

**Report
on the
Columbia
River
Power
System**

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U. S. DEPARTMENT OF THE INTERIOR
BONNEVILLE POWER ADMINISTRATION

1941

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
(U. S. Army Engineers)
AND
THE COLUMBIA BASIN PROJECT (GRAND COULEE DAM)
(U. S. Bureau of Reclamation)

1947
Tenth Anniversary

PREPARED BY
THE BONNEVILLE POWER ADMINISTRATION
PORTLAND, OREGON

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BONNEVILLE POWER ADMINISTRATION
PORTLAND, OREGON

OFFICE OF THE ADMINISTRATOR

December 1, 1947

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

My dear Mr. Secretary:

Transmitted herewith is the tenth Annual Report of the Bonneville Power Administration. The report, to which is attached the third independent annual Auditors' Report by Arthur Andersen & Co., covers the operations of the federal government's Columbia River power system from July 1, 1946, through June 30, 1947, and summarizes the decade of progress since passage of the Bonneville Project Act in August of 1937.

The report conforms with requirements of Section 9 (c) of the Bonneville Project Act and relates to the management and repayment of the federal investment in the transmission facilities of the Bonneville Power Administration and the power components of the Bonneville Dam Project of the United States Engineers, War Department, and the Columbia Basin Project (Grand Coulee Dam) of the Bureau of Reclamation, Department of the Interior.

Recovery from the postwar decline in revenues continued during the year. Revenue from power sales and from miscellaneous operations totalled \$21,890,929. This was \$2,006,644 more than fiscal 1946 revenues and \$1,099,089 below the peak revenue year of 1945 at the height of war production when the Power Administration had an additional power supply from two Shasta Dam generating units temporarily installed at Grand Coulee Dam.

Revenues were ample during the year to cover all costs of operation, maintenance, depreciation and interest and left a surplus of \$6,606,197 for the period. Operations for the year brought total revenues since first power sales in 1939, after completion of Bonneville Dam and installation of first generation, to \$105,352,456, and surplus to \$22,933,144. On the basis of current power demands, generator installation schedules at Grand Coulee Dam where eleven additional generators remain to be installed, and future power load growth in the region, it is presently estimated that the next ten years will

2 - Letter of Transmittal (Continued)

bring additional revenues of \$270,000,000 to the federal government from the sales of the Grand Coulee and Bonneville power, not to mention revenues resulting from the installation of other federal generation on the Columbia River and its tributaries at plants such as McNary, Foster Creek, Hungry Horse, and other new dams now under construction or authorized.

Repayment of the federal investment continued on schedule for the Bonneville Dam Project and was ahead of schedule for the Bonneville Power Administration's transmission system and the Columbia Basin Project. All receipts were returned to the Treasury of the United States and have been applied on the books of the Treasury toward the repayment of the projects. With respect to this latter procedure, it has been found that the public generally is unaware that the Administration is not permitted to use its revenues for operations, maintenance and construction but must go to the Congress for annual appropriations for these purposes. The erroneous impression that requests for annual allotments from the Congress are for use in addition to revenues should be corrected whenever and wherever encountered. Furthermore, it should be re-emphasized that the federal government is receiving interest on its investment in the Columbia River projects which to June 30, 1947, totalled \$33,411,848, consisting of \$31,859,154 computed at 2 $\frac{1}{2}$ % per annum in the cost accounts plus \$1,552,694 representing an additional 1/2 of 1% paid on the power portion of the Grand Coulee Dam by agreement with the Bureau of Reclamation. It should also be pointed out that at the same time power revenues are repaying the power costs of the projects. In addition these revenues are providing for the repayment of the irrigation phases of the Columbia Basin development not provided for by payments from the farmers who will benefit from the reclamation of one million acres of land.

The continuing annual surpluses in the Bonneville Power Administration's fiscal operations substantiate the soundness of the Administration's basic wholesale power rate of \$17.50 per kilowatt year. However, the Administration recognizes that some adjustment may become necessary in the future if high construction costs continue to prevail during new phases of the Columbia River development.

With respect to the present \$17.50 rate it might be well again to point out that while its structure does not include taxes, it does include costs which are not included in an ordinary private utility operation. These costs include the repayment of approximately \$324,000,000, based on current cost estimates, of irrigation construction costs that cannot be repaid by the farmers and the repayment of several millions of dollars of operating expenses allocable to irrigation but to be returned from power revenues. These costs, averaging more than \$3,000,000 per year

are in fact a contribution from power revenues in lieu of taxes to pay for irrigation works that would otherwise either be paid for by the general taxpayer or would not be built. Furthermore, the \$17.50 rate is a wholesale rate whereas taxes paid by utility companies are collected by them through resale rates. The Administration's retail distributors, both public and privately owned, pay large amounts of taxes collected by them in resale rates. If, in addition to the subsidy to irrigation development, the \$17.50 rate had to bear a tax charge, the private and public power distributors of Bonneville-Grand Coulee power would simply have to pass this tax on to consumers in the form of higher resale rates. Similarly, new industrial customers purchasing power directly from Bonneville Power Administration at the \$17.50 per kilowatt-year rate pay taxes on the new industrial plants created in the area and on the new output of products manufactured in the region.

The year's operations were accompanied by a growing concern over the power supply situation in the region--a far cry from the situation that confronted the Administration at the time of its inception in 1937 when Bonneville and Grand Coulee Dams were generally regarded as "white elephants" by those who ridiculed the opinion of the Congress that markets existed or could be developed quickly in the Pacific Northwest for the power being developed at the two dams. Even the doubts of those skeptics who felt the end of the war would leave a large unneeded surplus of power in the region have been dissipated by events of the past year. Phenomenal recovery of industrial loads temporarily lost at the close of the war while plants converted to a peace-time basis, plus demands of new industrial operations, increased commercial and domestic as well as rural requirements combined to absorb excess power in the region. Removal of the Shasta generators from Grand Coulee dam was keenly felt. First major new generation to become available was provided by Grand Coulee generator No. 7 which began operation late in October, 1947--nearly four months after the close of the fiscal year. With this additional 108,000 kilowatts of capacity to supplement the other available power resources of the region, it is expected that the area will be able to ride through the peak periods of the winter of 1947-48 if nothing unforeseen occurs in the meantime. However, the rapid growth of loads in the area leaves little doubt that the Pacific Northwest will continue to experience an acute power supply problem for years to come and that only the continued speedy installation of new generation in existing federal, municipal and privately-owned plants and the construction of new projects along the Columbia River system and elsewhere with the necessary high capacity transmission will provide an adequate and final solution. While the federal government, through Congress, has recognized its responsibility to the region to provide a continuing expansion of the area's

energy base by construction of self-liquidating multiple-purpose projects not feasible of private-capital development, the utilities of the region also have a similar responsibility to expand their facilities up to the limit of their resources.

Several matters of significance have occurred since the close of the fiscal year which should be mentioned. On August 1 the Administration and the British Columbia Electric Company completed construction of a 230,000-volt line linking the two power systems at Blaine, Washington. Originally undertaken as a war-time project to assist Canadian production, the line is now utilized under a joint agreement permitting the flow of excess power, when available, to and from Canada. The presidential permit under which the project was undertaken specifically prohibits the use of the line "so as to impair the sufficiency of electric supply within the United States." In conformity with the requirement, only that amount of power has thus far been moved into Canada, which was available chiefly during off-peak hours and on weekends when it otherwise would have been wasted because there was no use for it in the Pacific Northwest states.

Another development since the close of fiscal year 1947 was the execution of one-year contracts with five major private utility companies of the region providing for delivery of 335,000 kilowatts of Bonneville-Grand Coulee power. The companies included the Pacific Power and Light Co., the Washington Water Power Co., the Portland General Electric Co., The Puget Sound Power & Light Co., and the Mountain States Power Co. Although the companies desired long-term agreements, the acute power supply situation precluded such a course since such contracts would have committed for a considerable period a large block of power to which public agencies, already hard pressed for supplies, have preference under provisions of the Bonneville Project Act. In this connection it should be pointed out that until January 1942 the Administration was under Congressional mandate to reserve 50 percent of its power for public agencies and after that date still was required to give preference and priority to public agencies at all times. However, the private utilities of the region have always received a large share of the power from the Columbia River plants. In fact, during the 10-year period they received more than twice the amount of power taken by the publicly owned groups. The preference and priority rights of the public agencies were fully protected during this period, however, since the Administration only provided power to the private utilities on a short-term basis. At no time were the needs of either public or private agencies not satisfied.

Despite short term contracts all of the major private utility companies of the region have been able to reorganize their financial structures and refinance at substantial reductions in interest

5 - Letter of Transmittal (Continued)

charges. The benefits of the government development to the people of the region have been reflected also in substantial reductions in rates of distributors of Bonneville power, both publicly and privately owned; in the broadening of the use of power in industrial, commercial and agricultural pursuit; and in the increased taxable wealth and new job opportunities created by the electrical energy base installed and marketed by the federal agencies.

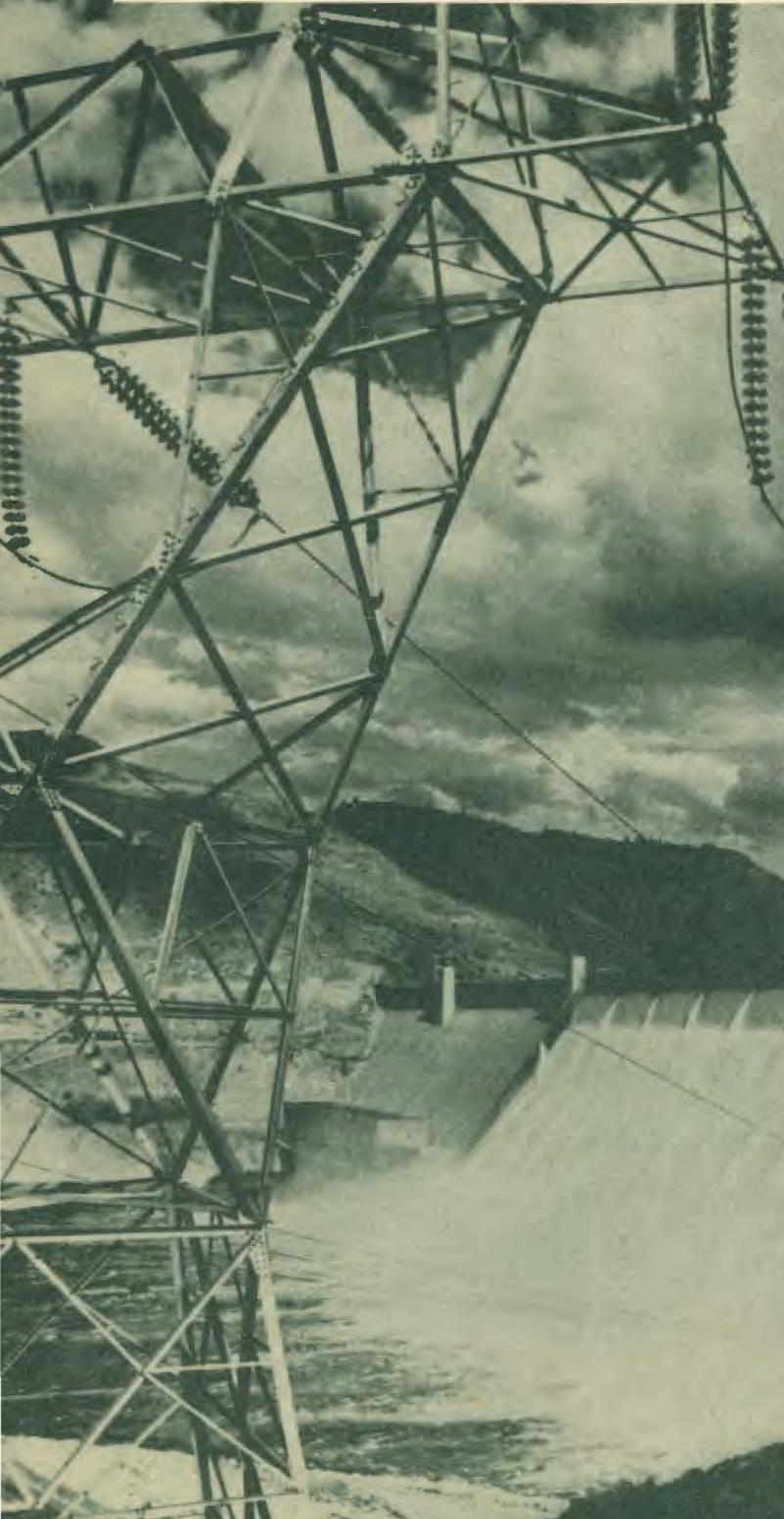
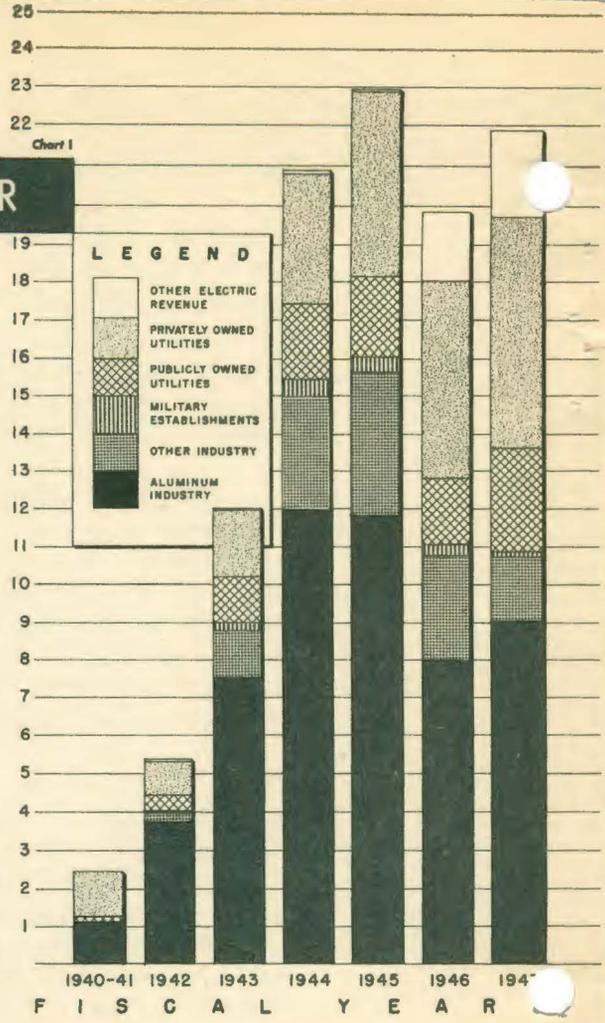
Other developments included execution of a contract in September providing for the delivery of 10,000 kilowatts to the Carborundum Company for a new \$3 million operation at Vancouver, Washington, and the resumption of operations of the former Defense Plant Corporation aluminum ingot plant at Tacoma, Washington, by the Permanente Metals Corporation. Arrangements have been completed for taking care of an expansion of the power requirements of the Atomic Energy Commission at Hanford, Washington.

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. I believe that the power operations are being carried out in accordance with the requirements of existing law.

Sincerely yours,


PAUL J. RAVER,
Administrator.

REVENUES BY CLASS OF CUSTOMER



Grand Coulee Dam, mighty source of Pacific Northwest power.

Revenues

OPERATING revenues from the Columbia River Power system, consisting of the Bonneville Power Administration and the power components of the Bonneville Dam project and the Columbia Basin project (Grand Coulee Dam), during fiscal 1947 totalled \$21,890,929. This was \$2,006,644 more than fiscal 1946 revenues and \$1,099,089 below the peak revenue year of 1945 at the height of war production when the Power Administration had more power for sale because of the production by two temporary generating units at Grand Coulee dam, since removed to their permanent locations at Shasta dam in California. Chart I and Table I show revenues from the beginning of operations to June 30, 1947.

Total revenues since the beginning of power sales in 1939 reached \$105,352,456 by the end of fiscal 1947. The surplus, after deduction of all charges for operation, maintenance, depreciation, and interest amounted to \$22,933,144 of which

\$6,606,197 accrued during fiscal 1947. Except for a \$500,000 continuing fund which the Administrator may use to defray emergency expenses and to insure continuous operation, all receipts from operating revenues were returned to the Treasury of the United States. With the exception of this fund, the Administration is not permitted to use its revenues for operations, maintenance or construction and must depend upon annual appropriations from Congress for money for these purposes.

Fiscal 1947 revenues were somewhat higher than had been anticipated a year ago. The higher return was accounted for by increases in power use by the aluminum industry and by sales to publicly and privately owned utilities, which more than offset reductions in revenue from shipyard and military establishments. The latter had been operating on a curtailed basis during the previous year, but were, by the end of fiscal 1947, for the most part, closed down.

TABLE I
REVENUES BY CLASS OF CUSTOMERS
Through Fiscal Year 1947

Class of Customer	1942 and prior	1943	1944	1945	1946	1947	Total to June 30, 1947	1947 percentage (dollar revenue)
Industry:								
Aluminum.....	\$4,846,576	\$7,514,122	\$11,989,735	\$11,838,156	\$7,987,226	\$9,045,540	\$53,221,355	41.32
Other industry.....	256,900	1,284,588	2,976,947	3,780,727	2,810,662	1,663,122	12,772,946	7.60
Military establishments...	12,114	182,156	472,789	390,742	298,087	173,227	1,529,115	.79
Publicly owned utilities..	543,152	1,230,740	1,994,750	2,141,635	1,711,822	2,778,765	10,400,864	12.69
Privately owned utilities..	1,983,624	1,767,866	3,401,042	4,752,021	5,209,344	6,127,669	23,241,566	27.99
Other electric revenue..	27,812	41,646	60,665	86,737	1,867,144	2,102,606	4,186,610	9.61
Total operating revenue.	\$7,670,178	\$12,021,118	\$20,895,928	\$22,990,018	\$19,884,285	\$21,890,929	\$105,352,456¹	100.00

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

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

³As of June 30, 1947, the Administration had collected and deposited in the United States Treasury power revenue receipts totaling \$95,392,107, and general fund receipts of \$4,602,791. 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 by the Administration with the United States Treasury.

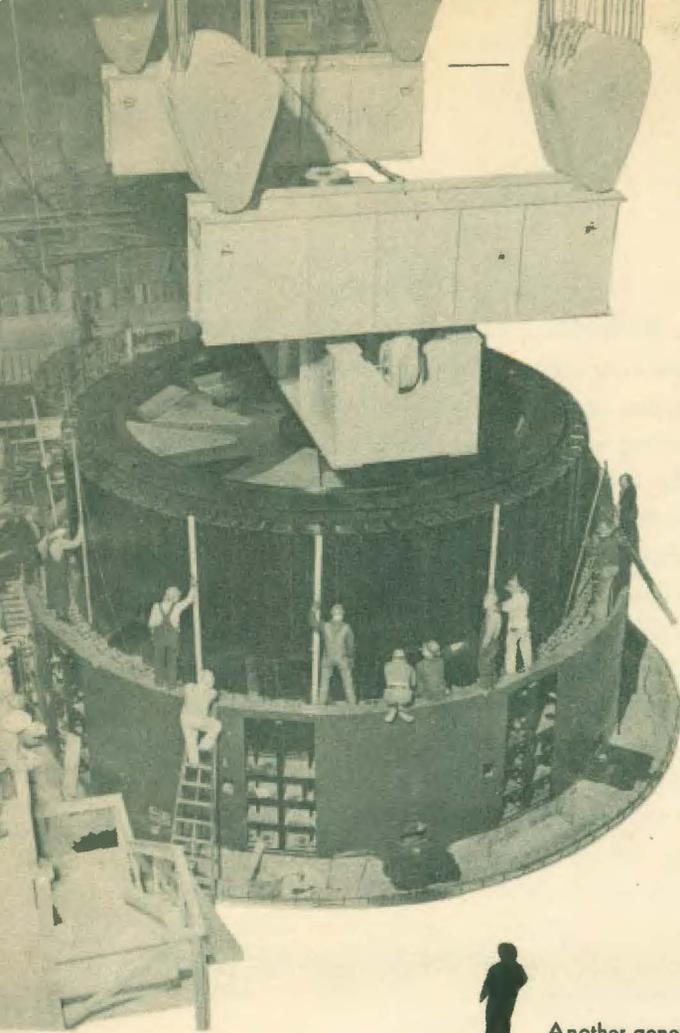


TABLE II
**BONNEVILLE POWER ADMINISTRATION
 GENERATION AT BONNEVILLE AND
 GRAND COULEE PLANTS, 1938-47**

Fiscal years ending June 30	Bonneville Dam generation	Grand Coulee Dam generation	Total generation for BPA
	Kilowatt-hours	Kilowatt-hours	Kilowatt-hours
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
1947.....	3,695,255,000	5,058,482,320	8,753,737,320
Total ...	18,996,357,007	23,597,461,998	42,593,819,005



Another generator moves into place in Coulee power house.

Energy Production

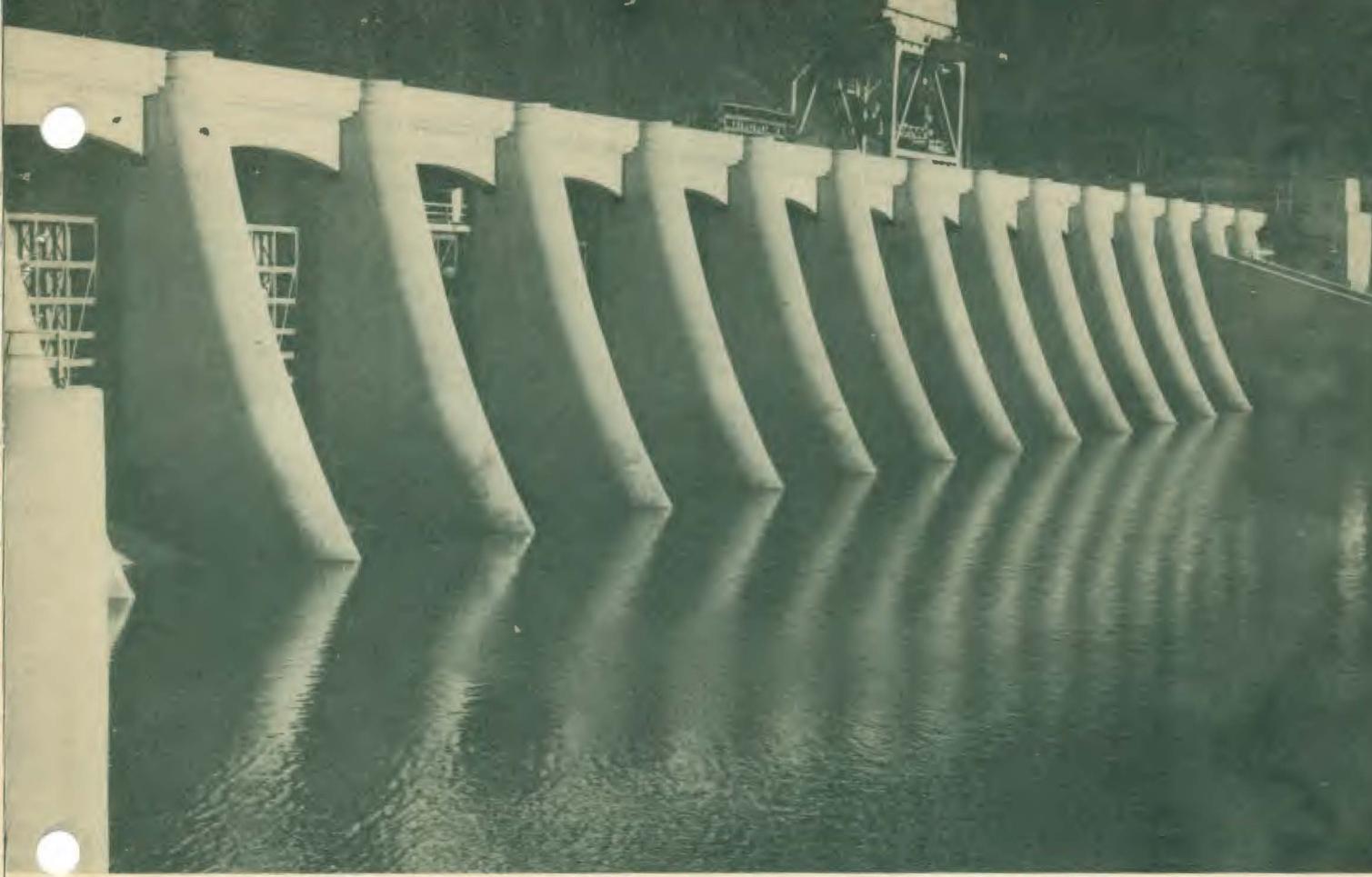
THE BONNEVILLE and Grand Coulee power plants produced a total of 8,753,737,320 kilowatt hours of energy during the year. This was slightly below the peak year of 1944, when, with the assistance of the two temporary Shasta units, energy production reached 9,239,823,452 kilowatt hours.

The year's production brought total output by the two plants, since beginning of operations in 1939 to a combined total of 42,593,819,005 kilowatt hours. Table II and Chart II show generation at the Bonneville and Grand Coulee plants through fiscal 1947.

No additional generation was added during fiscal 1947, and the loss of the Shasta generators

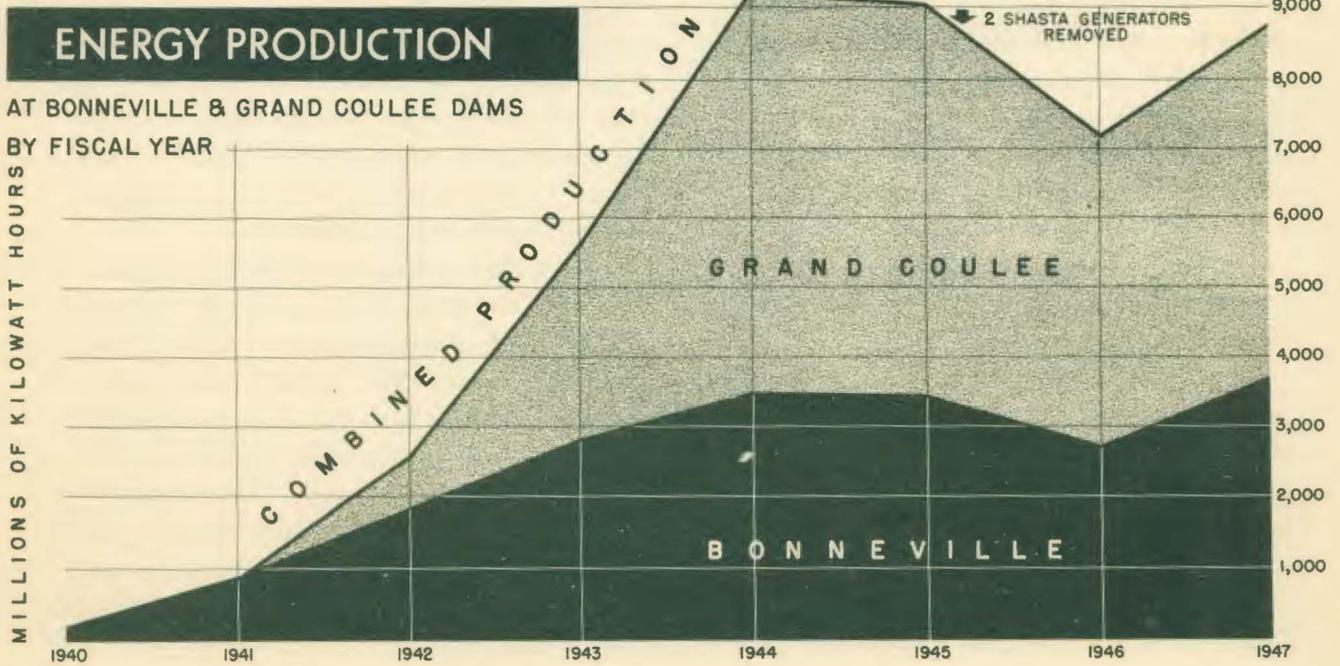
showed an adverse effect in the region as power loads continued phenomenal growth because of industrial, commercial, residential and rural expansion. Installed capacity at the two plants was 1,176,400 kilowatts at the end of the fiscal year, but demands for power necessitated operations at overload conditions most of the time. The plants produced up to 1,335,000 kilowatts during peak periods.

Additional generation was scheduled to become available at Grand Coulee dam in October 1947 when the seventh of the ultimate eighteen 108,000-kilowatt generators was to begin operation. Installed generator capacity is shown graphically in Chart III.



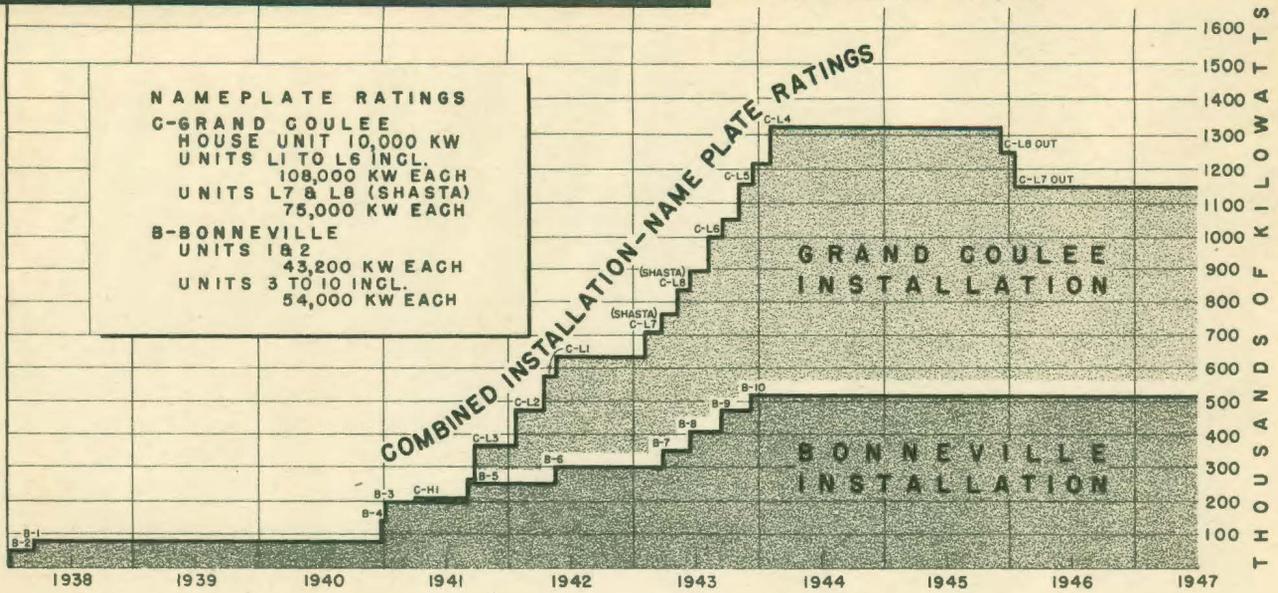
Stilled spillway of Bonneville dam testifies to region's need for power as entire flow of Columbia is diverted through power house.

Chart II



INSTALLED GENERATOR CAPACITY

GRAND COULEE & BONNEVILLE
HYDROELECTRIC PLANTS



Energy Deliveries

OF THE 8,753,737,320 kilowatt hours of energy produced by the two Columbia river plants during fiscal 1947, plus interchange received and power purchased under interchange and transfer agreements of 281,206,225 kilowatt hours, a total of 8,457,971,299 kilowatt hours were delivered for consumption in the Pacific Northwest. The remainder was lost in transmission, these losses amounting to 6.4 per cent of the production compared with 6.7 per cent for fiscal 1946. Table III shows the amount of energy production and deliveries during fiscal 1947.

A shift in loads was noticeable during the year, with the aluminum industry again nearing full production after a temporary slow-down following the war, and public and private utilities picking up in consumption of power as the shipbuilding and military loads eased off.

The Power Administration's 89 wholesale customers—54 public agencies, 18 industries, six pri-

rate utilities, and 11 military establishments—received 8,235,679,000 kilowatts hours of the energy delivered during the year. Of the remainder, 209,099,540 kilowatt hours were interchanged out of the system, and 13,192,816 kilowatt hours were utilized by the Administration in the operation of system facilities. Table IV and Chart IV show energy sales by class of customer from the beginning of operations.

Indicative of the acute power supply situation in the region during the year was the annual peak on the Federal system reached February 24, 1947, during the hour just before noon, when demand reached 1,335,000 kilowatts. This exceeded the rated generating capacity of Bonneville and Grand Coulee dams by 13.5 per cent. Maximum demand in all months from October 1946 through June 1947 exceeded rated generating capacity, with demand in seven of the months exceeding 1,300,000 kilowatts.

ENERGY DELIVERIES

BY CLASS OF CUSTOMER

TABLE III
BONNEVILLE POWER ADMINISTRATION
ELECTRIC ENERGY ACCOUNT
Fiscal Year ending June 30, 1947

Energy received—(kilowatt-hour):	
Energy generated for Bonneville Power Administration:	
Bonneville.....	3,695,255,000
Grand Coulee.....	5,058,482,320
Total.....	8,753,737,320
Power purchased and interchanged in..	281,206,225
Total received.....	9,034,943,545
Energy delivered—(kilowatt-hour):	
Sales.....	8,235,678,873
Power interchanged out.....	209,099,540
Used by administration.....	13,192,816
Total delivered.....	8,457,971,229
Energy losses.....	576,972,316
Percent of total energy received....	6.4
Maximum demand on Bonneville and Grand Coulee plants (kilowatt), Feb. 24, 1947, 11-12 a.m.....	1,335,000
Load factor—total generated for Bonneville Power Administration.....	74.9

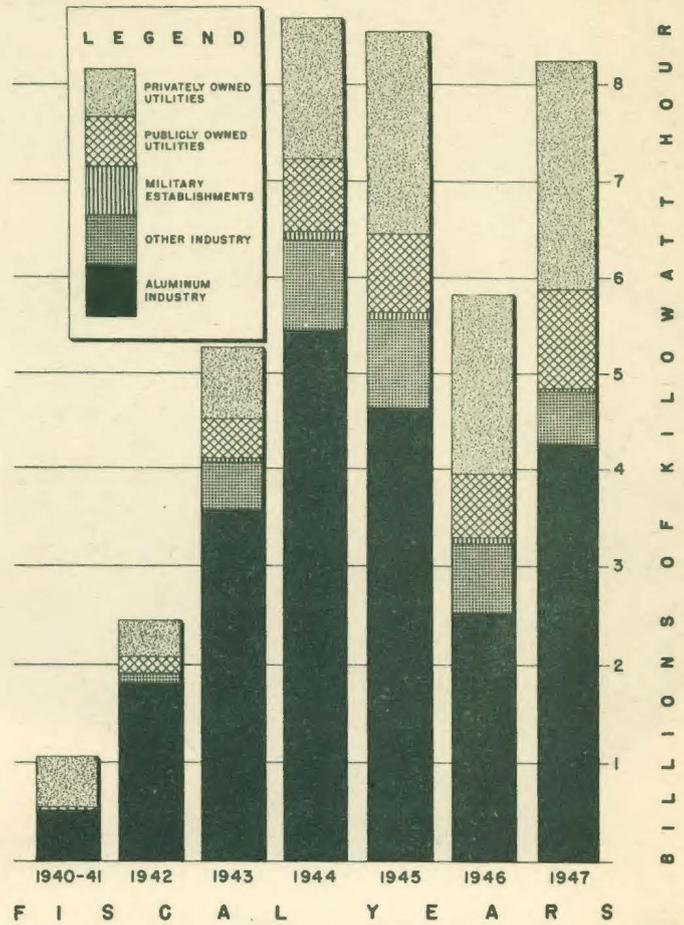
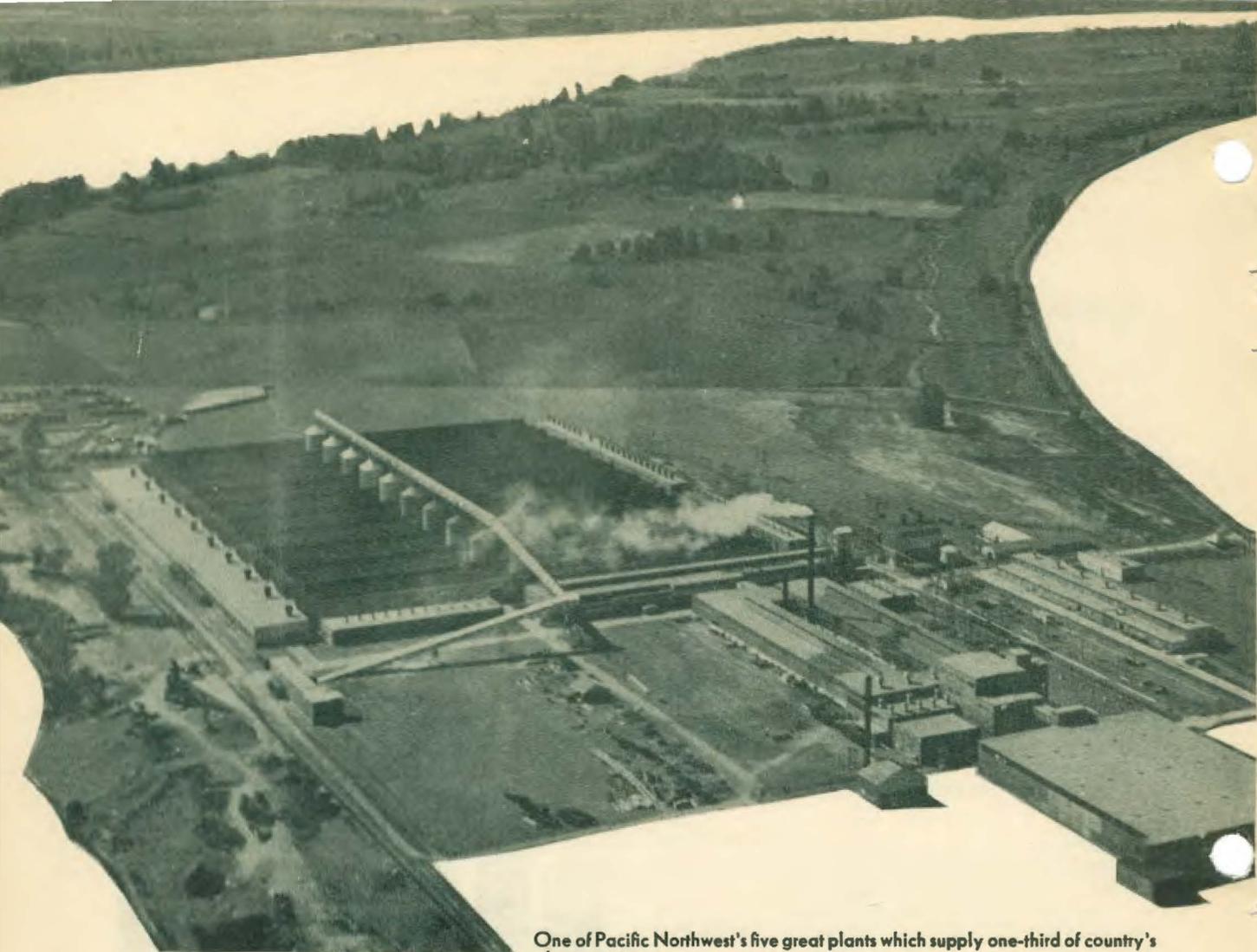


TABLE IV
ELECTRIC ENERGY SALES BY CLASS OF CUSTOMER¹
Fiscal Years 1939-47

Class of Customer	1940 and prior	1941	1942	1943	1944	1945	1946	1947	Total to June 30, 1947
	MWH	MWH	MWH	MWH	MWH	MWH	MWH	MWH	MWH
Industry:									
Aluminum.....		522,982	1,845,249	3,588,848	5,453,893	4,667,381	2,538,590	4,253,316	22,870,259
Other Industry.....	21	4,790	76,580	464,309	934,588	878,896	693,795	551,311	3,604,290
Military Establishments...		18	2,575	42,887	87,889	85,828	59,970	26,557	305,724
Publicly owned Utilities..	3,108	32,134	142,491	435,289	727,642	823,817	635,284	1,026,188	3,825,953
Privately Owned Utilities.	218,842	317,713	357,704	739,076	1,467,304	2,057,203	1,903,508	2,378,307	9,439,657
Total.....	221,971	877,637	2,424,599	5,270,409	8,671,316	8,513,125	5,831,147	8,235,679	40,045,883

¹ Includes sales under exchange agreements.



One of Pacific Northwest's five great plants which supply one-third of country's aluminum ingot.

Transmission System

THE BONNEVILLE Power Administration's transmission system included 3,021 circuit miles of high-voltage lines and 72 substations and switching stations at the end of fiscal 1947. Of this, 202.3 circuit miles of transmission lines of all types were placed in service during the year.

At the end of the year the transmission network, spreading over the states of Oregon and Washington and northern Idaho, included 1,318 miles of 230,000-volt line, 1,310 miles of 115,000-volt line, and 393 circuit miles of lower voltage line. Additions during the year included 30.5 miles of 230,000-volt line, 167.7 miles of 115,000-volt line and 4.1 miles of lower voltage line.

Major construction work during the year included completion in January 1947 of 30.5 miles of 230,000-volt line between Grand Coulee and Foster Creek. This is a portion of the 230,000-volt circuit now under construction between Grand Coulee dam in central Washington and Snohomish, Washington, north of Seattle. Supplementing this project was completion of a 115,000-volt line between Foster Creek and Brewster, Washington, a 13.9-mile project, and the purchase of 21.4 miles of line of similar voltage between Brewster and Okanogan to complete direct service to distributors in north central Washington.

Other important additions to the 115,000-volt

TABLE V

**B P A
SYSTEM
ADDITIONS**

	CIRCUIT MILES			
	230 Kv	115 Kv	Under 115 Kv	Total
Transmission lines:				
Placed in operation 1947 fiscal year.....	30.5	167.7	4.1	202.3
Removed from operation 1947 fiscal year.....	.....	.....	31.1	31.1
In operation June 30, 1946.....	1287.2	1142.3	409.9	2839.4
Total operated June 30, 1947.....	1317.7	1310.0	382.9	3010.6
Leased to others.....	.....	.....	10.3	10.3
Grand total June 30, 1947.....	1317.7	1310.0	393.2	3020.9
	Installed at end of 1946 fiscal year	Fiscal Year 1947 Added Removed		Installed at end of 1947 fiscal year
Substation facilities operated:				
Transformation.....kva..	*2,330,633	125,300	96,050	*2,359,883
Static Condensers.....kva..	59,110	.....	.....	59,110
Synchronous Condensers.....kva..	287,500	.....	.....	287,500
Substations.....Number..	†50	15	6	†59
Switching Stations.....Number..	12	2	1	13

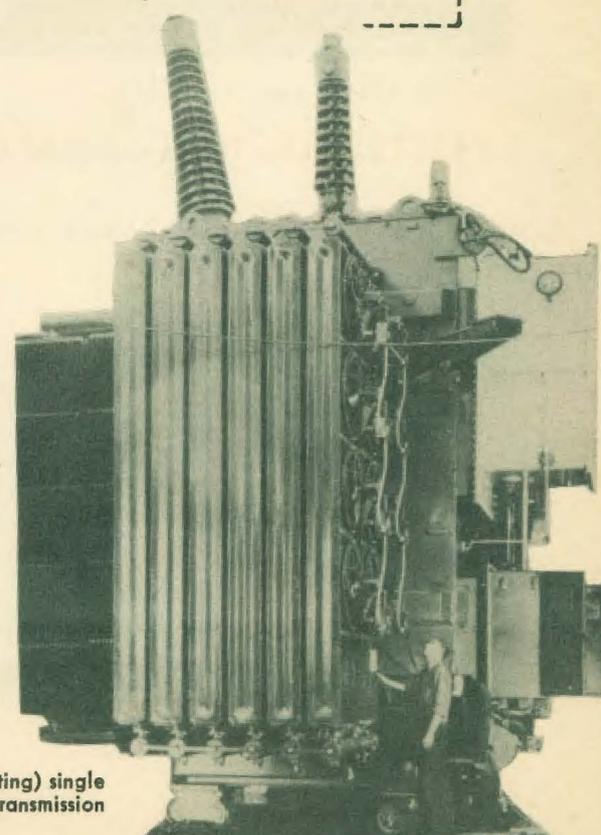
* All transformers in service. No allowance for temporary added capacity with portable fans. Includes 600 kva owned, but operated by others.

† Includes one 600 kva substation owned, but operated by others.

system included completion in October 1946 of 41.9 miles of line between Albany and Toledo, Oregon, the first step in meeting the critical power shortage in the southern coastal area; completion in March 1947 of 19.5 miles of line between Ephrata and Moses Lake, Washington, and in May 1947 completion of 25.1 miles of line between Midway and Grandview, Washington, to serve power shortage areas of central Washington.

An increase of 29,000 kilovolt-amperes in substation transformer capacity during the year brought the total installation on the Bonneville Power Administration's system to 2,360,000 kilovolt-amperes on June 30, 1947. Table V summarizes system additions during fiscal 1947.

Continuing difficulty was encountered during the year in the construction program through material shortages, uncertainty of material deliveries and the consequent necessity of changing plans and designs to meet conditions. In the majority of cases, however, the Administration was able to meet requirements of customers.



The world's largest. One of ten 83,333 kva (F. C. rating) single phase transformers being installed on Bonneville transmission system.

Chart V

TRANSMISSION LINES

IN CIRCUIT MILES

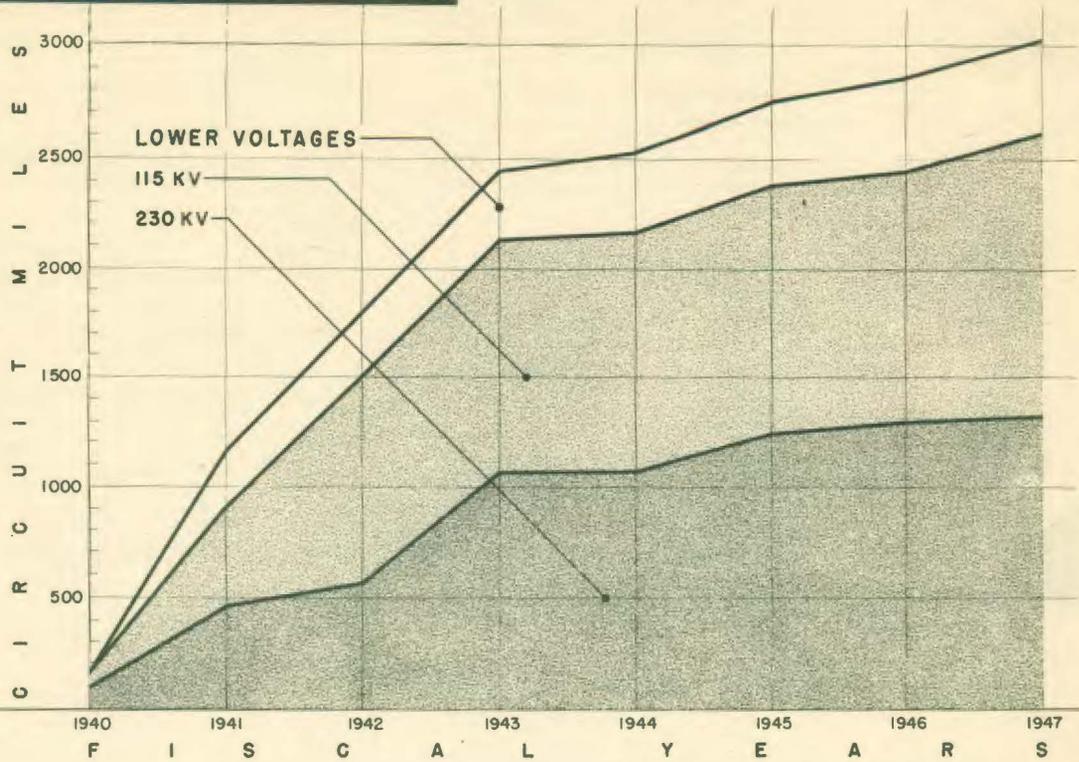
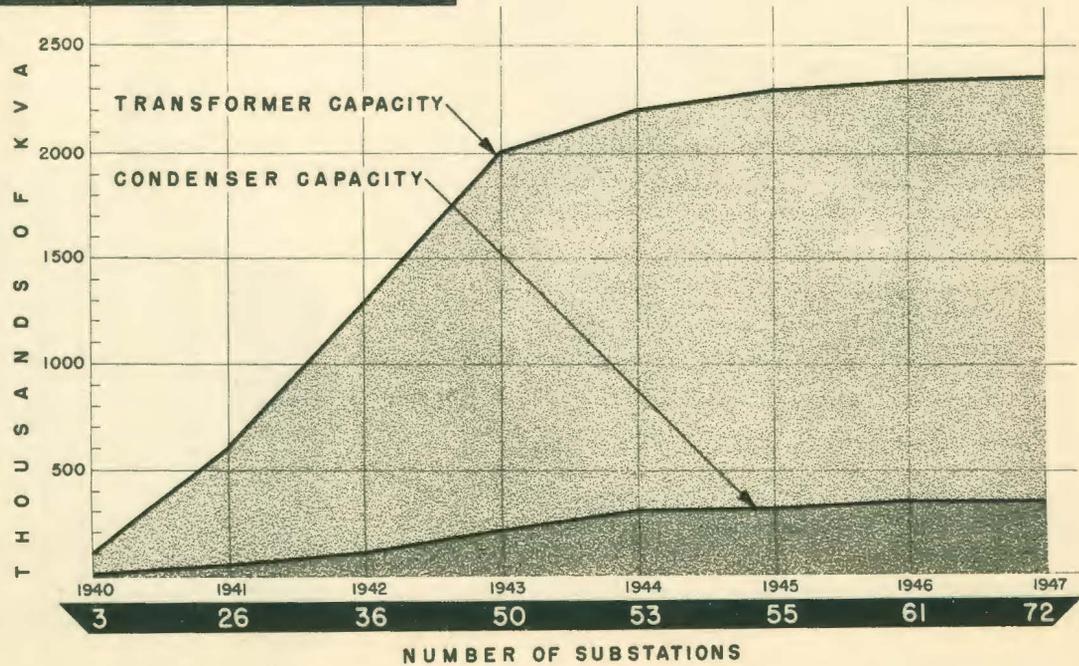


Chart VI

SUBSTATION CAPACITY

IN KVA



PACIFIC COAST

WASHINGTON

MONTANA

OREGON

IDAHO

CALIFORNIA

NEVADA

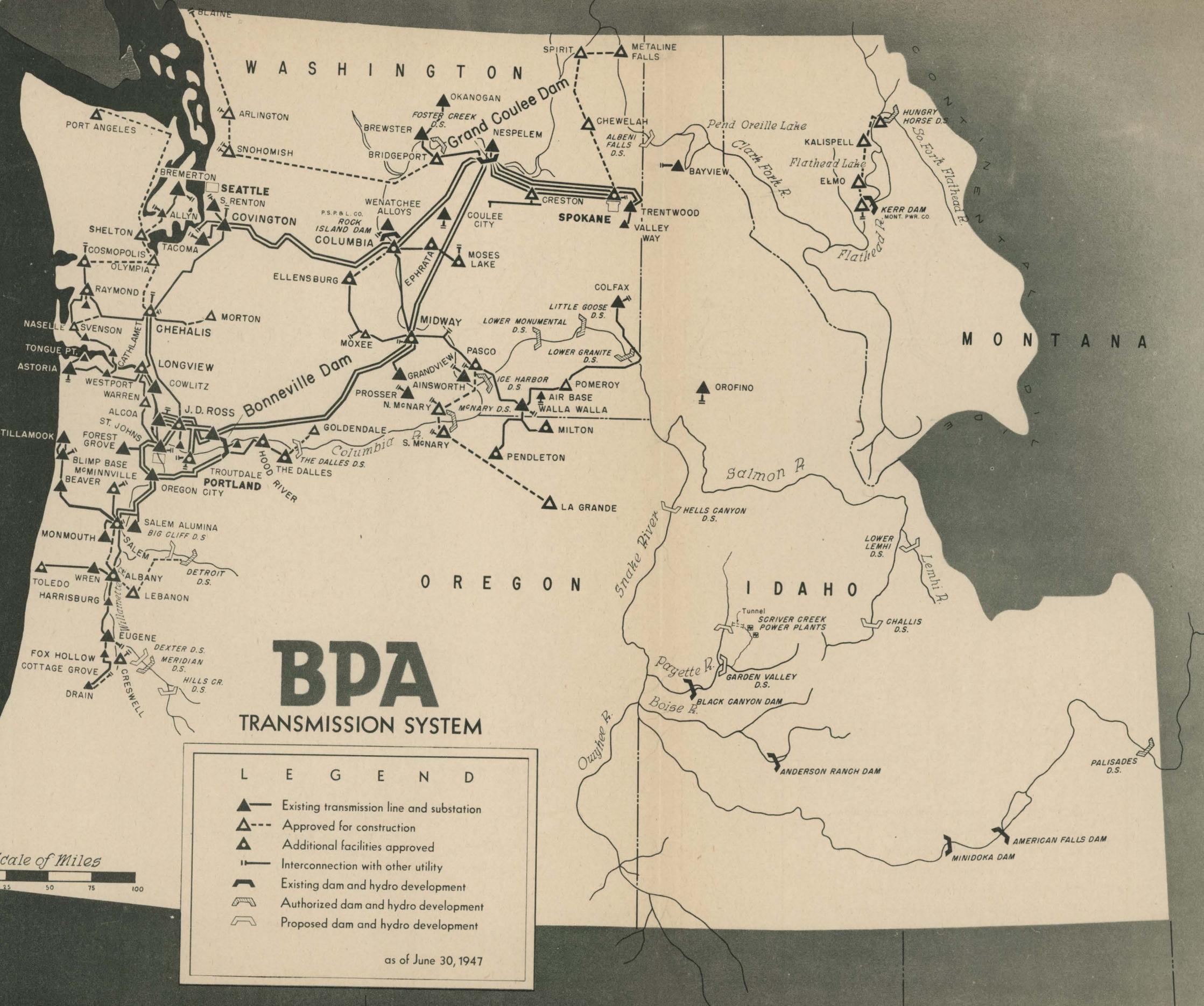
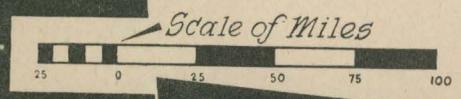
UTAH

BPA TRANSMISSION SYSTEM

LEGEND

- Existing transmission line and substation
- Approved for construction
- Additional facilities approved
- Interconnection with other utility
- Existing dam and hydro development
- Authorized dam and hydro development
- Proposed dam and hydro development

as of June 30, 1947



Operating Results

OPERATING revenues increased in excess of two million dollars over the previous year, thereby recovering the greater part of the drop experienced during the fiscal year 1946. Revenues were only slightly more than one million dollars below the all-time high in the fiscal year 1945. All costs of operation, including depreciation and interest, were covered by a comfortable margin and net revenues for the year were \$6,606,196.70 thereby increasing the accumulated net revenues as of June 30, 1947, to \$22,933,144.04. Chart No. VII indicates the source and disposition of the revenue dollar for the fiscal year 1947. A condensed summary of revenues and expenses is contained in Table VI.

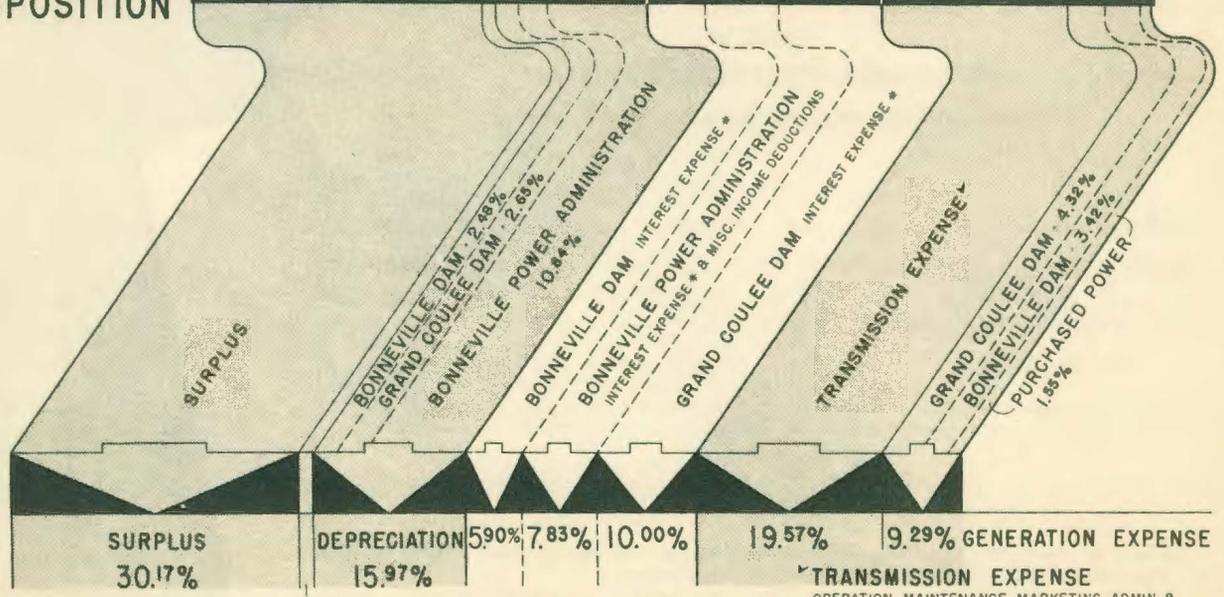
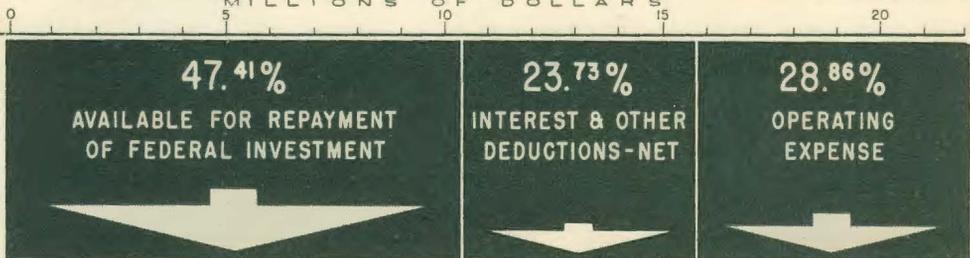
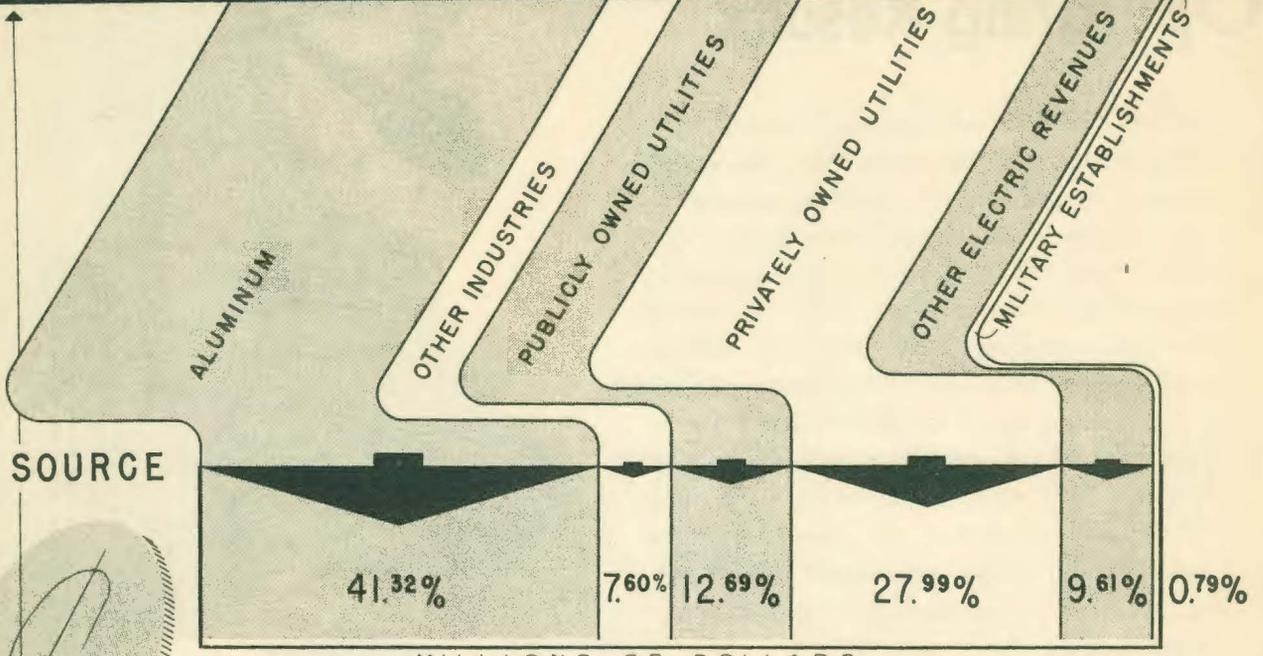
All indications point to the fact that the region has made substantial recovery from post-war uncertainties and has entered a period of industrial expansion and population growth.

TABLE VI
COLUMBIA RIVER POWER SYSTEM
Condensed Summary of Revenues and Expenses

	Fiscal Year 1946	Fiscal Year 1947	Total to June 30, 1947
Operating Revenues.....	\$19,884,285	\$21,890,929	\$105,352,456
Expenses of Operation, Maintenance, etc....	6,585,286	6,594,981	32,729,470
Provision for Depreciation.....	3,210,256	3,495,944	17,067,356
Interest and Other Deductions, Net.....	5,333,848	5,193,807	32,622,486
Total Deductions.....	\$15,129,390	\$15,284,732	\$ 82,419,312
Surplus Net Revenues from Power Operations.	\$ 4,754,895	\$ 6,606,197	\$ 22,933,144

Experimental use of helicopter in patrolling transmission system demonstrated value of this type of operation in quick repair of line trouble in isolated areas.

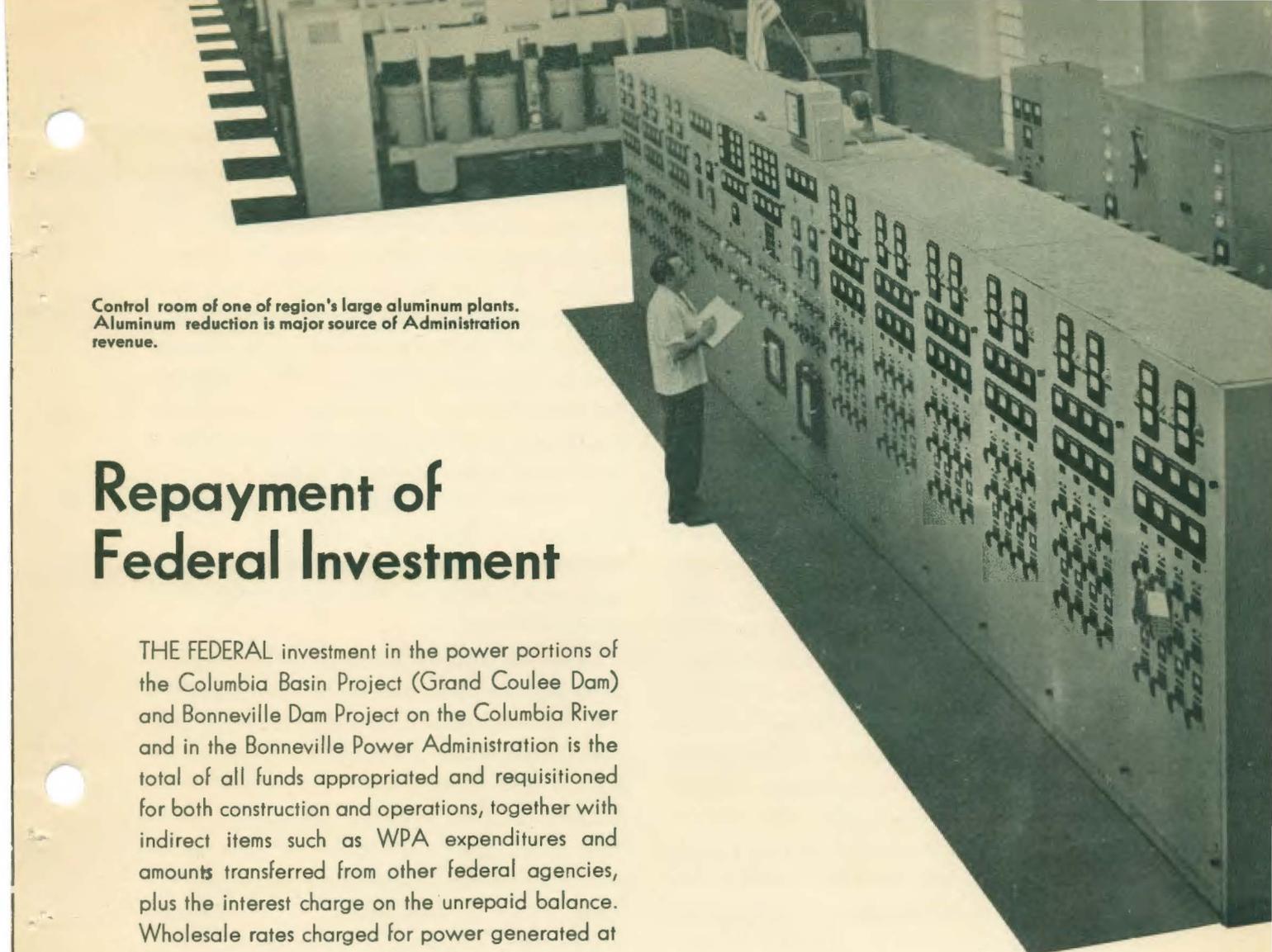
SOURCE AND DISPOSITION OF THE REVENUE DOLLAR F.Y. 1947



* COMPUTED AT 2 1/2% PER ANNUM

AMORTIZATION OF ABANDONED PROPERTY 1.27%

TRANSMISSION EXPENSE
OPERATION, MAINTENANCE, MARKETING, ADMIN. & GENERAL EXPENSE OF B.P.A.



Control room of one of region's large aluminum plants. Aluminum reduction is major source of Administration revenue.

Repayment of Federal Investment

THE FEDERAL investment in the power portions of the Columbia Basin Project (Grand Coulee Dam) and Bonneville Dam Project on the Columbia River and in the Bonneville Power Administration is the total of all funds appropriated and requisitioned for both construction and operations, together with indirect items such as WPA expenditures and amounts transferred from other federal agencies, plus the interest charge on the unrepaid balance. Wholesale rates charged for power generated at the projects are so calculated that the revenues derived will be sufficient to repay, with interest, all of such power investment, as well as make a sizeable contribution to the irrigation works of the Columbia Basin Project. The financial program of the Bonneville Power Administration is geared to this situation. Thus far the basic \$17.50 per kilowatt-year rate has proved to be more than ample, although it is recognized that future adjustments may be necessary to cover costs of future dams if current high construction cost trends prevail.

As of June 30, 1947, the gross federal investment amounted to \$360,129,676. This gross federal investment has been periodically reduced by repayments out of the receipts from power operations and the remaining unpaid balance on June

30, 1947, is \$260,300,458. In addition to the appropriations for construction of the projects, the gross total includes (1) the money appropriated annually for operation and maintenance expenses and (2) an accumulated interest charge of \$48,149,250. Included in the latter is \$11,327,630 which is interest during construction and added to the cost of the electric utility plant; \$4,962,466 of deferred interest on the investment in the Columbia Basin Project (Grand Coulee dam) allocated to down-stream river regulations; and \$31,859,154 which is interest expense charged currently to operations. Table VIII is a summary of interest on the federal investment by projects. Interest items have been computed at 2½ per cent. Total interest

expenses repaid to the Treasury to June 30, 1947 was the 2½ per cent total of \$31,859,154 shown in Table VIII plus \$1,552,694 representing an additional ½ of 1% on the power portion of the Grand Coulee Dam, making total interest repayments of \$33,411,848. A rate of 3% rather than the cost rate of 2½% is paid in the case of the Grand Coulee dam by agreement with the Bureau of Reclamation.

All receipts from power sales and miscellaneous sources allocable to power, except for the \$500,000 continuing fund, are deposited in the Treasury in repayment of the Federal investment. These funds cannot be used to finance either operating or construction costs of the projects; monies necessary for these purposes are subject to Congressional appropriations. As of June 30, 1947, receipts from sales of electric energy amounted to \$95,392,107, miscellaneous receipts by the Bonneville Power Administration amounted to \$4,602,791 and miscellaneous receipts by the Columbia Basin Project allocated to power and deposited to the credit of the Reclamation Fund amounted to \$334,320, a total of \$100,329,218. After deducting the \$500,000 transferred to the continuing fund, the remainder, \$99,829,218, was applied to the reduction of the gross Federal investment leaving an unpaid balance at the end of fiscal year

1947 of \$260,300,458.

With the exception of the \$500,000, deposited in the continuing 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 Project and the transmission system. These transfers are determined in accordance with formal agreements, made by the Bonneville Power Administration with the Corps of Engineers, U. S. Army, 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.

Receipts arising out of miscellaneous activities, as distinguished from power sales, are deposited with the Treasury to the credit of the General Fund (Miscellaneous Receipts) in the case of the Bonneville Power Administration, and to the credit of the Reclamation Fund in the case of the Columbia Basin Project. (Bonneville Dam Project has had no miscellaneous receipts applicable to that project.) These receipts are also applied to the repayment of the Federal investment in the projects.

TABLE VII

Summary of Plant Accounts as of June 30, 1947
COLUMBIA RIVER POWER SYSTEM

	Total	Allocation	
		Non-Power	Power
Bonneville Power Administration.....	\$ 97,323,574		\$ 97,323,574
Bonneville Dam.....	84,185,338	\$ 26,047,405	58,137,933
Columbia Basin Project.....	220,815,649	83,920,110	136,895,539
Total.....	\$402,324,561	\$109,967,515	\$292,357,046 ¹
Less Combined Reserve for Depreciation.....			18,719,810
Total, less reserve.....			\$273,637,236

¹ This total of plant investment represents the major component of the gross Federal Investment of \$360,129,676 which includes in addition amounts appropriated for cash working capital, materials and supplies, operating expenses and other similar items, and non-appropriated items such as interest on the Federal Investment.

TABLE VIII
COLUMBIA RIVER POWER SYSTEM
Summary of Interest* on Federal Investment

As of
 June 30, 1947

Interest during Construction—to be returned during repayment period as part of the Federal investment:	
Transmission System.....	\$ 1,017,559.78
Bonneville Dam.....	2,315,065.74
Columbia Basin Project.....	7,995,004.29
Sub-total.....	\$11,327,629.81
Interest on costs of Columbia Basin Project allocated to future river regulation—to be returned as part of repayment of future downstream projects.....	
	4,962,466.08
Interest charged to operations—repaid currently:	
Transmission System.....	\$ 9,769,317.04
Bonneville Dam.....	10,062,911.51
Columbia Basin Project.....	12,026,925.45
Sub-total.....	31,859,154.00
Total Interest accrued, per Schedule 1 of Auditor's Report.....	\$48,149,249.89

* Computed at the rate of 2½% per year.



Administration-sponsored research is developing improved electric-powered sprinkler irrigation methods.

Policy Review and Coordination

THE ACTIVITIES of the Bonneville Power Administration are closely related to the activities of a number of other Federal agencies in the area. In order to provide for maximum coordination of effort and greatest possible contribution to the development of the region, the Agency participates with other governmental groups in the area, with particular regard to consideration of the planning and developmental stages of various programs. The fact that the Bonneville Power Administration markets power produced at the Grand Coulee Dam, which is a Bureau of Reclamation project, and

at the Bonneville Dam, which is a Corps of Engineers project, makes immediately apparent the need for coordinated planning and operations with these agencies. In addition, the use of water for the development of hydro-electric power cannot be considered without recognizing the relationship of that use to other demands and requirements for water.

During recent years, a number of governmental coordinating organizations have been established. The Bonneville Power Administration has become a member of these committees and supported their

activities recognizing the importance to the best development of the region through utilization of its resources. The major coordinating groups which are in existence are briefly outlined below.

**Pacific Northwest Coordination Committee
(Department of the Interior)**

This Committee was organized in the fall of 1946 by departmental order and has been meeting monthly. It is made up of the heads of each of the Department of the Interior bureaus and offices located in the Pacific Northwest. It has reviewed the programs of the various bureaus and offices in the Department for this area, and has made recommendations to the Secretary's Office regarding a coordinated Northwest Interior Department program.

Columbia Basin Inter-Agency Committee

This Committee, established early in 1946 by resolution of the Federal Inter-Agency Basin Committee meets each month and is composed of area representatives of the War Department (Corps of Engineers); the Department of the Interior; the Bonneville Power Administration; the Department of Agriculture; the Department of Commerce; and the Federal Power Commission. In addition, the governors of Montana, Wyoming, Idaho, Washington, Oregon, Nevada, and Utah have been invited to participate and in most cases have been represented at the meetings. This group devotes its attention to consideration of various coordination phases of the water programs in the area.

Bonneville Advisory Board

This Board was established by the Bonneville Project Act and is composed of a representative designated by the Secretary of the Interior, a representative designated by the Federal Power Commission, a representative designated the Secretary of War, and a representative designated by the Secretary of Agriculture. This group meets periodically to advise with the Administrator on policy and program matters.

Pacific Coast Board of Intergovernmental Relations

Created in 1945 by mutual agreement among federal, state and local governmental groups, this board has been meeting quarterly. Its membership includes top Federal officials in the states of Washington, Oregon and California; the governors of the three states; and county and municipal organizational representatives in the area. Principal attention of the board is being given to the conditions, needs and programs of the West Coast states.

Bonneville Regional Advisory Council

Organized in 1944, the Council is composed of a representative group of professional, industrial, business, and farm leaders in the area who meet at the call of the Administrator to advise and consult with him on various programs and policies of the Bonneville Power Administration. The Council serves without remuneration or expenses and selects its own membership from the leaders of the region.

In addition to the Administration's participation

Harmonious labor-management relations are maintained by frequent conferences with employee representatives.



in various regional organizations, special cooperative research programs have been undertaken with universities and colleges throughout the region. Six institutions of higher learning in the region have been working on some 25 projects. Under the program, research is undertaken by the institutions on subjects related to power utilization; and although most of the projects were still in progress at the close of fiscal 1947, many worthwhile results had already been attained. Studies under way can be divided into four categories, which include electric space heating with its related phases, such as radiant panel heating, reverse cycle heating, and electric heat storage; harvesting, drying, processing, and storage of foods by means of electricity, involving studies relating to dairy water heating, home-built refrigerators, farm family refrigeration, biochemical studies of hay, livestock feeding, high frequency blanching and defrosting of foods, and high frequency food sterilization; irrigation by means of electrical equipment, in small projects not feasible of development by the Bureau of Reclamation, covering such subjects as sprinkler irrigation, corrosion of sprinkler pipe, and pumping irrigation in Western Montana; and new uses for electricity in manufacturing and processing, including studies of the electrical production of fertilizer from olivine and phosphate and the beneficiation of Oregon coal.

The projects undertaken by the research program have benefited the Administration by helping provide answers to important problems in connection with electric utilization and further increasing the existing information on present uses of power in the home, field, and factory.



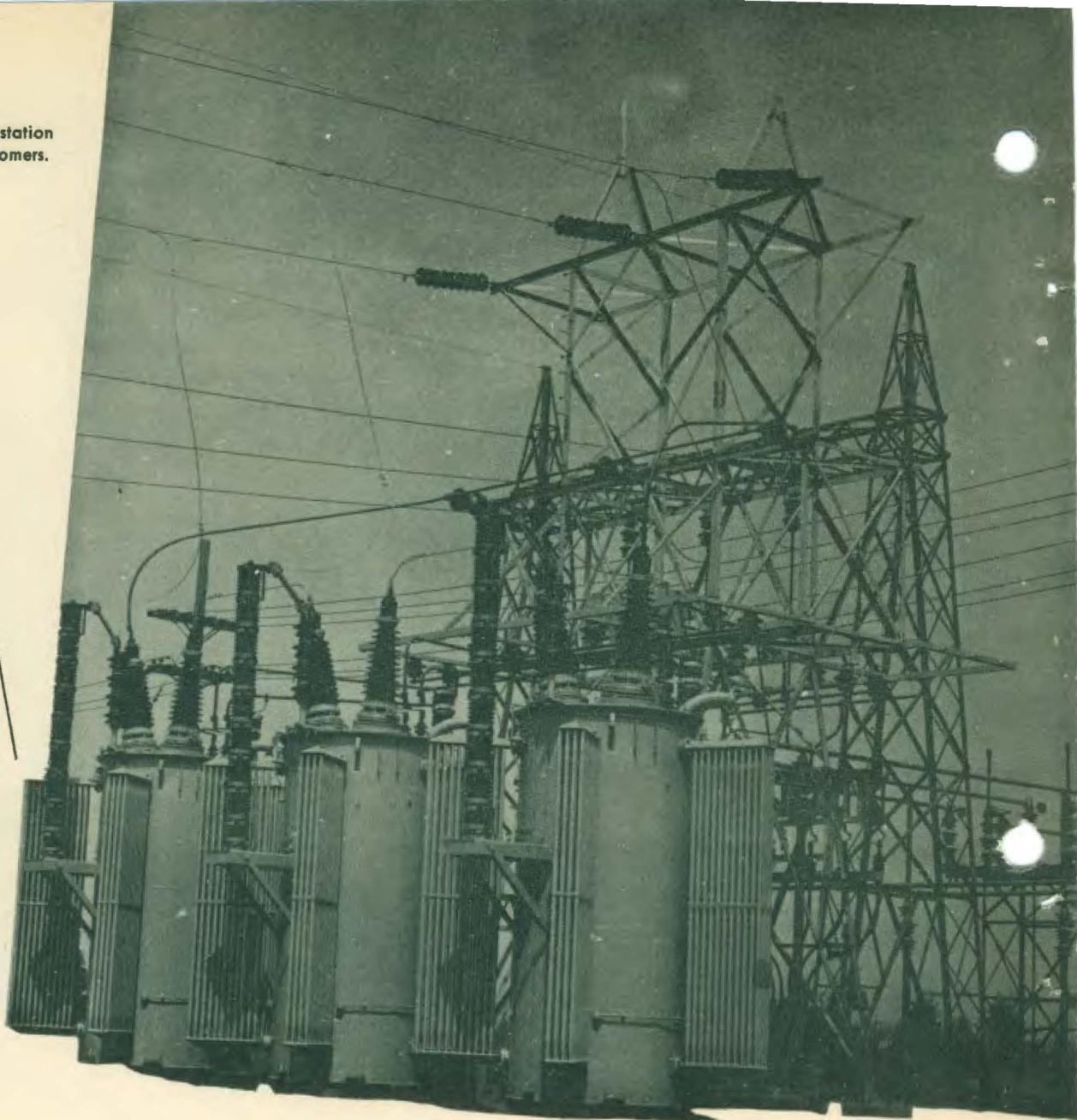
Personnel

ADMINISTRATION personnel, including those on leave without pay, totalled 2,076 on June 30, 1947. At year's end arrangements had been completed to reduce this force by approximately 600 to bring it into line with new appropriation limitations which cut the Administration's operation and maintenance fund from \$4,300,000 in 1947 to \$2,500,000 for fiscal 1948.

Improvement of employee-supervisory relations was continued through 1947 by the cooperative

development of a new efficiency rating system for the hourly employees. Also employee-supervisor committees developed rules governing working conditions for the electrical workers, which were incorporated within the existing Collective Agreement by joint action of the Columbia Power Trades Council and the Bonneville Power Administration. Similar rules were initiated for the machinists. Collective bargaining of wage rates and working conditions continued on a cooperative basis.

Typical small substation
serving BPA customers.



Regional Power Supply

TOTAL POWER production and purchases during fiscal year 1947 of the Northwest Interconnected Power Pool systems, including Montana Power Company, Idaho Power Company and Utah Power Company, as well as the major Oregon and Washington utilities, was 18,822,000 kilowatt hours, of which 8,753,737,320 kilowatt hours or 46.5 per cent was contributed by generating from Bonneville and Grand Coulee. The Bonneville-Grand

Coulee contribution to generation in Oregon and Washington alone was 59.6 per cent of the total in the two states.

The maximum weekly generation and load for the interconnected systems occurred during the week ending January 16, 1947. During that week total generation and purchases were 410,000,000 kilowatt hours, of which Bonneville and Grand Coulee contributed 189,900,000 kilowatt hours or

46.3 per cent. The non-coincidental peak load for the combined systems was 3,214,500 kilowatts, of which Bonneville and Grand Coulee carried 1,303,000 kilowatts or 40.5 per cent.

The year served to emphasize further the seriousness of the power supply situation in the region. The rapid return to operation of aluminum plants, the growing demand of new and expanded industries, and the rising requirements for commercial and domestic power on the systems of the region's distributors, together with the fact that for the most part generating capacity in the area has remained static since the war, combined to present a problem of considerable magnitude. The situation was somewhat relieved by the temporary shutdowns in the spring of 1947 of the Reynolds Metals Company aluminum pig plant at Longview, Washington, releasing some 66,000 kilowatts. It was expected,

however, that the plant would resume operations early in 1948.

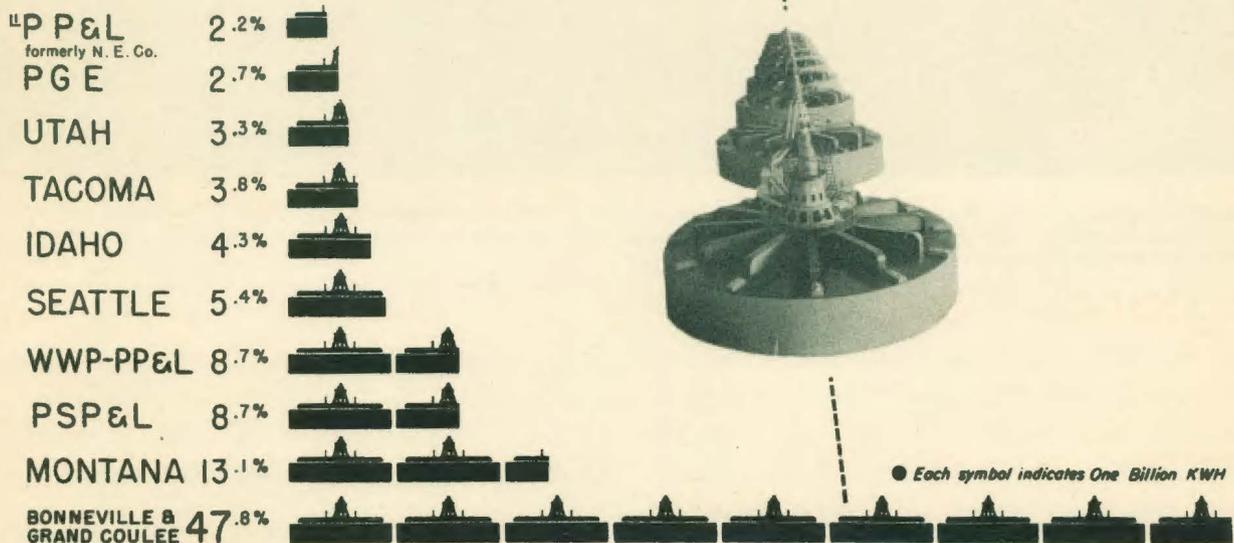
Including the Bonneville Power Administration, the Pacific Northwest Power Pool has some 3,561,000 kilowatts of available capacity, exclusive of a few smaller plants which would bring the total for the area to approximately 3,800,000 kilowatts. Of Pool capacity, 2,853,000 kilowatts is represented in the western division—the Bonneville Power Administration, Washington Water Power Company, Portland General Electric Company, Pacific Power & Light Company, Puget Sound Power and Light Company, and the Seattle and Tacoma, Washington, City Light plants. The remainder in the eastern division represents the generating capability of the Montana Power Company, Idaho Power Company, and Utah Power Company. Chart VIII represents actual generation

Chart VIII

GENERATION BY THE ELECTRIC UTILITY SYSTEMS OF THE NORTHWEST POWER POOL

GENERATED BY

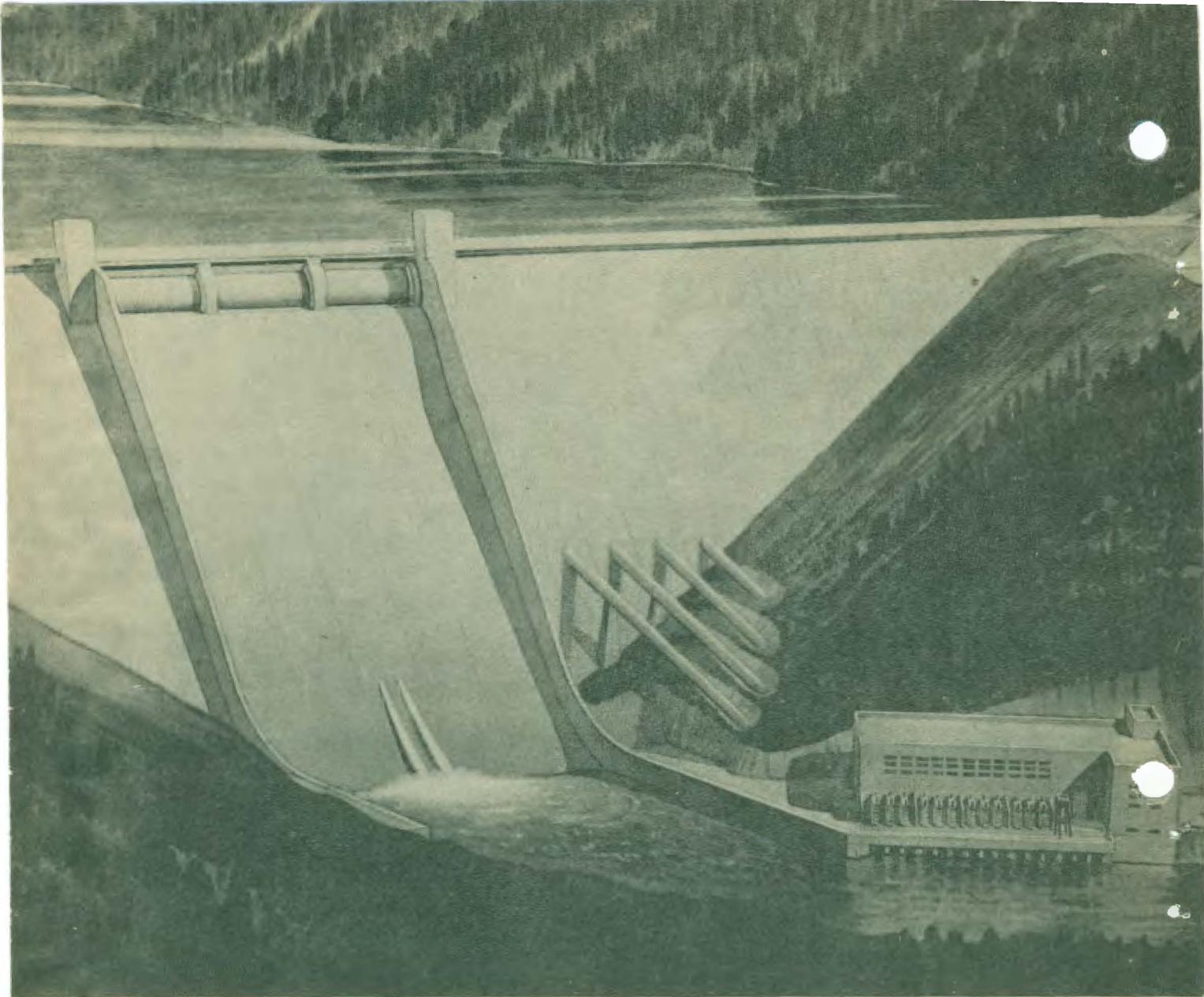
YEAR ENDING JUNE 30, 1947



UTILITIES OF THE NORTHWEST POWER POOL

Pacific Power and Light Co., Portland General Electric Co., Utah Power & Light Co., City of Tacoma, Idaho Power Co., City of Seattle, Washington Water Power - Pacific Power & Light Co., Montana Power Co. and the Bonneville Power Administration.

↳Northwestern Electric Co. system merged with Pacific Power & Light Co. July 1, 1947



Sketch of Hungry Horse Dam, U. S. Bureau of Reclamation project under construction on south fork of Flathead River in northwest Montana. The structure will provide much needed water storage for downstream generation as well as add kilowatts directly to region's power supply.

of the Pacific Northwest inter-connected systems.

With the Pacific Northwest Power Pool western division peak reaching a then new high of 2,467,000 kilowatts last December, and with an anticipated peak of 2,825,000 kilowatts expected in December of 1947, western division members met at Tacoma, Washington, in January to draft a schedule of power requirements for the period running through 1953.

This schedule showed that new federal gener-

ating capacity in the amount of 318,000 kilowatts, over and above the 720,000 kilowatts of generating units being installed or on order for Grand Coulee dam, would be required before November 1949 to meet the critical power supply problem, and that a total of 1,565,000 kilowatts would be required by November 1953 in the western division above the amount already being installed or on order.

Pointing out that provision for future supplies of

TABLE IX
GENERAL SPECIFICATIONS—AUTHORIZED AND UNAUTHORIZED PROJECTS

Location	Proposed	Nominal	Pool	Usable	Average	Proposed	
	Installation	Prime					Elevation	Storage	Head
	Kilowatts ⁶	Kilowatts ⁷	Feet	Acre-Feet	Feet		
Authorized Projects							
Hungry Horse.....	Montana...	286,000 ⁴	200,000	3,559.0	2,860,000 ⁴	396	Storage, irrigation, flood control and power
Grand Coulee ¹	Washington.	1,944,000	1,339,000 ²	1,288.0	5,212,000	324	Irrigation, power, and navigation
Foster Creek.....	Washington.	1,024,000	683,000 ²	937.5	.....	171	Power and irrigation
Ice Harbor.....	Washington.	300,000	185,000 ³	440.0	.....	93	Navigation and power
Lower Monumental....	Washington.	290,000	177,000 ³	533.0	.....	89	do
Little Goose.....	Washington.	290,000	190,000 ³	633.0	.....	96	do
Lower Granite.....	Washington.	284,000	154,000 ³	715.0	.....	77	do
McNary.....	Oregon....	966,000	562,000 ^{2,3}	340.0	.....	87	do
Detroit ⁵	Oregon....	100,000	31,000	1,569.0	340,000	299	Flood control, navigation and power
Meridian ⁵	Oregon....	115,000	33,000	929.0	368,000	228	do
Palisades.....	Idaho.....	30,000	15,000	.....	1,276,000	144	Irrigation and power
Anderson Ranch.....	Idaho.....	40,500	3,000	4,196.0	440,000	260	do
Unauthorized Projects							
Hells Canyon.....	Idaho.....	1,235,000	744,000	2,075.0	3,500,000	512	Navigation, flood control and power
Albeni Falls.....	Idaho.....	42,000	32,000	2,062.5	1,140,000	24	Storage and power
Garden Valley.....	Idaho.....	45,000	30,000	3,240.0	1,250,000	280	Irrigation and power
Upper Scriver.....	Idaho.....	30,000	24,000	4,505.0	.....	390	do
Lower Scriver.....	Idaho.....	90,000	47,000	4,060.0	.....	770	do
Lower Lemhi.....	Idaho.....	5,000	2,000	.....	.....	.....	do
Challis.....	Idaho.....	5,000	2,000	.....	.....	.....	do
Hills Creek.....	Oregon....	20,000	12,000	1,510.0	221,000	204	Flood control, navigation and power
Dexter.....	Oregon....	15,000	10,000	695.0	.....	53	do
Big Cliff.....	Oregon....	16,000	10,000	1,197.0	.....	81	do
The Dalles ⁸	Oregon....	904,800	596,000 ³	160.0	.....	88	Navigation and power

¹ Six of ultimate 18 units are now in operation and 6 units are being manufactured.

² Generation includes benefits from 2.86 million acre-feet of usable storage at Hungry Horse and 1.14 million acre-feet of usable storage at Albeni Falls.

³ Generation includes benefits from 3.5 million acre-feet of usable storage at Hells Canyon.

⁴ Final project designs are expected to provide for 3.0 million acre-feet of usable storage and a plant installation of 300,000 kw.

⁵ Power facilities are not authorized.

⁶ Name plate ratings.

⁷ Average capability during the system storage control season.

⁸ Possible alternate to Hells Canyon. The Dalles project is not included in the present program of development.

electric power adequate to maintain continued industrial, agricultural and utility development in the Pacific Northwest depends upon the construction of multiple-purpose projects on the Columbia River and its tributaries, and that "the federal government, by numerous acts of Congress had assumed the responsibility for the construction of the projects," the Pool members urged that "the necessary appropriations be made available as rapidly as possible" to keep the program moving

forward. They further urged that "inasmuch as these federal generating plants are located a considerable distance from the region's load centers," and "inasmuch as present transmission facilities of the Bonneville Power Administration are already approaching conditions of full load, essential appropriations for backbone transmission facilities be made available to the Administration on an annual and continuing basis to provide means for the delivery of power to load centers."

The Northwest Public Power Association, representing operating publicly owned utilities in the region, at a meeting shortly after the Tacoma conference, endorsed the Pool agreement, but supplemented it with a statement that the Pool agreement failed "to give full consideration to the problems and rights of the 34 municipal power systems, 19 public utility districts, and 40 electric cooperative associations presently operating in the area, which, by Congressional enactment, are given a preferred status in the purchase of Columbia River power."

The Northwest Public Power Association further stated that "these cooperative and non-profit systems serving a large number of the people of Idaho, Montana, Oregon and Washington, have undertaken to distribute hydroelectric energy from the federal projects under a specific Congressional policy, making the benefits of these developments available to all consumers within economic transmission distance. To avoid the monopolization of power from Grand Coulee and Bonneville dams, Congress has enacted legislation and appropriated funds for the construction of transmission lines to serve not only 'major' load centers, but smaller municipalities and rural areas as well.

"As a matter of justice, the fulfillment of this Congressional policy, and the recognition of the equal rights of smaller business enterprises and farm groups to share in the benefits of the federal development, require the correlated construction of such transmission lines other than 'backbone' lines, as are economic units of the federal transmission system, for which the government will be fully reimbursed under existing wholesale rates."

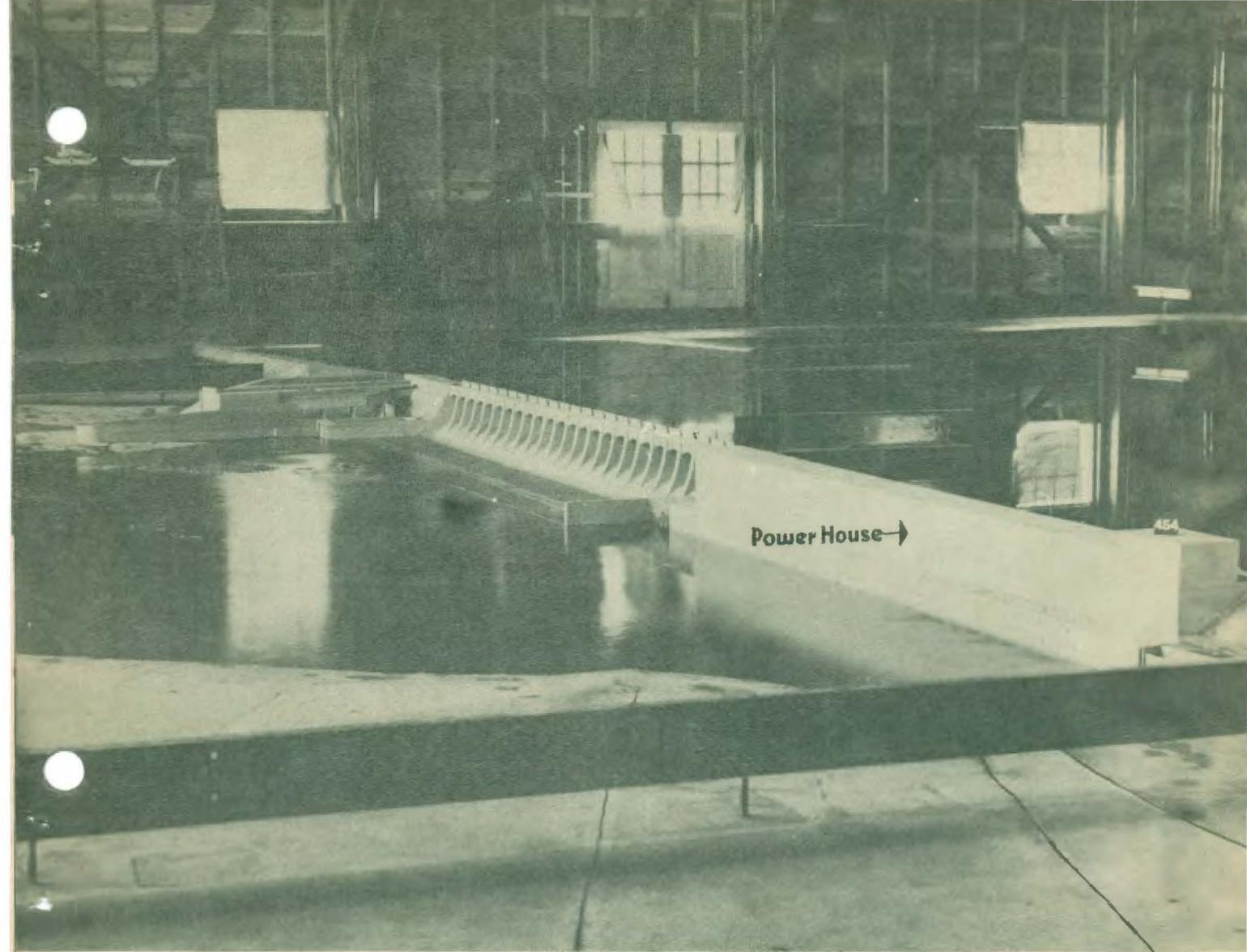
In order to meet the power supply situation in the region, continued and uninterrupted construction of new facilities must be undertaken by the federal government. A program of dam construction and generator installations has been drafted in cooperation with the Corps of Engineers, U. S. Army, and the Bureau of Reclamation, Interior Department, which are the constructing agencies.

This program is based upon the most rapid construction program consistent with normal construc-

tion procedures, and assumes that sufficient funds will be made available. Under this program, additional units are to be added at Grand Coulee dam on a schedule that will bring installation of that plant up to its full 18 generators by 1952. It further assumes that the Anderson Ranch project in Southern Idaho would be in operation by 1949 and completed by 1953. In 1951 initial water storage is assumed at Hungry Horse dam in western Montana and in 1952 additional storage and initial generation are scheduled at Hungry Horse and at Albeni Falls dam in Northern Idaho, together with initial generation at Detroit dam in Oregon. By 1953 initial generation is contemplated at McNary dam on the Columbia River, at Lower Scriver Creek dam in southern Idaho, at Ice Harbor dam on the lower Snake River in Washington, at Big Cliff dam in the Willamette Valley in Oregon, and at Palisades dams in southern Idaho, with additional generation at Hungry Horse and Detroit. Initial generation at Foster Creek dam on the Columbia River in central Washington, and at Meridian, Hills Creek and Dexter dams in the Willamette Valley in Oregon is expected by 1954, and Upper Scriver Creek in southern Idaho, with further service from McNary and Ice Harbor. Additional installations are planned after 1954, as set forth in more detail in the Administration's "Advance Program" report for the period 1949-1954. Table IX lists general specifications for authorized and unauthorized projects in the region.

Even with this program, prospects are that the power supply will continue to be critical until 1954, because the over-all power requirements of the Northwest in the intervening years may be expected to grow more rapidly than new generation can be installed.

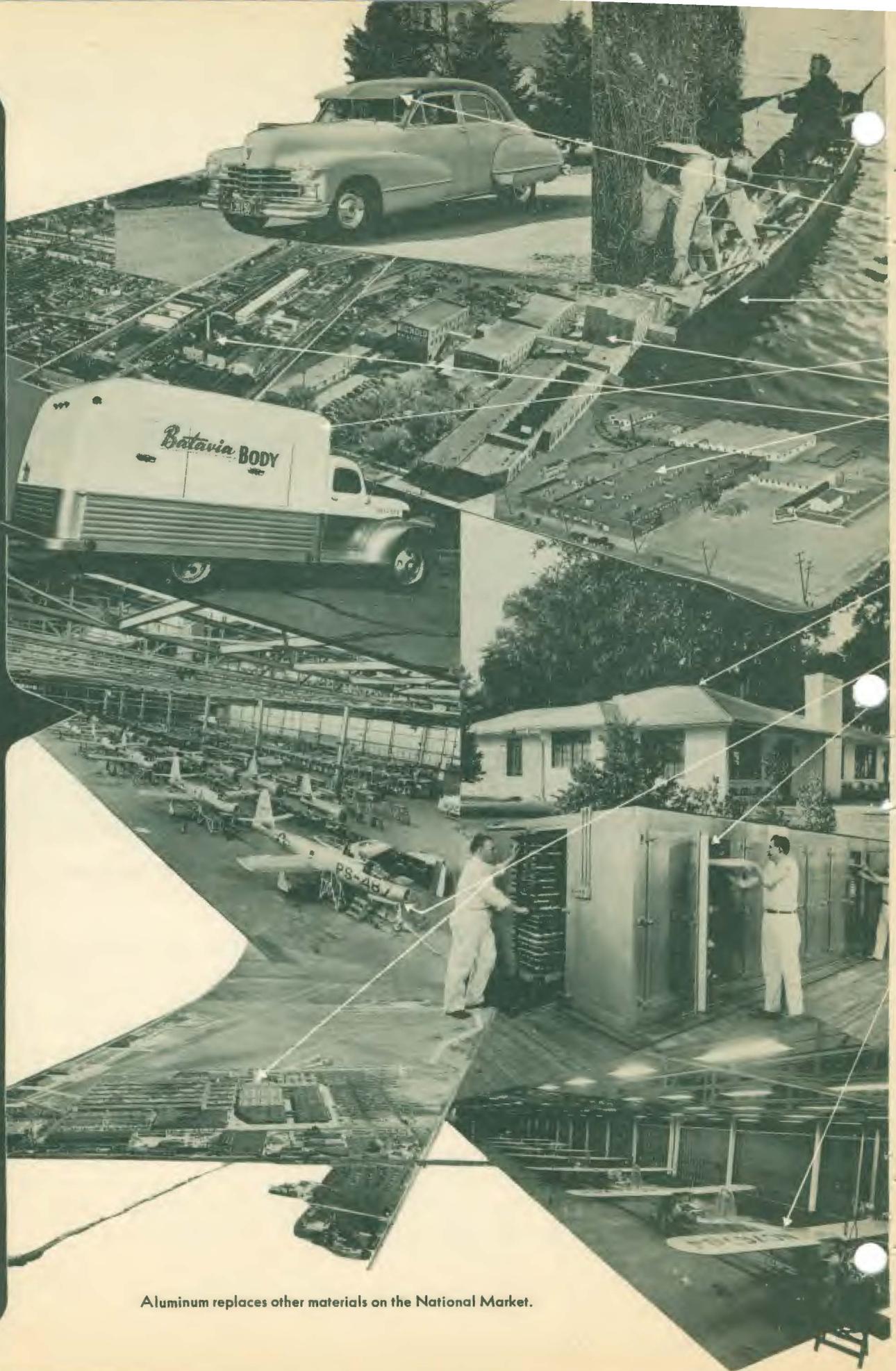
The only major source of increased federal power supply during the period 1947-1952 will be the installation of additional generating units at Grand Coulee dam, since Bonneville dam has been completed. Beginning in October 1947, and extending through May 1948, generators seven, eight and nine in the left power house will come



Model of McNary Dam, U. S. Army Engineer project under construction on the Columbia River. This and other authorized dams will aid materially in eliminating power deficiencies existing in Pacific Northwest.

into production at Grand Coulee while installation of units ten through eighteen will be undertaken in the right power house as rapidly as they can be manufactured. Three units are scheduled for 1949, three in 1950, two in 1951 and one in 1952. These additional generators will more than double the present capacity of the federal system. By 1952 the 18 units at Grand Coulee dam will have a total peaking capability of 2,160,000 kilowatts, and the combined peaking capability of all plants on the federal system at that time will be 2,932,000 kilowatts on the basis of present schedules.

The potential peak requirements on the federal system are estimated to amount to 3,139,000 kilowatts by December 1952. In spite of the installation of the 12 additional units at Grand Coulee dam, and the construction of new plants at Anderson Ranch, Hungry Horse, Albeni Falls and Detroit, potential peak load in the year 1952 will substantially exceed the combined peaking capabilities of all of the federal plants on the Columbia and its tributaries. In each year from 1947 through 1952 the region will face a shortage in peaking capability and in energy production as well.



Aluminum replaces other materials on the National Market.

River Development a National Asset

Aluminum Sun Visors, Milwaukee, Wisconsin

Aluminum Boats, New York City, N. Y.

Aluminum Truck Bodies, Batavia, Illinois

Aluminum siding, Birmingham, Ala.

Aluminum cable, Davenport, Iowa.

Aluminum buses, Philadelphia, Penna.

Aluminum Shingles, Savannah, Georgia

Aluminum Refrigerators, Waukesha, Wisconsin

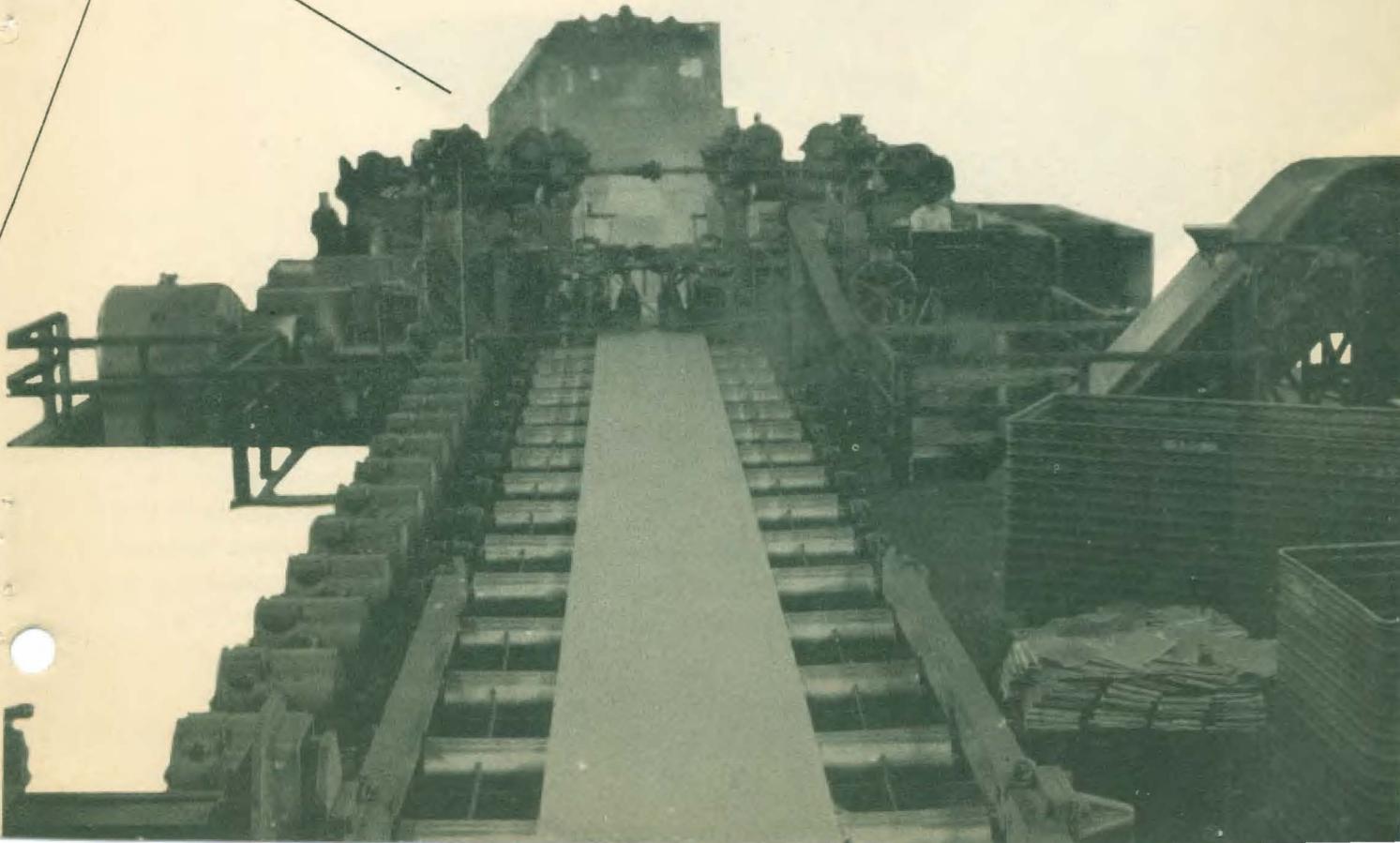
Aluminum Civilian Planes, Wichita, Kansas

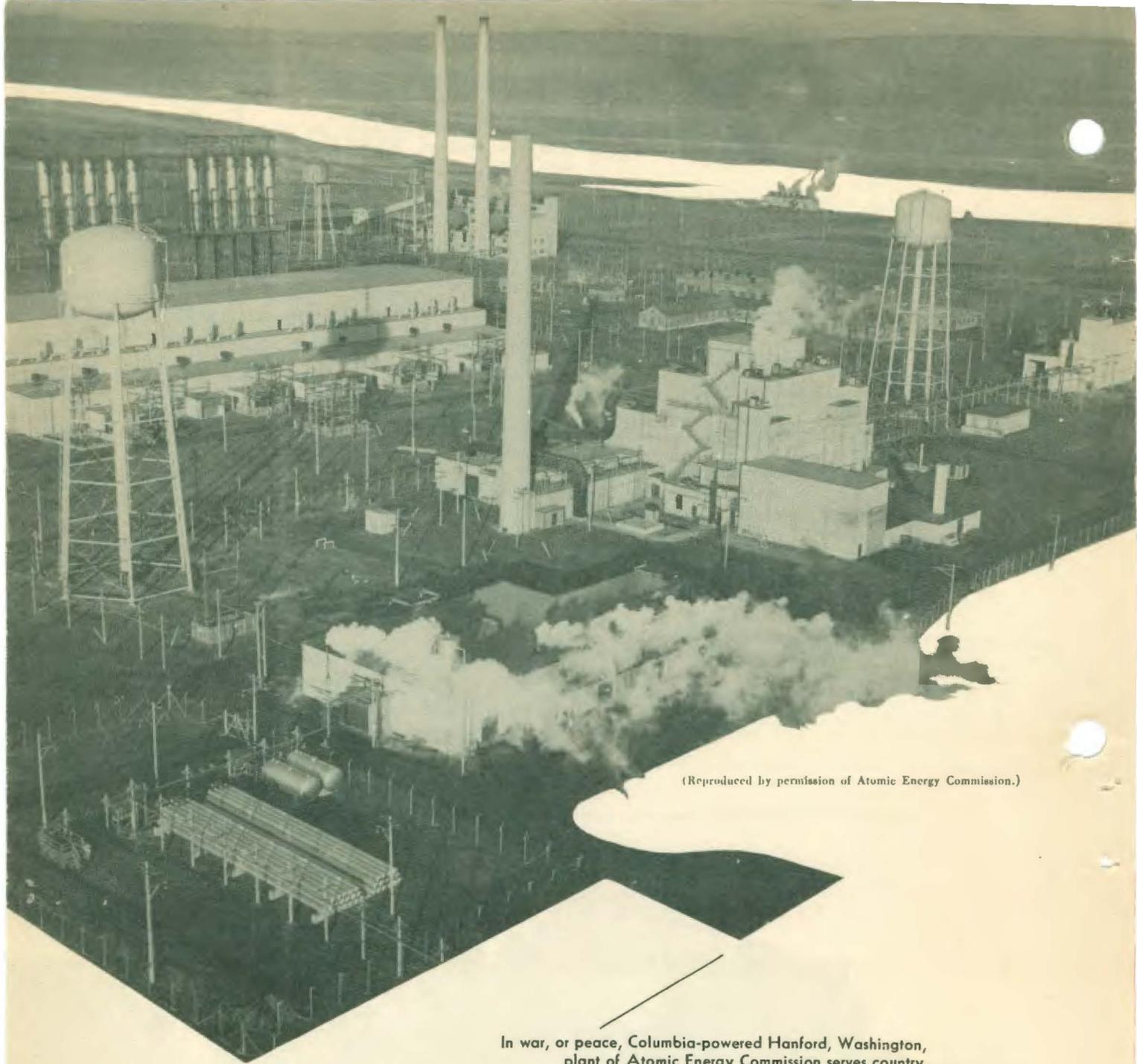
Aluminum jet fighter planes, Long Island, N. Y.

THE CONTINUING power deficit for the region and the lack of an adequate energy base to support the area's economy is rapidly developing into a serious crisis. One certain effect of the deficit, already partly realized, will be a serious setback to the industrial growth of the region. Neither the Federal system nor the systems of the private and public power distributors in the region are currently able to offer any sizeable blocks of firm power to industrial plants wishing to expand their operations or to new plants wishing to locate in the Pacific Northwest.

Low-cost power has encouraged the establishment of new industries in the Pacific Northwest. Industrial materials from the primary industries such as aluminum and chemicals have encouraged the expansion of other industries using the materials. New large pay rolls have expanded markets thus encouraging the expansion of industry. This has been a material aid in absorbing much of the new

Aluminum sheet from Pacific Northwest's single rolling mill supplies some 600 fabricators throughout the land.





(Reproduced by permission of Atomic Energy Commission.)

In war, or peace, Columbia-powered Hanford, Washington, plant of Atomic Energy Commission serves country.

population in Oregon and Washington, which have experienced a 34 per cent increase in the last seven years compared to the national average of 9 per cent.

In Oregon and Washington over \$140,000,000 has already been invested in the plant and equipment of the new privately operated factories

served directly by the Bonneville Power Administration. This is a large addition to the taxable wealth of Oregon and Washington, amounting to about 4 per cent of all taxable property in the two states in 1939. In addition, a considerable investment has been made by new factories, such as Tacoma Powdered Metals, which secure power

from public or private utilities purchasing Columbia River power.

The ten plants receiving direct service have produced over \$500,000,000 worth of aluminum pigs, sheet aluminum, calcium carbide, chlorates, and chemicals. The companies served have paid over \$40,000,000 in federal income and excess profits taxes on the profits earned directly at these factories. They have also paid \$2,500,000 in local property taxes. More than 7,000 workers are employed in new plants served directly by the Bonneville Power Administration.

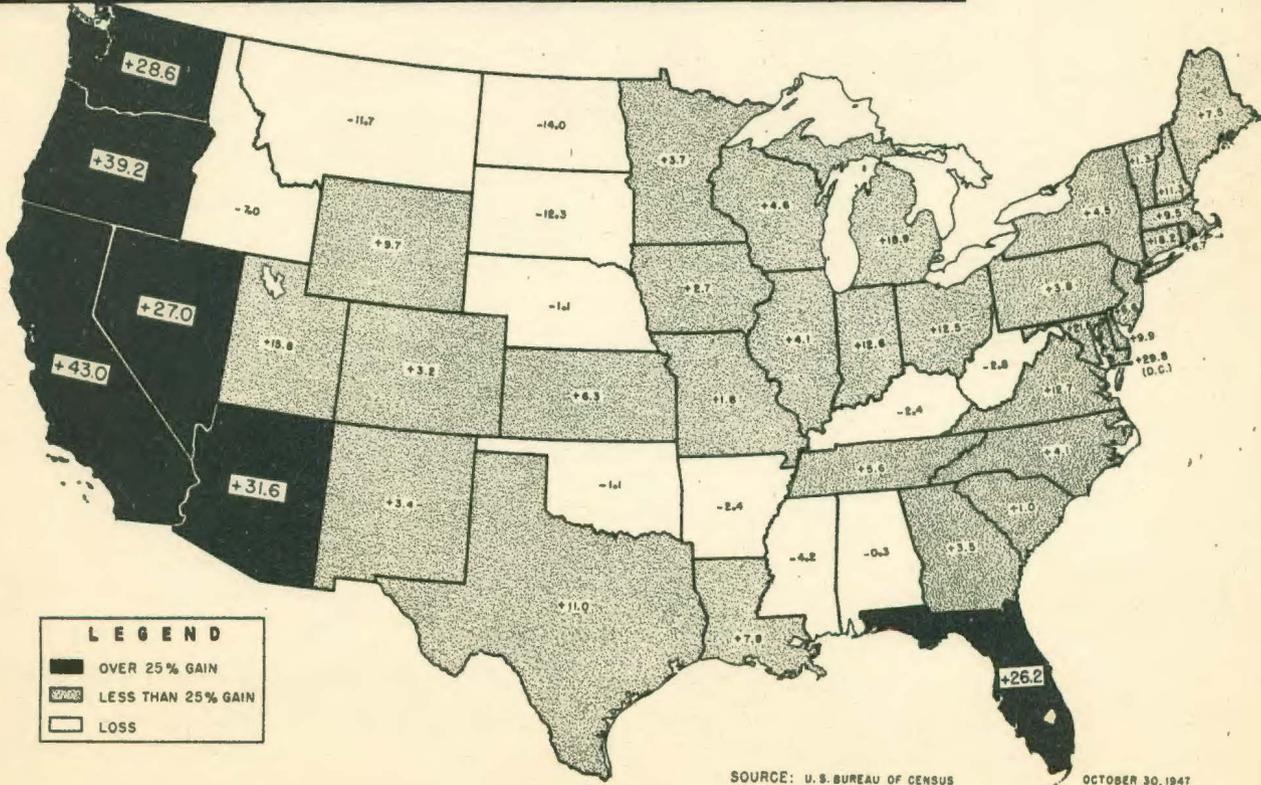
Indirect effects on employment, income, wealth, and taxes are very much larger than the direct effects, and the nation as a whole has benefited. For example, Permanente Metals' rolling mill at Spokane, Washington, is selling plate, sheet and circles to more than 600 fabricators located throughout the nation. These fabricators manufacture some 2,000 products and employ 350,000

workers whose wages depend on the continued supply of this aluminum. Reynolds Metals' aluminum reduction plant at Troutdale, Oregon, employs about 800 workers; whereas the Company's rolling mill at Chicago which fabricates some of the ingot from Troutdale employs over 2,500 workers. The Aluminum Company of America is building a \$20,000,000 rolling mill at Davenport, Iowa, where several thousand workers will be employed. This company makes aluminum pig at Vancouver, Washington, for its eastern rolling mills.

In addition to these large plants which are at least in part dependent on aluminum produced with Columbia River power, there are many small plants which have recently sprung up across the country. Many of these plants in the East, Mid-west, and South, and many of the 85 new aluminum fabricators in Oregon and Washington could not have been established without the large Pacific Northwest producing facilities which depend on federally generated power from the Columbia River.

Chart IX

POPULATION CHANGES IN U.S. 1940 TO 1947



SOURCE: U. S. BUREAU OF CENSUS

OCTOBER 30, 1947

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, 1947

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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ARTHUR ANDERSEN & Co.

ACCOUNTANTS AND AUDITORS

DEXTER HORTON BUILDING

SEATTLE 4

AUDITORS' REPORT

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

Dear Sir:

We have examined the statement of combined assets and liabilities of Bonneville Power Administration, Department of the Interior, and the 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, 1947; 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.

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, 1947 include facilities totaling \$184,373,550.92 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 certain proportions of these facilities as set forth in Note 2 of Schedule 6 are allocable to power. The two projects have maintained their accounts in conformity with these allocations and the designated proportions of joint facilities, amounting to \$101,982,867.46 at June 30, 1947, are 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 with respect to such allocations; however, the fairness of the accompanying power financial statements is subject to the fairness of these underlying allocations.

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

Except for the omission of certain costs as set forth in paragraph two above and subject to the fairness of the allocations of joint facilities and to the construction of the proposed downstream hydro plants as discussed in paragraphs three and four, 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, 1947 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,
September 22, 1947.

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)

STATEMENT OF COMBINED ASSETS AND LIABILITIES ALLOCATED
TO POWER — JUNE 30, 1947 AND 1946

ASSETS	June 30		LIABILITIES	June 30	
	1947	1946 (Note 5)		1947	1946 (Note 5)
Electric Utility Plant (Notes 1 and 2):			Investment of U. S. Government:		
Original cost, including interest during construction—			Congressional appropriations, allotments and W.P.A. expenditures, less		
Specific power facilities (powerhouses, generating equipment and			amounts not requisitioned.....	\$310,956,764.06	\$289,202,661.78
transmission plant).....	\$190,374,179.53	\$176,586,387.21	Transfers from other Federal projects (net).....	1,023,661.61	953,688.02
Joint facilities (dams, reservoirs, fishways, general service facilities,			Interest on Federal investment.....	48,149,249.89	41,799,559.57
etc.) allocated to power—				\$360,129,675.56	\$331,955,909.37
Present power production.....	69,023,868.31	65,129,212.83	Less—Funds returned to U. S. Treasury in repayment of Federal invest-		
Future downstream river regulation.....	32,958,999.15	34,149,031.79	ment (Schedule 5).....	99,829,217.61	79,009,728.13
	\$292,357,046.99	\$275,864,631.83	Net investment of U. S. Government.....	\$260,300,457.95	\$252,946,181.24
Less—Reserve for depreciation (Note 3)—			Current Liabilities:		
Specific power facilities.....	\$ 15,542,727.83	\$ 13,772,462.53	Accounts payable.....	\$ 5,523,991.55	\$ 4,473,678.54
Joint facilities allocated to power—			Due to Central Valley Project (Shasta Dam) for rental of leased generating		
Present power production.....	2,589,964.61	1,873,351.99	facilities.....	739,500.00	565,500.00
Future downstream river regulation.....	587,117.74	1,016,344.74	Employees' accrued leave.....	1,442,879.20	1,413,666.66
	\$ 18,719,810.18	\$ 16,662,159.26	Miscellaneous.....	245,946.64	201,005.34
Original cost less reserve.....	\$273,637,236.81	\$259,202,472.57		\$ 7,952,317.39	\$ 6,653,850.54
Interest and Depreciation Charges on Joint Facilities Allocated to Future			Deferred Credits:		
Downstream River Regulation —recoverable from operations of future			Customer's deposit, see contra.....	\$ 951,458.91	\$ 1,012,650.58
downstream hydro plants.....	\$ 5,500,905.41	\$ 4,478,590.89	Contract cancellation charges, being amortized over one year from		
			cancellation dates.....		2,012,972.12
Special Funds:			Other.....	175.00	175.00
Special fund, see contra liability.....	\$ 951,458.91	\$ 1,012,650.58		\$ 951,633.91	\$ 3,025,797.70
Emergency fund.....		500,000.00			
	\$ 951,458.91	\$ 1,512,650.58	Reserves:		
			Excess installation costs at Shasta Dam of generating facilities formerly		
Current Assets:			leased from Central Valley Project.....	\$ 364,036.09	\$ 827,945.44
Cash held by Treasury Department disbursing officers.....	\$ 2,194,617.56	\$ 4,551,744.10	Deferred maintenance.....	567,000.00	480,000.00
Employees' withholding tax, war savings bond and other special deposits..	249,656.02	363,406.16		\$ 931,036.09	\$ 1,307,945.44
Accounts receivable—			Contributions in Aid of Construction —by State of Washington.....	\$ 175,526.14	\$ 175,526.14
Customers—					
Departments and agencies of U. S. Government (including contract			Accumulated Net Revenues (Note 1):		
cancellation charges of \$3,373,775.66 at June 30, 1946).....	431,219.30	4,038,806.80	Balance at beginning of year.....	\$ 16,326,947.34	\$ 11,572,052.69
Others.....	4,044,967.59	1,306,825.90	Add—Net revenues for the year.....	6,606,196.70	4,754,894.65
Miscellaneous receivables.....	81,823.32	45,310.47		\$ 22,933,144.04	\$ 16,326,947.34
Materials and supplies.....	3,846,851.46	2,786,287.93		\$293,244,115.52	\$280,436,248.40
	\$ 10,849,135.25	\$ 13,092,381.36			
			Deferred Charges:		
Losses on abandoned properties (principally rights-of-way and clearing			Losses on abandoned properties (principally rights-of-way and clearing		
costs), being amortized over five years from dates of abandonment.....	\$ 834,321.56	\$ 1,098,688.86	costs), being amortized over five years from dates of abandonment.....	\$ 834,321.56	\$ 1,098,688.86
Clearing accounts and miscellaneous deferred charges.....	1,471,057.58	1,051,464.14		\$ 2,305,379.14	\$ 2,150,153.00
	\$ 2,305,379.14	\$ 2,150,153.00		\$293,244,115.52	\$280,436,248.40
	\$293,244,115.52	\$280,436,248.40			

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

UNITED STATES OF AMERICA
COLUMBIA RIVER POWER SYSTEM

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

STATEMENT OF COMBINED REVENUES AND EXPENSES ALLOCATED
TO POWER FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1946

	Fiscal Year Ended June 30	
	1947	1946
Operating Revenues:		
Sales of electric energy.....	\$19,788,323.07	\$18,017,141.39
Amortization of contract cancellation charges.....	2,012,972.12	1,814,131.55
Other electric revenues.....	89,634.29	53,011.95
Total operating revenues.....	\$21,890,929.48	\$19,884,284.89
Operating Expenses (Notes 1 and 2):		
Purchased power.....	\$ 340,031.53	\$ 227,580.86
Operation—		
Specific power facilities.....	4,274,574.22	3,768,233.67
Joint facilities allocated to power.....	160,606.61	207,831.74
Provision for rental, installation and removal of generating facilities leased from Central Valley Project (Shasta Dam).....		750,000.00
Maintenance—		
Specific power facilities.....	1,279,401.53	1,164,756.71
Joint facilities allocated to power.....	263,119.07	192,211.15
Depreciation (Note 3)—		
Specific power facilities.....	3,265,643.63	2,992,756.17
Joint facilities allocated to power.....	332,631.57	312,033.99
Less—Amount allocated to future downstream river regulations, recoverable from operations of future downstream hydro plants.....	102,330.70*	94,533.73*
Amortization of losses on abandoned properties.....	277,248.44	274,672.21
Total operating expenses.....	\$10,090,925.90	\$ 9,795,542.77
Net operating revenues.....	\$11,800,003.58	\$10,088,742.12
Other income (net).....	19,395.78	10,113.36
	\$11,819,399.36	\$10,098,855.48
Interest and Other Deductions:		
Interest on Federal investment allocated to power.....	\$ 6,349,690.32	\$ 6,255,842.70
Less—		
Amount allocated to future downstream river regulation, recoverable from operations of future downstream hydro plants.....	919,983.82*	904,009.20*
Amount charged to construction.....	272,486.96*	106,506.90*
Miscellaneous income deductions.....	55,983.12	98,634.23
Total interest and other deductions.....	\$ 5,213,202.66	\$ 5,343,960.83
Net revenues.....	\$ 6,606,196.70	\$ 4,754,894.65

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

* Denotes red figure.

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 ASSETS AND LIABILITIES ALLOCATED
TO POWER — JUNE 30, 1947

ASSETS	Bonneville Power Administration (Schedule 7)	Bonneville Dam Project (Schedule 10)	Columbia Basin Project (Schedule 13)	Eliminations	Combined (To Schedule 1)
Electric Utility Plant at original cost, including interest during construction (Notes 1 and 2):					
Specific power facilities (power houses, generating equipment and transmission plant).....	\$ 97,323,574.51	\$ 37,921,494.85	\$ 55,129,110.17	\$	\$ 190,374,179.53
Joint facilities (dams, reservoirs, fishways, general service facilities, etc.) allocated to power—					
Present power production.....		20,216,438.36	48,807,429.95		69,023,868.31
Future downstream river regulation.....			32,958,999.15		32,958,999.15
	\$ 97,323,574.51	\$ 58,137,933.21	\$ 136,895,539.27	\$	\$ 292,357,046.99
Less—Reserves for depreciation (Note 3)—					
Specific power facilities.....	\$ 11,315,941.35	\$ 2,288,067.34	\$ 1,938,719.14	\$	\$ 15,542,727.83
Joint facilities allocated to power—					
Present power production.....		628,336.76	1,961,627.85		2,589,964.61
Future downstream river regulation.....			587,117.74		587,117.74
	\$ 11,315,941.35	\$ 2,916,404.10	\$ 4,487,464.73	\$	\$ 18,719,810.18
Original cost less reserves.....	\$ 86,007,633.16	\$ 55,221,529.11	\$ 132,408,074.54	\$	\$ 273,637,236.81
Interest and Depreciation Charges on Joint Facilities Allocated to Future Downstream River Regulation —recoverable from operations of future downstream hydro plants.....	\$	\$	\$ 5,500,905.41	\$	\$ 5,500,905.41
Special Funds and Advances:					
Special fund, see contra liability.....	\$ 951,458.91	\$	\$	\$	\$ 951,458.91
Advance against future power revenues allocable to Columbia Basin Project.....	1,856,771.00			1,856,771.00	
	\$ 2,808,229.91	\$	\$	\$ 1,856,771.00	\$ 951,458.91
Current Assets:					
Cash held by Treasury Department disbursing officers....	\$ 793,043.19	\$	\$ 1,401,574.37	\$	\$ 2,194,617.56
Employees' withholding tax, war savings bond and other special deposits.....	249,656.02				249,656.02
Accounts receivable—					
Customers—					
Departments and agencies of U. S. Government....	431,219.30				431,219.30
Others.....	4,044,967.59				4,044,967.59
Miscellaneous receivables.....	44,679.65		37,143.67		81,823.32
Materials and supplies.....	2,519,371.54		1,327,479.92		3,846,851.46
	\$ 8,082,937.29	\$	\$ 2,766,197.96	\$	\$ 10,849,135.25
Deferred Charges:					
Losses on abandoned properties (principally rights-of-way and clearing costs), being amortized over five years from dates of abandonment.....	\$ 834,321.56	\$	\$	\$	\$ 834,321.56
Clearing accounts and other deferred charges.....	440,205.66	22,759.25	1,008,092.67		1,471,057.58
	\$ 1,274,527.22	\$ 22,759.25	\$ 1,008,092.67	\$	\$ 2,305,379.14
	\$ 98,173,327.58	\$ 55,244,288.36	\$ 141,683,270.58	\$ 1,856,771.00	\$ 293,244,115.52

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

LIABILITIES	Bonneville Power Administration (Schedule 7)	Bonneville Dam Project (Schedule 10)	Columbia Basin Project (Schedule 13)	Eliminations	Combined (To Schedule 1)
Investment of U. S. Government:					
Congressional appropriations, allotments and W.P.A. expenditures, less amounts not requisitioned.....	\$ 119,482,816.07	\$ 59,095,741.85	\$ 132,378,206.14	\$	\$ 310,956,764.06
Transfers from other Federal projects (net).....	89,487.78*	87,900.00	1,025,249.39		1,023,661.61
Interest on Federal investment.....	10,786,876.82	12,377,977.25	24,984,395.82		48,149,249.89
	\$ 130,180,205.11	\$ 71,561,619.10	\$ 158,387,851.35	\$	\$ 360,129,675.56
Less—Funds returned to U. S. Treasury in repayment of Federal investment.....	50,657,297.12	18,562,150.00	30,609,770.49		99,829,217.61
Net investment of U. S. Government.....	\$ 79,522,907.99	\$ 52,999,469.10	\$ 127,778,080.86	\$	\$ 260,300,457.95
Current Liabilities:					
Accounts payable (Note 4).....	\$ 2,299,029.93	\$ 15,580.34	\$ 3,209,381.28	\$	\$ 5,523,991.55
Due to Central Valley Project (Shasta Dam) for rental of leased generating facilities.....			739,500.00		739,500.00
Employees' accrued leave.....	1,182,465.86		260,413.34		1,442,879.20
Miscellaneous.....	245,946.64				245,946.64
	\$ 3,727,442.43	\$ 15,580.34	\$ 4,209,294.62	\$	\$ 7,952,317.39
Deferred Credits:					
Customer's deposit, see contra.....	\$ 951,458.91	\$	\$	\$	\$ 951,458.91
Deferred power revenues.....			1,856,771.00	1,856,771.00	
Other.....	175.00				175.00
	\$ 951,633.91	\$	\$ 1,856,771.00	\$ 1,856,771.00	\$ 951,633.91
Reserves:					
Excess installation costs at Shasta Dam of generating facilities formerly leased from Central Valley Project.....	\$	\$	\$ 364,036.09	\$	\$ 364,036.09
Deferred maintenance.....		315,000.00	252,000.00		567,000.00
	\$	\$ 315,000.00	\$ 616,036.09	\$	\$ 931,036.09
Contributions in Aid of Construction —by State of Washington.....	\$	\$	\$ 175,526.14	\$	\$ 175,526.14
Accumulated Net Revenues (Note 1):					
Balance at beginning of year.....	\$ 10,179,587.55	\$ 1,384,966.17	\$ 4,762,393.62	\$	\$ 16,326,947.34
Add—Net revenues for the year ended June 30, 1947.....	3,791,755.70	529,272.75	2,285,168.25		6,606,196.70
Balance at end of year.....	\$ 13,971,343.25	\$ 1,914,238.92	\$ 7,047,561.87	\$	\$ 22,933,144.04
	\$ 98,173,327.58	\$ 55,244,288.36	\$ 141,683,270.58	\$ 1,856,771.00	\$ 293,244,115.52

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

* Denotes red figure.

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, 1947

	Bonneville Power Administration (Schedule 8)	Bonneville Dam Project (Schedule 11)	Columbia Basin Project (Schedule 14)	Eliminations	Combined (To Schedule 2)
Operating Revenues:					
Sales of electric energy.....	\$19,788,323.07	\$.....	\$.....	\$.....	\$19,788,323.07
Less—Amounts allocated to Bonneville Dam Project and Columbia Basin Project.....	9,112,430.00*	3,300,000.00	5,812,430.00	.....	.....
Amortization of contract cancellation charges.....	2,012,972.12	.....	.....	.....	2,012,972.12
Payment for river regulation benefits at Bonneville Dam Project.....	.....	.....	187,570.00	187,570.00	.....
Other electric revenues.....	89,634.29	.....	.....	.....	89,634.29
Total operating revenues.....	<u>\$12,778,499.48</u>	<u>\$3,300,000.00</u>	<u>\$6,000,000.00</u>	<u>\$ 187,570.00</u>	<u>\$21,890,929.48</u>
Operating Expenses (Notes 1 and 2):					
Purchased power.....	\$ 340,031.53	\$.....	\$.....	\$.....	\$ 340,031.53
Operation—					
Specific power facilities.....	3,570,664.45	265,301.59	438,608.18	.....	4,274,574.22
Joint facilities allocated to power.....	.....	75,701.77	84,904.84	.....	160,606.61
Payment for river regulation benefits.....	.....	187,570.00	.....	187,570.00	.....
Maintenance—					
Specific power facilities.....	713,668.78	227,654.06	338,078.69	.....	1,279,401.53
Joint facilities allocated to power.....	.....	179,846.90	83,272.17	.....	263,119.07
Depreciation (Note 3)—					
Specific power facilities.....	2,371,927.10	447,943.78	445,772.75	.....	3,265,643.63
Joint facilities allocated to power.....	.....	95,342.99	237,288.58	.....	332,631.57
Less—Amount allocated to future downstream river regulation, recoverable from operations of future downstream hydro plants.....	.....	.....	102,330.70*	.....	102,330.70*
Amortization of losses on abandoned properties.....	277,248.44	.....	.....	.....	277,248.44
Total operating expenses.....	<u>\$ 7,273,540.30</u>	<u>\$ 1,479,361.09</u>	<u>\$ 1,525,594.51</u>	<u>\$ 187,570.00</u>	<u>\$10,090,925.90</u>
Net operating revenues.....	<u>\$ 5,504,959.18</u>	<u>\$ 1,820,638.91</u>	<u>\$ 4,474,405.49</u>	<u>\$.....</u>	<u>\$11,800,003.58</u>
Other income (net).....	8,072.39	.....	11,323.39	.....	19,395.78
	<u>\$ 5,513,031.57</u>	<u>\$ 1,820,638.91</u>	<u>\$ 4,485,728.88</u>	<u>\$.....</u>	<u>\$11,819,399.36</u>
Interest and Other Deductions:					
Interest on Federal investment allocated to power.....	\$ 1,819,926.00	\$ 1,291,908.68	\$ 3,237,855.64	\$.....	\$ 6,349,690.32
Less—					
Amount allocated to future downstream river regu- lation, recoverable from operations of future down- stream hydro plants.....	.....	.....	919,983.82*	.....	919,983.82*
Amount charged to construction.....	154,633.25*	542.52*	117,311.19*	.....	272,486.96*
Miscellaneous income deductions.....	55,983.12	.....	.....	.....	55,983.12
Total interest and other deductions.....	<u>\$ 1,721,275.87</u>	<u>\$ 1,291,366.16</u>	<u>\$ 2,200,560.63</u>	<u>\$.....</u>	<u>\$ 5,213,202.66</u>
Net revenues.....	<u>\$ 3,791,755.70</u>	<u>\$ 529,272.75</u>	<u>\$ 2,285,168.25</u>	<u>\$.....</u>	<u>\$ 6,606,196.70</u>

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

* Denotes red figure.

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)

COMBINING STATEMENT OF FUNDS RETURNED TO U. S. TREASURY IN
REPAYMENT OF FEDERAL INVESTMENT ALLOCATED TO POWER FOR
THE FISCAL YEAR ENDED JUNE 30, 1947 AND FOR THE PERIOD FROM
BEGINNING OF OPERATIONS TO JUNE 30, 1947

640,571.78
206,830.21
226,718.27
1,074,120.26
1,058,886.57
15,233.69

Schedule 5
1,275,184.20
216,297.63
1,058,886.57

	Fiscal Year Ended June 30, 1947				Period from Beginning of Operations to June 30, 1947			
	Bonneville Power Administration	Bonneville Dam Project	Columbia Basin Project	Combined	Bonneville Power Administration	Bonneville Dam Project	Columbia Basin Project	Combined (To Schedule 2)
Sales of electric energy.....	\$19,788,323.07	\$.....	\$.....	\$19,788,323.07	\$101,165,847.16	\$.....	\$.....	\$101,165,847.16
Less—								
Uncollected sales, represented by accounts receivable from customers.....	\$ 2,504,329.85	\$.....	\$.....	\$ 2,504,329.85	\$ 4,476,186.89	\$.....	\$.....	\$ 4,476,186.89
Collections in transit to U. S. Treasury.....	160,178.80*	.....	.....	160,178.80*	22,369.31	.....	.....	22,369.31
Noncash (exchange) power sales.....	216,297.63	.....	.....	216,297.63	1,275,184.20	.....	.....	1,275,184.20
	<u>\$ 2,560,448.68</u>	<u>\$.....</u>	<u>\$.....</u>	<u>\$ 2,560,448.68</u>	<u>\$ 5,773,740.40</u>	<u>\$.....</u>	<u>\$.....</u>	<u>\$ 5,773,740.40</u>
Cash receipts from sales of electric energy.....	\$17,227,874.39	\$.....	\$.....	\$17,227,874.39	\$ 95,392,106.76	\$.....	\$.....	\$ 95,392,106.76
Miscellaneous receipts allocated to power.....	3,531,946.26	.....	59,668.83	3,591,615.09	4,602,791.04	.....	334,319.81	4,937,110.85
Total receipts allocated to power deposited in U. S. Treasury.....	<u>\$20,759,820.65</u>	<u>\$.....</u>	<u>\$ 59,668.83</u>	<u>\$20,819,489.48</u>	<u>\$ 99,994,897.80</u>	<u>\$.....</u>	<u>\$ 334,319.81</u>	<u>\$100,329,217.61</u>
Allocation of receipts among projects.....	9,112,430.00*	3,112,430.00	6,000,000.00	.....	48,837,600.68*	18,562,150.00	30,275,450.68	.....
Amount transferred to Emergency Fund.....	.....	.....	.....	.....	500,000.00*	.....	.....	500,000.00*
Funds returned to U. S. Treasury in repayment of Federal investment allocated to power.....	<u>\$11,647,390.65</u>	<u>\$ 3,112,430.00</u>	<u>\$ 6,059,668.83</u>	<u>\$20,819,489.48</u>	<u>\$ 50,657,297.12</u>	<u>\$18,562,150.00</u>	<u>\$30,609,770.49</u>	<u>\$ 99,829,217.61</u>

* Denotes red figures.

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 these projects.

2. Allocation of Joint Costs and Expenses:

Property, plant and equipment determined to be jointly useful for power generation and for other purposes, consisting principally of dams, reservoirs and fishways, has been allocated 50% to power and 50% to nonpower purposes at Bonneville Dam Project and 56% to power (including future downstream river regulation) and 44% to nonpower purposes at Columbia Basin Project in accordance with determinations made by the Federal Power Commission and by the Secretary of the Interior, respectively, acting under authority delegated by Congress. General service facilities at Columbia Basin Project have been allocated to power and to nonpower purposes on the basis of the estimated future use of such facilities. Operation and maintenance expenses applicable to joint facilities have been allocated to power and nonpower operations in the same proportions as the related property costs.

3. Depreciation Policy:

Depreciation of the property of Bonneville Power Administration, consisting principally of transmission facilities, has been computed on the straight line method and depreciation of the power facilities of

the two dams has been computed on the compound interest method using an interest factor of 2.5%, in each case based upon 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 depreciated over such one hundred year period. Depreciation of general service facilities at Columbia Basin Project (original cost \$11,705,148.74), which is charged to clearing accounts and redistributed to construction and other accounts, has been computed substantially on the straight line method based on the estimated service lives of the various types of facilities. A composite depreciation reserve is maintained for each class of property and the cost of property retired, less net salvage applicable thereto, is charged to the related reserve.

4. Contingent Liabilities:

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

5. Restatement of Prior Years Balances:

The June 30, 1946 balances shown herein have been restated to reflect certain minor adjustments recorded subsequent to but applicable prior to that date.

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
BONNEVILLE POWER ADMINISTRATION

STATEMENT OF ASSETS AND LIABILITIES — JUNE 30, 1947

ASSETS					LIABILITIES
Electric Utility Plant (principally transmission plant), at original cost, including interest during construction (Note 1).....	\$97,323,574.51				Investment of U. S. Government:
Less—Reserve for depreciation (Note 2).....	11,315,941.35				Congressional appropriations, allotments and W.P.A. expenditures less amounts not requisitioned.....
Original cost less reserve.....		\$86,007,633.16			\$119,482,816.07
					Transfers from other Federal projects (net).....
Special Funds and Advances:					89,487.78*
Special Fund, see contra liability.....	\$ 951,458.91				Interest on Federal investment.....
Advance against future power revenues allocable to Columbia Basin Project.....	1,856,771.00	2,808,229.91			10,786,876.82
					\$130,180,205.11
					Less—Funds returned to U. S. Treasury in repayment of Federal investment.....
Current Assets:					50,657,297.12
Cash held by Treasury Department disbursing officer.....	\$ 793,043.19				Net investment of U. S. Government.....
Employees' withholding tax, war savings bond and other special deposits.....	249,656.02				\$79,522,907.99
Accounts receivable—					Current Liabilities:
Customers—					Accounts payable.....
Departments and agencies of U. S. Government.....	431,219.30				\$ 2,299,029.93
Other.....	4,044,967.59				Employees' accrued leave.....
Miscellaneous receivables.....	44,679.65				1,182,465.86
Materials and supplies.....	2,519,371.54	8,082,937.29			Miscellaneous.....
					245,946.64
					3,727,442.43
Deferred Charges:					Deferred Credits:
Losses on abandoned properties (principally rights-of-way and clearing costs), being amortized over five years from dates of abandonment.....	\$ 834,321.56				Customer's deposit, see contra.....
Clearing accounts and other deferred charges.....	440,205.66	1,274,527.22			\$ 951,458.91
					Other.....
					175.00
		\$98,173,327.58			951,633.91
					Accumulated Net Revenues (Note 1):
					Balance at beginning of year.....
					\$ 10,179,587.55
					Add—Net revenues for the year ended June 30, 1947....
					3,791,755.70
					Balance at end of year.....
					13,971,343.25
					\$98,173,327.58

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

* Denotes red figure.

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
BONNEVILLE POWER ADMINISTRATION

STATEMENT OF REVENUES AND EXPENSES FOR THE FISCAL YEAR
ENDED JUNE 30, 1947

Operating Revenues:

Sales of electric energy.....		\$19,788,323.07
Less—Amounts allocated to (Note 3)—		
Bonneville Dam Project.....	\$ 3,300,000.00	
Columbia Basin Project.....	5,812,430.00	
	<u>9,112,430.00</u>	
		\$10,675,893.07
Other electric revenues—		
Amortization of contract cancellation charges.....	\$ 2,012,972.12	
Miscellaneous.....	89,634.29	
	<u>2,102,606.41</u>	
Total operating revenues.....		<u>\$12,778,499.48</u>

Operating Expenses (Note 1):

Purchased power.....	\$ 340,031.53	
Operation.....	3,570,664.45	
Maintenance.....	713,668.78	
Depreciation (Note 2).....	2,371,927.10	
Amortization of losses on abandoned properties.....	277,248.44	
	<u>7,273,540.30</u>	
Net operating revenues.....		<u>\$ 5,504,959.18</u>

Other Income (net).....	8,072.39	
		<u>\$ 5,513,031.57</u>

Interest and Other Deductions:

Interest on Federal investment.....	\$ 1,819,926.00	
Less—Interest charged to construction.....	154,633.25*	
Miscellaneous income deductions.....	55,983.12	
	<u>1,721,275.87</u>	
Net revenues.....		<u><u>\$ 3,791,755.70</u></u>

* Denotes red figure.

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

BONNEVILLE POWER ADMINISTRATION

NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 7 AND 8

1. Certain Costs Not Included:

Property costs and operating expenses do not include costs of administrative and other services rendered by other departments and agencies of the 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 on the estimated service lives of 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 depreciated over such one hundred year period. A composite depreciation reserve is maintained for each class of property and the original costs of property retired, less net salvage applicable thereto, is charged to the related 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 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. 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, 1947

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):			
Specific power facilities (power house and generating equipment).....	\$ 37,921,494.85	\$	\$37,921,494.85
Specific navigation facilities (shiplock).....	5,830,966.95	5,830,966.95	.....
Joint facilities (dam, reservoirs, fishways, etc.).....	40,432,876.71	20,216,438.35	20,216,438.36
	<u>\$ 84,185,338.51</u>	<u>\$26,047,405.30</u>	<u>\$58,137,933.21</u>
 Less—Reserves for depreciation (Note 3)—			
Specific power facilities.....	\$ 2,288,067.34	\$	\$ 2,288,067.34
Specific navigation facilities.....	235,940.50	235,940.50	.....
Joint facilities.....	1,256,673.52	628,336.76	628,336.76
	<u>\$ 3,780,681.36</u>	<u>\$ 864,277.26</u>	<u>\$ 2,916,404.10</u>
Original cost less reserves.....	\$ 80,404,657.15	\$25,183,128.04	\$55,221,529.11
Due from Other Projects	18,919.41	18,919.41	.....
Deferred Charges	38,358.77	15,599.52	22,759.25
	<u>\$ 80,461,935.33</u>	<u>\$25,217,646.97</u>	<u>\$55,244,288.36</u>
LIABILITIES			
Investment of U. S. Government:			
Congressional appropriations and allotments, less amounts not requisitioned.....	\$ 85,439,058.78	\$26,343,316.93	\$59,095,741.85
Transfers from other Federal projects.....	175,400.00	87,500.00	87,900.00
Interest on Federal investment.....	19,204,135.67	6,826,158.42	12,377,977.25
	<u>\$104,818,594.45</u>	<u>\$33,256,975.35</u>	<u>\$71,561,619.10</u>
 Less—			
Funds returned to U. S. Treasury in repayment of Federal investment allocated to power.....	\$ 18,562,150.00	\$	\$18,562,150.00
Net expense of non-reimbursable portion of project (including \$1,139,479.85 for the year ended June 30, 1947).....	8,354,328.38	8,354,328.38	.....
	<u>\$ 26,916,478.38</u>	<u>\$ 8,354,328.38</u>	<u>\$18,562,150.00</u>
Net investment of U. S. Government.....	\$ 77,902,116.07	\$24,902,646.97	\$52,999,469.10
Due to Other Projects	\$ 15,580.34	\$	\$ 15,580.34
Reserve for Deferred Maintenance	\$ 630,000.00	\$ 315,000.00	\$ 315,000.00
Accumulated Net Power Revenues (Note 1):			
Balance at beginning of year.....	\$ 1,384,966.17	\$	\$ 1,384,966.17
Add—Net revenues for the year ended June 30, 1947...	529,272.75	.....	529,272.75
Balance at end of year.....	\$ 1,914,238.92	\$	\$ 1,914,238.92
	<u>\$ 80,461,935.33</u>	<u>\$25,217,646.97</u>	<u>\$55,244,288.36</u>

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

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

STATEMENT OF REVENUES AND EXPENSES FOR THE FISCAL YEAR
ENDED JUNE 30, 1947

	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).....	\$3,300,000.00	\$	\$3,300,000.00
Operating Expenses (Notes 1 and 2):			
Operation—			
Specific power facilities.....	\$ 265,301.59	\$	\$ 265,301.59
Specific navigation facilities.....	30,445.95	30,445.95	.....
Joint facilities.....	151,403.55	75,701.78	75,701.77
Payment for river regulation benefits.....	187,570.00	.....	187,570.00
Maintenance—			
Specific power facilities.....	227,654.06	.....	227,654.06
Specific navigation facilities.....	36,311.28	36,311.28	.....
Joint facilities.....	359,693.80	179,846.90	179,846.90
Depreciation (Note 3)—			
Specific power facilities.....	447,943.78	.....	447,943.78
Specific navigation facilities.....	32,535.54	32,535.54	.....
Joint facilities.....	190,685.97	95,342.98	95,342.99
Total operating expenses.....	\$1,929,545.52	\$ 450,184.43	\$1,479,361.09
Net operating revenues.....	\$1,370,454.48	\$ 450,184.43*	\$1,820,638.91
Interest Deduction:			
Interest on Federal investment in—			
Specific power facilities.....	\$ 738,584.03	\$	\$ 738,584.03
Specific navigation facilities.....	140,266.08	140,266.08	.....
Joint facilities.....	1,102,825.65	549,501.00	553,324.65
.....	\$1,981,675.76	\$ 689,767.08	\$1,291,908.68
Less—Interest charged to construction.....	1,014.18	471.66	542.52
Net interest deduction.....	\$1,980,661.58	\$ 689,295.42	\$1,291,366.16
Net revenues.....	\$ 610,207.10*	\$1,139,479.85*	\$ 529,272.75

*Denotes red figure.

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

BONNEVILLE DAM PROJECT

NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 10 and 11

1. Certain Costs Not Included:

Property costs and operating expenses do not include costs of administrative and other services rendered by other departments and agencies of the Federal government which, under governmental accounting procedure, 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 depreciated over such one hundred year period. A composite depreciation reserve is maintained for each class of property and the original cost of property retired, less net salvage applicable thereto, is charged to the related reserve.

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.

BONNEVILLE DAM PROJECT

NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 10 and 11

1. Certain Costs Not Included:

Property costs and operating expenses do not include costs of administrative and other services rendered by other departments and agencies of the Federal government which, under governmental accounting procedure, 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 depreciated over such one hundred year period. A composite depreciation reserve is maintained for each class of property and the original cost of property retired, less net salvage applicable thereto, is charged to the related reserve.

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
COLUMBIA BASIN PROJECT (GRAND COULEE DAM)
STATEMENT OF ASSETS AND LIABILITIES — JUNE 30, 1947

	Total	Deduct— Amounts Allocated to Irrigation and Navigation	Amounts Allocated to Power (Including Downstream River Regulation)		Total	Deduct— Amounts Allocated to Irrigation and Navigation	Amounts Allocated to Power (Including Downstream River Regulation)
ASSETS				LIABILITIES			
Property, Plant and Equipment , at original cost including interest during construction on facilities allocated to power (Notes 1 and 2):				Investment of U. S. Government:			
Specific power facilities (powerhouses and generating equipment).....	\$ 55,129,110.17	\$	\$ 55,129,110.17	Congressional appropriations, allotments and W.P.A. expenditures, less amounts not requisitioned.....	\$214,932,807.82	\$ 82,554,601.68	\$132,378,206.14
Joint facilities (dam, reservoir and general service facilities) allocated to—				Transfers from other Federal projects (net).....	1,830,802.49	805,553.10	1,025,249.39
Present power production.....	48,807,429.95	.....	48,807,429.95	Interest on portion of Federal investment allocated to power.....	24,984,395.82	.....	24,984,395.82
Future downstream river regulation.....	32,958,999.15	.....	32,958,999.15		<u>\$241,748,006.13</u>	<u>\$ 83,360,154.78</u>	<u>\$158,387,851.35</u>
Irrigation.....	61,174,245.11	61,174,245.11	.....	Less—Funds returned to U. S. Treasury in repayment of Federal investment.....	30,872,450.34	262,679.85	30,609,770.49
Navigation.....	1,000,000.00	1,000,000.00	.....	Net investment of U. S. Government.....	<u>\$210,875,555.79</u>	<u>\$ 83,097,474.93</u>	<u>\$127,778,080.86</u>
Specific irrigation facilities (equalizing reservoirs, canals and pumping plant).....	21,745,864.34	21,745,864.34	.....			
	<u>\$220,815,648.72</u>	<u>\$ 83,920,109.45</u>	<u>\$136,895,539.27</u>	Current Liabilities:			
Less—Reserves for depreciation (Note 3)—				Accounts payable.....	\$ 6,492,853.55	\$ 3,283,472.27	\$ 3,209,381.28
Specific power facilities.....	\$ 1,938,719.14	\$	\$ 1,938,719.14	Due to Central Valley Project (Shasta Dam) for rental of leased generating facilities.....	739,500.00	.....	739,500.00
Joint facilities allocated to—				Employees' accrued leave.....	640,987.47	380,574.13	260,413.34
Present power production.....	1,961,627.85	.....	1,961,627.85		<u>\$ 7,873,341.02</u>	<u>\$ 3,664,046.40</u>	<u>\$ 4,209,294.62</u>
Future downstream river regulation.....	587,117.74	.....	587,117.74	Deferred Power Revenues —advance by Bonneville Power Administration against future power revenues allocable to this project.....	\$ 1,856,771.00	\$	\$ 1,856,771.00
Irrigation.....	1,698,196.46	1,698,196.46	.....			
	<u>\$ 6,185,661.19</u>	<u>\$ 1,698,196.46</u>	<u>\$ 4,487,464.73</u>	Reserves:			
Original cost less reserves.....	<u>\$214,629,987.53</u>	<u>\$ 82,221,912.99</u>	<u>\$132,408,074.54</u>	Excess installation costs at Shasta Dam of generating facilities formerly leased from Central Valley Project..	\$ 364,036.09	\$	\$ 364,036.09
				Deferred maintenance.....	450,000.00	198,000.00	252,000.00
Interest and Depreciation Charges on Joint Facilities Allocated to Future Downstream River Regulation —recoverable from operations of future downstream hydro plants.....	\$ 5,500,905.41	\$	\$ 5,500,905.41		<u>\$ 814,036.09</u>	<u>\$ 198,000.00</u>	<u>\$ 616,036.09</u>
				Contributions in Aid of Construction —by State of Washington.....	\$ 313,439.53	\$ 137,913.39	\$ 175,526.14
Current Assets:							
Cash held by Treasury Department disbursing officers....	\$ 2,668,587.09	\$ 1,267,012.72	\$ 1,401,574.37	Accumulated Net Revenues (Note 1):			
Miscellaneous accounts receivable.....	69,818.92	32,675.25	37,143.67	Balance at beginning of year.....	\$ 4,054,261.85	\$ 708,131.77*	\$ 4,762,393.62
Materials and supplies.....	2,955,011.74	1,627,531.82	1,327,479.92	Add—Net revenues for the year ended June 30, 1947..	2,167,222.02	117,946.23*	2,285,168.25
	<u>\$ 5,693,417.75</u>	<u>\$ 2,927,219.79</u>	<u>\$ 2,766,197.96</u>	Balance at end of year.....	\$ 6,221,483.87	\$ 826,078.00*	\$ 7,047,561.87
Deferred Charges —clearing accounts, etc.....	\$ 2,130,316.61	\$ 1,122,223.94	\$ 1,008,092.67		<u>\$227,954,627.30</u>	<u>\$ 86,271,356.72</u>	<u>\$141,683,270.58</u>

* Denotes red figure.

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

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

STATEMENT OF REVENUES AND EXPENSES FOR THE FISCAL YEAR
ENDED JUNE 30, 1947

	Total	Deduct— Amounts Allocated to Irrigation 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
Total operating revenues.....	\$6,000,000.00	\$	\$6,000,000.00
Operating Expenses (Notes 1 and 2):			
Operation—			
Specific power facilities.....	\$ 438,608.18	\$	\$ 438,608.18
Joint facilities.....	151,615.79	66,710.95	84,904.84
Maintenance—			
Specific power facilities.....	338,078.69	.....	338,078.69
Joint facilities.....	148,700.30	65,428.13	83,272.17
Depreciation (Note 3)—			
Specific power facilities.....	445,772.75	.....	445,772.75
Joint facilities allocated to power.....	237,288.58	.....	237,288.58
Less—Amount allocated to future downstream river regulation, recoverable from operations of future downstream hydro plants.....	102,330.70*	.....	102,330.70*
Total operating expenses.....	\$1,657,733.59	\$132,139.08	\$1,525,594.51
Net operating revenues.....	\$4,342,266.41	\$132,139.08*	\$4,474,405.49
Other Income	25,516.24	14,192.85	11,323.39
	\$4,367,782.65	\$117,946.23*	\$4,485,728.88
Interest Deductions:			
Interest on portion of Federal investment allocated to power...	\$3,237,855.64	\$	\$3,237,855.64
Less—			
Amount allocated to future downstream river regulation, recoverable from operations of future downstream hydro plants.....	919,983.82*	.....	919,983.82*
Amount charged to construction.....	117,311.19*	.....	117,311.19*
Net interest deductions.....	\$2,200,560.63	\$	\$2,200,560.63
Net revenues.....	\$2,167,222.02	\$117,946.23*	\$2,285,168.25

* Denotes red figure.

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

COLUMBIA BASIN PROJECT (GRAND COULEE DAM)

NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 13 AND 14

1. Certain Costs Not Included:

Property costs and operating expenses do not include costs of administrative and other services rendered by other departments and agencies of the 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 nonpower 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. The undepreciated cost of general service facilities has been allocated to power and to nonpower purposes on the basis of the estimated future use of such facilities. 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 determined 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. Contingent Liabilities:

The project is 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.

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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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SOUTHWESTERN DISTRICT
Eugene, Oregon

UPPER COLUMBIA DISTRICT
Spokane, Washington

MID-COLUMBIA DISTRICT
Walla Walla, Washington

PUGET SOUND DISTRICT
Seattle, Washington