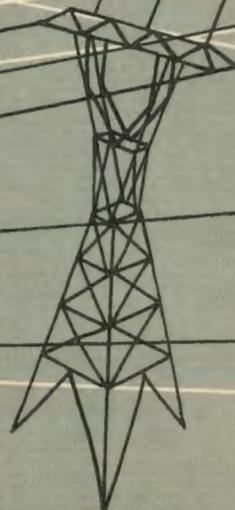


Lloyd Hoff

# Report

COLUMBIA RIVER POWER SYSTEM



# 1951

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



**U. S. DEPARTMENT OF THE INTERIOR**  
**BONNEVILLE POWER ADMINISTRATION**  
**PORTLAND 8, OREGON**

# *R*eport

**CONSISTING OF THE BONNEVILLE  
POWER ADMINISTRATION, AND  
POWER COMPONENTS OF THE  
BONNEVILLE DAM PROJECT,  
AND THE COLUMBIA BASIN  
PROJECT (GRAND  
COULEE DAM).**

**ON THE COLUMBIA RIVER POWER SYSTEM**

***1951***



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# Letter of Transmittal

December 31, 1951

The Honorable  
The Secretary of the Interior  
Washington, D. C.

My dear Mr. Secretary:

In accordance with requirements of Section 9 (c) of the Bonneville Project Act, the fourteenth annual report of the Bonneville Power Administration, covering the operations of the Columbia river power system from July 1, 1950, to June 30, 1951, is transmitted herewith.

The content of this report relates to the management and repayment of the federal investment in the transmission facilities of the Bonneville Power Administration and the power components of the Bonneville dam project of the United States Engineers, Department of the Army, and the Columbia basin project of the Bureau of Reclamation, Department of the Interior.

From a financial standpoint, operations as of the close of fiscal year 1951 have been satisfactory, reflecting a gain in gross operating revenues of nearly 16 percent over fiscal year 1950. Net revenues of \$14,495,552, after expenses, depreciation and interest, represent a gain of nearly 22 percent over the previous year. Revenues from beginning of operations to June 30, 1951, total \$225,073,739. The basic \$17.50 wholesale rate has not been raised during this 12-year period despite increased costs of material and labor.

With addition of 330 circuit miles of high voltage transmission lines and 15 substations to the transmission grid, at the end of the fiscal year the Bonneville Power Administration was operating a total of 4,370 circuit miles and 123 substations, having a total capacity of 3,112,825 kilovolt amperes. Demands of the region, coupled with the

necessity for serving vital defense industrial loads, however, continue to require service to an extent beyond the point where complete system stability can be assured through adequate reserves.

As has been previously indicated, on numerous occasions, the Pacific Northwest remains woefully short of generation. This was given particular point in September 1951, when regional stream flows became critical. Although only minor curtailment of hydroelectric power deliveries to aluminum reduction plants operating on interruptible contracts became necessary for a brief period, the situation gave dramatic emphasis to the need for proceeding with all haste to increase the total generating capacity of the region. In anticipation of such a contingency, the administration had earlier pointed to the possibility of a deficiency of approximately 600,000 kilowatts under adverse weather or stream flow conditions. From a power capability standpoint, prospects do not appear materially brighter for next year.

Contracts for interruptible power supply between the administration and aluminum reduction firms are designed for the purpose of converting power, which might otherwise be wasted, into additional production of aluminum, and the risk of possible interruption is taken into full account by all parties to the contracts. It should be noted that, insofar as total aluminum production is concerned, interruptible power curtailments to date have been responsible for the loss of less than one-third of 1 percent for the first two years of the defense production program.

**II letter of transmittal**

Since the use of interruptible power during the first two years of the defense production program will account for some 170,000 tons of aluminum, or about 11 percent of national production, which otherwise would have been lost to the defense program, both the policy of power sales on an interruptible basis and the "calculated risk" policy of making future commitments for defense power on the basis of anticipated median stream flows rather than critical stream flows appear to be adequately justified.

Because of the essentiality of making as full use as possible of Pacific Northwest hydroelectric potentialities, the Bonneville Power Administration early last spring made specific recommendations to the Defense Electric Power Administration through which 200,000 kilowatts of federal capacity and 1,000,000 kilowatts of non federal capacity might be installed within a period of thirty-six months, and 780,000 additional kilowatts of federal capacity within a period of sixty months.

As a further means of alleviating the situation, the administration has also strongly advocated: (1) the installation of fuel fired generating plants with a capacity of 400,000 kilowatts, which could be used to firm some 400,000 kilowatts of interruptible power (authorizing legislation for these plants is now before Congress); (2) completion of tie lines to California and Idaho, which would be employed to firm an additional 220,000 kilowatts of interruptible power. Although urgently required to meet the immediate need, both of these recommended steps would be of permanent benefit to the region in meeting peak energy requirements and safeguarding the system in the event of a repetition of the critical water condition.

**letter of transmittal III**

Recognition of the importance assigned to the federal program of hydro-electric generation and transmission in the Pacific Northwest to the national defense has been indicated by the designation of the Bonneville Power Administration as a national defense agency.

A major forward step in coordinating power requirements and supply of the administration and private utilities in the Pacific Northwest was taken with the signing of five-year power contracts with all major private utilities with generating facilities serving northern Oregon, Washington and northern Idaho. The major purpose of these agreements, which are discussed at some length later in this report, is to establish by contract the relative positions of private utilities and other Bonneville customers in a manner consistent with the requirements of the Bonneville Act.

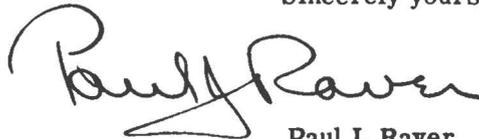
Internally, operations of the Bonneville Power Administration have been satisfactory, with high employee morale and labor relations continuing on an excellent basis. In this latter respect, the Senate Committee on Labor and Public Welfare gave a most favorable report on the labor-management relations of the Bonneville Power Administration. This report was prefaced, in part, with these words: "Indeed, labor-management relations in the Bonneville Power Administration can well serve as a model, not only for government agencies, but for private industries as well." Within recent months the administration was cited for an outstanding record in the employment of physically handicapped persons. The several hundred now on the rolls of the Bonneville Power Administration are rendering valuable service to the program, many in responsible professional capacities.

**IV letter of transmittal**

Throughout the year various phases of the reorganization program, referred to in the annual report for fiscal year 1950, have been progressing. Division of field operations responsibilities into four area offices will become effective early in January 1952. Delegation of operating responsibilities hitherto centralized in the headquarters office at Portland, Oregon, and closer integration of field operations are expected to be the result of this element of the reorganization program.

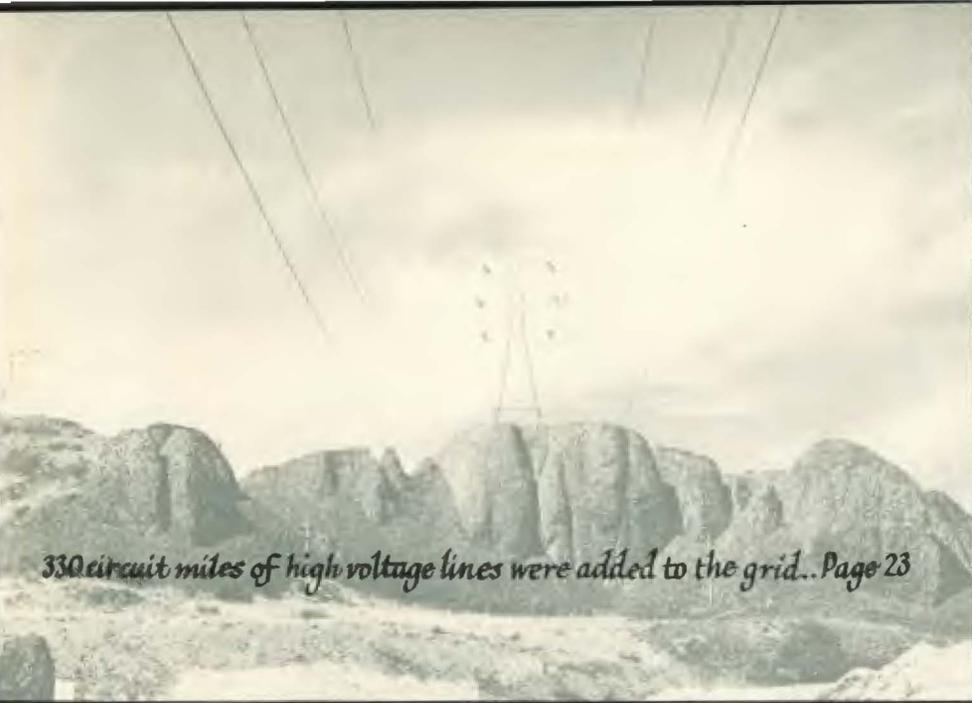
Valuable guidance and advice on both policy and program matters related to the Pacific Northwest power supply situation have been received by the administration through its relations with the Bonneville Regional Advisory Council, the Pacific Northwest Field Committee, the Columbia Basin Inter-Agency Committee and regular meetings with the membership of the Pacific Northwest Utilities Conference Committee.

Sincerely yours,

A handwritten signature in cursive script that reads "Paul J. Raver". The signature is written in dark ink and is positioned above the printed name and title.

Paul J. Raver  
Administrator

**letter of transmittal V**



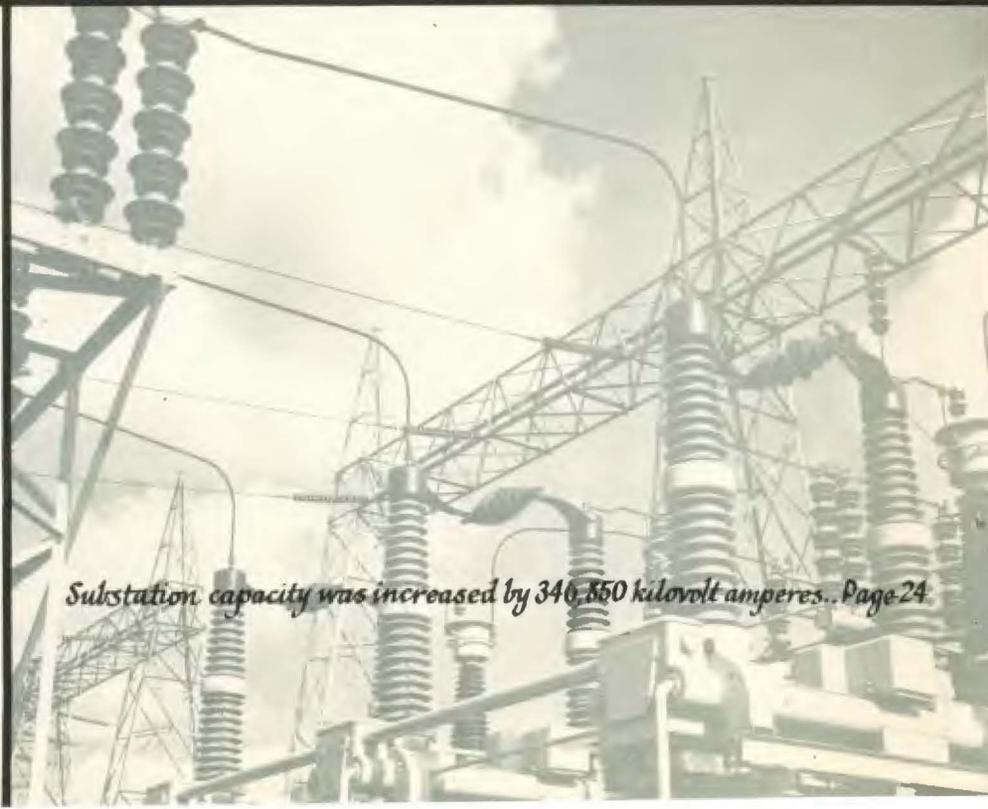
*330 circuit miles of high voltage lines were added to the grid.. Page 23*



*Laying the submarine electric cable to serve the San Juan Islands.. Page 25*



*More interruptible power for aluminum production.. Page 36*



*Substation capacity was increased by 346,850 kilovolt amperes.. Page 24*

## COLUMBIA RIVER POWER SYSTEM

**Condensed Summary of Revenues and Expenses**

	Fiscal Year 1950	Fiscal Year 1951	Total to June 30, 1951
Operating revenues	\$ 31,197,515	\$ 36,189,028	\$ 225,073,739
Expenses of operation, maintenance, etc.	7,404,258	8,657,494	61,479,293
Provision for depreciation	5,799,855	6,496,777	37,640,750
Interest expense	6,061,576	6,532,009	55,709,460
Miscellaneous deductions, net	22,859	7,196	1,104,623
Total deduction	19,288,548	21,693,476	155,934,126
Surplus net revenues from power operations	\$ 11,908,967	\$ 14,495,552	\$ 69,139,613

**FINANCIAL RESULTS OF OPERATIONS**

Excellent water conditions during the fiscal year ending June 30, 1951, together with the installation of additional generator units at Grand Coulee dam and heavy demands for power from defense industries combined to boost gross revenues of the Columbia river power system to a new peak of \$36,189,028, an increase of \$4,991,513 over the previous year. Net revenues, after repayment of all expenses for operation, maintenance, administration, marketing, depreciation and interest were \$14,495,552, a gain of \$2,586,585 for the year. Cumulative gross and net revenues from the beginning of operations to June 30, 1951 were \$225,073,739 and \$69,139,613 respectively.

**TABLE I**  
**REVENUES BY CLASS OF CUSTOMER**  
**Through Fiscal Year 1951**

<u>Class of Customer</u>	<u>1946 and Prior</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>	<u>1950</u>	<u>1951</u>	<u>Total to June 30, 1951</u>	<u>1951 Percentage (dollar revenue)</u>
<b>Industry:</b>								
Aluminum . . . .	\$44,175,815	\$ 9,045,540	\$10,453,425	\$11,741,530	\$12,133,254	\$13,523,276	\$101,072,840	37.37
Other Industry <sup>1/</sup>	12,465,712	1,836,349	1,915,884	2,219,819	2,677,580	3,774,705	24,890,049	10.43
Publicly-owned . . utilities . . . . .	7,622,099	2,778,765	4,318,120	5,893,436	8,409,428	9,947,909	38,969,757	27.49
Privately-owned utilities . . . . .	17,113,897	6,127,669	7,633,051	7,756,301	7,587,963 <sup>6/</sup>	8,525,609	54,744,490	23.55
Other electric revenue . . . . .	<u>2,084,004<sup>2/</sup></u>	<u>2,102,606<sup>3/</sup></u>	<u>193,230</u>	<u>209,943</u>	<u>384,609</u>	<u>422,118</u>	<u>5,396,510</u>	<u>1.16</u>
Total BPA operat- ing revenue . . .	<u>83,461,527</u>	<u>21,890,929</u>	<u>24,513,710</u>	<u>27,821,029</u>	<u>31,192,834<sup>6/</sup></u>	<u>36,193,617</u>	<u>225,073,646<sup>4/</sup></u>	<u>100.00</u>
<b>Columbia Basin Project</b>								
Other electric revenue . . . . .					<u>4,682<sup>5/</sup></u>	<u>4,682<sup>*5/</sup></u>		
<b>Bonneville Dam Project</b>								
Sales electric energy . . . . .						<u>93<sup>7/</sup></u>	<u>93</u>	
Total operating Revenue . . . . .	<u>\$83,461,527</u>	<u>\$21,890,929</u>	<u>\$24,513,710</u>	<u>\$27,821,029</u>	<u>\$31,197,516</u>	<u>\$36,189,028</u>	<u>\$225,073,739</u>	<u>100.00</u>

<sup>1/</sup> Includes federal agencies.

<sup>2/</sup> Includes \$1,789,443 of contract cancellations applicable to fiscal year 1946. (The total of \$3,802,415 was apportioned over a period of 12 months.)

<sup>3/</sup> Includes \$2,012,972 of contract cancellations applicable to fiscal year 1947. (The total of \$3,802,415 was apportioned over a period of 12 months.)

<sup>4/</sup> As of June 30, 1951, the Administration had collected and deposited in the United States Treasury power revenue receipts totaling \$209,518,898 and general fund receipts of \$5,704,193. Accounts receivable, accrued unbilled revenues, unbilled exchange sales, miscellaneous adjustments and minor items account for the difference between total revenues and total receipts deposited by the Administration with the United States Treasury.

<sup>5/</sup> Interdepartmental sales—Irrigation pumping.

<sup>6/</sup> These figures are not strictly comparable to prior years due to a change in the accounting treatment of exchange sales in 1950. Had the prior accounting treatment been continued in 1950, the revenues would have been increased by \$714,931.

<sup>7/</sup> Sales—Contractor working on the dam.

\* Denotes red figure.

## **revenues and expenses**

The accompanying condensed summary shows revenues and expenses of the Columbia river power system for the past two fiscal years and cumulative from the commencement of operations to June 30, 1951. These data, condensed from the certified financial statements set forth in the auditor's reports, reflect the financial results of operations on the basis of commercial cost accounting in accordance with the Federal Power Commission's system of accounts for electric utilities.

## **defense needs expand**

Expansion of defense industries following the outbreak of Korean hostilities accounted for a substantial part of the increase in gross revenue in fiscal year 1951. In view of the defense emergency, industrial plant capacity was utilized to the maximum extent possible with the available power supply. This resulted in substantial revenues from the sale of interruptible power. In 1951 sales to aluminum and other industries accounted for 47.8 percent of total revenues. Sales to publicly owned utilities accounted for 27.5 percent, privately owned utilities 23.5 percent and other sales 1.2 percent. A summary of revenues by class of customers is presented in Table I.

The volume of energy sales reached a new peak of 15,079,237,000 kilowatt hours resulting in an average revenue of 2.37 mills per kilowatt hour sold during fiscal year 1951. Revenue per kilowatt hour sold has averaged 2.43 mills for the entire period of operations. The Columbia river power system ranks second among the power systems in the United States in volume of sales but has the lowest average rate per kilowatt hour sold.

## **low rate justified**

Favorable operating results for fiscal year 1951, accumulated net revenues available from prior years and the general financial outlook for the next few years, confirm the administration's decision of December 1949 to continue for another five-year period the basic \$17.50 per kilowatt year wholesale power rate. Some increase in the wholesale power rate level may be required in December 1954, the next rate adjustment date, in view of increased construction costs of dams now being built or scheduled to begin operations between now and December 1954, although favorable financial results to date and large accumulated surplus should minimize the amount of such increase.

TABLE II  
 COLUMBIA RIVER POWER SYSTEM  
 SUMMARY OF PLANT ACCOUNTS AS OF JUNE 30, 1951

	<u>Allocation</u>		
	<u>Total</u>	<u>Non Power</u>	<u>Power</u>
Bonneville Power Administration . . . . .	\$194,332,310	—	\$194,332,310
Bonneville Dam Project . . . . .	86,519,083	\$ 27,237,156	59,281,927
Columbia Basin Project . . . . .	<u>412,502,282</u>	<u>208,259,557</u>	<u>204,242,725</u>
Total . . . . .	<u>\$693,353,675</u>	<u>\$235,496,713</u>	<u>\$457,856,962</u> 1/
Less Combined Reserve for Depreciation . . . . .			<u>37,531,472</u>
Total Less Reserve . . . . .			<u>\$420,325,490</u>

1/ The total of plant investment represents the major component of the gross federal investment of \$583,245,075 as shown in Schedule I of the Auditors' report, which includes in addition amounts appropriated for cash working capital, materials and supplies, operating expenses and other similar items and non appropriated items such as interest on federal investment.

## **repayment of federal investment**

Cumulative cash receipts of the Columbia river power system allocated to power totaled \$216,078,223 as of June 30, 1951. Receipts from operations are returned to the U. S. Treasury and are not available for use by the operating agencies to meet expenses or construction costs, with the exception of a minor amount made available in a continuing fund to meet emergencies and to assure continuous operations. The difference between total cash receipts of \$216,078,223 and gross operating revenues of \$225,073,739 for the same period is represented by accounts receivable, exchange power sales and miscellaneous items of a minor amount.

## **gross investment**

On a cost accounting basis, gross investment of the federal government in the Columbia river power system, consisting of the Bonneville Power Administration and the power components of Grand Coulee Dam and Bonneville Dam, as of June 30, 1951, was \$583,245,075, consisting of appropriations, WPA expenditures, etc., in the amount of \$501,167,101, net transfers from other federal agencies in the amount of \$3,024,179 and gross accumulated interest of \$79,053,795. The gross investment and the gross repayment include amounts for current expenses of operation, maintenance, interest, etc., as well as amounts appropriated for construction costs. The detail of the interest figure of \$79,053,795 is set forth in Table III.

## **equity increases**

As indicated in Schedule 1 of the auditor's report, gross repayment of \$214,815,619, gross receipts of \$216,078,223 less \$1,262,604 transferred to the continuing fund, on a cost accounting basis reduced the federal investment of \$583,245,075 to an unpaid balance of \$368,429,456. A continuing fund of \$500,000 derived from power revenues is provided by the Bonneville Project Act to defray emergency expenses and assure continuous operation. Expenditures have been made from the fund when system operation or services to an area were endangered, or when necessary to preserve or restore system capability. The cumulative total of such expenditures through June 30, 1951, was \$762,604. These expenditures, when added to the \$500,000 originally allotted to the fund, and remaining in it at June 30, 1951, make up the \$1,262,604 shown as being transferred to the continuing fund.

TABLE III

COLUMBIA RIVER POWER SYSTEM

Summary of Interest\* on Federal Investment as of June 30, 1951

Interest during construction—to be returned during repayment period as part of the Federal Investment:

Transmission system . . . . .	\$ 2,339,426.34
Bonneville Dam Project . . . . .	2,328,948.64
Columbia Basin Project . . . . .	<u>9,610,481.55</u>

Subtotal . . . . . \$14,278,856.53

Interest on costs of Columbia Basin Project allocated to future river regulation—to be returned as part of repayment of future downstream projects . . . . .

9,065,478.50

Interest charged to operations—repaid currently:

Transmission system . . . . .	\$18,257,980.90
Bonneville Dam Project . . . . .	14,953,998.72
Columbia Basin Project . . . . .	<u>22,497,480.79</u>

Subtotal . . . . . 55,709,460.41

Gross interest accumulation as per Schedule I of Auditors' report for 1951 . . . . .

\$79,053,795.44

\* Computed at the rate of 2-1/2% per year.

As a result of the repayment of the investment more rapidly than depreciation has accrued, the government has a substantial equity of \$69,139,613, the accumulated net revenues per Schedule 1, auditors' report. This equity consists of the excess of net assets over the unpaid federal investment:

Depreciated plant account . . . . .	\$420,325,490
Working capital and other assets less current and miscellaneous liabilities and reserves . . . . .	<u>17,243,579</u>
Subtotal . . . . .	437,569,069
Unpaid Federal Investment . . . . .	<u>368,429,456</u>
Accumulated Net Revenues . . . . .	<u>\$ 69,139,613</u>

On a payout basis, the gross receipts of \$216,078,223 have been distributed as follows:

Applied to repayment of expenses and investment :	
To General Fund of Treasury on account of Bonneville Power Administration	\$110,348,807
To General Fund of Treasury for account of Bonneville Dam. . . . .	38,163,093
To Reclamation Fund on account of Columbia Basin Project . . . . .	<u>63,618,680</u>
Subtotal . . . . .	212,130,580
Applied to other accounts:	
To Reclamation Fund in advance for expenses of Columbia Basin Project for F. Y. 1952 . . . . .	1,830,000
To Bonneville Power Administration continuing fund . . . . .	1,262,604
Miscellaneous receipts of Columbia Basin Project netted against expenses or other accounts . . . . .	<u>855,039</u>
Total Receipts . . . . .	<u>\$216,078,223</u>

The \$110,348,807 of receipts applied to the payout of the Bonneville Power Administration have returned expenses of \$37,311,585, interest of \$18,257,981 and \$54,779,241 or 27.49 percent of the total capital investment of \$199,248,912 as of June 30, 1951.

For the Bonneville dam project, the total repayment of \$38,163,093 covered expenses of \$6,372,611, interest of \$14,953,999 and returned \$16,836,483 or 28.21 percent of the total capital investment of \$59,675,623 allocated to power. The capital repayment was 85.90 percent in excess of the scheduled requirement of \$9,056,816. Although more than 28 percent of the investment has been repaid, only seven years or 14 percent of the 50-year repayment period has elapsed. Continuance of regularly scheduled payments will complete the payout of the power features of the project in a total of only 39 years, or 11 years ahead of schedule.

The repayment of \$63,618,680 from power revenues for the Columbia Basin Project was applied to the following accounts:

Expenses allocated to power . . . . .	\$ 11,887,708
Expenses allocated to irrigation but returnable from power revenues . . . . .	1,784,916
Interest at 2-1/2% per cost accounts . . . . .	22,497,481
Additional interest to provide 3% in payout accounts . . . . .	4,165,173
Miscellaneous items net of other income — credit . . . . .	-83,270
Return of construction costs . . . . .	23,366,672
Total . . . . .	<u>\$ 63,618,680</u>

The capital repayment of \$23,366,672 is 2.92 times the originally scheduled amount of \$8,009,283 and represented 15.50 percent of the total construction costs of \$150,747,527 (including \$12,308,688 for the 16th, 17th and 18th generator units) allocated to present commercial power production as of June 30, 1951. Power revenues will be required also to repay that portion of the costs of the project allocated to irrigation that exceeds the repayment ability of the water users, such excess currently estimated at approximately \$350 million. For the combined Columbia river power system, the return of capital, after providing for expenses and interest, totaled \$94,982,396 or 161 percent in excess of scheduled requirements of \$36,395,042.

# SUMMARY OF OPERATIONS

Power generated for the administration at Bonneville and Grand Coulee power plants in fiscal year 1951 was 16.5 billion kilowatt hours and amounted to more than half of the power produced in the Pacific Northwest. Power production for the year showed an increase of 16.5 percent over fiscal year 1950 and brought total production from the two Columbia river plants since July 1939 to 97 billion kilowatt hours.

Heavy demands on the system since the end of the fiscal year and installation of the last generator at Grand Coulee dam in October resulted in generation of an unprecedented 17.7 billion kilowatt hours during the calendar year ending January 1, 1952, with a high 24-hour energy production of 57.266 million kilowatt hours, September 7, 1951.

## new system peak

A new system peak for the fiscal year was recorded between 10 and 11 a.m., June 11, 1951, with a coincidental demand on Bonneville and Grand Coulee plants of 2,535,000 kilowatts, a 20 percent increase over the previous fiscal year's maximum demand of 2,106,000 kilowatts during January 1950. An all time high coincidental demand of 2,784,000 kilowatts occurred at the end of the calendar year, between 5 and 6 p.m., December 31, 1951.

Energy production by years at Bonneville and Grand Coulee plants is shown in Table IV, with peak demand and energy data in Chart I. Prepared on a quarterly basis to indicate more clearly general trends of Bonneville Power Administration system growth and development, the chart shows the effect of postwar economic conditions in the area. Since the fall of 1946, maximum system demands have continuously exceeded the nameplate rating of installed generators.

## energy receipts and deliveries

Electric energy receipts and deliveries on the Bonneville Power Administration transmission system cover many complex transactions in addition to receipts from Bonneville and Grand Coulee generation and deliveries by sales. Bonneville's grid represents the backbone of the interconnected transmission system of public and private utilities in the Pacific Northwest.

**TABLE IV**  
**GENERATION AT BONNEVILLE AND GRAND COULEE PLANTS FOR**  
**BONNEVILLE POWER ADMINISTRATION, FISCAL YEARS 1939-1951**  
(Thousands of Kilowatt hours)

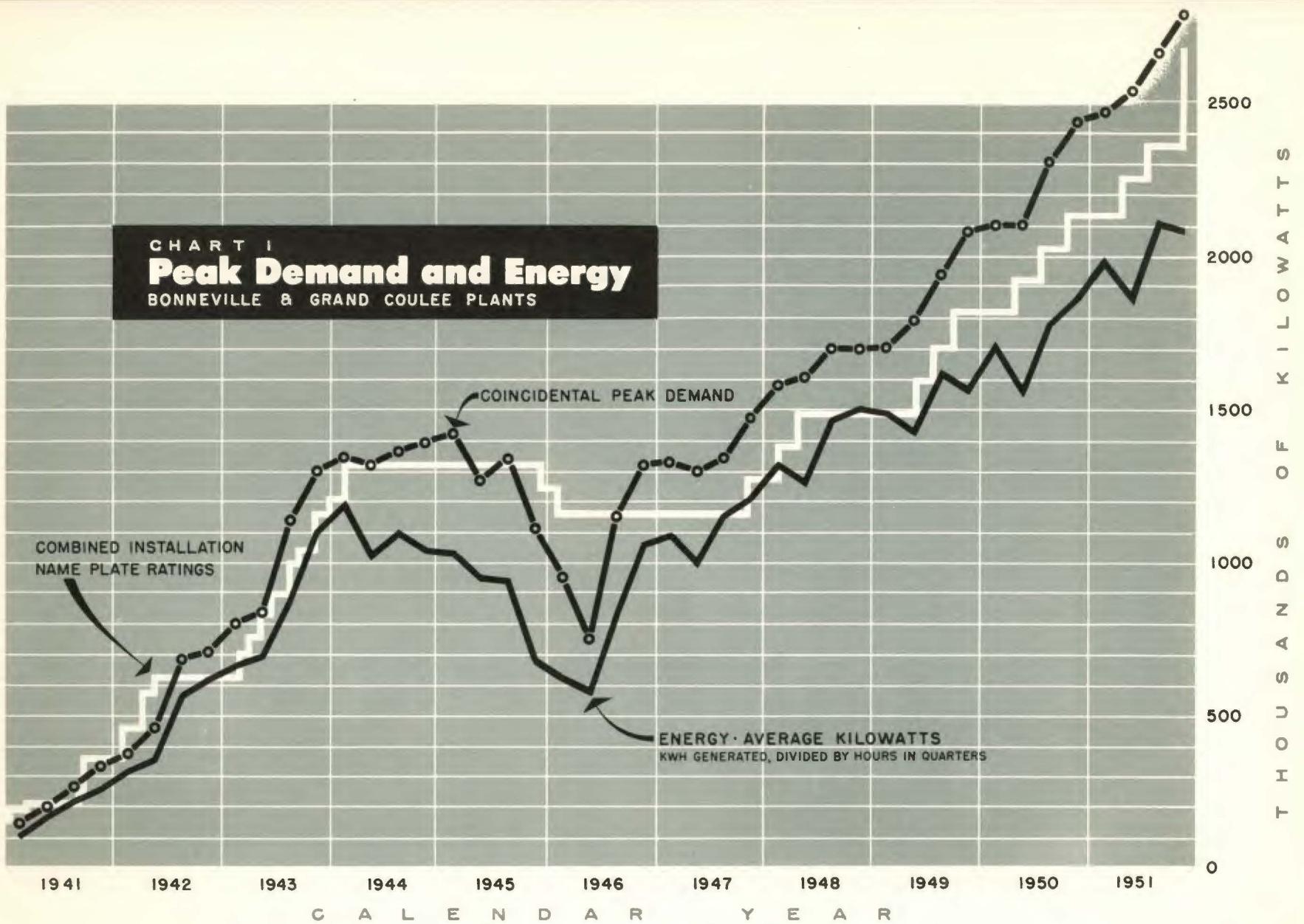
<u>Fiscal Years Ending June 30</u>	<u>Bonneville Generation</u>	<u>Grand Coulee Generation</u>	<u>Total Generation For BPA</u>
1939 . . . . .	34,874	—	34,874
1940 . . . . .	208,426	—	208,426
1941 . . . . .	894,177	7,455	901,632
1942 . . . . .	1,807,309	741,844	2,549,153
1943 . . . . .	2,801,480	2,816,956	5,618,436
1944 . . . . .	3,488,874	5,750,950	9,239,824
1945 . . . . .	3,391,128	5,660,446	9,051,574
1946 . . . . .	2,674,834	3,561,329	6,236,163
1947 . . . . .	3,695,255	5,058,482	8,753,737
1948 . . . . .	3,991,860	6,894,047 <u>1/</u>	10,885,907
1949 . . . . .	3,868,558	9,057,230 <u>1/</u>	12,925,788
1950 . . . . .	3,689,309	10,451,524 <u>1/</u>	14,140,833
1951 . . . . .	<u>3,793,276</u>	<u>12,679,108</u> <u>1/</u>	<u>16,472,384</u>
Total . . . . .	34,339,360	62,679,371 <u>1/</u>	97,018,731

1/ Includes energy transferred for Bureau of Reclamation.

CHART I

# Peak Demand and Energy

BONNEVILLE & GRAND COULEE PLANTS



COMBINED INSTALLATION  
NAME PLATE RATINGS

COINCIDENTAL PEAK DEMAND

ENERGY AVERAGE KILOWATTS  
KWH GENERATED, DIVIDED BY HOURS IN QUARTERS

**TABLE V**  
**ELECTRIC ENERGY ACCOUNT, FISCAL YEAR ENDED JUNE 30, 1951**

Energy received (thousands of kilowatt hours):	
Energy generated for Bonneville Power Administration	
Bonneville . . . . .	3,793,276
Grand Coulee . . . . .	<u>12,679,108 <sup>1/</sup></u>
Total . . . . .	16,472,384 <sup>1/</sup>
Power purchased and interchanged in . . . . .	<u>1,195,072</u>
Total received . . . . .	<u><u>17,667,456</u></u>
Energy delivered (thousands of kilowatt hours):	
Sales . . . . .	15,079,237
Power interchanged out . . . . .	<u>1,170,042 <sup>1/</sup></u>
Used by Administration . . . . .	<u>18,188</u>
Total delivered . . . . .	16,267,467
Energy losses in transmission and transformation . . . . .	1,399,989
Losses as percent of total energy received . . . . .	7.9%
Maximum demand on Bonneville and Grand Coulee plants (kilowatts)	
June 11, 1951, 10-11 a.m., Pacific Standard Time . . . . .	2,535,000
Load factor, total generated for Bonneville Power Administration . . . . .	
	74.2%

<sup>1/</sup> Includes energy transferred for Bureau of Reclamation.

This backbone grid makes possible the fullest utilization of power facilities in the area through diversity in peaking and water capabilities and diversity of system load conditions. Substantial quantities of energy are received and delivered as transfers from other utilities.

Also included are receipts from storage by the administration in non-federal reservoirs and for storage by non-federal utilities in the Grand Coulee reservoir. Disposition of energy includes deliveries from storage in Grand Coulee or to storage in other reservoirs, energy transfers for the Bureau of Reclamation from Grand Coulee, energy used by the administration and energy losses in transmission and transformation.

Table V, Electric Energy Account, summarizes energy receipts and deliveries.

### **sales exceed 15 billion kilowatt hours**

Energy sales to customers of the Bonneville Power Administration exceeded 15 billion kilowatt hours during fiscal year 1951, an increase of 15.6 percent over the previous year. Energy losses in transmission and transformation of power were 1.4 billion kilowatt hours or 7.9 percent of total energy received on the system.

Sales of electric energy to other utilities, both publicly and privately owned, increased 14 percent over fiscal year 1950. Sales to all industries increased 17 percent. A large part of the increase resulted from accelerated deliveries of interruptible power. Continuously favorable water conditions during the 1950-51 storage season made possible the delivery of large amounts of interruptible power to industries.

### **composite average rate 2.43 mills**

During the 13 years' operation ending June 30, 1951, the administration has delivered 90,453,169,000 kilowatt hours of energy at a composite average rate of 2.43 mills per kilowatt hour. Sales to publicly owned utilities for this period were 13.7 billion kilowatt hours at an average rate of 2.84 mills. Privately owned utilities received 22.9 billion kilowatt hours at an average rate of 2.40 mills, and industries 53.8 billion kilowatt hours at an average rate of 2.34 mills. Power sales to the

**TABLE VI**  
**ELECTRIC ENERGY SALES BY CLASS OF CUSTOMER**  
**Fiscal Years 1939-1951**

(Thousands of Kilowatt hours)

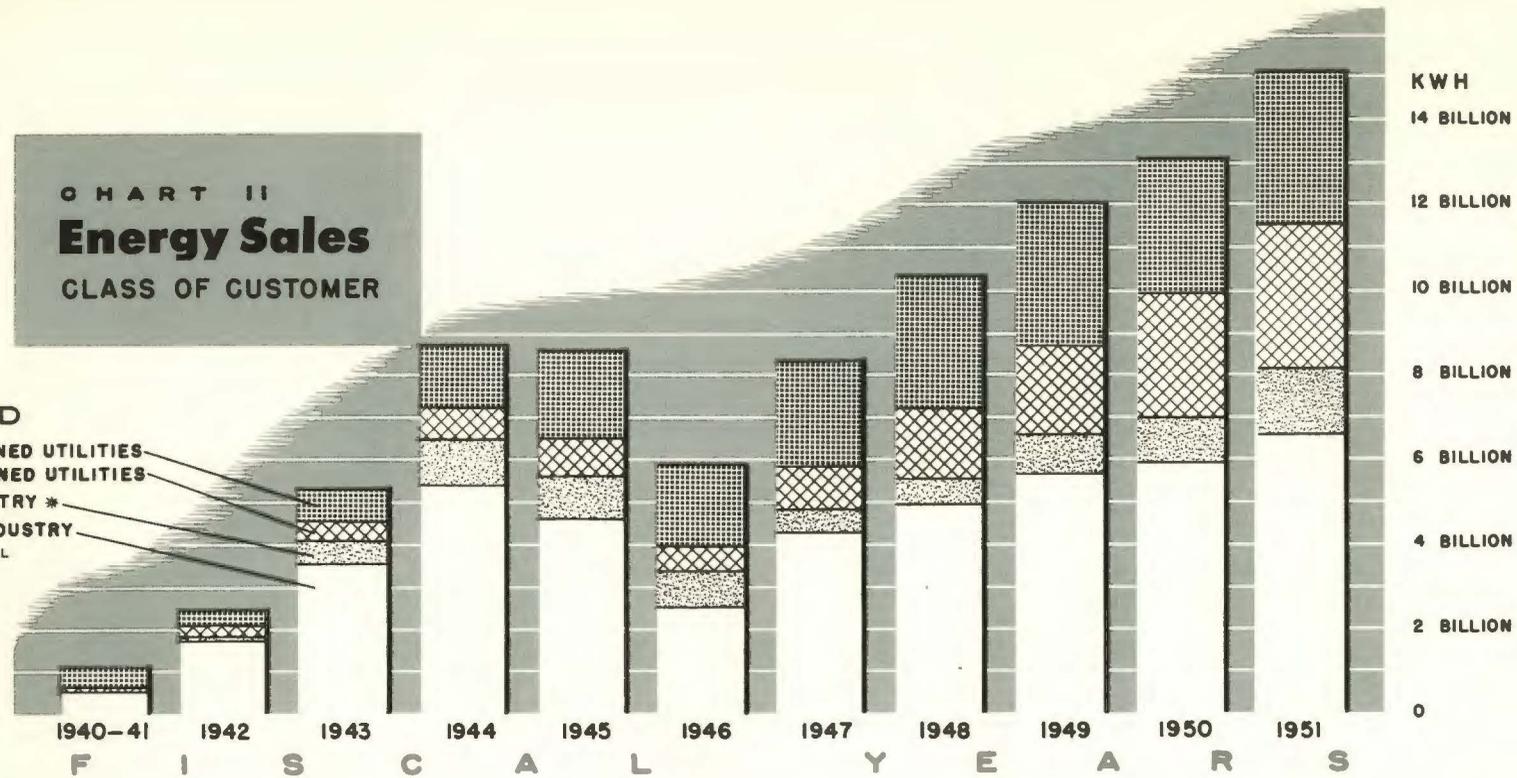
<u>Fiscal Years Ending June 30</u>	<u>Industry</u>		<u>Publicly Owned Utilities</u>	<u>Privately Owned Utilities</u>	<u>Total</u>
	<u>Aluminum</u>	<u>Other Industries <sup>1/</sup></u>			
1941 and prior . . . . .	522,982	4,829	35,242	536,555	1,099,608
1942 . . . . .	1,845,249	79,155	142,491	357,704	2,424,599
1943 . . . . .	3,588,848	507,196	435,289	739,076	5,270,409
1944 . . . . .	5,453,893	1,022,477	727,642	1,467,304	8,671,316
1945 . . . . .	4,667,381	964,724	823,822	2,057,203	8,513,130
1946 . . . . .	2,492,985	799,378	635,531	1,902,990	5,830,884
1947 . . . . .	4,212,413	626,688	1,044,784	2,377,887	8,261,772
1948 . . . . .	4,902,465	646,913	1,560,754	3,180,993	10,291,125
1949 . . . . .	5,665,746	880,017	2,078,931	3,343,983	11,968,677
1950 . . . . .	5,863,465	1,020,733	2,839,495	3,318,719	13,042,412
1951 . . . . .	<u>6,544,703</u>	<u>1,536,558</u>	<u>3,414,413</u>	<u>3,583,563</u>	<u>15,079,237</u>
Total to June 30, 1951 . . . . .	45,760,130	8,088,668	13,738,394	22,865,977	90,453,169

<sup>1/</sup> Includes Federal Agencies.

**CHART II**  
**Energy Sales**  
 CLASS OF CUSTOMER

**LEGEND**

- PRIVATELY OWNED UTILITIES
- PUBLICLY OWNED UTILITIES
- OTHER INDUSTRY \*
- ALUMINUM INDUSTRY
- \*INCLUDES FEDERAL AGENCIES



aluminum plants, initially established in the Pacific Northwest to meet World War II production needs and expanded to meet present requirements, were 45.8 billion kilowatt hours at an average rate of 2.21 mills. Sales to industries other than aluminum including sales to federal agencies were 8.0 billion kilowatt hours at an average rate of 3.06 mills. The same set of rate schedules, based on \$17.50 a kilowatt year, is available to all customers but the average rate varies according to the customer's system load conditions and the rate schedule best adapted to those load conditions.

Electric energy sales by class of customer for each of the 13 years' operation are shown in Table VI. The monthly detail of energy deliveries to these four classes of customers is shown in Chart II for the period from January 1941 to date. This chart portrays the relative size and growth of energy sales to aluminum plants, other industries, privately owned utilities and publicly owned utilities. Detail by customers of energy sales during the fiscal year 1951 is shown in Table VII.

TABLE VII

ENERGY DELIVERIES TO CUSTOMERS OF THE  
BONNEVILLE POWER ADMINISTRATION

Fiscal Year Ended June 30, 1951

<u>Customers</u>	Energy Deliveries For Year 1/ Kilowatt Hours
<u>Publicly Owned Utilities</u>	
<u>Municipalities</u>	
Bandon, Oregon . . . . .	4,348,294
Canby, Oregon . . . . .	7,128,000
Cascade Locks, Oregon . . . . .	7,190,400
Centralia, Washington . . . . .	3,506,884
Cheney, Washington . . . . .	10,172,403
Drain, Oregon . . . . .	6,907,200
Ellensburg, Washington . . . . .	15,755,280
Eugene, Oregon . . . . .	40,327,406
Forest Grove, Oregon . . . . .	24,048,000
Grand Coulee, Washington . . . . .	21,316,800
McCleary, Washington . . . . .	3,813,770
McMinnville, Oregon . . . . .	37,026,000
Milton, Oregon . . . . .	10,089,600
Monmouth, Oregon . . . . .	7,405,878
Seattle, Washington . . . . .	362,561,000
Springfield, Oregon . . . . .	5,259,600
Tacoma, Washington . . . . .	502,581,000
Total Municipalities (17) . . . . .	1,069,437,515
<u>Public Utility Districts</u>	
Benton Co. PUD #1 . . . . .	62,577,382
Central Lincoln PUD . . . . .	66,541,742
Chelan Co. PUD #1 . . . . .	133,007,338

<u>Customers</u>	Energy Deliveries For Year 1/ Kilowatt Hours
Clallam Co. PUD #1 . . . . .	59,619,110
Clark Co. PUD #1 . . . . .	287,445,600
Clatskanie PUD . . . . .	9,485,400
Cowlitz Co. PUD #1 . . . . .	248,606,499
Douglas Co. PUD #1 . . . . .	19,457,700
Ferry Co. PUD #1 . . . . .	344,217
Franklin Co. PUD #1 . . . . .	44,971,700
Grant Co. PUD #2 . . . . .	98,099,980
Grays Harbor Co. PUD #1 . . . . .	171,060,056
Kittitas Co. PUD #1 . . . . .	4,338,000
Klickitat Co. PUD #1 . . . . .	30,804,280
Lewis Co. PUD #1 . . . . .	79,202,480
Mason Co. PUD #3 . . . . .	89,118,600
Northern Wasco Co. PUD . . . . .	4,990,800
Okanogan Co. PUD #1 . . . . .	62,663,009
Pacific Co. PUD #2 . . . . .	44,539,786
Pend Oreille Co. PUD #1 . . . . .	30,159,977
Skamania Co. PUD #1 . . . . .	15,781,820
Snohomish Co. PUD #1 . . . . .	400,623,170
Tillamook Co. PUD . . . . .	24,837,400
Wahkiakum Co. PUD #1 . . . . .	9,168,000
Total Public Utility Districts (24) . . . . .	1,997,444,046
<u>Cooperatives</u>	
Benton-Lincoln Elec. Coop. . . . .	48,258,294
Benton Rural Elec. Assn. . . . .	18,741,887
Big Bend Elec. Coop. . . . .	11,940,014
Blachly-Lane Co. Elec. Coop. . . . .	5,446,200
Central Electric Coop. . . . .	5,783,080
Chelan Co. Electric Coop. . . . .	495,900
Clearwater Valley L & P Assn. . . . .	19,283,350
Columbia Basin Elec. Coop. . . . .	2,927,100
Columbia County REA . . . . .	9,635,500
Coos-Curry Elec. Coop. . . . .	6,392,600
Douglas Elec. Coop. . . . .	16,995,920
Eastern Oregon Elec. Coop. . . . .	811,800

1/ Includes energy deliveries carried on exchange accounts.

2/ July, August, September 1950.

3/ October 1950 - June 1951.

<u>Customers</u>	<u>Energy Deliveries For Year 1/ Kilowatt Hours</u>
Hood River Elec. Coop. . . . .	8,215,200
Idaho Co. L & P Assn. . . . .	4,628,000
Inland Empire REA . . . . .	39,743,800
Kootenai Co. REA . . . . .	6,900,170
Lane Co. Elec. Coop. . . . .	18,677,468
Lincoln Elec. Coop. - Montana. .	52,800
Lincoln Elec. Coop. - Washington.	10,667,340
Missoula Elec. Coop. . . . .	2,826,709
Nespelem Valley Elec. Coop. . .	5,174,200
N. E. Clackamas Elec. Coop. . .	1,740,096
Northern Lights, Inc. . . . .	4,888,020
Okanogan Co. Elec. Coop. . . . .	2,027,200
Pend Oreille Elec. Coop. . . . .	3,491,715
Ravalli Elec. Coop. . . . .	3,060,960
Salem Elec. Coop. . . . .	23,824,000
Stevens Co. Elec. Coop. . . . .	12,839,900
Tanner Mutual P & L Assn. . . .	237,633
Umatilla Elec. Coop. . . . .	12,723,499
Wasco Electric Coop. . . . .	14,444,515
West Oregon Electric Coop. . . .	10,186,278
Total Cooperatives (32) . . . . .	333,061,148
<u>Other</u>	
Oregon State College . . . . .	1,433,328
Vanport Extension Center. . . . .	613,800
Vera Irrigation District #15 . . .	12,423,600
Total Other (3) . . . . .	14,470,728
TOTAL Publicly Owned Utilities . . . . .	3,414,413,437
<u>Privately Owned Utilities</u>	
British Columbia Elec. Ry. Co. .	—
California Oregon Power Co. . .	16,428,000
Montana Power Co. . . . .	12,500,000
Mountain States Power Co. . . . .	177,034,377
Pacific P & L Co. - Astoria . . .	19,047,000 2/
Pacific P & L Co. - Astoria and Main System . . . . .	418,604,000 3/
Portland General Electric Co. .	1,368,628,000

<u>Customers</u>	<u>Energy Deliveries For Year 1/ Kilowatt Hours</u>
Puget Sound P & L Co. . . . .	404,567,000
WWP Co. - Kootenay Lake . . . .	256,512,000
WWP - PP&L Companies . . . . .	248,572,000 2/
Washington Water Power Co. . .	91,536,000 3/
Five-Company Pool . . . . .	570,134,326
Total Privately Owned Utilities (8) . . . . .	3,583,562,703
<u>Federal Agencies (10)</u> . . . . .	790,559,173
<u>Industries</u>	
<u>Aluminum</u>	
Aluminum Co. of America . . . .	1,540,542,200
Kaiser Alum. & Chem. Corp. . . .	
Spokane Aluminum Fab. . . . .	241,010,000
Spokane Aluminum Red. . . . .	2,368,067,300
Tacoma Aluminum Red. . . . .	438,232,000
Reynolds Metals Co. . . . .	
Longview . . . . .	581,068,834
Troutdale . . . . .	1,375,782,166
<u>Other</u>	
Carborundum Co. . . . .	81,370,000
Chromium Mining & Smelting Corp. . . . .	146,980,000
Crown Zellerbach Corp. . . . .	88,798,336
Electro-Metallurgical Co. . . . .	142,180,000
Keokuk Electro Metals Co. . . . .	118,327,000
Pacific Carbide & Alloys Co. . .	28,358,600
Pennsylvania Salt Mfg. Co. . . . .	118,100,000
Rayonier, Inc. . . . .	21,885,000
Total Industries (14) . . . . .	7,290,701,436
Total Sales of Electric Energy (108) . . . . .	15,079,236,749

*BPA helicopter patrol helps maintain flow of power to our customers*

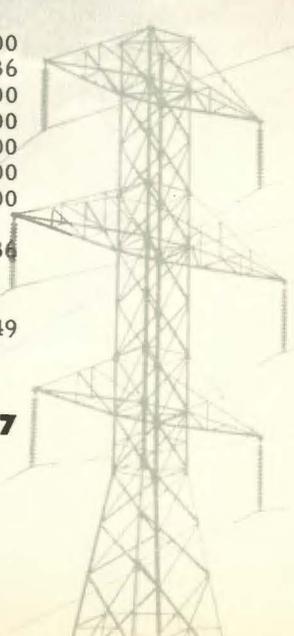


TABLE VIII

ELECTRIC ENERGY SALES BY RATE SCHEDULES, FISCAL YEAR ENDED JUNE 30, 1951

<u>Rate Schedule</u>	<u>Energy (Thousands of Kilowatt hours)</u>	<u>Revenue 1/</u>	<u>Mills per Kilowatt hour</u>
C-3, C-4:			
Industries . . . . .	7,556,293	\$15,517,388	2.05
Utilities . . . . .	<u>4,141,401</u>	<u>9,709,540</u>	<u>2.34</u>
Subtotal . . . . .	11,697,694	\$25,226,928	2.16
F-2, F-3, F-4:			
Industries . . . . .	276,194	959,829	3.48
Utilities . . . . .	<u>67,937</u>	<u>324,033</u>	<u>4.77</u>
Subtotal . . . . .	344,131	1,283,862	3.73
A-3, A-4: Utilities . . . . .	20,440	66,684	3.26
E-2, E-3, E-4: Utilities . . . . .	2,207,893	7,102,291	3.22
Experimental, H-1, H-2, H-3, and exchange (industries and utilities) . . . . .	<u>809,079</u>	<u>2,022,696</u>	<u>2.50</u>
Total Sales . . . . .	15,079,237	35,702,461	2.37
Reconciliation with accounting records . . . . .		plus 69,038 1/	—
Other electric revenues . . . . .		<u>422,118</u>	—
Total Operating Revenues . . . . .		\$36,193,617	—

1/ Sales statistics include billing adjustments or revisions made subsequent to close of accounting records.

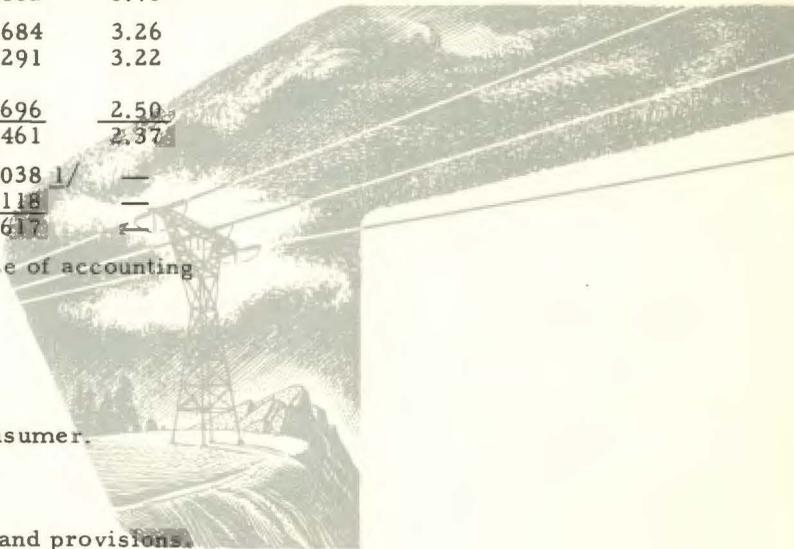
Major features of rate schedules:

- C-3, C-4: Kilowatt year rate for transmission system firm power.
- F-2, F-3, F-4: Demand energy rate for firm power.
- A-3, A-4: Kilowatt year rate for at site firm power.
- E-2, E-3, E-4: Demand energy rate for firm power for resale to ultimate consumer.
- Experimental: Energy rate of 2.5 mills for developmental purposes.
- H-2, H-3: Energy rate for dump, emergency, or breakdown service.
- Exchange: Gross exchange account deliveries at dump energy rate.
- Interruptible: Billed under C-4 and F-4 schedules with special measured demand provisions.

rate schedules summarized

A summary of sales for fiscal year 1951 classified by rate schedules is shown in Table VIII. Approximately three-fourths of energy sales during the fiscal year were made under the C schedule at an average rate of 2.16 mills. 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 schedule to utilities purchasing all or substantially all of their power requirements from the administration. Sales under the F schedule were made to utilities and industries requiring power at low load factor use and under the H schedule for dump, exchange or experimental purposes.



The administration served 108 customers at the end of the fiscal year, including 76 publicly owned distributors of power, 14 industrial customers, 10 federal agencies, and 8 privately owned utilities. Five customers were added during the year - the cities of McCleary, Washington, and Springfield, Oregon, the Lincoln Electric Cooperative at Kalispell, Montana, the Bureau of Reclamation and California Oregon Power Company. No service to customers was discontinued during the year.

## *Dependence of Pacific Northwest distributors upon*

### **COLUMBIA RIVER POWER**

	100 percent	90 to 100 percent	Less than 90 percent
Cities .....	10	1	6 <sup>1/</sup>
Public utility districts .....	16 <sup>2/</sup>	5 <sup>2/</sup>	3 <sup>2/</sup>
Cooperatives .....	<u>33</u>	<u>1 <sup>5/</sup></u>	<u>-</u>
Total .....	59	7	9

<sup>1/</sup> These 6, with the percentage of their total requirements supplied by BPA (in terms of kilowatt-hours during calendar year 1950) are as follows: Ellensburg, 54.0 percent; Milton, 49.7 percent; Tacoma, 32.9 percent; Eugene, 23.0 percent; Seattle, 14.4 percent; and Centralia, 8.5 percent.

<sup>2/</sup> 3 public utility districts (Central Lincoln, Ferry, and Douglas) have segregated systems supplied entirely from other sources than BPA.

<sup>3/</sup> 3 public utility districts (Clark, Grays Harbor, and Pend Oreille) have some segregated systems 100 percent dependent on BPA.

<sup>4/</sup> 1 public utility district (Okanogan) has segregated systems 100 percent dependent on BPA. In calendar year 1950 this public utility district bought 73.8 percent of its total kilowatt-hour requirements from BPA. The other two are Cowlitz (serving city of Longview), 79.5 percent, and Clatskanie, 75.3 percent.

<sup>5/</sup> 1 cooperative (Wasco) has segregated systems 100 percent dependent on BPA.

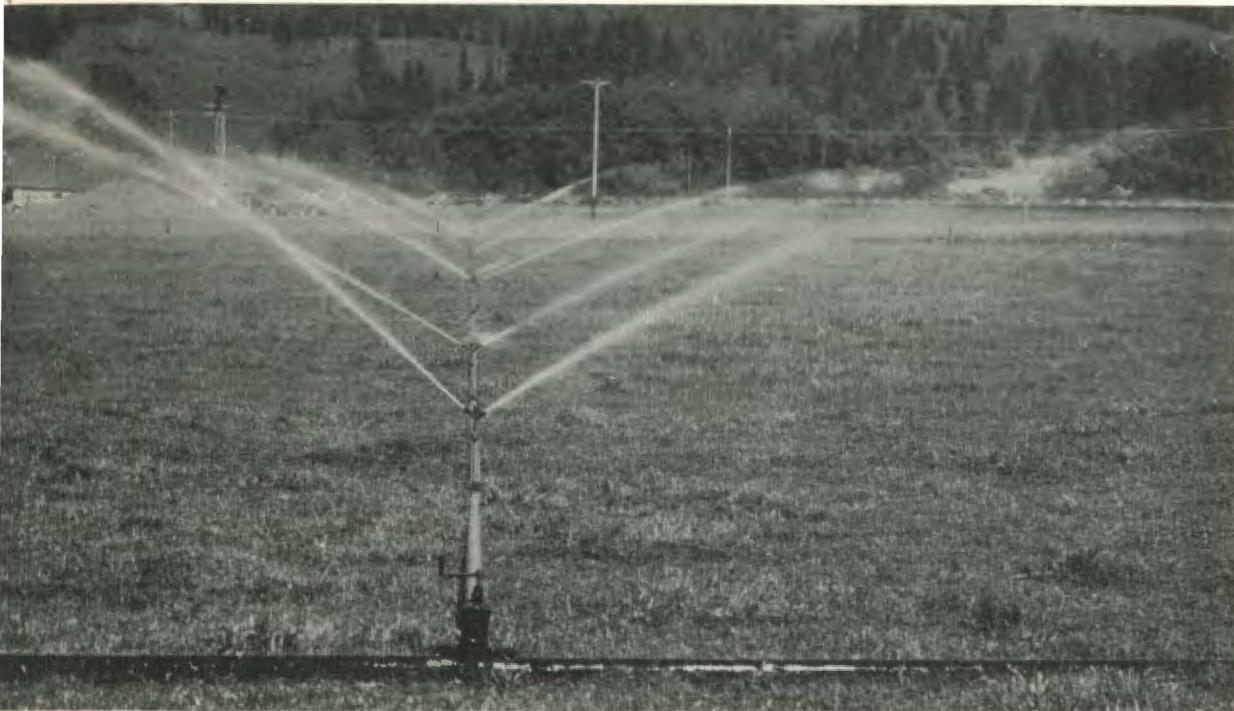
The foregoing include all BPA customers entitled to preference under Bonneville Project Act. In addition, the private power companies in the area received a substantial part of their requirements from Bonneville. The calendar year 1950 percentages, showing kilowatt hours received from BPA under contract in relation to total system use, are as follows: Portland General Electric Co., 50.3 percent; Pacific Power & Light, 41.6 percent; Mountain States Power, 39.5 percent; Washington Water Power, 20.6 percent; and Puget Sound Power & Light, 18.6 percent. The amount so delivered totals 2,803,000,000 kilowatt hours, or 32.7 percent of the group's requirements as a whole. In addition 551,000,000 kilowatt hours, or 6.4 percent, was scheduled to Washington Water Power for the benefit of the group, or 6.4 percent of their aggregate requirements. (No breakdown by companies is immediately available on this latter figure.) Thus, combined percentage for the entire group is 39.1 percent.

TABLE IX  
RESIDENTIAL AND RURAL SERVICE  
AVERAGE USE PER CUSTOMER AND AVERAGE PRICE PER KILOWATT HOUR

<u>Calendar Year</u>	<u>Kilowatt hours Per Customer</u>		<u>Calendar Year</u>	<u>Price Per Kilowatt hour</u>	
	<u>U. S. Total</u>	<u>Oregon and Washington</u>		<u>U. S. Total</u>	<u>Oregon and Washington</u>
				Cents	Cents
1938 .....	902	1,410	1938 .....	4.02	2.65 <sup>1/</sup>
1939 .....	953	1,467	1939 .....	3.87	2.55 <sup>1/</sup>
1940 .....	1,006	1,589	1940 .....	3.74	2.27
1941 .....	1,044	1,776	1941 .....	3.65	2.08
1942 .....	1,088	2,024	1942 .....	3.57	1.94
1943 .....	1,135	2,279	1943 .....	3.50	1.84
1944 .....	1,225	2,504	1944 .....	3.41	1.74
1945 .....	1,305	2,801	1945 .....	3.32	1.69
1946 .....	1,418	3,219	1946 .....	3.13	1.58
1947 .....	1,546	3,696	1947 .....	3.00	1.49
1948 .....	1,674	4,160	1948 .....	2.92	1.41
1949 .....	1,806	4,503	1949 .....	2.87	1.38
1950 .....	1,951	4,867	1950 .....	2.81	1.36

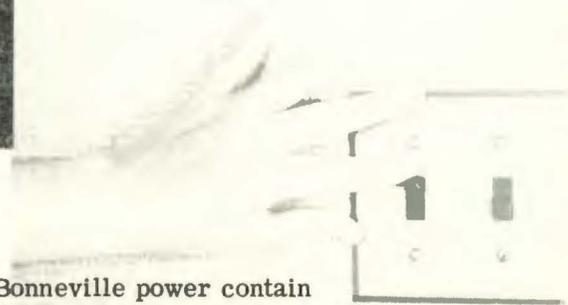
<sup>1/</sup> Partially estimated from State Commission data.

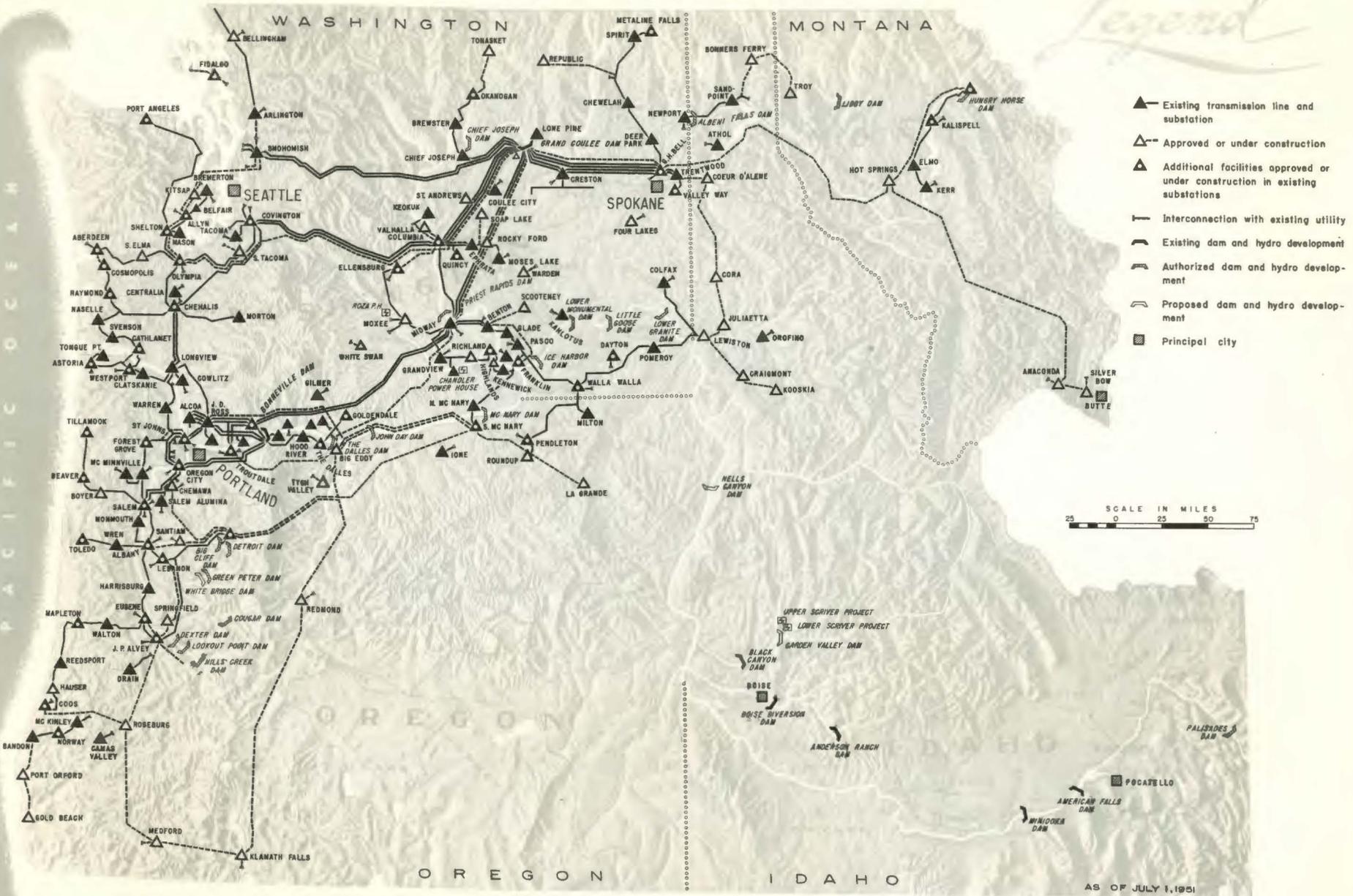
Source: Edison Electric Institute.



### **low rates stimulate power use**

All long-term wholesale power contracts with distributors of Bonneville power contain provisions regarding resale rates and principles of operation to insure distribution for the benefit of the general public, and particularly domestic and rural consumers. The direct relationship of increased use of electric energy to the influence of lower rates is well illustrated in Table IX. This shows the trends from 1938 to date on the average use and price for residential home and farm service in the Pacific Northwest as compared with the national average.





# BPA TRANSMISSION SYSTEM

BONNEVILLE POWER ADMINISTRATION  
U. S. DEPARTMENT OF THE INTERIOR

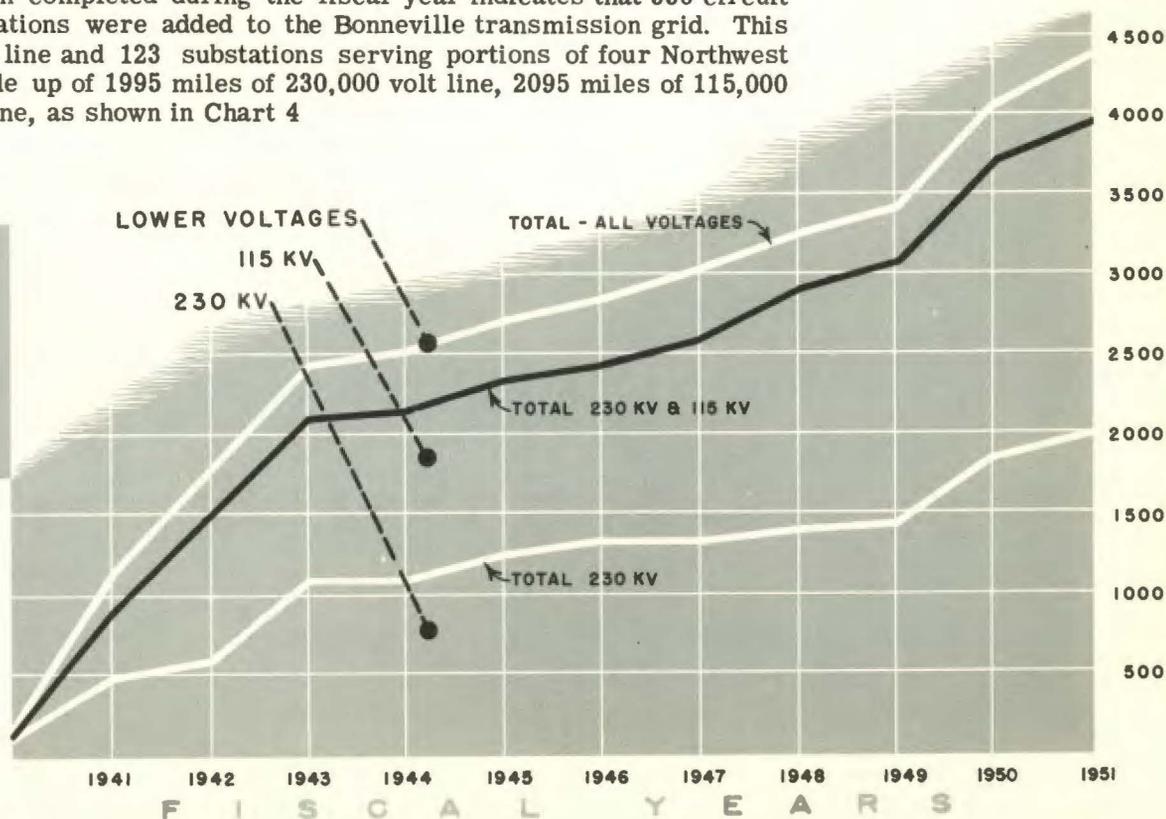
## transmission additions

Major additions to the Administration's transmission facilities during the year brought relief to several areas of the region confronted by serious power deficits. Completion of the second Coulee-Snohomish 230 kv line made it possible to bring additional power into the Puget Sound area. This released capacity on the Coulee-Columbia-Covington circuits which together with the completion of the Covington-Olympia 230 kv line increased the transmission capacity to the Longview-Portland areas. The construction of a 115 kv line into the southern coastal area of Oregon made additional power available to a rapidly expanding lumbering and wood products industry. Chart 3 shows the BPA Transmission System as of July 1, 1951. Facilities approved or under construction, including the 1952 program, are shown in broken lines.

## circuit miles added

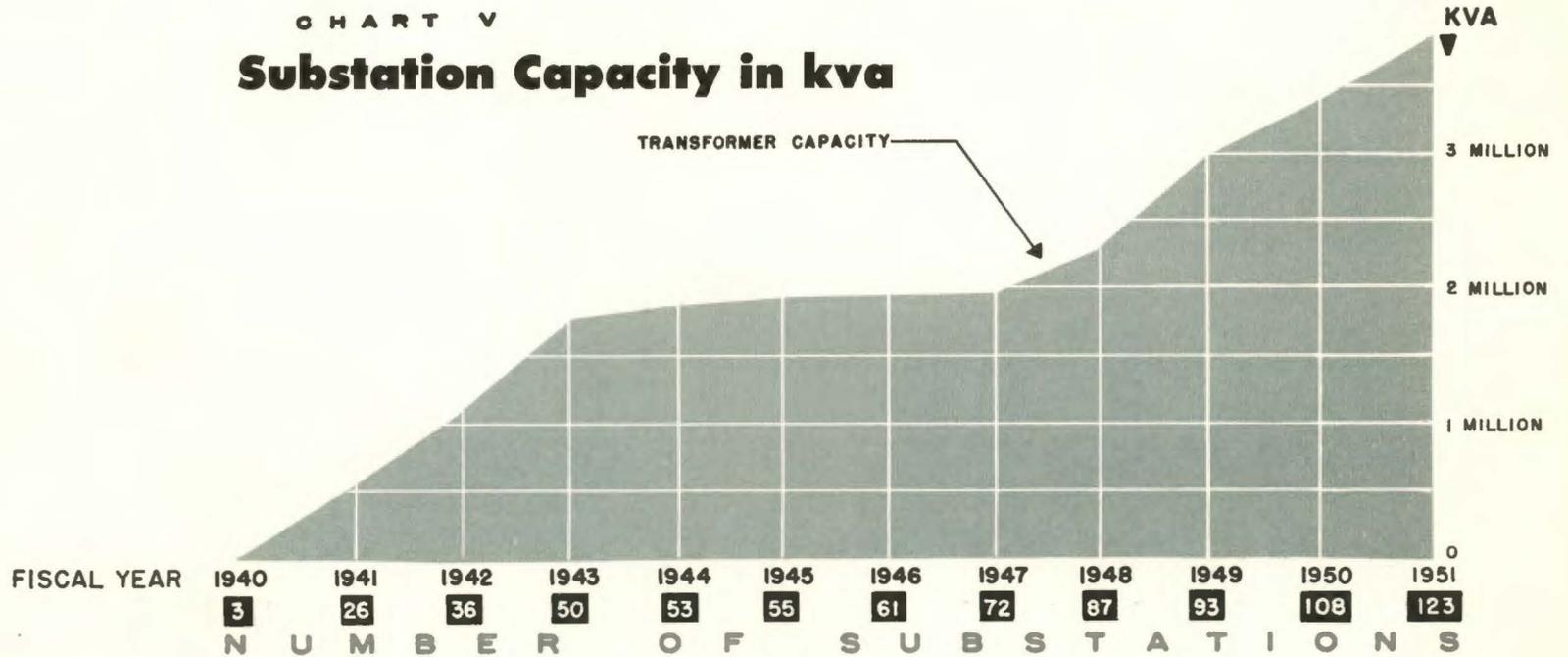
A tabulation of construction completed during the fiscal year indicates that 330 circuit miles of high-voltage lines and 15 substations were added to the Bonneville transmission grid. This results in a total of 4,370 circuit-miles of line and 123 substations serving portions of four Northwest states. The transmission line total is made up of 1995 miles of 230,000 volt line, 2095 miles of 115,000 volt line, and 280 miles of lower voltage line, as shown in Chart 4

**CHART IV**  
**Transmission Lines**  
**IN CIRCUIT MILES**



## new substation capacity

Substation capacity as shown on Chart 5 was increased by 346,850 kilovolt amperes, bringing the total transformer capacity to 3,112,825 kilovolt amperes under self-cooled conditions and a maximum of 3,870,325 kilovolt amperes when forced-cooled. Additional static capacitors with a capacity of 171,400 kilovolt amperes were installed bringing the total of static capacitors on the system to 626,400 kilovolt amperes. Installation of a 50,000 kilovolt ampere synchronous condenser brings the total system capacity of this type of equipment to 357,500 kilovolt amperes.



*Major lines energized during the fiscal year follow :*

<u>Location</u>	<u>Date Energized</u>	<u>Structure Miles</u>	<u>Kilo- volts</u>
Eugene-J. P. Alvey . . . . .	Oct. 6, 1950	13	115
Mapleton-Coos . . . . .	Oct. 25, 1950	65	115
Columbia-Ephrata . . . . .	Nov. 5, 1950	26	115
Newport-Sandpoint . . . . .	Nov. 7, 1950	24	115
Grand Coulee-Snohomish #2 . . . . .	Nov. 19, 1950	73	230
Olympia-Covington . . . . .	Dec. 3, 1950	60	230
McKinley-Bandon . . . . .	Dec. 13, 1950	22	115
Lebanon-J. P. Alvey . . . . .	Mar. 18, 1951	40	230 (115 kv initial operation)

**special projects**

First leg of the microwave communication network was placed in operation linking the major power facilities between the Puget Sound and the Portland-Vancouver areas. This provides voice communication between dispatching centers, substation operators, and the Portland-Vancouver offices. Its use will later be expanded to telemetering, relaying, and fault location operations.

A new type of undertaking for Bonneville engineers was the laying of a high voltage submarine power cable from Fidalgo Island, in the San Juan group, across Rosario Strait to Decatur Island and from Decatur Island across Lopez Sound to Lopez Island. Largest ever manufactured for this voltage, the submarine cable was made in a continuous length of about seven and one-half miles, weighed over 720,000 pounds and required a specially equipped barge for the laying operations. The cable carries Columbia river power to the San Juan Islands in Puget Sound to serve 1,200 customers of the Orcas Power and Light Company.

**added generating capacity**

Four additional units were installed in the right powerhouse at Grand Coulee during the fiscal year ending June 30, 1951. The final unit, in the 18 generator installation, was completed in October 1951, giving a combined name plate rating of 2,462,400 kilowatts, with a maximum generating capability of 2,724,000 for the Grand Coulee and Bonneville dam plants.

**TABLE X**  
**GENERAL SPECIFICATIONS — EXISTING, AUTHORIZED AND RECOMMENDED PROJECTS**  
**INSTALLATIONS AND CAPABILITIES CORRESPOND TO A COORDINATED SYSTEM OF OPERATION OF ALL PLANTS SHOWN**

Location	Plant installations 1/			Nominal prime power average kilowatts 2/	Pool elevation (feet)	Usable storage (acre-feet)	Average head (feet)	Initial date in service	Principle purposes	
	Number units	Unit rating kilowatts	Total capacity kilowatts							
<b>EXISTING PROJECTS</b>										
Columbia Basin Project (Grand Coulee)	Washington	18	108,000	1,944,000	1,575,000 3/	1,288.0	5,212,000	330	Mar. 1941	Power, irrigation, navigation and flood control.
Bonneville	Wash.-Ore.	10	4/	518,400	479,000	72.0	-	60	Jan. 1938	Power and navigation.
Minidoka	Idaho	7	5/	13,400	6,000	4,245.0	95,200	49	1909	Power and irrigation.
Boise Diversion	Idaho	3	500	1,500	2,000	2,800.0	-	31	1912	Power and irrigation.
Black Canyon	Idaho	2	4,000	8,000	9,000	2,947.0	14,800	94	1925	Power and irrigation.
Anderson Ranch	Idaho	2	13,500	27,000	21,000	4,196.0	464,200	260	Dec. 1950	Power, irrigation and flood control.
<b>PROJECTS UNDER CONSTRUCTION</b>										
Hungry Horse	Montana	4	71,250	285,000	187,000	3,559.0	2,980,000	380	Oct. 1952 6/	Power, irrigation, navigation and flood control.
Albeni Falls	Idaho	3	14,200	42,600	23,000	2,062.5	1,140,000	24	Aug. 1954 7/	Power, navigation and flood control.
Chief Joseph	Washington	18	64,000	1,152,000	801,000	937.5	-	171	Dec. 1955	Power, irrigation and navigation.
McNary	Wash.-Ore.	14	70,000	980,000	621,000	340.0	-	07	Dec. 1953	Power, irrigation and navigation.
The Dalles	Wash.-Ore.	15	70,000	1,050,000	691,000	160.0	-	88	Nov. 1957	Power, irrigation and navigation.
Lookout Point	Oregon	3	38,330	115,000	36,000	929.0	368,000	228	July 1954	Power, navigation, irrigation and flood control.
Dexter	Oregon	1	15,000	15,000	12,000	695.0	-	53	Dec. 1954	Power, navigation, irrigation and flood control.
Detroit	Oregon	2	50,000	100,000	30,000	1,569.0	340,000	299	June 1953	Power, navigation, irrigation and flood control.
Big Cliff	Oregon	1	18,000	18,000	10,000	1,197.0	-	81	Dec. 1953	Power, navigation, irrigation and flood control.
<b>AUTHORIZED PROJECTS</b>										
Libby	Montana	6	103,000	618,000	275,000	2,459.0	4,600,000	310	Sept. 1960 8/	Power, navigation and flood control.
Priest Rapids	Washington	18	53,000	954,000	723,000	550.0	2,100,000 9/	129	Dec. 1962	Power, navigation and flood control.
John Day	Wash.-Ore.	13	85,000	1,105,000	720,000	255.0	2,000,000 9/	95	Dec. 1964	Power, irrigation, navigation and flood control.
Ice Harbor	Washington	4	65,000	260,000	204,000	440.0	-	93	Dec. 1956	Power, irrigation and navigation.
Lower Monumental	Washington	4	60,000	240,000	194,000	533.0	-	89	Dec. 1958	Power, navigation and irrigation.
Little Goose	Washington	4	65,000	260,000	209,000	633.0	-	96	Dec. 1959	Power and navigation.
Lower Granite	Washington	4	55,000	220,000	170,000	715.0	-	77	Dec. 1960	Power and navigation.
Hills Creek	Oregon	1	20,000	20,000	14,000	1,510.0	221,000	204	Dec. 1957	Power, irrigation, navigation and flood control.
Cougar 10/	Oregon	1	25,000	25,000	15,000	1,683.0	182,000	418	-	Power, irrigation, navigation and flood control.
Green Peter 10/	Oregon	2	40,500	81,000	22,000	984.0	322,000	315	-	Power, irrigation, navigation and flood control.
White Bridge 10/	Oregon	1	15,000	15,000	9,000	670.0	-	93	-	Power, irrigation, navigation and flood control.
Roza	Washington	2	5,000	10,000	4,000	-	-	140	July 1954	Power and irrigation.
Chandler	Washington	2	6,000	12,000	12,000	-	-	118	Dec. 1954	Power and irrigation.
Palisades	Idaho	4	28,500	114,000	41,000	5,620.0	1,200,000	144	Jan. 1957	Power, irrigation and flood control.
American Falls	Idaho	3	10,000	30,000	-	4,355.0	1,700,000	80	Nov. 1954	Power and irrigation.
<b>RECOMMENDED PROJECTS</b>										
Hella Canyon	Ore.-Idaho	8	100,000	800,000	688,000	2,077.0	3,880,000	510	Aug. 1957	Power, navigation and flood control.
Upper Scriver	Idaho	3	12,500	37,500	26,000	4,505.0	-	400	Sept. 1955	Power, irrigation and flood control.
Lower Scriver	Idaho	2	30,000	60,000	52,000	4,060.0	-	794	Sept. 1955	Power, irrigation and flood control.
Garden Valley	Idaho	4	15,000	60,000	52,000	3,266.0	843,000	334	-	Power, irrigation and flood control.

1/ Name plate ratings.

2/ Average capability during storage draw-down period.

3/ Pumping requirements for 450,000 acres of the Columbia Basin Project have been deducted.

4/ Two units rated at 43,200 kw and 8 units at 54,000 kw.

5/ Five units rated at 1,200 kw each, 1 unit at 2,400 kw, and 1 unit at 5,000 kw.

6/ The storage schedule at Hungry Horse is 580,000 acre-feet by September 1952, 2,000,000 acre-feet by September 1953, and 2,980,000 acre-feet of usable storage by September 1954.

7/ Total storage is scheduled for August 1952.

8/ Usable storage of 4,250,000 acre-feet is scheduled for August 1959 and total usable storage of 4,600,000 acre-feet by August 1960.

9/ Flood control storage only.

10/ Power facilities are not authorized. White Bridge is not authorized but is required with installation of generating units at Green Peter.

The federal projects existing, authorized or recommended by the Corps of Engineers and the Bureau of Reclamation are shown in Table X. The multipurpose projects listed are needed to meet flood control, navigation, irrigation and power requirements of the region. With complete development of these projects a total of 27.3 million acre feet of storage space will be available for flood control operations and over 12.0 million kilowatts of peaking capability will be available to meet the region's power needs.

### **non-federal activities**

Only a few additions were made to non-federal utility generating facilities during the year. Seattle City Light completed the installation of an additional 60,000 kilowatt unit at its Gorge plant and the California Oregon Power company completed its Slide Creek and Soda Springs plants, and added a third 13,300 kilowatt unit in its Toketee Falls plant. Planned additions of the non federal utilities are shown in Table XI.

### **northwest power pool**

Generation during fiscal year 1951 by the principal electric utility systems of the Pacific Northwest region is shown in Table XII. All of the utilities are members of the Northwest Power Pool. Utah Power & Light Company and British Columbia Electric Company are also members of the pool but are not included since their major service areas are outside the Pacific Northwest.

The administration supplied 58.7 percent of the total energy generated by the major utilities serving the region, as shown in Chart VII. In addition to the power requirements of industries and non pool member utilities, a maximum hourly delivery of almost 800,000 kilowatts and approximately 4,200,000 kilowatt hours was provided by the administrator for use by other pool utilities in meeting their requirements.

# Northwest Power Pool NET OPERATIONS YEAR ENDING JUNE 30, 1951

BPA SUPPLIED 84% OF NET ENERGY REQUIREMENTS OF THE POWER POOL UTILITIES

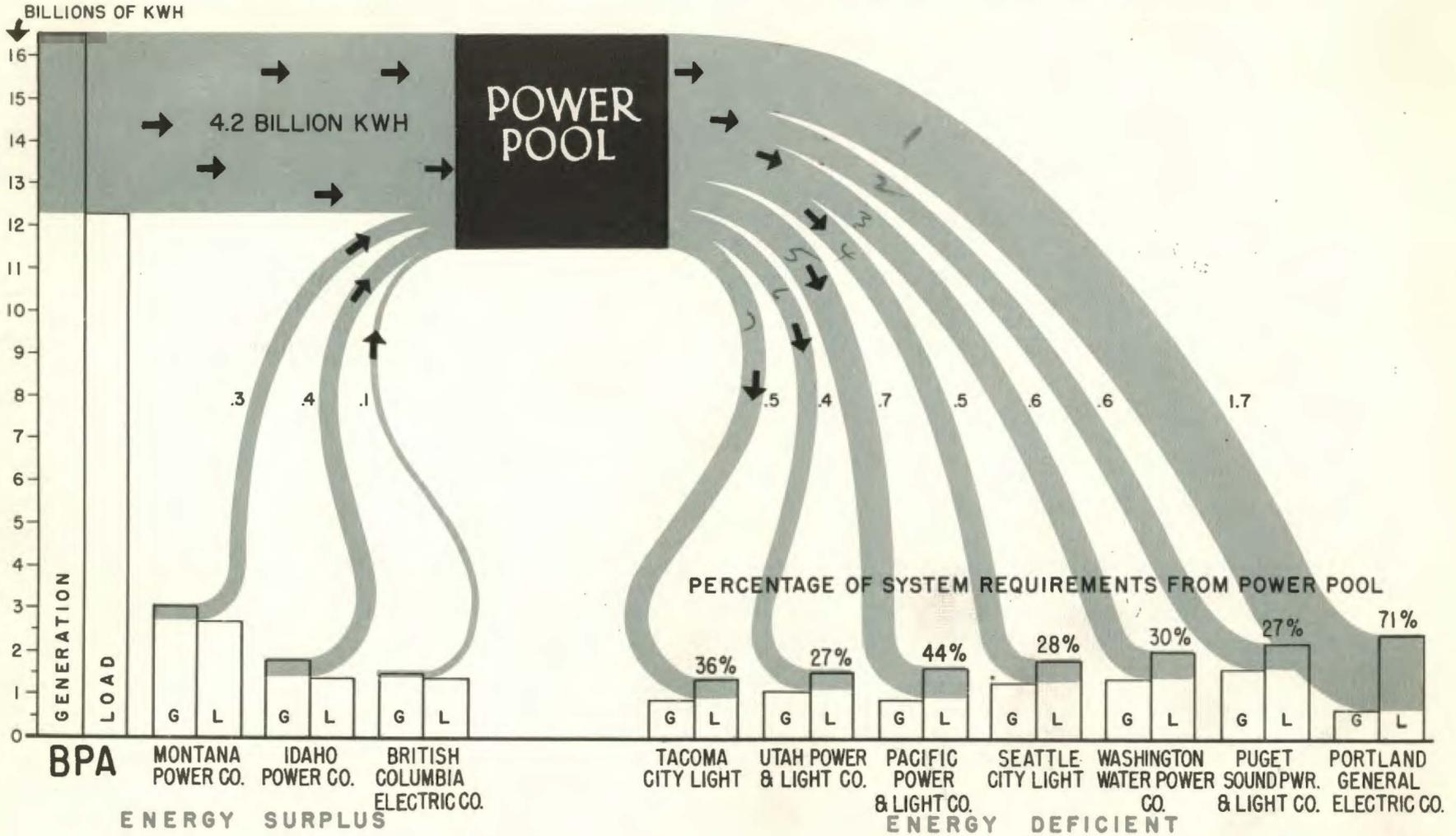


TABLE XI

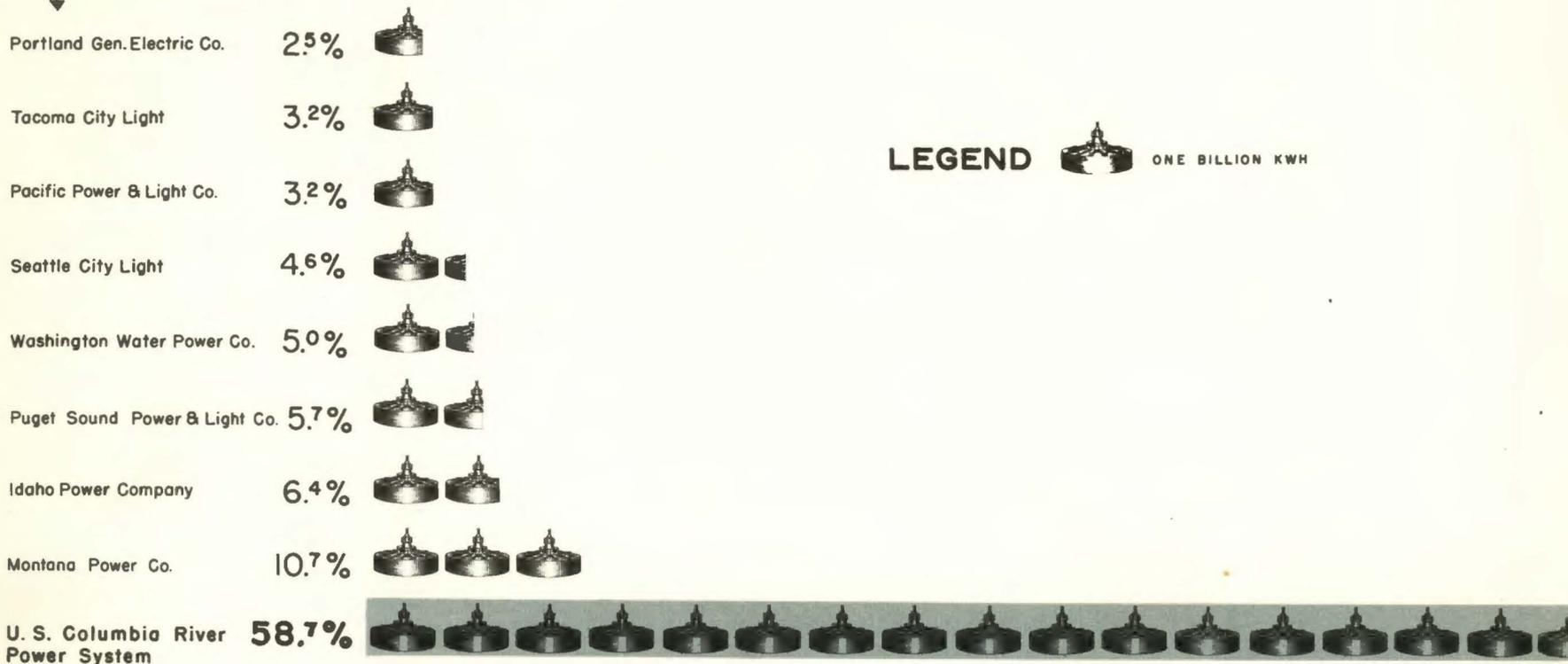
NON FEDERAL GENERATING PROGRAM  
INSTALLATION SCHEDULE

Utility	Unit	Name Plate Rating-Mw	Installation Date	Utility	Unit	Name Plate Rating-Mw	Installation Date
<u>CITY OF SEATTLE</u>				<u>CALIFORNIA OREGON POWER COMPANY</u>			
Ross Storage				Slide Creek	—	18	Feb. 1951
Elev. Million A.F.				Soda Springs	—	12	June 1951
1575'	1.1	—	Aug. 1951	Fish Creek	—	11	Oct. 1951
1600'	1.4	—	Aug. 1952	Clearwater #1	—	13	June 1953
				Clearwater #2	—	15	June 1953
1.023 million A.F. usable after units are installed (1600' - 1475')				Lemolo #1	—	30	Oct. 1954
				Lemolo #2	—	30	Oct. 1954
Ross Plant	#1	90	Jan. 1953			129	
	#2	90	Feb. 1953	<u>IDAHO POWER COMPANY</u>			
	#3	90	Dec. 1953	C. J. Strike	#1	27	Jan. 1952
Gorge Plant	#24	60	June 1951		#2	27	Feb. 1952
		330			#3	27	Apr. 1952
<u>CITY OF TACOMA</u>				Guffey	#1	10	Oct. 1953
Cushman Plant #2	#3	32	Dec. 1951		#2	10	Nov. 1953
					#3	10	Dec. 1953
<u>CHELAN COUNTY PUD</u>				Dike	—	60	Sept. 1955
Rock Island (Owned by PSP&L Co.)	#5	25	Nov. 1952			171	
	#6	25	Dec. 1952	<u>MONTANA POWER COMPANY</u>			
	#7	25	Jan. 1953	F. W. Bird (Steam)	#1	60	Nov. 1951
	#8	25	Mar. 1953	<u>PORTLAND GENERAL ELECTRIC COMPANY</u>			
	#9	25	May 1953	Station "M" (River Mill)	#5	5	Dec. 1951
	#10	25	June 1953	Station "B" (Willamette	#1, 2, & 3	4	Aug. 1952
		150		River - Oregon City)	#4, 5, & 6	4	Sept. 1952
<u>PEND OREILLE COUNTY PUD</u>					#7, 8, & 9	4	Oct. 1952
Box Canyon	—	60	June 1954		#10, 11, & 12	4	Nov. 1952
						21	
<u>WASHINGTON WATER POWER CO.</u>				<u>PACIFIC POWER &amp; LIGHT COMPANY</u>			
Cabinet Gorge	#1	50	Sept. 1952	Yale	#1	50	Dec. 1952
	#2	50	Oct. 1952		#2	50	Jan. 1953
	#3	50	Nov. 1952			100	
	#4	50	Apr. 1953				
		200					

C H A R T V I I

**Power Generated** BY THE PRINCIPAL ELECTRIC UTILITIES OF THE PACIFIC NORTHWEST  
 YEAR ENDED JUNE 30, 1961

GENERATED BY



LEGEND



ONE BILLION KWH

**TOTAL 28.1 BILLION KWH**

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

THE ABOVE UTILITIES ARE MEMBERS OF THE NORTHWEST POWER POOL. UTAH POWER & LIGHT CO. AND BRITISH COLUMBIA ELECTRIC CO. ARE ALSO POOL MEMBERS BUT ARE NOT INCLUDED IN THIS CHART BECAUSE THEIR MAJOR SERVICE AREAS LIE OUTSIDE THE PACIFIC NORTHWEST REGION.

**TABLE XII**  
**GENERATION BY THE PRINCIPAL ELECTRIC UTILITY SYSTEMS**  
**OF THE PACIFIC NORTHWEST**

Fiscal Year 1951

<u>Utilities</u>	<u>Kilowatt hours</u>	<u>Per cent of Total Generation</u>
	<u>Billion</u>	<u>Per cent</u>
Publicly Owned:		
Bonneville Power Administration . . . . .	16.5	58.7
Seattle City Light . . . . .	1.3	4.6
Tacoma City Light . . . . .	<u>0.9</u>	<u>3.2</u>
Total Publicly Owned . . . . .	<u>18.7</u>	<u>66.5</u>
Privately Owned:		
Puget Sound Power & Light Co. . . . .	1.6	5.7
Washington Water Power Co. . . . .	1.4	5.0
Pacific Power & Light Co. . . . .	0.9	3.2
Portland General Electric Co. . . . .	0.7	2.5
Montana Power Co. . . . .	3.0	10.7
Idaho Power Co. . . . .	<u>1.8</u>	<u>6.4</u>
Total Privately Owned . . . . .	<u>9.4</u>	<u>33.5</u>
Total Generation <sup>1/</sup> . . . . .	28.1	100.0

<sup>1/</sup> The above utilities are members of the Northwest Power Pool. Utah Power & Light Co. and British Columbia Electric Co. are also members of the pool, but are not included above because their major service areas lie outside the Pacific Northwest region.



## **DEVELOPMENTS SINCE CLOSE OF FISCAL YEAR**

Several important developments have taken place since the end of the official reporting year, July 1, 1950, through June 30, 1951. As the published annual report is usually issued at the end of the calendar year, the most significant intervening events are briefly reviewed.

Five-year power contracts between all major Pacific Northwest private utilities and the Bonneville Power Administration were approved October 31, 1951, by the Department of the Interior. Previous contracts, with the exception of a five-year contract signed with the Montana Power company on March 18, 1950, have been on a year-to-year basis.

Power under the new contracts, effective September 30, 1951, will continue to be supplied to the five companies--Portland General Electric, Pacific Power & Light, Puget Sound Power & Light, Washington Water Power and Mountain States Power during part of each year on an interruptible basis, dependent upon water conditions, until sufficient additional firm power becomes available from new generation at McNary and other federal dams now under construction.

The major purpose of these agreements is to establish by contract the relative positions of private utilities and other Bonneville customers in a manner consistent with requirements of the Bonneville Act. Private utilities in the region will be given a firmer basis for planning their future development. Public agencies and cooperatives continue to be assured of their full power requirements before power is supplied to private utilities. This is in accordance with both the letter and spirit of the law and encompasses all load growth of public agencies, including new industrial loads and loads resulting from acquisition of facilities from private utilities.

## **schedule of priorities**

Private power companies will receive firm power on the basis of the following schedule of priorities:

1. Requirements of public agencies, cooperatives and federal agencies in excess of their own hydro resources and existing firm power commitments and reservations to industries have first call on the government's supply of firm power. Present commitments include 120,000 kilowatts for new defense industry.

2. Up to 500,000 kilowatts of firm power will be made available for private utilities but is subject to review and possible change for any extensions of the contract.

3. Up to 70,000 kilowatts will be made available for firming up interruptible power, essentially for smaller industries being served by Bonneville. Aluminum producers are not included.

4. Private utilities will receive power equal to the sum of all firm industrial loads of 2,500 kilowatts or more which have in the interval after the effective date of the private utility contracts been added on the systems of both preference customers and the private utilities. These loads are considered to be in addition to the normal load growth of the systems.

5. Additional available firm power, after the above priorities including the full requirements of the preference customers for general use for service to industry are taken care of, would be supplied 50 percent to private utilities and 50 percent to additional industrial loads by the Bonneville Power Administration.

6. After the full firm power requirements of the private utilities are met in accordance with the foregoing schedule of priorities, any additional power supplies will be made available by the government for new industries without limitation.

Terms of the new contracts give private utilities assurance of priority to firm power for domestic and rural customers as well as diversified industrial loads, as soon as Columbia river federal generation reaches the point where present and future requirements of Bonneville's preferred customers and existing or presently scheduled loads can be met. Provisions also call for filing of rate schedules

with Bonneville and prior approval of resale rates when Bonneville is able to supply the firm power requirements of the utilities.

Contracts are for an initial term of five years with provision for successive extensions of one year each, the first to be made prior to expiration of two years of the five-year term. If agreement is reached, this would automatically extend the contract each year to four years in the future, permitting advance scheduling of power supplies by private utilities.

Previous contracts with these private utilities have been for a term of one year.

### **critical winter period**

Since the end of the fiscal year, June 30, 1951, the eighteenth unit has been installed at Grand Coulee. Firm power available from generator installations, however, has not kept pace with area loads. Under critical year streamflows, a regional power shortage of over 600,000 average kilowatts would have existed during the 1951-52 winter season. Even with normal streamflow conditions this winter some curtailment of interruptible load at peak periods was necessary.

A long dry period during the late summer and early fall months reduced most streams west of the Cascades to minimum flows in September. Although the Columbia river did not recede to minimum, energy in the region became critical and a severe power shortage became a distinct possibility. By mid September it became apparent that Bonneville Power Administration interruptible loads could no longer be served without use of storage or steam generation. On September 18, 1951, these loads were transferred to steam operations, thereby conserving storage to assure service to regional firm requirements later in the year. Approximately 96,000 kilowatts average interruptible load was curtailed during the period September 18 to September 30 for lack of adequate steam generation during the cutback period.

### **interruptible restored**

During the last few days of September and first week in October, however, heavy precipitation fell throughout the region increasing streamflows to above median. Hydro generation in-

creased proportionately. Interruptible loads that had remained in operation on a steam generation basis were again served from hydro and those curtailed were notified they could resume operation on hydro beginning October 1, 1951. Latest estimates indicate interruptible loads can be fully served under favorable weather conditions during the remainder of the season.

## **defense electric power administration**

Possibility of power shortages serious enough to impair deliveries to defense industries and for essential civilian uses resulted in the Defense Electric Power Administration establishing a Northwest area representative at Tacoma, Washington, and on September 17, issuing DEPA Order EO-4. Provisions of the order set up steps to be taken for curtailment of power loads to meet varying degrees of power shortage and achieve maximum power supply in the interest of national defense. Preferred deliveries were established for the atomic energy plants, total demand and energy; 42,000 kilowatts demand and associated energy for the Spokane Magnesium plant, and demand and energy requirements for the Pennsylvania Salt company. Outside of the temporary cutback of aluminum and other smaller interruptible loads, no other power curtailment had been necessary as of January 1.

## **artificial rainmaking**

Seriousness of the power situation indicated for late August and early September led Bonneville Power Administration to sign a contract with the Water Resources Development corporation, Denver, Colorado, to induce artificial precipitation in portions of the upper Columbia river drainage area. A preliminary survey indicated the project was feasible and operations were started September 21. The administration ordered discontinuance of the operations September 30 as continued heavy rains throughout the region increased streamflow to above median and water was spilling at both Grand Coulee and Bonneville dams.

An independent evaluation of the Bonneville Power Administration cloud seeding operations is being made by an interagency committee at the request of the Secretary of the Interior. The committee will evaluate increases in the flows, if any, of the Pend Oreille river basin, and will determine what subsidiary effects have resulted from Bonneville's cloud seeding operations and those of other utilities in this and nearby areas. Dr. V. J. Schaefer, scientist of the General Electric Company Research Laboratory, has been engaged by the administration as a consultant on evaluation.

## **pacific northwest aluminum production**

For the first two years of the national defense production program, fiscal years 1951 and 1952, total aluminum production from firm and interruptible power supplies will be over 99.9 percent of the potential production in the Pacific Northwest, assuming no further curtailments this year. About 360,000 tons were produced in fiscal year 1951 and 376,000 tons will be produced this fiscal year (assuming no further power curtailment this season), with only about 2,000 tons lost production during September and early October this year because of the temporary shortage of interruptible power supplies.

Beginning in 1948, Bonneville Power Administration has made available increasing amounts of interruptible power for aluminum production. This power is subject to curtailment at any time and is estimated to have a probable availability of 70 percent to 75 percent of the time. During the fiscal years 1948 to 1952, the amount of actual aluminum production obtained from interruptible power, supplemented by available steam power supplies, will be approximately 94 percent of the potential interruptible power production. In the two fiscal years, 1950-51 and 1951-52, during the national defense production program, aluminum production from interruptible power will provide about 170,000 tons, at approximately 99 percent operation. This production record, accounting for 11 percent of total national aluminum output for the same period, demonstrates the soundness of assuming a calculated risk in the sale of interruptible power for defense production purposes.



FINANCIAL STATEMENTS

AND

AUDITORS' REPORT

AS OF JUNE 30, 1951

**AUDITORS' REPORT**

COLUMBIA RIVER POWER SYSTEM

Consisting of Bonneville Power Administration and  
the Power Components of Bonneville Dam Project and  
Columbia Basin Project (Grand Coulee Dam)



ARTHUR ANDERSEN & CO.

Accountants and Auditors  
Dexter Horton Building  
Seattle

UNITED STATES OF AMERICA  
COLUMBIA RIVER POWER SYSTEM  
 Consisting of Bonneville Power Administration and the Commercial Power Components  
 of Bonneville Dam Project and Columbia Basin Project

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ARTHUR ANDERSEN & Co.  
ACCOUNTANTS AND AUDITORS

DEXTER HORTON BUILDING  
SEATTLE 4

AUDITORS' REPORT

Dr. Paul J. Raver, Administrator,  
Bonneville Power Administration,  
Portland, Oregon

Dear Sir:

We have examined the statement of combined assets and liabilities of Bonneville Power Administration, Department of the Interior, and the commercial power components of Bonneville Dam Project, built and operated by the Corps of Engineers, U. S. Army, and Columbia Basin Project, built and operated by the Bureau of Reclamation, Department of the Interior, hereinafter referred to as COLUMBIA RIVER POWER SYSTEM, as of June 30, 1951; the statements of assets and liabilities allocated to commercial power of each of these projects as of that date; and the related statements of revenues and expenses allocated to commercial power for the fiscal year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances to enable us to render an opinion as to the financial position of the commercial power components of the projects and the results of their commercial power operations.

Property costs and operating expenses of the System do not include costs of administrative and other services rendered by other departments and agencies of the U. S. Government which, under governmental accounting procedures, are not allocated to individual projects. It is not practicable to determine the amounts of such costs applicable to these projects.

Property, plant and equipment of Bonneville Dam Project and Columbia Basin Project at June 30, 1951, include facilities totaling \$203,373,347.37 which have been determined to be jointly useful for power generation and for other purposes. As set forth in Note 2 of Schedule 6, acting under authority delegated by Congress, determinations have been made, by the Federal Power Commission in the case of Bonneville Dam Project and by the Secretary of the Interior in the case

of Columbia Basin Project, that certain proportions of these facilities are allocable to power and that a porportion of certain specific power facilities at Columbia Basin Project is allocable to irrigation pumping. The two projects have maintained their accounts in conformity with these allocations and the designated proportions of joint facilities, amounting to \$113,450,032.78 at June 30, 1951, have been included in power assets while \$348,989.56 of specific power facilities has been assigned to irrigation pumping. Operating and interest expenses have been allocated to power and nonpower activities in the same proportions as the related property costs. We have not examined the bases of these allocations which involve engineering findings and other matters outside our purview as accountants and we take no responsibility with respect to such allocations; however, the fairness of the accompanying power financial statements is subject to the fairness of these underlying allocations.

Interest and depreciation on the portion of joint facilities at Columbia Basin Project allocated to downstream river regulation have been deferred to future periods on the basis that they will be recovered from the operations of additional downstream hydro plants which, it is contemplated, will be constructed in future years. The deferment of these charges is consistent with the allocation of costs of this project as made by the Secretary of the Interior but the exclusion of these items from present power costs is dependent upon the construction of the proposed downstream plants.

Except for the omission of certain costs as set forth in paragraph two above and subject to the fairness of the allocations of joint facilities and to the construction of the proposed downstream hydro plants as discussed in paragraphs three and four, respectively, in our opinion, the accompanying statements of assets and liabilities allocated to commercial power and the related statements of revenues and expenses present fairly the position of Columbia River Power System and its commercial power components at June 30, 1951, and the results of their commercial power operations for the fiscal year ended that date, and are in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year and are in accordance with the uniform system of accounts prescribed by the Federal Power Commission pursuant to the Federal Power Act.

*Arthur Andersen & Co.*

Seattle, Washington  
August 10, 1951

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM

Consisting of Bonneville Power Administration and the Commercial Power Components  
of Bonneville Dam Project and Columbia Basin Project (Note 5)

STATEMENT OF COMBINED ASSETS AND LIABILITIES ALLOCATED TO COMMERCIAL POWER  
(INCLUDING FUTURE DOWNSTREAM RIVER REGULATION) — JUNE 30, 1951 AND 1950

<u>ASSETS</u>	----- June 30 -----	----- June 30 -----	<u>LIABILITIES</u>	----- June 30 -----	----- June 30 -----
	1951	1950		1951	1950
ELECTRIC UTILITY PLANT at original cost, including interest during construction (Notes 1 and 2):			INVESTMENT OF U.S. GOVERNMENT:		
Specific power facilities (powerhouses, generating equipment and transmission plant) . . . . .	\$ 344,406,928.91	\$ 303,168,713.92	Congressional appropriations (including amounts for operating expenses), allotments and W.P.A. expenditures . . . . .	\$ 501,167,100.93	\$ 448,875,544.89
Joint facilities (dams, reservoirs, fishways, general service facilities, etc.)— Present commercial power production . . . . .	73,533,865.74	70,144,283.05	Transfers from other Federal projects (net) . . . . .	3,024,178.72	2,439,097.06
Future downstream river regulation . . . . .	39,916,167.04	37,413,294.91	Interest on Federal investment . . . . .	79,053,795.44	70,452,104.96
	<u>\$ 457,856,961.69</u>	<u>\$ 410,726,291.88</u>		<u>\$ 583,245,075.09</u>	<u>\$ 521,766,746.91</u>
Less — Reserve for depreciation (Note 3) — Specific power facilities . . . . .	\$ 32,323,533.52	\$ 28,327,506.57	Less — Funds returned to U.S. Treasury in repayment of Federal investment (including amounts for operating expenses and interest) (Schedule 5) . . . . .	214,815,618.77	178,792,527.01
Joint facilities — Present commercial power production . . . . .	3,408,101.78	3,262,617.49			
Future downstream river regulation . . . . .	1,799,836.71	1,767,369.92	Net investment of U.S. Government . . . . .	<u>\$ 368,429,456.32</u>	<u>\$ 342,974,219.90</u>
	<u>\$ 37,531,472.01</u>	<u>\$ 33,357,493.98</u>			
Original cost less reserve . . . . .	<u>\$ 420,325,489.68</u>	<u>\$ 377,368,797.90</u>	CURRENT LIABILITIES:		
INTEREST AND DEPRECIATION CHARGES ON JOINT FACILITIES ALLOCATED TO FUTURE DOWNSTREAM RIVER REGULATION — recoverable from operations of future downstream hydro plants . . . . .	\$ 10,076,014.92	\$ 8,823,849.23	Accounts payable . . . . .	\$ 11,336,029.33	\$ 12,433,159.14
SPECIAL DEPOSITS:			Employees' accrued leave . . . . .	2,355,627.78	2,186,293.00
Customer's deposit, see contra . . . . .	\$ 728,695.90	\$ 782,014.98		<u>\$ 13,691,657.11</u>	<u>\$ 14,619,452.14</u>
Cash held for construction of property for others, see contra . . . . .	134,103.98	242,218.93	DEFERRED CREDITS AND RESERVES:		
	<u>\$ 862,799.88</u>	<u>\$ 1,024,233.91</u>	Customer's deposit see contra . . . . .	\$ 728,695.90	\$ 782,014.98
CURRENT ASSETS:			Deposits for construction of property for others, see contra . . . . .	134,103.98	242,218.93
Cash (Note 4) . . . . .	\$ 6,173,896.02	\$ 9,707,312.89	Other deferred credits . . . . .	4,888.23	11,810.93
Special Deposits . . . . .	2,755,736.61	3,381,864.97	Reserve for deferred maintenance . . . . .	106,393.60	196,328.21
Accounts receivable — Customers . . . . .	5,259,984.08	6,695,479.62	Contribution in aid of construction — by State of Washington . . . . .	175,526.14	175,526.14
Other . . . . .	700,007.96	183,336.88		<u>\$ 1,149,607.85</u>	<u>\$ 1,407,899.19</u>
Materials and supplies . . . . .	5,379,457.77	5,447,404.43	ACCUMULATED NET REVENUES (Note 1):		
	<u>\$ 20,269,082.44</u>	<u>\$ 25,415,398.79</u>	Balance at beginning of year . . . . .	\$ 54,644,060.66	\$ 42,735,094.03
DEFERRED CHARGES . . . . .	\$ 876,947.13	\$ 1,013,352.06	Add — Net revenues for the year . . . . .	14,495,552.11	11,908,966.63
	<u>\$ 452,410,334.05</u>	<u>\$ 413,645,631.89</u>		<u>\$ 69,139,612.77</u>	<u>\$ 54,644,060.66</u>
				<u>\$ 452,410,334.05</u>	<u>\$ 413,645,631.89</u>

The accompanying notes (Schedule 6) are an integral part of this statement.

**UNITED STATES OF AMERICA**  
**COLUMBIA RIVER POWER SYSTEM**  
 Consisting of Bonneville Power Administration and the Commercial Power Components  
 of Bonneville Dam Project and Columbia Basin Project (Note 5)  
**STATEMENT OF COMBINED REVENUES AND EXPENSES ALLOCATED TO COMMERCIAL POWER**  
**(INCLUDING FUTURE DOWNSTREAM RIVER REGULATION) FOR THE FISCAL YEARS ENDED JUNE 30, 1951 AND 1950**

	Fiscal Year Ended June 30	
	1951	1950
<b>OPERATING REVENUES:</b>		
Sales of electric energy .....	\$35,771,591.66	\$30,808,224.62
Other electric revenues .....	417,436.06	389,291.00
<b>Total operating revenues .....</b>	<b>\$36,189,027.72</b>	<b>\$31,197,515.62</b>
<b>OPERATING EXPENSES (Notes 1 and 2):</b>		
Purchased power .....	\$ 553,974.15	\$ 430,150.68
Operation —		
Specific power facilities .....	5,863,828.72	4,208,772.66
Joint facilities .....	197,367.62	181,165.59
Maintenance —		
Specific power facilities .....	1,863,588.30	1,631,489.67
Joint facilities .....	178,734.41	431,191.43
Depreciation (Note 3) —		
Specific power facilities .....	6,214,670.96	5,535,853.44
Joint facilities .....	405,951.39	378,364.40
Less — Amount allocated to future downstream river regulation, recoverable from operations of future downstream hydro plants .....	123,845.11*	114,362.86*
Charge-off of plant acquisition adjustment .....	—	157,502.99
Losses on sales and abandonments of property .....	—	363,985.32
<b>Total operating expenses .....</b>	<b>\$15,154,270.44</b>	<b>\$13,204,113.32</b>
<b>Net operating revenues .....</b>	<b>\$21,034,757.28</b>	<b>\$17,993,402.30</b>
<b>INTEREST AND OTHER DEDUCTIONS:</b>		
Interest on Federal investment .....	\$ 8,612,375.98	\$ 8,149,236.04
Less —		
Amount allocated to future downstream river regulation, recoverable from operations of future downstream hydro plants .....	1,128,320.58*	1,087,804.69*
Amount charged to construction .....	952,046.03*	999,855.25*
Miscellaneous income deductions (net) .....	7,195.80	22,859.57
<b>Total interest and other deductions .....</b>	<b>\$ 6,539,205.17</b>	<b>\$ 6,084,435.67</b>
<b>Net revenues .....</b>	<b>\$14,495,552.11</b>	<b>\$11,908,966.63</b>

\* Denotes red figure

The accompanying notes (Schedule 6) are an integral part of this statement.

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM

Consisting of Bonneville Power Administration and the Commercial Power Components  
of Bonneville Dam Project and Columbia Basin Project (Note 6)

STATEMENT COMBINING ASSETS AND LIABILITIES ALLOCATED TO COMMERCIAL POWER  
(INCLUDING FUTURE DOWNSTREAM RIVER REGULATION) — JUNE 30, 1951

<u>ASSETS</u>	Bonneville Power Administration (Schedule 7)	Bonneville Dam Project (Schedule 10)	Columbia Basin Project (Schedule 13)	Eliminations	Combined (To Schedule 1)
ELECTRIC UTILITY PLANT at original cost, including interest during construction (Notes 1 and 2):					
Specific power facilities (powerhouses, generating equipment and transmission plant) . . . . .	\$ 194,332,309.83	\$ 38,391,122.53	\$ 111,683,496.55	\$ —	\$ 344,406,928.91
Joint facilities (dams, reservoirs, fishways, general service facilities, etc.) —					
Present commercial power production . . . . .	—	20,890,804.85	52,643,060.89	—	73,533,865.74
Future downstream river regulation . . . . .	—	—	39,916,167.04	—	39,916,167.04
	<u>\$ 194,332,309.83</u>	<u>\$ 59,281,927.38</u>	<u>\$ 204,242,724.48</u>	<u>\$ —</u>	<u>\$ 457,856,961.69</u>
Less — Reserve for depreciation (Note 3) —					
Specific power facilities . . . . .	\$ 23,061,182.07	\$ 4,242,010.80	\$ 5,020,340.65	\$ —	\$ 32,323,533.52
Joint facilities —					
Present commercial power production . . . . .	—	1,034,404.10	2,373,697.68	—	3,408,101.78
Future downstream river regulation . . . . .	—	—	1,799,836.71	—	1,799,836.71
	<u>\$ 23,061,182.07</u>	<u>\$ 5,276,414.90</u>	<u>\$ 9,193,875.04</u>	<u>\$ —</u>	<u>\$ 37,531,472.01</u>
Original cost less reserve . . . . .	<u>\$ 171,271,127.76</u>	<u>\$ 54,005,512.48</u>	<u>\$ 195,048,849.44</u>	<u>\$ —</u>	<u>\$ 420,325,489.68</u>
INTEREST AND DEPRECIATION CHARGES ON JOINT FACILITIES ALLOCATED TO FUTURE DOWNSTREAM RIVER REGULATION — recoverable from operations of future downstream hydro plants	\$ —	\$ —	\$ 10,076,014.92	\$ —	\$ 10,076,014.92
SPECIAL DEPOSITS:					
Customer's deposit, see contra . . . . .	\$ 728,695.90	\$ —	\$ —	\$ —	\$ 728,695.90
Cash held for construction of property for others, see contra . . . .	134,103.98	—	—	—	134,103.98
Payments for amortization in excess of depreciation at Bonneville Dam Project (Note 3, Schedule 9) . . . . .	11,364,613.33	—	—	11,364,613.33	—
Advance against 1952 power revenues allocable to Columbia Basin Project . . . . .	1,830,000.00	—	—	1,830,000.00	—
	<u>\$ 14,057,413.21</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 13,194,613.33</u>	<u>\$ 862,799.88</u>
CURRENT ASSETS:					
Cash (Note 4) . . . . .	\$ 4,625,323.68	\$ 94,512.23	\$ 1,454,060.11	\$ —	\$ 6,173,896.02
Special Deposits . . . . .	366,352.25	—	2,389,384.36	—	2,755,736.61
Accounts receivable —					
Customers . . . . .	5,259,984.08	—	—	—	5,259,984.08
Other . . . . .	607,698.17	24,201.94	68,107.85	—	700,007.96
Materials and supplies . . . . .	4,053,178.32	61,907.16	1,264,372.29	—	5,379,457.77
	<u>\$ 14,912,536.50</u>	<u>\$ 180,621.33</u>	<u>\$ 5,175,924.61</u>	<u>\$ —</u>	<u>\$ 20,269,082.44</u>
DEFERRED CHARGES . . . . .	<u>\$ 658,590.85</u>	<u>\$ 28,231.08</u>	<u>\$ 190,125.20</u>	<u>\$ —</u>	<u>\$ 876,947.13</u>
	<u>\$ 200,899,668.32</u>	<u>\$ 54,214,364.89</u>	<u>\$ 210,490,914.17</u>	<u>\$ 13,194,613.33</u>	<u>\$ 452,410,334.05</u>

The accompanying notes (Schedule 6) together with the notes to the financial statements of the individual projects (Schedules 9, 12 and 15) are an integral part of this statement.

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM

Consisting of Bonneville Power Administration and the Commercial Power Components  
of Bonneville Dam Project and Columbia Basin Project (Note 6)

STATEMENT COMBINING ASSETS AND LIABILITIES ALLOCATED TO COMMERCIAL POWER  
(INCLUDING FUTURE DOWNSTREAM RIVER REGULATION) — JUNE 30, 1951

<u>LIABILITIES</u>	Bonneville Power Administration (Schedule 7)	Bonneville Dam Project (Schedule 10)	Columbia Basin Project (Schedule 13)	Eliminations	Combined (To Schedule 1)
<b>INVESTMENT OF U. S. GOVERNMENT:</b>					
Congressional appropriations (including amounts for operating expenses), allotments and W.P.A. expenditures . . . . .	\$ 233,934,672.10	\$ 63,631,384.49	\$ 203,601,044.34	\$ —	\$ 501,167,100.93
Transfers from other Federal projects (net) . . . . .	286,400.99	87,900.00	2,649,877.73	—	3,024,178.72
Interest on Federal investment . . . . .	20,597,407.24	17,282,947.36	41,173,440.84	—	79,053,795.44
	<u>\$ 254,818,480.33</u>	<u>\$ 81,002,231.85</u>	<u>\$ 247,424,362.91</u>	<u>\$ —</u>	<u>\$ 583,245,075.09</u>
Less — Funds returned to U. S. Treasury in repayment of Federal investment (including amounts for operating expenses and interest) . . . . .	110,348,806.95	38,163,092.85	66,303,718.97	—	214,815,618.77
Net investment of U. S. Government . . . . .	<u>\$ 144,469,673.38</u>	<u>\$ 42,839,139.00</u>	<u>\$ 181,120,643.94</u>	<u>\$ —</u>	<u>\$ 368,429,456.32</u>
<b>CURRENT LIABILITIES:</b>					
Accounts payable . . . . .	\$ 7,357,706.55	\$ 10,612.56	\$ 3,967,710.22	\$ —	\$ 11,336,029.33
Employees' accrued leave . . . . .	1,766,491.67	—	589,136.11	—	2,355,627.78
	<u>\$ 9,124,198.22</u>	<u>\$ 10,612.56</u>	<u>\$ 4,556,846.33</u>	<u>\$ —</u>	<u>\$ 13,691,657.11</u>
<b>DEFERRED CREDITS AND RESERVES:</b>					
Deferred power revenues . . . . .	\$ —	\$ —	\$ 1,830,000.00	\$ 1,830,000.00	\$ —
Customer's deposit, see contra . . . . .	728,695.90	—	—	—	728,695.90
Deposits for construction of property for others, see contra . . . . .	134,103.98	—	—	—	134,103.98
Other deferred credits . . . . .	4,888.23	—	—	—	4,888.23
Reserve for deferred maintenance . . . . .	—	—	106,393.60	—	106,393.60
Contribution in aid of construction — by state of Washington . . . . .	—	—	175,526.14	—	175,526.14
	<u>\$ 867,688.11</u>	<u>\$ —</u>	<u>\$ 2,111,919.74</u>	<u>\$ 1,830,000.00</u>	<u>\$ 1,149,607.85</u>
RESERVE FOR FUTURE POWER COSTS — Excess of repayment to U. S. Treasury applied to amortization of cost of power facilities over depreciation (Note 4, Schedule 12) . . . . .	\$ —	\$ 11,364,613.33	\$ —	\$ 11,364,613.33	\$ —
<b>ACCUMULATED NET REVENUES (Note 1):</b>					
Balance at beginning of year . . . . .	\$ 36,283,280.12	\$ —	\$ 18,360,780.54	\$ —	\$ 54,644,060.66
Add — Net revenues for the year ended June 30, 1951 . . . . .	10,154,828.49	—	4,340,723.62	—	14,495,552.11
Balance at end of year . . . . .	<u>\$ 46,438,108.61</u>	<u>\$ —</u>	<u>\$ 22,701,504.16</u>	<u>\$ —</u>	<u>\$ 69,139,612.77</u>
	<u>\$ 200,899,668.32</u>	<u>\$ 54,214,364.89</u>	<u>\$ 210,490,914.17</u>	<u>\$ 13,194,613.33</u>	<u>\$ 452,410,334.05</u>

The accompanying notes (Schedule 6) together with the notes to the financial statements of the individual projects (Schedules 9, 12 and 15) are an integral part of this statement.

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM

Consisting of Bonneville Power Administration and the Commercial Power Components  
of Bonneville Dam Project and Columbia Basin Project (Note 6)

STATEMENT COMBINING REVENUES AND EXPENSES ALLOCATED TO COMMERCIAL POWER  
(INCLUDING FUTURE DOWNSTREAM RIVER REGULATION) — FOR THE FISCAL YEAR ENDED JUNE 30, 1951

	Bonneville Power Administration (Schedule 8)	Bonneville Dam Project (Schedule 11)	Columbia Basin Project (Schedule 14)	Eliminations	Combined (To Schedule 2)
<b>OPERATING REVENUES:</b>					
Sales of electric energy	\$ 35,771,498.81	\$ 92.85	\$ —	\$ —	\$ 35,771,591.66
Less — Amounts allocated to —					
Bonneville Dam Project	2,800,493.21*	2,800,493.21	—	—	—
Columbia Basin Project	9,812,430.00*	—	9,812,430.00	—	—
Payment for river regulation at Bonneville Dam Project	—	—	187,570.00	187,570.00	—
Other electric revenues	422,118.11	—	4,682.05*	—	417,436.06
<b>Total operating revenues</b>	<b>\$ 23,580,693.71</b>	<b>\$ 2,800,586.06</b>	<b>\$ 9,995,317.95</b>	<b>\$ 187,570.00</b>	<b>\$ 36,189,027.72</b>
<b>OPERATING EXPENSES (Notes 1 and 2):</b>					
Purchased power	\$ 553,974.15	\$ —	\$ —	\$ —	\$ 553,974.15
Operation —					
Specific power facilities	4,550,975.31	355,844.26	957,009.15	—	5,863,828.72
Joint facilities	—	88,857.06	108,510.56	—	197,367.62
Payment for river regulation	—	187,570.00	—	187,570.00	—
Maintenance —					
Specific power facilities	1,353,194.22	264,991.30	245,402.78	—	1,863,588.30
Joint facilities	—	142,015.06	36,719.35	—	178,734.41
Depreciation (Note 3) —					
Specific power facilities	4,395,568.01	530,387.13	1,288,715.82	—	6,214,670.96
Joint facilities	—	119,177.57	286,773.82	—	405,951.39
Less — Amount allocated to future downstream river regulation, recoverable from operations of future downstream hydro plants	—	—	123,845.11*	—	123,845.11*
<b>Total operating expenses</b>	<b>\$ 10,853,711.69</b>	<b>\$ 1,688,842.38</b>	<b>\$ 2,799,286.37</b>	<b>\$ 187,570.00</b>	<b>\$ 15,154,270.44</b>
<b>Net operating revenues</b>	<b>\$ 12,726,982.02</b>	<b>\$ 1,111,743.68</b>	<b>\$ 7,196,031.58</b>	<b>\$ —</b>	<b>\$ 21,034,757.28</b>
<b>INTEREST AND OTHER DEDUCTIONS:</b>					
Interest on Federal investment	\$ 2,948,877.01	\$ 1,114,991.37	\$ 4,548,507.60	\$ —	\$ 8,612,375.98
Less —					
Amount allocated to future downstream river regulation, recoverable from operations of future downstream hydro plants	—	—	1,128,320.58*	—	1,128,320.58*
Amount charged to construction	389,604.73*	3,247.69*	559,193.61*	—	952,046.03*
Miscellaneous income deductions (net)	12,881.25	—	5,685.45*	—	7,195.80
<b>Total interest and other deductions</b>	<b>\$ 2,572,153.53</b>	<b>\$ 1,111,743.68</b>	<b>\$ 2,855,307.96</b>	<b>\$ —</b>	<b>\$ 6,539,205.17</b>
<b>Net revenues</b>	<b>\$ 10,154,828.49</b>	<b>\$ —</b>	<b>\$ 4,340,723.62</b>	<b>\$ —</b>	<b>\$ 14,495,552.11</b>

\* Denotes red figure

The accompanying notes (Schedule 6) together with the notes to the financial statements of the individual projects (Schedules 9, 12 and 15) are an integral part of this statement.

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM

Consisting of Bonneville Power Administration and the Commercial Power Components  
of Bonneville Dam Project and Columbia Basin Project (Note 6)

COMBINING STATEMENT OF FUNDS RETURNED TO U. S. TREASURY IN REPAYMENT OF FEDERAL INVESTMENT

FOR THE FISCAL YEAR ENDED JUNE 30, 1951

	<u>Bonneville Power Administration</u>	<u>Bonneville Dam Project</u>	<u>Columbia Basin Project</u>	<u>Combined</u>
Sales of electric energy . . . . .	\$35,771,498.81	\$ 92.85	\$ —	\$35,771,591.66
Less —				
Decrease in uncollected sales, represented by accounts receivable from customers	\$ 1,185,495.54*	\$ —	\$ —	\$ 1,185,495.54*
Noncash (exchange) power sales . . . . .	1,272,204.66	—	—	1,272,204.66
Uncollectible power sales written off . . . . .	2,524.01	—	—	2,524.01
	<u>\$ 89,233.13</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 89,233.13</u>
Cash receipts from sales of electric energy deposited in U. S. Treasury . . . . .	\$35,682,265.68	\$ 92.85	\$ —	\$35,682,358.53
Miscellaneous power receipts . . . . .	262,024.57	—	194,933.79	456,958.36
Total power receipts deposited in U. S. Treasury . . . . .	\$35,944,290.25	\$ 92.85	\$ 194,933.79	\$36,139,316.89
Allocation of receipts among projects —				
Receipts transferred to the accounts of other projects with the U. S. Treasury . . . . .	20,367,000.00*	3,724,570.00	16,642,430.00	—
Payment for river regulation . . . . .	—	187,570.00*	187,570.00	—
Amount transferred to Continuing Fund . . . . .	116,225.13*	—	—	116,225.13*
Funds returned to U. S. Treasury in repayment of Federal investment . . . . .	<u>\$15,461,065.12</u>	<u>\$ 3,537,092.85</u>	<u>\$17,024,933.79</u>	<u>\$36,023,091.76</u>

\* Denotes red figure

The accompanying notes (Schedule 6) are an integral part of this statement.

UNITED STATES OF AMERICA

COLUMBIA RIVER POWER SYSTEM

Consisting of Bonneville Power Administration and the Commercial Power Components  
of Bonneville Dam Project and Columbia Basin Project (Note 6)

COMBINING STATEMENT OF FUNDS RETURNED TO U. S. TREASURY IN REPAYMENT OF FEDERAL INVESTMENT  
FOR THE PERIOD FROM BEGINNING OF OPERATIONS TO JUNE 30, 1951

	Bonneville Power Administration	Bonneville Dam Project	Columbia Basin Project	Combined
Sales of electric energy . . . . .	\$ 219,677,136.72	\$ 92.85	\$ —	\$ 219,677,229.57
Less —				
Increase in uncollected sales, represented by accounts receivable from customers	\$ 5,259,984.08	\$ —	\$ —	\$ 5,259,984.08
Noncash (exchange) power sales . . . . .	4,958,757.74	—	—	4,958,757.74
Uncollectible power sales written off . . . . .	2,524.01	—	—	2,524.01
	\$ 10,221,265.83	\$ —	\$ —	\$ 10,221,265.83
Cash receipts from sales of electric energy deposited in U. S. Treasury . . .	\$ 209,455,870.89	\$ 92.85	\$ —	\$ 209,455,963.74
Miscellaneous power receipts . . . . .	5,767,220.15	—	855,039.29	6,622,259.44
Total power receipts deposited in U. S. Treasury . . . . .	\$ 215,223,091.04	\$ 92.85	\$ 855,039.29	\$ 216,078,223.18
Allocation of receipts among projects —				
Receipts transferred to the accounts of other projects with the U. S. Treasury . . . .	103,611,679.68*	39,851,130.00	63,760,549.68	—
Payment for river regulation . . . . .	—	1,688,130.00*	1,688,130.00	—
Amount transferred to Continuing Fund . . . . .	1,262,604.41*	—	—	1,262,604.41*
Funds returned to U. S. Treasury in repayment of Federal investment . . . .	\$ 110,348,806.95	\$ 38,163,092.85	\$ 66,303,718.97	\$ 214,815,618.77

\* Denotes red figure

The accompanying notes (Schedule 6) are an integral part of this statement.

COLUMBIA RIVER POWER SYSTEM

NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 1, 2, 3, 4 AND 5

1. CERTAIN COSTS NOT INCLUDED:

Property costs and operating expenses do not include costs of administrative and other services rendered by other departments and agencies of the U. S. Government which, under governmental accounting procedures, are not allocated to individual projects. It is not practicable to determine the amount of such costs applicable to these projects.

2. ALLOCATION OF JOINT COSTS AND EXPENSES:

Property, plant and equipment determined to be jointly useful for power generation and for other purposes, consisting principally of dams, reservoirs, fishways, and general service facilities, has been allocated 50% to power and 50% to nonpower purposes at Bonneville Dam Project and 56% to power (including future downstream river regulation) and 44% to nonpower purposes at Columbia Basin Project. Certain specific power facilities at Columbia Basin Project have been allocated to commercial power and to irrigation pumping power in proportion to the relative value of the power delivered for each purpose. These allocations have been made in accordance with determinations made by the Federal Power Commission and by the Secretary of the Interior, respectively, acting under authority delegated by Congress. Operation and maintenance expenses applicable to joint facilities have been allocated to power and nonpower operations in the same proportions as the related property costs.

3. DEPRECIATION POLICY:

Depreciation of the property of Bonneville Power Administration, consisting principally of transmission facilities, has been computed on the straight line method and depreciation of the power facilities of the two dams has been computed principally on the compound interest method using an interest factor of 2.5% in each case based upon the estimated service lives of the various classes of property as determined by engineering studies, except that no property has been assigned a service life of longer than one hundred years which has been assumed to be the maximum economic life of the projects. Land, land rights and clearing costs allocated to power are being amortized over such one hundred year period. Depreciation of general service facilities at Columbia Basin Project, which is charged to clearing accounts and

redistributed to construction and other accounts, has been computed on the straight line method based on the estimated service lives of the various types of facilities. A composite depreciation reserve is maintained for each class of property and the original cost of property retired, less net salvage applicable thereto, is charged to the related reserve.

4. CASH:

The cash balances of United States Treasury are not segregated by the various departments and agencies of the government. An amount approximately equal to one month's expenditures, which is estimated to be the System's proportionate share of general fund cash held by the Treasury, has been shown as cash in the accompanying statements.

5. CONTINGENT LIABILITIES:

The projects are contingently liable under pending litigation which, in some instances, involves claims of substantial amounts. In the opinion of counsel for the projects, any actual liability which may result from such litigation will not be material.

6. PROJECTS NOT INCLUDED:

Bonneville Power Administration has been appointed marketing agent for power to be generated at the following projects which are presently under construction:

McNary Dam Project  
 Hungry Horse Project  
 Chief Joseph Dam Project  
 Albeni Falls Project  
 Detroit Project  
 Willamette Basin Projects (Meridian Dam)

Pending allocation of the costs of these projects as between power and other purposes, no amounts have been included in the accompanying financial statements of the Columbia River Power System for construction costs incurred on these projects to June 30, 1951.

Bonneville Power Administration has also been appointed marketing agent for power to be generated at other Federal dams whose construction has been authorized but not commenced at June 30, 1951.

UNITED STATES OF AMERICA  
DEPARTMENT OF THE INTERIOR  
BONNEVILLE POWER ADMINISTRATION  
STATEMENT OF ASSETS AND LIABILITIES — JUNE 30, 1951

<u>ASSETS</u>		<u>LIABILITIES</u>	
ELECTRIC UTILITY PLANT (transmission lines, substations, etc.) at original cost, including interest during construction (Note 1) . . . . .	\$ 194,332,309.83	INVESTMENT OF U. S. GOVERNMENT: Congressional appropriations (including amounts for operating expenses), allotments and W.P.A. expenditures	\$ 233,934,672.10
Less — Reserve for depreciation (Note 2) . . . . .	<u>23,061,182.07</u>	Transfers from other Federal projects (net) . . . . .	286,400.99
Original cost less reserve . . . . .	\$ 171,271,127.76	Interest on Federal investment . . . . .	<u>20,597,407.24</u>
SPECIAL DEPOSITS:			\$ 254,818,480.33
Customer's deposit, see contra . . . . .	\$ 728,695.90	Less — Funds returned to U. S. Treasury in repayment of Federal investment (including amounts for operating expenses and interest) . . . . .	<u>110,348,806.95</u>
Cash for construction of property for others, see contra . . . . .	134,103.98	Net investment of U.S. Government . . . . .	\$ 144,469,673.38
Payments for amortization in excess of depreciation at Bonneville Dam Project (Note 3) . . . . .	11,364,613.33	CURRENT LIABILITIES:	
Advance against 1952 power revenues allocable to Columbia Basin Project	<u>1,830,000.00</u>	Accounts payable . . . . .	\$ 7,357,706.55
	14,057,413.21	Employees' accrued leave . . . . .	<u>1,766,491.67</u> 9,124,198.22
CURRENT ASSETS:		DEFERRED CREDITS:	
Cash (Note 4) . . . . .	\$ 4,625,323.68	Customer's deposit, see contra . . . . .	\$ 728,695.90
Special deposits . . . . .	366,352.25	Deposits for construction of property for others, see contra . . . . .	134,103.98
Accounts receivable —		Other . . . . .	<u>4,888.23</u> 867,688.11
Customers . . . . .	5,259,984.08	ACCUMULATED NET REVENUES (Notes 1 and 3):	
Other . . . . .	607,698.17	Balance at beginning of year . . . . .	\$ 36,283,280.12
Materials and supplies . . . . .	<u>4,053,178.32</u>	Add — Net revenues for the year ended June 30, 1951 . . . . .	<u>10,154,828.49</u>
DEFERRED CHARGES	658,590.85	Balance at end of year . . . . .	<u>46,438,108.61</u>
	-----		\$ 200,899,668.32
	<u>\$ 200,899,668.32</u>		<u>\$ 200,899,668.32</u>

The accompanying notes (Schedule 9) are an integral part of this statement.

UNITED STATES OF AMERICA  
DEPARTMENT OF THE INTERIOR  
BONNEVILLE POWER ADMINISTRATION  
STATEMENT OF REVENUES AND EXPENSES FOR THE FISCAL YEAR ENDED JUNE 30, 1951

## OPERATING REVENUES:

Sales of electric energy . . . . .		\$35,771,498.81
Less — Amounts allocated to (Note 3) —		
Bonneville Dam Project . . . . .	\$2,800,493.21	
Columbia Basin Project . . . . .	<u>9,812,430.00</u>	<u>12,612,923.21</u>
		\$23,158,575.60
Other electric revenues . . . . .		<u>422,118.11</u>
Total operating revenues . . . . .		\$23,580,693.71

## OPERATING EXPENSES (Note 1):

Purchased power . . . . .	\$ 553,974.15	
Operation . . . . .	4,550,975.31	
Maintenance . . . . .	1,353,194.22	
Depreciation (Note 2) . . . . .	<u>4,395,568.01</u>	<u>10,853,711.69</u>
Net operating revenues . . . . .		\$12,726,982.02

## INTEREST AND OTHER DEDUCTIONS:

Interest on Federal investment . . . . .	\$2,948,877.01	
Less — Interest charged to construction . . . . .	389,604.73*	
Miscellaneous income deductions (net) . . . . .	<u>12,881.25</u>	<u>2,572,153.53</u>
Net revenues . . . . .		<u>\$10,154,828.49</u>

\* Denotes red figure

The accompanying notes (Schedule 9) are an integral part of this statement.

BONNEVILLE POWER ADMINISTRATIONNOTES TO FINANCIAL STATEMENTS ON SCHEDULES 7 AND 8

## 1. CERTAIN COSTS NOT INCLUDED:

Property costs and operating expenses do not include costs of administrative and other services rendered by other departments and agencies of the U. S. Government which, under governmental accounting procedures, are not allocated to individual projects. It is not practicable to determine the amount of such costs applicable to this project.

## 2. DEPRECIATION POLICY:

Depreciation has been computed on the straight line method, based upon the estimated service lives of the various classes of property as determined by engineering studies, except that no property has been assigned a service life of longer than one hundred years which has been assumed to be the maximum economic life of the project. Land, land rights and clearing costs are being amortized over such one hundred year period. A composite depreciation reserve is maintained for each class of property and the original cost of property retired, less net salvage applicable thereto, is charged to the related reserve.

## 3. ALLOCATION OF REVENUES:

The amounts of revenues from the sale of electric energy allocated to Bonneville Dam Project and to Columbia Basin Project have been determined in accordance with memoranda of agreement between Bonneville Power Administration and the Corps of Engineers, U. S. Army, and the Bureau of Reclamation of the Department of the Interior, respectively.

During 1951 Bonneville Power Administration deposited \$3,724,570.00 with the U. S. Treasury for the account of Bonneville Dam Project in accordance with the terms of the agreement, of which \$2,800,493.21, equivalent to operating expenses (including depreciation) and interest on the Federal investment allocated to power has been treated as current year's revenues and \$924,076.79 representing the excess of the amount deposited in repayment of plant costs of that project allocated to power over depreciation, has been treated as an advance repayment of the Federal investment in that project.

Reclamation laws, as supplemented by the Act of August 30, 1935, and Executive Order No. 8526 require that payments be made, from time to time, to the Reclamation Fund for the account of Columbia Basin Project from revenues received by Bonneville Power Administration from the Sale of electric energy equal to the portion of such revenues properly allocable to the project. Under the terms of the agreement of January 31, 1946, between the Bureau of Reclamation and Bonneville Power Administration entered into to effectuate these requirements, the Administration is required to make payments which in any year are not dependent upon the quantity of energy generated by the project and delivered to the Administration, but which are designed to return to the United States over the life of the project the operation and maintenance expenses of the dam and the power plant, the cost, exclusive of interest during construction, of facilities allocated to power the portion of the cost, exclusive of interest during construction, of facilities allocated to irrigation which exceeds the repayment ability of the water users (estimated, upon completion of the project, to be approximately \$365,000,000) and an annual amount equal to 3% of the unamortized cost, exclusive of interest during construction, allocated to present power production. A schedule of estimated payments is provided in the agreement but provision is made for annual adjustments of the schedule to reflect the application of actual payments to the return of such amounts. Provision is made also for payments in excess of the annual amounts set out in the schedule or less than such amounts in the event that prior excess payments have been made. In the opinion of counsel the amounts covered into the Reclamation Fund for the project each year are not in repayment of specific expenses applicable to specific years but rather represent lump sum payments against the total liability provided for in the agreement.

## 4. CASH:

The cash balances of United States Treasury are not segregated by the various departments and agencies of the government. An amount approximately equal to one month's expenditures, which is estimated to be the Administration's proportionate share of general fund cash held by the Treasury, has been shown as cash in the accompanying statements.

## 5. CONTINGENT LIABILITIES:

The project is contingently liable under pending litigation. In the opinion of counsel for the project, any actual liability which may result from such litigation will not be material.

UNITED STATES OF AMERICA  
CORPS OF ENGINEERS — U. S. ARMY  
BONNEVILLE DAM PROJECT

STATEMENT OF ASSETS AND LIABILITIES — JUNE 30, 1951

<u>ASSETS</u>	<u>Total</u>	<u>Deduct — Amounts Allocated to Other Than Power</u>	<u>Amounts Allocated to Power</u>
<b>PROPERTY, PLANT AND EQUIPMENT at original cost, including interest during construction (Notes 1 and 2):</b>			
Specific power facilities (powerhouse and generating equipment) . . . . .	\$ 38,391,122.53	\$ —	\$38,391,122.53
Specific navigation facilities (shiplock) . . . . .	6,346,351.31	6,346,351.31	—
Joint facilities (dam, reservoir, fishways, etc.) . . . . .	41,781,609.69	20,890,804.84	20,890,804.85
	<u>\$ 86,519,083.53</u>	<u>\$ 27,237,156.15</u>	<u>\$ 59,281,927.38</u>
 <b>Less — Reserve for depreciation (Note 3) —</b>			
Specific power facilities . . . . .	\$ 4,242,010.80	\$ —	\$ 4,242,010.80
Specific navigation facilities . . . . .	348,182.80	348,182.80	—
Joint facilities . . . . .	2,068,808.19	1,034,404.09	1,034,404.10
	<u>\$ 6,659,001.79</u>	<u>\$ 1,382,586.89</u>	<u>\$ 5,276,414.90</u>
Original cost less reserve . . . . .	<u>\$ 79,860,081.74</u>	<u>\$ 25,854,569.26</u>	<u>\$ 54,005,512.48</u>
 <b>OTHER ASSETS:</b>			
Cash (Note 5) . . . . .	138,647.69	44,135.46	94,512.23
Due from other projects . . . . .	28,812.29	4,610.35	24,201.94
Deferred charges . . . . .	47,647.74	19,416.66	28,231.08
Materials and supplies . . . . .	110,057.17	48,150.01	61,907.16
	<u>\$ 80,185,246.63</u>	<u>\$ 25,970,881.74</u>	<u>\$ 54,214,364.89</u>
 <b>LIABILITIES</b>			
<b>INVESTMENT OF U. S. GOVERNMENT:</b>			
Congressional appropriations and allotments (including amounts for operating expenses) . . . . .	\$ 92,500,709.11	\$28,869,324.62	\$63,631,384.49
Transfers from other Federal projects . . . . .	175,400.00	87,500.00	87,900.00
Interest on Federal investment . . . . .	26,590,470.36	9,307,523.00	17,282,947.36
	<u>\$ 119,266,579.47</u>	<u>\$ 38,264,347.62</u>	<u>\$ 81,002,231.85</u>
 <b>Less —</b>			
Funds returned to U. S. Treasury in repayment of Federal investment allocated to power (including amounts for operating expenses and interest) . . . . .	\$ 38,163,092.85	\$ —	\$38,163,092.85
Net expense of non-reimbursable portion of project (including \$1,099,751.53 for the year ended June 30, 1951) . . . . .	12,298,978.68	12,298,978.68	—
	<u>\$ 50,462,071.53</u>	<u>\$ 12,298,978.68</u>	<u>\$ 38,163,092.85</u>
Net investment of U. S. Government . . . . .	<u>\$ 68,804,507.94</u>	<u>\$ 25,965,368.94</u>	<u>\$ 42,839,139.00</u>
 <b>ACCOUNTS PAYABLE</b> . . . . .	<u>\$ 16,125.36</u>	<u>\$ 5,512.80</u>	<u>\$ 10,612.56</u>
 <b>RESERVE FOR FUTURE POWER COSTS — Excess of repayment to U. S. Treasury applied to amortization of cost of power facilities over depreciation (Note 4):</b>			
Balance at beginning of year . . . . .	\$ 10,440,536.54	\$ —	\$10,440,536.54
Excess for the year ended June 30, 1951 . . . . .	924,076.79	—	924,076.79
	<u>\$ 11,364,613.33</u>	<u>\$ —</u>	<u>\$ 11,364,613.33</u>
Balance at end of year . . . . .	<u>\$ 80,185,246.63</u>	<u>\$ 25,970,881.74</u>	<u>\$ 54,214,364.89</u>

The accompanying notes (Schedule 12) are an integral part of this statement.

UNITED STATES OF AMERICA  
CORPS OF ENGINEERS — U. S. ARMY  
BONNEVILLE DAM PROJECT

STATEMENT OF REVENUES AND EXPENSES FOR THE FISCAL YEAR ENDED JUNE 30, 1951

	<u>Total</u>	<u>Deduct — Amounts Allocated to Other Than Power</u>	<u>Amounts Allocated to Power</u>
<b>OPERATING REVENUES:</b>			
Receipts from sales of electric energy by Bonneville Power Administration allocated to Bonneville Dam Project applied in repayment of operating expenses and interest allocated to power (Note 4) . . . . .	\$2,800,493.21	\$ —	\$2,800,493.21
Sales of electric energy . . . . .	92.85	—	92.85
	<u>\$2,800,586.06</u>	<u>\$ —</u>	<u>\$2,800,586.06</u>
<b>OPERATING EXPENSES (Notes 1 and 2):</b>			
Operation —			
Specific power facilities . . . . .	\$ 355,844.26	\$ —	\$ 355,844.26
Specific navigation facilities . . . . .	42,886.65	42,886.65	—
Joint facilities . . . . .	177,714.12	88,857.06	88,857.06
Payment for river regulation . . . . .	187,570.00	—	187,570.00
Maintenance —			
Specific power facilities . . . . .	264,991.30	—	264,991.30
Specific navigation facilities . . . . .	26,486.67	26,486.67	—
Joint facilities . . . . .	284,030.12	142,015.06	142,015.06
Depreciation (Note 3)—			
Specific power facilities . . . . .	530,387.13	—	530,387.13
Specific navigation facilities . . . . .	36,019.50	36,019.50	—
Joint facilities . . . . .	238,355.14	119,177.57	119,177.57
Total operating expenses . . . . .	<u>\$2,144,284.89</u>	<u>\$ 455,442.51</u>	<u>\$1,688,842.38</u>
Net operating revenues . . . . .	<u>\$ 656,301.17</u>	<u>\$ 455,442.51*</u>	<u>\$1,111,743.68</u>
<b>INTEREST DEDUCTIONS:</b>			
Interest on Federal investment . . . . .	\$1,762,026.76	\$ 647,035.39	\$1,114,991.37
Less — Amount charged to construction . . . . .	5,974.06	2,726.37	3,247.69
Net interest deductions . . . . .	<u>\$1,756,052.70</u>	<u>\$ 644,309.02</u>	<u>\$1,111,743.68</u>
Net revenues . . . . .	<u>\$1,099,751.53*</u>	<u>\$1,099,751.53*</u>	<u>\$ —</u>

\* Denotes red figure

The accompanying notes (Schedule 12) are an integral part of this statement.

BONNEVILLE DAM PROJECTNOTES TO FINANCIAL STATEMENTS ON SCHEDULES 10 AND 11

## 1. CERTAIN COSTS NOT INCLUDED:

Property costs and operating expenses do not include costs of administrative and other services rendered by other departments and agencies of the U. S. Government which, under governmental accounting procedures, are not allocated to individual projects. It is not practicable to determine the amount of such costs applicable to this project.

## 2. ALLOCATION OF JOINT COSTS AND EXPENSES:

Property, plant and equipment determined to be jointly useful for power generation and for other purposes, consisting principally of the dams, reservoir and fishways, has been allocated 50% to power and 50% to nonpower purposes in accordance with a determination made by the Federal Power Commission acting under authority delegated by Congress in the Bonneville Project Act. Operation and maintenance expenses applicable to joint facilities have been allocated to power and to nonpower operations in the same proportion as the related property costs.

## 3. DEPRECIATION POLICY:

Depreciation has been computed principally on the compound interest method using an interest factor of 2.5% and based upon the estimated service lives of the various classes of property as determined by engineering studies, except that no property has been assigned a service life of longer than one hundred years which has been assumed to be the maximum economic life of the project. Land, land rights and clearing costs are being amortized over such one hundred year period. A composite depreciation reserve is maintained for each class of property and the original cost of property retired, less salvage applicable thereto, is charged to the related reserve.

## 4. ALLOCATION OF REVENUES:

Under the terms of an agreement between the Corps of Engineers, U. S. Army, and Bonneville Power Administration, the Administration is required to deposit in the U. S. Treasury for the account of Bonneville Dam Project, scheduled amounts of the receipts from the sale of power generated at that project, representing the portion of such receipts properly allocable to the return of the reimbursable costs of Bonneville Dam Project. These amounts are not dependent upon the quantity of electric energy generated and delivered to the Administration by Bonneville Dam Project from

year to year but are designed to return to the United States the plant costs of Bonneville Dam Project allocated to power, including necessary additions and replacements, over a fifty year period beginning July 1, 1944, together with interest at 2-1/2% per annum and annual operating and maintenance expenses allocated to power. Provision is made for deposits in excess of the scheduled amounts or less than such amounts in the event that prior excess deposits have been made. Since the repayment plan contemplates the amortization of the cost of power facilities within a shorter period than the estimated service lives of such facilities, the receipts allocated to Bonneville Dam Project to date have exceeded the accumulated power expenses to date (including depreciation of power facilities based upon their service lives). Accordingly, the excess of such amortization over depreciation has been treated in the accompanying financial statements as a reserve for future power costs.

During 1951, deposits by Bonneville Power Administration for the account of Bonneville Dam Project amounted to \$3,724,570.00, of which \$2,800,493.21, equivalent to operating expenses (including depreciation) and interest on Federal investment allocated to power, has been reflected as current year's revenues, and \$924,076.79 representing the excess of amortization over depreciation, has been included in the reserve for future power costs. The amounts in this reserve will be reflected in the income account in subsequent periods in amounts equivalent to the provisions for depreciation that will be charged to the income account in those subsequent periods when the plant costs allocated to power have been repaid and payments by Bonneville Power Administration to Bonneville Dam Project will only be equal to power operating expenses exclusive of provisions for depreciation.

## 5. CASH:

The cash balances of United States Treasury are not segregated by the various departments and agencies of the government. An amount approximately equal to one month's expenditures, which is estimated to be the Project's proportionate share of general fund cash held by the Treasury, has been shown as cash in the accompanying statements.

## 6. CONTINGENT LIABILITIES:

The project is contingently liable under pending litigation. In the opinion of counsel for the project, any actual liability which may result from such litigation will not be material.

UNITED STATES OF AMERICA  
DEPARTMENT OF THE INTERIOR  
COLUMBIA BASIN PROJECT  
STATEMENT OF ASSETS AND LIABILITIES — JUNE 30, 1951

<u>ASSETS</u>	<u>Total</u>	<u>Deduct—Amounts Allocated to Irrigation (Including Irrigation Pumping and Navigation)</u>	<u>Amounts Allocated to Commercial Power (Including Future Downstream River Regulation)</u>
PROPERTY, PLANT AND EQUIPMENT at original cost, including interest during construction on facilities allocated to commercial power (Notes 1 and 2):			
Specific power facilities (powerhouses and generating equipment) —			
Commercial power . . . . .	\$ 111,683,496.55	\$ —	\$ 111,683,496.55
Irrigation pumping . . . . .	348,989.56	348,989.56	—
Joint facilities (dam, reservoir and general service facilities) —			
Present commercial power production . . . . .	52,643,060.89	—	52,643,060.89
Future downstream river regulation . . . . .	39,916,167.04	—	39,916,167.04
Irrigation . . . . .	68,032,509.75	68,032,509.75	—
Navigation . . . . .	1,000,000.00	1,000,000.00	—
Specific irrigation facilities (equalizing reservoir, canals and pumping plant) . . . . .	137,315,428.21	137,315,428.21	—
Farmland held for resale . . . . .	1,562,629.92	1,562,629.92	—
	<u>\$ 412,502,281.92</u>	<u>\$ 208,259,557.44</u>	<u>\$ 204,242,724.48</u>
Less — Reserve for depreciation (Note 3) —			
Specific power facilities —			
Commercial power . . . . .	\$ 5,020,340.65	\$ —	\$ 5,020,340.65
Irrigation pumping . . . . .	4,695.72	4,695.72	—
Joint facilities —			
Present commercial power production . . . . .	2,373,697.68	—	2,373,697.68
Future downstream river regulation . . . . .	1,799,836.71	—	1,799,836.71
Irrigation . . . . .	1,439,321.19	1,439,321.19	—
	<u>\$ 10,637,891.95</u>	<u>\$ 1,444,016.91</u>	<u>\$ 9,193,875.04</u>
Original cost less reserve . . . . .	<u>\$ 401,864,389.97</u>	<u>\$ 206,815,540.53</u>	<u>\$ 195,048,849.44</u>
INTEREST AND DEPRECIATION CHARGES ON JOINT FACILITIES ALLOCATED TO FUTURE DOWNSTREAM RIVER REGULATION — recoverable from operations of future downstream hydro plants . . . . .	<u>\$ 10,076,014.92</u>	<u>\$ —</u>	<u>\$ 10,076,014.92</u>
CURRENT ASSETS:			
Cash (Note 5) . . . . .	\$ 5,015,040.96	\$ 3,560,980.85	\$ 1,454,060.11
Special deposits . . . . .	5,290,266.00	2,900,881.64	2,389,384.36
Accounts receivable . . . . .	229,221.41	161,113.56	68,107.85
Materials and supplies . . . . .	2,973,884.67	1,709,512.38	1,264,372.29
	<u>\$ 13,508,413.04</u>	<u>\$ 8,332,488.43</u>	<u>\$ 5,175,924.61</u>
DEFERRED CHARGES . . . . .	<u>\$ 2,249,530.09</u>	<u>\$ 2,059,404.89</u>	<u>\$ 190,125.20</u>
	<u>\$ 427,698,348.02</u>	<u>\$ 217,207,433.85</u>	<u>\$ 210,490,914.17</u>

The accompanying notes (Schedule 15) are an integral part of this statement.

UNITED STATES OF AMERICA  
DEPARTMENT OF THE INTERIOR  
COLUMBIA BASIN PROJECT

STATEMENT OF ASSETS AND LIABILITIES — JUNE 30, 1951

<u>LIABILITIES</u>	<u>Total</u>	<u>Deduct—Amounts Allocated to Irrigation (Including Irrigation Pumping) and Navigation</u>	<u>Amounts Allocated to Commercial Power (Including Future Downstream River Regulation)</u>
<b>INVESTMENT OF U. S. GOVERNMENT:</b>			
Congressional appropriations (including amounts for operating expenses), allotments, and W. P. A. expenditures . . . . .	\$414,351,707.20	\$210,750,662.86	\$203,601,044.34
Transfers from other Federal projects (net) . . . . .	3,568,256.60	918,378.87	2,649,877.73
Interest on portion of Federal investment allocated to commercial power . . . . .	41,173,440.84	—	41,173,440.84
	<u>\$459,093,404.64</u>	<u>\$211,669,041.73</u>	<u>\$247,424,362.91</u>
Less — Funds returned to U. S. Treasury in repayment of Federal investment (including amounts for operating expenses and interest) . . . . .	67,124,435.06	820,716.09	66,303,718.97
Net investment of U. S. Government . . . . .	<u>\$391,968,969.58</u>	<u>\$210,848,325.64</u>	<u>\$181,120,643.94</u>
<b>CURRENT LIABILITIES:</b>			
Accounts payable . . . . .	\$ 10,926,906.02	\$ 6,959,195.80	\$ 3,967,710.22
Employees accrued leave . . . . .	1,423,967.44	834,831.33	589,136.11
	<u>\$ 12,350,873.46</u>	<u>\$ 7,794,027.13</u>	<u>\$ 4,556,846.33</u>
<b>DEFERRED CREDITS AND RESERVES:</b>			
Deferred power revenues — Advance by Bonneville Power Administration against 1952 revenues allocable to this project . . . . .	\$ 1,830,000.00	\$ —	\$ 1,830,000.00
Reserve for deferred maintenance . . . . .	189,988.58	83,594.98	106,393.60
Contribution in aid of construction — by State of Washington . . . . .	313,439.53	137,913.39	175,526.14
	<u>\$ 2,333,428.11</u>	<u>\$ 221,508.37</u>	<u>\$ 2,111,919.74</u>
<b>ACCUMULATED NET REVENUES (Notes 1 and 4):</b>			
Balance at beginning of year . . . . .	\$ 16,801,815.07	\$ 1,558,965.47*	\$ 18,360,780.54
Add — Net revenues for the year ended June 30, 1951 . . . . .	4,243,261.80	97,461.82*	4,340,723.62
Balance at end of year . . . . .	<u>\$ 21,045,076.87</u>	<u>\$ 1,656,427.29*</u>	<u>\$ 22,701,504.16</u>
	<u>\$427,698,348.02</u>	<u>\$217,207,433.85</u>	<u>\$210,490,914.17</u>

\* Denotes red figure

The accompanying notes (Schedule 15) are an integral part of this statement.

UNITED STATES OF AMERICA  
DEPARTMENT OF THE INTERIOR  
COLUMBIA BASIN PROJECT

STATEMENT OF REVENUES AND EXPENSES FOR THE FISCAL YEAR ENDED JUNE 30, 1951

	Total	Deduct—Amounts Allocated to Irrigation (Including Irrigation Pumping and Navigation)	Amounts Allocated to Commercial Power Including Future Downstream River Regulation)
<b>OPERATING REVENUES:</b>			
Receipts from sales of electric energy by Bonneville Power Administration allocated to Columbia Basin Project (Note 4) . . . . .	\$ 9,812,430.00	\$ —	\$ 9,812,430.00
Payment for river regulation . . . . .	187,570.00	—	187,570.00
Interdepartmental revenues . . . . .	4,682.05*	—	4,682.05*
Irrigation revenues . . . . .	16,592.26	16,592.26	—
	\$10,011,910.21	\$ 16,592.26	\$ 9,995,317.95
<b>OPERATING EXPENSES (Notes 1 and 2):</b>			
Operation —			
Specific power facilities . . . . .	\$ 960,427.31	\$ 3,418.16	\$ 957,009.15
Specific irrigation facilities . . . . .	17,519.84	17,519.84	—
Joint facilities . . . . .	193,768.86	85,258.30	108,510.56
Maintenance —			
Specific power facilities . . . . .	246,279.29	876.51	245,402.78
Joint facilities . . . . .	65,570.26	28,850.91	36,719.35
Depreciation (Note 3) —			
Specific power facilities . . . . .	1,293,411.54	4,695.72	1,288,715.82
Joint facilities . . . . .	286,773.82	—	286,773.82
Less — Amount allocated to future downstream river regulation, recoverable from operations of future downstream hydro plants . . . . .	123,845.11*	—	123,845.11*
	\$ 2,939,905.81	\$ 140,619.44	\$ 2,799,286.37
Net operating income . . . . .	\$ 7,072,004.40	\$ 124,027.18*	\$ 7,196,031.58
<b>INTEREST AND OTHER DEDUCTIONS:</b>			
Interest on Federal investment . . . . .	\$ 4,548,507.60	\$ —	\$ 4,548,507.60
Less —			
Amount allocated to future downstream river regulation, recoverable from operations of future downstream hydro plants . . . . .	1,128,320.58*	—	1,128,320.58*
Amount charged to construction . . . . .	559,193.61*	—	559,193.61*
Miscellaneous income deductions (net) . . . . .	32,250.81*	26,565.36*	5,685.45*
	\$ 2,828,742.60	\$ 26,565.36*	\$ 2,855,307.96
Net revenues . . . . .	\$ 4,243,261.80	\$ 97,461.82*	\$ 4,340,723.62

\* Denotes red figure

The accompanying notes (Schedule 15) are an integral part of this statement.

COLUMBIA BASIN PROJECT (GRAND COULEE DAM)

NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 13 AND 14

1. CERTAIN COSTS NOT INCLUDED:

Property costs and operating expenses do not include costs of administrative and other services rendered by other departments and agencies of the U. S. Government which, under governmental accounting procedures, are not allocated to individual projects. It is not practicable to determine the amount of such costs applicable to this project.

2. ALLOCATION OF JOINT COSTS AND EXPENSES:

The cost 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, has been allocated 56% to power (including future downstream river regulation) and 44% to nonpower purposes after assigning \$1,000,000 to flood control and navigation. The cost of specific power facilities (principally power houses and generating equipment), exclusive of the cost of the three generating units and related electrical facilities being installed in addition to the original fifteen units, has been allocated to commercial power and to irrigation pumping power in proportion to the relative value of the power delivered for each purpose. The cost of the three additional generating units and related electrical facilities has been assigned to commercial power. In the opinion of counsel these methods of allocating costs are in accordance with the determinations made by the Secretary of the Interior acting under authority delegated by Congress in the Reclamation Project Act of 1939; however, other methods of allocating costs between commercial power and irrigation pumping power are being considered. Operation and maintenance expenses applicable to these facilities have been allocated to power and to nonpower operations in the same proportion as the related property costs.

3. DEPRECIATION POLICY:

Depreciation of power facilities has been computed on the compound interest method using an interest factor of 2.5% and based upon the estimated service lives of the various classes of property as determined by engineering studies, except that no property has been assigned a service life of longer than one hundred years which has been assumed to be the maximum economic life of the project. Land, land rights and clearing costs, allocated to power are being amortized over such one hundred year period. Depreciation of general service facilities, which is charged to clearing accounts and redistributed to construction and other accounts, has been computed on the straight line method based upon the estimated service lives of the various types of facilities. A composite depreciation reserve is maintained for each class of property.

4. ALLOCATION OF REVENUES:

Reclamation laws, as supplemented by the Act of August 30, 1935, and Executive Order No. 8526 require that payments be made, from time to time, to the Reclamation Fund for the account of Columbia Basin Project from revenues received by Bonneville Power Administration from the sale of electric energy equal to the portion of such revenues properly allocable to the project. Under the terms of the agreement of January 31, 1946 between the Bureau of Reclamation and Bonneville Power Administration, entered into to effectuate these requirements, the Administration is required to make payments which in any year are not dependent upon the quantity of energy generated by the project and delivered to the Administration, but which are designed to return to the United States over the life of the project the operation and maintenance expenses of the dam and the power plant, the cost, exclusive of interest during construction, of facilities allocated to power, the portion of the cost, exclusive of interest during construction, of facilities allocated to irrigation which exceeds the repayment ability of the water users (estimated, upon completion of the project, to be approximately \$365,000,000) and an annual amount equal to 3% of the unamortized cost, exclusive of interest during construction, allocated to present power production. A schedule of estimated payments is provided in the agreement but provision is made for annual adjustments of the schedule to reflect the application of actual payments to the return of such amounts. Provision is made also for payments in excess of the annual amounts set out in the schedule or less than such amounts in the event that prior excess payments have been made. In the opinion of counsel the amounts covered into the Reclamation Fund for the project each year are not in repayment of specific expenses applicable to specific years but rather represent lump sum payments against the total liability provided for in the agreement. Accordingly, the amount payable for the year ended June 30, 1951 under the terms of the agreement has been treated in the accompanying financial statements as current year's revenues.

5. CASH:

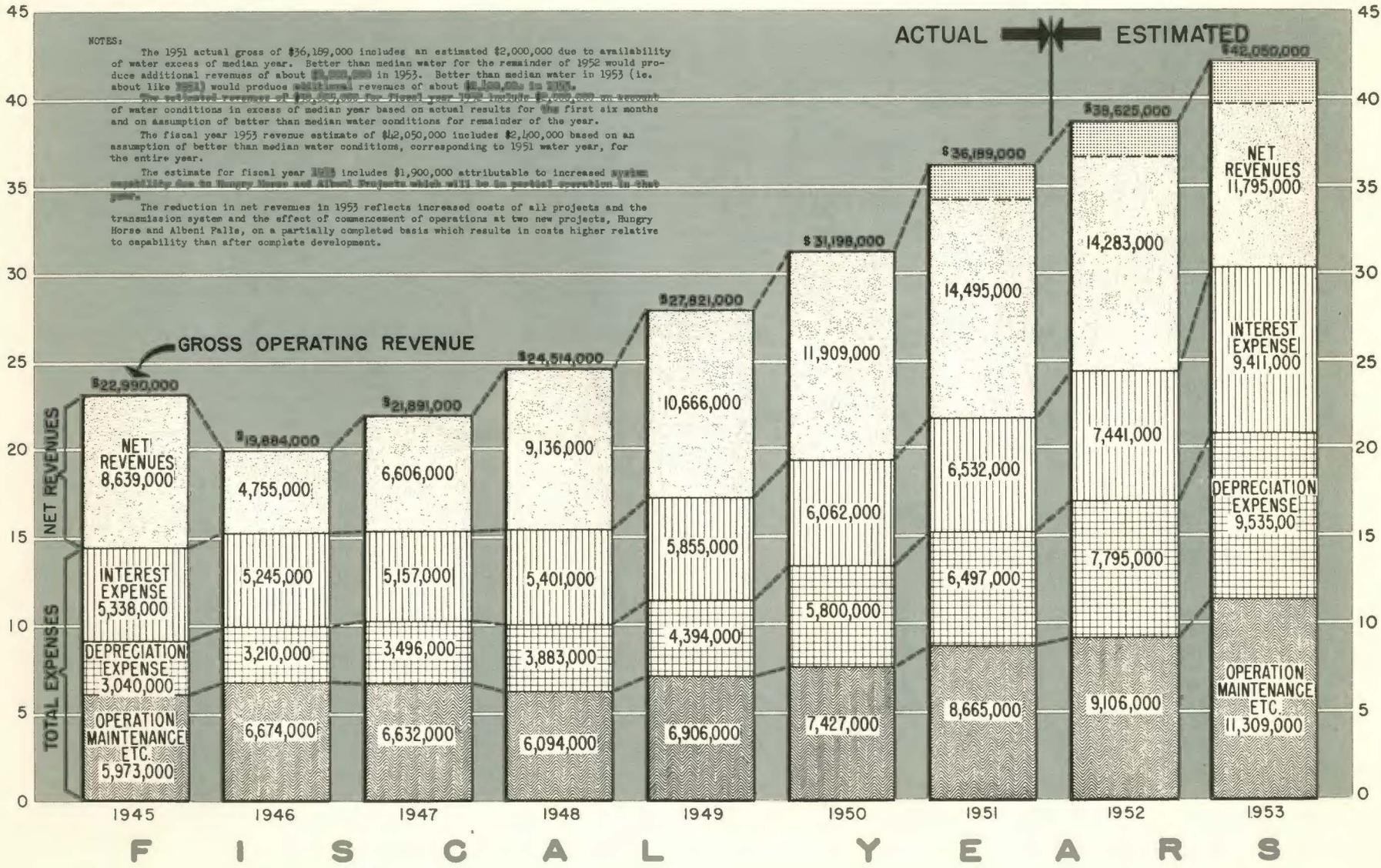
The cash balances of United States Treasury are not segregated by the various departments and agencies of the government. An amount approximately equal to one month's expenditures, which is estimated to be the Project's proportionate share of general fund cash held by the Treasury, has been shown as cash in the accompanying statements.

6. CONTINGENT LIABILITIES:

The project is contingently liable under pending litigation which, in some instances, involves claims of substantial amount. In the opinion of counsel for the project, any actual liability which may result from such litigation will not be material.

# COLUMBIA RIVER POWER SYSTEM CONDENSED AND COMBINED REVENUES & EXPENSES 1945-53

MILLIONS OF DOLLARS



**NOTES:**

The 1951 actual gross of \$36,189,000 includes an estimated \$2,000,000 due to availability of water excess of median year. Better than median water for the remainder of 1952 would produce additional revenues of about \$2,000,000 in 1953. Better than median water in 1953 (i.e. about like 1951) would produce additional revenues of about \$1,000,000 in 1954.

The estimated revenue of \$42,050,000 for fiscal year 1953 includes \$2,000,000 on account of water conditions in excess of median year based on actual results for the first six months and on assumption of better than median water conditions for remainder of the year.

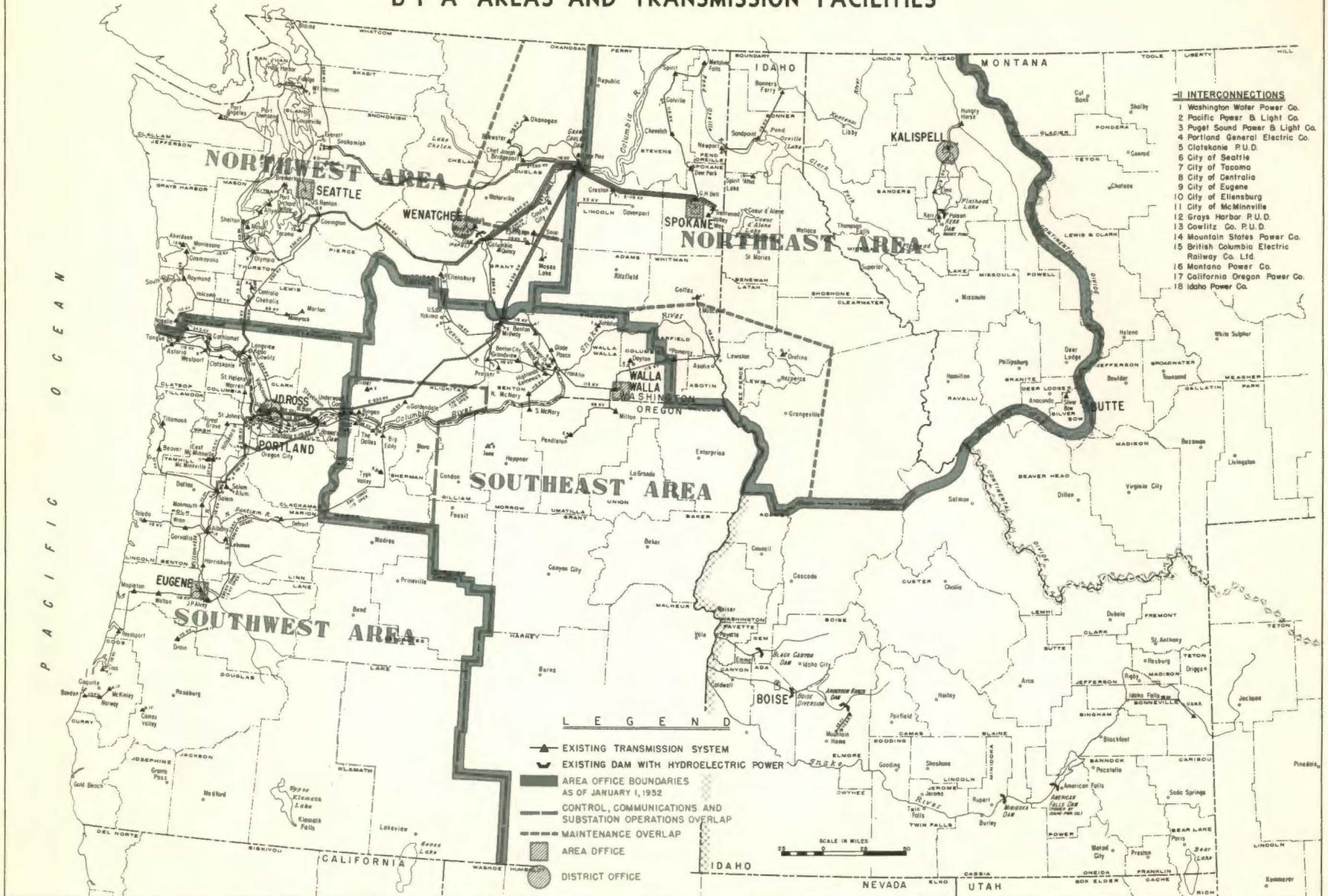
The fiscal year 1953 revenue estimate of \$42,050,000 includes \$2,400,000 based on an assumption of better than median water conditions, corresponding to 1951 water year, for the entire year.

The estimate for fiscal year 1953 includes \$1,900,000 attributable to increased system capability due to Hungry Horse and Albeni Projects which will be in partial operation in that year.

The reduction in net revenues in 1953 reflects increased costs of all projects and the transmission system and the effect of commencement of operations at two new projects, Hungry Horse and Albeni Falls, on a partially completed basis which results in costs higher relative to capability than after complete development.

ACTUAL ← → ESTIMATED

# B P A AREAS AND TRANSMISSION FACILITIES

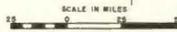


## INTERCONNECTIONS

- 1 Washington Water Power Co.
- 2 Pacific Power & Light Co.
- 3 Puget Sound Power & Light Co.
- 4 Portland General Electric Co.
- 5 Clatskanie P.U.D.
- 6 City of Seattle
- 7 City of Tacoma
- 8 City of Centralia
- 9 City of Eugene
- 10 City of Ellensburg
- 11 City of McMinnville
- 12 Grays Harbor P.U.D.
- 13 Gowitz Co. P.U.D.
- 14 Mountain States Power Co.
- 15 British Columbia Electric Railway Co. Ltd.
- 16 Montana Power Co.
- 17 California Oregon Power Co.
- 18 Idaho Power Co.

## LEGEND

- ▲ EXISTING TRANSMISSION SYSTEM
- ▬ EXISTING DAM WITH HYDROELECTRIC POWER
- ▭ AREA OFFICE BOUNDARIES AS OF JANUARY 1, 1952
- ▨ CONTROL, COMMUNICATIONS AND SUBSTATION OPERATIONS OVERLAP
- ▩ MAINTENANCE OVERLAP
- ▧ AREA OFFICE
- ▣ DISTRICT OFFICE



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D. L. MARLETT, Assistant Administrator

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**NORTHEAST AREA**

Spokane, Washington  
J. J. MANGAN, Manager

**SOUTHEAST AREA**

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**WESTERN MONTANA DISTRICT**

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