

**REPORT ON THE
COLUMBIA RIVER
POWER SYSTEM**

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

1946

UNITED STATES DEPARTMENT OF THE INTERIOR



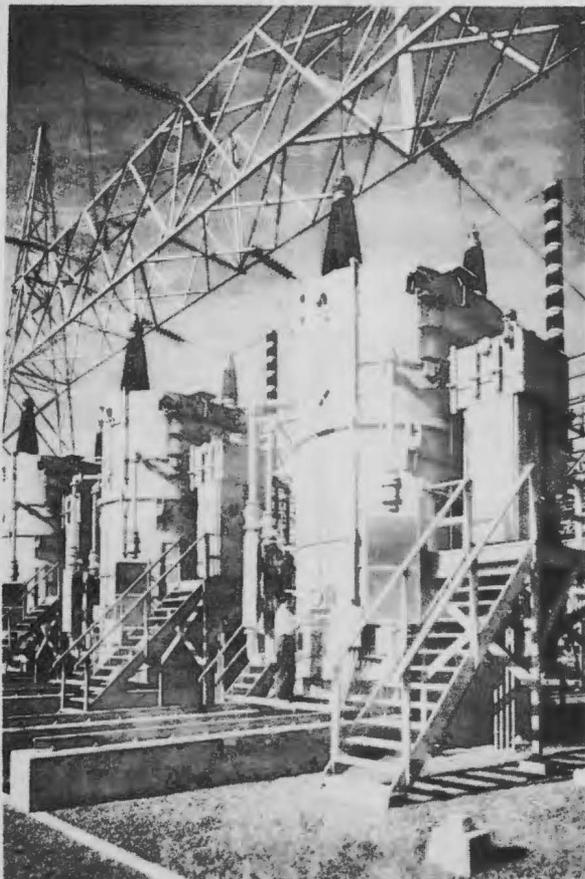
**REPORT ON
THE COLUMBIA RIVER
POWER SYSTEM**

Consisting of
THE BONNEVILLE POWER ADMINISTRATION
and Power Components of
**THE BONNEVILLE DAM PROJECT AND
THE COLUMBIA BASIN PROJECT (GRAND COULEE DAM)**

1946



Prepared by
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LETTER OF TRANSMITTAL
TO THE SECRETARY OF THE INTERIOR

December 31, 1946.

THE HONORABLE
THE SECRETARY OF THE INTERIOR
WASHINGTON, D. C.

My dear Mr. Secretary:

Transmitted herewith is a report showing the results of operations of the Bonneville Power Administration from July 1, 1945 to June 30, 1946. Where matters of significance have occurred since the close of the fiscal year additional data have been included. This report, to which is attached the second independent annual audit of the accounts of the Administration, conforms with the requirements of Section 9 (c) of the Bonneville Project Act.

Financially, operations were satisfactory during the fiscal year 1946. Total revenues of \$19,884,285 covered all costs of operation, maintenance, depreciation and interest and left a surplus of \$4,754,895 for the year—thus increasing surplus net revenues from power operations as of June 30, 1946 to \$16,326,947. Repayment of the Federal investment allocable to power continued on schedule for the transmission system and Bonneville dam, and was ahead of schedule for the Columbia Basin Project (Grand Coulee dam).

With the end of the war in August 1945 came the expected large cut-backs in the use of electric power as the war time industrial machine was halted. Far sooner than had been anticipated, however, Pacific Northwest power surpluses were absorbed by industrial conversion, especially in the light metals field, to peace time production, and by an unprecedented increase in consumer demand for electric energy. The Administration now faces the problem of meeting these demands as well as that of constructing transmission facilities to supply areas undergoing critical power shortages.

At the present time power resources for peaking purposes in the Administration's service area are very nearly equalled by regional requirements. Based upon a minimum water year, immediate power reserves, including the full use of all major publicly and privately operated hydro and steam

generating plants, amount to about 128,000 kilowatts. When it is considered that the breakdown of a single Grand Coulee generator would practically exhaust this narrow margin, the seriousness of the situation becomes self-evident.

Essential to the progress of any community, state, region or nation is a sound energy base. Many parts of the country must depend upon local coal, oil and other fuels as their fundamental sources of energy. Since the Pacific Northwest would, for the most part, be required to import such fuels, the obvious regional energy base lies in the inexhaustible waters of the Columbia River and its tributaries. The continuing development of the Pacific Northwest region depends upon the manner, the speed and the efficiency with which the program for harnessing the energy of the waters of the Columbia Basin proceeds.

Affecting both industrial expansion and continued growth of population in the Pacific Northwest, close adherence to transmission construction schedules is essential to the full development of the region's hydroelectric power resources.

During the war, construction of transmission facilities was necessarily held in abeyance. Steadily increasing demands from farm areas in the region and particularly from numerous small and inadequately served communities, many of which have increased in population and industrial importance during the past five years, however, point the need for immediate resumption of full construction schedules—especially to preserve the preferential position of rural and domestic consumers in compliance with the terms and policies of the Bonneville Act.

The Administration has continued to work toward better regional understanding and fuller inter-agency cooperation. On its own initiative, it has continued to profit by the voluntary interest of the Bonneville Regional Advisory Council, a successfully operating group of leading industrialists, agriculturists, educators, publishers, businessmen and public officials with whom the Administrator and his staff periodically confer.

Reconstitution of the statutory Bonneville Advisory Board at the regional level and the formation of the Columbia Basin Inter-Agency Committee have done much to bring about more effective and efficient working relationships among the Federal agencies concerned with the development of the Pacific Northwest.

Letter of Transmittal (*continued*)

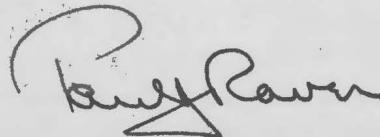
A further step toward this end has grown out of the creation of the Pacific Coast Board of Intergovernmental Relations which seeks to correlate the programs of four levels of administration—Federal, state, county and municipal. Participation of the Bonneville Power Administration in the deliberations of these groups has been highly beneficial to the direction of the Administration's program.

The most recent step toward effecting increasing cooperation of Federal resources development interests in the region has been the establishment, by the Department of the Interior, of the Pacific Northwest Coordination Committee, on which the Administration is represented together with the several other agencies of the Department operating in the region.

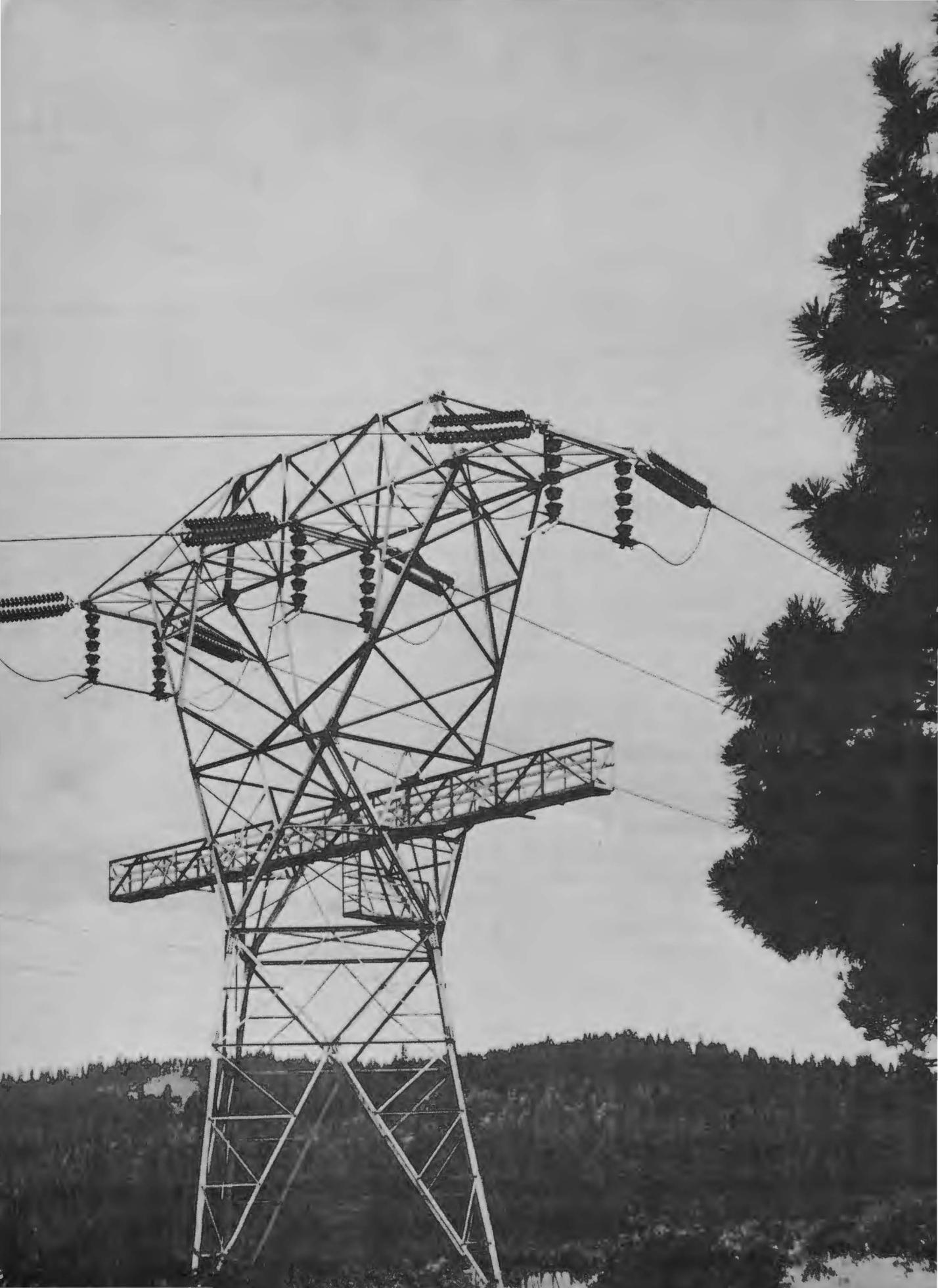
It becomes constantly more apparent that the plans and programs of the several Federal agencies engaged in the construction of multiple-purpose river projects and the installation of new generating facilities must be closely integrated and coordinated with those of the Bonneville Power Administration for the construction of power transmission facilities, if the best economic uses of stream development are to result. Integration of new projects and new transmission facilities with the existing system is a matter of long range planning requiring coordination and management in order to achieve maximum benefits and take care of the growing demands for power. This report presents a picture of the contribution of the Bonneville Power Administration to the development program to this time.

The financial statements included in the accompanying Auditors' Report are based upon allocations of costs made in accordance with the requirements of existing law. The allocation of the Bonneville Dam Project costs was made by the Federal Power Commission, as provided by the Bonneville Project Act, and the allocation of the Columbia Basin Project costs was made by the Secretary of the Interior and submitted to the President and Congress as provided by the Reclamation Law.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Paul Raven". The signature is written in dark ink and is positioned above the typed name "Administrator".

Administrator



REVENUES

SALES of Bonneville and Grand Coulee power to 84 customers at the close of the fiscal year 1946, produced revenues amounting to \$19,884,285. This figure represents a decrease of 13.5 percent from the peak of \$22,990,018 reached in fiscal year 1945, a temporary decline resulting from industrial power demand cutbacks at the close of the war and the return of two generators, temporarily installed at Grand Coulee, to Shasta Dam. During the latter part of calendar year 1946, however, there has been a sharp recovery in revenue as power demands of distribution agencies and industries have increased. Revenues by fiscal years from the beginning of operations to June 30, 1946, are shown in Chart I and Table I.

Revenues from all operations from 1939 to June 30, 1946, total \$83,461,527. As of the latter date, the Bonneville Power Administration had collected and deposited with the Treasury of the United States power revenue receipts aggregating \$78,164,232 and general fund receipts of \$1,070,845. Accounts receivable, accrued unbilled revenues, unbilled exchange power sales, miscellaneous adjustments, and minor items, account for the difference between total revenues and total receipts deposited with the Treasury.

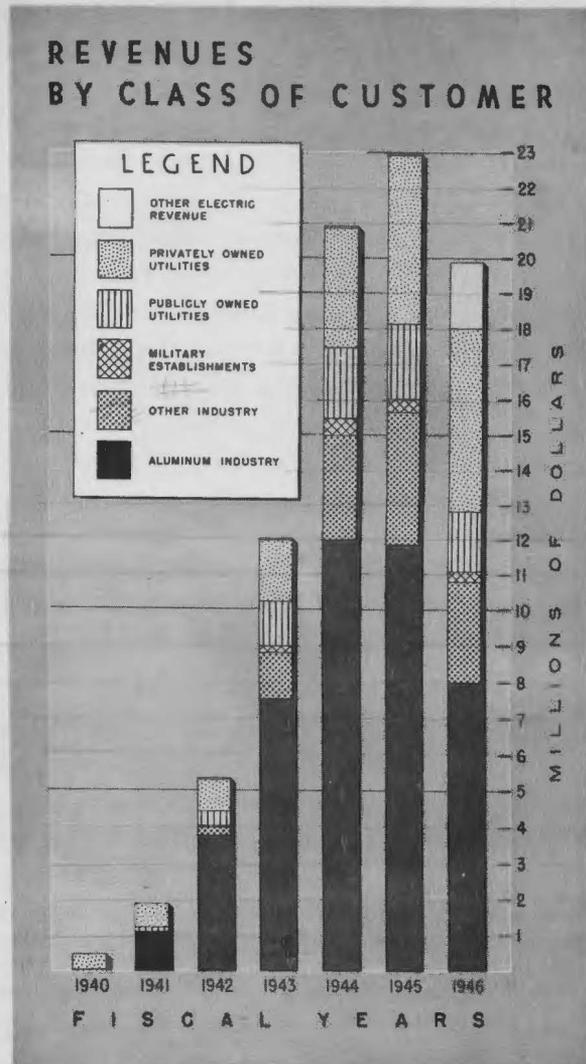


Chart I

TABLE I
REVENUES BY CLASS OF CUSTOMER
Fiscal Years 1939-1946

Class of Customer	1940 and Prior	1941	1942	1943	1944	1945	1946	Total to 6-30-46
Industry:								
Aluminum.....\$		\$1,075,809	\$3,770,767	\$ 7,514,122	\$11,989,735	\$11,838,156	\$ 7,987,226	\$44,175,815
Other Industry.....	275	12,899	243,726	1,284,588	2,976,947	3,780,727	2,810,662	11,109,824
Military Establishments..		254	11,860	182,156	472,789	390,742	298,087	1,355,888
Publicly Owned Utilities..	12,347	119,659	411,146	1,230,740	1,994,750	2,141,635	1,711,822	7,622,099
Privately Owned Utilities.	413,922	686,882	882,820	1,767,866	3,401,042	4,752,021	5,209,344	17,113,897
Other Electric Revenue...		120	27,692	41,646	60,665	86,737	1,867,144*	2,084,004
Total Operating Revenue.	\$ 426,544	\$1,895,623	\$5,348,011	\$12,021,118	\$20,895,928	\$22,990,018	\$19,884,285	\$83,461,527

* This includes \$1,789,443 of contract cancellations applicable to fiscal year 1946. (The total of \$3,802,415 is apportioned over a period of 12 months.)

REPAYMENT OF FEDERAL INVESTMENT

THE FINANCIAL program of the Bonneville Power Administration contemplates repayment with interest of all money invested in Federal power operations in the Pacific Northwest. The Federal investment consists of all funds appropriated and requisitioned for both operations and construction, including indirect items such as WPA expenditures and the value of items transferred from other Federal agencies, plus interest on the unpaid balances of the investment.

The gross amount of Federal investment to June 30, 1946, was \$331,955,909, including interest in the amount of \$41,799,559 (See Schedule 1 of the appended Auditors' Report). This interest total consists of \$25,950,341 charged to current operations as interest expense, \$11,806,736 of interest during construction included in the cost of the electric utility plant, and \$4,042,482 of deferred interest on the investment in the Columbia Basin Project allocated to downstream river regulation.

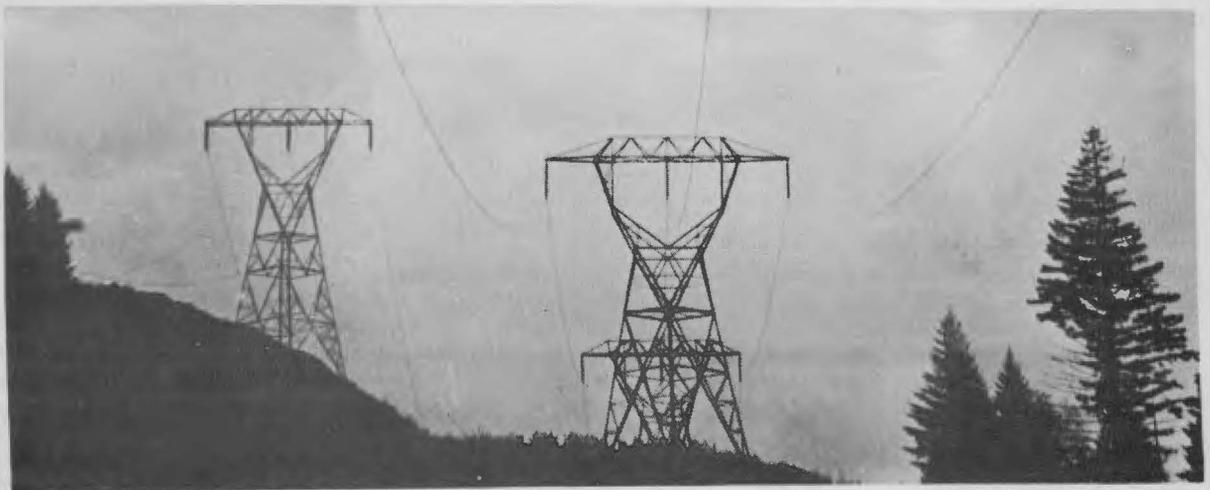
As of June 30, 1946, the gross Federal investment had been reduced by repayments, that is, the return of receipts from power operations, to a net investment remaining unpaid amounting to \$253,654,313. The net investment was slightly less than the amount as of June 30, 1945. In other words, the amount of receipts returned to the

Treasury of the United States during the fiscal year 1946 exceeded the additional Federal investment made during the year.

All receipts allocable to power, whether from power sales or miscellaneous activities, are returned to the Treasury in repayment of the Federal investment and are not available for operations or construction. Funds for these purposes are made available by appropriations. As of June 30, 1946, receipts applicable to power operations totalled \$79,509,728, of which \$500,000 have been deposited in the emergency fund and \$708,132 have been applied to the repayment of expenses of the Columbia Basin Project allocable to irrigation, leaving net receipts of \$78,301,596 in repayment of the gross Federal investment of \$331,955,909 in power operations, and resulting in a net Federal investment of \$253,654,313.

Receipts arising out of miscellaneous activities are deposited with the Treasury to the credit of the General Fund (Miscellaneous Receipts) by the agency making the collection.

With the exception of amounts deposited in the emergency fund established by the Bonneville Act, receipts from power sales, all of which are collected by the Bonneville Power Administration, are deposited with the Treasury in a special



account from which transfers are subsequently made to the Reclamation Fund for amounts applicable to the Columbia Basin Project and to the General Fund for amounts applicable to the Bonneville Dam and the transmission system. These transfers are determined in accordance with formal agreements, made by the Bonneville Power Administration with the U. S. Corps of Engineers and the Bureau of Reclamation, and which pertain to the operation of the generating projects and the repayment of expenses, interest and reimbursable construction costs.

A detailed statement of collections to June 30, 1946, and the disposition of such receipts is set forth in Table III. The amounts transferred for the accounts of the agencies are sufficient to return to the Treasury all power operation, maintenance and interest expenses and scheduled amortization of the plant investment allocated to power.

TABLE II
SUMMARY OF ELECTRIC
UTILITY PLANT ACCOUNTS
As of June 30, 1946

	Total	Allocation	
		Non-Power	Power
Bonneville Power Administration	\$ 87,955,774	.....	\$ 87,955,774
Bonneville Dam	83,855,150	\$25,906,156	57,948,994
Columbia Basin Project	197,572,489	68,602,625	128,969,864
Total	\$369,383,413	\$94,508,781	\$274,874,632 ¹
Less Combined reserve for depreciation			15,672,159
Total, less reserve			<u>\$259,202,473</u>

¹ This total of plant investment represents the major component of the gross Federal investment of \$331,955,909 which includes in addition amounts appropriated for cash working capital, materials, supplies, operating expenses and other similar items.

TABLE III
COLUMBIA RIVER POWER SYSTEM
SUMMARY OF RECEIPTS COVERED INTO THE TREASURY
TO JUNE 30, 1946

AMOUNT OF RECEIPTS

Power Sales Receipts Deposited in Special Account and Emergency Fund	\$78,164,232.37
Miscellaneous Receipts (Amounts covered directly into the General Fund of the Treasury):	
Bonneville Power Administration	1,070,844.78
Columbia Basin Project	\$490,448.17
Less Portion Allocated to Irrigation	215,797.19
Net Total Receipts Allocated to Power	<u>\$79,509,728.13</u>

DISPOSITION OF RECEIPTS

Credited to General Fund of the Treasury (Miscellaneous Receipts):	
For repayment of Federal investment in the Bonneville Power Administration transmission system	\$34,394,704.78
For repayment of Federal investment in the Bonneville Dam Project	15,449,720.00
For repayment of Federal investment in the Columbia Basin Project	274,650.98
General Fund Total	<u>\$50,119,075.76</u>
Credited to the Reclamation Fund for repayment of Federal investment in the Columbia Basin Project	11,476,635.68
3% interest on construction costs of Columbia Basin Project allocated to power earmarked in the Special Power Receipts Deposit Account for future transfer to the Reclamation Fund	10,942,044.00
Deposited in Emergency Fund established by Bonneville Project Act	500,000.00
Balance in Special Power Receipts Deposit Account	6,471,972.69
Total	<u>\$79,509,728.13</u>

INTEREST ON FEDERAL INVESTMENT

WHILE THE BONNEVILLE Project Act contains no specific provisions that interest costs shall be included in its accounts, the Bonneville Power Administration has considered interest an essential element of cost and has provided in its cost accounts for inclusion of interest on the government investment in the Columbia River power projects, payable from power revenues. Interest charged to both construction and operation as of June 30, 1946, totalled \$41,799,560. For the fiscal year 1946 interest costs charged to operations were about \$5,245,327 or over 26 percent of operating revenues for the year.

To date the Bonneville Power Administration has calculated interest at 2.5 percent, a figure established by the Federal Power Commission as the approximate cost of money to the Treasury of the United States for Treasury Bond financing during the eleven-year period, 1933 to 1943. Cost of money to the Federal Treasury is now materially lower than the 2.5 percent figure, especially if short-term as well as long-term financing is considered. In view of this downward trend in the

TABLE IV

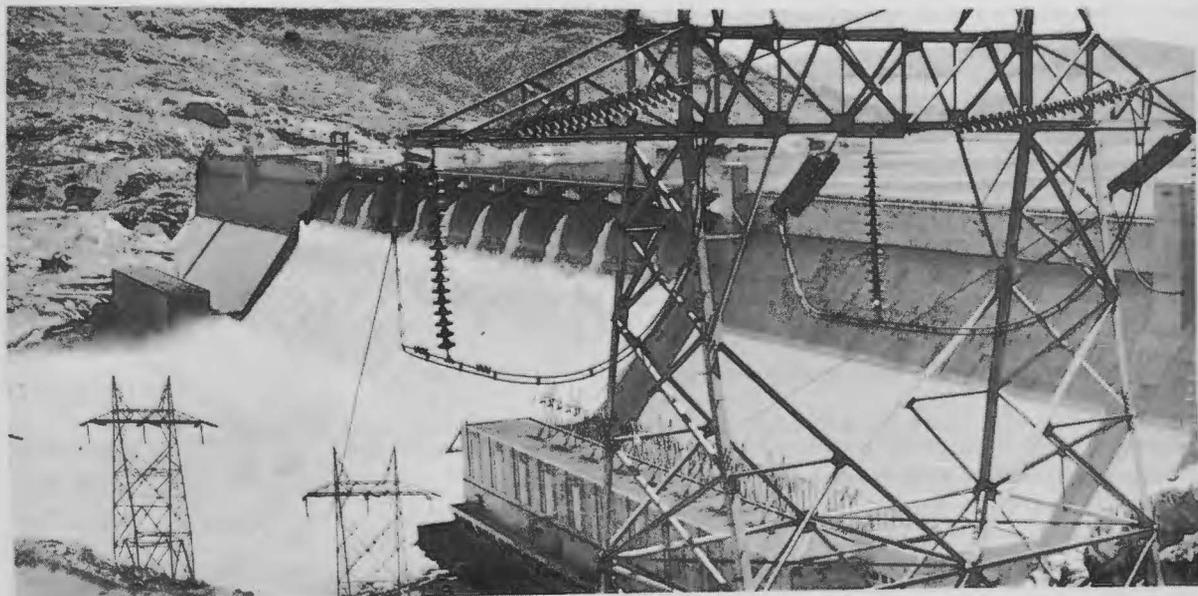
SUMMARY OF INTEREST* ON FEDERAL INVESTMENT

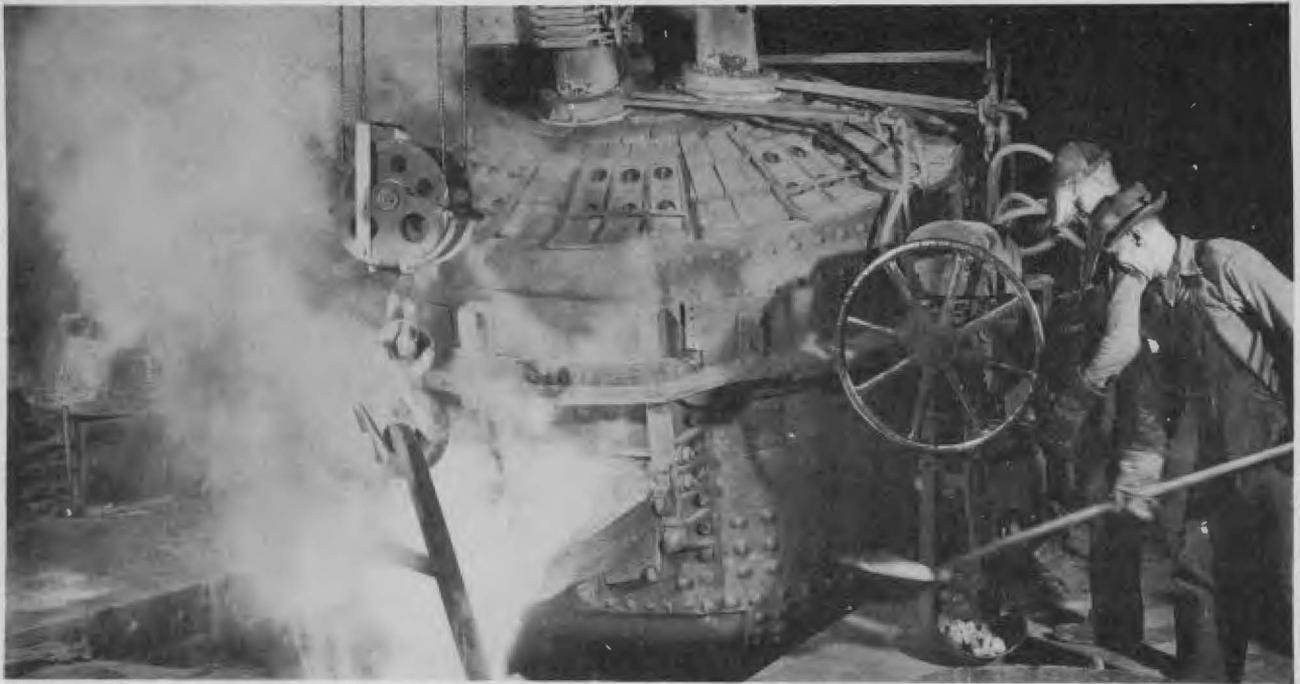
Interest during construction—to be returned during repayment period as part of construction costs:	
Transmission System.....	\$ 862,926.53
Bonneville Dam.....	3,066,116.11
Columbia Basin Project.....	7,877,693.10
Sub-total.....	\$11,806,735.74
Interest on costs of Columbia Basin Project allocated to future river regulation—to be returned as part of repayment of future downstream projects:	
	\$ 4,042,482.26
Interest charged to operations—repaid currently from revenues:	
Transmission system.....	\$8,104,024.29
Bonneville Dam.....	8,019,952.46
Columbia Basin Project.....	9,826,364.82
Sub-total.....	\$25,950,341.57
Total Interest accrued, per Schedule 1 of Auditors' Report.....	<u>\$41,799,559.57</u>

* Computed at the rate of 2½ percent per year.

rate of interest on Federal financing, the Bonneville Power Administration is seriously considering a downward revision in the rate of interest in its cost accounts, an adjustment which has also been deemed practical by its independent auditors.

Grand Coulee Dam. Heart of the Columbia Basin Project and one of the nation's mightiest energy sources.





Power from the Columbia River dams fires the electric furnaces in this Pacific Northwest steel plant.

ENERGY DELIVERIES

DURING the fiscal year 1946 energy sales of the Administration from Bonneville and Grand Coulee projects amounted to 5,831,147,000 kilowatt-hours. The post war drop of 2.7 billion kilowatt-hours from the total of the previous fiscal year was well on the way to being recouped by October of this year. For the eight-year period from the

energization of the first Bonneville transmission line to June 30, 1946, energy sales have aggregated 31,810,204,000 kilowatt-hours. Energy sales by fiscal years from the beginning of operations to June 30, 1946, are shown in detail in Chart 2 and Table V.

On August 28, 1945, between the hours of 11 a.m. and 12 noon, the peak load for the fiscal year

TABLE V
ELECTRIC ENERGY SALES BY CLASS OF CUSTOMER¹

Fiscal Years 1939-1946

Class of Customer	1939 MWH	1940 MWH	1941 MWH	1942 MWH	1943 MWH	1944 MWH	1945 MWH	1946 MWH	Total to 6-30-46 MWH
Industry:									
Aluminum.....			522,982	1,845,249	3,588,848	5,453,893	4,667,381	2,538,590	18,616,943
Other Industry.....		21	4,790	76,580	464,309	934,588	878,896	693,795	3,052,979
Military Establishments..			18	2,575	42,887	87,889	85,828	59,970	279,167
Publicly Owned Utilities..	7	3,101	32,134	142,491	435,289	727,642	823,817	635,284	2,799,765
Privately Owned Utilities.	30,036	188,806	317,713	357,704	739,076	1,467,304	2,057,203	1,903,508	7,061,350
Total.....	30,043	191,928	877,637	2,424,599	5,270,409	8,671,316	8,513,125	5,831,147	31,810,204

¹ Includes sales under exchange agreements.

amounting to 1,346,000 kilowatts occurred (Chart 3), exceeding rated generating capacity of 1,326,400 kilowatts by 1.5 percent. Since this peak was reached two generators, each rated at 75,000 kilowatts, have been removed from the Grand Coulee plant for return to the Shasta project, from which they were borrowed to meet emergency war requirements. Total installed capacity at the two Federal Columbia River projects, including one station unit rated at 10,000 kilowatts, available for emergency purposes, is at present 1,176,400 kilowatts. Installation of generating capacity by fiscal years is shown in Chart 4.

Of the 84 wholesale customers served by the Bonneville Power Administration at end of fiscal year 1946, 48 were publicly owned utilities or co-operatives, 19 were industrial customers, 11 were military establishments, and 6 were privately owned utilities. Nearly 2 billion kilowatt-hours of energy were purchased from the Bonneville Power Administration by privately owned utilities. Of this amount, the Portland General Electric Company took 883,240,000 kilowatt-hours as compared to its own generation of about 500,000,000 kilowatt-hours. Puget Sound Power and Light Company purchased 730,654,000 kilowatt-hours, or about one-third of its total requirements from the Bonneville Power Administration.

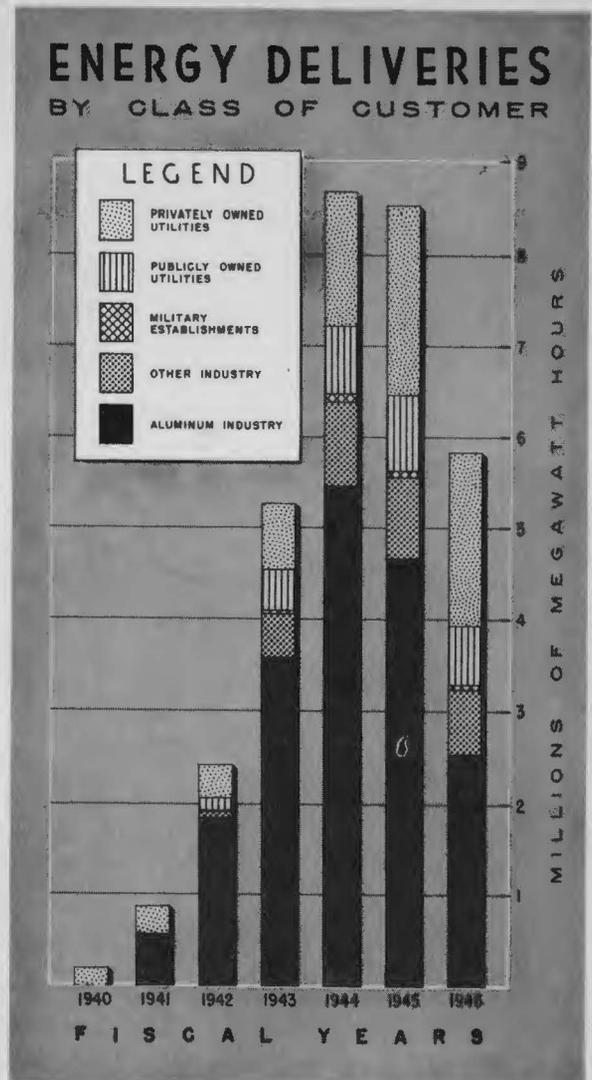
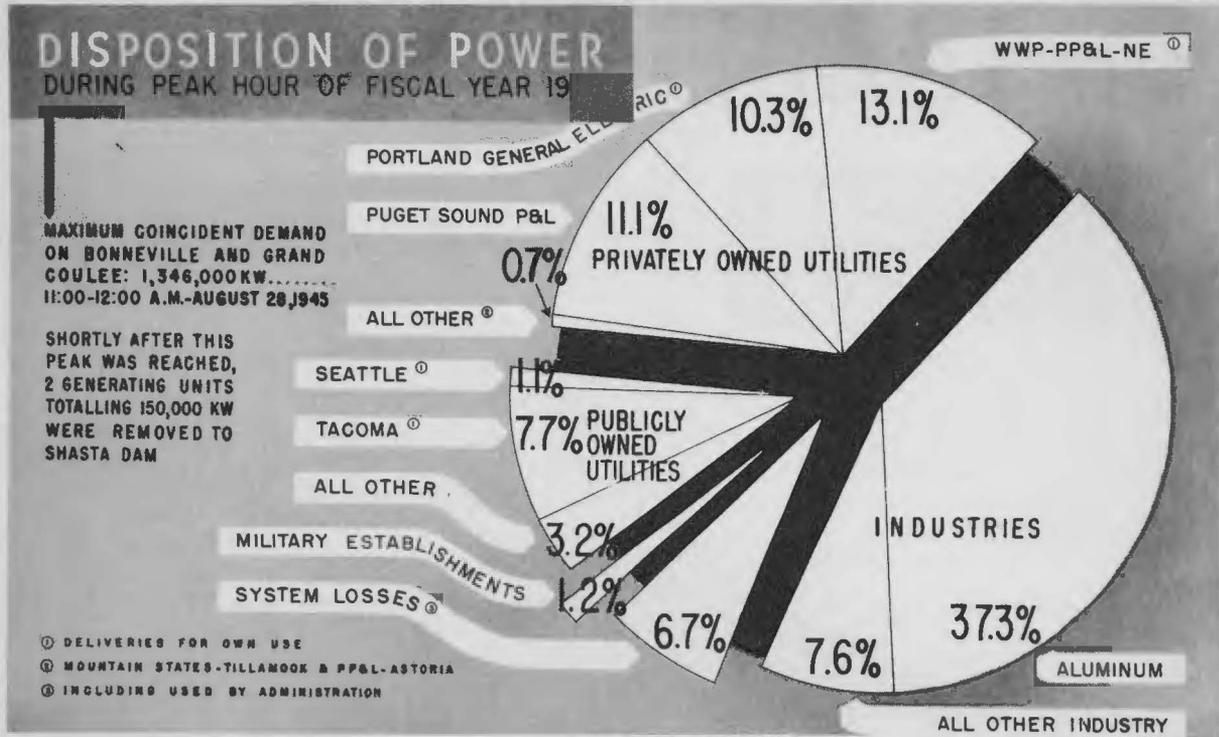


Chart 2

Bonneville Dam with an installed capacity of 518,400 kilowatts is a principal Northwest source of energy.



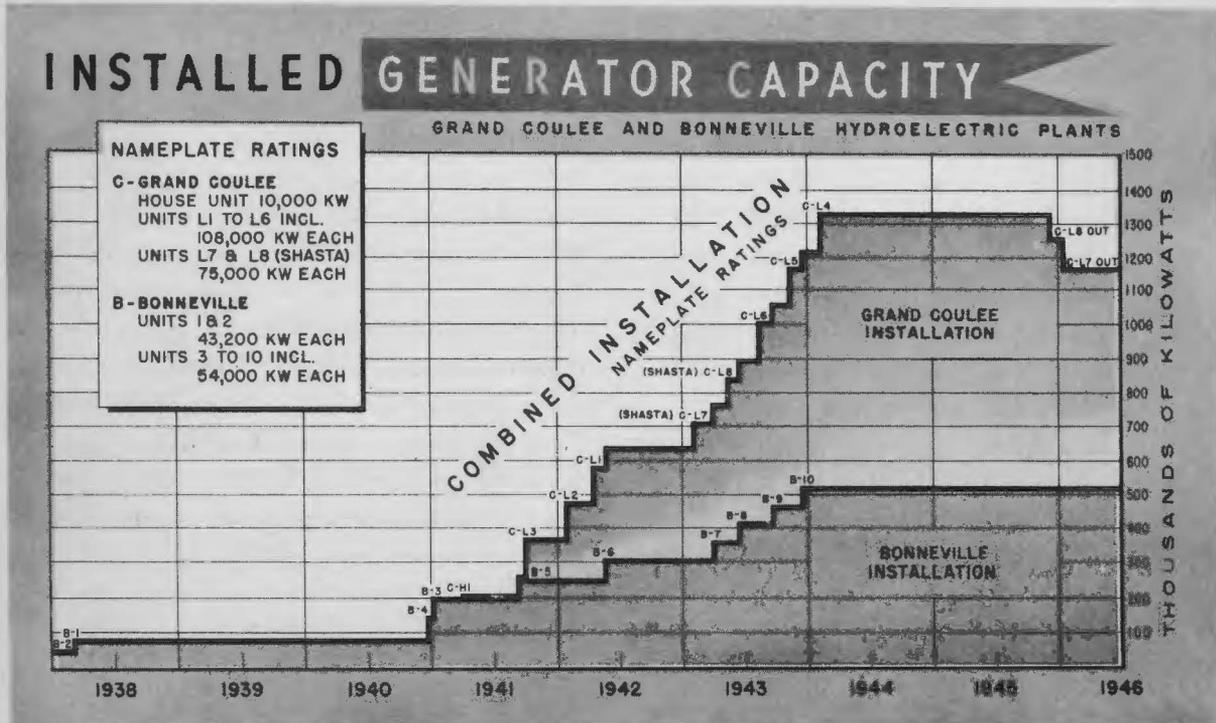
Chart 3



During the fiscal year, new services were supplied to six publicly owned distributors and cooperatives while additional points of delivery were

provided for seven publicly owned distributors and cooperatives, adding about 12,000 kilowatts to the system load during the fiscal year.

Chart 4



ENERGY PRODUCTION

AT BONNEVILLE AND GRAND COULEE DAMS

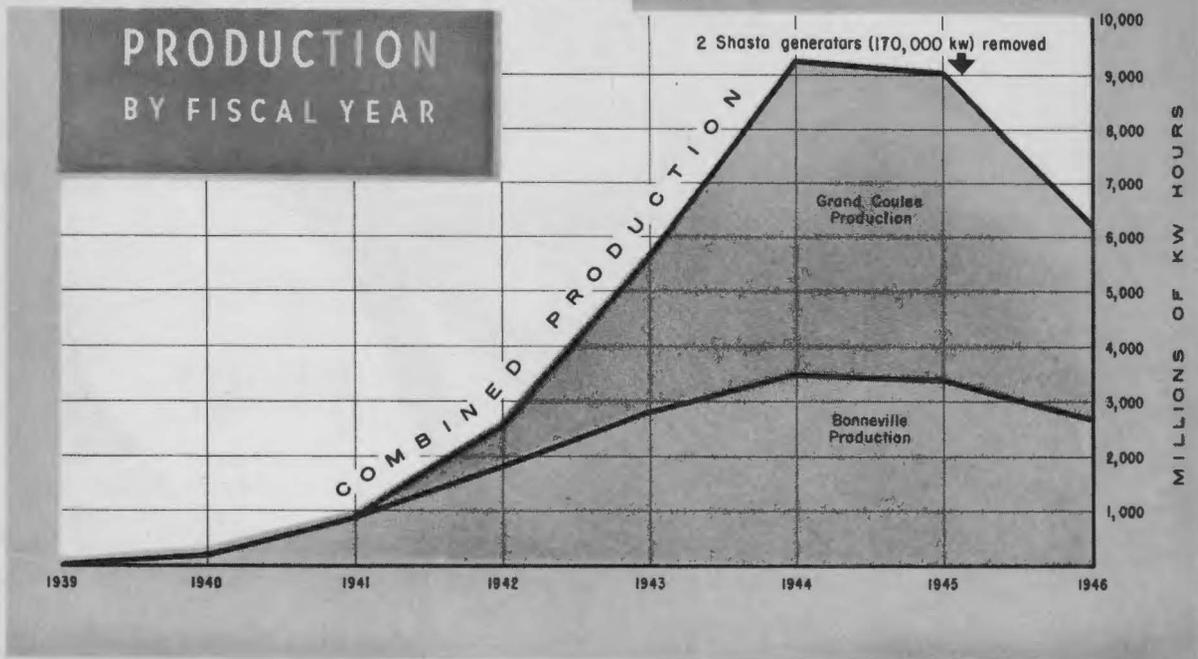


Chart 5

BONNEVILLE and Grand Coulee plants produced a total of six and one-quarter billion kilowatt hours for the Bonneville Power Administration during the fiscal year 1946. Actual deliveries to customers, including both energy sales and interchange deliveries, amounted to 6,066,075,485 kilowatt-hours, as shown in the Electric Energy Account for the fiscal year 1946 (Table VI). A total of 33,840,081,685 kilowatt-hours was produced for the Bonneville Power Administration at the Bonneville and Grand Coulee plants from the fiscal year 1939 through the fiscal year 1946, as shown in Table VII and Chart 5.

Flow of energy during the week of peak power deliveries, ending August 30, 1945, between the public and private power agencies of the Northwest interconnected systems is illustrated in Chart 6. The combined output of the publicly owned plants (Bonneville and Grand Coulee plants, Seattle and Tacoma systems) was 7.8 billion kilowatt hours during fiscal year 1946, or 52 percent

of the total generation of the combined systems (Chart 7), for which total generation was just over 15 billion kilowatt-hours.

Power demand on all systems in the region has increased so rapidly that available generating capacity is at present (December 1946) barely sufficient to cover the peak winter months. The only important new generating facilities installed in the region during the past five years have been brought in by the Federal and municipal utilities. Three new generating units are now under construction for installation at Grand Coulee Dam in the fiscal year 1948, and bids have been awarded for three more to be installed during the fiscal years 1949 and 1950. While these will provide an important addition to the power supply available to the Administration, which, as an operating utility, is responsible for meeting new loads in the region, they will not add sufficient power to meet potential requirements, if load growth continues at the present and anticipated rate of increase.

TABLE VI

**BONNEVILLE POWER ADMINISTRATION
ELECTRIC ENERGY ACCOUNT**

Fiscal Year Ending June 30, 1946

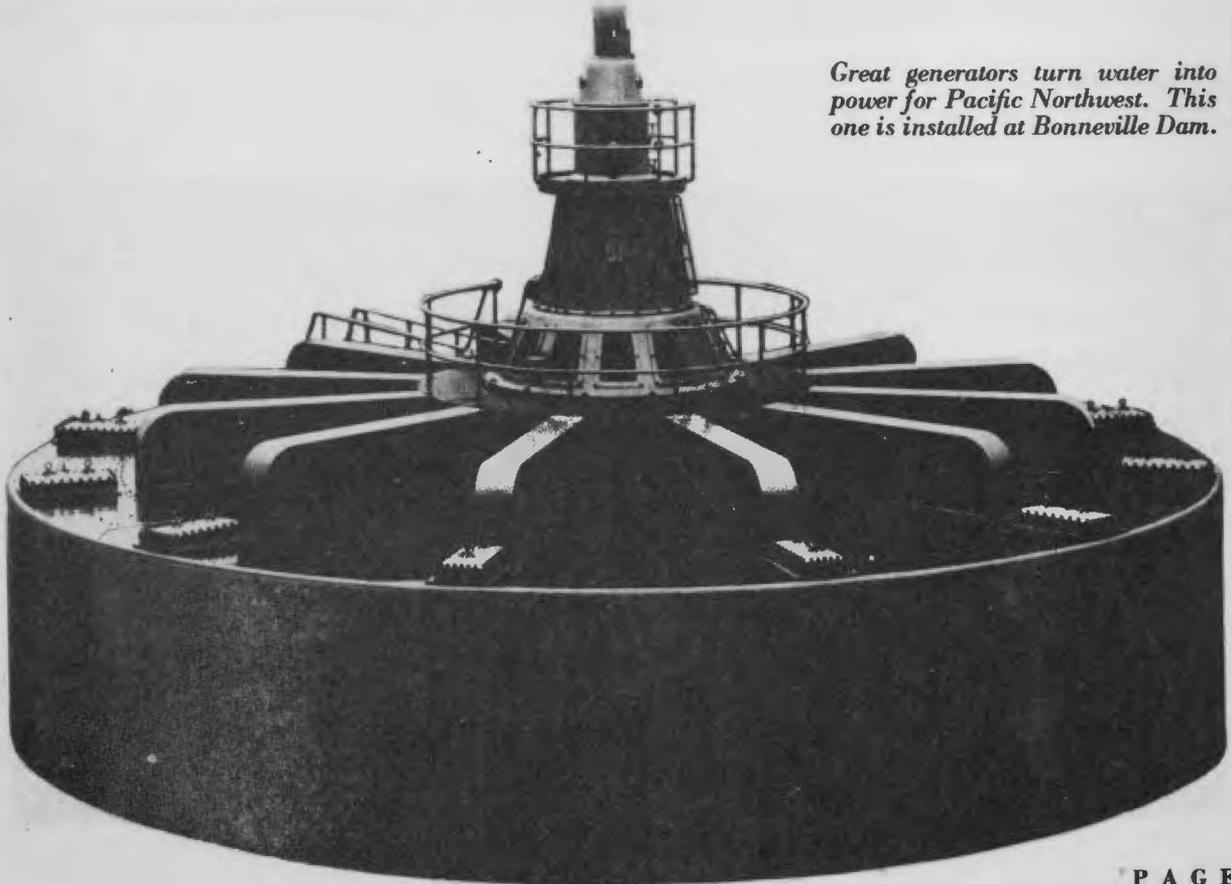
ENERGY RECEIVED—KWH	
Energy Generated for BPA:	
Bonneville.....	2,674,834,000
Grand Coulee.....	3,561,329,280
Total.....	6,236,163,280
Power Purchased and Inter- changed In.....	291,092,650
Total Received.....	6,527,255,930
ENERGY DELIVERED—KWH	
Sales.....	5,831,146,509
Power Interchanged Out.....	234,928,976
Used by Administration.....	12,659,567
Total Delivered.....	6,078,735,052
ENERGY LOSSES—KWH	448,520,878
Per Cent of Total Energy Received.....	6.9
MAXIMUM DEMAND ON BONNEVILLE AND GRAND COULEE PLANTS—KW	
AUGUST 28, 1945, 11-12 a.m.....	1,346,000
LOAD FACTOR—%	
Total Generated for BPA.....	52.9

TABLE VII

**BONNEVILLE POWER ADMINISTRATION
GENERATION AT BONNEVILLE AND
GRAND COULEE PLANTS**

1938-1946

Fiscal Years Ending June 30	Bonneville Dam Generation KWH	Grand Coulee Dam Generation KWH	Total Generation for BPA KWH
1939	34,874,138	.....	34,874,138
1940	208,426,077	.....	208,426,077
1941	894,177,000	7,455,000	901,632,000
1942	1,807,309,000	741,844,249	2,549,153,249
1943	2,801,480,400	2,816,955,729	5,618,436,129
1944	3,488,873,992	5,750,949,460	9,239,823,452
1945	3,391,127,400	5,660,445,960	9,051,573,360
1946	2,674,834,000	3,561,329,280	6,236,163,280
Total.	15,301,102,007	18,538,979,678	33,840,081,685



Great generators turn water into power for Pacific Northwest. This one is installed at Bonneville Dam.

NORTHWEST POWER POOL FLOW OF ENERGY

PEAK WEEK ENDING AUGUST 30, 1945

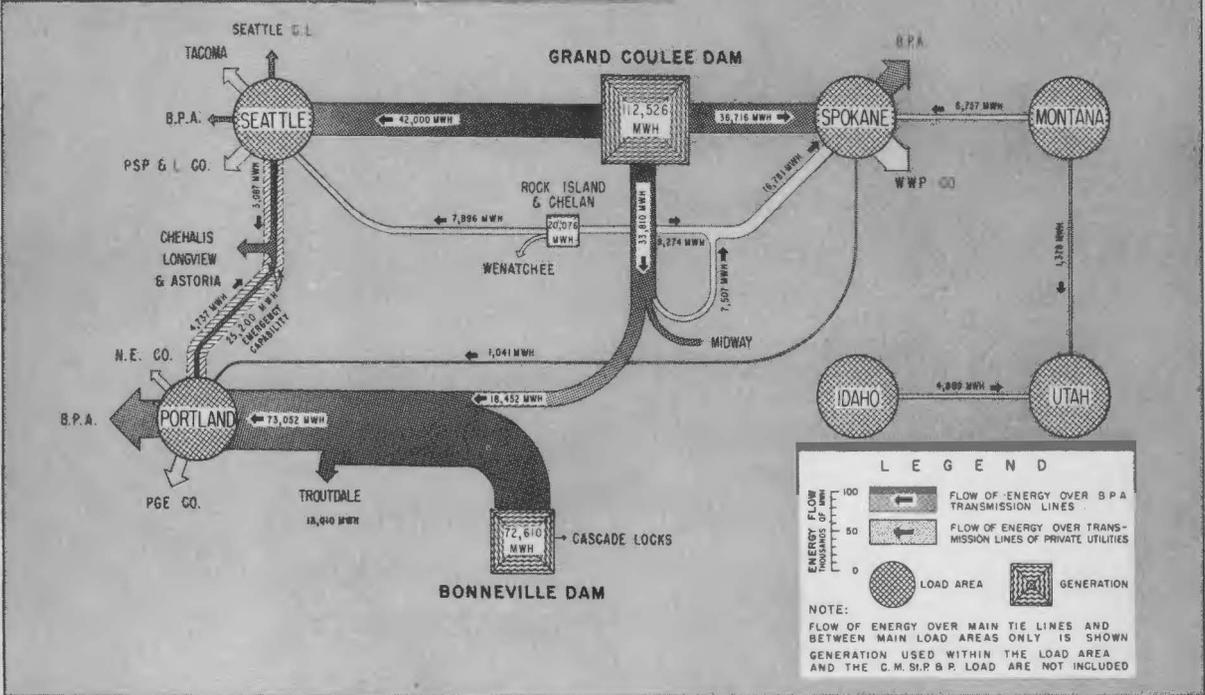
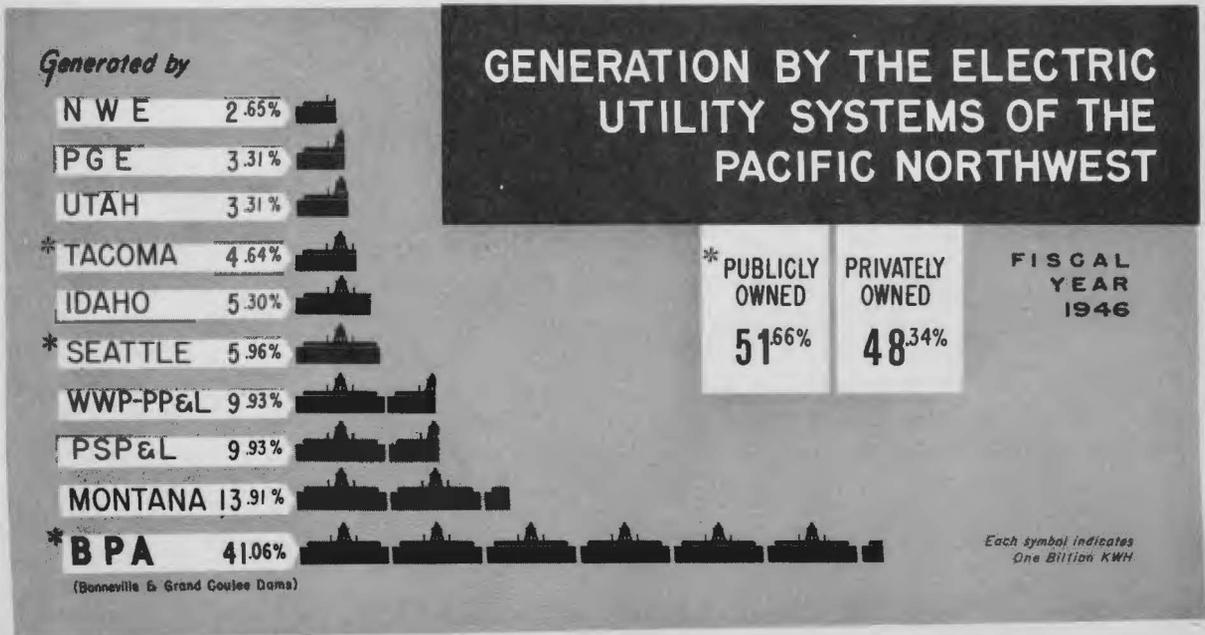


Chart 6

Chart 7





Giant steel towers on the Bonneville-Grand Coulee section of the 230,000 volt transmission grid system.

TRANSMISSION SYSTEM

DESPITE the uncertainties which have retarded all production during the past year, construction schedules of the Bonneville Power Administration have, for the most part, been met. During the past fiscal year 120.3 circuit miles of transmission line have been completed and placed in service (Chart 8). On June 30, 1946, the Administration was operating a total of 2,839 circuit miles of trans-

mission line and 61 substations. Existing transmission facilities as of that date, consisting of 1,287 miles of 230,000 volt line; 1,142 miles of 115,000 volt line; and the remainder in lines of lower voltages, are shown on page 17.

The basic transmission grid consists of a system of 230,000 volt lines from which customer service extensions, usually of 115,000 volt capacity or lower, are constructed to serve various load cen-

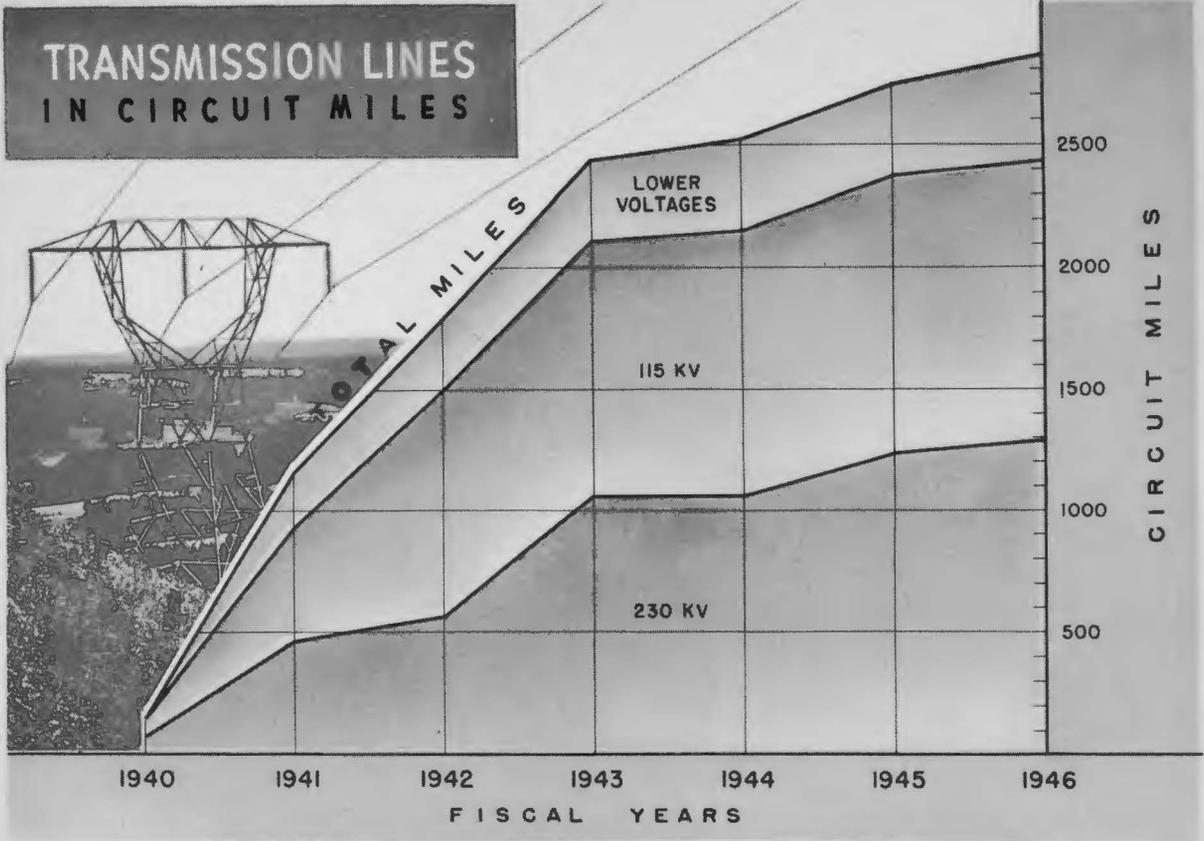
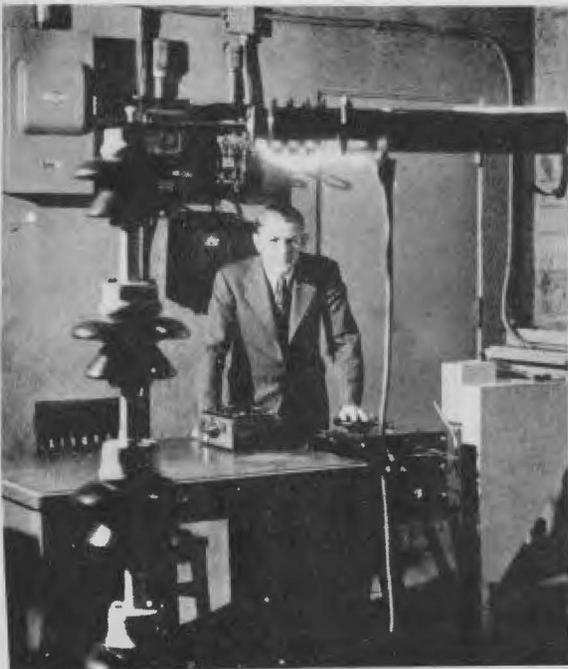


Chart 8

Equipment for the transmission system is subjected to rigorous tests in this high voltage laboratory.



ters or distribution points throughout the region.

A major contribution toward the completion of the basic grid system was the energization of the 51 mile, 230,000 volt Midway-Columbia line on December 1, 1945. In October, 1946, a 115,000 volt customer service extension from Albany to Toledo, Oregon, was energized to serve one of the areas most severely affected by power shortage.

The Bonneville Power Administration's transmission grid continued to serve as the backbone of the Northwest interconnected systems—the power pool established to effect coordinated service during the war. More than half of the power supplied the area by this means was provided by the publicly owned systems of the Bonneville Power Administration, Seattle, and Tacoma. It is, however, becoming problematical to what extent the Administration can continue to serve the full requirements of all members of the pool, since, under the terms of the Bonneville Act, public

P A C I F I C O C E A N

WASHINGTON

MONTANA

OREGON

IDAHO

BPA

TRANSMISSION SYSTEM

LEGEND

- EXISTING TRANSMISSION SYSTEM
- APPROVED FOR CONSTRUCTION
- ADDITIONAL FACILITIES APPROVED
- INTERCONNECTION WITH OTHER UTILITY
- EXISTING DAM & HYDRO DEVELOPMENT
- AUTHORIZED DAM & HYDRO DEVELOPMENT



As of JUNE 30, 1946

● This map does not show scheduled projects covering survey & design only



CALIFORNIA

NEVADA

UTAH

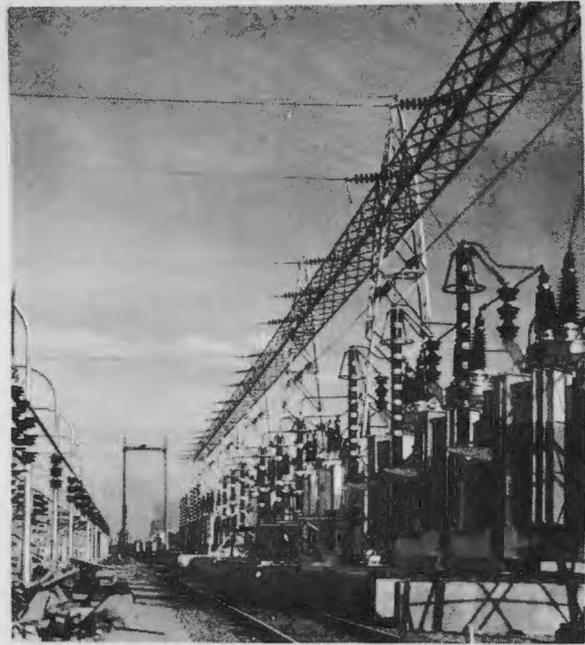
agencies are given a prior right to Federal power supply. Until additional hydro-electric generation is available, private utilities in the region must operate high cost steam plants to meet emergency conditions. To protect the general public under such emergency conditions, the following policy statement was released on November 22, 1946:

“First, Bonneville will take care of its public agencies in accordance with the preference and priority provisions of the Bonneville Act.

Second, Bonneville will take care of its existing industrial customers—those we are now serving and those to whom we have made commitments.

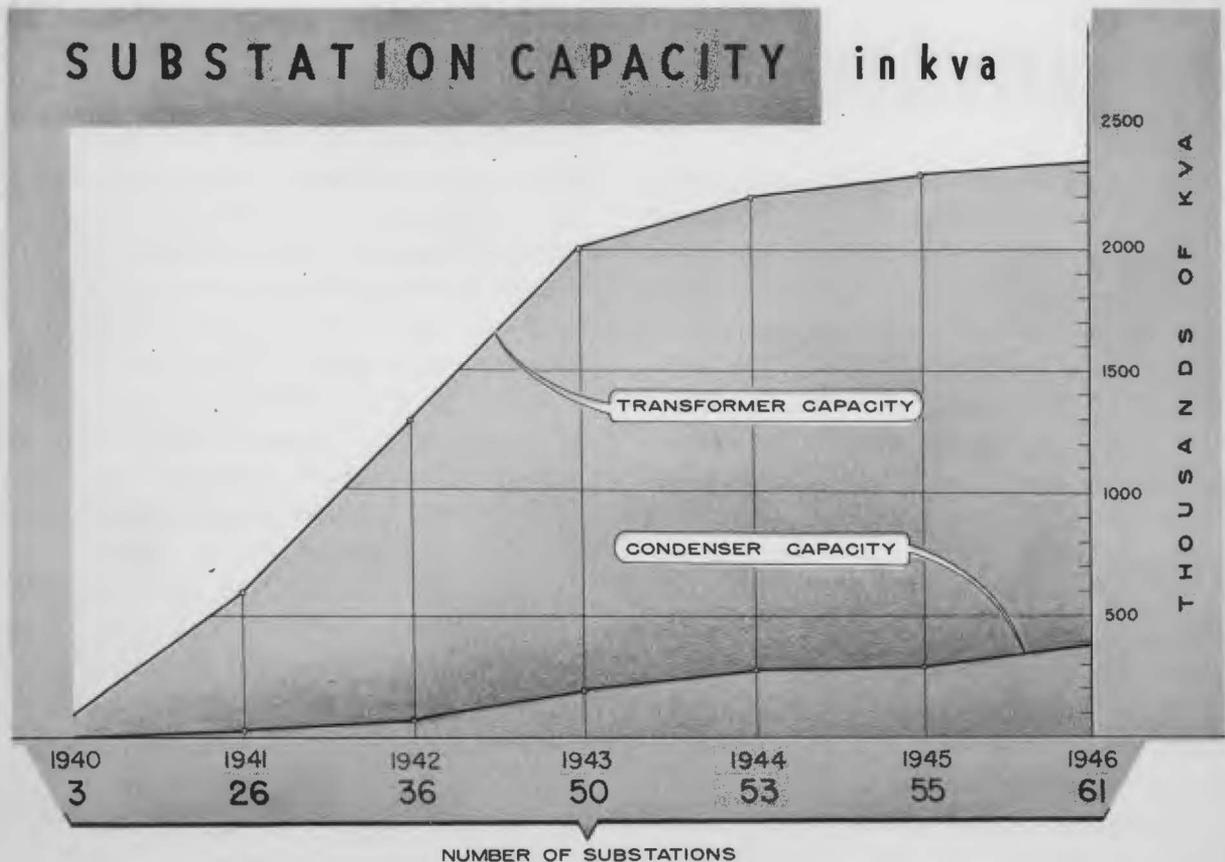
Third, Bonneville will take care of the private utility company loads above and beyond those which the private utilities can handle themselves.

This policy is directed to take care of all of the people regardless of whether they are served by the private utilities or public agencies and should also provide sufficient power for substantial amounts of new industrial loads which are needed for the development of the Northwest.”



From this giant substation pot lines of a major Northwest aluminum plant are fed Columbia River power.

Chart 9





Spokane, Washington, aluminum reduction plant. Bonneville 450,000 KVA substation is in left foreground. This is one of the world's largest substations.

OPERATING RESULTS

ALTHOUGH a sharp drop in war loads was experienced in the first half of the fiscal year, revenues have continued to cover all costs of operation, including depreciation and interest, by a comfortable margin. Surplus net revenues over and above all power costs in the fiscal year 1946 were \$4,754,895, bringing the cumulative total, as of June 30, 1946, to \$16,326,947. Combined surplus net revenues, after making provision for expenses at Grand Coulee Dam allocated to irrigation, were \$4,578,395 for the fiscal year and \$15,618,816 for the cumulative period. Of the total cumulative amount, \$5,480,530 have been applied to amortization in addition to the amounts set aside for depreciation, leaving \$10,138,285 in unapplied net revenues on June 30, 1946. A condensed comparative income account for the last two fiscal years appears in Table VIII. The data

for the fiscal years 1945 and 1946 are taken from the detailed statements in the auditors' report which is reproduced as part of this report.

The accompanying charts indicate the source and the disposition of the revenue dollar in the fiscal year 1946. The aluminum industry accounted for 40.17 percent of operating revenues. Privately owned utilities, with 26.19 percent, were the second largest source of revenue. Industries other than aluminum accounted for 14.14 percent. Thus industrial business contributed more than half of total revenues.

Expenses for operation and maintenance required 31.74 percent of the revenue dollar in the fiscal year 1946, interest and other deductions totaled 26.82 percent, and irrigation expense absorbed by power revenues accounted for 0.89 percent. Depreciation expense of 16.15 percent and amortization of abandoned property of 1.38 per-

cent left the fiscal year's surplus net revenue at 23.02 percent. The last three items, which total 40.55 percent of the year's revenues, represent amounts which are available for repayment of the Federal investment.

A year ago it was estimated that the Administration's power sales revenues would return to the fiscal year 1945 level by about 1950. Recovery of revenue in recent months, since the close of fiscal year 1946, however, has far exceeded expectations. It is now anticipated that in both 1947 and 1948, revenues will approximate the 1945 level and will rise in 1949 and subsequent years.

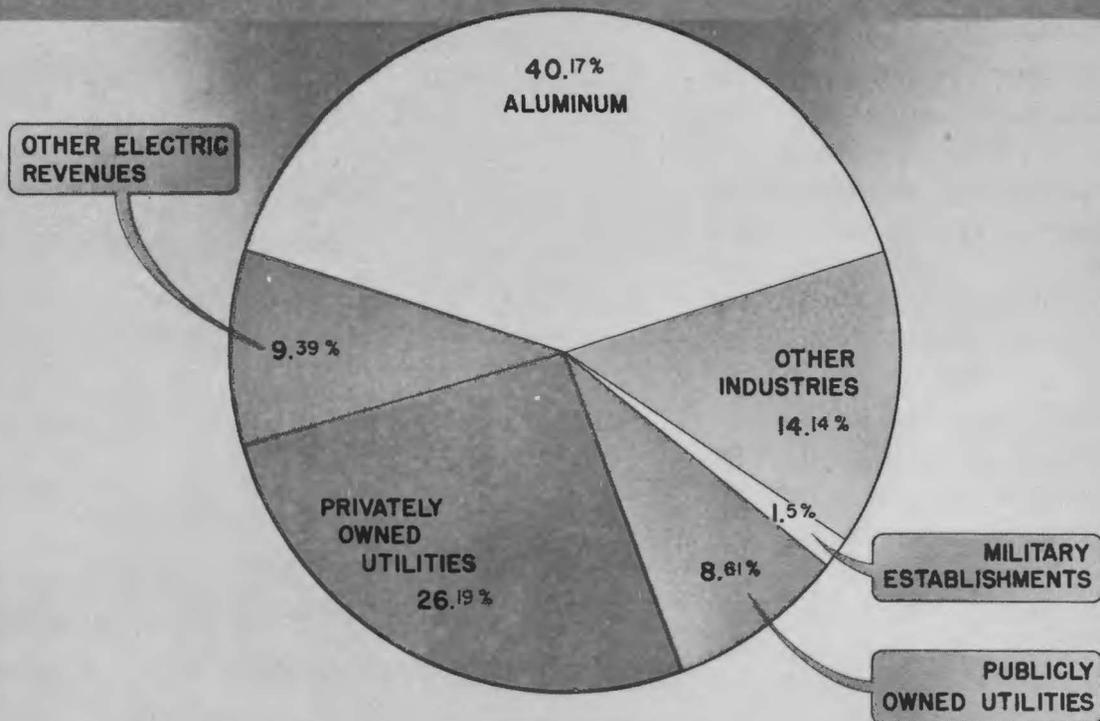
BELOW: Nerve center of Bonneville system is J. D. Ross Substation. Aerating pool cools synchronous condensers.

TABLE VIII
COLUMBIA RIVER POWER SYSTEM
CONDENSED SUMMARY OF REVENUES
AND EXPENSES

	Fiscal Year 1945	Fiscal Year 1946	Total to June 30, 1946
Operating Revenues	\$22,990,018	\$19,884,285	\$83,461,527
Expenses of Operation, Maintenance, etc.	5,986,485	6,585,286	26,134,489
Provisions for depreciation . . .	3,039,707	3,210,256	13,571,412
Interest and Other Deductions, Net	5,325,190	5,333,848	27,428,679
Total Deductions	14,351,382	15,129,390	67,134,580
Surplus Net Revenues from Power Operations	\$ 8,638,636	\$ 4,754,895	\$16,326,947
Disposition of Surplus Net Revenues:			
Amortization in addition to provisions for depreciation			\$ 5,480,530
Repayment of expenses allocable to irrigation			708,132
Unapplied			10,138,285
Total			\$16,326,947



SOURCE OF REVENUE DOLLAR



F I S C A L Y E A R 1 9 4 6

Chart 10

Bonneville dispatcher reads automatic recording meters in dispatcher's room at J. D. Ross Substation.



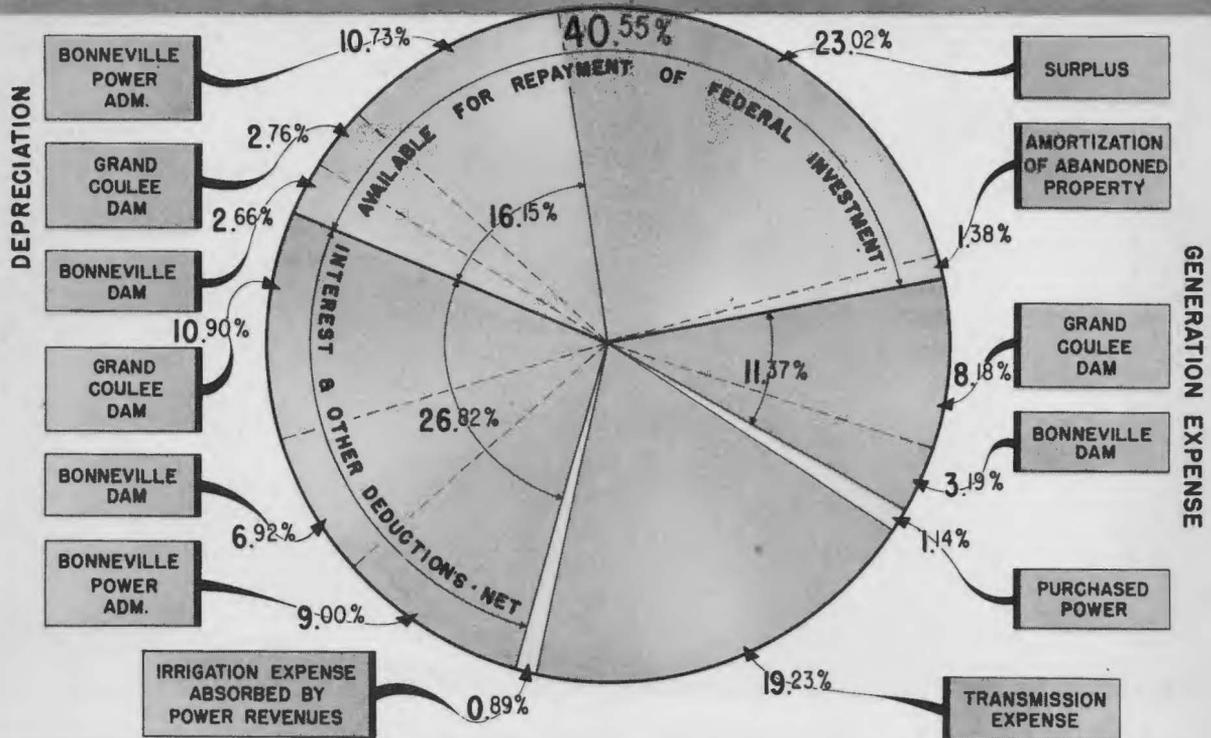
Notes on Disposition of the Revenue Dollar for Fiscal Year 1946—

GENERATION EXPENSE: *Includes the expenses at Bonneville and Grand Coulee dams for operation, maintenance and general administration allocated to power operations.*

PURCHASED POWER: *Cost of power obtained by the Bonneville Administration from non-federal sources.*

TRANSMISSION EXPENSE: *Includes all expenses of the Bonneville Power Administration for operation, maintenance, marketing and administration.*

DISPOSITION OF REVENUE DOLLAR



F I S C A L Y E A R 1 9 4 6

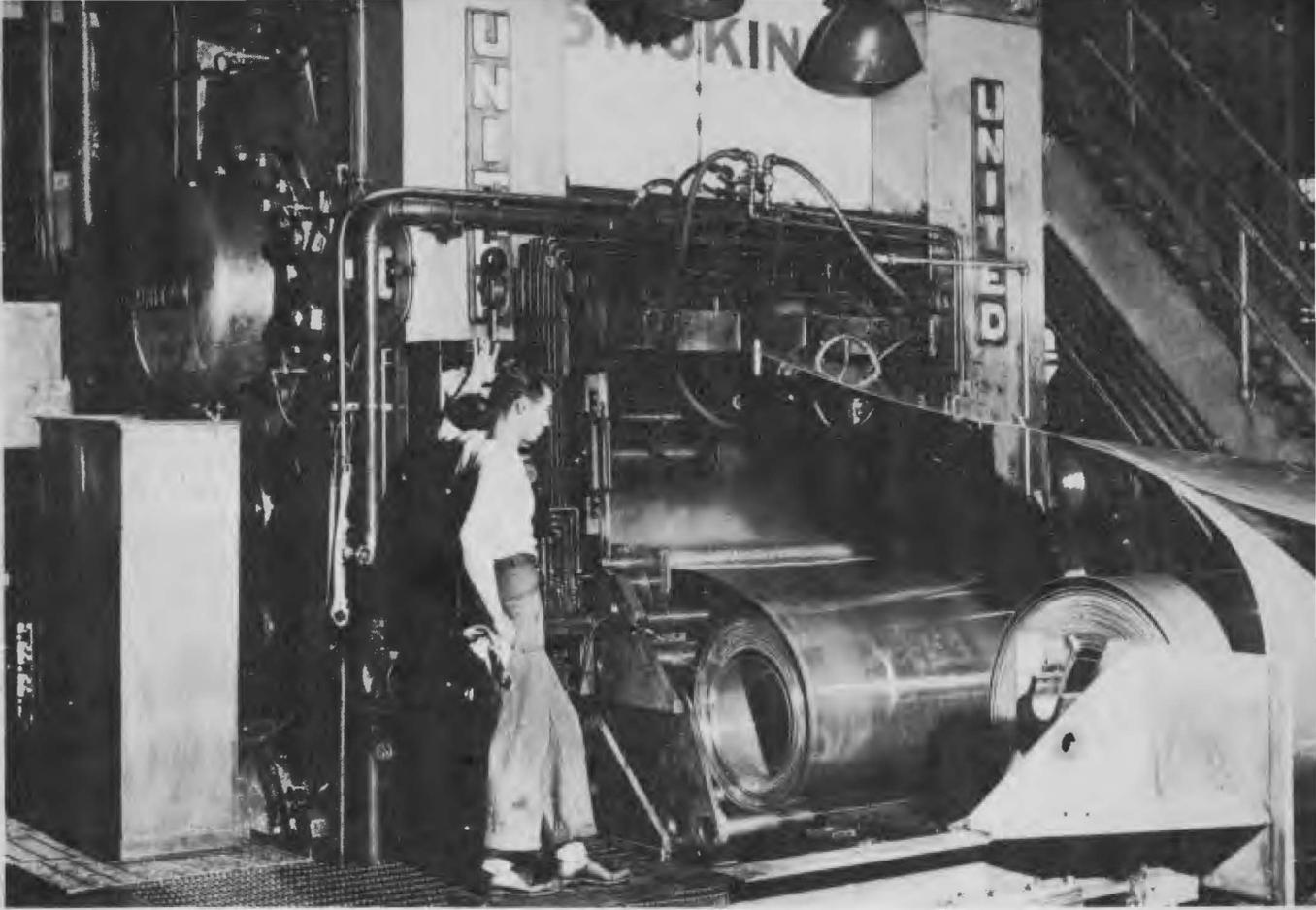
Chart 11

Load dispatchers maintain close check on operating conditions on vast system at this dispatching board.

INTEREST AND OTHER DEDUCTIONS NET: Includes interest at $2\frac{1}{2}\%$ on the investment at the dams allocated to power and the investment in the transmission system, plus miscellaneous income deduction items, less nominal amount of miscellaneous income.

DEPRECIATION: Depreciation of the property of Bonneville Power Administration, consisting principally of transmission plant, 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. Such studies contemplate the maximum economic life of the land rights and clearing costs to be one hundred years.





Mile after mile of aluminum sheet rolls from great presses powered by Columbia River hydroelectricity.

POWER RESOURCE MANAGEMENT

RELATIVELY, only a small part of the total economic potentiality of the Columbia Basin area is represented in the existing development of multi-purpose projects, power generation and transmission. For the benefit of the region and its people, far greater development of natural resources through the use of low cost hydroelectric energy remains to be accomplished.

Sound future development requires thorough analysis of potential power markets—a major management responsibility if the highest economic use is to be made of the region's power resources.

The Bonneville Power Administration's marketing program is essentially a management tool. In formulating construction programs it must have the best possible working knowledge of where and to what degree loads will materialize, which

only this instrument of management can furnish.

Power marketing is a matter of long range management based upon study and research. Usually several years are required before concrete or practical results from marketing activities become apparent. Therefore, the effort must be continuous to assure continuity in economic and industrial development.

For example, analyses have been in process for some time on the phosphate fertilizer industry which would utilize the great Idaho-Utah-Wyoming phosphate beds. Recently, keen interest has developed in this important potential industry which awaits only a firm commitment on available power supply before going ahead with a project that can release critical plant food for the use of 2.5 million farmers in 21 states.

In support of its program of industrial marketing of Federal power the Administration has pursued various investigations which make accurate and detailed data available to potential industrial customers. The series of county economic surveys, entitled "The Economic Base for Power Markets," is constantly being enlarged. Eight new surveys, covering 12 counties, appeared this year and more are in preparation. In addition to serving as a base for load forecasting, these reports have been useful in uncovering local industrial opportunities and in providing prospective industries with pertinent and accurate information on what the various communities have to offer. Reports on mineral resources and on Pacific Northwest limestone were also completed.

Early in 1945 a set of reports on industrial power prospects in the Pacific Northwest was begun for incorporation in the Army Engineers' study of the electric power requirements of the Columbia Basin. A number of research projects to develop greater efficiency in industrial and agri-

cultural power uses are also being conducted in collaboration with the colleges and universities of the region. Among these are investigations and studies having to do with (1) pipe and pipe lines for use with sprinkler irrigation; (2) dairy water heating; (3) home-built farm refrigeration units; (4) electric radiant panel heating; (5) reverse cycle heating; (6) electric heat storage and its economic aspects; (7) bio-chemical analysis dealing with preservation of forage crops; (8) livestock feeding experiments in connection with cured hay; (9) cranberry drying equipment; (10) farm use of electric welders and their effect on rural lines.

Corollary to the marketing aspects of management are extensive engineering studies essential to the development of a transmission system of high efficiency and capability with low operating cost; studies of costs in relation to revenue potentialities as a basis for maintaining the financial stability of the development program; and long range load estimates, which, in effect translate economic possibilities into kilowatts.

Sprinkler irrigation multiplies Northwest crops. Pumping and sprinkler pipe making are both jobs for power.



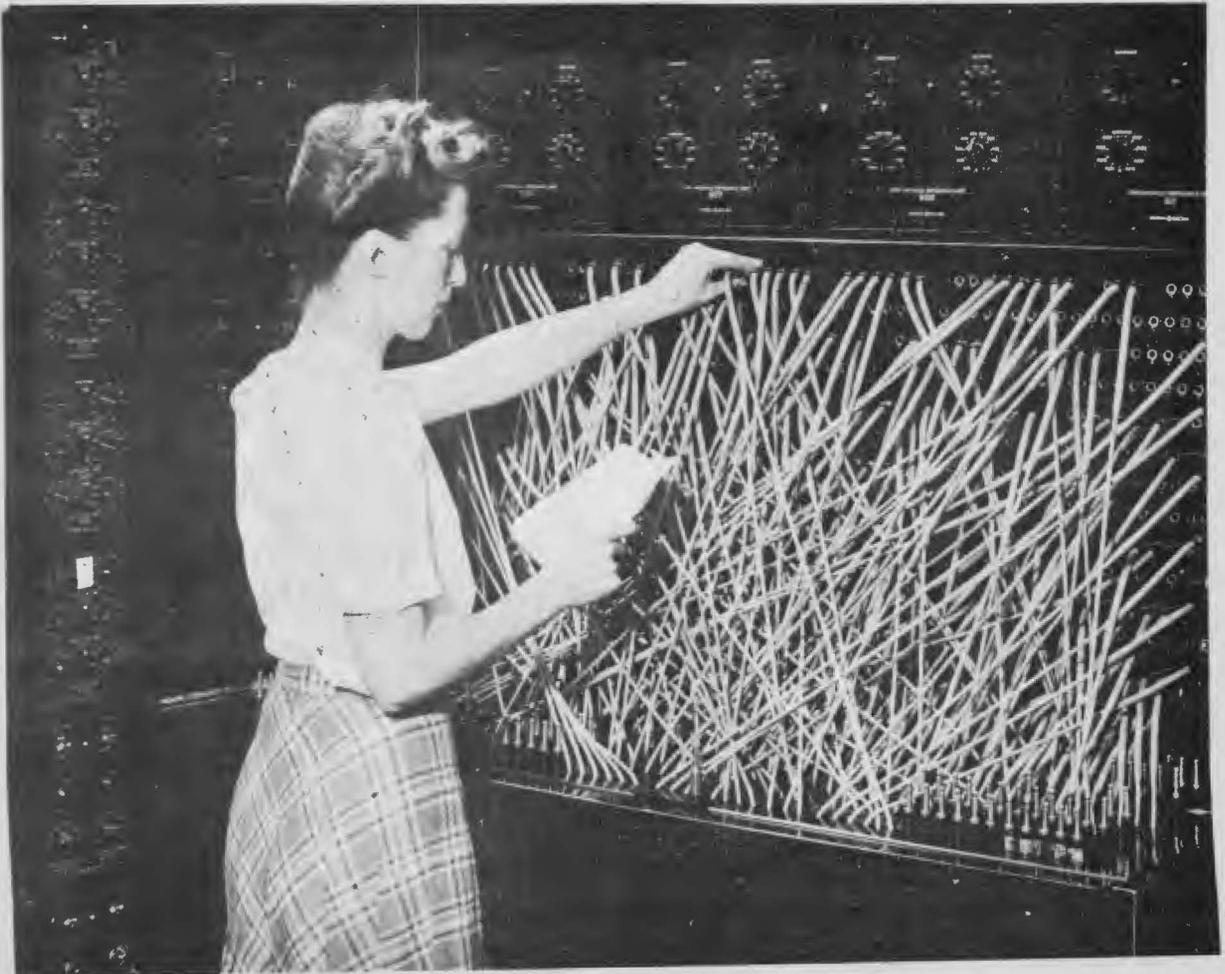
ADVANCE CONSTRUCTION PROGRAM

AN IMMEDIATE and important challenge to management of Federal power resources in the Pacific Northwest is the existing and rapidly growing need for additional power generation and transmission facilities. Timing is a primary essential of the Administration's advance construction program, requiring thorough and realistic staff work in the analysis of future load requirements.

At no time has the significance and importance of this management responsibility been so pointed as during the existing critical power situation.

Maximum power resources (see Table X) of all types, including all major publicly and privately operated steam and hydro facilities, in the Bonneville service area as of December 1946 amounted to 2,654,000 kilowatts, and total system demands reached 2,526,000 kilowatts, leaving a reserve of 128,000 kilowatts. Despite the installation of scheduled generating units at the Grand Coulee plant through fiscal year 1948 and later and substantial additions to the Seattle and Tacoma generating plants, the situation will not improve

Bonneville A.C. network analyzer, the only one west of the Mississippi River, accurately and rapidly works out intricate transmission system problems in advance of construction, forestalling costly errors and delay.



BPA

FIRM POWER LOADS AND RESOURCES

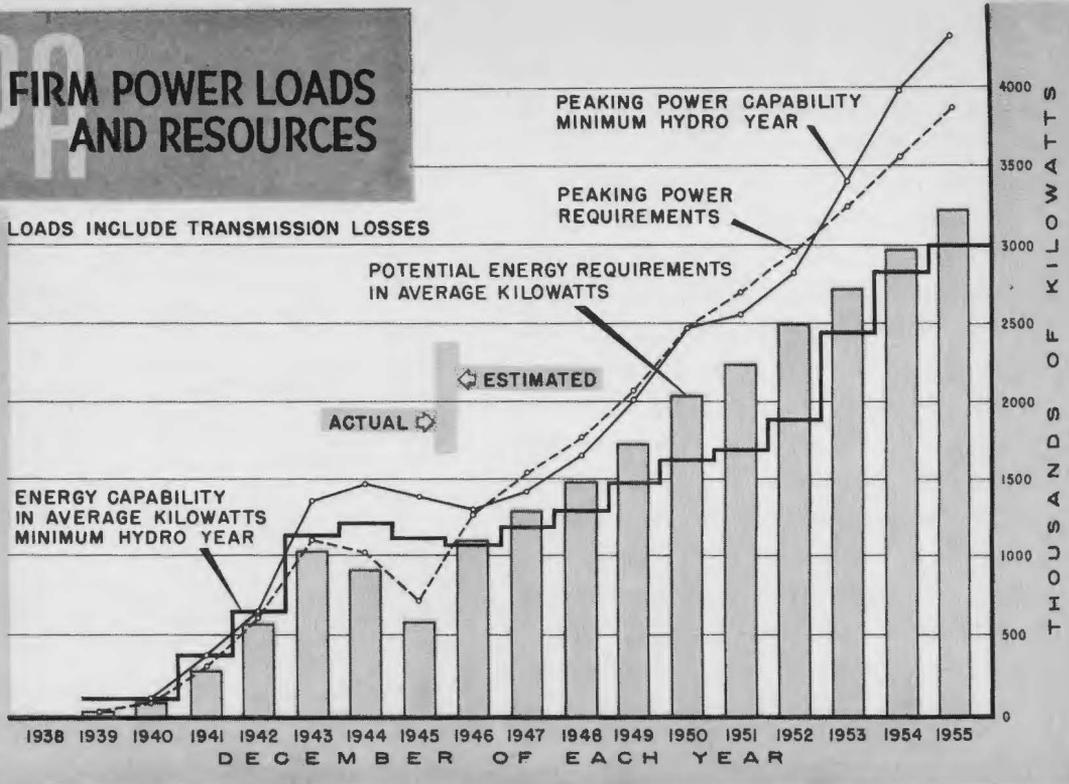
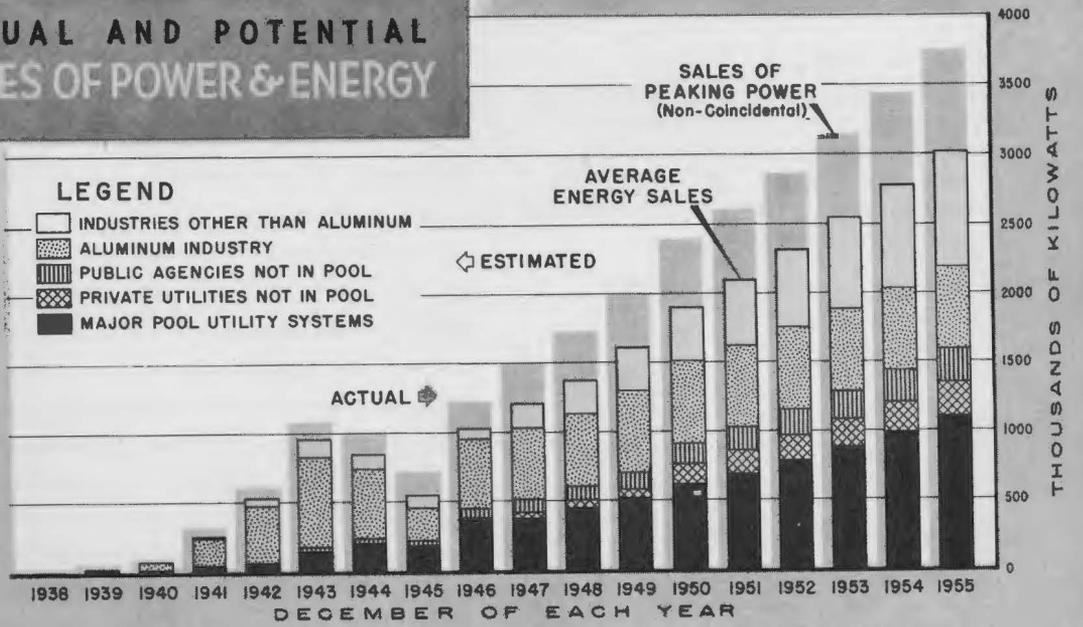


Chart 12

Chart 13

ACTUAL AND POTENTIAL SALES OF POWER & ENERGY



BARS SHOW AVERAGE KILOWATTS OF FIRM ENERGY BASED ON ACTUAL AND POTENTIAL ENERGY SALES.

TRANSMISSION LOSSES ARE NOT INCLUDED.

if load increases continue at their present accelerated rate. By December 1949 a total of 12 units is scheduled to have been installed at Grand Coulee dam. At least one million acre feet of storage back of Hungry Horse dam will be required by December 1949 for the operation of additional Coulee units to meet an estimated regional demand of 3,682,000 kilowatts.

The Administration's advance program for the six fiscal years 1948-1953 is based on potential regional load growth of about 375,000 kilowatts per year over a ten-year period. Several comprehensive studies of the region recently made by the Bonneville Power Administration, in cooperation with the Bureau of Reclamation and the Corps of Engineers, furnished data for this program.

Potential loads (Table XI) through December 1951 are shown to be in excess of the full generating capability of existing Federal plants, including the additional units at Grand Coulee dam scheduled to be installed by that time. From 1951 through 1955 installation of additional generating capacity at other multi-purpose projects

TABLE XI

COMPARISON OF POTENTIAL FIRM POWER LOADS OF THE BONNEVILLE POWER ADMINISTRATION WITH GENERATING CAPABILITY OF THE COLUMBIA RIVER POWER SYSTEM

DECEMBER OF EACH YEAR 1947-1951

Year	Potential Firm Power Load		Generating Capability ¹	
	Peak KW	Energy Aver. KW	Peaking Capability KW	Energy Capability Aver. KW
1947	1,534,000	1,297,000	1,420,000	1,185,000
1948	1,765,000	1,481,000	1,650,000	1,301,000
1949	2,067,000	1,731,000	2,009,000	1,474,000
1950	2,473,000	2,038,000	2,464,000	1,623,000
1951	2,695,000	2,246,000	2,552,000	1,684,000

¹Based on minimum water (1936-1937) including storage and two generating units at Hungry Horse dam in 1950, three generating units at Hungry Horse dam in 1951 and one unit at Detroit dam in 1951. (Note: Since preparation of this report, the schedule of generation and storage at Hungry Horse dam has been delayed one year.)

TABLE X

COMPARISON OF PEAKING CAPABILITIES AND REQUIREMENTS OF MAJOR ELECTRIC UTILITIES, INCLUDING THE BONNEVILLE POWER ADMINISTRATION, OPERATING IN WASHINGTON, OREGON AND NORTHERN IDAHO

DECEMBER OF EACH YEAR 1946-1951¹

Year	Peaking Capabilities Kilowatts ²	Estimated Peaking Requirements Kilowatts ³
1946	2,654,000	2,526,000
1947	2,774,000	3,091,000
1948	3,004,000	3,410,000
1949	3,363,000	3,682,000
1950	3,818,000	4,230,000
1951	4,049,000	4,585,000

¹ Utilities included are: Bonneville Power Administration, Northwestern Electric Company, Pacific Power & Light Company, Portland General Electric Company, Puget Sound Power & Light Company, Seattle City Light, Tacoma City Light, and Washington Water Power Company.

² Assuming minimum water conditions (year 1936-1937) and installation of all currently scheduled additions to generating capacity.

³ Non-coincidental.

such as Detroit, McNary, Hungry Horse, and Foster Creek dams will be necessary if the Administration is to meet any part of the potential additional requirements for industrial and other loads. As compared with the wartime peak of 1,427,000 kilowatts, which occurred on January 4, 1945, the fiscal year 1946 peak on the Bonneville system was 1,346,000 kilowatts. Since this peak was reached, generating capacity has decreased by 170,000 kilowatts, due to the removal and return of two generating units to the Shasta project early in 1946. In the light of all anticipated increased requirements it is forecast that the load which the Bonneville Power Administration should be prepared to serve will about double between the fiscal years 1947 and 1952 and increase by about another million kilowatts by 1955.

To meet this anticipated demand, the region will require the maximum utilization of existing generating facilities and installations in at least eight additional multi-purpose projects during the years 1950 to 1955 in western Montana, and on the Columbia, lower Snake, and North Santiam rivers. The Administration's advance program calls for the interconnection of these generating plants with regional load centers.



Bonneville dispatcher at communications turret controls operation of 61 substations on the grid system.

CUSTOMER SERVICE

ESSENTIALLY a marketing agency, the Administration must serve its customers to their satisfaction. The work of selling power of the future must be done now, with an eye to future needs and developments, and one phase of that marketing program is to render assistance to present customers, both industries and distributors.

Sales to 21 industries during the fiscal year totaled about three and a quarter billion kilowatt-hours. These included service not only to regional aluminum plants, but to shipyards; plants producing magnesium, carbide and ferrosilicon; chemical and metallurgical plants, and the Hanford Engineer Works, which is still in operation under private contract, carrying on experimental work for peace time uses of nuclear energy.

The outstanding industrial development by the end of 1946 was the reopening, by private enter-

prise, of nearly all the war-built aluminum capacity in the region. Three of these plants are now in operation. The fourth is expected to reopen shortly. Thus the aluminum load will absorb the bulk of the surplus power that became available late in 1945 when war production ceased.

The peak wartime demand of the aluminum industry upon the Bonneville power system had been about 686,000 kilowatts. Of this approximately 460,000 kilowatts were dropped at the end of the war. Now, with the leasing of all of the government-owned aluminum plants, in accordance with a disposal program in whose formulation the Administration participated, a total of 675,000 kilowatts is again committed to the aluminum industry.

Specifically instructed in the Bonneville Act to prevent the monopolization of Federal power supply by limited groups, the Bonneville Power

Administration in 1941 established the policy of supporting procedures to promote competition in the aluminum industry. Technical studies made by Bonneville on the disposal of the government aluminum plants to private industry have been used by the Department of Justice, the Reconstruction Finance Corporation, the Senate Small Business Committee, and the Surplus Property Board (War Assets Administration)—all agencies interested in formulating an equitable and constructive aluminum plant disposal program.

Other developments in the industrial field, while not comparable to those in the aluminum field from the point of view of revenue, are helping to create a healthy diversification in the region's economic activity. New and expanding establishments include the beginning of a large scale electrolytic iron powder plant, a carbide plant, plants producing chlorine and chlorates, forest products, and chemurgy plants.

As a part of the program of service to industries, material has been made available to interested firms from the Administration's long range industrial and economic studies mentioned earlier. The

same reports are available to distributors in planning their transmission systems and prosecuting a program of load development.

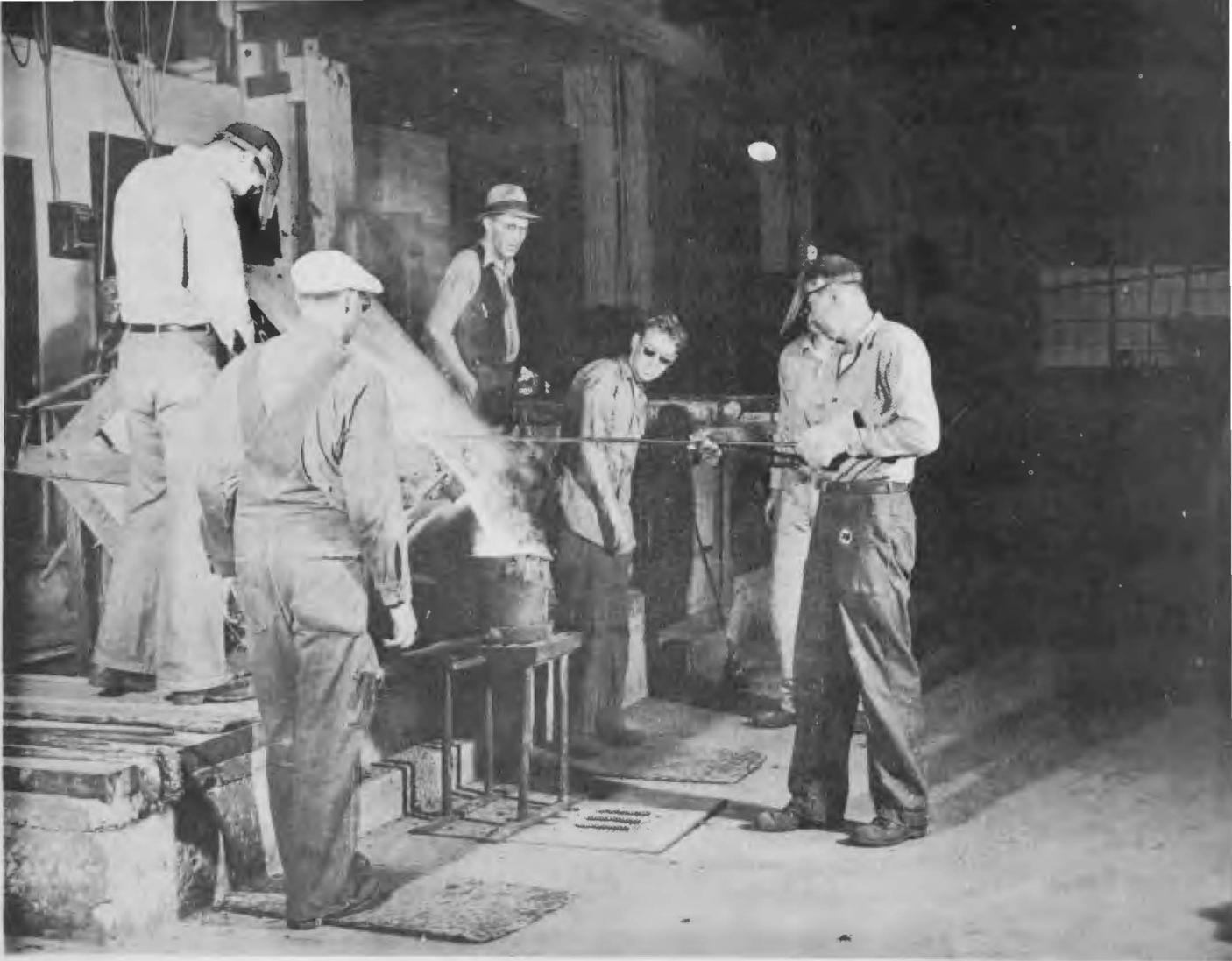
Military establishments continued to take an appreciable amount of power during the fiscal year—nearly 60 million kilowatt-hours. Two of the thirteen establishments terminated their contracts before the end of the fiscal year.

Service to distributors of Federal power is given by the Administration in many other ways. Aid in achieving load development has taken the form of an educational program designed by the Administration to widen domestic, commercial and rural markets and to effect greater efficiency in the use of electric power by present customers.

Assistance has also been given distributors in analyzing their financial problems and in setting up rate schedules which will form the basis of reasonable returns. Engineering assistance and aid in developing new industrial applications of electricity are two means by which the experience and technical facilities of the Administration have been made available for the purpose of increasing the use of Federal power through its distributors.

Headquarters office of a Bonneville wholesale customer, serving rural, domestic and industrial consumers.





Electrically fired induction furnace in Pacific Northwest aluminum plant using Columbia River power.

POWER RATES

THE BASIC wholesale rate structure for Bonneville-Grand Coulee power established \$17.50 per kilowatt-year as the price of power anywhere on the transmission system beyond 15 miles from the power plants. (At the power plants, and within 15 miles of them, the rate is \$14.50 per kilowatt-year.) Several optional rates are available to customers, but all are consistent with the \$17.50 rate.

The basic kilowatt-year rate has been particularly effective in encouraging growth of industries using electricity at a high load factor and in such quantities as to make power an important item in their costs of manufacture. Post-war in-

dustrial development, together with studies on availability of power on the Bonneville-Grand Coulee system, have made it advisable to develop several new wholesale power rates based on the \$17.50 per kilowatt-year rate. These have been filed with the Federal Power Commission for approval.

Financial results to date demonstrate that the \$17.50 wholesale rate is paying all costs of power operations in accordance with standard cost accounting principles, including interest and depreciation as well as operation and maintenance expenses; and in addition is making substantial contributions to costs allocable to irrigation and

will provide for the repayment of a substantial portion of the investment in irrigation works.

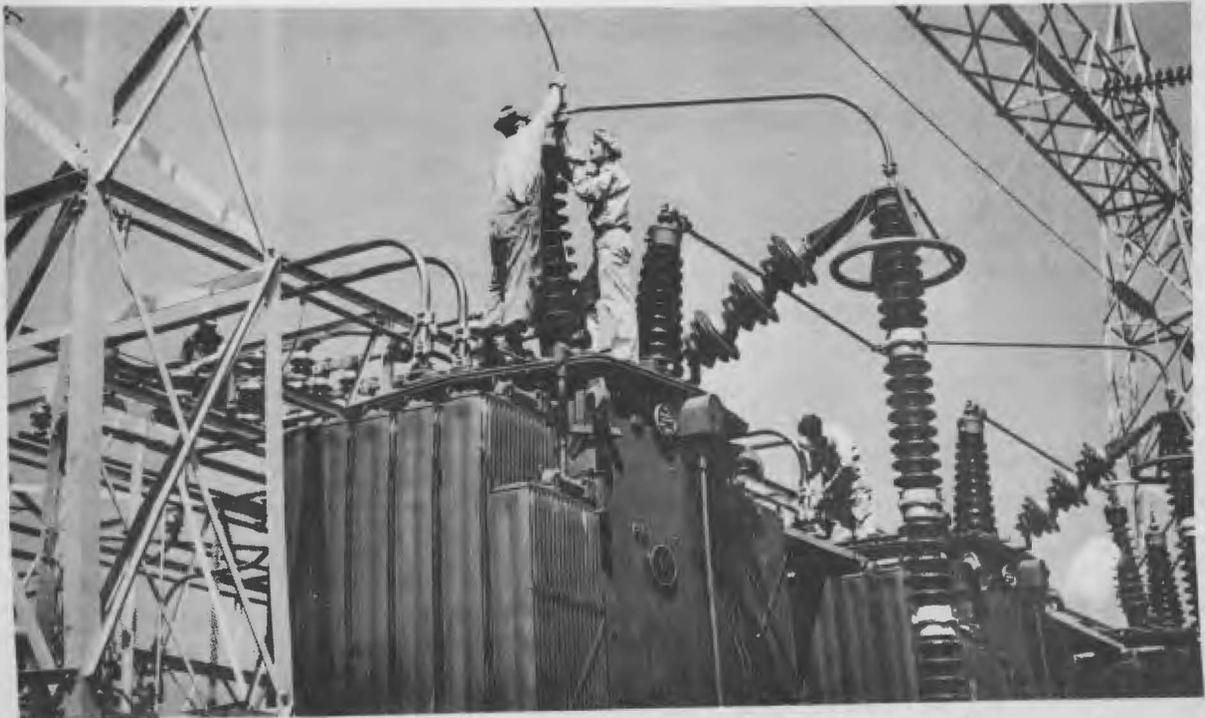
As pointed out in the Auditors' report the allocations of investment to power, irrigation and navigation have been made in accordance with law, and the financial results under the \$17.50 wholesale rate are related to the cost allocations made pursuant to applicable laws. The Administration has carried out its financial obligations in accordance with such laws and the certified financial statements show that within the framework of those legal requirements, the \$17.50 rate has been adequate to cover all costs to date and provide a sizeable surplus.

Demands for power are currently running far ahead of supplies and will continue to do so until additional dams are completed. With power demand so much greater than supply that some large industrial developments have had to be discouraged and with all indices pointing to a continuing growth in the Pacific Northwest, it is evident that yearly surpluses will continue. Thus,

even with rising costs, the present rate structure will continue to cover all costs of additional power supplies from Grand Coulee Dam and will continue to provide a surplus each year until 1952 when additional power supplies should be available from McNary, Foster Creek and Hungry Horse dams. Surplus from power sales is estimated to reach about \$50,000,000 in 1952.

All long term wholesale power contracts with distributors of Bonneville power contain provisions regarding resale rates and principles of operation to the end that power purchased from the Administration shall be distributed for the benefit of the general public, and particularly of domestic and rural consumers. The Administration has published three resale rate schedules as objective standards for retail distributors who purchase Federal power. (See Table XII). In some instances public agencies served by the Administration have been able to effect rate reductions which have brought their level of rates below the Bonneville standard resale rates.

Bonneville construction crew installs lightning protection equipment on one of the large transformer banks.



The direct relationship of increased use of electric energy to lower rates is well illustrated in Chart 14 which demonstrates an average nine years' record for municipal systems served by the Bonneville Power Administration, some of which now enjoy the lowest rates in the United States.

The Administration has no long term contracts with private utilities, primarily for the reason that these agencies have been unwilling to concur in contractual provisions affecting the level of resale rates. The Bonneville Act provides "contracts entered into with any utility engaged in the sale of electric energy to the general public shall contain such terms and conditions, including among other things stipulations concerning resale and resale rates by any such utility, as the Administrator may deem necessary, desirable or appropriate to effectuate the purposes of this Act and to insure that resale by such utility to the ultimate consumer shall be at rates which are reasonable and non-discriminatory." While agreements on resale rates and other provisions of long term contracts have not been reached, the Administration

Chart 14

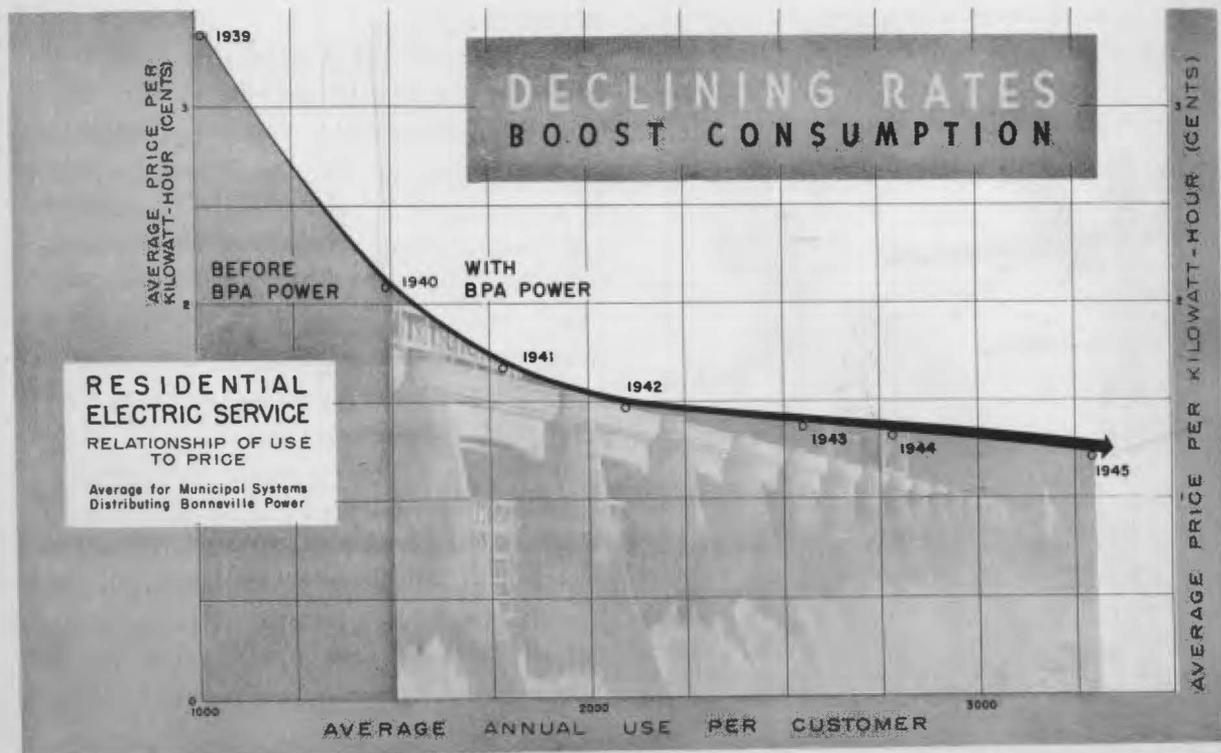


TABLE XII

BONNEVILLE RESALE RATES

STANDARD RESIDENTIAL RATE:

First	50 kwh used per month @ 3c per kwh
Next	50 kwh used per month @ 2c per kwh
Next	200 kwh used per month @ 1c per kwh
Next	900 kwh used per month @ 0.5c per kwh
Over	1,200 kwh used per month @ 0.75c per kwh

STANDARD COMMERCIAL LIGHTING AND POWER RATE:

Energy Charge—	
First	150 kwh used per month @ 3c per kwh
Next	350 kwh used per month @ 2c per kwh
Next	1,000 kwh used per month @ 1c per kwh
Next	13,500 kwh used per month @ 0.8c per kwh
Next	50,000 kwh used per month @ 0.5c per kwh
Over	65,000 kwh used per month @ 0.3c per kwh

Demand Charge—

First	10 kw demand per month, no demand charge
Over	10 kw demand per month @ 95c per kw

The Standard Street Lighting rate consists of two parts, an energy charge and an investment charge, and applies for a term of not less than one year.

has continued its war time policy of providing these companies with power supplies up to the limit of the needs of the companies or of the ability of the Administration to supply power. Agreements under this policy, while short term, have been renewed as conditions required.

PERSONNEL

CONSIDERABLE internal adjustment to meet peace time conversion demands was necessitated within the Administration by the return of personnel released from the armed services. Employees have done their duty on both the war and home fronts. Over a thousand served with the armed forces. Those at home carried on the business, bought \$2,600,000 in war bonds, gave 2,652 pints of their blood for the aid of the wounded.

The staff of the Administration, which numbered over 4,500 employees at the height of the pre-war construction period, has been drastically reduced, having been cut to less than 1,600 persons at one point during the war period. The chief efforts of that reduced staff were concentrated on maintaining the system so as to provide a sufficient and steady supply of power for the war economy. It is important to recognize, however, that compliance with the terms of the Bonneville Project Act and continuing adherence to payout schedules require an adequate construction, maintenance, and operating staff. Although additional employment during the past year has brought personnel strength to approximately

Construction worker fits bushing connector to bus.



Technicians test equipment in modern laboratories.

2,000, recent events have shown this force to be inadequate to meet current demands for service.

Relations between the Bonneville Power Administration and organized labor continued at a satisfactorily high level. While, following the prevailing upward trend of wages for hourly workers, labor costs have risen, through the continuing application of appropriate management techniques and efficient disposition of personnel, operation and maintenance costs have followed a downward trend.

The labor relations program was strengthened by amendments to the Bonneville Act (H.R. 2690, October 23, 1945) under which the Administration has become the first regular Federal agency to extend certain social security benefits to workers not subject to the Civil Service Retirement Act. The Administration has established a utility crew of permanent hourly employees enjoying all protective rights, which forms an available nucleus of workmen skilled in the required techniques of electrical transmission.

An established policy of training and advancing personnel within the organization has been followed in all departments and is reflected in the number of superior positions filled by recruits from the lower ranks of employees. Capability and merit have been the sole basis for employment and promotion in the organization.

ARTHUR ANDERSEN & CO.

ACCOUNTANTS AND AUDITORS

DEXTER HORTON BUILDING
SEATTLE

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 power components of Bonneville Dam Project, built and operated by the Corps of Engineers, U. S. Army, and Columbia Basin Project (Grand Coulee Dam) built and operated by the Bureau of Reclamation, Department of the Interior, hereinafter referred to as COLUMBIA RIVER POWER SYSTEM, as of June 30, 1946; the statements of assets and liabilities allocated to power of each of these projects as of that date; and the related statements of revenues and expenses allocated to power for the fiscal year then ended. In connection therewith, we have reviewed the systems of internal control and the accounting procedures of the projects to the extent necessary to enable us to render an opinion as to the financial position of their power components and the results of their power operations, and without making a detailed audit of the transactions, have examined or tested accounting records of the projects and other supporting evidence by methods and to the extent we deemed appropriate. Our examination was made in accordance with generally accepted auditing standards applicable in the circumstances and included all procedures which we considered necessary. We had previously made a similar examination for the year ended June 30, 1945.

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 Federal 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, 1946 include facilities totaling \$178,080,647 which have been determined to be jointly useful for power generation and for other purposes. 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 \$99,278,245 of these facilities are allocable to power and this amount is included in power assets in the accompanying financial statements. Operating and interest expenses applicable to joint facilities 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 for the fairness of such allocations. The two dam projects have maintained their accounts in conformity with these allocations which have been established pursuant to statutory authority; 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, in our opinion, the accompanying statements of assets and liabilities allocated to power and the related statements of revenues and expenses present fairly the position of Columbia River Power System and its power components at June 30, 1946 and the results of their power operations for the fiscal year ended that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year and in accordance with the uniform system of accounts prescribed by the Federal Power Commission pursuant to the Federal Water Power Act.

Arthur Andersen & Co.

Seattle, Washington,
November 14, 1946.

AUDITORS' REPORT

COLUMBIA RIVER POWER SYSTEM

Consisting of

THE BONNEVILLE POWER ADMINISTRATION
and Power Components of
THE BONNEVILLE DAM PROJECT AND
THE COLUMBIA BASIN PROJECT (GRAND COULEE DAM)

FINANCIAL STATEMENTS

AND

AUDITORS' REPORT

AS OF JUNE 30, 1946

UNITED STATES DEPARTMENT OF THE INTERIOR
BONNEVILLE POWER ADMINISTRATION

COLUMBIA RIVER POWER SYSTEM

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

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UNITED STATES OF AMERICA
COLUMBIA RIVER POWER SYSTEM

Schedule 1

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

STATEMENTS OF COMBINED ASSETS AND LIABILITIES ALLOCATED
TO POWER — JUNE 30, 1946 AND 1945

ASSETS	June 30		LIABILITIES	June 30	
	1946	1945		1946	1945
ELECTRIC UTILITY PLANT (Notes 1 and 2):			INVESTMENT OF U. S. GOVERNMENT:		
Original cost, including interest during construction—			Congressional appropriations, allotments and WPA expenditures	\$307,471,298.57	\$298,110,886.27
Joint facilities (dams, reservoirs, fishways, general service facilities, etc.)			Less—Amounts not requisitioned	18,268,636.79	24,027,192.82
allocated to—					
Commercial power	\$ 65,129,212.83	\$ 63,797,215.20	Transfers from other Federal projects (net)	953,688.02	862,884.49
Downstream river regulation	34,149,031.79	33,148,638.35	Interest on Federal investment	41,799,559.57	35,543,716.87
Specific power facilities (powerhouses, generating equipment and transmission plant)	176,586,387.21	168,591,038.87		\$331,955,909.37	\$310,490,294.81
Excess of original cost over cost of specific power facilities acquired	990,000.00*		Less—Funds returned to U. S. Treasury—		
	<u>\$274,874,631.83</u>	<u>\$265,536,892.42</u>	Receipts from sales of electric energy	\$ 78,164,232.37	\$ 56,617,598.31
			Miscellaneous receipts allocated to power	1,345,495.76	582,707.84
			Total	\$ 79,509,728.13	\$ 57,200,306.15
Less—Reserves for depreciation (Note 3)—			Less—		
Joint facilities allocated to—			Amount applied to repayment of irrigation operation and maintenance expenses at Columbia Basin Project	\$ 708,131.77	\$ 531,632.50
Commercial power	\$ 1,873,351.99	\$ 1,509,881.39	Amount transferred to Bonneville Power Administration emergency fund	500,000.00	500,000.00
Downstream river regulation	1,016,344.74	811,497.81		\$ 1,208,131.77	\$ 1,031,632.50
Specific power facilities	12,782,462.53	10,513,190.30		\$ 78,301,596.36	\$ 56,168,673.65
	\$ 15,672,159.26	\$ 12,834,872.53	Net investment of U. S. Government	<u>\$253,654,313.01</u>	<u>\$254,321,621.16</u>
Cost less reserves	\$259,202,472.57	\$252,702,019.89	CURRENT LIABILITIES:		
			Accounts payable (Note 4)	\$ 4,473,678.54	\$ 2,978,177.73
INTEREST AND DEPRECIATION CHARGES ON JOINT FACILITIES ALLOCATED TO DOWNSTREAM RIVER REGULATION—recoverable from operations of future downstream hydro plants	\$ 4,478,590.89	\$ 3,480,047.96	Due to Central Valley Project (Shasta Dam) for rental of leased generating facilities	565,500.00	391,500.00
			Employees' accrued leave	1,413,666.66	1,051,153.20
			Miscellaneous	201,005.34	313,064.71
				\$ 6,653,850.54	\$ 4,733,895.64
SPECIAL FUNDS AND INVESTMENTS:			DEFERRED CREDITS:		
Special fund, see contra liability	\$ 1,012,650.58	\$ 1,515,500.00	Customer's deposit, see contra	\$ 1,012,650.58	\$ 1,515,500.00
Emergency fund	500,000.00	500,000.00	Contract cancellation charges, being amortized over one year from cancellation dates	2,012,972.12	175.00
Miscellaneous investments	25,422.51	25,422.51	Other	175.00	28,261.99
	\$ 1,512,650.58	\$ 2,040,922.51		\$ 3,025,797.70	\$ 1,543,761.99
CURRENT ASSETS:			RESERVES:		
Cash held by Treasury Department disbursing officers	\$ 4,551,744.10	\$ 3,113,902.90	Removal of leased generating facilities (including provision for excess installation costs at Shasta Dam, see Note b)	\$ 827,945.44	\$ 720,416.41
Employees' withholding tax, war savings bond and other special deposits	363,406.16	256,500.62	Deferred maintenance	480,000.00	393,000.00
Accounts receivable—				\$ 1,307,945.44	\$ 1,113,416.41
Customers—			CONTRIBUTIONS IN AID OF CONSTRUCTION—by State of Washington	\$ 175,526.14	\$ 175,526.14
Departments and agencies of U. S. Government (including \$3,373,775.66 at June 30, 1946 contract cancellation charges)	4,038,806.80	4,407,236.92	ACCUMULATED NET REVENUES (Note 1):		
Others, less reserve of \$438,559.82 at June 30, 1945 for contract and bill adjustments	1,306,825.90	1,527,466.89	Net power revenues from beginning of operations	\$ 16,326,947.34	\$ 11,572,052.69
Miscellaneous receivables	45,310.47	477,295.75	Less—Amounts applied to repayment of irrigation operation and maintenance expenses (Note 5)	708,131.77	531,632.50
Materials and supplies	2,786,287.93	3,021,646.10	Remaining net revenues	\$ 15,618,815.57	\$ 11,040,420.19
	\$ 13,092,381.36	\$ 13,084,049.18	Consisting of—		
			Amounts applied to repayment of construction costs in addition to provisions for depreciation—		
DEFERRED CHARGES:			Bonneville Dam Project	\$ 1,384,966.17	\$ 909,899.44
Loss on abandoned property (principally rights-of-way and clearing costs), being amortized over the five years ending June 30, 1950	\$ 1,098,688.86	\$	Columbia Basin Project (including \$1,115,679.18 and \$763,085.38 at respective dates excess of 3% interest on unpaid balance of construction costs allocated to power over 2.5% interest on Federal investment allocated to power)	4,054,261.85	2,571,421.24
Clearing accounts, retirement and reimbursable work in progress, etc.	1,051,464.14	1,621,601.99	Bonneville Power Administration	41,302.26	41,302.26
	\$ 2,150,153.00	\$ 1,621,601.99	Unapplied net revenues	10,138,285.29	7,517,797.25
	<u>\$280,436,248.40</u>	<u>\$272,928,641.53</u>		\$ 15,618,815.57	\$ 11,040,420.19
				<u>\$280,436,248.40</u>	<u>\$272,928,641.53</u>

* Denotes red figure.

The accompanying notes (Schedule 5) are an integral part of these statements of assets and liabilities.

UNITED STATES OF AMERICA
COLUMBIA RIVER POWER SYSTEM

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

STATEMENTS OF COMBINED REVENUES AND EXPENSES ALLOCATED
TO POWER FOR THE FISCAL YEARS ENDED JUNE 30, 1946 AND 1945

	FISCAL YEAR ENDED JUNE 30	
	1946	1945
OPERATING REVENUES:		
Sales of electric energy	\$18,017,141.39	\$22,903,281.60
Amortization of contract cancellation charges	1,814,131.55	.....
Other electric revenues	53,011.95	86,736.75
Total operating revenues	\$19,884,284.89	\$22,990,018.35
OPERATING EXPENSES (Notes 1 and 2):		
Purchased power	\$ 227,580.86	\$ 207,094.91
Operation—		
Joint facilities—portion allocated to power	207,831.74	182,341.19
Specific power facilities	3,768,233.67	3,624,788.88
Provision for rental, installation and removal of generating facilities leased from Central Valley Project (Shasta Dam)	750,000.00	973,200.00
Maintenance—		
Joint facilities—portion allocated to power	192,211.15	211,819.13
Specific power facilities	1,164,756.71	787,240.64
Depreciation (Note 3)—		
Joint facilities—portion allocated to power (including downstream river regulation)	312,033.99	307,433.68
Less—Amount allocated to downstream river regulation, recoverable from operations of future downstream hydro plants	94,533.73*	93,876.52*
Specific power facilities	2,992,756.17	2,826,150.09
Amortization of loss on abandoned property—specific power facilities	274,672.21	.....
Total operating expenses	\$ 9,795,542.77	\$ 9,026,192.00
Net operating revenues	\$10,088,742.12	\$13,963,826.35
OTHER INCOME	10,113.36	13,361.44
	\$10,098,855.48	\$13,977,187.79
INTEREST AND OTHER DEDUCTIONS:		
Interest on portion of Federal investment allocated to power (including downstream river regulation)	\$ 6,255,842.70	\$ 6,330,314.73
Less—		
Amount allocated to downstream river regulation, recoverable from operations of future downstream hydro plants	904,009.20*	883,450.28*
Amount charged to construction	106,506.90*	108,518.04*
Miscellaneous income deductions	98,634.23	204.98
Total interest and other deductions	\$ 5,343,960.83	\$ 5,338,551.39
Net revenues	\$ 4,754,894.65	\$ 8,638,636.40
APPLICATION OF NET REVENUES:		
Portion of net revenues from power operations applied to repayment of irrigation operation and maintenance expenses at Columbia Basin Project (Note 5)	176,499.27	177,310.27
Balance	\$ 4,578,395.38	\$ 8,461,326.13

* Denotes red figure.

The accompanying notes (Schedule 5) are an integral part of these statements of revenues and expenses.

UNITED STATES OF AMERICA
COLUMBIA RIVER POWER SYSTEM

Schedule 3

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

STATEMENT COMBINING ASSETS AND LIABILITIES ALLOCATED TO
POWER—JUNE 30, 1946

ASSETS	Bonneville Power Administration (Schedule 6)	Bonneville Dam Project (Schedule 9)	Columbia Basin Project (Schedule 12)	Combined (To Schedule 1)	LIABILITIES	Bonneville Power Administration (Schedule 6)	Bonneville Dam Project (Schedule 9)	Columbia Basin Project (Schedule 12)	Combined (To Schedule 1)
ELECTRIC UTILITY PLANT (Notes 1 and 2):					INVESTMENT OF U. S. GOVERNMENT:				
Original cost, including interest during construction—					Congressional appropriations, allotments and WPA expenditures	\$119,023,104.91	\$9,600,936.11	\$128,847,257.55	\$307,471,298.57
Joint facilities (dams, reservoirs, fishways, general service facilities, etc.) allocated to—					Less—Amounts not requisitioned	13,769,474.79	1,365,598.70	3,133,563.30	18,268,636.79
Commercial power		\$ 20,092,083.94	\$ 45,037,128.89	\$ 65,129,212.83		\$105,253,630.12	\$ 58,235,337.41	\$125,713,694.25	\$289,202,661.78
Downstream river regulation			34,149,031.79	34,149,031.79	Transfers from other Federal projects (net)	78,745.18*		1,032,433.20	953,688.02
Specific power facilities (power-houses, generating equipment and transmission plant)	88,945,773.60	37,856,911.10	49,783,703.51	176,586,387.21	Interest on Federal investment	8,966,950.82	11,086,068.57	21,746,540.18	41,799,559.57
Excess of original cost over cost of specific power facilities acquired	88,945,773.60	57,948,994.04	128,969,864.19	275,864,631.83	Less—Funds returned to U. S. Treasury—	\$114,141,835.76	\$ 69,321,405.98	\$148,492,667.63	\$331,955,909.37
	990,000.00*			990,000.00*	Receipts from sales of electric energy	\$ 40,295,832.69	\$ 15,449,720.00	\$ 22,418,679.68	\$ 78,164,232.37
Less—Reserves for depreciation (Note 3)—	87,955,773.60	57,948,994.04	128,969,864.19	274,874,631.83	Miscellaneous receipts allocated to power	1,070,844.78		274,650.98	1,345,495.76
Joint facilities allocated to—						\$ 41,366,677.47	\$ 15,449,720.00	\$ 22,693,330.66	\$ 79,509,728.13
Commercial power		\$ 532,955.29	\$ 1,340,396.70	\$ 1,873,351.99	Less—				
Downstream river regulation			1,016,344.74	1,016,344.74	Amount applied to repayment of irrigation operation and maintenance expenses at Columbia Basin Project			\$ 708,131.77	\$ 708,131.77
Specific power facilities	9,441,574.98	1,847,941.16	1,492,946.39	12,782,462.53	Amount transferred to Bonneville Power Administration emergency fund	500,000.00			500,000.00
Cost less reserves	\$ 78,514,198.62	\$ 55,568,097.59	\$125,120,176.36	\$259,202,472.57		\$ 500,000.00		\$ 708,131.77	\$ 1,208,131.77
INTEREST AND DEPRECIATION CHARGES ON JOINT FACILITIES ALLOCATED TO DOWNSTREAM RIVER REGULATION—recoverable from operations of future downstream hydro plants			\$ 4,478,590.89	\$ 4,478,590.89	Net investment of U. S. Government	\$ 40,866,677.47	\$ 15,449,720.00	\$ 21,985,198.89	\$ 78,301,596.36
SPECIAL FUNDS:					CURRENT LIABILITIES:				
Special fund, see contra	\$ 1,012,650.58			\$ 1,012,650.58	Accounts payable (Note 4)	\$ 3,728,057.52	\$ 58,474.80	\$ 687,146.22	\$ 4,473,678.54
Emergency fund	500,000.00			500,000.00	Due to Central Valley Project (Shasta Dam) for rental of leased generating facilities			565,500.00	565,500.00
	\$ 1,512,650.58			\$ 1,512,650.58	Employees' accrued leave	1,053,859.15		359,807.51	1,413,666.66
CURRENT ASSETS:					Miscellaneous	201,005.34			201,005.34
Cash held by Treasury Department disbursing officers	\$ 1,552,751.91		\$ 2,998,992.19	\$ 4,551,744.10		\$ 4,982,922.01	\$ 58,474.80	\$ 1,612,453.73	\$ 6,653,850.54
Employees' withholding tax, war savings bond and other special deposits	363,406.16			363,406.16	DEFERRED CREDITS:				
Accounts receivable—					Customer's deposit, see contra	\$ 1,012,650.58			\$ 1,012,650.58
Customers—					Contract cancellation charges, being amortized over twelve months from cancellation dates	2,012,972.12			2,012,972.12
Departments and agencies of U. S. Government (including \$3,373,775.66 contract cancellation charges)	4,038,806.80			4,038,806.80	Other	175.00			175.00
Others	1,306,825.90			1,306,825.90		\$ 3,025,797.70			\$ 3,025,797.70
Miscellaneous receivables	23,389.88		21,420.59	45,310.47	RESERVES:				
Materials and supplies	2,321,810.02		464,477.91	2,786,287.93	Removal of leased generating facilities			\$ 827,945.44	\$ 827,945.44
	\$ 9,607,490.67		\$ 3,484,890.69	\$ 13,092,381.36	Deferred maintenance		270,000.00	210,000.00	480,000.00
DEFERRED CHARGES:							\$ 270,000.00	\$ 1,037,945.44	\$ 1,307,945.44
Loss on abandoned property (principally rights-of-way and clearing costs) being amortized over the five years ending June 30, 1950	\$ 1,098,688.86			\$ 1,098,688.86	CONTRIBUTIONS IN AID OF CONSTRUCTION—				
Clearing accounts, reimbursable work in process, etc.	730,436.82	17,029.36	303,997.96	1,051,464.14	by State of Washington			\$ 175,526.14	\$ 175,526.14
	\$ 1,829,125.68	\$ 17,029.36	\$ 303,997.96	\$ 2,150,153.00	ACCUMULATED NET REVENUES (Note 1):				
	\$ 91,463,465.55	\$ 55,585,126.95	\$133,387,655.90	\$280,436,248.40	Net power revenues from beginning of operations	\$ 10,179,587.55	\$ 1,384,966.17	\$ 4,762,393.62	\$ 16,326,947.34
					Less—Amounts applied to repayment of irrigation operation and maintenance expenses			708,131.77	708,131.77
					Remaining net revenues (see Schedule 1)	\$ 10,179,587.55	\$ 1,384,966.17	\$ 4,054,261.85	\$ 15,618,815.57
						\$ 91,463,465.55	\$ 55,585,126.95	\$133,387,655.90	\$280,436,248.40

* Denotes red figure.

The accompanying notes (Schedule 5) together with the notes to the financial statements of the individual projects (Schedules 8, 11 and 14) are an integral part of this combining statement.

UNITED STATES OF AMERICA
COLUMBIA RIVER POWER SYSTEM

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

STATEMENT COMBINING REVENUES AND EXPENSES ALLOCATED
TO POWER FOR THE FISCAL YEAR ENDED JUNE 30, 1946

	Bonneville Power Administration (Schedule 7)	Bonneville Dam Project (Schedule 10)	Columbia Basin Project (Schedule 13)	Eliminations	Combined (To Schedule 2)
OPERATING REVENUES:					
Sales of electric energy	\$18,017,141.39	\$	\$	\$	\$18,017,141.39
Less—Amounts allocated to Bonneville Dam Project and Columbia Basin Project	9,012,430.00*	3,200,000.00	5,812,430.00		
Amortization of contract cancellation charges	1,814,131.55				1,814,131.55
Payment for river regulation benefits at Bonneville Dam Project			187,570.00	187,570.00	
Other electric revenues	53,011.95				53,011.95
Total operating revenues	\$10,871,354.89	\$3,200,000.00	\$6,000,000.00	\$187,570.00	\$19,881,284.89
OPERATING EXPENSES (Notes 1 and 2):					
Purchased power	\$ 227,580.86	\$	\$	\$	\$ 227,580.86
Operation—					
Joint facilities—portion allocated to power		69,087.93	138,743.84		207,831.74
Specific power facilities	3,191,466.99	205,366.98	371,399.70		3,768,233.67
Payment for river regulation benefits		187,570.00		187,570.00	
Provision for rental, installation and removal of generating facilities leased from Central Valley Project (Shasta Dam)			750,000.00		750,000.00
Maintenance—					
Joint facilities—portion allocated to power		102,217.34	89,993.81		192,211.15
Specific power facilities	631,660.45	257,082.74	276,013.52		1,164,756.71
Depreciation (Note 3)—					
Joint facilities—portion allocated to power (including downstream river regulation)		92,825.33	219,208.66		312,033.99
Less: Amount allocated to downstream river regulation, recoverable from operations of future downstream hydro plants			94,533.73*		94,533.73*
Specific power facilities	2,134,429.82	435,160.34	423,166.01		2,992,756.17
Amortization of loss on abandoned property—specific power facilities	274,672.21				274,672.21
Total operating expenses	\$ 6,459,810.33	\$1,349,310.66	\$2,173,991.78	\$187,570.00	\$ 9,795,542.77
Net operating revenues	\$ 4,412,044.56	\$1,850,689.34	\$3,826,008.22	\$	\$10,088,742.12
OTHER INCOME	6,011.18		4,102.18		10,113.36
	\$ 4,418,055.74	\$1,850,689.34	\$3,830,110.40	\$	\$10,098,855.48
INTEREST AND OTHER DEDUCTIONS:					
Interest on portion of Federal investment allocated to power (including downstream river regulation)	\$ 1,733,741.25	\$1,376,838.63	\$3,145,242.82	\$	\$ 6,255,842.70
Less—					
Amount allocated to downstream river regulation, recoverable from operations of future downstream hydro plants			904,009.20*		904,009.20*
Amount charged to construction	31,807.78*	1,236.02*	70,463.10*		106,506.90*
Miscellaneous income deductions	98,634.23				98,634.23
Total interest and other deductions	\$ 1,797,567.70	\$1,375,622.61	\$2,170,770.52	\$	\$ 5,343,960.83
Net revenues	\$ 2,620,488.01	\$ 475,066.73	\$1,659,339.88	\$	\$ 4,754,894.65
APPLICATION OF NET REVENUES:					
Portion of net revenues from power operations applied to repayment of irrigation operation and maintenance expenses at Columbia Basin Project (Note 5)			176,499.27*		176,499.27*
Balance	\$ 2,620,488.04	\$ 475,066.73	\$1,482,840.61	\$	\$ 4,578,395.38

* Denotes red figure.

The accompanying notes (Schedule 5) together with the notes to the financial statements of the individual projects (Schedules 8, 11 and 14) are an integral part of this combining statement.

COLUMBIA RIVER POWER SYSTEM**NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 1, 2, 3 AND 4****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 Federal 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 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 downstream river regulation) and 44% to nonpower purposes at Columbia Basin Project 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 to 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 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 project. 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 (original cost \$7,330,719.12), which is charged to clearing accounts and redistributed to construction and other accounts, has been computed substantially 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 and the cost of property retired, less net salvage applicable thereto, is charged to the appropriate reserve.

4. Reversal of Certain Recorded Obligations:

Obligations (purchase commitments, etc.) for proposed expenditures totaling \$8,010,612.48, which had been recorded in Bonneville Power Administration's combined system of fiscal and cost accounts at June 30, 1946, but which did not represent actual liabilities at that date, have been reversed in order to include in the financial statements only costs and liabilities actually incurred. The cost records of the two dam projects have not been similarly integrated with the fiscal records, and therefore do not include obligations for proposed expenditures recorded in their fiscal records.

5. Application of Net Revenues to Repayment of Irrigation Expenses:

The allocation to irrigation purposes at Columbia Basin Project of a portion of the operating and maintenance expenses of the joint facilities during the period prior to the commencement of irrigation operations is consistent with the allocations of costs of such facilities although the amount of such allocated expenses could properly be capitalized as part of the construction period costs of the irrigation works. The repayment of these expenses currently from power revenues has been reflected in these financial statements.

6. Contingent Liabilities:

Columbia Basin Project and Bonneville Power Administration have agreed to reimburse Central Valley Project (Shasta Dam) for certain excess costs of installing at that project two of its generating units which were leased to Columbia Basin Project during the war period. Columbia Basin Project has provided a reserve of \$300,000 for such costs whereas Central Valley Project has submitted estimates of \$418,744 excess costs on the generating units and \$490,741 excess costs on certain appurtenant equipment. The final amount of this liability will be determined by the Secretary of the Interior.

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

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
BONNEVILLE POWER ADMINISTRATION
STATEMENT OF ASSETS AND LIABILITIES
JUNE 30, 1946

ASSETS		LIABILITIES
ELECTRIC UTILITY PLANT (principally transmission plant) (Note 1):		
Original cost, including interest during construction	\$88,945,773.60	
Excess of original cost over cost of electric utility plant acquired	990,000.00*	
	\$87,955,773.60	
Less—Reserves for depreciation (Note 2)	9,441,574.98	
Cost less reserves	\$78,514,198.62	
SPECIAL FUNDS:		
Special fund, see contra liability	\$ 1,012,650.58	
Emergency fund	500,000.00	1,512,650.58
CURRENT ASSETS:		
Cash held by Treasury Department disbursing officer	\$ 1,552,751.91	
Employees' withholding tax, war savings bond and other special deposits	363,406.16	
Accounts receivable—		
Customers—		
Departments and agencies of U. S. Government (including \$3,373,775.66 contract cancellation charges)	4,038,806.00	
Others	1,306,825.90	
Miscellaneous receivables	23,889.88	
Materials and supplies	2,321,810.02	9,607,490.67
INVESTMENT OF U. S. GOVERNMENT:		
Congressional appropriations, allotments and WPA expenditures	\$119,023,104.91	
Less—Amounts not requisitioned	13,769,474.79	\$105,253,630.12
Transfers to other Federal projects (net)		78,745.18*
Interest on Federal investment		8,966,950.82
		\$114,141,835.76
Less—Funds returned to U. S. Treasury—		
Receipts from sales of electric energy	\$ 40,295,832.69	
Miscellaneous receipts	1,070,844.78	
	\$ 41,366,677.47	
Less—Amount transferred to emergency fund	500,000.00	40,866,677.47
Net investment of U. S. Government		\$73,275,158.29
CURRENT LIABILITIES:		
Accounts payable (Note 4)	\$ 3,728,057.52	
Employees' accrued leave	1,053,859.15	
Miscellaneous	201,005.34	4,982,922.01
DEFERRED CREDITS:		
Customer's deposit, see contra	\$ 1,012,650.58	
Contract cancellation charges, being amortized over one year from cancellation dates	2,012,972.12	
Other	175.00	3,025,797.70
ACCUMULATED NET REVENUES (Note 1):		
Net power revenues of Columbia River Power System from beginning of operations	\$ 16,326,947.34	
Less—		
Amounts applied to repayment of irrigation operation and maintenance expenses at Columbia Basin Project	\$ 708,131.77	
Amounts applied to repayment of construction costs in addition to provisions for depreciation—		
Bonneville Dam Project	1,384,966.17	
Columbia Basin Project (including \$1,115,679.18 excess of 3% interest on unrepaid construction costs allocated to power over 2.5% interest on Federal investment allocated to power)	4,054,261.85	6,147,359.79
Remaining net revenues of Bonneville Power		.....

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
BONNEVILLE POWER ADMINISTRATION

STATEMENT OF REVENUES AND EXPENSES
FOR THE FISCAL YEAR ENDED JUNE 30, 1946

OPERATING REVENUES:

Sales of electric energy	\$18,017,141.39
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Less—Portion allocated to (Note 3)—	
-------------------------------------	--

Bonneville Dam Project	\$ 3,200,000.00
Columbia Basin Project	5,812,430.00

	<u>9,012,430.00</u>
--	---------------------

	<u>\$ 9,004,711.39</u>
--	------------------------

Other electric revenues—	
--------------------------	--

Amortization of contract cancellation charges	\$ 1,814,131.55
Miscellaneous	53,011.95

	<u>1,867,143.50</u>
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	<u>\$10,871,854.89</u>
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OPERATING EXPENSES (Note 1):

Purchased power	\$ 227,580.86
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Operation	3,191,466.99
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Maintenance	631,660.45
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Depreciation (Note 2)	2,134,429.82
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Amortization of loss on abandoned property	274,672.21
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	<u>6,459,810.33</u>
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Net operating revenues	\$ 4,412,044.56
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OTHER INCOME (net)	6,011.18
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	<u>\$ 4,418,055.74</u>
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INTEREST AND OTHER DEDUCTIONS:

Interest on Federal investment	\$ 1,733,741.25
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Less—Interest charged to construction	34,807.78*
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Miscellaneous income deductions	98,634.23
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	<u>1,797,567.70</u>
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Net revenues	\$ 2,620,488.04
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* Denotes red figure.

The accompanying notes (Schedule 8) are an integral part of this statement of revenues and expenses.

BONNEVILLE POWER ADMINISTRATION

NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 6 AND 7

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 Federal 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 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 cost of property retired, less net salvage applicable thereto, is charged to the appropriate reserve.

3. Allocation of Revenues:

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

Interior dated November 28, 1945, and January 31, 1946, respectively. The amounts so allocated are designed to cover (a) operation and maintenance expenses to be returned from power revenues; (b) interest at the rate of 2.5% per annum on the portion of the Federal investment allocated to power plus, in the case of the Columbia Basin Project, the amount by which 3% interest on the unrepaid balance of construction costs allocated to power exceeds 2.5% interest on the power investment; and (c) scheduled repayment of the construction costs allocated to power. Such allocations of revenues are independent of the amounts of power generated and delivered by the dams to Bonneville Power Administration.

4. Reversal of Certain Recorded Obligations:

Obligations (purchase commitments, etc.) for proposed expenditures totaling \$8,010,612.48, which had been recorded in the Administration's combined system of fiscal and cost accounts at June 30, 1946, but which did not represent actual liabilities at that date, have been reversed in order to include in the financial statements only costs and liabilities actually incurred.

5. Contingent Liabilities:

The project is contingently liable under certain 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, 1946

ASSETS	Total	Deduct— Amounts Allocated to Other Than Power	Amounts Allocated to Power
PROPERTY, PLANT AND EQUIPMENT, at original cost including interest during construction (Notes 1 and 2):			
Joint facilities (dam, reservoirs, fishways, etc.) allocated to—			
Power.....	\$ 20,092,083.94	\$	\$20,092,083.94
Other than power.....	20,092,083.94	20,092,083.94	.....
Specific purpose facilities—			
Power (powerhouse and generating equipment).....	37,856,910.10	.....	37,856,910.10
Navigation (ship lock, etc.).....	5,814,072.05	5,814,072.05	.....
	<u>\$ 83,855,150.03</u>	<u>\$25,906,155.99</u>	<u>\$57,948,994.04</u>
Less—Reserves for depreciation (Note 3)—			
Joint facilities.....	\$ 1,065,910.57	\$ 532,955.28	\$ 532,955.29
Specific purpose facilities—			
Power.....	1,847,941.16	.....	1,847,941.16
Navigation.....	206,704.07	206,704.07	.....
	<u>\$ 3,120,555.80</u>	<u>\$ 739,659.35</u>	<u>\$ 2,380,896.45</u>
Original cost less reserves.....	\$ 80,734,594.23	\$25,166,496.64	\$55,568,097.59
DEFERRED CHARGES.....	\$ 30,321.19	\$ 13,291.83	\$ 17,029.36
	<u>\$ 80,764,915.42</u>	<u>\$25,179,788.47</u>	<u>\$55,585,126.95</u>
LIABILITIES			
INVESTMENT OF U. S. GOVERNMENT:			
Congressional appropriations, allotments and WPA expenditures.....	\$ 86,183,676.30	\$26,582,740.19	\$59,600,936.11
Less—Amounts not requisitioned.....	1,974,672.28	609,073.58	1,365,598.70
	<u>\$ 84,209,004.02</u>	<u>\$25,973,666.61</u>	<u>\$58,235,337.41</u>
Interest on Federal investment.....	17,222,459.91	6,136,391.34	11,086,068.57
	<u>\$101,431,463.93</u>	<u>\$32,110,057.95</u>	<u>\$69,321,405.98</u>
Less—			
Funds returned to U. S. Treasury under project repayment schedule.....	\$ 15,449,720.00	\$	\$15,449,720.00
Net expense of non-reimbursable portion of project.....	7,214,848.53	7,214,848.53	.....
	<u>\$ 22,664,568.53</u>	<u>\$ 7,214,848.53</u>	<u>\$15,449,720.00</u>
Net investment of U. S. Government.....	\$ 78,766,895.40	\$24,895,209.42	\$53,871,685.98
CURRENT LIABILITIES:			
Accounts payable.....	\$ 4,602.70	\$ 1,495.89	\$ 3,106.81
Due to other projects.....	68,451.15	13,083.16	55,367.99
	<u>\$ 73,053.85</u>	<u>\$ 14,579.05</u>	<u>\$ 58,474.80</u>
RESERVE FOR DEFERRED MAINTENANCE.....	\$ 540,000.00	\$ 270,000.00	\$ 270,000.00
ACCUMULATED NET REVENUES—Amount applied to repayment of power construction costs in addition to provisions for depreciation (Note 1).....	\$ 1,384,966.17	\$	\$ 1,384,966.17
	<u>\$ 80,764,915.42</u>	<u>\$25,179,788.47</u>	<u>\$55,585,126.95</u>

The accompanying notes (Schedule 11) are an integral part of this statement of assets and liabilities.

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, 1946

	Total	Deduct— Amounts Allocated to Other Than Power	Amounts Allocated to Power
OPERATING REVENUES:			
Amount of revenues from sales of electric energy by Bonneville Power Administration allocated to Bonneville Dam Project (Note 4)	\$3,200,000.00	\$	\$3,200,000.00
 OPERATING EXPENSES (Notes 1 and 2):			
Operation—			
Joint facilities	\$ 138,175.86	\$ 69,087.93	\$ 69,087.93
Specific purpose facilities—			
Power	205,366.98	.....	205,366.98
Other than power	32,436.28	32,436.28	.....
Payment for river regulation benefits	187,570.00	.....	187,570.00
Maintenance—			
Joint facilities	204,434.67	102,217.33	102,217.34
Specific purpose facilities—			
Power	257,082.74	.....	257,082.74
Other than power	28,311.89	28,311.89	.....
Depreciation (Note 3)—			
Joint facilities	185,650.67	92,825.34	92,825.33
Specific purpose facilities—			
Power	435,160.34	.....	435,160.34
Other than power	30,328.85	30,328.85	.....
Total operating expenses	\$1,704,518.28	\$ 355,207.62	\$1,349,310.66
Net operating revenues	\$1,495,481.72	\$ 355,207.62*	\$1,850,689.34
 INTEREST DEDUCTIONS:			
Interest on Federal investment in—			
Joint facilities	\$ 963,473.64	\$ 481,736.82	\$ 481,736.82
Specific purpose facilities—			
Power	895,121.81	.....	895,121.81
Other than power	169,391.18	169,391.18	.....
Total interest on Federal investment	\$2,027,986.63	\$ 651,128.00	\$1,376,858.63
Less—Interest charged to construction	1,270.06	34.04	1,236.02
Net interest deductions	\$2,026,716.57	\$ 651,093.96	\$1,375,622.61
Net revenues	\$ 531,234.85*	\$1,006,301.58*	\$ 475,066.73

* Denotes red figure.

The accompanying notes (Schedule 11) are an integral part of this statement of revenues and expenses.

BONNEVILLE DAM PROJECT**NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 9 AND 10****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 Federal 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 dam, 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. Operating and interest 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 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 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 cost of property retired, less net salvage applicable thereto, is charged to the appropriate reserve.

4. Allocation of Revenues:

The amount of revenues from sales of electric energy by Bonneville Power Administration allocated to Bonneville Dam Project has been determined in accordance with a memorandum of agreement dated November 28, 1945, between the Administration and the Corps of Engineers, U. S. Army. The amount so allocated is designed to cover (a) operation and maintenance expenses applicable to power operations; (b) interest at the rate of 2.5% per annum on the portion of the Federal investment allocated to power; and (c) scheduled repayment of the construction costs allocated to power. This allocation of revenues is independent of the amount of power generated and delivered to Bonneville Power Administration.

5. Contingent Liabilities:

The project is contingently liable under certain 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

Schedule 12

COLUMBIA BASIN PROJECT (GRAND COULEE DAM)
STATEMENT OF ASSETS AND LIABILITIES—JUNE 30, 1946

ASSETS	Total	Deduct— Amounts Allocated to Irrigation and Navigation	Amounts Allocated to Power (Including Downstream River Regulation)	LIABILITIES	Total	Deduct— Amounts Allocated to Irrigation and Navigation	Amounts Allocated to Power (Including Downstream River Regulation)
LAND AND EQUIPMENT, at original cost (including construction on facilities allocated to power)				INVESTMENT OF U. S. GOVERNMENT:			
2):				Congressional appropriations, allotments and WPA expenditures	\$203,336,652.35	\$74,489,394.80	\$128,847,257.55
es (dam, reservoir and general service facilities) to:				Less—Amounts not requisitioned	5,595,648.75	2,462,085.45	3,133,563.30
ercial power	\$ 45,037,128.89	\$	\$45,037,128.89		\$197,741,003.60	\$72,027,309.35	\$125,713,694.25
ream river regulation	34,149,031.79	34,149,031.79	34,149,031.79	Transfers from other Federal projects	1,843,630.71	811,197.51	1,032,433.20
on	57,710,318.69	57,710,318.69	57,710,318.69	Interest on portion of Federal investment allocated to power	21,746,540.18	21,746,540.18	21,746,540.18
tion	1,000,000.00	1,000,000.00	1,000,000.00		\$221,331,174.49	\$72,838,506.86	\$148,492,667.63
er facilities (powerhouses and generating)				Less Funds returned to U. S. Treasury—			
1)	49,783,703.51	49,783,703.51	49,783,703.51	Receipts from sales of electric energy	\$ 22,418,679.68	\$ 708,131.77	\$ 21,710,547.91
ization facilities (pumping plant)	9,892,306.08	9,892,306.08	9,892,306.08	Miscellaneous receipts	490,448.17	215,797.19	274,650.98
	\$197,572,488.96	\$68,602,624.77	\$128,969,864.19		\$ 22,909,127.85	\$ 923,928.96	\$ 21,985,198.89
ves for depreciation (Note 3)—				Net investment of U. S. Government	\$198,422,046.64	\$71,914,577.90	\$126,507,468.74
ities allocated to—				CURRENT LIABILITIES:			
mercial power	\$ 1,340,396.70	\$	\$ 1,340,396.70	Accounts payable	\$ 1,784,795.38	\$ 1,097,649.16	\$ 687,146.22
stream river regulation	1,016,344.74	1,016,344.74	1,016,344.74	Due to Central Valley Project (Shasta Dam) for rental of leased generating facilities	565,500.00	565,500.00	565,500.00
tion	1,057,158.97	1,057,158.97	1,492,946.39	Employees' accrued leave	642,513.41	282,705.90	359,807.51
ower facilities	1,492,946.39	1,492,946.39	1,492,946.39		\$ 2,992,808.79	\$ 1,380,355.06	\$ 1,612,453.73
	\$ 4,906,846.80	\$ 1,057,158.97	\$ 3,849,687.83	RESERVES:			
al cost less reserves	\$192,665,642.16	\$67,545,465.80	\$125,120,176.36	Removal of leased generating facilities (including provision for excess installation costs at Shasta Dam, see Note 6)	\$ 827,945.44	\$	\$ 827,945.44
				Deferred maintenance	375,000.00	165,000.00	210,000.00
					\$ 1,202,945.44	\$ 165,000.00	\$ 1,037,945.44
DEPRECIATION CHARGES ON JOINT FACILITIES				CONTRIBUTIONS IN AID OF CONSTRUCTION—by State of			
DOWNSTREAM RIVER REGULATION recoverations of future downstream hydro plants	\$ 4,478,590.89	\$	\$ 4,478,590.89	Washington	\$ 313,439.53	\$ 137,913.39	\$ 175,526.14
				ACCUMULATED NET REVENUES (Note 1):			
Treasury Department disbursing officers	\$ 7,789,590.10	\$ 4,790,597.91	\$ 2,998,992.19	Net power revenues from beginning of operations	\$ 4,762,393.62	\$	\$ 4,762,393.62
accounts receivable	55,637.89	34,217.30	21,420.59	Less—Amounts applied to repayment of irrigation operation and maintenance expenses (Note 3)	708,131.77	708,131.77	708,131.77
supplies	1,206,436.13	741,958.22	464,477.91	Remaining net revenues—representing amounts applied to repayment of construction costs in addition to provisions for depreciation (including \$1,115,679.18 excess of 3% interest on unrepaid balance of construction			
	\$ 9,051,664.12	\$ 5,566,773.43	\$ 3,484,890.69				

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
COLUMBIA BASIN PROJECT (GRAND COULEE DAM)

STATEMENT OF REVENUES AND EXPENSES
FOR THE FISCAL YEAR ENDED JUNE 30, 1946

	Total	Deduct— Amounts Allocated to Irriga- tion and Navigation	Amounts Allocated To Power
OPERATING REVENUES:			
Amount of revenues from sales of electric energy by Bonneville Power Administration allocated to Columbia Basin Project (Note 4).....	\$5,812,430.00	\$	\$5,812,430.00
Payment for river regulation benefits at Bonneville Dam Project..	187,570.00	.....	187,570.00
	\$6,000,000.00	\$	\$6,000,000.00
OPERATING EXPENSES (Notes 1 and 2):			
Operation—			
Joint facilities.....	\$ 247,756.80	\$109,012.99	\$ 138,743.81
Specific power facilities.....	371,399.70	.....	371,399.70
Provision for rental, installation and removal of generating facilities leased from Central Valley Project (Shasta Dam).....	750,000.00	.....	750,000.00
Maintenance—			
Joint facilities.....	160,703.23	70,709.42	89,993.81
Specific power facilities.....	276,013.52	.....	276,013.52
Depreciation (Note 3)—			
Joint facilities allocated to power (including downstream river regulation).....	219,208.66	.....	219,208.66
Less—Amount allocated to downstream river regulation, recoverable from operations of future downstream hydro plants.....	94,533.73*	.....	94,533.73*
Specific power facilities.....	423,166.01	.....	423,166.01
Total operating expenses.....	\$2,353,714.19	\$179,722.41	\$2,173,991.78
	\$3,646,285.81	\$179,722.41*	\$3,826,008.22
OTHER INCOME.....	7,325.32	3,223.14	4,102.18
	\$3,653,611.13	\$176,499.27*	\$3,830,110.40
INTEREST DEDUCTIONS:			
Interest on portion of Federal investment allocated to power (including downstream river regulation).....	\$3,145,242.82	\$	\$3,145,242.82
Less—			
Amount allocated to downstream river regulation, recoverable from operations of future downstream hydro plants....	904,009.20*	.....	904,009.20*
Amount charged to construction.....	70,463.10*	.....	70,463.10*
Net interest deductions.....	\$2,170,770.52	\$	\$2,170,770.52
Net revenues.....	\$1,482,840.61	\$176,499.27*	\$1,659,339.88
APPLICATION OF NET REVENUES:			
Portion of net revenues from power operations applied to repayment of irrigation operation and maintenance expenses at Columbia Basin Project (Note 5).....	\$	\$176,499.27	\$ 176,499.27*
Balance.....	\$1,482,840.61	.....	\$1,482,840.61

* Denotes red figure.

The accompanying notes (Schedule 14) are an integral part of this statement of revenues and expenses.

COLUMBIA BASIN PROJECT (GRAND COULEE DAM)

NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 12 AND 13

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 Federal 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 dam and reservoir, has been allocated 56% to power (including downstream river regulation) and 44% to non-power purposes in accordance with a determination made by the Secretary of the Interior acting under authority delegated by Congress in the Reclamation Project Act of 1939. 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 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 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 substantially 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.

No provision has been made for depreciation of nonpower facilities.

4. Allocation of Revenues:

The amount of revenues from sales of electric energy by Bonneville Power Administration allocated to Columbia Basin Project has been deter-

mined in accordance with a memorandum of agreement dated January 31, 1946, between the Administration and the Bureau of Reclamation of the Department of the Interior. The amount so allocated is designed to cover (a) operation and maintenance expenses to be returned from power revenues; (b) interest at the rate of 2.5% per annum on the portion of the Federal investment allocated to power, plus the amount by which 3% interest on the unpaid balance of construction costs allocated to power exceeds 2.5% interest on the power investment; and (c) scheduled repayment of the construction costs allocated to power. This allocation of revenues is independent of the amount of power generated and delivered to Bonneville Power Administration.

5. Application of Net Revenues to Repayment of Irrigation Expenses:

The allocation to irrigation purposes of a portion of the operating and maintenance expenses of the joint facilities during the period prior to the commencement of irrigation operations is consistent with the allocations of costs of such facilities although the amount of such allocated expenses could properly be capitalized as part of the construction period costs of the irrigation works. The repayment of these expenses currently from power revenues has been reflected in these financial statements.

6. Contingent Liabilities:

Columbia Basin Project and Bonneville Power Administration have agreed to reimburse Central Valley Project (Shasta Dam) for certain excess costs of installing at that project two of its generating units which were leased to Columbia Basin Project during the war period. Columbia Basin Project has provided a reserve of \$300,000 for such costs whereas Central Valley Project has submitted estimates of \$418,744 excess costs on the generating units and \$490,741 excess costs on certain appurtenant equipment. The final amount of this liability will be determined by the Secretary of the Interior.

The project is also contingently liable under certain pending litigation which, in some instances, involve 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.

BONNEVILLE POWER ADMINISTRATION

PAUL J. RAVER, *Administrator*

D. L. MARLETT, *Assistant Administrator*

S. E. SCHULTZ
Chief Engineer

ROBERT R. WILLARD
General Counsel

W. A. DITTMER
Power Manager

EARL D. OSTRANDER
Controller

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Federal Power Commission

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Corps of Engineers, U. S. Army

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BONNEVILLE POWER ADMINISTRATION

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Portland, Oregon

SOUTHWESTERN DISTRICT
Eugene, Oregon

PUGET SOUND DISTRICT
Seattle, Washington

UPPER COLUMBIA DISTRICT
Spokane, Washington

MID-COLUMBIA DISTRICT
Walla Walla, Washington

NORTH CENTRAL WASHINGTON
DISTRICT
Wenatchee, Washington