated cost.....	121, 000, 000
Amount added to cover cost of raising dam 25 feet (Sibert board said higher dam can be built within original estimate).....	4, 392, 000
	125, 392, 000
Less \$25,000,000 allocated to flood control.....	25, 000, 000
	100, 392, 000
Less cost of machinery which is to be repaid separately in 10 years.....	17, 717, 000
Net investment, exclusive of \$25,000,000 allocated to flood control and investment in machinery.....	82, 675, 000

These estimates of cost are made sufficiently high to include the following safety factors:

	Per cent
15 per cent allowed for contingencies in original estimates becomes 17.5 per cent due to fact that machinery is to be repaid separately.....	17. 5
\$4,392,000 added to cover cost of 25-foot raise in height of dam (Sibert board says higher dam can be built within estimates for low dam).....	4. 2
Placing power plant on both sides of river will shorten tunnels and save \$3,600,000.....	3. 5
Additional head due to scour of river channel 20 feet.....	3. 8
	29

(4) It has been stated that income from firm energy allocated to the city and company would alone be adequate. The average annual payments for firm energy by each will be approximately:

City.....	\$2, 427, 070
Company.....	1, 770, 180

With reference to the amount of the city payment, please see audit which has been submitted of the accounts of the city's bureau of power and light for the year ending June 30, 1929, from which it appears that—

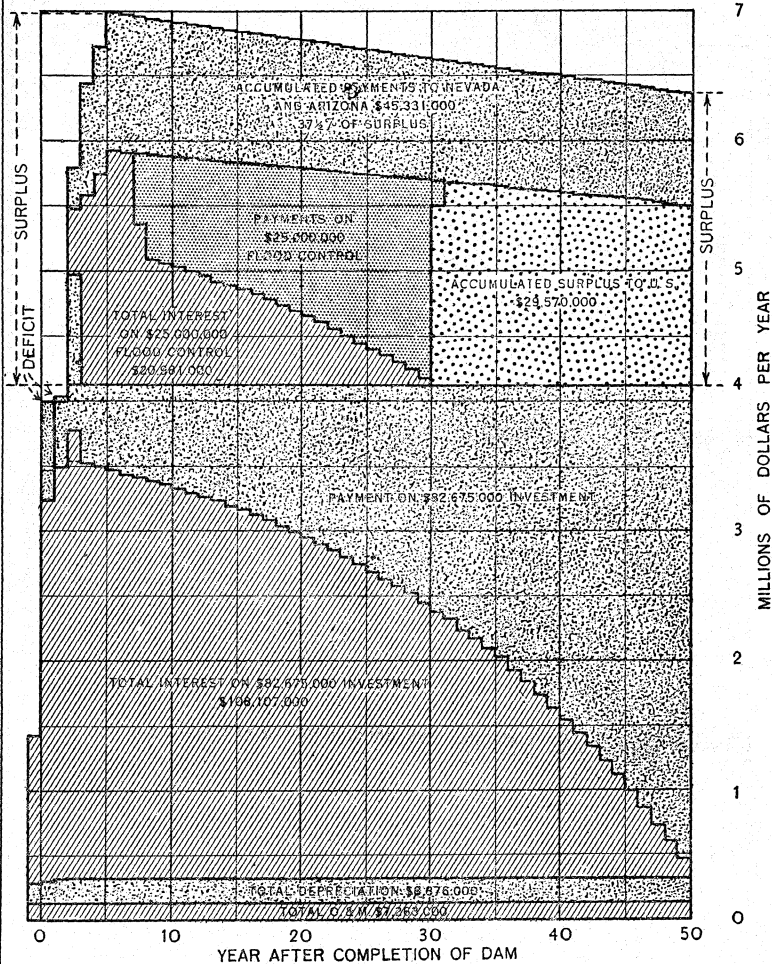
Surplus of.....	\$3, 626, 972. 23
Was available after payment to the Edison Co. for energy which Boulder Dam purchases will supplant in the amount of.....	3, 422, 642. 37
Or a total which would have been available for purchase of Boulder Dam energy of.....	7, 049, 614. 60
As compared with an actual average bill due the United States for firm energy of.....	2, 427, 070. 00
And without, of course, depleting the bureau's surplus built entirely out of power revenues, of.....	24, 024, 249. 75
And: See the certified Edison Co. statement that the Edison Co. carried to surplus.....	15, 701, 283. 06
Had total assets of.....	361, 266, 756. 34

(5) "Firm energy" as used above represents 4,330,000,000 kilowatt-hours per year, upon completion of the dam, which will raise the water surface 582 feet, as authorized by the Sibert board. This amount of firm energy will decrease at the rate of 8,760,000 kilowatt-hours per year due to upstream consumptive use of water. This estimate of available firm energy is based upon exhaustive hydrographic studies of the river, and will not encroach on flood control.

The annual decrease just stated is taken into consideration in the revenue estimates.

(6) The quoted estimates of the financial operation of the Boulder Canyon project are based upon a rate for firm energy of 1.63 mills, and of 0.5 mill for secondary energy. The act provides for readjustment of these rates 15 years from execution of the contracts and every 10 years thereafter "upon the demand of either party thereto." As the readjustment so provided for is to be "either upward or downward as to price, as the Secretary of the Interior may find to be justified by competitive conditions at distributing points or competitive centers," the future maintenance of the rates now set is a matter which can not be determined in advance.

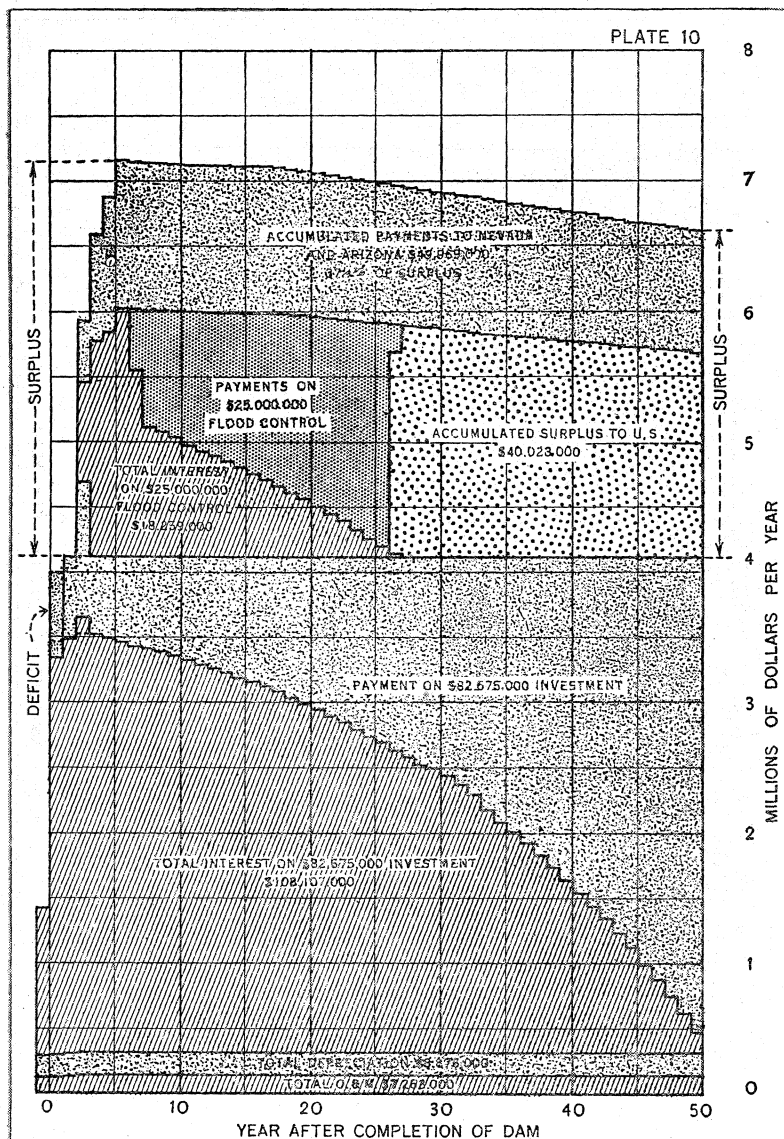
PLATE 9



BOULDER CANYON POWER DEVELOPMENT

Revenue from sale of firm power only at 1.63 mills per kw-hr.
Firm power defined as 4,330,000,000 kw-hr. per year at
completion of Dam, and decreasing at rate of 8,760,000
kw-hr. per year thereafter.

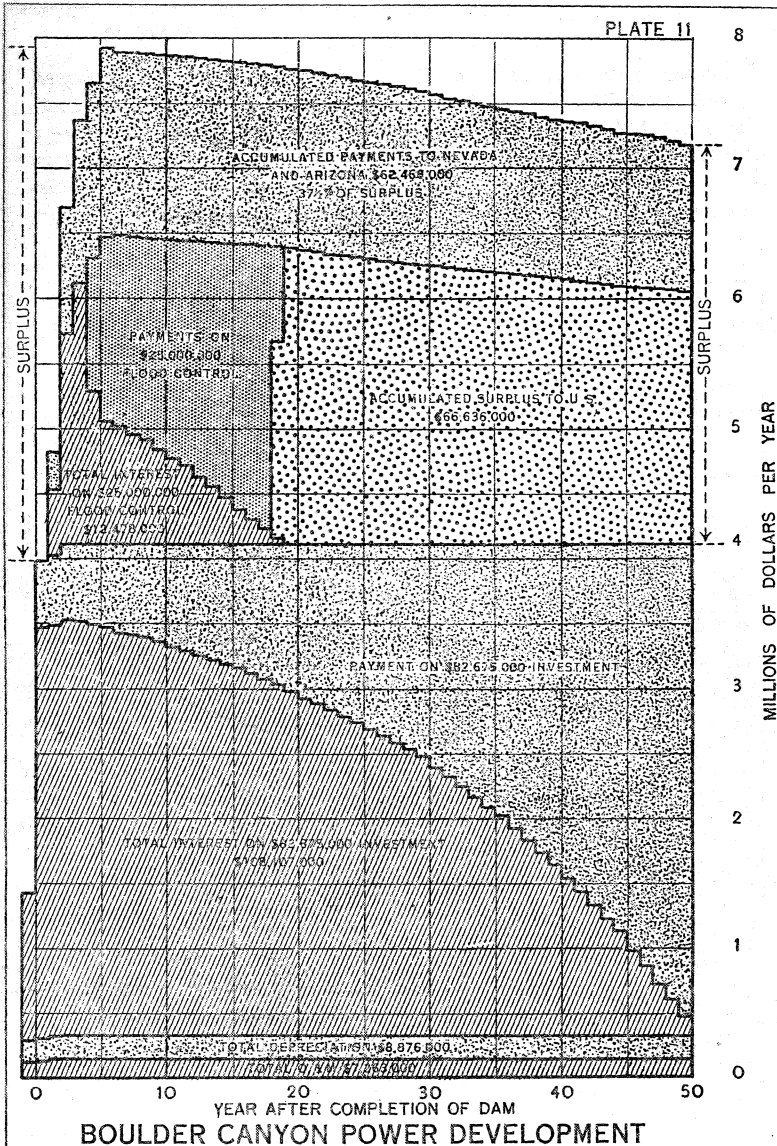
SEE TABLE B-1 FOR DATA



BOULDER CANYON POWER DEVELOPMENT

Revenue from sale of firm power at 1.63 mills per kw-hr. and sale of water at \$0.25 per acre-foot. Firm power defined as 4,330,000,000 kw-hr. per year at completion of dam and decreasing at rate of 8,760,000 Kw-hr. per year thereafter. Sale of water taken as 640 sec.ft. first year and increasing uniformly over a 16yr. period to 1500 sec.ft.

SEE TABL B-2 FOR DATA



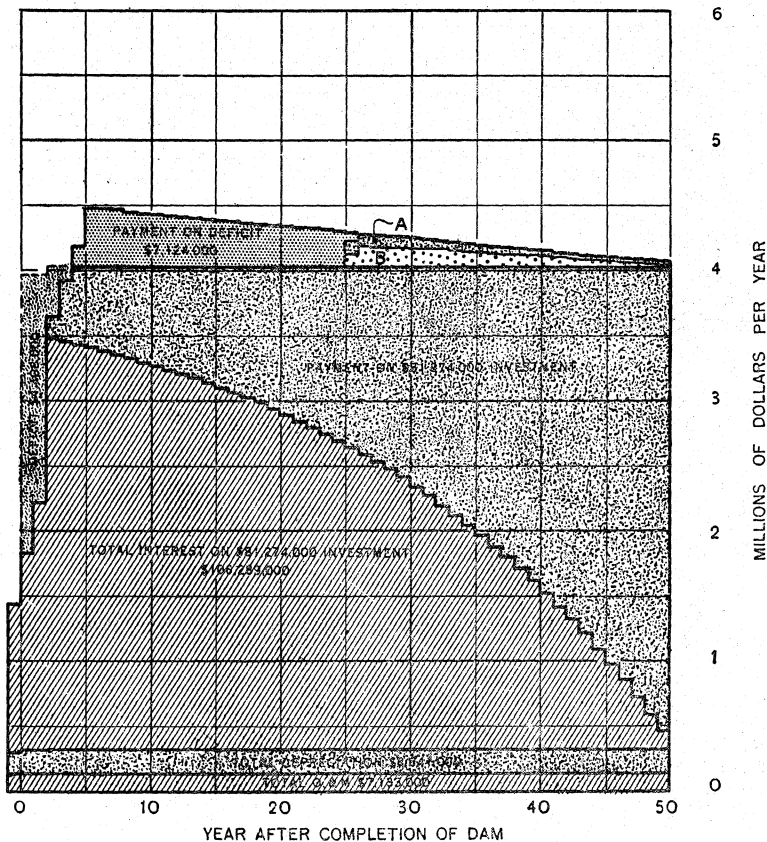
Revenue from sale of firm power at 1.63 mills per kw. hr., sale of secondary power at 0.5 mills per kw. hr., and sale of water at \$0.25 per acre foot. Firm power defined as 4,330,000,000 kw. hr. per year at completion of dam, and decreasing at rate of 8,760,000 kw. hr. per year thereafter. Secondary power average taken as 1,550,000,000 kw. hr. per year at completion of dam and decreasing at rate of 8600,000 kw. hr. per year thereafter. Sale of water taken as 640 sec. ft. of water first year and increasing uniformly over a 16 year period to 1500 sec. ft.

SEE TABLE B-3 FOR DATA

PLATE 12

Revenue from sale of Firm Power at 1.63 mills per kw. hr. based on sale of 64% of Firm Power as absorbed by the City of Los Angeles and the Southern California Edison Co. with no payments on \$25,000,000 Flood Control. Firm Power defined as 4,330,000,000 kw. hr. per year at Completion of Dam, and decreasing at rate of 8,760,000 kw. hr. per year thereafter.

SEE TABLE B-4 FOR DATA



BOULDER CANYON POWER DEVELOPMENT

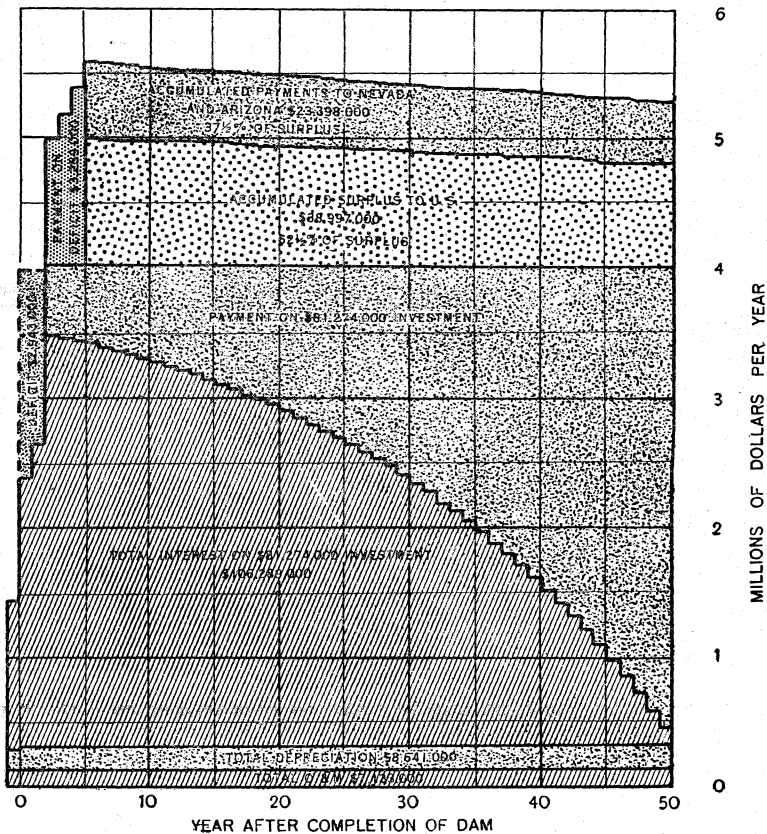
"A"=Accumulated Payments to Nevada and Arizona \$1,258,000
37½% of Surplus.

"B"=Accumulated Surplus U.S. \$2,096,000 62½% of Surplus.

PLATE 13

Firm power defined as 4,330,000 kw.hr. per year at completion of dam, and decreasing at rate of 8,760,000 kw.hr. per year thereafter. Secondary power average taken as 1,550,000,000 kw.hr. per year at completion of dam and decreasing at rate of 8,600,000 kw.hr. per year thereafter.

SEE TABLE B-5 FOR DATA



BOULDER CANYON POWER DEVELOPMENT

Revenue from sale of firm power at 1.63 mills per kw. hr. and sale of secondary power at 0.5 mills per kw. hr., based on sale of 64% of firm power as absorbed by the city of Los Angeles and the Southern California Edison Co., with no payments on \$25,000,000 flood control.