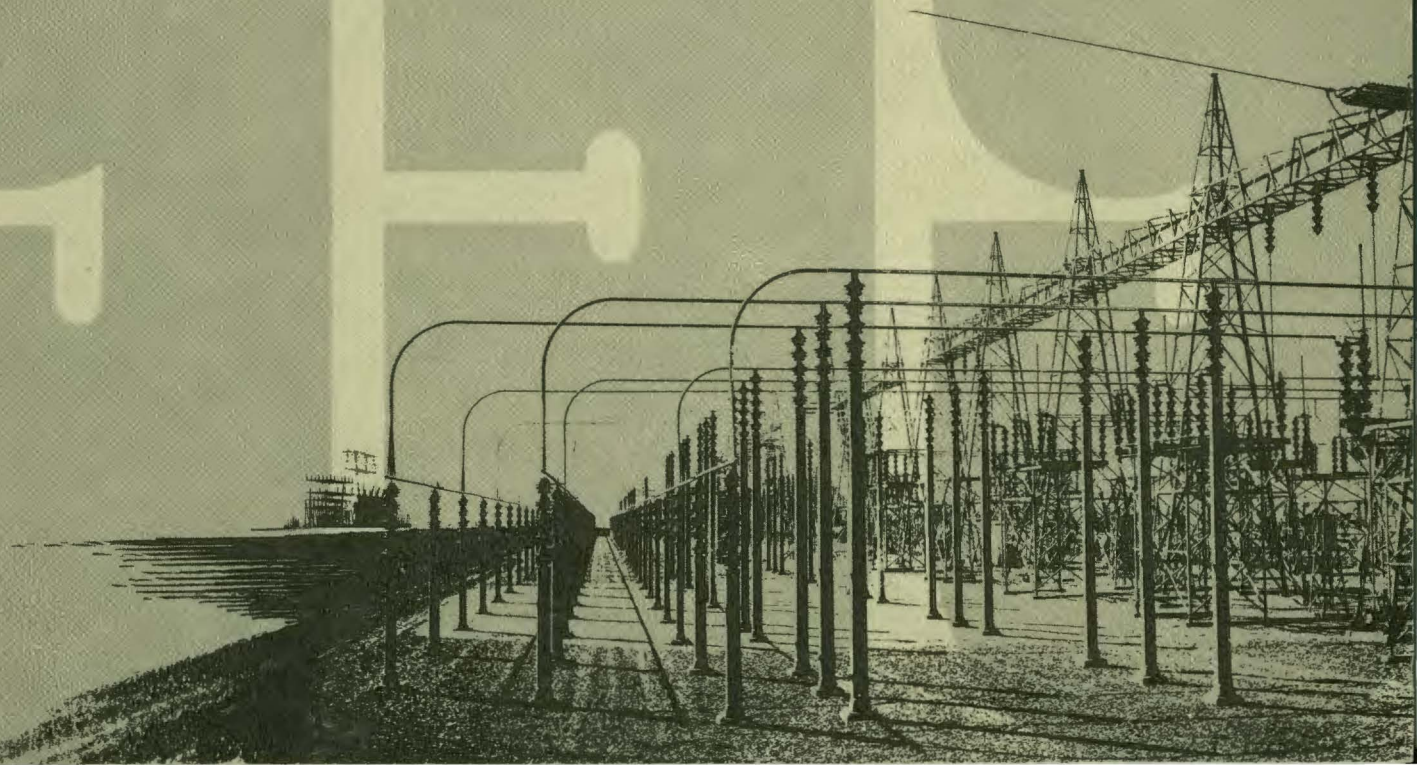
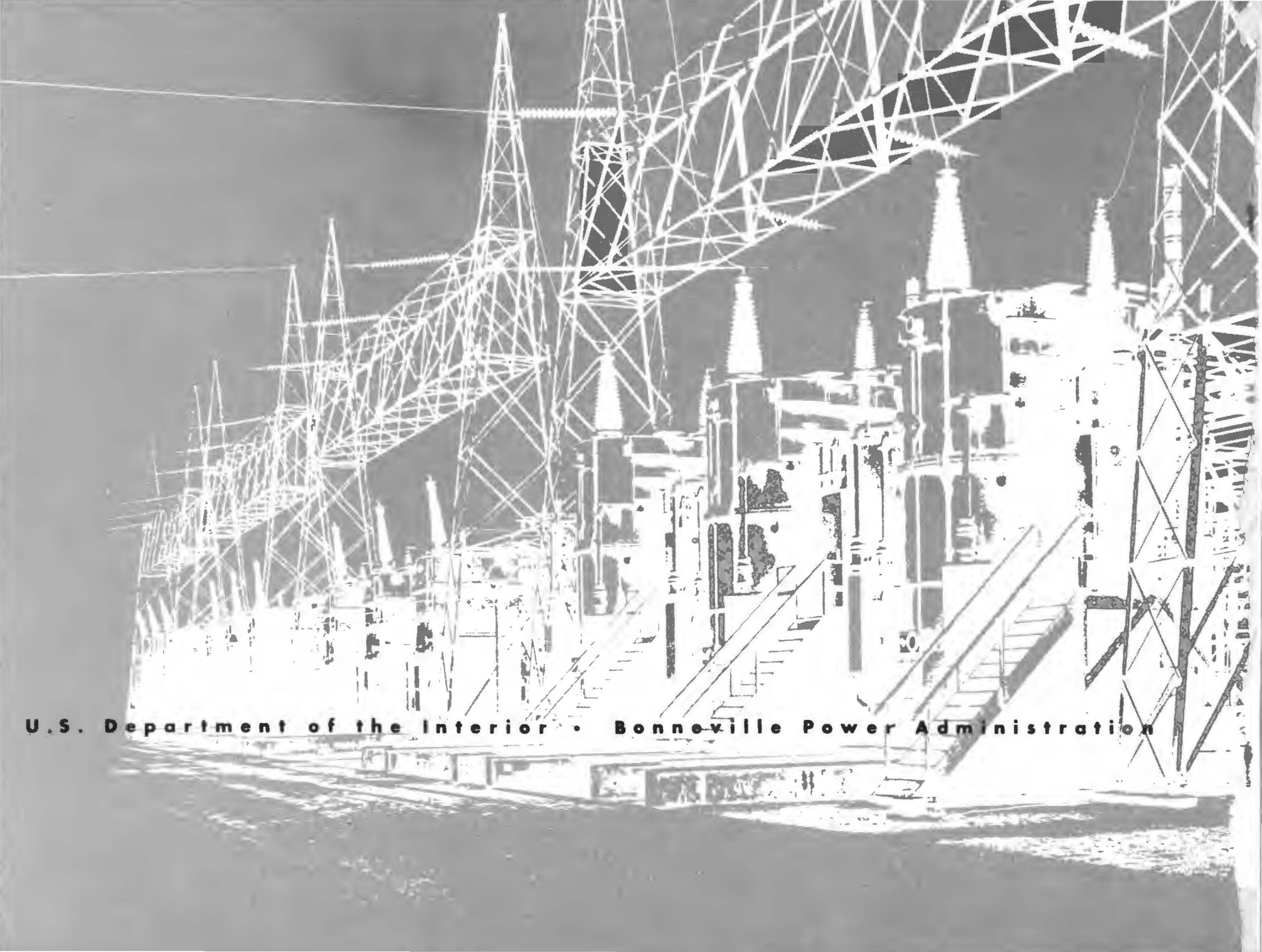
REPORT ON THE U. S. COLUMBIA RIVER POWER SYSTEM



U. S. Department of the Interior
Bonneville Power Administration



U.S. Department of the Interior • Bonneville Power Administration

U. S. COLUMBIA RIVER POWER SYSTEM

1959 REPORT

Consisting of

Bonneville Power Administration,

and the following projects:

Bonneville Dam,

Columbia Basin

(Grand Coulee Dam),

Hungry Horse, Albeni Falls,

Detroit-Big Cliff, McNary,

Lookout Point-Dexter,

Chief Joseph, Yakima

(Roza & Chandler),

The Dalles, Ice Harbor,

Hills Creek, Cougar

& John Day.

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Letter of Transmittal

February 1, 1960

Hon. Fred A. Seaton
Secretary of the Interior
Washington, D.C.

Dear Mr. Secretary:

The Twenty-second Annual Report of Bonneville Power Administration is respectfully submitted as specified in subsection 9 (c) of the Bonneville Project Act. You will find included an accounting of the sale and transmission of electric energy generated by the Bureau of Reclamation and the Corps of Engineers at multipurpose dams for which the Administration has been designated the power marketing agency.

Gross operating revenues of the U.S. Columbia River Power System for fiscal year 1959 were $68,135,885, an increase of $1,406,775, or 2.11 percent over 1958. Nevertheless, revenues fell about 5 percent below the forecast, largely as the result of a second consecutive mild winter in the Pacific Northwest and continued curtailment of the use of nonfirm power by the large industries served directly by the Federal power system.

Energy sales were 28.7 billion kilowatt-hours. Revenues from sales on a firm contractual basis continued to increase for all five principal customer categories; namely, the aluminum industry, other industry, publicly owned utilities, privately owned utilities and Federal agencies. In fact, such sales have increased every year for the past 3 years. During this period, however, a substantial drop in nonfirm energy sales has occurred, particularly to the industrial categories and to the privately owned utilities, representing a drop of more than $5,000,000 since 1956 in nonfirm sales.

The maximum system load for fiscal year 1959 was 4,737,000 kilowatts on October 7, 1958. This is nearly 6 percent below the maximum of 5,024,000 kilowatts for the preceding year established November 21, 1957, representing the system's alltime peak. This occurred during a severe cold snap and at the time the large industries had not curtailed their consumption of interruptible power.

Total power system expenses as reflected in the cost accounts for operation, maintenance, administration, depreciation and interest were $74,745,705 in 1959, an increase of $5,067,094, or 7.27 percent over the preceding year. Inasmuch as the rise in expenses exceeded the rise in gross revenues, the net deficit for the year rose to $6,609,820, compared with $2,949,501 for the preceding year. However, on a cumulative basis as of June 30, 1959, net revenues were $95,152,017 as shown on the cost accounting basis, or consid-

erably more than the payout surplus of nearly $65,000,000 mentioned later in this letter. The cumulative net revenues were thus 14.33 percent of the cumulative gross revenues of $664,070,854 for the entire period of operations through fiscal year 1959.

The total costs of transmission averaged only 0.943 mills per kilowatt-hour delivered. This average compares very favorably with results over the past 7 years during which transmission costs have averaged fairly close to 1 mill per kilowatt-hour. Energy deliveries include sales of Federal power to customers plus non-Federal power wheeled over the Federal system and delivered to purchasers for the account of the non-Federal producers.

The Bonneville Power Administration's investment in transmission plant in service as of June 30, 1959, had fallen to an average of $77 per kilowatt of installed capacity. This figure has declined steadily since June 30, 1953, when it stood at $94. However, the investment in generation facilities as of June 30, 1959, averaged $198 per installed kilowatt, or nearly twice the average of a few years earlier when only Bonneville and Grand Coulee plants were in operation.

Although revised cost allocations are expected to lower the average generation investment somewhat, the principal increase in costs during the past 7 years has been in the generation operations rather than in transmission. For the latter, economies have been achieved through improvements in the art and the use of higher capacity equipment for mass movement of energy. On the other hand, the costs of construction of large hydroelectric plants, dams and reservoirs have increased in common with practically all construction costs and the high percentage of efficiency of hydroelectric generation left little or no room for savings due to changes in the art.

In fiscal year 1959 the cash receipts returned to the Treasury by the power system totaled $66,847,236, bringing the total cash receipts through fiscal year 1959 to $647,328,841. After payment of all expenses allocated to power for operation, maintenance, administration and interest, the remainder of $268,353,287 was applied to the amortization of the capital investment. This repayment exceeded the scheduled amortization requirements by $64,648,446.

The financial results set forth in the Auditors' Report and summarized in the text and tables of this report on the U.S. Columbia River Power System are based upon tentative allocations of costs for most of the multipurpose dam and reservoir projects. Presently available information indicates that final allocations will assign less cost to power at some of the larger projects, notably McNary and The Dalles. Consequently, a final accounting will show net financial results somewhat better than those now reported.

The wholesale power rates charged by the Bonneville Power Administration have not been changed from the basic levels adopted more than 20 years ago despite a marked increase in wages and salaries and in the cost of supplies and services entering into the power system's expenses. Rate levels were thoroughly reviewed during fiscal year 1959.

It was concluded on the basis of the forecast for the 5 fiscal years 1960 to 1964, inclusive, that the available payout surplus of nearly $65,000,000 together with estimated revenues for the 5 years would be adequate to meet system payout requirements. In view of this conclusion and to provide time for the completion of cost allocations and the further consideration of other factors underlying the power rate levels, the present wholesale power rates will be continued in effect for the next 5-year period ending December 20, 1964.

Thirteen Federal plants generated over 30 billion kilowatt-hours of electric energy for the Administration during the fiscal year 1959. During the year, the Bonneville Power Administration transmission network was increased to 7,936 circuit miles of line and 193 substations, with 14,004,955 kilovolt-amperes of transformer capacity. Additions to the U.S. Columbia River Power System had a nameplate rating of 387,250 kilowatts.

The power outlook remains excellent, based on scheduled additions to Federal generating plants as well as the accelerating pace of non-Federal installations. There is sufficient hydroelectric power actually under construction or scheduled in the Pacific Northwest to meet all firm loads through 1968-1969 under median-water conditions. If critical water conditions prevail there are sufficient resources including nonhydro to meet all firm loads through 1964-1965.

I would like to acknowledge in conclusion, the co-operation and support of the Secretary's Office, the Federal Power Commission, the Bureau of Reclamation and the Corps of Engineers in carrying out the power responsibilities of the Administration. I am also appreciative of the teamwork and assistance the Administration has had from the region's utilities as well as State and local agencies dealing with power in meeting our mutual problems.

Sincerely yours,

Wm. A. Pearl

Wm. A. Pearl
Administrator

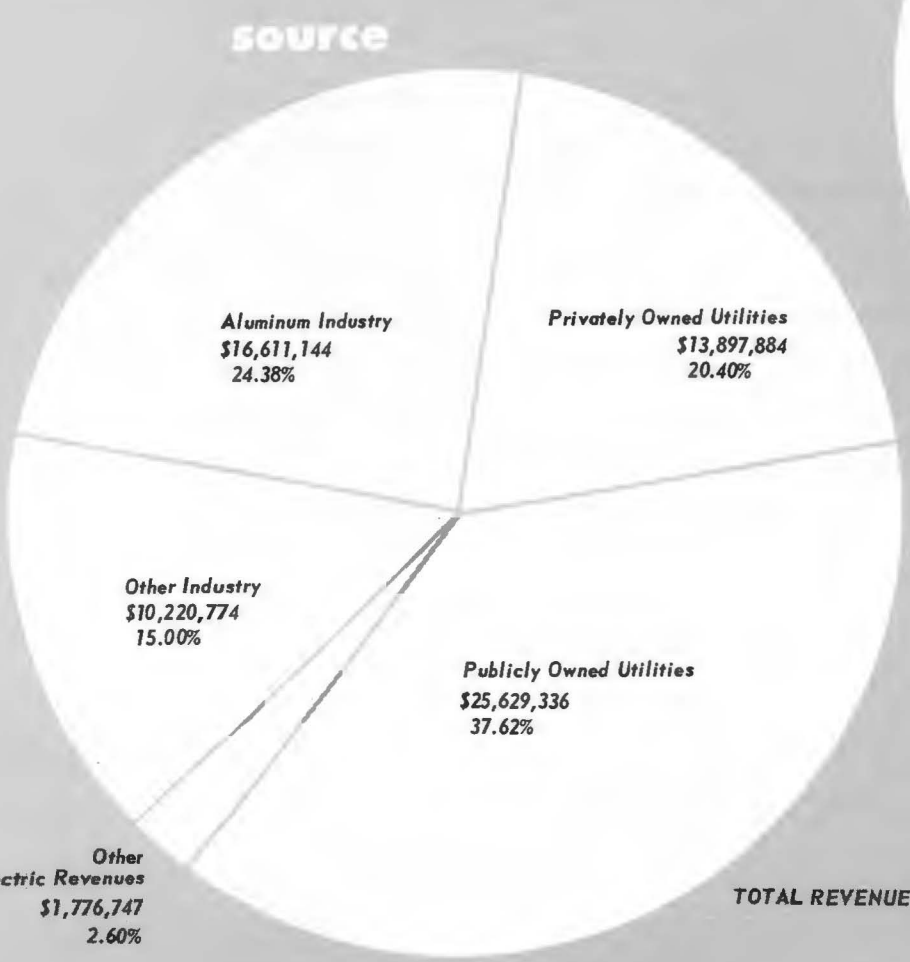
Chart I

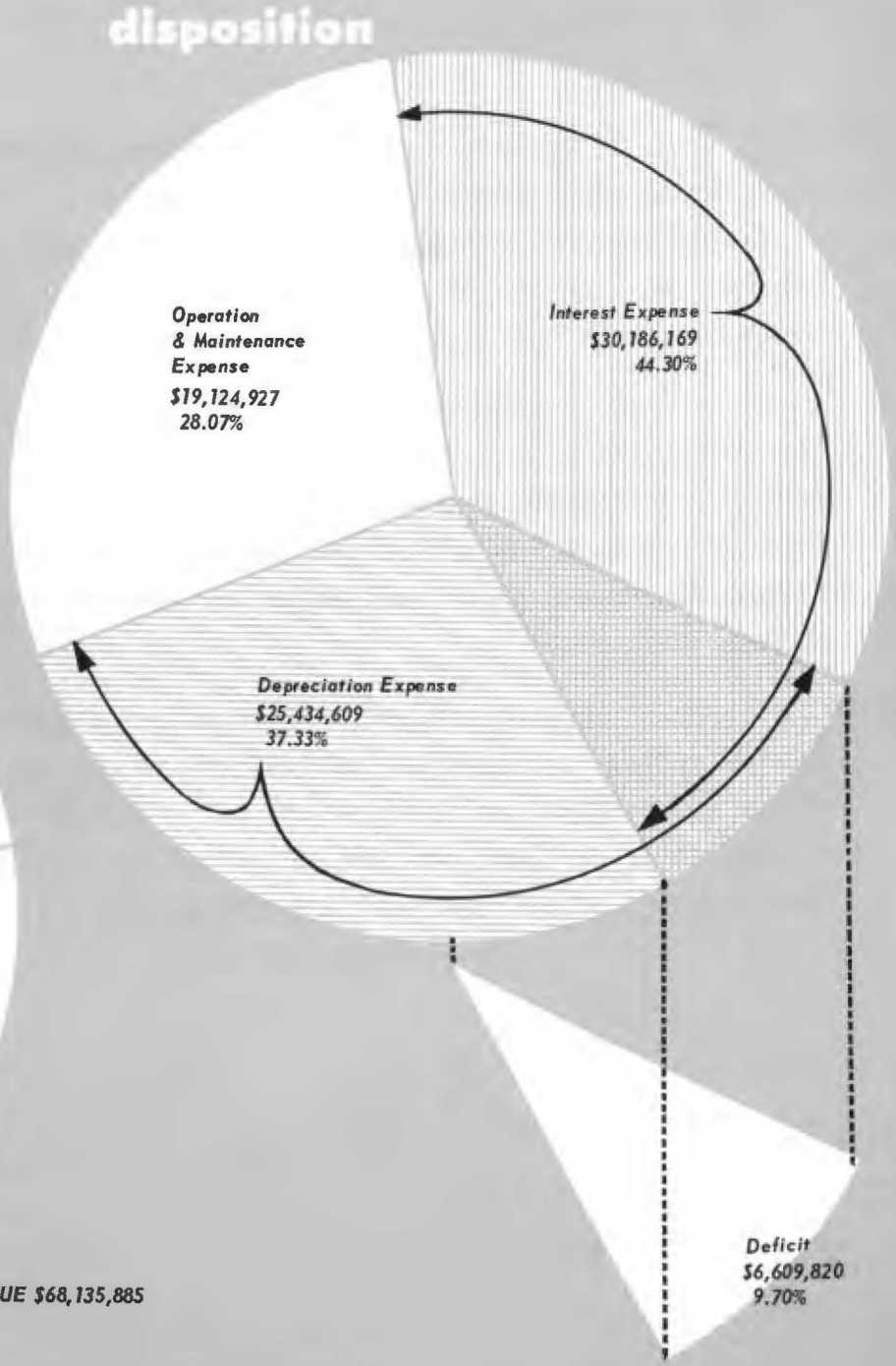
U. S. COLUMBIA RIVER POWER SYSTEM

Source and Disposition of the Revenue Dollar

(Commercial Power Operations Only)

F.Y. 1959





TOTAL REVENUE $68,135,885

Financial Report

Introduction The financial results of operations for the U.S. Columbia River Power System are presented on: (1) an accrued cost accounting basis in accordance with the uniform system of accounts prescribed by the Federal Power Commission for electric utilities, and (2) a payout basis.

The paramount differences between these methods are: (1) payout is based on cash receipts rather than accrued revenues but it does include accrued expenses with the exception of noncash exchange account items; (2) in lieu of depreciation expense payout substitutes amortization of the capital investment over periods of time shorter than the estimated service lives used in cost accounting for determining depreciation expense; and (3) payout provides for use of power revenue receipts to assist in the repayment of irrigation costs, whereas cost accounting does not include such payments as power costs. Because of these differences the payout basis generally results in higher annual financial requirements than the cost accounting basis.

It should be noted that the payout requirements govern the system rate level because cash receipts must be adequate to cover the total payout requirements, which are assigned to be repaid from power operations, for all of the projects in the system.

The U.S. Columbia River Power System's financial operations and records are audited each year by the U.S. General Accounting Office. The Auditors' Report for fiscal year 1959 is included at the end of this report. Although the Auditors' Report deals chiefly with cost accounting results, schedules 3 and 4 show the status of repayment of the Federal investment on a payout basis. The data in these schedules are taken from the payout records.

Cost Accounting Basis

A condensed summary of the results of commercial power operations of the U.S. Columbia River Power System is presented in table I for the fiscal years 1952 through 1959 and the cumulative totals to June 30, 1952, and to June 30, 1959, together with a forecast for fiscal years 1960 and 1961. This information is summarized from cost accounts kept in accordance with the Federal Power Commission System of Accounts for Electric Utilities.

Gross Revenues

Gross revenues for the U.S. Columbia River Power System were $66,700,000 for fiscal year 1958 and $68,100,000 for fiscal year 1959, an increase of $1,400,000 or 2.1 percent. On a cumulative basis to June 30, 1959, operating revenues have totaled $664,000,000. After deducting all expenses of operation, maintenance, interest and depreciation, cumulative net revenues as of June 30, 1959, were $95,100,000. This included net deficits of $3,000,000 and $6,600,000 for fiscal years 1958 and 1959, respectively.

TABLE I

U. S. COLUMBIA RIVER POWER SYSTEM

Summary of results of operations

Fiscal years 1952 to 1959, inclusive

Estimates for fiscal years 1960 and 1961

Line No.	Item 1/	Fiscal year 1952	Cumulative total to June 30, 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957	Fiscal year 1958	Fiscal year 1959	Cumulative total to June 30, 1959	Estimated Fiscal year 1960	Estimated Fiscal year 1961
1.	Sales of electric energy	$39,526,432	$259,203,662	$38,383,475	$44,127,409	$51,258,723	$59,789,690	$64,971,975	$64,704,008	$66,359,138	$648,798,080	$72,300,000	$75,700,000
2.	Other electric revenue	653,714	6,050,223	791,734	1,190,284	807,759	1,202,933	1,427,992	2,025,102	1,776,747	15,272,774	2,200,000	3,200,000
3.	Total operating revenues	40,180,146	265,253,885	39,175,209	45,317,693	52,066,482	60,992,623	66,399,967	66,729,110	68,135,885	664,070,854	74,500,000	78,900,000
4.	Less expenses:												
5.	Operation, maintenance, administration	9,533,475	73,169,407	11,214,460	12,793,651	13,020,810	14,811,937	16,163,379	18,275,384	19,124,927	178,573,955	20,919,000	22,283,000
6.	Depreciation 2/	7,339,764	46,200,299	9,681,179	12,042,321	14,883,907	18,539,972	20,255,154	23,707,658	25,434,609	170,745,100	27,510,000	29,132,000
7.	Interest, net of interest During construction 2/	8,861,394	73,995,868	10,379,981	14,024,452	17,610,739	21,691,302	24,015,702	27,695,569	30,186,169	219,599,782	31,622,000	32,611,000
8.	Total expenses	25,734,633	193,365,574	31,275,620	38,860,424	45,515,456	55,043,211	60,434,235	69,678,611	74,745,705	568,918,837	80,051,000	84,026,000
9.	Net revenues	$14,445,513	$ 71,888,311	$ 7,899,589	$ 6,457,269	$ 6,551,026	$ 5,949,412	$ 5,965,732	$(2,949,501)	$(6,609,820)	$ 95,152,017	$(5,551,000)	$(5,126,000)
10.	Net revenues (line 9) as a percentage of total operating revenues (line 3)	35.95%	27.17%	20.16%	14.25%	12.58%	9.75%	8.98%	(4.42%)	(9.70%)	14.33%	(7.45%)	(6.50%)
11.	Generating costs 3/	9,948,951	87,909,829	12,208,806	17,006,482	22,428,579	29,116,524	32,905,220	40,263,273	44,143,210	285,981,924	47,946,000	50,609,000
12.	BPA "production" costs 3/	655,323	4,632,175	753,815	730,028	483,289	1,061,261	1,083,954	561,950	97,151	9,403,623	100,000	100,000
13.	Total power supply costs	10,604,274	92,542,004	12,962,621	17,736,510	22,911,868	30,177,785	33,989,174	40,825,223	44,240,361	295,385,547	48,046,000	50,709,000
14.	Net transmission costs 4/	15,130,359	100,823,570	18,312,999	21,123,914	22,603,588	24,865,426	26,445,061	28,853,388	30,505,344	273,533,290	32,005,000	33,317,000
15.	Total expenses (line 8 above)	25,734,633	193,365,574	31,275,620	38,860,424	45,515,456	55,043,211	60,434,235	69,678,611	74,745,705	568,918,837	80,051,000	84,026,000
16.	Total kilowatt-hours of sales (thousands)	17,012,300	107,459,800	16,394,737	18,764,600	21,823,000	25,974,000	28,216,200	28,364,600	28,696,500	275,707,490	30,700,000	31,900,000
17.	System maximum generation during the year (kilowatts)	2,784,000	–	2,867,000	3,301,000	3,651,000	4,479,000	4,887,000	5,024,000	4,737,000	–	5,150,000	5,400,000
18.	Installed capacity (nameplate ratings) as of June 30 (kilowatts)	2,462,400	–	2,604,900	3,145,400	3,588,800	4,151,000	4,702,000	5,334,000	5,721,250	–	6,033,250	6,189,250
19.	Power supply costs per kilowatt-hour sold (mills)	0.623	0.860	0.791	0.945	1.050	1.162	1.205	1.439	1.542	1.071	1.565	1.590
20.	Net transmission costs per kilowatt-hour sold (mills)	0.889	0.938	1.117	1.125	1.036	0.957	0.937	1.017	1.063	0.992	1.043	1.044
21.	Total expenses per kilowatt-hour sold (mills)	1.512	1.798	1.908	2.070	2.086	2.119	2.142	2.456	2.605	2.063	2.608	2.634
22.	Net revenue per kilowatt-hour sold (mills)	0.849	0.670	0.482	0.344	0.300	0.229	0.211	(0.104)	(0.231)	0.346	(0.181)	(0.161)
23.	Gross revenue per kilowatt-hour sold (mills)	2.361	2.468	2.390	2.414	2.386	2.348	2.353	2.352	2.374	2.409	2.427	2.473
24.	Annual expenses per kilowatt of system maximum generation (dollars per kilowatt):												
25.	Total power supply costs	$3.81	–	$ 4.52	$ 5.37	$ 6.28	$ 6.74	$ 6.95	$ 8.13	$ 9.32	–	$ 9.33	$ 9.39
26.	Net transmission costs	5.43	–	6.39	6.40	6.19	5.55	5.41	5.74	6.44	–	6.21	6.17
27.	Total expense	$9.24	–	$10.91	$11.77	$12.47	$12.29	$12.36	$13.87	$15.76	–	$15.54	$15.56

( ) Denotes red figures.

1/ The revenue and expense data, lines 1 to 9, inclusive, are taken from the certified cost accounting financial statements in the annual auditors' reports, but as explained in footnote 2 the surplus adjustments have been spread back to the years concerned.

2/ The depreciation and interest expense data for fiscal years 1952 to 1955, inclusive, and cumulative to June 30, 1952 have been restated to make the data for these earlier periods comparable with those for 1956 and later periods. In 1956 the former policy of deferring the depreciation and interest expenses on the investment allocated to future downstream river regulation benefits was discontinued and the previously accumulated amounts of such deferred charges were written off against surplus.

3/ Generating costs consist of the total expenses at the dams for operation, maintenance, administration, depreciation, interest, etc., allocated to power. BPA production costs consist of exchange account power purchases, power interchange account transactions, payments for water storage cash power purchases, etc.

Comment: Except for Bonneville Dam and Columbia Basin Project, financial results are based upon tentative allocations of cost. Although not applied in the data shown in this schedule, revised tentative allocations have been prepared for McNary and The Dalles Projects which would substantially improve the net results of operation shown above. Specifically, for fiscal year 1959 the deficit would have been reduced by $1,324,000 and for the cumulative period ending June 30, 1959 the surplus would be increased by $4,500,000 by these revised tentative allocations if they become the definitive official figures.

4/ Total BPA expenses (operation, maintenance, depreciation, interest, etc.) minus the "production" costs shown on Line 12.

Notes re Lines 20 and 26, Average Transmission Costs: For 1959 the table indicates average transmission costs of 1.063 mills per kilowatt-hour sold and $6.44 per kilowatt of system maximum generation. These average costs are overstated because they are based upon total transmission costs relative to just the sales and generation of Federal power with no allowance being made for non-Federal power wheeled over the Federal transmission system. In addition to the Federal energy sales in 1959 (Line 16), BPA wheeled in that year 3,650,000,000 kilowatt-hours of non-Federal power and 11,000,000 kilowatt hours of irrigation power from the Roza plant and thus delivered a grand total of 32,357,500,000 kilowatt hours. Based on this latter total, transmission costs averaged 0.943 mills per kilowatt-hour in fiscal year 1959.

At the time of the maximum generation of 4,737,000 kilowatts (Line 17) at the Federal plants the system was wheeling 372,000 kilowatts of non-Federal power. The total maximum of wheeled and generated power was thus 5,109,000 kilowatts. On this basis the average transmission costs per kilowatt would be $5.97 instead of $6.44 shown at Line 26. (The maximum wheeled load in 1959 was 418,000 kilowatts, but this came at a different hour from the maximum generation on Federal plants.)

Gross revenues for 1959 were less than had been anticipated because of an unusually mild winter and the continuation of some curtailment of energy consumption, particularly in the interruptible service category, by the large industrial companies served directly by the power system. In each of the past 4 years firm power sales to each major class of customer (aluminum industry, other industry, publicly owned utilities, privately owned utilities, and Federal agencies) continued to increase, but nonfirm sales in 1959 were about 47 percent less than the peak level reached in fiscal year 1957.

Six additional generating units were added during fiscal year 1959 totaling 387,250 kilowatts. This amounted to an increase of 7.26 percent over the installed generation at the end of fiscal year 1958. The units added were as follows: Chief Joseph - one generating unit of 64,000 kilowatts; The Dalles - four generating units each with a nameplate rating of 78,000 kilowatts for a total of 312,000 kilowatts; the Roza project - one generating unit totaling 11,250 kilowatts.

Expenses The fiscal year 1959 total expenses were approximately $5,000,000 more than the expenses in 1958. Interest expense accounted for approximately $2,500,000 or 50 percent of the increase; depreciation, $1,700,000 or 34 percent; and operation, maintenance and administration expenses approximately $800,000 or 16 percent.

In fiscal year 1959 operation, maintenance and administration expenses amounted to 26 percent of the total expenses while depreciation and interest expenses were 34 percent and 40 percent, respectively.

On a comparative basis during fiscal year 1952 operation, maintenance and ad-

ministration expenses were 37 percent of the total expenses while depreciation and interest expenses amounted to 29 percent and 34 percent, respectively. These percentages reflect the increased costs of depreciation and interest expenses resulting from higher cost investment in plant facilities. Lines 25 and 26 on table I show the increases in the annual costs for generating and transmission costs per kilowatt of system maximum generation for the years 1952 to 1959, inclusive. Total costs per kilowatt have increased from $9.24 in 1952 to $15.76 in 1959 or 71 percent. Power supply costs have increased from $3.81 per kilowatt in 1952 to $9.32 in 1959 or 145 percent. Transmission costs per kilowatt have fluctuated from a low of $5.41 in 1957 to a high of $6.44 in 1959 or a difference of 19 percent.

Net Revenues Although gross revenues in fiscal year 1959 increased over 1958 by $1,400,000, operating expenses during the same period increased by $5,000,000. As a result the net deficit increased during fiscal year 1959 by the amount of $3,600,000 making a total deficit for the year of approximately $6,600,000 as compared to $3,000,000 for 1958. On the basis of the forecasts for fiscal years 1960 and 1961 the deficits for each year are estimated to decrease. In fiscal year 1960 the estimated deficit is $5,500,000 and in fiscal year 1961, $5,100,000.

1959 Revenue Dollar The chart on page 1 shows the source and disposition of the revenue dollar in fiscal year 1959. Operation, maintenance and administration expenses required 28 percent of gross revenues; whereas, depreciation expense and interest expense required 37 percent and 44 percent, respectively. After applying gross revenues to these expenses, there resulted a net deficit of approximately 10 percent of gross revenues. Due to the increasing requirements for depreciation and interest expenses, the ratio of net revenue to gross revenue has continued

to decline. The net deficit has increased from 4.4 percent in 1958 to approximately 10 percent in 1959.

Sales by Groups

Table II shows the sources of revenues by customer categories for fiscal years 1958 and 1959 together with total cumulative revenues by the same groups to June 30, 1957, and also to June 30, 1959.

In fiscal year 1959 the sales to the aluminum industry decreased by $900,000. This amount added to the decrease for this industry for fiscal year 1958 of $2,500,000 amounts to a decrease of $3,400,000 during the last 2 fiscal years.

During the same period sales to other industries and publicly owned utilities increased by approximately $700,000 and $2,000,000, respectively. Sales to privately owned utilities decreased approximately $300,000. The reduction in the sales to these utilities was caused by placing additional generation of their own in service and some increase in the purchase of their power from other sources.

Plant Investment

The figures on table III show that for the operating projects as of June 30, 1959, the total investment in fixed plant is $2,134,300,000 for all purposes. Of this amount $537,400,000 or 25 percent is allocated to nonpower purposes leaving an investment of $1,596,800,000 or 75 percent of the total fixed plant investment allocated to commercial power.

Of the $537,400,000 allocated to nonpower purposes $372,900,000 or 69 percent is allocated to irrigation, $85,800,000 or 16 percent to flood control, and $78,700,000 or 15 percent to navigation and other purposes.

TABLE II

U. S. COLUMBIA RIVER POWER SYSTEM

Revenue by class of customer

Fiscal years ended June 30, 1959

Class of customer	1957 and prior	1958	1959	Total to June 30, 1959	1959 percentage dollar revenue
Industry:					
Aluminum	$200,972,363	$17,491,535	$16,611,144	$235,075,042	24.38
Other 1/	63,133,552	9,466,846	10,220,773	82,821,171	15.00
Publicly owned utilities	139,859,866	23,574,281	25,629,337	189,063,484	37.62
Privately owned utilities	113,769,153	14,171,346	13,897,884	141,838,383	20.40
Other operating revenue	11,470,925	2,025,102	1,776,747	15,272,774	2.60
Total operating revenue	$529,205,859	$66,729,110	$68,135,885	$664,070,854	100.00

1/ Includes sales to Federal agencies.

Payout Basis The Administration has the responsibility of fixing commercial power rates at a level which will, over a number of years consistent with the requirements of law and administrative determination, insure repayment of the investment in commercial power and the investment in irrigation activities assigned for repayment from commercial power revenues. Repayment requirements for the U.S. Columbia River Power System are included in the varying

TABLE III

U. S. COLUMBIA RIVER POWER SYSTEM

Summary of amount and allocation of investment in fixed assets
(Plant accounts)
as of June 30, 1959

Operating projects only

Project	Total	Allocation 2/ Nonpower 1/ Amount	Nonpower 1/ Percent	Power 3/ Amount	Power 3/ Percent
Bonneville Power Administration	$ 461,793,811	$		$ 461,793,811	100.0
Bonneville Dam	87,552,676	27,476,367	31.4	60,076,309	68.6
Columbia Basin (Grand Coulee)	534,903,127	332,521,637	62.2	202,381,490	37.8
Hungry Horse	106,325,744	19,455,274	18.3	86,870,470	81.7
Albeni Falls	31,525,659	291,948	0.9	31,233,711	99.1
McNary	304,857,374	26,312,080	8.6	278,545,294	91.4
Detroit-Big Cliff	65,926,376	24,210,146	36.7	41,716,230	63.3
Lookout Point-Dexter	93,408,392	51,712,925	55.4	41,695,467	44.6
Chief Joseph	156,849,777	2,482,738	1.6	154,367,039	98.4
Yakima (Roza Chandler)	35,737,839	31,293,241	87.6	4,444,598	12.4
The Dalles	255,371,764	21,660,399	8.5	233,711,365	91.5
Total plant	$2,134,252,539	$537,416,755	25.2	$1,596,835,784	74.8
Less combined reserve for depreciation				155,579,919	
Total less reserve				$1,441,255,865	

1/ Segregation of nonpower by purpose:

	Specific facilities	*Allocation of joint facilities*	*Total*	*Percent*
Irrigation	*$287,407,946*	*$ 85,528,042*	*$372,935,988*	*69.39*
Flood control	*–*	*85,763,163*	*85,763,163*	*15.96*
Navigation	*43,152,919*	*34,398,797*	*77,551,716*	*14.43*
Other	*1,165,888*	*–*	*1,165,888*	*.22*
Total	*$331,726,753*	*$205,690,002*	*$537,416,755*	*100.00*

2/ Allocations are tentative or interim except for Bonneville Dam and Columbia Basin project.

3/ These are the percentages of total project costs, not just the joint costs.

provisions of the several acts authorizing construction and in the administrative interpretations thereof. As a result the system power rates reflect a composite rate to meet these aggregate repayment requirements.

The allocation of the power receipts among the generating projects and the Administration is made annually in accordance with agreements made by the Administration with the Corps of Engineers and the Bureau of Reclamation. The figures used in the payout requirements as listed on tables IV and V differ in some respects from the figures used in the cost accounts. Footnotes have been made on these tables to indicate, where possible, such differences.

Repayment of Federal Investment

As of June 30, 1959, the gross Federal investment in the operating projects of the U.S. Columbia River Power System allocated to commercial power activity on a payout basis for both generation and transmission was approximately $2,025,000,000. This amount is exclusive of the investment made to June 30, 1959, in multipurpose projects under construction but not in operation which may at some future date be allocated to commercial power and which will be repaid from commercial power operations.

This gross investment includes all funds appropriated less the funds returned to the U.S. Treasury due to the expiration of appropriations for construction, operation, maintenance and administration. Also included in the gross investment are the expenditures made by the Works Progress Administration and other Federal agencies for the account of the projects of the U.S. Columbia River Power System plus the value of properties and services received from other Federal agencies which were determined should be included on an imputed

TABLE IV

U. S. COLUMBIA RIVER POWER SYSTEM

Summary of Federal investment in operating projects allocated to commercial power and status of repayment as of June 30, 1959

Operating projects only 1/

Payout data	Gross investment	Repayments	Net investment
Investment in current expenses:			
Operation, maintenance, etc. 2/	$ 159,375,772	$159,375,772	–
Interest 3/	219,599,782	219,599,782	–
Total current expenses	378,975,554	378,975,554	–
Capital investment:			
Invested capital	1,626,069,849	268,353,287	$1,357,716,562
Unexpended (uninvested) appropriations	19,917,678	–	19,917,678
Gross capital investment	1,645,987,527	268,353,287	1,377,634,240
Total Federal investment	$2,024,963,081	$647,328,841	$1,377,634,240

1/ Consists of Bonneville Dam, Columbia Basin Project, Hungry Horse, Albeni Falls, Detroit-Big Cliff, Lookout Point-Dexter, McNary, Chief Joseph, Yakima (Kennewick & Roza), The Dalles projects and Bonneville Power Administration. Excluded are Ice Harbor, Cougar, Hills Creek and John Day, which were under construction but with no generator units in service as of June 30, 1959.

2/ Table I on an accumulative basis to June 30, 1959 shows expenses of operation, maintenance, etc., in the amount of $178,573,955 as against the total of $159,375,772 shown above. The data on Table I are accrued cost accounts including non-cash exchange account transactions and the capital costs of abandoned projects written off to expense. These items account for the difference in the total expense shown on Table I from the total shown in this table which is prepared on a cash payout basis. For the same reason this table uses as gross repayments only the actual cash receipts of $647,328,841 as against total accrued operating revenues of $664,070,854 shown on Table I. The difference between the accrued revenues and the cash receipts consists of non-cash exchange account transactions included in accrued revenues and uncollected accounts receivable on hand as of June 30, 1959.

3/ The Columbia River Power System does not make actual payments for interest either from appropriations or revenues, but imputes and includes in its accounts provisions for interest expense and applies receipts returned to the Treasury in repayment of such expenses.

4/ The invested capital consists primarily of the fixed plant account allocated to power in the amount of $1,596,835,784 including interest during construction, together with inventories and other miscellaneous assets, less funds received from non-Federal sources such as trade creditors represented by accounts payable and other accrued liabilities such as the employees' accrued leave.

basis. Interest has been imputed at the rate of 2 1/2 percent per annum on the unamortized balance of the investment.

Investment Summarized The repayment status of the gross Federal power investment as of June 30, 1959, is summarized in table IV. The total investment of $2,025,000,000 consists of $159,400,000 for operation, maintenance and administration, $219,600,000 for interest expense, $1,626,100,000 of invested capital, and $19,900,000 of available but unexpended funds (i.e., uninvested funds).

Unpaid Balance The gross cash receipts of the operating projects in the amount of $647,300,000 were returned to the U.S. Treasury in repayment of the Federal Government investment in the power operations. The application of this deposit of $647,300,000 to the gross Federal investment in the operating projects of $2,025,000,000 left a net investment as of June 30, 1959, of $1,377,600,000 which includes the amount of $19,900,000 of available but unexpended funds as of that date. Of the amount deposited $159,400,000 was applied to the repayment of the investment which was advanced to cover the expenses of operation, maintenance and administration and $219,600,000 was applied to the payment of interest expenses. The balance of $268,300,000 was applied to the repayment of the capital investment. This represents a repayment of 16.5 percent of the invested capital in the operating projects.

Repayment Status by Operating Projects Table V shows the repayment status of the capital investment in the commercial power portion of each operating project to June 30, 1959, together with the amount repaid and

TABLE V

U. S. COLUMBIA RIVER POWER SYSTEM

Summary of status of repayment of Federal power investment

Cumulative total to June 30, 1959

(Payout data)

Operating projects only

Line No.	Item	Bonneville Dam	Columbia Basin Project	Hungry Horse	Albeni Falls	McNary	Detroit-Big Cliff	Lookout Point-Dexter	Chief Joseph	Yakima Kennewick & Roza	The Dalles	Total generating projects	Bonneville Power Administration	Columbia River Power System total
1.	Project cash receipts	$ 32,049	$ 62,505	$ 9,009	$ 280	$ 125,207	$ 66	$ 4	$ 2	$ 3,745	$ 1,345	$ 234,212	$ 66,613,024	$ 66,847,236
2.	Revenues allocated to projects from BPA sales	2,300,000	12,800,000	3,816,000	1,400,000	9,000,000	1,900,000	1,800,000	6,700,000	326,000	4,700,000	44,742,000	(44,742,000)	
3.	Total project cash receipts	2,332,049	12,862,505	3,825,009	1,400,280	9,125,207	1,900,066	1,800,004	6,700,002	329,745	4,701,345	44,976,212	21,871,024	66,847,236 4/
4.	Less:													
5.	Expenses of operation, maintenance, etc.	1,120,946	2,422,929	435,233	282,673	1,574,177	337,416	289,743	908,260	69,005	989,046	8,429,428	9,846,351	18,275,779
6.	Interest expense	836,321	3,515,702	2,010,081	730,791	6,467,407	965,326	983,061	3,735,805	100,055	2,766,911	22,111,460	8,074,709	30,186,169
7.	Total deductions	1,957,267	5,938,631	2,445,314	1,013,464	8,041,584	1,302,742	1,272,804	4,644,065	169,060	3,755,957	30,540,888	17,921,060	48,461,948
8.	Net cash receipts available for amortization	374,782	6,923,874	1,379,695	386,816	1,083,623	597,324	527,200	2,055,937	160,685	945,388	14,435,324	3,949,964	18,385,288
9.	Less: Scheduled amortization	1,093,000	6,923,874	1,379,695	423,000	3,624,000	560,000	541,000	1,922,000	160,685	1,382,000	18,009,254	10,116,000	28,125,254
10.	Amortization in excess of schedule for fiscal year 1959	(718,218)	–	–	(36,184)	(2,540,377) 2/	37,324	(13,800)	133,937	–	(436,612) 3/	(3,573,930)	(6,166,036)	(9,739,966) 4/
11.	Amortization in excess of schedule as of 6-30-58	12,000,506	–	1,956,801	618,372	9,612,571	902,089	725,139	914,987	–	196,985	26,927,450	49,417,763	76,345,213
12.	Adjustment 1/			(1,956,801)								(1,956,801)		(1,956,801)
13.	Amortization in excess of schedule as of 6-30-59	$11,282,288	$ –	$ –	$ 582,188	$ 7,072,194 2/	$ 939,413	$ 711,339	$ 1,048,924	$ –	$ (239,627) 3/	$ 21,396,719	$ 43,251,727	$ 64,648,446 4/
14.	Total power capital investment	$60,631,442	$207,773,009	$87,925,122	$31,322,909	$279,113,315	$41,963,706	$41,781,157	$155,581,658	$4,448,516	$234,255,466	$1,144,796,300	$501,191,227	$1,645,987,527
15.	Less unexpended appropriations	176,108	182,696	42,556	102,956	514,843	44,092	74,713	1,273,805	7,963	1,351,188	3,770,920	16,146,758	19,917,678
16.	Invested capital	60,455,334	207,590,313	87,882,566	31,219,953	278,598,472	41,919,614	41,706,444	154,307.853	4,440,553	232,904,278	1,141,025,380	485,044,469	1,626,069,849
17.	Less amortization to June 30, 1959	27,189,288	72,307,664	8,896,496	2,448,188	21,454,194	3,940,413	2,946,339	5,638,924	430,681	1,637,373	146,889,560	121,463,727	268,353,287 4/
18.	Remainder to be amortized	$33,266,046	$135,282,649	$78,986,070	$28,771,765	$257,144,278	$37,979,201	$38,760,105	$148,668,929	$4,009,872	$231,266,905	$ 994,135,820	$363,580,742	$1,357,716,562
19.	Percentage repaid (Line 17 ÷ line 16)	44.97%	34.83%	10.12%	7.84%	7.70%	9.40%	7.06%	3.65%	9.70%	0.70%	12.87%	25.04%	16.50%

( ) Denotes red figures.

Note: Data on this schedule are from payout accounts. See schedules 3 and 4 of Auditors' Report for fiscal year 1959.

1/ During 1959 agreement was reached on a revised payout schedule for Hungry Horse project taking into account the Act of May 29, 1958, 72 Stat. 147, which made the Reclamation laws applicable to the project. Under the revised agreement revenue allocations for each of the 6 years, 1959 to 1964, inclusive, were agreed upon in amounts such that the project is just on schedule and hence the adjustment to eliminate the amount formerly shown as surplus.

2/ Although not yet applied in the accounts of the project, a revised tentative cost allocation has been made available for McNary project which would reduce the 1959 payout deficit by $723,358 and would increase the cumulative payout surplus as of June 30, 1959 to $10,533,415.

3/ A revised tentative allocation for The Dalles project became available in 1959 but has not yet been applied in the accounts of the project. The revised allocation would have reduced the 1959 deficit by $375,806 and would have changed the cumulative net result as of June 30, 1959, from the deficit indicated to a surplus of $282,780.

4/ These figures differ from corresponding data on schedules 3 & 4 of the Auditors' Report by $346, the amount of cash receipts at Ice Harbor project which is not yet in operation and is therefore excluded from this schedule.

the excess payments as of that date. The repayment of $268,300,000 applied to the total invested capital of the operating projects to June 30, 1959, exceeded the scheduled capital re-

payment requirements on a payout basis by $64,600,000. The amount of repayment in excess of scheduled amounts for each operating project as of June 30, 1959, is shown on line 13 of table V. The Columbia Basin, Hungry Horse and Yakima-Kennewick and Roza projects were considered on schedule as of June 30, 1959. The amounts of repayments as shown in excess of schedule for each project are tentative and may require adjustment when cost allocations and repayment schedules are officially formalized.

The scheduled repayments of the capital investment in the McNary and The Dalles projects were based on the tentative cost allocations included in the projects' records. The funds returned to the U.S. Treasury for the account of these projects for fiscal year 1959 and prior years were based on new cost allocation studies made by the Corps of Engineers and used by the Administration for rate study purposes and the consideration of existing excess of funds returned over repayment requirements. The new cost allocation studies assigned less costs to power purposes than the previous cost allocations included in the projects' records. As a result the scheduled repayment of capital investment for fiscal year 1959 for the McNary and The Dalles projects shows payout deficits of $2,500,000 and $400,000, respectively.

If the new tentative cost allocation had been used for the McNary project the payout deficit for fiscal year 1959 would have been reduced by $700,000 and the cumulative payout surplus as of June 30, 1959, would have been increased from $7,000,000 to $10,500,000.

For The Dalles project the use of the new tentative cost allocation would have reduced the fiscal year 1959 payout deficit by $400,000 and would have increased the payout surplus as of June 30, 1959, from a deficit of $200,000 to a surplus of $300,000.

Summary of Operations

Energy Production

Over 30 billion kilowatt-hours of electric energy was generated at the 13 Federal plants for the Administration during the fiscal year 1959. This was an increase of 0.2 percent over the 1958 fiscal year. The addition of one generating unit at Chief Joseph and four units at The Dalles and the Roza unit added 387,250 kilowatts to the system giving a total of 5,721,250 kilowatts nameplate rating as of June 30, 1959.

The maximum coincidental demand on the 13 Federal plants was 4,737,000 kilowatts, occurring October 7, 1958, 5-6 p.m., a 5.7 percent decrease from the all-time maximum demand of 5,024,000 kilowatts occurring during the 1958 fiscal year. Energy produced at Federal plants for the Administration is shown by years in table VI and illustrated in the accompanying chart. Prepared on a quarterly basis, the chart shows the general trends of the Bonneville Power Administration's system-load growth.

Receipts and Deliveries

Bonneville Power Administration's transmission grid forms the backbone of the interconnected transmission system of public and private utilities in the Pacific Northwest. As

a result, electric energy receipts and deliveries on Bonneville's transmission system cover many complex transactions in addition to receipts from Federal powerplants and deliveries by sales.

The integrated transmission grid assists in making possible the fullest utilization of power facilities in the area through use of diversities in peaking and water capabilities and diversity of system-load conditions. Substantial quantities of energy are received and delivered as transfers from other utilities.

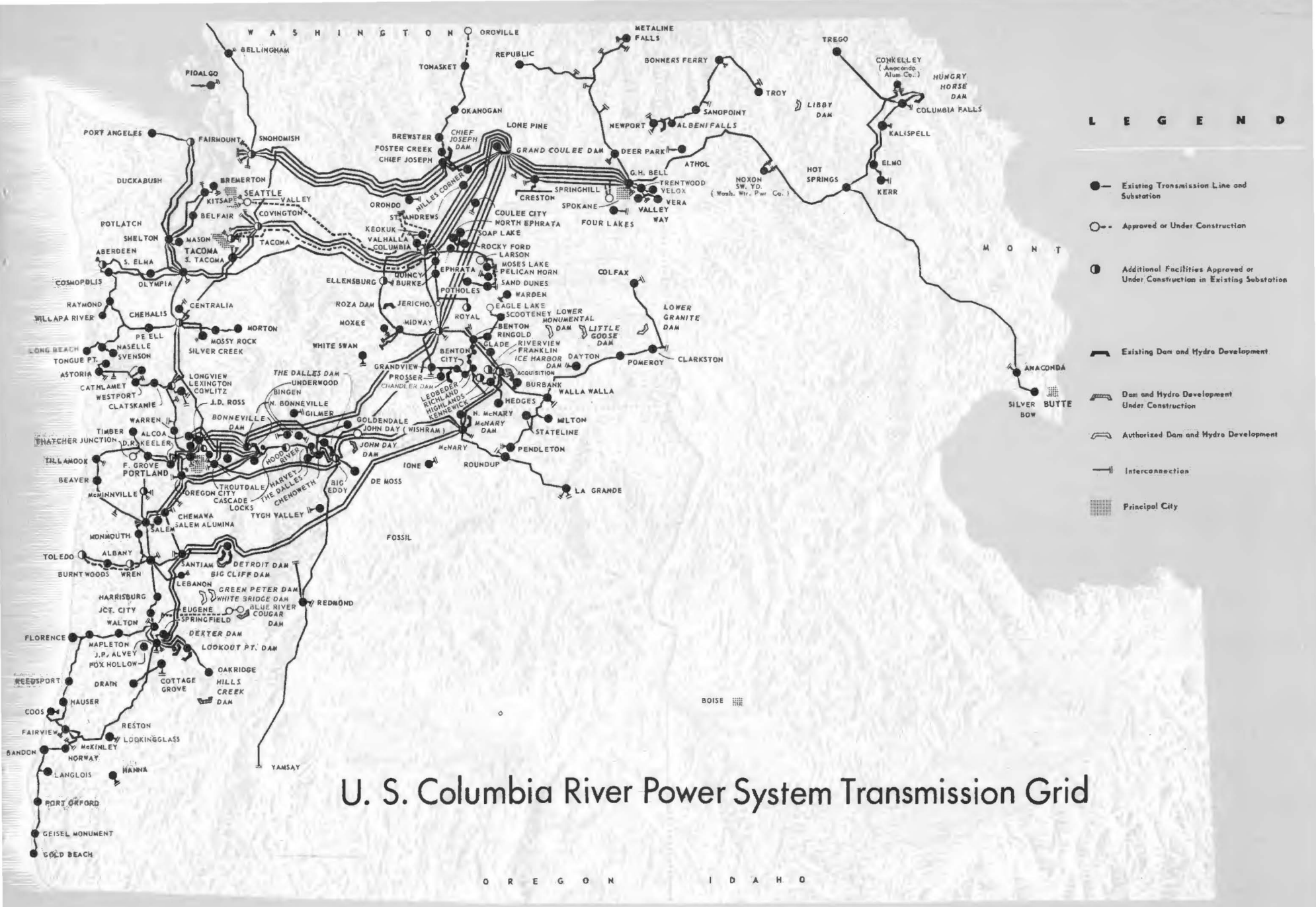
During fiscal year 1959, nine percent of the energy flowing over Bonneville Power Administration's lines was received from other utilities to be delivered either to other systems of the utilities furnishing the energy or to customers of the supplying utility. This percentage has increased rapidly in the last 4 years both in amount of energy and in percentage of total energy on the system.

Fiscal years	Total receipts 1/ Billions KWH	Transfer in 2/ Billions KWH	% of total
1955	25.7	0.5	2.0
1956	31.1	0.8	2.7
1957	34.3	1.4	4.2
1958	34.0	2.5	7.4
1959	34.3	3.1	9.0

In addition to wheeling power from existing non-Federal plants such as Box Canyon, Rock Island, Pelton and Swift, the Administration has entered into firm contracts for the wheeling of power from Priest Rapids, Rocky Reach, and Wanapum plants now under construction.

1/ From Federal generation, other utilities for transfer and uncontrolled.

2/ From other utilities for transfer.



U. S. Columbia River Power System Transmission Grid

U. S. DEPARTMENT OF THE INTERIOR - BONNEVILLE POWER ADMINISTRATION

As of June 30, 1959

CHART 2

Peak Demand and Energy

GENERATION AT FEDERAL PLANTS FOR BONNEVILLE POWER ADMINISTRATION

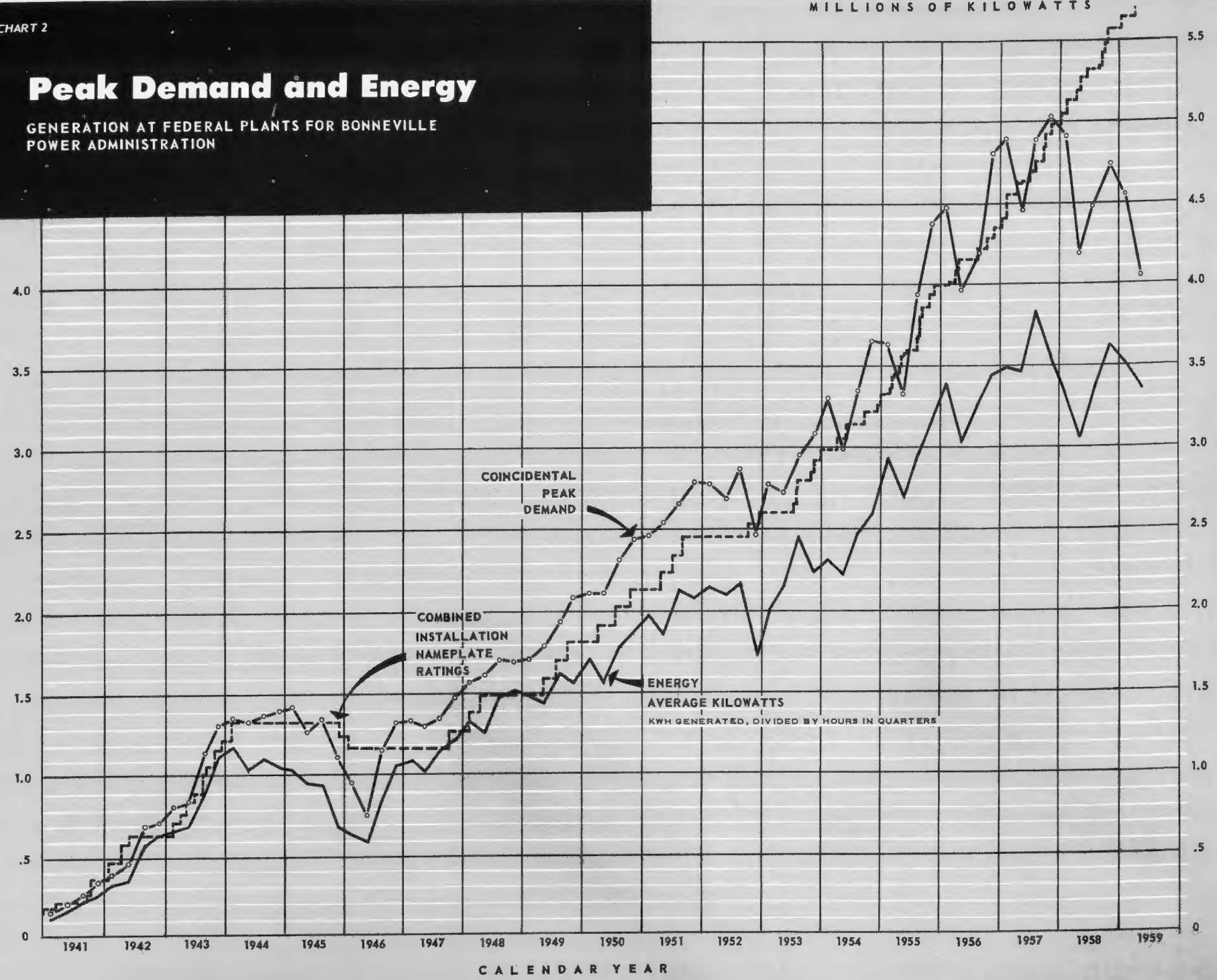


TABLE VI

Generation at Federal plants for the Bonneville Power Administration
Fiscal years 1939-59

Fiscal years ending June 30	Generation thousands of kwh	Maximum demand kw	Load factor %
1939-41	1,144,932	210,000	
1942	2,549,153	468,000	62.2
1943	5,618,436	841,000	76.3
1944	9,239,823	1,355,000	77.6
1945	9,051,573	1,427,000	72.4
1946	6,236,163	1,346,000	52.9
1947	8,753,737	1,335,000	74.9
1948	10,885,907	1,610,000	77.0
1949	12,925,788	1,797,000	82.1
1950	14,140,834	2,106,000	76.7
1951	16,472,384	2,535,000	74.2
1952	18,555,401	2,784,000	75.9
1953	17,633,232	2,867,000	70.2
1954	20,195,833	3,301,000	69.8
1955	23,253,186	3,651,000	72.7
1956	27,599,380	4,479,000	70.1
1957	29,984,219	4,887,000	70.0
1958	30,201,078	5,024,000	68.6
1959	30,263,824	4,737,000	72.9
Total	294,704,883	5,024,000	

Plants	Generation 1/ millions of kwh: F. Y. 1959	Generation 1/ millions of kwh: Total to July 1, 1959	Date in service 2/	Operating agency
Albeni Falls	231	958	Mar. 25, 1955	Corps Engineers
Big Cliff	89	491	June 12, 1954	Corps Engineers
Bonneville	3,510	67,459	June 6, 1938	Corps Engineers
Chandler	66	246	Feb. 13, 1956	USBR
Chief Joseph 3/	5,359	17,466	Aug. 20, 1955	Corps Engineers
Detroit 4/	345	2,344	July 1, 1953	Corps Engineers
Dexter	67	312	May 19, 1955	Corps Engineers
Grand Coulee 3/	10,296	166,122	Sept. 28, 1941	USBR
Hungry Horse	1,012	5,661	Oct. 29, 1952	USBR
Lookout Point 4/	264	1,588	Dec. 16, 1954	Corps Engineers
McNary	5,588	27,381	Nov. 6, 1953	Corps Engineers
Roza 3/	66	66	Aug. 31, 1958	USBR
The Dalles	3,371	4,611	May 13, 1957	Corps Engineers
Total	30,264	294,705		

1/ Includes energy generated in testing new generating units.
2/ Date of commercial operations.
3/ Includes energy transferred for Bureau of Reclamation.
4/ Excludes energy for condenser power at Detroit and Lookout Point.

Transactions summarized in the electric energy account also involve storage by the Administration in non-Federal reservoirs as well as storage by non-Federal utilities in the Federal reservoirs. Disposition of energy includes deliveries from storage in Federal reservoirs or to storage in reservoirs of other utilities, energy transfers for irrigation pur-

TABLE VII

Electric energy account for fiscal year 1959

Energy received (millions of kilowatt-hours):	
Energy generated at Federal plants for BPA 1/	30,264
Power interchanged in	4,050
Total received	34,314
Energy delivered (millions of kilowatt-hours):	
Sales	28,697
Power interchanged out	3,985
Used by Administration	31
Total delivered	32,713
Energy losses in transmission and transformation	1,601
Losses as percent of total energy received – percent	4.7
Maximum demand on generating plants (kilowatts), October 7, 1958, 5-6 p.m., Pacific Standard Time	4,737,000
Load factor, total generated for BPA, percent	72.9

1/ For detail by plants, see table VI.

poses for the Bureau of Reclamation from Grand Coulee, Chief Joseph and Roza, energy used by the Administration, and energy losses in transmission and transformation.

Table VII, Electric Energy Account, summarizes energy receipts and deliveries for fiscal year 1959.

Sale of 29 Billion KWH

Energy sales to customers of the Bonneville Power Administration totaled 28.7 billion kilowatt-hours during the fiscal year 1959, an increase of 1.2 percent over 1958.

Firm energy sales to other utilities increased 4.4 percent in fiscal year 1959 over 1958 and nonfirm sales decreased 16.4 percent. The total net increase was 2.2 percent.

Firm energy sales to industries and Federal agencies were greater in 1959 than in 1958 by almost 3 percent, but the nonfirm sales to this group of customers decreased by more than 15 percent. There was an appreciable change in total deliveries.

BPA energy sales – fiscal year 1959

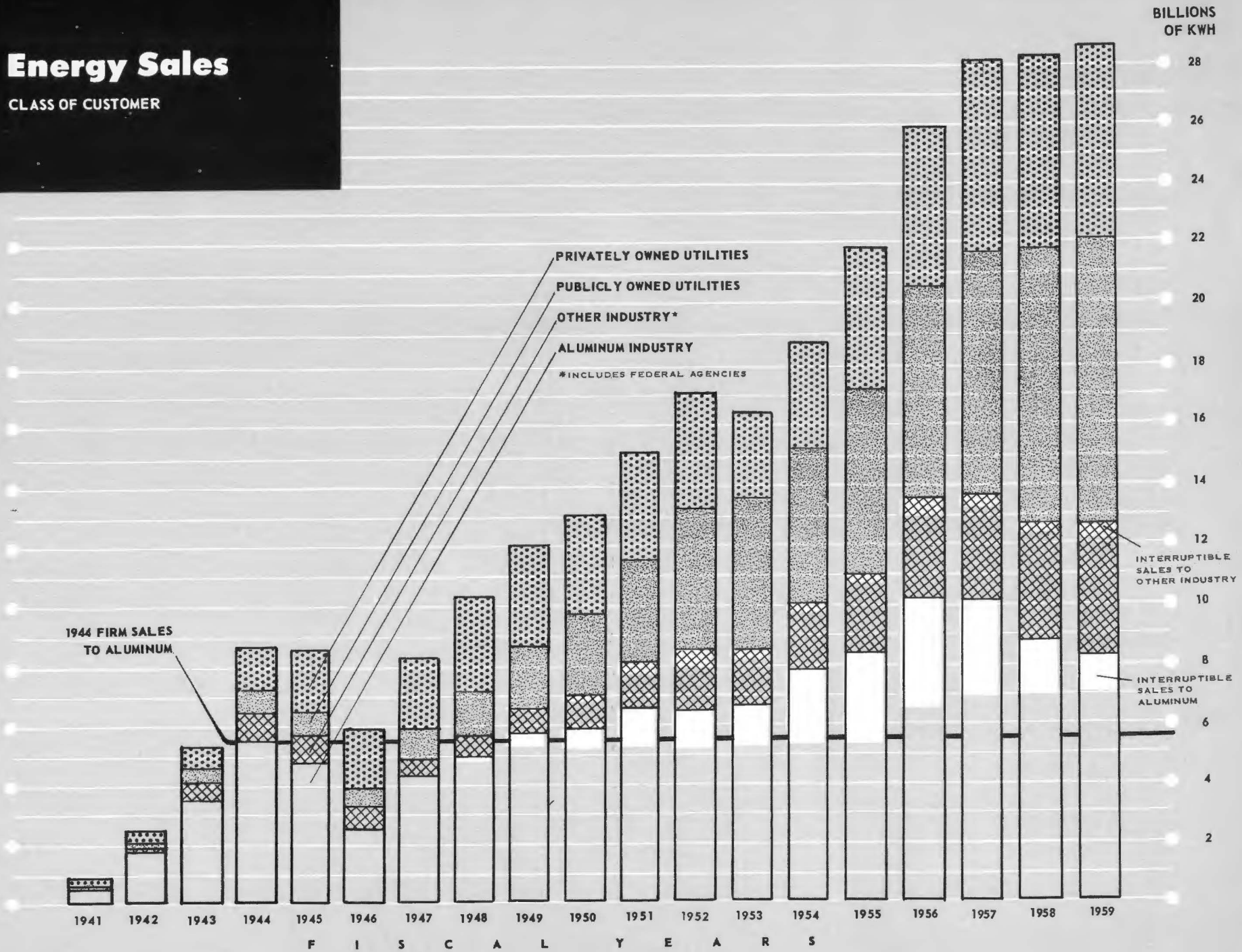
	Millions of kilowatt-hours	% change from 1958
Other utilities		
Publicly owned utilities	9,356	+ 5.1
Privately owned utilities		
Firm	5,553	- 0.4
Nonfirm	1,035	- 7.9
Total	6,588	- 1.6
Ultimate consumers		
Firm	11,035	+ 2.7
Nonfirm	1,718	-14.9
Total	12,753	0.0
Total BPA sales		
Firm	25,644	+ 3.6
Nonfirm	3,053	-15.6
Total	28,697	+ 1.2

Delivery of interruptible energy to industries reached its lowest level during June-July-August of 1958. By June 1959 deliveries had recovered from a level of 10 percent

CHART 3

Energy Sales

CLASS OF CUSTOMER



to almost 50 percent of maximum deliveries made during the 1957 fiscal year.

The completion of new non-Federal hydro resources in the region has accounted for some reduction in deliveries of both firm and nonfirm energy to the privately owned utilities. In addition, sales to the five privately owned utilities starting September 1958 have been on a normal firm power basis of billing since the Administration could guarantee to supply the utilities' firm power requirements for a period of 4 years. This resulted in a decrease in nonfirm deliveries and an increase in firm power deliveries when compared with sales under the restricted demand basis of billing in effect prior to September 1958. Favorable water conditions in the area throughout the year also reduced the nonfirm energy deliveries. The net effect of these factors was a decrease of less than 0.5 percent in firm sales and a decrease of 8 percent in nonfirm sales to privately owned utilities.

Composite Average Rate of 2.36 Mills

The Administration has sold 275.7 billion kilowatt-hours of electric energy at a composite rate of 2.36 mills per kilowatt-hour during the 21 years of operation ended June 30, 1959. Sales to publicly owned utilities for the 21 years were 68.2 billion kilowatt-hours at an average of 2.77 mills. Privately owned utilities received 62.9 billion kilowatt-hours at an average of 2.26 mills, and ultimate consumers such as industries and Federal establishments received 144.6 billion kilowatt hours at 2.20 mills.

Power sales to aluminum plants were 112.2 billion kilowatt-hours at an average of 2.10 mills. These plants characteristically take power at very high load factors, approaching 100 percent, which results in the exceptionally low average cost on the Administration's C and A rate schedules. Sales to industries other than aluminum, including sales to Federal agencies, were 32.4 billion kilowatt-hours at an average of 2.55 mills.

Energy sales by class of customer are shown in table VIII.

Rate Schedules During the last fiscal year over seven-tenths of the energy sales were made under the C-4 wholesale rate schedule at an average rate of 2.12 mills per kilowatt-hour. This is the kilowatt-year rate for firm power delivered anywhere from the transmission system, and is also used with special measured demand provisions for sales of interruptible power. Sales are generally made under this rate to industries operating at high load factor and to utilities having substantial generating facilities. Other sales were made principally under the E-4 rate schedule to utilities purchasing all or substantially all of their power requirements from the Administration. At-site power is sold on a kilowatt-year basis under the A-4 rate. Sales under the F-4 schedule were made to the utilities and industries requiring power at low load factor use, and under the H-schedule for dump, exchange, or experimental purposes. A summary of energy sales for the fiscal year 1959 classified by rate schedules is shown in table IX.

Special study by the staff was continued during fiscal year 1959 on the Administration's entire wholesale rate structure and payout. As a result of the study, wholesale rates continuing the present $17.50 per kilowatt-year level were filed with the Federal Power Commission to become effective commencing December 20, 1959. The Administration has maintained this same rate level since its organization in 1938.

Customers Served The Administration served 114 customers during fiscal year 1959. There were 75 publicly owned distributors of power, 19 industrial customers, 11 Federal agencies, and 9 privately owned utilities.

TABLE VIII

Electric energy sales by class of customer

Fiscal years 1939 – 1959

(Millions of kilowatt-hours)

Fiscal years ending June 30	Industry: Aluminum	Industry: Other industries 1/	Publicly owned utilities	Privately owned utilities	Total
1939 – 1941	523	5	35	537	1,100
1942	1,845	79	143	358	2,425
1943	3,589	507	435	739	5,270
1944	5,454	1,022	728	1,467	8,671
1945	4,667	965	824	2,057	8,513
1946	2,492	800	636	1,903	5,831
1947	4,212	627	1,045	2,378	8,262
1948	4,902	647	1,561	3,181	10,291
1949	5,666	881	2,081	3,342	11,970
1950	5,863	1,024	2,840	3,312	13,039
1951	6,545	1,538	3,414	3,579	15,076
1952	6,472	1,943	4,803	3,794	17,012
1953	6,547	1,947	5,110	2,791	16,395
1954	7,862 2/	2,253	5,127	3,531	18,773 2/
1955	8,352 2/	2,624	6,274	4,580	21,830 2/
1956	10,141	3,422	6,909	5,505	25,977
1957	10,096 2/	3,581 2/	7,970	6,565	28,212 2/
1958	8,717 2/	4,053 2/	8,898	6,696	28,364 2/
1959	8,295	4,458	9,356	6,588	28,697
Total to July 1, 1959	112,240 2/	32,376 2/	68,189	62,903	275,708 2/

1/ Includes Federal agencies.

2/ Includes provisional and replaceable energy sales to industries:

	Aluminum	*Other industries*
FY 1954	*28,355 mwh*	–
1955	*22,956 mwh*	–
1957	*323,509 mwh*	*27,817 mwh*
1958	*481,522 mwh*	*32,194 mwh*

Energy deliveries to customers of the Bonneville Power Administration
Fiscal year ended June 30, 1959

Customers	Energy deliveries for year 1/ thousands of kilowatt-hours
PUBLICLY OWNED UTILITIES	
MUNICIPALITIES	
Bandon, Oregon	20,150
Bonners Ferry, Idaho	3,919
Canby, Oregon	14,387
Cascade Locks, Oregon	14,155
Centralia, Washington	12,856
Cheney, Washington	20,233
Drain, Oregon	15,918
Ellensburg, Washington	51,640
Eugene, Oregon	264,746
Forest Grove, Oregon	45,601
Grand Coulee, Washington	18,197
McMinnville, Oregon	59,762
Milton-Freewater, Oregon	26,678
Monmouth, Oregon	14,086
Port Angeles, Washington	213,475
Seattle, Washington	1,249,329
Springfield, Oregon	60,472
Tacoma, Washington	1,329,836
Total municipalities (18)	3,435,440
PUBLIC UTILITY DISTRICTS	
Benton Co. PUD #1	207,076
Central Lincoln PUD	231,803
Chelan Co. PUD #1	222,878
Clallam Co. PUD #1	56,448
Clark Co. PUD #1	586,221
Clatskanie PUD	24,556
Cowlitz Co. PUD #1	740,625
Douglas Co. PUD #1	132,349
Ferry Co. PUD #1	18,949
Franklin Co. PUD #1	110,788
Grant Co. PUD #2	351,564
Grays Harbor Co. PUD #1	364,419
Kittitas Co. PUD #1	8,843
Klickitat Co. PUD #1	67,172
Lewis Co. PUD #1	145,264
Mason Co. PUD #3	83,501
Northern Wasco Co. PUD	25,440
Okanogan Co. PUD #1	100,827
Pacific Co. PUD #2	84,511
Pend Oreille Co. PUD #1	64,912
Skamania Co. PUD #1	32,004
Snohomish Co. PUD #1	1,090,351
Tillamook PUD	91,696
Wahkiakum Co. PUD #1	15,004
Total public utility districts (24)	4,857,201
COOPERATIVES	
Benton Rural Elec. Assn.	52,593
Big Bend Elec. Coop.	61,922
Blachly-Lane Co. Coop. Elec. Assn.	26,047
Central Elec. Coop.	20,294
Clearwater Power Co.	43,470
Columbia Basin Elec. Coop.	12,731
Columbia Power Coop. Assn.	14,052
Columbia Rural Elec. Assn.	34,831
Consumers Power	98,120
Coos-Curry Elec. Coop.	100,800
Douglas Elec. Coop.	40,330
Eastern Oregon Elec. Coop. Assn.	5,100
Flathead Elec. Coop.	24,476
Hood River Elec. Coop.	22,373
Idaho Co. L & P Assn.	16,748

Customers	Energy deliveries for year 1/ thousands of kilowatt-hours
Inland Power & Light Co.	106,618
Kootenai Rural Elec. Assn.	15,986
Lane Co. Elec. Coop.	69,695
Lincoln Elec. Coop. - Montana	11,461
Lincoln Elec. Coop. - Washington	23,222
Midstate Elec. Coop.	10,672
Missoula Elec. Coop.	13,008
Nespelem Valley Elec. Coop.	8,500
Northern Lights	28,412
Okanogan Co. Elec. Coop.	5,272
Orcas Power & Light Co.	14,886
Ravalli Co. Elec. Coop.	10,706
Salem Electric	50,838
Tanner Mutual P & L Assn.	973
Umatilla Elec. Coop. Assn.	28,723
Vera Irrigation Dist. #15	34,580
Wasco Elec. Coop.	31,075
West Oregon Elec. Coop.	24,384
Total cooperatives (33)	1,062,898
Total publicly owned utilities	9,355,539
PRIVATELY OWNED UTILITIES	
British Columbia Elec. Co.	1,960
California Oregon Power Co.	168,196
California-Pacific Utilities Co.	10,119
Idaho Power Co.	123,009
Intercompany Pool 2/	94,387
Montana Power Co.	353,760
Pacific Power & Light Co.	1,815,618
Portland General Elec. Co.	2,789,794
Puget Sound Power & Light Co.	634,568
Washington Water Power Co.	596,190
Total privately owned utilities (9)	6,587,601

Customers	Energy deliveries for year 1/ thousands of kilowatt-hours
FEDERAL AGENCIES (11)	2,698,696
INDUSTRIES	
ALUMINUM	
Aluminum Co. of America	
Vancouver Plant	1,018,444
Wenatchee Plant	657,801
Anaconda Aluminum Co.	878,466
Harvey Machine Co.	895,542
Kaiser Alum. & Chem. Corp.	
Spokane Alum. Fab.	283,180
Spokane Alum. Red.	2,344,820
Tacoma Alum. Red.	3/
Reynolds Metals Co.	
Longview Plant	1,058,353
Troutdale Plant	1,158,452
INDUSTRIES	
OTHER	
Carborundum Co.	201,020
Crown Zellerbach Corp.	69,695
Union Carbide Metals Co.	118,426
Hanna Nickel Smelting Co.	556,746
Keokuk Electro-Metals Co.	84,772
Pacific Carbide and Alloys Co.	33,550
Pacific Northwest Alloys	110,898
Pennsalt Chemicals Corp.	210,297
Rayonier Corp.	36,698
Victor Chemical Works	337,507
Total industries (19)	10,054,667
Total sales of electric energy (114)	28,696,503

1/ Includes energy deliveries carried on exchange accounts.

2/ Exchange sales to PP&L Co., PGE Co., PSP & L Co., and WWP Co. for July and August 1958.

3/ Service temporarily discontinued.

TABLE IX

Electric energy sales by rate schedules

Fiscal year 1959

Rate schedule	Energy thousands of kilowatt-hours	Revenue 1/	Mills per kilowatt-hour
C – 4: Industries	10,733,587	$23,075,631	2.15
Utilities	9,743,433	21,467,085	2.20
Subtotal	20,477,020	44,542,716	2.18
F – 4: Industries	6,113	26,033	4.26
Utilities	55,246	256,854	4.65
Subtotal	61,359	282,887	4.61
A – 4: Industries	1,761,448	3,018,447	1.71
Utilities	12,269	40,888	3.33
Subtotal	1,773,717	3,059,335	1.72
E – 4: Utilities 2/	4,949,690	15,393,803	3.11
Experimental, H – 3 and exchange:			
Industries and Utilities	1,434,717	3,586,791	2.50
Total	28,696,503	$66,865,532	2.33

1/ These revenues from sale of electric energy differ from official accounting records in that billing adjustments applicable to only fiscal year 1959 are included.

2/ Including Federal agency pumping loads.

Wheeling Program During the last 5 years a number of the public agencies and private utilities in the Pacific Northwest have commenced construction of large hydroelectric plants. Power gen-

erated at these plants will be required at load centers remote from the source of the power. Construction of high-voltage transmission facilities through a region already adequately covered by the Bonneville Power Administration transmission grid and transmission systems of other utilities could involve wasteful duplication of investments and impair feasibility of non-Federal projects in many instances.

It became obvious that the fullest utilization of existing transmission facilities could not be achieved without making the Bonneville Power Administration grid available for transmission of power from non-Federal plants where economically and legally feasible. Basic principles of the wheeling program were evolved in 1954 and the program is now an outstanding example of utilities working together to meet the region's energy requirements at the lowest possible cost.

During the past 2 fiscal years, the Administration has entered into a number of long-term, firm contracts for transmission of non-Federal power. The charges for such transmission have been developed on a uniform basis to assure adequate compensation for use of the Government's facilities. The contracts make possible economic delivery of non-Federal power to load centers as much as several hundred miles from the generating plants. The wheeling or transmission agreements at the same time make possible full electrical integration of the non-Federal projects with the Northwest Power Pool.

Power is now being delivered under the long-term transmission contracts from the Pelton project of the Portland General Electric Company, the Box Canyon project of the Pend Oreille Public Utility District, and the Priest Rapids project of the Grant County Public Utility District.

Some of the utilities have decided that it would be better for their purposes to enter into shorter term wheeling agreements under arrangements which would utilize only the excess capacity in the Federal transmission system. The Administration makes a uniform charge for this service based on facilities used, but without obligation to provide any additional facilities.

These contracts contain provisions which permit the Administration to terminate the contracts upon 3 years' notice, the necessary time for a transferee to construct its own facilities. The transferee may terminate the contract upon 1 year's notice.

Power is being delivered under this type of contract from the Swift project of the Pacific Power and Light Company, the Rock Island project of the Chelan County Public Utility District, and the Priest Rapids project of the Grant County Public Utility District. Power is also being delivered into the region from the California Oregon Power Company and the Idaho Power Company under similar excess capacity transmission agreements.

Wheeling contracts of both types completed to date are listed in the tabulations on the following page.

Generation Added

Additions to the U.S. Columbia River Power System in fiscal year 1959 have a nameplate rating of 387,250 kilowatts. One unit of 64,000 kilowatts was added at Chief Joseph completing the installation of units at this project. Four units with a total rating of 312,000 kilowatts were installed at The Dalles project leaving six units to be installed for the completed project. The Corps of Engineers is construction agency for both of these projects. In

WHEELING AGREEMENTS

Project	Customer	Amount to be wheeled (KW)	Date contract executed
Priest Rapids	Puget Sound Power & Light Co.	113,544	March 17, 1958
Priest Rapids	City of Tacoma	63,080	January 28, 1958
Priest Rapids	City of Seattle	63,080	January 28, 1959
Priest Rapids	City of Eugene	13,405	January 23, 1958
Priest Rapids	City of McMinnville	7,108	January 28, 1958
Priest Rapids	City of Forest Grove	7,108	January 28, 1958
Priest Rapids	City of Milton-Freewater	7,108	February 24, 1958
Priest Rapids	PUD No. 1 of Cowlitz County	15,770	January 28, 1958
Priest Rapids	PUD No. 1 of Kittitas County	3,154	May 9, 1958
Priest Rapids	Portland General Electric Co.	197,108	August 12, 1958
Subtotal		490,465	
Wanapum	Puget Sound Power & Light Co.	142,875	June 30, 1959
Subtotal		142,875	
Rocky Reach	Puget Sound Power & Light Co.	386,000	December 23, 1957
Rocky Reach	PUD No. 1 of Chelan County (Alcoa)	110,000	May 9, 1958
Rocky Reach	Portland General Electric Co.	123,520	August 12, 1958
Subtotal		619,520	
Pelton	Portland General Electric Co.	123,000	March 25, 1958
Subtotal		123,000	
Box Canyon	City of Seattle	48,000	February 1, 1956
Subtotal		48,000	
Grand total		1,423,860	
	Excess capacity		
Swift	Pacific Power & Light Co.	270,000	January 2, 1958
Rock Island	PUD No. 1 of Chelan County	140,000	August 6, 1953
COPCO-Reynolds	California Oregon Power Co.	95,200	February 20, 1958
Idaho-PP & L	Pacific Power & Light Co.	53,000	November 6, 1958
Priest Rapids	Washington Water Power Co.	86,664	January 28, 1959
Grand total		644,864	

addition, the Roza project of the Bureau of Reclamation containing one generating unit with nameplate rating of 11,250 kilowatts was completed in August 1958.

Projects Summarized

Projects existing, under construction, and authorized for construction by the Corps of Engineers and Bureau of Reclamation are shown in table X. The existing projects, including units installed to date in projects under construction, will provide 4,344,000 kilowatts of prime power when operated as a system. With completion of the projects under construction the prime capability will be 5,395,000 kilowatts and with completion of the authorized projects prime capability will be over 6,000,000 kilowatts.

Existing storage capacity usable for power in Federal reservoirs is 9,868,500 acre feet. An additional 403,000 acre feet will be provided by Cougar and Hills Creek on which construction is under way, and 5,343,000 acre feet will be provided by Libby and Green Peter projects which are authorized for construction.

All generation and storage capacity under Federal construction will be in service by February 1969 under the present schedule. Service dates for the other authorized projects are not scheduled, as no funds have been appropriated for their construction.

Non-Federal Additions

Non-Federal generating capacity in the area served by the Administration was increased in fiscal year 1959 by a total of 376,600 kilowatts. Principal additions include Pacific Power & Light's completed Swift No. 1 project,which contains three generating units with a total nameplate rating of 204,000 kilowatts,and Cowlitz County Public Utility District's completed Swift No. 2 project containing two generating units with a total nameplate rating of

TABLE X

U. S. COLUMBIA RIVER POWER SYSTEM

General specifications – projects existing, under construction and authorized
Installations and capabilities correspond to a coordinated system operation
June 30, 1959

Project	Location	Stream	Plant installations: Number of units	Plant installations: Total capacity kilowatts 1/	Nominal prime power kilowatts 2/	Pool elevation (feet)	Usable storage (acre-feet) 3/	Average head (feet)	Date in service: Initial unit	Date in service: Last unit	Principal purposes 4/
EXISTING											
Bonneville	Wash.-Ore.	Columbia	10	518,400	466,000	74	Pondage	58	June 1938	Dec. 1943	P,N.
Grand Coulee	Wash.	Columbia	18	1,944,000	1,552,000	1,288	5,072,000	315	Sept. 1941	Sept. 1951	P,I,FC,N,PS.
Hungry Horse	Mont.	S. Fk. Flathead	4	285,000	186,000	3,560	2,982,000	376	Oct. 1952	July 1953	P,I,FC,N,PS.
Detroit	Ore.	N. Santiam	2	100,000	39,000	1,563.5	323,000	285	July 1953	Oct. 1953	P,I,FC,N,PS.
McNary	Wash.-Ore.	Columbia	14	980,000	527,000	340	Pondage	75	Nov. 1953	Feb. 1957	P,I,N.
Big Cliff	Ore.	N. Santiam	1	18,000	11,000	1,206	Pondage	91	June 1954	June 1954	P,Rereg.
Lookout Point	Ore.	M. Fk. Willamette	3	120,000	34,000	926	336,500	185	Dec. 1954	Apr. 1955	P,I,FC,N,PS.
Albeni Falls	Idaho	Pend Oreille	3	42,600	21,000	2,062.5	1,155,000	18	Mar. 1955	Aug. 1955	P,FC,N,PS.
Dexter	Ore.	M. Fk. Willamette	1	15,000	11,000	695	Pondage	53	May 1955	May 1955	P,Rereg.
Chief Joseph	Wash.	Columbia	16	1,024,000	856,000	946	Pondage	177	Aug. 1955	Sept. 1958	P,I.
Chandler	Wash.	Yakima	2	12,000	11,000	618.5	0	118	Feb. 1956	Feb. 1956	P,I.
The Dalles	Wash.-Ore.	Columbia	10	651,000	624,000	160	Pondage	84	May 1957	Apr. 1959	P,N.
Roza	Wash.	Yakima	1	11,250	6,000	1,220.6	0	140	Aug. 1958	Aug. 1958	P,I.
				5,721,250	4,344,000		9,868,500				
UNDER CONSTRUCTION											
The Dalles (Additions)	Wash.-Ore.	Columbia	6	468,000	50,000	160	Pondage	84	Aug. 1959	Nov. 1960	P,N.
Hills Creek	Ore.	M. Fk. Willamette	2	30,000	16,000	1,543	249,000	210	Nov. 1961	Nov. 1961	P,I,FC,N,PS.
Ice Harbor	Wash.	Snake	3	270,000	171,000	440	Pondage	95	Dec. 1961	Dec. 1961	P,I,N.
Cougar	Ore.	S. Fk. McKenzie	2	25,000	17,000	1,690	154,000	350	Nov. 1962	Nov. 1962	P,FC,N,PS.
John Day	Wash.-Ore.	Columbia	12	1,304,400	797,000	265	Pondage	104	June 1967	Feb. 1969	P,I,FC,N.
				2,097,400	1,051,000		403,000				
AUTHORIZED											
Libby	Mont.	Kootenai	4	344,000	257,000	2,459	5,010,000	265	–	–	P,FC,N,PS.
Lower Monumental	Wash.	Snake	3	270,000	169,000	533	Pondage	92	–	–	P,I,N.
Little Goose	Wash.	Snake	3	270,000	180,000	633	Pondage	99	–	–	P,N.
Lower Granite	Wash.	Snake	3	300,000	184,000	735	Pondage	100	–	–	P,N.
Green Peter	Ore.	M. Santiam	2	81,000	22,000	984	333,000	250	–	–	P,I,FC,N,PS.
White Bridge	Ore.	M. Santiam	1	15,000	9,000	670	Pondage	90	–	–	P,Rereg.
				1,280,000	821,000		5,343,000				
					-31,000 5/						
Total – 23 projects				9,098,650	6,185,000		15,614,500				

1/ Nameplate rating.

2/ Average capability in a coordinated system during an 8-month storage release period (Sept. 1936 through April 1937).

3/ Storage usable for power production.

4/ P – Power; I - Irrigation; FC – Flood Control; N – Navigation; PS – Power Storage; Rereg. – Reregulating Reservoir.

5/ Pumping requirements of 31,000 kw represents the average power necessary to supply that part of irrigation water at Grand Coulee during the storage release period for 600,000 acres of the Columbia Basin Project.

TABLE XI

Non - Federal utilities

Generator installation schedule

July 15, 1959

Utility and plant	Stream	Unit number	Nameplate rating thousands of kilowatts	Date in service
Washington Water Power Co.				
Noxon Rapids	Clark Fork	1	84	August 1959
		2	84	November 1959
		3	84	January 1960
		4	84	April 1960
Puget Sound Power & Light Co.				
Upper Baker	Baker R.	1 & 2	85	August 1959
Lower Baker (Addition)	Baker R.	3	55	September 1960
Grant County PUD				
Priest Rapids	Columbia R.	1	78.85 1/	November 1959
		2	78.85 1/	December 1959
		3	78.85	February 1960
		4	78.85	April 1960
		5	78.85	June 1960
		6	78.85	August 1960
		7	78.85	October 1960
		8	78.85	February 1961
		9	78.85	April 1961
		10	78.85	June 1961
Wanapum	Columbia R.	1 & 2	166.24	September 1963
		3	83.12	November 1963
		4	83.12	January 1964
		5	83.12	March 1964
		6	83.12	May 1964
		7	83.12	July 1964
		8	83.12	September 1964
		9	83.12	November 1964
		10	83.12	January 1965

TABLE XI (Cont.)

Non-Federal utilities

Generator installation schedule

July 15, 1959

Utility and plant	Stream	Unit number	Nameplate rating thousands of kilowatts	Date in service
City of Seattle				
Gorge (Reconstruction)	Skagit R.	–	2/	December 1960
Montana Power Co.				
Thompson Falls (Additions)	Clark Fork	7 & 8	35	April 1961
Chelan County PUD				
Rocky Reach	Columbia R.	1	101.65	August 1961
		2	101.65	September 1961
		3	101.65	September 1961
		4	101.65	December 1961
		5	101.65	February 1962
		6	101.65	April 1962
		7	101.65	June 1962
City of Tacoma				
Mayfield	Cowlitz R.	1	40	September 1961
		2	40	December 1961
		3	40	March 1962
		4	40	June 1962
Mossyrock	Cowlitz R.	1	75	April 1965
		2	75	July 1965
		3	75	October 1965
		4	75	December 1965
City of Eugene				
Carmen	McKenzie R.	1 & 2	47.5	September 1962
Trail Bridge	McKenzie R.	1	6	September 1962

1/ Operation at reduced head through January 1960 will reduce capability to about 47,000 kilowatts per unit.

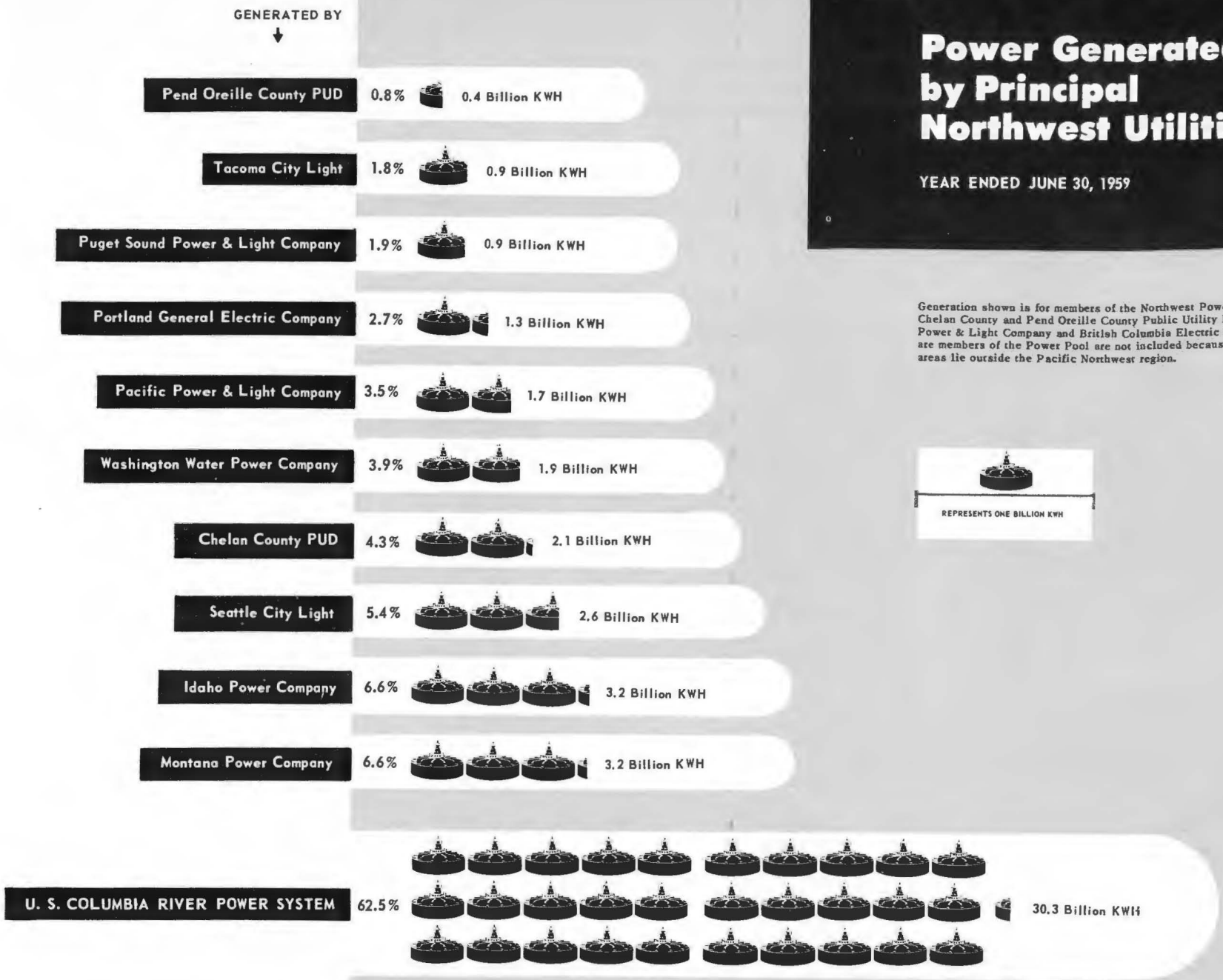
2/ Reconstruction of diversion dam will increase gross head by 100 feet and peaking capability by 57,000 kilowatts.

CHART 4

Power Generated by Principal Northwest Utilities

YEAR ENDED JUNE 30, 1959

Generation shown is for members of the Northwest Power Pool plus Chelan County and Pend Oreille County Public Utility Districts. Utah Power & Light Company and British Columbia Electric Company who are members of the Power Pool are not included because their service areas lie outside the Pacific Northwest region.



SOURCE: WEEKLY OPERATING REPORTS OF N.W. POWER POOL

TABLE XII

Generation by the principal electric utility systems of the Pacific Northwest, Fiscal year 1959 1/

Utilities	Kilowatt-hours (billion)	Percent of total generation		Kilowatt-hours (billion)	Percent of total generation
Publicly owned:			Privately owned		
U. S. Columbia River Power System	30.3	62.5	Montana Power Co.	3.2	6.6
Chelan County PUD	2.1	4.3	Idaho Power Co.	3.2	6.6
Seattle City Light	2.6	5.4	Washington Water Power Co.	1.9	3.9
Tacoma City Light	0.9	1.8	Pacific Power & Light Co.	11.7	3.5
Pend Oreille County PUD	0.4	0.8	Puget Sound Power & Light Co.	0.9	1.9
			Portland General Electric Co.	1.3	2.7
Total publicly owned	36.3	74.8	Total privately owned	12.2	25.2
Total generation				48.5	100.0

1/ Generation shown is for members of the Northwest Power Pool plus Chelan County and Pend Oreille County Public Utility Districts. Utah Power & Light Company and British Columbia Electric Company who are members of the Power Pool are not included because their service areas lie outside the Pacific Northwest region.

NOTE -- Shown in Table in Secretary's Annual Report.

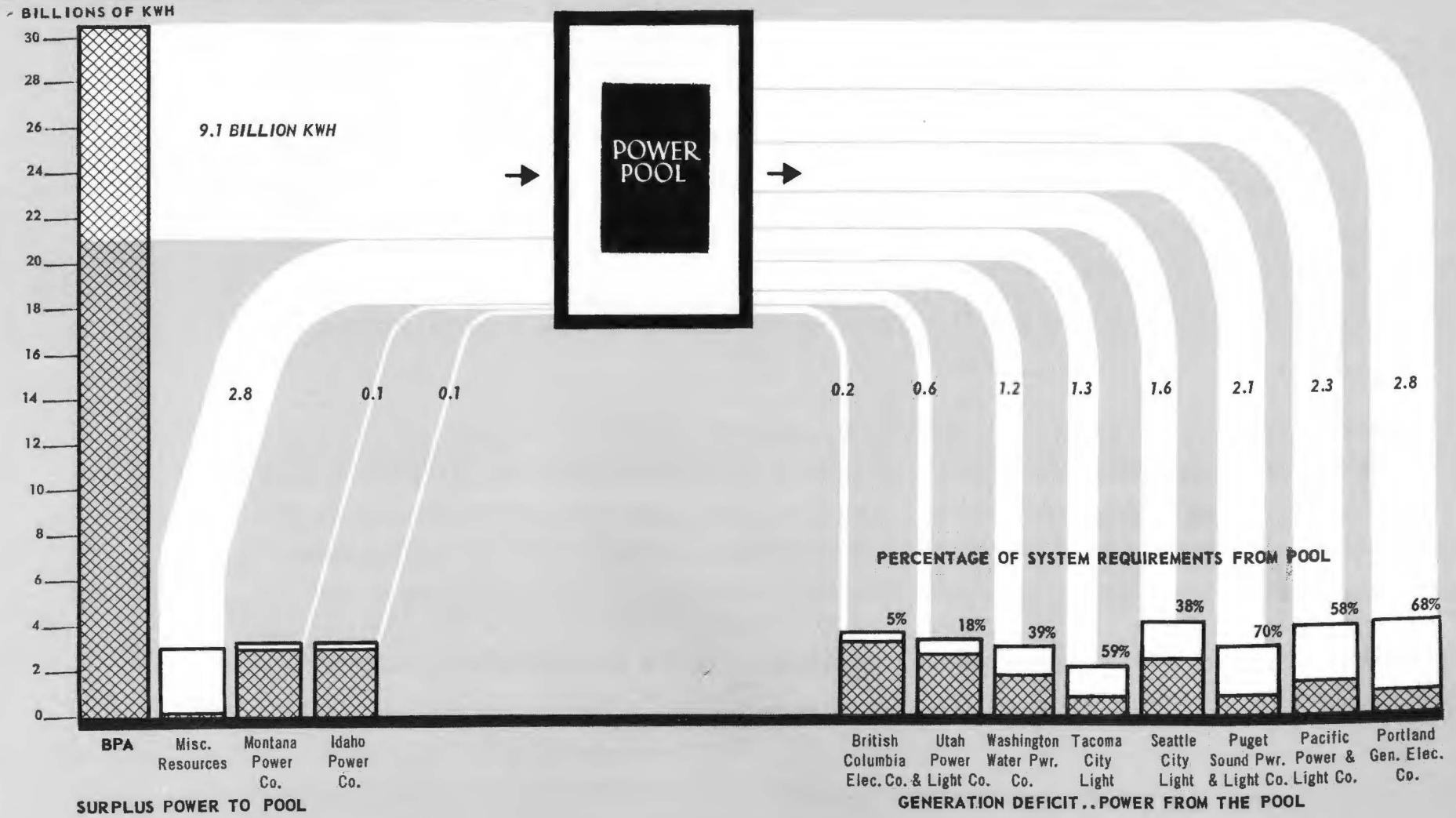
70,000 kilowatts. Other additions include installation of an additional 45,000-kilowatt unit at Pacific Power & Light's Merwin project, two units of 19,200 kilowatts each installed at Portland General Electric's completed North Fork project, and installation of an additional 19,200-kilowatt unit at Portland General Electric's Faraday plant. Future additions under construction or licensed for construction by non-Federal utilities in the area are shown in table XI. These additions total 3,355,750 kilowatts as compared to additions of 3,445,250 kilowatts scheduled last year. The reduction of 89,500 kilowatts results principally from completion of certain scheduled projects.

Chart 5

NET OPERATIONS ENDING JUNE 30, 1959

Northwest Power Pool

BPA SUPPLIED 75% OF NET ENERGY REQUIREMENTS



Northwest Power Pool

Generation by the principal electric utility systems of the Pacific Northwest during the fiscal year 1959 is shown in table XII. All utilities listed are members of the Northwest Power Pool with the exception of the Chelan County and Pend Oreille County Public Utility Districts. These two utilities are included because they provided substantial amounts of generation to the pool. The Utah Power & Light Company and the British Columbia Electric Company are members of the pool but are not included as their major service areas are outside the region.

A total of 62.5 percent of the energy generated by the major utilities of the region was produced by the U.S. Columbia River Power System. In addition to its other load the Administration's transmission system delivered 9.1 billion kilowatt-hours of energy to meet the net requirements of eight other pool utilities.

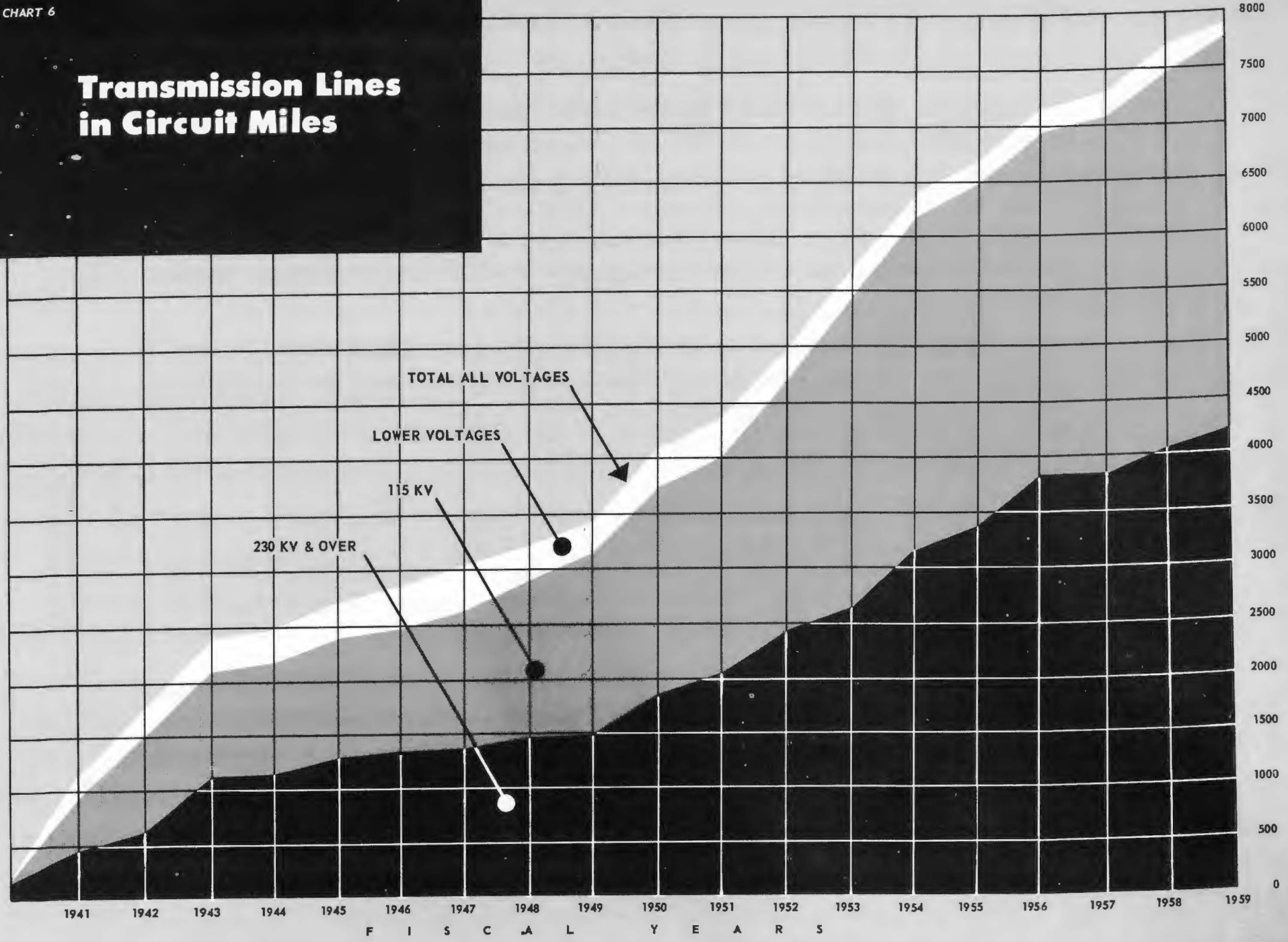
Transmission System Growth

The Bonneville Power Administration grid was increased during the fiscal year to 7,936 circuit miles of transmission lines and 193 substations, totaling 14,004,955 kilovolt-amperes transformer capacity.

During the year, the transmission line mileage was increased 255 circuit miles, and the transformer capacity by 1,304,707 kilovolt-amperes. A total of 9 new substations, ranging in size from 6,000 to 250,000 kilovolt-amperes, were installed and the transformer capacity was increased in 18 others.

CHART 6

Transmission Lines in Circuit Miles



Construction Program

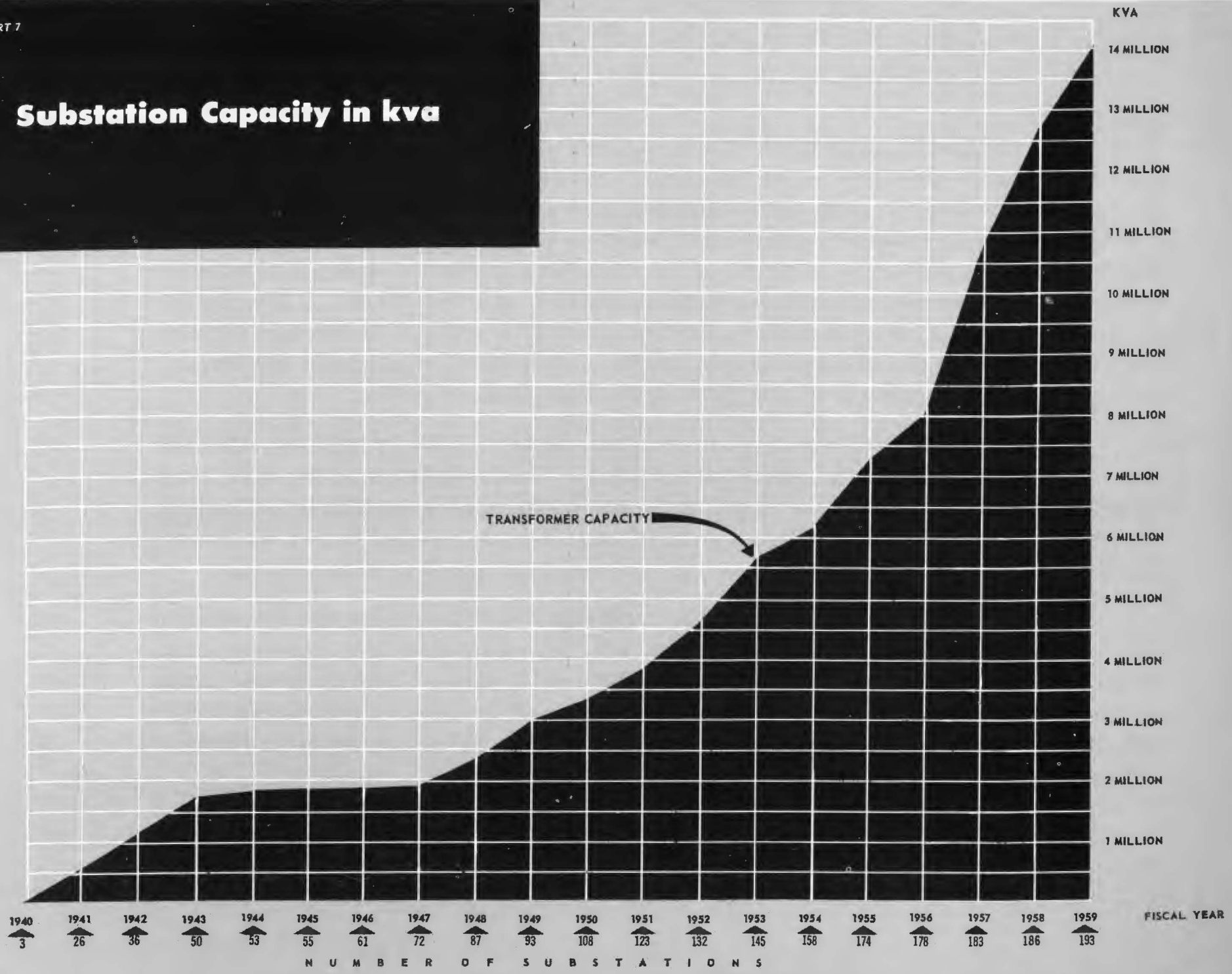
Major grid additions completed in Oregon included a 230,000-volt line between Santiam and Eugene and a 250,000-kilovolt-ampere substation at Fairview, near Coquille, to supply the additional power needs of this rapidly growing area. In western Washington 115,000-volt lines were added between Olympia and Aberdeen, Shelton and Fairmount, and Raymond and Willapa. To meet the rapid growth of the Columbia reclamation area in Washington a 250,000-kilovolt-ampere substation was added at Potholes, near Moses Lake, a 115,000-volt line between Columbia, near Wenatchee, and Quincy, and a 115,000-volt line between Potholes and Sand Dunes, near Moses Lake. Direct service to the Northwestern Montana area was established through completion of the 115,000-volt Columbia Falls-Trego line.

Under construction at the close of this fiscal year is a 345,000-volt, 128-mile line from Chelan County Public Utility District's Rocky Reach hydroelectric project to Maple Valley, near Seattle, to bring the output of the project to western Washington; a 125-mile, 287,000-volt line between Tacoma and Columbia which will be connected to the Grand Coulee line No. 3 at Columbia; and a 40-mile, 115,000-volt line from Albany to Toledo, Oregon.

Major new starts scheduled for fiscal year 1960 include an 81-mile, 345,000-volt line, initial 230,000-volt operation, between Big Eddy, near The Dalles Dam, and McLoughlin, near Oregon City and owned by Portland General Electric Company, to supply the load growth in the northern Willamette Valley; a 40-mile, 115,000-volt line between DeMoss and Fossil; and a 130-mile, 115,000-volt line between Redmond and Burns to bring direct service to these central Oregon areas.

CHART 7

Substation Capacity in kva



Columbia

River Power

System

and Related

Activities

Auditors' Report

FINANCIAL

STATEMENTS

FOR THE

FISCAL YEAR

ENDED

JUNE 30, 1959

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON 25

B-114858

December 14, 1959

Dear Mr. Secretary:

The General Accounting Office has made audits of the activities of the Bonneville Power Administration and the Bureau of Reclamation, Department of the Interior, and the Corps of Engineers (Civil Functions), Department of the Army, pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67). In connection with these audits, we examined the accounts and records pertaining to the Columbia River Power System and Related Activities for the fiscal year ended June 30, 1959; the accompanying financial statements were prepared from those accounts and records, some of which are maintained specifically for this purpose. Insofar as the accompanying financial statements are concerned, our examination was made in accordance with generally accepted auditing standards and included such tests of the accounting records and such other auditing procedures as were considered necessary in the circumstances.

The Columbia River Power System consists of the Bonneville Power Administration and the generating facilities for commercial power purposes of the multiple-purpose projects built and operated (or under construction) by the Bureau of Reclamation and the Corps of Engineers in the Pacific Northwest, for which the Administration acts as the transmitting and marketing agency. The transmission system of Bonneville Power Administration and the hydroelectric plants of these multiple-purpose projects are operated as an integrated power system. In addition to the generation of electric energy, other activities of these projects include the operation of irrigation, flood control, and navigation facilities.

The accompanying financial statements present, in accordance with the accounts and records maintained for this purpose, the combined assets and liabilities at June 30, 1959, and the financial results of commercial power operations for the year ended on that date of the Bonneville Power Administration and the multiple-purpose projects (including those under construction) for which it is the power-marketing agent. These financial statements are deficient in the following important respects.

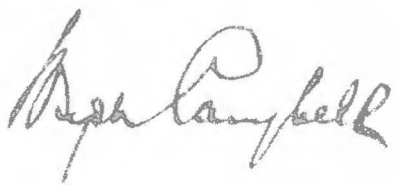
1. To achieve general conformance with the uniform system of accounts prescribed by the Federal Power Commission under the Federal Power Act, and to permit a more consistent financial presentation of assets, liabilities, and results from operations, special memorandum accounts have been maintained for the purpose of this report by the Bureau of Reclamation. The memorandum accounts differ from the official records of the Bureau; as a result, the accompanying financial statements differ in several important respects from financial statements prepared by the Bureau under existing official accounting instructions.

2. The accounting policies on which the accompanying financial statements are based are not consistent in several important respects, such as accounting for depreciation on plant in service, interest on the Federal investment, and costs incurred by other agencies. These matters are discussed in notes 2 and 3 of schedule 7.

3. Firm allocations of the construction costs of the Hungry Horse and Yakima Projects (Bureau of Reclamation) and the Albeni Falls, Detroit-Big Cliff, McNary, Lookout Point-Dexter, and The Dalles Projects (Corps of Engineers) have not been made to power and nonpower purposes. Firm cost allocations for the Albeni Falls Project

were approved on August 10, 1959, by the Chief of Engineers; the approved cost allocations for this project do not vary significantly from the tentative cost allocations included in this report. As explained in note 3 of schedule 7, tentative allocations of project construction costs have been used in preparing the accompanying financial statements. When firm allocations of costs are made, the accounts and financial statements relating to these projects may require adjustment.

These deficiencies have existed for several years without being satisfactorily corrected or resolved. Our audit reports have regularly included recommendations urging that these matters be resolved. The periodic addition of new generation and transmission facilities to the System will probably compound the problems resulting from the existing deficiencies in the financial statements. Accordingly, we have concluded that we cannot report that these financial statements present fairly the financial position of the Columbia River Power System and Related Activities at June 30, 1959, and the financial results of power operations for the fiscal year then ended.



The Honorable
The Secretary of the Interior

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

FINANCIAL STATEMENTS

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UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

Statement of

COMBINED COMMERCIAL POWER OPERATIONS

For the Fiscal Years Ended June 30, 1959 and 1958

	1959	1958
OPERATING REVENUES:		
Sales of electric energy by Bonneville Power Administration:		
Publicly owned utilities	$25,629,336	$23,574,281
Privately owned utilities	13,897,884	14,171,346
Federal agencies	6,403,146	6,054,126
Aluminum industry	16,611,144	17,491,535
Other industry	3,817,628	3,412,720
Sales, at wholesale	66,359,138	64,704,008
Other operating revenues (note 6):		
Payments for downstream river regulation	37,500	15,900
Project energy — use at site	158,010	151,376
Rental of electric property	1,581,237	1,857,826
	1,776,747	2,025,102
Total operating revenues	68,135,885	66,729,110
OPERATING EXPENSES (notes 2 and 3):		
Purchased power	515,307	475,342
Operation:		
Specific power facilities	10,451,362	10,166,191
Joint facilities	1,334,271	1,089,893
Maintenance:		
Specific power facilities	5,399,324	5,198,148
Joint facilities	1,210,360	1,206,256
Depreciation:		
Specific power facilities	20,977,991	19,474,278
Joint facilities	4,456,618	4,233,380
Net loss on sales and abandonment of property	264,783	23,288
Total operating expenses	44,610,016	41,866,776
Net operating revenues	23,525,869	24,862,334
INTEREST AND OTHER DEDUCTIONS (note 2):		
Interest on Federal investment	33,217,425	32,712,927
Less amount charged to construction	3,031,256*	5,017,358*
Miscellaneous income deductions (net)	50,480*	116,266
Net interest and other deductions	30,135,689	27,811,835
Net commercial power revenues (—loss)	$—6,609,820	$—2,949,501

*Deduction

The accompanying notes (schedule 7) are an integral part of this statement.

The opinion of the General Accounting Office on the financial statements appears in the covering letter of transmittal to the Secretary of the Interior.

SCHEDULE 2

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

Statement of

COMBINED ASSETS AND LIABILITIES

June 30, 1959 and 1958

ASSETS

	1959	1958
FIXED ASSETS, at original cost, including interest during construction (notes 2 and 3):		
Commercial power	$1,596,835,784	$1,563,323,682
Irrigation	372,935,988	363,335,184
Flood control	85,763,163	85,575,756
Navigation	77,551,716	77,301,242
Other	1,165,888	1,114,413
Multiple-purpose projects under construction	106,910,307	59,904,192
Total	2,241,162,846	2,150,554,469
Less accumulated depreciation:		
Commercial power	155,579,919	132,590,915
Irrigation	941,906	734,703
Flood control	3,123,362	2,457,084
Navigation	5,604,744	4,674,101
Total	165,249,931	140,456,803
Original cost, net	2,075,912,915	2,010,097,666
CURRENT ASSETS:		
Unexpended funds in U. S. Treasury appropriated by the Congress for construction and for operation and maintenance	29,168,376	23,440,874
Special deposits	1,222,820	1,440,721
Accounts receivable:		
Customers	9,995,078	9,320,363
Other	913,188	1,479,642
Materials and supplies	7,062,268	7,379,992
Total	48,361,730	43,061,592
OTHER ASSETS AND DEFERRED CHARGES	11,557,993	11,287,824
	$2,135,832,638	$2,064,447,082

LIABILITIES

	1959	1958
INVESTMENT OF U.S. GOVERNMENT AND ACCUMULATED NET REVENUES:		
Total investment of U. S. Government (note 5)	$2,733,057,080	$2,579,704,338
Less:		
Funds returned to U. S. Treasury:		
Repayment of Federal investment in the power program	647,329,187	580,481,605
Repayment of Federal investment in the nonpower program	16,463,610	13,290,464
Total expense of flood control operations	12,339,727	9,841,108
Total expense of navigation operations	30,685,048	27,241,942
Other nonreimbursable expenses	558,628	556,068
	707,376,200	631,411,187
Net investment of U. S. Government	2,025,680,880	1,948,293,151
Accumulated net revenues:		
Net revenues from commercial power operations since inception, including a net loss of $6,609,820 for the year ended June 30, 1959 (schedule 1)	95,152,018	101,761,838
Less net loss from irrigation operations since inception	4,561,649	3,902,994
	90,590,369	97,858,844
Total	2,116,271,249	2,046,151,995
CURRENT AND ACCRUED LIABILITIES:		
Accounts payable	13,773,685	13,151,858
Employees' accrued leave	2,275,195	2,271,918
Total	16,048,880	15,423,776
DEFERRED CREDITS	1,197,317	745,360
MATURED INSTALLMENTS OF FIXED OBLIGATIONS FOR USE OF IRRIGATION FACILITIES	1,685,944	1,483,181
CONTRIBUTIONS IN AID OF CONSTRUCTION	629,248	642,770
	$2,135,832,638	$2,064,447,082

The accompanying notes (schedule 7) are an integral part of this statement.

The opinion of the General Accounting Office on the financial statements appears in the covering letter of transmittal to the Secretary of the Interior.

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

Statement of

INVESTMENT IN COMMERCIAL POWER PROGRAM

At June 30, 1959

	Total	Bonneville Power Administration	Bonneville Project	Columbia Basin Project	Hungry Horse Project	Albeni Falls Project	McNary Project	Detroit-Big Cliff Project	Lookout Point-Dexter Project	Chief Joseph Project	Yakima Project, Roza and Kennewick Divisions	The Dalles Project	Ice Harbor Project	Cougar Project	Hills Creek Project	John Day Project
NET INVESTMENT IN COMMERCIAL POWER:																
Investment allocated to commercial power:																
Total investment of U. S. Government, principally congressional appropriations for construction of fixed assets and operation and maintenance activities (see schedule 6)	$2,733,057,080	$667,239,626	$144,126,255	$656,472,892	$123,011,445	$36,408,723	$343,319,142	$78,006,981	$105,273,443	$170,146,063	$36,679,845	$263,102,965	$60,256,132	$12,383,686	$25,506,114	$11,123,768
Less amounts allocated to nonpower purposes or unallocated:																
Irrigation	399,270,629	—	—	356,068,015	—	—	—	4,449,584	5,642,244	2,546,268	30,564,518	—	—	—	—	—
Flood control	95,166,025	—	—	—	19,625,905	195,725	—	23,806,945	51,537,450	—	—	—	—	—	—	—
Navigation	102,817,482	—	46,916,810	1,055,925	—	151,934	30,435,809	153,100	949,433	—	—	23,154,471	—	—	—	—
Other purposes	1,570,163	—	—	—	—	—	—	417,416	—	—	1,152,747	—	—	—	—	—
Construction in progress and other unallocated assets	109,269,700	—	—	—	—	—	—	—	—	—	—	—	60,256,132	12,383,686	25,506,114	11,123,768
	708,093,999	—	46,916,810	357,123,940	19,625,905	347,659	30,435,809	28,827,045	58,129,127	2,546,268	31,717,265	23,154,471	60,256,132	12,383,686	25,506,114	11,123,768
Total investment in commercial power, principally congressional appropriations for construction of fixed assets and operation and maintenance activities	2,042,963,081	667,239,626	97,209,445	299,348,952	103,385,540	36,061,064	312,883,333	49,179,936	47,144,316	167,599,795	4,962,580	239,948,494	—	—	—	—
Less funds from commercial power operations returned to U. S. Treasury:																
Through June 30, 1958	580,481,605	265,641,102	61,435,242	151,021,102	20,531,905	5,786,063	46,099,005	9,256,577	6,509,494	10,957,059	615,000	2,629,056	—	—	—	—
During the year ended June 30, 1959:																
By Bonneville Power Administration	66,613,024	21,871,024	2,300,000	12,800,000	3,816,000	1,400,000	9,000,000	1,900,000	1,800,000	6,700,000	326,000	4,700,000	—	—	—	—
By generating projects	234,558	—	32,049	62,505	9,009	280	125,207	66	4	2	3,745	1,345	346	—	—	—
Accumulated funds returned	647,329,187	287,512,126	63,767,291	163,883,607	24,356,914	7,186,343	55,224,212	11,156,643	8,309,498	17,657,061	944,745	7,330,401	346	—	—	—
Net investment in commercial power	$1,377,633,894	$379,727,500	$ 33,442,154	$135,465,345	$ 79,028,626	$28,874,721	$257,659,121	$38,023,293	$ 38,834,818	$149,942,734	$ 4,017,835	$232,618,093	$ 346*	$ —	$ —	$ —

*Deduction

The accompanying notes (schedule 7) are an integral part of this statement.

SCHEDULE 4

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

STATEMENT OF REPAYMENT OF INVESTMENT IN COMMERCIAL POWER PROGRAM (Note 4)

FOR THE FISCAL YEAR ENDED JUNE 30, 1959

AND FOR THE PERIOD FROM INCEPTION TO JUNE 30, 1959

COMPARISON OF REPAYMENT and SCHEDULED REPAYMENT OF COMMERCIAL POWER INVESTMENT For the Fiscal Year Ended June 30, 1959	Total	Bonneville Power Administration	Bonneville Project	Columbia Basin Project	Hungry Horse Project	Albeni Falls Project	McNary Project	Detroit - Big Cliff Project	Lookout Point - Dexter Project	Chief Joseph Project	Yakima Project, Roza and Kennewick Divisions	The Dalles Project	Ice Harbor Project	Cougar Project	Hills Creek Project	John Day Project
REPAYMENT OF CAPITAL INVESTMENT IN COMMERCIAL POWER:																
Funds returned to U. S. Treasury (schedule 3)	$ 66,847,582	$ 21,871,024	$ 2,332,049	$ 12,862,505	$ 3,825,009	$ 1,400,280	$ 9,125,207	$ 1,900,066	$ 1,800,004	$ 6,700,002	$329,745	$ 4,701,345	$ 346	$ —	$ —	$ —
Less amounts equivalent to:																
Operation and maintenance expense . . .	18,275,779	9,846,351	1,120,946	2,422,929	435,233	282,673	1,574,177	337,416	289,743	908,260	69,005	989,046	–	—	—	—
Interest charged to operations	30,186,169	8,074,709	836,321	3,515,702	2,010,081	730,791	6,467,407	965,326	983,061	3,735,805	100,055	2,766,911	–	—	—	—
	48,461,948	17,921,060	1,957,267	5,938,631	2,445,314	1,013,464	8,041,584	1,302,742	1,272,804	4,644,065	169,060	3,755,957	–	—	—	—
Remainder applied to amortization of capital investment	18,385,634	3,949,964	374,782	6,923,874	1,379,695	386,816	1,083,623	597,324	527,200	2,055,937	160,685	945,388	346	—	—	—
SCHEDULED REPAYMENT OF CAPITAL INVESTMENT FOR FISCAL YEAR 1959, Established By Law or Administrative Policy Pursuant to Law	28,125,254	10,116,000	1,093,000	6,923,874	1,379,695	423,000	3,624,000	560,000	541,000	1,922,000	160,685	1,382,000	–	—	—	—
Excess of funds returned over scheduled repayment (—deficiency)	$ –9,739,620	$ – 6,166,036	$ – 718,218	$ —	$ —	$ – 36,184	$ –2,540,377	$ 37,324	$ – 13,800	$ 133,937	$ —	$ – 436,612	$ 346	$ —	$ —	$ —
COMPARISON OF REPAYMENT and SCHEDULED REPAYMENT OF COMMERCIAL POWER INVESTMENT For the Period from Inception to June 30, 1959																
REPAYMENT OF CAPITAL INVESTMENT IN COMMERCIAL POWER:																
Accumulated funds returned to U. S. Treasury (schedule 3)	$ 647,329,187	$ 287,512,126	$ 63,767,291	$ 163,883,607	$ 24,356,914	$ 7,186,343	$ 55,224,212	$ 11,156,643	$ 8,309,498	$ 17,657,061	$944,745	$ 7,330,401	$ 346	$ —	$ —	$ —
Less amounts equivalent to:																
Operation and maintenance expense . . .	159,375,772	100,248,753	14,035,878	27,507,825	2,281,943	1,068,661	6,632,593	1,635,112	1,093,598	2,805,765	208,756	1,856,888	–	—	—	—
Interest charged to operations	219,599,782	65,799,646	22,542,125	64,068,118	13,178,475	3,669,494	27,137,425	5,581,118	4,269,561	9,212,372	305,308	3,836,140	–	—	—	—
	378,975,554	166,048,399	36,578,003	91,575,943	15,460,418	4,738,155	33,770,018	7,216,230	5,363,159	12,018,137	514,064	5,693,028	–	—	—	—
Remainder applied to amortization of capital investment	268,353,633	121,463,727	27,189,288	72,307,664	8,896,496	2,448,188	21,454,194	3,940,413	2,946,339	5,638,924	430,681	1,637,373	346	—	—	—
SCHEDULED REPAYMENT OF CAPITAL INVESTMENT AT JUNE 30, 1959, Established By Law or Administrative Policy Pursuant to Law	203,704,841	78,212,000	15,907,000	72,307,664	8,896,496	1,866,000	14,382,000	3,[illegible]1,000	2,235,000	4,590,000	430,681	1,877,000	–	—	—	—
Excess of funds returned over schedule repayment (—deficiency)	$ 64,648,792	$ 43,251,727	$ 11,282,288	$ —	$ —	$ 582,188	$ 7,072,194	$ 939,413	$ 711,339	$ 1,048,924	$ —	$ – 239,627	$ 346	$ —	$ —	$ —

The accompanying notes (schedule 7) are an integral part of this statement.

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

STATEMENT COMBINING EXPENSES OF COMMERCIAL POWER OPERATIONS

FOR THE FISCAL YEAR ENDED JUNE 30, 1959

	Combined to schedule 1	Bonneville Power Administration	Bonneville Project	Columbia Basin Project	Hungry Horse Project	Albeni Falls Project	McNary Project	Detroit-Big Cliff Project	Lookout Point-Dexter Project	Chief Joseph Project	Yakima Project, Roza and Kennewick Divisions	The Dalles Project
OPERATING EXPENSES (notes 2 and 3):												
Purchased power	$ 515,307	$ 515,307	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Operation:												
Specific power facilities	10,451,362	7,133,622	416,237	1,053,568	199,385	119,599	470,403	124,802	116,016	431,412	50,571	335,747
Joint facilities	1,334,271	—	138,040	269,005	27,640	14,429	406,145	105,385	80,446	1,369	2,237	289,575
Maintenance:												
Specific power facilities	5,399,324	2,882,775	350,650	814,676	133,102	114,775	384,875	91,469	75,657	309,139	15,296	226,910
Joint facilities	1,210,360	—	218,792	236,634	73,863	33,870	312,754	15,760	17,624	163,342	901	136,820
Depreciation:												
Specific power facilities	20,977,991	11,934,218	631,987	1,615,835	488,108	382,823	1,704,661	405,437	429,019	2,051,295	54,172	1,280,436
Joint facilities	4,456,618	—	148,448	513,133	480,818	149,001	1,724,517	192,411	183,139	497,282	19,789	548,080
Net loss on sales and abandonment of property	264,783	162,850	—	—	—	—	104,180	742	—	2,989*	—	—
Total operating expenses	44,610,016	22,628,772	1,904,154	4,502,851	1,402,916	814,497	5,107,535	936,006	901,901	3,450,850	142,966	2,817,568
INTEREST AND OTHER DEDUCTIONS (note 2):												
Interest on Federal investment	33,217,425	8,365,765	846,942	3,515,702	2,010,081	730,791	6,467,407	966,098	983,119	3,757,207	102,226	5,472,087
Less amount charged to construction	3,031,256*	291,056*	10,621*	—	—	—	—	772*	58*	21,402*	2,171*	2,705,176*
Miscellaneous income deductions (net)	50,480*	100,986*	2,773*	49,046	1,243	2*	—	—	—	2,998	—	6*
Net interest and other deductions.	30,135,689	7,973,723	833,548	3,564,748	2,011,324	730,789	6,467,407	965,326	983,061	3,738,803	100,055	2,766,905
Total expenses and deductions	$74,745,705	$30,602,495	$2,737,702	$ 8,067,599	$3,414,240	$1,545,286	$11,574,942	$1,901,332	$1,884,962	$7,189,653	$243,021	$5,584,473

* Deduction

The accompanying notes (schedule 7) are an integral part of this statement.

The opinion of the General Accounting Office on the financial statements appears in the covering letter of transmittal to the Secretary of the Interior.

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

STATEMENT COMBINING ASSETS AND LIABILITIES

JUNE 30, 1959

ASSETS	Combined to schedule 2	Bonneville Power Administration	Bonneville Project	Columbia Basin Project	Hungry Horse Project	Albeni Falls Project	McNary Project	Detroit - Big Cliff Project	Lookout Point - Dexter Project	Chief Joseph Project	Yakima Project, Roza and Kennewick Divisions	The Dalles Project	Ice Harbor Project	Cougar Project	Hills Creek Project	John Day Project
FIXED ASSETS, at original cost, including interest during construction (notes 2 and 3):																
Commercial power:																
Specific facilities (powerhouses, generating equipment, and transmission plant)	$1,085,997,852	$461,793,811	$ 39,009,547	$111,478,609	$ 23,327,100	$20,424,802	$133,432,180	$22,484,514	$ 23,582,667	$113,174,772	$ 2,787,962	$134,501,888	$ —	$ —	$ —	$ —
Joint facilities (dams, reservoirs, etc.) allocated to power	510,837,932	—	21,066,762	90,902,881	63,543,370	10,808,909	145,113,114	19,231,716	18,112,800	41,192,267	1,656,636	99,209,477	—	—	—	—
	1,596,835,784	461,793,811	60,076,309	202,381,490	86,870,470	31,233,711	278,545,294	41,716,230	41,695,467	154,367,039	4,444,598	233,711,365	—	—	—	—
Irrigation:																
Specific facilities	287,407,946	—	—	262,883,506	—	—	—	—	—	2,482,738	22,041,702	—	—	—	—	—
Joint facilities	85,528,042	—	—	68,638,131	—	—	—	3,783,788	5,020,472	—	8,085,651	—	—	—	—	—
	372,935,988	—	—	331,521,637	—	—	—	3,783,788	5,020,472	2,482,738	30,127,353	—	—	—	—	—
Flood control:																
Joint facilities	85,763,163	—	—	—	19,455,274	164,290	—	20,296,034	45,847,565	—	—	—	—	—	—	—
Navigation:																
Specific facilities	43,152,919	—	6,409,605	—	—	—	22,591,231	—	—	—	—	14,152,083	—	—	—	—
Joint facilities	34,398,797	—	21,066,762	1,000,000	—	127,658	3,720,849	130,324	844,888	—	—	7,508,316	—	—	—	—
	77,551,716	—	27,476,367	1,000,000	—	127,658	26,312,080	130,324	844,888	—	—	21,660,399	—	—	—	—
Other:																
Specific facilities	1,165,888	—	—	—	—	—	—	—	—	—	1,165,888	—	—	—	—	—
Multiple-purpose projects under construction	106,910,307	—	—	—	—	—	—	—	—	—	—	—	59,676,327	11,571,615	25,156,036	10,506,329
Total	2,241,162,846	461,793,811	87,552,676	534,903,127	106,325,744	31,525,659	304,857,374	65,926,376	93,408,392	156,849,777	35,737,839	255,371,764	59,676,327	11,571,615	25,156,036	10,506,329
Less accumulated depreciation:																
Specific facilities:																
Commercial power	134,213,904	86,321,176	8,812,013	16,326,675	3,059,856	1,559,064	6,991,455	2,237,577	1,824,235	5,132,113	161,542	1,788,198	—	—	—	—
Irrigation (pumping power facilities)	522,903	—	—	481,903							41,000		—	—	—	—
Navigation	3,093,496	—	678,156	—	—	—	1,956,628	—	—	—	—	458,712	—	—	—	—
Joint facilities:																
Commercial power	21,366,015	—	2,055,903	4,131,181	2,909,016	1,065,217	7,307,229	929,385	792,738	1,367,722	54,014	753,610	—	—	—	—
Irrigation	419,003	—	—	—	—	—	—	190,870	228,133	—	—	—	—	—	—	—
Flood control	3,123,362	—	—	—	—	16,191	—	1,023,807	2,083,364	—	—	—	—	—	—	—
Navigation	2,511,248	—	2,055,903	—	—	12,581	187,365	6,573	38,392	—	—	210,434	—	—	—	—
Total	165,249,931	86,321,176	13,601,975	20,939,759	5,968,872	2,653,053	16,442,677	4,388,212	4,966,862	6,499,835	256,556	3,210,954	—	—	—	—
Original cost, net	2,075,912,915	375,472,635	73,950,701	513,963,368	100,356,782	28,872,606	288,414,697	61,538,164	88,441,530	150,349,942	35,481,283	252,160,810	59,676,327	11,571,615	25,156,036	10,506,329
CURRENT ASSETS:																
Unexpended funds in U. S. Treasury appropriated by the Congress for construction and for operation and maintenance	29,168,376	16,146,758	263,589	2,217,734	45,287	105,557	538,993	61,538	225,374	1,300,795	566,367	1,415,038	1,396,545	968,434	2,232,761	1,683,606
Special deposits	1,222,820	617,472	—	568,505	886	—	—	—	—	1,594	34,363	—	—	—	—	—
Accounts receivable:																
Customers	9,995,078	9,995,078	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	913,188	806,938	1,480	56,047	5,661	447	4,899	66	—	8,006	16,884	12,017	329	33	78	303
Materials and supplies	7,062,268	5,819,435	106,886	775,508	43,184	24,419	198,651	12,288	5,673	37,595	1,267	36,568	—	510	284	—
Total	48,361,730	33,385,681	371,955	3,617,794	95,018	130,423	742,543	73,892	231,047	1,347,990	618,881	1,463,623	1,396,874	968,977	2,233,123	1,683,909
OTHER ASSETS AND DEFERRED CHARGES	11,557,993	3,531,063	2,734	7,577,386	1,661	50	3,000	2,254	—	355,505	81,023	3,257	—	—	—	—
	$2,135,832,638	$412,389,379	$ 74,325,390	$525,158,548	$100,453,551	$29,003,079	$289,160,240	$61,614,310	$ 88,672,577	$152,053,437	$36,181,187	$253,627,690	$61,073,201	$12,540,592	$27,389,159	$12,190,298

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

STATEMENT COMBINING ASSETS AND LIABILITIES (continued)

JUNE 30, 1959

	Combined to schedule 2	Bonneville Power Administration	Bonneville Project	Columbia Basin Project	Hungry Horse Project	Albeni Falls Project	McNary Project	Detroit - Big Cliff Project	Lookout Point - Dexter Project	Chief Joseph Project	Yakima Project, Roza and Kennewick Divisions	The Dalles Project	Ice Harbor Project	Cougar Project	Hills Creek Project	John Day Project
LIABILITIES																
INVESTMENT OF U.S. GOVERNMENT AND ACCUMULATED NET REVENUES:																
Congressional appropriations	$2,370,275,125	$574,903,234	$104,718,184	$576,661,576	$104,681,336	$31,658,586	$292,102,300	$64,852,868	$ 89,022,052	$149,652,733	$35,389,789	$241,122,294	$58,038,173	$11,835,500	$24,791,500	$10,845,000
Cost of materials and services furnished by other Federal agencies, net	24,389,876	17,391,902	134,588	6,055,802	443,092	1,328	776,503*	3,949*	8,387*	144,479	817,826	50,548	1,550*	121,549	18,836	315
Interest on Federal investment:																
Charged to operations	246,662,005	65,799,646	35,657,492	64,068,118	13,178,475	3,715,231	30,684,155	9,105,480	9,883,426	9,212,372	305,308	5,052,302	—	—	—	—
Charged to construction	89,897,039	7,311,809	3,615,991	9,687,396	4,708,542	1,033,578	21,309,190	4,052,582	6,376,352	11,136,479	166,922	16,877,821	2,219,509	426,637	695,778	278,453
Revenues transferred to continuing fund	1,833,035	1,833,035	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total investment of U.S. Government (note 5)	2,733,057,080	667,239,626	144,126,255	656,472,892	123,011,445	36,408,723	343,319,142	78,006,981	105,273,443	170,146,063	36,679,845	263,102,965	60,256,132	12,383,686	25,506,114	11,123,768
Less:																
Funds returned to U.S. Treasury:																
Repayment of Federal investment in the power program (including amounts for operating expense and interest)	647,329,187	287,512,126	63,767,291	163,883,607	24,356,914	7,186,343	55,224,212	11,156,643	8,309,498	17,657,061	944,745	7,330,401	346	—	—	—
Repayment of Federal investment in nonpower programs	16,463,610	—	12,321	14,099,057	—	12	8,057	20,936	20,838	—	2,301,604	615	104	66	—	—
Total expense of flood control operations	12,339,727	—	—	—	166,532	46,369	—	4,500,777	7,626,049	—	—	—	—	—	—	—
Total expense of navigation operations	30,685,048	—	22,038,661	55,925	—	35,883	6,250,054	29,123	140,235	—	—	2,135,167	—	—	—	—
Other nonreimbursable expense	558,628	—	—	139,353	—	—	—	417,416	—	—	1,859	—	—	—	—	—
Net investment of U.S. Government	707,376,200	287,512,126	85,818,273	178,177,942	24,523,446	7,268,607	61,482,323	16,124,895	16,096,620	17,657,061	3,248,208	9,466,183	450	66	—	—
	2,025,680,880	379,727,500	58,307,982	478,294,950	98,487,999	29,140,116	281,836,819	61,882,086	89,176,823	152,489,002	33,431,637	253,636,782	60,255,682	12,383,620	25,506,114	11,123,768
Accumulated net revenues:																
Net revenues from commercial power operations since inception, including a net loss of $6,609,820 for the year ended June 30, 1959 (schedule 1)	95,152,018	23,987,236	15,933,440	47,184,811	1,936,718	176,992*	6,957,356	562,273	303,408	866,966*	217,839	887,105*	—	—	—	—
Less net loss from irrigation operations since inception	4,561,649	—	—	3,364,823	—	—	—	849,917	833,825	—	486,916*	—	—	—	—	—
	90,590,369	23,987,236	15,933,440	43,819,988	1,936,718	176,992*	6,957,356	287,644*	530,417*	866,966*	704,755	887,105*	—	—	—	—
Total	2,116,271,249	403,714,736	74,241,422	522,114,938	100,424,717	28,963,124	288,794,175	61,594,442	88,646,406	151,622,036	34,136,392	252,749,677	60,255,682	12,383,620	25,506,114	11,123,768
CURRENT AND ACCRUED LIABILITIES:																
Accounts payable	13,773,685	5,203,768	83,768	2,648,538	28,834	39,955	366,065	19,868	24,672	429,675	213,456	873,563	735,019	156,972	1,883,002	1,066,530
Employees' accrued leave	2,275,195	2,275,195	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	16,048,880	7,478,963	83,768	2,648,538	28,834	39,955	366,065	19,868	24,672	429,675	213,456	873,563	735,019	156,972	1,883,002	1,066,530
DEFERRED CREDITS	1,197,317	1,195,680	—	—	—	—	—	—	—	1,594	—	—	—	—	43	—
MATURED INSTALLMENTS OF FIXED OBLIGATIONS FOR USE OF IRRIGATION FACILITIES	1,685,944	—	—	77,445	—	—	—	—	—	—	1,608,499	—	—	—	—	—
CONTRIBUTIONS IN AID OF CONSTRUCTION	629,248	—	200	317,627	—	—	—	—	1,499	132	222,840	4,450	82,500	—	—	—
	$2,135,832,638	$412,389,379	$ 74,325,390	$525,158,548	$100,453,551	$29,003,079	$289,160,240	$61,614,310	$ 88,672,577	$152,053,437	$36,181,187	$253,627,690	$61,073,201	$12,540,592	$27,389,159	$12,190,298

* Deduction

The accompanying notes (schedule 7) are an integral part of this statement.

The opinion of the General Accounting Office on the financial statements appears in the covering letter of transmittal to the Secretary of the Interior.

COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

NOTES TO THE FINANCIAL STATEMENTS

SCHEDULES 1 TO 6, INCLUSIVE

1. Composition of the Columbia River Power System and Related Activities

The Columbia River Power System and Related Activities consists of the Bonneville Power Administration and multiple-purpose projects of the Corps of Engineers and the Bureau of Reclamation for which the Bonneville Power Administration is the power-marketing agent. The transmission system and the hydroelectric plants of these multiple-purpose projects are operated as an integrated power system.

The following multiple-purpose projects, together with the transmission system of the Administration, constitute the Columbia River Power System and Related Activities:

Agency and project	Operation of first unit (fiscal year)	Kilowatts: Installed capacity, June 30, 1959	Kilowatts: Ultimate installed capacity presently scheduled
Corps of Engineers:			
Bonneville	1938	518,400	518,400
McNary	1954	980,000	980,000
Detroit-Big Cliff	1954	118,000	118,000
Albeni Falls	1955	42,600	42,600
Lookout Point-Dexter	1955	135,000	135,000
Chief Joseph	1956	1,024,000	1,024,000
The Dalles	1957	651,000	1,119,000
Ice Harbor	—	—	270,000
Cougar	—	—	25,000
Hills Creek	—	—	30,000
John Day	—	—	1,304,400
Total, Corps of Engineers		3,469,000	5,566,400
Bureau of Reclamation:			
Columbia Basin	1942	1,944,000	1,944,000
Hungry Horse	1953	285,000	285,000
Yakima (Kennewick Division)	1956	12,000	12,000
Yakima (Roza Division)	1959	11,250	11,250
Total, Bureau of Reclamation		2,252,250	2,252,250
Total		5,721,250	7,818,650

Ice Harbor, Cougar, Hills Creek, and John Day Projects of the Corps of Engineers are under construction. In addition, certain specific irrigation facilities at the Chief Joseph Project, which are included in the project's statement of assets and liabilities, are being constructed by the Bureau of Reclamation.

The Yakima Project has been included in these statements only to the extent of the Kennewick and Roza Divisions. The assets and liabilities of four other divisions have been omitted. Certain costs of the Storage Division, one of those omitted, are allocable directly to the irrigation operations of the Kennewick and Roza Divisions by tentative Bureau of Reclamation determination.

2. Accounting policies

Accounting policies for the Bonneville Power Administration and the individual projects constituting the System are not wholly consistent with regard to depreciation, the recording of interest as a charge to expense and to construction work in progress, the inclusion of certain costs incurred by other Federal agencies, and the capitalization of investigations costs.

Depreciation. The straight-line method has been used to compute depreciation for property of the Bonneville Power Administration, and for all individual projects in the system except the Bonneville and Columbia Basin Projects. The compound-interest method, employing an interest factor of 2.5 percent, has been used in computing depreciation on most of the property of the Bonneville Project of the Corps of Engineers and the Columbia Basin Project of the Bureau of Reclamation. Depreciation on transmission property of the Bonneville Project and on general property of the Columbia Basin Project has been computed on a straight-line basis.

All property of the Bonneville Power Administration is allocated to power and is depreciated where appropriate. Depreciation has been uniformly provided on depreciable property of commercial power and all other purposes at projects of the Corps of Engineers. Depreciation has been provided on property allocated to commercial power at projects of the Bureau of Reclamation and on specific power facilities allocated to irrigation pumping at the Columbia Basin Project, but no depreciation has been provided on other property allocated to irrigation or property allocated to other purposes.

Estimated service lives of the various classes of property have been determined by engineering studies. No item of property has been assigned a service life in excess of 100 years, except for a maximum of 150 years at the Hungry Horse Project. Cost of land and land rights for the Bonneville Power Administration have been included in the base for computing depreciation (amortization) except for amounts paid to former owners for fee title. All costs of acquiring fee title to lands of the Corps projects are excluded from the base for depreciation, although any costs of acquiring intangible rights in land are depreciated. All costs associated with the acquisition of land and land rights at the Columbia Basin Project have been subjected to depreciation; no costs associated with the acquisition of land and land rights at other Bureau projects have been depreciated.

Interest. The Administration and the Corps of Engineers have included interest at the rate of 2.5 percent on the net Federal investment allocated to commercial power and all other purposes. The Bureau of Reclamation has included interest at a rate of 2.5 percent only on the net Federal investment allocated to commercial power.

Interest on the Federal investment recorded prior to operations has been charged to property costs (interest during construction).

Costs incurred by other agencies. Bonneville Power Administration has recorded in its accounts actual or estimated costs for rentals, property, materials, and services furnished without charge by the General Services Administration and other Federal agencies and death and disability claims on account of the Administration employees paid by the Bureau of Employees' Compensation, Department of Labor. For the fiscal year 1959, the Administration recorded in its accounts $910,840 of costs for rentals, property, materials, and services furnished without charge; of this amount, $377,929 was included in operating expenses and $532,911 was included in construction costs. It is not the practice of the Corps of Engineers or the Bureau of Reclamation to include in their accounts amounts incurred by other Federal agencies and not assignable to the projects pursuant to law or administrative policy.

Investigations costs. Expenditures for preliminary surveys and investigations have been included as a part of construction costs where appropriate by the Administration and the Bureau of Reclamation. Commencing with the current fiscal year, expenditures for preliminary surveys and investigations have been included as a part of project costs by the Corps of Engineers for all projects or project modifications requiring construction funds after fiscal year 1959.

3. Allocation of joint costs and expenses

Bonneville Power Administration. All the property costs and expenses of the Bonneville Power Administration are considered as specific commercial power costs.

Bonneville Project. The costs of property, plant, and equipment determined to be jointly useful for power generation and for navigation, consisting principally of the dam, reservoir, and fishways, have been allocated 50 percent to power and 50 percent to navigation by the Federal Power Commission under the provisions of the Bonneville Project Act (16 U.S.C. 832f). Operation and maintenance expenses applicable to joint facilities have been allocated to power and to navigation in the same proportion as the related property costs.

Columbia Basin Project. The costs of property, plant, and equipment determined to be jointly useful for power generation and for other purposes, consisting principally of the dam, reservoir, and general service facilities, have been allocated 56 percent to commercial power (including downstream river regulation) and 44 percent to irrigation after assigning $1,000,000 to navigation. Specific power facilities (principally powerhouses and generating equipment), exclusive of the cost of the 3 generating units and related electrical facilities installed in addition to the original 15 units, have been allocated to commercial power and to irrigation pumping power in proportion to the relative value of power delivered for each purpose. The cost of the 3 additional generating units and related electrical facilities has been assigned to commercial power. These allocations have been made by the Secretary of the Interior under the provisions of the Reclamation Project Act of 1939 (43 U.S.C. 485h). The expenses of operating and maintaining the joint facilities have been allocated in the same proportions as the related property costs for purposes of presenting financial statements on the commercial power operation.

Hungry Horse Project. An allocation of the construction costs of Hungry Horse Project has not been made by the Secretary of the Interior. A tentative allocation of the costs of property, plant, and equipment determined to be jointly useful for power generation and flood control purposes has been made by the Bureau of Reclamation. For purposes of this report, such property costs have been allocated 74.32 percent to commercial power (including downstream river regulation) and 25.68 percent to flood control in accordance with the tentative allocation. The expenses of operating and maintaining facilities serving both power and flood control purposes have been allocated in accordance with studies by the Bureau of Reclamation. The application of these studies has resulted in an allocation of 80 percent of joint operation and maintenance expense to commercial power and 20 percent to flood control.

Albeni Falls, Detroit-Big Cliff, Lookout Point-Dexter, The Dalles, and Chief Joseph Projects. Under the provisions of section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), the Secretary of the Interior became the marketing agent for energy generated by projects constructed and operated by the Corps of Engineers that is excess to project needs. The Bonneville Power Administration has been designated the marketing agent for these projects in the Columbia River basin. The act, however, does not specify who shall make an allocation of the construction costs. Tentative allocations of the joint facilities construction costs have been made by the Corps of Engineers, as follows:

	Percent			
	Albeni Falls	Detroit-Big Cliff	Lookout Point-Dexter	The Dalles
Commercial power	97.37	44.27	25.94	92.72
Flood control	1.48	46.72	65.66	—
Navigation	1.15	.30	1.21	7.28
Irrigation	—	7.77	7.19	—
Municipal water supply	—	.94	—	—
Total	100.00	100.00	100.00	100.00

For purposes of this report, the joint construction costs have been allocated in accordance with the foregoing percentages.

The entire construction costs of the joint facilities at the Chief Joseph Project have been allocated by the Corps of Engineers to commercial power. Because of related irrigation development by the Bureau of Reclamation at the Chief Joseph Project, this allocation will be changed at a later date to assign some comparatively minor amounts to irrigation.

The expenses of operating and maintaining facilities serving more than one purpose have also been allocated on the basis of tentative allocations arrived at by the Corps of Engineers. The percentages are as follows:

	Percent			
	Albeni Falls	Detroit-Big Cliff	Lookout Point-Dexter	The Dalles
Commercial power	98.00	56.91	38.25	95.00
Flood control	1.13	35.10	54.89	—
Navigation	.87	.25	.98	5.00
Irrigation	—	6.89	5.88	—
Municipal water supply	—	.85	—	—
Total	100.00	100.00	100.00	100.00

As in the case of joint construction costs, the entire operation and maintenance expense of joint facilities at the Chief Joseph Project is considered applicable to commercial power.

Firm cost allocations for the Albeni Falls Project were approved on August 10, 1959. The approved cost allocations for this project do not vary significantly from the tentative cost allocations used in the financial statements. The percentage cost allocations approved for the Albeni Falls Project are as follows:

	Percent	
	Construction costs	Operation and maintenance costs
Power	97.33	98.04
Flood control	1.51	1.09
Navigation	1.16	0.87
Total	100.00	100.00

The accounts and financial statements relating to the Albeni Falls Project may require adjustment in accordance with the approved cost allocations.

McNary Project. The River and Harbor Act of 1945 (59 Stat. 22) authorized this project and provided that the Deparmtnet of the Interior would market the electric energy in accordance with the terms of the Bonneville Project Act. Under the provisions of the Bonneville Project Act, the Federal Power Commission is authorized to allocate the construction costs of joint facilities to power and nonpower purposes. In an interim report the Commission allocated 97.5 percent of the joint facilities construction costs to commercial power and 2.5 percent to navigation. For the purposes of this report, the costs of joint facilities have been allocated in accordance with these percentages. Operation and maintenance expenses applicable to joint facilities have been allocated to commercial power and to navigation operations on the same basis.

Yakima Project (Kennewick and Roza Divisions). A firm allocation of the costs of the Yakima Project has not been made by the Secretary of the Interior.

A tentative allocation of the total costs to date of the Kenewick Division has been made by the Bureau of Reclamation. The costs of property, plant, and equipment determined to be jointly useful for power generation and for irrigation have been allocated between these purposes in accordance with the following percentages:

	Percent		
	Power	Irrigation	Total
Prosser diversion dam:			
Original	—	100.0	100.0
Additions	100.0	—	100.0
Headworks and common facilities	14.6	85.4	100.0
Chandler Canal — 1st section:			
Original	—	100.0	100.0
Additions	100.0	—	100.0
Chandler Canal — 2nd section:			
Original	—	100.0	100.0
Additions	22.5	77.5	100.0
General plant	71.2	28.8	100.0

The expenses of operating and maintaining facilities serving more than one purpose have been allocated 67 percent to power and 33 percent to irrigation.

A tentative allocation of the total costs to date of the Roza Division has been made by the Bureau of Reclamation based on the use of facilities. The costs of property, plant, and equipment have been allocated between power and irrigation in accordance with the following percentages:

	Percent		
	Power	Irrigation	Total
Roza diversion dam and headworks:			
Original	—	100.0	100.0
Modification	100.0	—	100.0
Main canal:			
Original except $1,000,000 of canal costs	—	100.0	100.0
Canal costs of $1,000,000	20.0	80.0	100.0
Modification	100.0	—	100.0
Roza powerplant, switchyard, and operator's dwelling	20.0	80.0	100.0
34.5 kv transmission line	7.0	93.0	100.0
East Selah and pumping plant substations and balance of transmission lines	—	100.0	100.0

The operation and maintenance expenses of joint facilities have been allocated 11.4 percent to commercial power, 72 percent to irrigation, and 16.6 percent to fish and wildlife.

4. Repayment and scheduled repayment of commercial power investment

The Bonneville Power Administration has the responsibility of fixing commercial power rates at a level which will, over a number of years consistent with the requirements of law, insure repayment of the investment in commercial power and the investment in related irrigation activities assigned for repayment from commercial power revenues. Repayment requirements for the Columbia River Power System are found in the varying provisions of the several acts authorizing construction and in the administrative interpretations thereof. Accordingly, System power rates reflect a composite of the requirements of these acts applied to the individual projects and the Administration. An allocation of System power receipts among the generating projects and the Administration, designed to satisfy their respective requirements, is made annually pursuant to agreements reached by the Administration with the Corps of Engineers and the Bureau of Reclamation. Funds received from commercial power operations for repayment of the Federal investment in Bonneville Power Administration and Corps of Engineers projects are deposited into the Treasury as miscellaneous receipts. Funds received for repayment of Bureau of Reclamation projects are deposited into the Treasury to the reclamation fund.

The Statement of Repayment of Investment in Commercial Power Program (schedule 4) compares, for fiscal year 1959 and for the period from inception to June 30, 1959, the repayment of Federal investment in commercial power achieved by current power rate levels with the scheduled repayment established by law or administrative policy pursuant to law. Power receipts returned to the Treasury have been first applied to the repayment of operation and maintenance and interest expenses, with the remainder being applied to amortization of the

capital investment in commercial power. On projects in which part of the irrigation investment is assigned for repayment from commercial power revenues, the assistance is assumed to begin after repayment of the commercial power investment. Commercial power rate and repayment requirements are affected by irrigation assistance to the extent that the assistance makes necessary the recovery of commercial power investment in a shorter period of years. The annual deposits on behalf of reclamation projects by Bonneville Power Administration are based on scheduled repayment requirements set forth in rate and repayment studies made annually, by the Bureau of Reclamation. Since the annual deposits by Bonneville Power Administration have been equal to the scheduled repayment requirements, repayment for each Bureau project is considered to be just on schedule.

The rate and repayment requirements established by law or administrative policy pursuant to law for the individual projects and the Administration are as follows:

Bonneville Project, Bonneville Power Administration, and McNary Project. The Bonneville Project Act (16 U.S.C. 832f) provides that rate schedules shall be drawn having regard to the recovery of the cost of producing and transmitting electric energy excess to project needs, including the amortization of the capital investment over a reasonable period of years. This provision of the Bonneville Project Act was also applied to McNary Project by the authorizing legislation.

In determining the rate and repayment requirements for the Bonneville Project, the Bonneville Power Administration, and the McNary Project, the "cost of producing and transmitting electric energy" is substantially the same cost, exclusive of depreciation, as that used in preparing these financial statements, except that for purposes of schedule 4 the noncash power exchange transactions have been excluded for Bonneville Power Administration. The amortization of the capital investment over a reasonable number of years has been administratively determined to be the recovery, during the periods of their respective service lives, of the cost of the power facilities having lives of less than 50 years and the amortization of the remainder of the capital investment in power facilities over a period of 50 years subsequent to the "in service" date of such facilities.

Albeni Falls, Detroit-Big Cliff, Lookout Point-Dexter, Chief Joseph, and The Dalles Projects. Rate and repayment requirements for these projects are governed by section 5 of the Flood Control Act of 1944. The provisions of this section are similar to the corresponding provisions of the Bonneville Project Act and state that rate schedules shall be drawn having regard to the recovery of the cost of producing and transmitting electric energy excess to project needs, including the amortization of the capital investment over a reasonable period of years. Rate and repayment requirements for these projects have been determined by Bonneville Power Administration in cooperation with the Corps of Engineers in the same manner as those for the Bonneville Project, the Administration, and the McNary Project.

The act of July 27, 1954 (68 Stat. 568), authorized the Secretary of the Interior to construct irrigation facilities constituting the Foster Creek Division of the Chief Joseph Project under reclamation law and provided that surplus power revenues should be used to assist in repayment of the irrigation investment. In accordance with the opinion dated August 28, 1959, of the Portland Regional Solicitor, Department of the Interior, the use of power revenues for repayment of the irrigation investment in the Foster Creek Division of the Chief Joseph Project will not be required until after repayment of the project commercial power investment.

Hungry Horse Project. Construction of Hungry Horse Dam and Reservoir was authorized by the act of June 5, 1944 (43 U.S.C. 593a). By the act of May 29, 1958 (72 Stat. 147), the Hungry Horse Project was made subject to the provisions of Federal reclamation law. On the basis of rate and repayment studies by the Bureau of Reclamation, the Administration allocates power receipts annually to the Hungry Horse Project in an amount sufficient to repay, over a period of 50 years, costs of operation and maintenance, replacement of facilities, and investment in commercial facilities allocated to commercial power with interest at 3 percent.

The investment in commercial power to be repaid used by the Bureau of Reclamation in setting Hungry Horse Project rate and repayment requirements differs in two important respects from the investment as presented by the Bureau of Reclamation for use in the financial statements of the Columbia River Power System and Related Activities. For determining rate and repayment requirements, interest has not been capitalized during construction and interest during operations has been computed at a rate of 3 percent on the unamortized investment. Because of these interest differences, the investment as shown in the financial statements at June 30, 1959, was about $4,300,000 greater than the investment determined by the Bureau of Reclamation to be repayable.

Columbia Basin Project. Reclamation law, as supplemented, and Executive Order 8526 require that payments be made into the reclamation fund of the United States Treasury, for the account of Columbia Basin Project, of such revenues received by Bonneville Power Administration from the sale of electric energy as may be properly allocable to the project. Based on official cost allocations and annual payments of $12,800,000 from power receipts by the Administration to the Columbia Basin Project, the fiscal year 1959 rate and repayment study by the Bureau of Reclamation shows that a period of 85 years will be required to cover:

1. Operation, maintenance, and replacement of facilities allocated to commercial power.

2. Interest at 3 percent on unamortized investment in facilities allocated to commercial power.

3. Investment in commercial power facilities.

4. Assistance to irrigators in repaying the investment in irrigation, estimated to require about $463,000,000.

The rate and repayment study shows also that commercial power investment will be repaid in the 34th year (1976) after the first unit was placed in service and that net power revenues after that date will render the assistance necessary to repay the irrigation investment over the remaining 51 years of the project payout period.

The investment in commercial power to be repaid used by the Bureau of Reclamation in setting Columbia Basin Project rate and repayment requirements differs in several important respects from the investment as presented by the Bureau of Reclamation for use in the financial statements of the Columbia River Power System and Related Activities. For determining rate and repayment requirements, interest has not been capitalized during construction, interest has

not been computed on investment in facilities held for future downstream river regulation through fiscal year 1959, and interest during operations has been computed at a rate of 3 percent on the unamortized capital investment. Because of these interest differences, the investment as shown in the financial statements at June 30, 1959, was about $28,000,000 greater than the investment determined by the Bureau of Reclamation to be repayable.

Yakima Project (Kennewick and Roza Divisions). Rate and repayment requirements for the Kennewick Division of the Yakima Project are governed by the Reclamation Project Act of 1939 and the authorizing act of June 12, 1948 (62 Stat. 382). The latter act provides an over-all payout period of 66 years for the reimbursable investment in power and irrigation, with power revenue assistance to irrigators in repayment of the irrigation investment. It provides also for not less than 2.5 percent interest on the investment in commercial power and authorizes the use of one fifth of such interest to assist in repayment of the irrigation investment.

The Roza Division of the Yakima Project started power operations on August 31, 1958. Rate and repayment requirements for the Roza Division are governed by the Reclamation Project Act of 1939.

Repayment of investment in commercial power for the Kennewick Division is expected to require 34 years (1990), and net revenues after that date are to render the assistance necessary to repay the irrigation investment (about $5,127,000) over the remaining 32 years of the project payout period. The rate and repayment study by the Bureau of Reclamation shows that repayment of investment in commercial power for the Roza Division is expected to require 11 years (1970) and net revenues after that date are to render the assistance necessary to repay the irrigation investment (about $4,621,000) over the remaining 52 years of the project payout period.

Excess of scheduled repayment over amounts returned to the Treasury. During fiscal year 1959, funds returned to the United States Treasury were insufficient to cover the fiscal year scheduled repayment of capital investment established by law or administrative policy. The deficiency in fiscal year 1959 revenues was largely absorbed by the Bonneville Power Administration and the Bonneville and McNary Projects of the Corps. However, schedule 4 shows that, except for The Dalles Project, funds returned to the Treasury on behalf of the Corps projects and the Bonneville Power Administration were substantially in excess of the cumulative scheduled repayment at June 30, 1959.

The scheduled repayment of capital investment for the McNary and The Dalles Projects was based on the tentative cost allocations included in the project records as shown in schedule 3. The funds returned to the United States Treasury by Bonneville Power Administration on behalf of these projects for fiscal year 1959 were based on new cost allocation studies made by the Corps of Engineers and used by Bonneville Power Administration for rate study purposes and consideration of existing excess of funds returned over repayment requirements. These cost allocation studies resulted in cost allocations which assigned less costs to power purposes than the tentative cost allocations included in the project records as shown in schedule 3. Accordingly, for fiscal year 1959 the scheduled repayment of capital investment for the McNary and The Dalles Projects was substantially in excess of the proceeds available for amortization after paying operation, maintenance, and interest expenses.

5. Investment of the United States Government

All funds expended on behalf of the Columbia River Power System and Related Activities for the acquisition of electric fixed assets, and for the operation and maintenance of electric facilities, are obtained through congressional appropriation, except that Bonneville Power Administration may use a continuing fund to defray emergency expenses and to assure continuous operation. The continuing fund was authorized by the Bonneville Project Act, as amended (16 U.S.C. 832j), to be derived from receipts from sale of electric energy. To June 30, 1959, receipts transferred to the continuing fund totaled $1,833,035, of which $1.333,035 has been expended and $500,000 remained unexpended. With the exception of the continuing fund, receipts from the sale of electric energy are not available for expenditure and are deposited into the United States Treasury.

An interest factor is included as a part of the Federal investment but does not represent congressional appropriation of funds to the power system. An interest charge of 2.5 percent a year has been recorded on the net Federal investment in commercial power and certain other purposes. The net cost of materials and services transferred from other Federal agencies, and included in the Federal investment, does not represent appropriations to the System but only the recording of actual or estimated costs of such materials and services. (See note 2.)

The total investment shown on the statement of assets and liabilities represents the appropriations, interest, and other resources associated with the acquisition of assets and the operation of facilities on an accumulated basis. The deductions from total investment for funds returned to the United States Treasury and nonreimbursable expenses are also shown on an accumulated basis. Funds returned to the Treasury from commercial power activities apply to repayment of investment used for current operation, maintenance, and interest expenses as well as accumulated investment in fixed assets.

6. Other operating revenues

Payments for downstream river regulation. The Federal Power Act (16 U.S.C. 803f) provides that a licensed project receiving benefits from the upstream improvements of another licensed project or of the Federal Government shall make payments on account of such benefits. It is the responsibility of the Federal Power Commission to determine the amount that non-Federal power installations on the Columbia River and its tributaries will have to pay for downstream benefits received or to be received from storage by Federal projects of the Columbia River Power System. The Commission made a headwater benefit determination on December 11, 1958 (Docket No. E-6384), and on January 12, 1959, received the sum of $53,400 as payment for headwater benefit charges applicable to calendar year 1955. This payment was made by the Puget Sound Power and Light Company and Public Utility District No. 1 of Chelan County, Washington, as joint licensees for the Rock Island plant. Of the total amount, $37,500 was attributable to benefits supplied by the Hungry Horse and Columbia Basin Projects and has been accrued in the accounts of the Bonneville Power Administration as marketing agent. The balance of $15,900 was attributable to benefits supplied by the Albeni Falls Project but has not bee accrued in the accounts of that project.

Project energy – use at site. All energy excess to project needs is delivered to, and marketed by, the Bonneville Power Administration. The minor amount of energy remaining is consumed at site in connection with project operations. Revenues stemming from uses of energy at project site for employees' quarters, construction contractors, and interdepartmental and similar purposes are recorded in project accounts. The amounts of such revenues recorded by the projects were:

Project	
Bonneville	$ 28,670
Columbia Basin	50,809
Hungry Horse	6,705
McNary	64,938
Chief Joseph	13
Yakima (Kennewick and Roza Divisions)	208
The Dalles	6,667
Total	$158,010

Rental of electric property. The Bonneville Power Administration charges rent for transmission facilities used to transfer power for other utilities and industrial customers. Revenues of $1.577,047 were accrued in the Administration accounts in connection with such activities. An additional $4,190 in revenues from rental of electric property was accrued in the accounts of the Yakima Project (Kennewick and Roza Divisions).

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