

U. S. COLUMBIA RIVER  
POWER SYSTEM

# Report

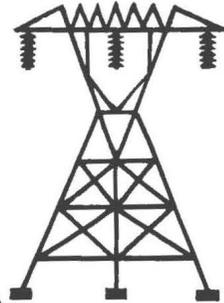
**1956**

BONNEVILLE POWER ADMINISTRATION

U. S. DEPARTMENT OF THE INTERIOR

Consisting of  
the Bonneville Power Administration  
and the following projects:  
Bonneville Dam, Columbia Basin ( Grand Coulee Dam ),  
Hungry Horse, Albeni Falls, Detroit - Big Cliff,  
McNary, Lookout Point - Dexter, Chief Joseph,  
The Dalles, Chandler, Ice Harbor,  
Cougar, & Hills Creek.

PORTLAND 8, OREGON



**U. S. C O L U M B I A R I V E R  
P O W E R S Y S T E M**

# Report

**U. S. DEPARTMENT OF THE INTERIOR**

**BONNEVILLE POWER ADMINISTRATION**

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# Letter of Transmittal

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February 1, 1957

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

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Dear Mr. Secretary:

Bonneville Power Administration's 19th annual report, covering operations of the U. S. Columbia River power system from July 1, 1955 through June 30, 1956, is hereby respectfully submitted as required by Section 9 (c) of the Bonneville Project Act.

The report gives an official accounting for the power components of Federal multipurpose dams under jurisdiction of the Corps of Engineers and the Bureau of Reclamation for which the Administration is the power marketing agency.

Financial results of operations for the fiscal year reflect steady growth with gross power revenues of \$60,992,623, largest since inception of the U. S. Columbia River power system. Net revenues totaled \$5,949,412 after provision for all expenses including interest and depreciation. Industrial customers accounted for 46.38 percent of the revenue dollar, of which the aluminum industries represented 32.96 percent. Sales to publicly owned utilities were 31.98 percent of the total, privately owned utilities 19.67, and miscellaneous 1.97.

As of June 30, 1956, the gross capital investment in the operating projects of the U. S. Columbia River power system including BPA transmission facilities was \$1,288,752,939. After repayment of \$247,512,964 in current operating expenses including interest, \$202,176,121 was applied to the capital investment leaving a balance of \$1,086,576,818. Capital repayments to date represent 15.69 percent of the gross capital investment.

Sales reached a record 26 billion kilowatt-hours for the fiscal year or 63.5 percent of the total energy generated by major utilities of the region. The Administration supplied 7.2 billion kilowatt-hours of energy to members of the Northwest Power Pool after meeting all contractual requirements of nonpool utilities and industries served by Bonneville Power Administration.

Favorable water conditions during the year boosted sales of interruptible power by 22.2 percent to a total of 4.1 billion kilowatt-hours.

The Administration sold 190.4 billion kilowatt-hours of electric energy at a composite rate of 2.38 mills per kilowatt-hour during the 18 years of operation ended June 30, 1956.

Generator additions to the Federal system during the fiscal year had a name-plate rating of 562,000 kilowatts.

Construction of authorized transmission facilities progressed on schedule with several key lines completed to integrate new generation from McNary, Chief Joseph and other Federal plants with the Bonneville Power Administration's grid and carry it to major load centers. The Administration's grid represented 7,195 circuit miles of high voltage transmission line and 178 substations with a transformer capacity of 8,008,750 kilovolt-amperes at the end of the fiscal year.

Important from the point of view of policy and management are studies undertaken during the year in regard to two aspects of the Administration's wholesale power rates.

First, required rate levels are being given continued study in view of rising cost trends, particularly the increasing capital investment required per kilowatt of generating capacity.

Second, in order to maximize revenues from the government's power operations and to assist the economy of the area, an effort is being made to design a wholesale power rate that will make possible the marketing of the rather considerable amount of energy that is available only during limited periods of the year, such as the high runoff months of late spring and early summer or at other times of very good streamflow. Such energy is not salable at the Administration's present rates.

Since fiscal year 1952 when the Bonneville and Grand Coulee Dams (both very low-cost power producers primarily because of having been constructed largely at pre-war price levels) comprised the total generation of the U. S. Columbia River power system, gross revenues have continued to increase as additional projects have come into service. Net revenues, and, in particular, the ratio of net revenues to gross revenues, have declined.

Rising capital costs have caused depreciation and interest expenses to increase much more rapidly than gross revenues, thereby effecting the marked drop in the amount and margin of net revenues since the wholesale power rates have not been increased. However, the decline appears to be leveling off and will show very little additional drop during the next two years according to our present forecasts.

Contract negotiations and studies are well under way with respect to the sale of power to the aluminum and other industries on an interruptible basis and the development of

markets for low availability, nonfirm power now largely unsold.

Sales of nonfirm energy to the industries on an interruptible basis have been substantial in recent years, but have not been covered by formal contracts. Current negotiations and studies are considering the formalization of the existing sales arrangements. This would place the sale of interruptible power on a firm contractual basis with possible advantages to both the Administration and the customer.

Energy sold to industries on an interruptible basis is available for a fairly substantial percentage of the time over a period of years. Additional and substantial amounts of energy are available for a much smaller percentage of the time, such as only during the high runoff months of late spring and early summer and during other months when streamflow conditions are unusually favorable. If this low-availability energy can be offered for sale at sufficiently attractive rates, it may be possible to sell substantial quantities to replace steam generation, particularly for new steam plants, to supplement coastal hydro plants or to industries that can adapt their operations to such power.

Joint management and system planning studies being carried on through the Northwest Power Pool and other major utilities with generating facilities are assuring continued hydraulic and electrical integration of the region's power resources. Programs for the wheeling of non-Federal generation through the facilities of the BPA grid, authorized last year by the Secretary's office, are continuing to play an important role.

Administration studies of the Ford, Bacon & Davis report of our rate structures and schedules are near completion. Bonneville Power Administration's recommendations relative to the report will be submitted to the Secretary during the coming year.

In closing I would like to take this opportunity of calling to your attention the wholehearted cooperation we have enjoyed during the past year from the Corps of Engineers, Bureau of Reclamation, and Federal Power Commission in meeting the Federal power responsibilities in this region. Equally helpful has been the unstinted cooperation of the Northwest Power Pool members, smaller utilities and related State and local agencies.

Although complex problems will continue to face the Pacific Northwest in meeting its power requirements during the next decade, gratifying progress has been made during the past year. I am confident the predominating spirit of cooperation which now exists among the utilities of the region will go far toward providing the power resources to support a dynamic Northwest economy.

Sincerely,

A handwritten signature in dark ink, appearing to read "Wm. A. Pearl". The signature is fluid and cursive, with a large initial "W" and a long, sweeping tail.

Wm. A. Pearl  
Administrator

# Financial Results of Operations

A condensed summary of results of commercial power operations of the Columbia River power system is presented in table I for the fiscal years 1955 and 1956, in cumulative total to June 30, 1956 and as forecast for 1957 and 1958. The data are summarized from commercial cost accounts kept in accordance with the Federal Power Commission's system of accounts for electric utilities.

*New High  
for Gross  
Revenues*

In 1956 gross revenues reached a new peak of \$60,992,623, an increase of \$8,926,141, or 17.1 percent over 1955. Water conditions for the generation of hydroelectric power were good during the 1956 fiscal year. Generating units added during the year were as follows:

<u>Project</u>	<u>No. of units</u>	<u>Nameplate rating - kilowatts</u>
McNary	4	280,000
Chief Joseph	4	256,000
Albeni Falls	1	14,200
Chandler	<u>2</u>	<u>12,000</u>
Total	11	562,200

TABLE I  
**U. S. COLUMBIA RIVER POWER SYSTEM**  
 Condensed summary of revenues and expenses 1/  
 Operating projects only 2/

	Fiscal year	Actual	Total to	Forecast 5/	
	1955	Fiscal year 1956	June 30, 1956	Fiscal year 1957	Fiscal year 1958
Operating revenues:					
Sales of electrical energy .....	\$51,258,723	\$59,789,690	\$452,762,959	\$66,600,000	\$73,500,000
Other electric revenue .....	807,759	1,202,933	10,042,933	900,000	900,000
Total operating revenues	<u>\$52,066,482</u>	<u>\$60,992,623</u>	<u>\$462,805,892</u>	<u>\$67,500,000</u>	<u>\$74,400,000</u>
Expenses:					
Operation, maintenance, etc. ....	\$13,101,399	\$14,865,090	\$123,526,606	\$16,491,000	\$18,908,000
Provision for depreciation .....	14,516,958	18,539,972	101,347,677	20,510,000	22,971,000
Interest expense .....	15,937,409	21,691,302	137,702,338	25,009,000	26,541,000
Miscellaneous deductions, net .....	(80,589)	(53,153)	1,483,664	—	—
Total expenses	<u>\$43,475,177</u>	<u>\$55,043,211</u>	<u>\$364,060,285</u>	<u>\$62,010,000</u>	<u>\$68,420,000</u>
Net revenues .....	<u>\$ 8,591,305</u> <sup>3/</sup>	<u>\$ 5,949,412</u> <sup>3/</sup>	<u>\$ 98,745,607</u> <sup>4/</sup>	<u>\$ 5,490,000</u>	<u>\$ 5,980,000</u>

( ) Indicates red figures.

1/ Commercial power operations only.

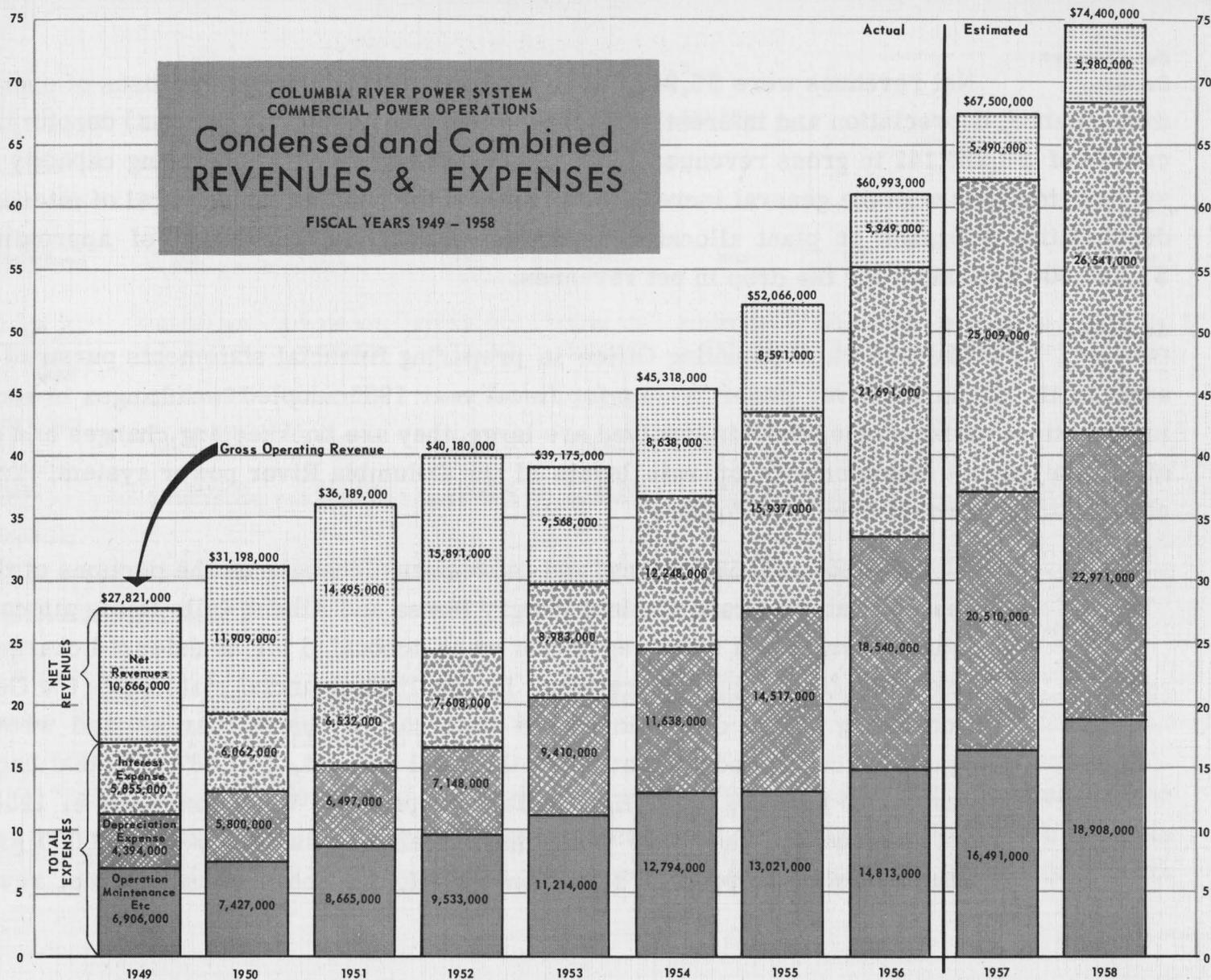
2/ Projects in operation at June 30, 1956 in addition to the Bonneville Power Administration's transmission system were Bonneville Dam, Columbia Basin ( Grand Coulee ), Hungry Horse, Albeni Falls, Detroit-Big Cliff, McNary, Lookout Point-Dexter, Chief Joseph and Chandler. Generator installations were complete at all of these projects as of June 30, 1956, except that only twelve of the scheduled total of fourteen generator units at McNary were in operation. Also, only four of the scheduled total of sixteen generator units at Chief Joseph were in operation. Projects under construction with no generator units in service in 1956 were The Dalles, Ice Harbor, Cougar, Hills Creek and Roza.

3/ Before adjustments applicable to prior years: \$286,521 debit in 1955 and \$17,283,539 in 1956. The adjustment made in fiscal year 1956 was the write-off of the accumulated deferred interest and depreciation expenses to June 30, 1955 made to future plants of the down stream river regulation benefits.

4/ All prior years' adjustments are reflected in the individual expense categories in the total column; hence, the net revenues of \$98,745,607 as of June 30, 1956 are after giving effect to such adjustments.

5/ The forecast of revenues is based upon an assumption of average water conditions and the forecast of expenses is based upon generator installation Schedule Y of August 15, 1956.

Millions of Dollars



NOTES: The estimate of gross operating revenue for fiscal years 1957 and 1958 are based on an assumption that median water conditions, adjusted to average conditions, will prevail. These estimates are based also on the Administration's present wholesale rates.

Gross revenues in 1953 were reduced from 1952 as a result of adverse water conditions during the winter months of fiscal year 1953, despite the fact that the system received some

benefits in 1953 from initial generators at the Hungry Horse Project and the operation of the storage capacity of the Albeni Falls Project.

The Chief Joseph and Chandler projects started commercial power operations in fiscal year 1956 and The Dalles and Roza projects are expected to start operations in fiscal year 1958.

*Net Revenues*

*Decrease*

Net revenues were \$5,949,412 in 1956 after deducting all expenses of operation, maintenance, depreciation and interest, a decrease of \$2,641,893 (30.8 percent) despite the increase of \$8,926,141 in gross revenues. The addition of higher cost generating capacity to the system, together with the general increase of price levels, and the nondeferral of interest and depreciation expenses on plant allocated to downstream river regulation of approximately \$1,100,000 accounted for the drop in net revenues.

*Accounting*

*Changes*

The General Accounting Office in preparing financial statements pursuant to its audit of the Columbia River power system for fiscal year 1956 adopted two changes in accounting practice. Although the amounts involved are large, they are bookkeeping changes and do not affect the payout requirements or rate levels of the Columbia River power system. The two changes may be noted briefly as follows:

1. Prior to 1956, interest and depreciation charges on the portions of the investment at the Grand Coulee, Hungry Horse and Albeni Falls Dams allocated to future downstream river regulation were accounted for as deferred charges recoverable from future operations. In the 1956 financial statements the General Accounting Office discontinued the deferral of these charges and wrote off against accumulated net revenues the total amount, \$17,387,795, that had been accrued to June 30, 1955. Had the former practice been continued in 1956, the net revenue for that year would have been approximately \$1,100,000 greater than the net of \$5,949,412 shown on table I, and the accumulated net revenues

TABLE II  
**U. S. COLUMBIA RIVER POWER SYSTEM**  
 Revenue by class of customers  
 Fiscal years ended June 30

<u>Class of customer</u>	<u>1951 and prior</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>Total to June 30, 1956</u>	<u>1956 Percentage ( dollar revenue )</u>
Industry:								
Aluminum	\$101,072,840	\$13,376,207	\$13,545,562	\$15,944,356	\$16,909,588	\$20,098,110	\$180,946,663	32.96%
Other <sup>1/</sup>	24,890,143	4,650,425	4,715,747	5,417,177	6,821,850	8,186,874	54,682,216	13.42
Publicly owned utilities	38,969,757	12,973,025	13,882,890	14,882,997	17,601,135	19,505,231	117,815,035	31.98
Privately owned utilities	54,744,490	8,526,775	6,239,276	7,882,879	9,926,150	11,999,475	99,319,045	19.67
Other operating revenue	<u>5,396,509</u>	<u>653,714</u>	<u>791,734</u>	<u>1,190,284</u>	<u>807,759</u>	<u>1,202,933</u>	<u>10,042,933</u>	<u>1.97</u>
Total operating revenue	<u>\$225,073,739</u>	<u>\$40,180,146</u>	<u>\$39,175,209</u>	<u>\$45,317,693</u>	<u>\$52,066,482</u>	<u>\$60,992,623</u>	<u>\$462,805,892</u>	<u>100.00</u>

*1/ Includes sales to Federal agencies.*

as of June 30, 1956 would have been approximately \$117 million instead of the \$98,745,607 shown on table I.

2. In prior years the excess of system power revenues allocated to the Corps of Engineers' generating projects over the annual costs at such projects charged to power operations was accounted for as payment in excess of costs

or, in effect, as advance provision for depreciation expense rather than as net revenues. This accounting treatment has been explained in detail in the notes accompanying the auditors' reports in prior years. In the 1956 financial statements the General Accounting Office discontinued this rather technical accounting practice and treated the excess of revenues over costs at these generating projects as net revenues. This change does not affect the accumulated net revenues as shown on the combined statements of the Columbia River power system.

*Sales up  
in all Groups*

Table II summarizes by customer categories the sources of revenues by fiscal years to and including 1956. Fiscal year 1956 is illustrated also by the accompanying chart. Increased sales were made in all categories. Sales to the aluminum industry increased \$3,188,522; other industries, \$1,365,024; publicly owned utilities, \$1,904,096; and privately owned utilities, \$2,073,325.

*Summary of  
Expenses*

In recent years the trend of total operation and maintenance expenses has kept pace approximately with the rise of gross revenues, but depreciation and interest expenses have increased much more rapidly. This situation results from the fact that although the Administration's rate levels have not been increased, a large amount of additional higher cost capacity has been added to the system.

CHART 1

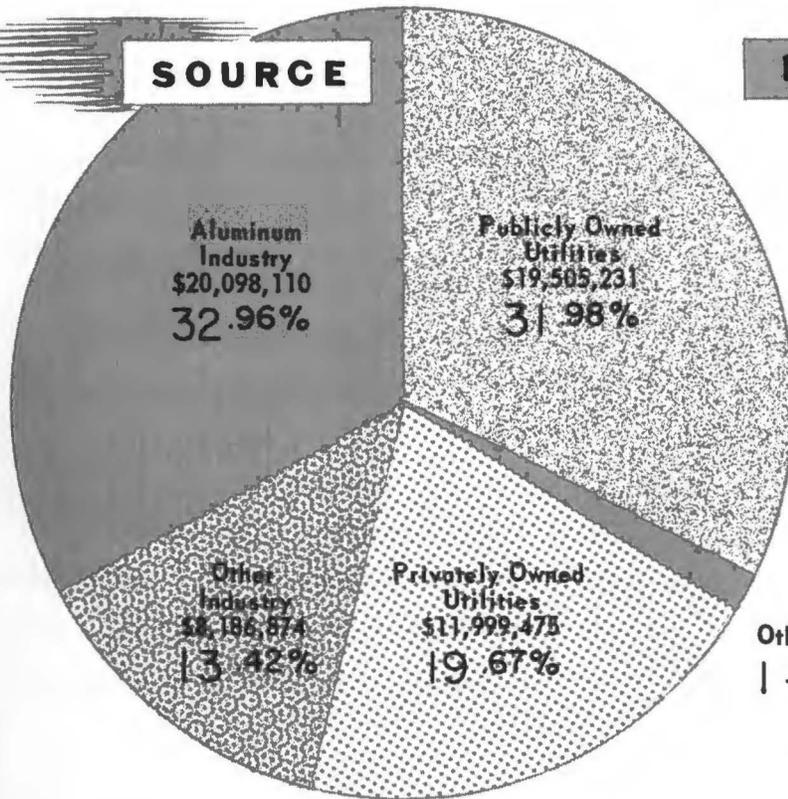
U. S. COLUMBIA RIVER POWER SYSTEM

# SOURCE & DISPOSITION OF THE REVENUE DOLLAR

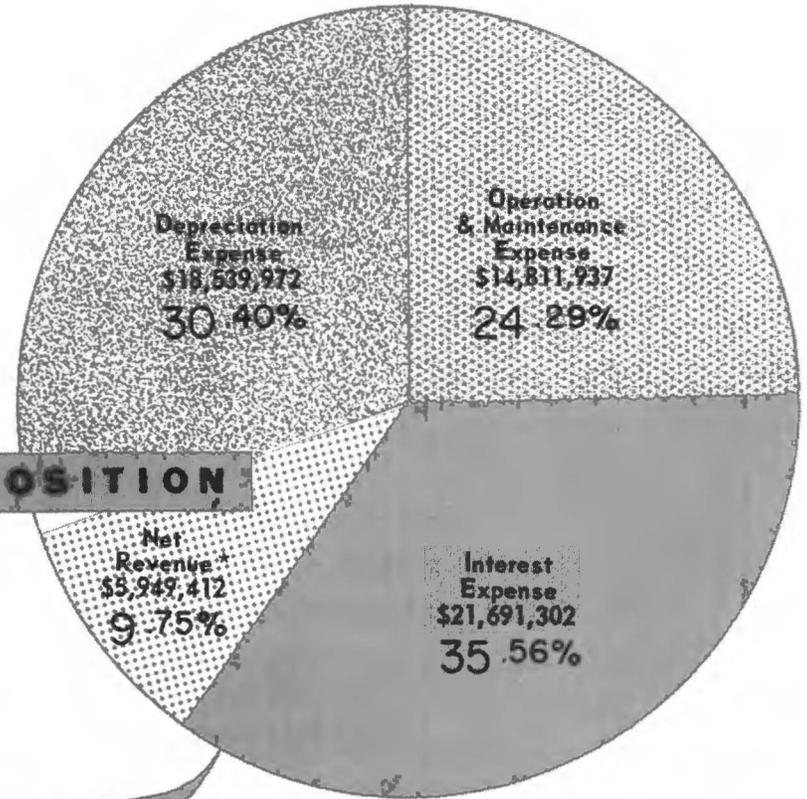
( Commercial Power Operations Only )

F.Y. 1956

## SOURCE



## DISPOSITION



TOTAL REVENUE \$60,992,623

Other Electric Revenues \$1,202,933  
|.97%

\* Before adjustments applicable to prior years.

*1956 Revenue  
Dollar*

The accompanying chart shows the source and disposition of the revenue dollar in fiscal year 1956. Operation and maintenance expenses required 24.29 percent of gross revenues and this relationship has held at approximately 25 percent during the last several years. Depreciation expense was equal to 30.40 percent of the gross revenue in 1956 as against only 17.79 percent in 1952. Similarly, interest expense in 1956 represented 35.56 percent of gross revenue as against 18.93 percent in 1952.

*Net-to-Gross  
Ratio Declines*

As a result of the increasing proportions of gross revenues required in recent years to meet depreciation and interest expenses, the ratio of net revenue to gross revenue has declined steadily. In 1956 the net revenue was 9.75 percent of gross compared with approximately 40 percent ratio in each of the years 1949 to 1952, inclusive, after which the spread narrowed steadily to the current level of 8 to 10 percent. Moreover, it is estimated that for 1957 and 1958 the ratio of net to gross will decline to 8.13 percent and 8.04 percent, respectively.

*New Projects Cost  
Levels Higher*

These ratios of expenses and net revenues to gross revenues have changed substantially from those of 1952 and immediately preceding years. Up to and including 1952 only the Bonneville and Grand Coulee Dams were in operation, but in each succeeding year additional projects; namely, Hungry Horse, Detroit-Big Cliff, Albeni Falls, McNary, Lookout Point-Dexter, Chief Joseph and Chandler have been brought into service. These new projects were built at construction cost levels much higher than those which prevailed when Bonneville and Grand Coulee projects were constructed. Accordingly, they represent a considerably increased

capital investment per kilowatt of capacity, a fact clearly revealed by the upward trends of depreciation and interest expense since 1952. Specifically, during the four years following 1952, gross revenues increased 52 percent, kilowatt-hours sold increased 53 percent, and operation and maintenance expenses increased by 55 percent; but depreciation expense and interest expense increased by 159 percent and 185 percent, respectively, for these years.

Table I shows total expenses of \$55,043,211 in 1956 and \$43,475,177 in 1955, an increase of \$11,568,034 (26.61) percent. These total costs, which include all expenses of operation, maintenance, administration, depreciation, interest, etc., in accordance with generally accepted cost accounting practice, may be summarized as follows:

<u>Project</u>	<b>Total commercial power costs</b>		<b>Increase or ( Decrease )</b>
	<b>Fiscal year 1955</b>	<b>Fiscal year 1956</b>	
Bonneville .....	\$ 2,921,368	\$ 2,458,960	\$ ( 462,408 )
Columbia Basin ( Grand Coulee ) .....	6,491,529	7,666,351	1,174,822
Hungry Horse .....	3,001,245	3,417,558	416,313
Albeni Falls .....	393,932	1,332,614	938,682
McNary .....	5,213,940	8,595,643	3,381,703
Detroit-Big Cliff .....	1,791,648	1,884,032	92,384
Lookout Point-Dexter .....	574,638	1,858,625	1,283,987
Chief Joseph .....	—	1,833,053	1,833,053
Chandler .....	—	69,688	69,688
Generation subtotal.....	<u>\$20,388,300</u>	<u>\$29,116,524</u>	<u>\$ 8,728,224</u>
Transmission ( Bonneville Power Administration ) .....	<u>23,086,877</u>	<u>25,926,687</u>	<u>2,839,810</u>
Total .....	<u>\$43,475,177</u>	<u>\$55,043,211</u>	<u>\$11,568,034</u>

The increases at the Columbia Basin, Hungry Horse and Albeni Falls projects result primarily from a change in accounting in 1956; namely, the discontinuance of the former policy of deferring interest and depreciation which is applicable to the investment allocated to future downstream river regulation. The increases at the other projects were caused primarily by the fact that additional generator units came into service at those projects during the year. The decrease at the Bonneville Dam project reflects the completion in 1955 of extraordinary maintenance work, estimated to recur about every twenty years.

*Plant Investment  
Increases*

As of June 30, 1952, the Columbia River power system had only two hydroelectric generating projects, Bonneville and Grand Coulee, in operation with a total installed capacity of 2,462,400 kilowatts, but the system total has increased by 1,689,000 kilowatts, or 68.6 percent to a total of 4,151,000 kilowatts as of June 30, 1956. This increase during the past three years represents the completion of Hungry Horse with 285,000 kilowatts, Lookout Point with 120,000 kilowatts, Dexter with 15,000 kilowatts, Detroit with 100,000 kilowatts, Big Cliff with 18,000 kilowatts, Albeni Falls with 42,600 kilowatts, Chandler with 12,000 kilowatts, McNary with 840,000 kilowatts (representing twelve of a scheduled total of fourteen generator units), and Chief Joseph with 256,000 kilowatts (consisting of four of the sixteen units at that project). Although the installed capacity thus increased by 68.6 percent, the investment in the dams, reservoirs, powerplants, transmission lines, etc., has increased even more. As of June 30, 1956 the investment in fixed assets allocated to power was 147.7 percent greater than the corresponding figure four years earlier. These data are summarized as follows:

	June 30		Percent increase
	<u>1952</u>	<u>1956</u>	
	( Thousands of dollars )		
Multipurpose projects: <sup>1/</sup>			
Allocated to power	266,562	879,794	230.0
Allocated to non-power	265,433	450,983	69.9
	<u>531,995</u>	<u>1,330,777</u>	150.1
Transmission ( 100% to power )	<u>249,039</u>	<u>397,495</u>	59.6
Total			
Power	515,601	1,277,289	147.7
Non-power	265,433	450,983	69.9
Total	<u>781,034</u>	<u>1,728,272</u>	121.3

*1/ Excluded projects ( The Dalles, Ice Harbor, Cougar, Hills Creek, and Roza ) under construction with no generators in service as of June 30, 1956. Plant costs incurred to June 30, 1956 at these excluded projects totaled \$161,886,507 for all purposes.*

Table III shows for each individual project as of June 30, 1956 the amounts of the fixed plant investment in total and as allocated to power and to nonpower functions making up the June 30, 1956 totals shown in the foregoing tabulation. In the four years from June 30, 1952 to June 30, 1956 the amount of the investment at the Bonneville and Columbia Basin (Grand Coulee) projects increased by a relatively small amount, the bulk of the increase thus being accounted for by the additional projects that have come into service since that date and by additional transmission facilities. For the total system the plant account for the operating projects as of June 30, 1956 was \$1,728,272,493 of which \$1,277,289,050 was allocated to power and \$450,983,443 to nonpower purposes as detailed in footnote 1 of table III. These plant account data include interest during construction except on the nonpower amounts at the Columbia Basin project. For a summary of the total amounts of interest included in the power accounts of the operating projects see table IV.

TABLE III  
**U. S. COLUMBIA RIVER POWER SYSTEM**  
**Summary of amount and allocation of investment in fixed assets**  
**( Plant accounts )**  
**as of June 30, 1956**  
**Operating projects only**

<u>Project</u>	<u>Total</u>	<u>Allocation</u> <sup>2/</sup>	
		<u>Nonpower</u>	<u>Power</u>
Bonneville Power Administration	\$ 397,494,532	\$ —	\$ 397,494,532
Bonneville Dam .....	86,946,718	27,320,612	59,626,106
Columbia Basin .....	496,501,499	292,033,152	204,468,347
Hungry Horse .....	107,529,495	20,662,037	86,867,458
Albeni Falls .....	30,947,946	298,685	30,649,261
McNary Dam .....	301,537,202	25,814,420	275,722,782
Detroit-Big Cliff .....	66,193,692	24,455,594	41,738,098
Lookout Point-Dexter .....	92,753,321	51,176,604	41,576,717
Chief Joseph .....	135,911,164	261,435	135,649,729
Chandler .....	12,456,924	8,960,904	3,496,020
Total plant	<u>\$1,728,272,493</u>	<u>\$450,983,443</u> <sup>1/</sup>	<u>\$1,277,289,050</u>
Less combined reserve for depreciation .....			<u>94,236,032</u>
Total less reserve .....			<u>\$1,183,053,018</u>

1/ Segregation of nonpower total by purpose:

	<u>Specific facilities</u>	<u>Allocation of joint facilities</u>	<u>Total</u>
Irrigation	\$228,105,651	\$ 80,773,856	\$308,879,507
Flood control		86,703,993	86,703,993
Navigation	28,508,896	26,724,516	55,233,412
Other	166,531	—	166,531
Total	<u>\$256,781,078</u>	<u>\$194,202,365</u>	<u>\$450,983,443</u>

1/ Allocations are tentative or interim except for Bonneville Dam and Columbia Basin Project.

TABLE IV  
**U. S. COLUMBIA RIVER POWER SYSTEM**  
**Summary of interest on Federal investment**  
**allocated to commercial power**  
**as of June 30, 1956**  
**operating projects only**

Interest during construction, to be returned during  
 repayment period as part of the Federal investment:

Transmission system .....	\$ 6,138,823
Bonneville Dam .....	2,333,547
Columbia Basin .....	9,687,397
Hungry Horse .....	4,708,543
McNary .....	19,449,222
Albeni Falls .....	1,025,875
Detroit-Big Cliff .....	2,683,524
Lookout Point-Dexter .....	3,052,037
Chief Joseph .....	8,694,344
Chandler .....	124,808
Subtotal .....	<u>\$ 57,898,120</u>

Interest charged to operations – repaid currently:

Transmission system .....	43,227,304
Bonneville Dam .....	19,956,839
Columbia Basin .....	52,752,518
Hungry Horse .....	7,061,125
McNary .....	8,415,796
Albeni Falls .....	1,435,689
Detroit-Big Cliff .....	2,651,538
Lookout Point-Dexter .....	1,352,498
Chief Joseph .....	817,737
Chandler .....	31,293
Subtotal .....	<u>\$137,702,337</u>
Gross interest accumulation .....	<u>\$195,600,457</u>

*Repayment  
of Federal  
Investment*

As of June 30, 1956 the gross Federal investment of the Columbia River power system allocated to the commercial power activity for both generation and transmission was \$1,569,975,868, which amount is exclusive of such portion of the investment made to June 30, 1956 in multipurpose projects under construction but not in operation as may ultimately be allocated to commercial power. This gross investment includes all funds appropriated, net of expired appropriations returned to the Treasury, for both construction and operation, including maintenance, administration, etc. Included, also, are indirect items such as WPA expenditures and other funds, properties or services received from other Federal agencies, plus a gross interest accumulation at the rate of 2 1/2 percent per annum on the unamortized balances of the investment.

*Federal  
Investment  
Summarized*

The amount and repayment status of the gross Federal power investment as of June 30, 1956 is summarized in table V. The principal components of the gross total of \$1,569,975,868 are expenses in the amount of \$109,810,627 for operation, maintenance, etc., interest expense of \$137,702,337, invested capital of \$1,288,752,939 and unexpended (i.e., uninvested) appropriations of \$33,709,965.

*Unpaid  
Balance*

The gross cash receipts of \$449,689,085 returned to the Treasury in repayment of the Federal power investment resulted in a net investment amount as of June 30, 1956 of \$1,120,286,783. This balance consists solely of capital, inasmuch as receipts have been applied, first, to the payment of expenses of operation, maintenance, interest, etc., in the total

TABLE V  
**U. S. COLUMBIA RIVER POWER SYSTEM**  
**Summary of Federal investment in operating projects**  
**allocated to commercial power and status of repayment**  
**as of June 30, 1956**

**Operating projects only 1/**

	<u>Gross investment</u>	<u>Repayments</u>	<u>Net investment</u>
Investment in current expenses:			
Operation, maintenance, etc. <sup>2/</sup>	\$ 109,810,627	\$109,810,627	—0—
Interest <sup>3/</sup>	<u>137,702,337</u>	<u>137,702,337</u>	<u>—0—</u>
Total current expenses	\$ 247,512,964	\$247,512,964	—0—
Capital investment:			
Invested capital <sup>4/</sup>	\$1,288,752,939	\$202,176,121	\$1,086,576,818
Unexpended ( uninvested ) appropriations	<u>33,709,965</u>	<u>—</u>	<u>33,709,965</u>
Gross capital investment	<u>\$1,322,462,904</u>	<u>\$202,176,121</u>	<u>\$1,120,286,783</u>
Total Federal investment	<u>\$1,569,975,868</u>	<u>\$449,689,085</u>	<u>\$1,120,286,783</u>

1/ Consists of Bonneville Dam, Columbia Basin Project, Hungry Horse, Albeni Falls, Detroit-Big Cliff, Lookout Point-Dexter, McNary, Chief Joseph, Chandler projects and Bonneville Power Administration. Excluded are The Dalles, Ice Harbor, Cougar, Hills Creek and Roza projects, which were under construction but with no generator units in service as of June 30, 1956.

2/ Table I on an accumulative basis to June 30, 1955 shows expenses of operation, maintenance, etc. in the amount of \$123,526,606 and miscellaneous deductions of \$1,483,664 for an expense total of \$125,010,270 as against the total of \$109,810,627 shown above. The data on Table I are accrued cost accounts, including non-cash exchange account transactions and the capital costs of abandoned projects written off to expense. These items account for the difference in the total expense shown on Table I from the total shown in this table which is prepared on a cash payout basis. For the same reason this table uses as gross repayments only the actual cash receipts of \$449,689,085 as against total accrued operating revenues of \$462,805,892 shown on Table I. The difference between the accrued revenues and the cash receipts consist of non-cash exchange account transactions included in accrued revenues and uncollected accounts receivable on hand as of June 30, 1956.

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

4/ The invested capital consists primarily of the fixed plant account allocated to power in the amount of \$1,277,289,050, including interest during construction, plus inventories and other miscellaneous assets, less amounts included from non-Federal sources such as trade creditors represented by Accounts Payable and other current accrued liabilities such as the employees' accrued leave.

amount of \$247,512,964, leaving receipts of \$202,176,121 applied to repayment of the capital investment, representing repayment of 15.68 percent of the invested capital.

As of June 30, 1956 the amount and repayment of the commercial power invested capital of the individual projects were as follows:

<u>Project</u>	<u>Power capital<sup>1/</sup> investment</u>	<u>Repaid as of June 30, 1956</u>	<u>Percent repaid</u>	<u>Net power<sup>1/</sup> investment</u>
Bonneville Power Administration.....	\$ 412,098,423	\$103,597,391	25.14	\$ 308,501,032
Bonneville Dam.....	59,839,067	24,662,894	41.22	35,176,173
Columbia Basin.....	207,000,732	51,972,069	25.11	155,028,663
Hungry Horse .....	87,502,575	4,783,408	5.47	82,719,167
Albeni Falls .....	30,549,396	641,061	2.10	29,908,335
McNary .....	272,972,262	12,843,739	4.71	260,128,523
Detroit-Big Cliff .....	41,905,270	2,044,687	4.88	39,860,583
Lookout Point-Dexter .....	41,542,590	1,053,352	2.54	40,489,238
Chief Joseph .....	131,848,105	455,850	0.35	131,392,255
Chandler.....	3,494,519	121,670	3.48	3,372,849
Total.....	\$1,288,752,939	\$202,176,121	15.68	\$1,086,576,818

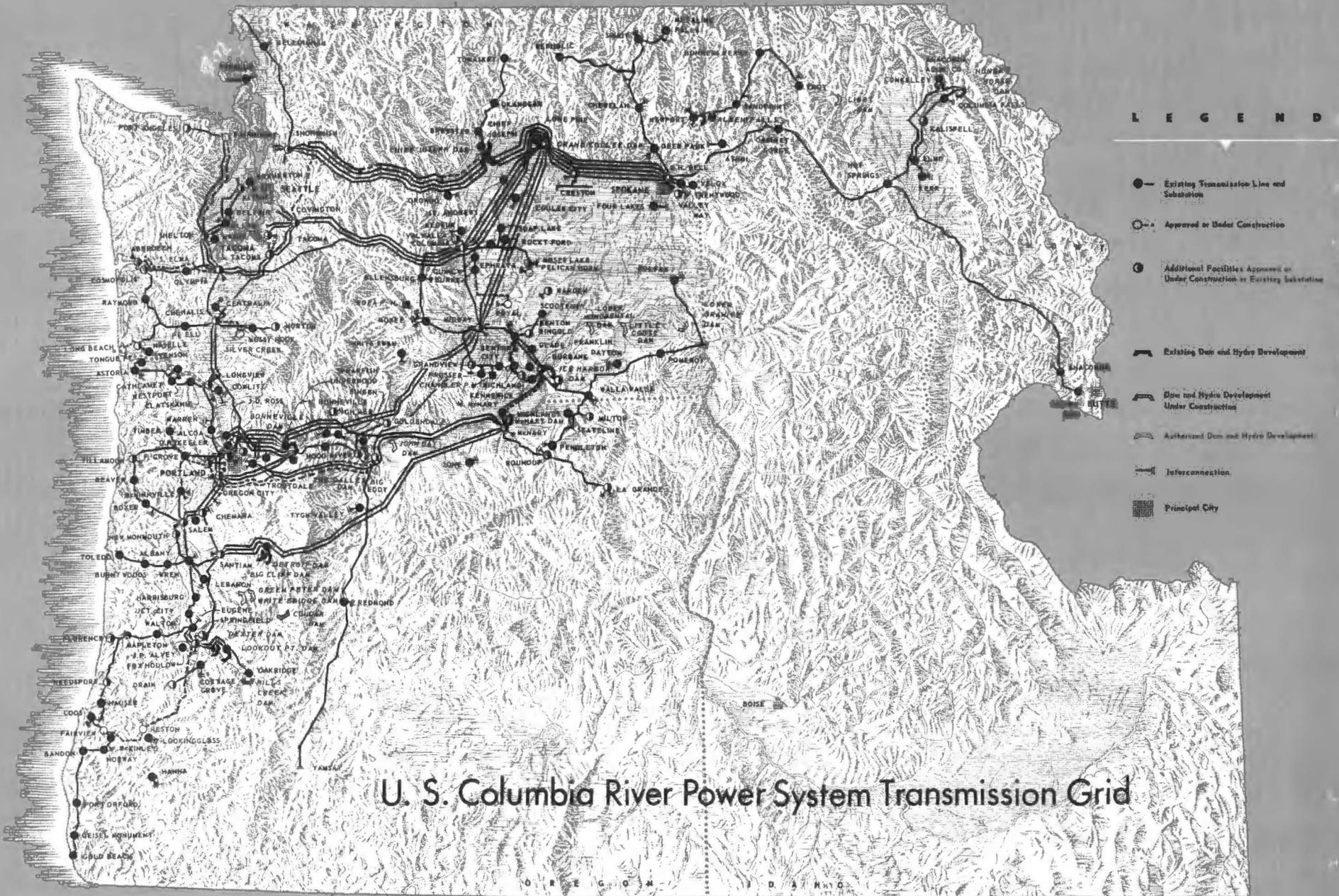
1/ Exclusive of unexpended funds in U. S. Treasury.

#### **Repayment**

##### **Status**

The repayment of \$202,176,121 on the invested power capital to June 30, 1956 exceeds the estimated scheduled capital repayment requirements by approximately \$77.1 million consisting of approximately \$53.7 million in excess of schedule for Bonneville Power Administration and \$12.0 million for the Bonneville Dam project, and approximately \$11.4 million for the other generating projects, except that the Columbia Basin and Chandler projects

were considered as just on schedule as of that date. However, these amounts of repayment in excess of schedule are tentative, pending the formalization of the cost allocations and repayment schedules for most of the projects. The foregoing tabulation shows substantial repayment on the capital investment of the Bonneville Power Administration, Bonneville Dam project and Columbia Basin project which have been in operation for several years, and only a nominal percentage of repayment for the other projects which have only recently come into service.



# Summary of Operations

## *Energy Production*

Energy generated at 11 Federal plants for the Administration totaled 27.6 billion kilowatt-hours during fiscal year 1956. This was an increase of 18.7 percent over fiscal year 1955. Two new plants, Chief Joseph and Chandler, were connected to the system during the year. In addition, four new units at McNary and the third unit at Albeni Falls were brought into production during the year.

## *New System Peak*

A new system peak was established during the 8-9 a.m. hour on February 1, 1956, before the Chandler units and the eleventh and twelfth units at McNary were in operation. Maximum coincident demand on the 10 Federal plants was 4,479,000 kilowatts, an increase of 22.7 percent over the previous fiscal year's maximum demand of 3,651,000 kilowatts occurring during December 1954.

Except for four isolated quarters, maximum system demands have continuously exceeded nameplate rating of installed generators since the fall of 1946. Energy produced at Federal plants for the Administration is shown by years in table VI and illustrated in the accompanying chart. Prepared on a quarterly basis, the chart shows the general trends of the Bonneville Power Administration's system-load growth.

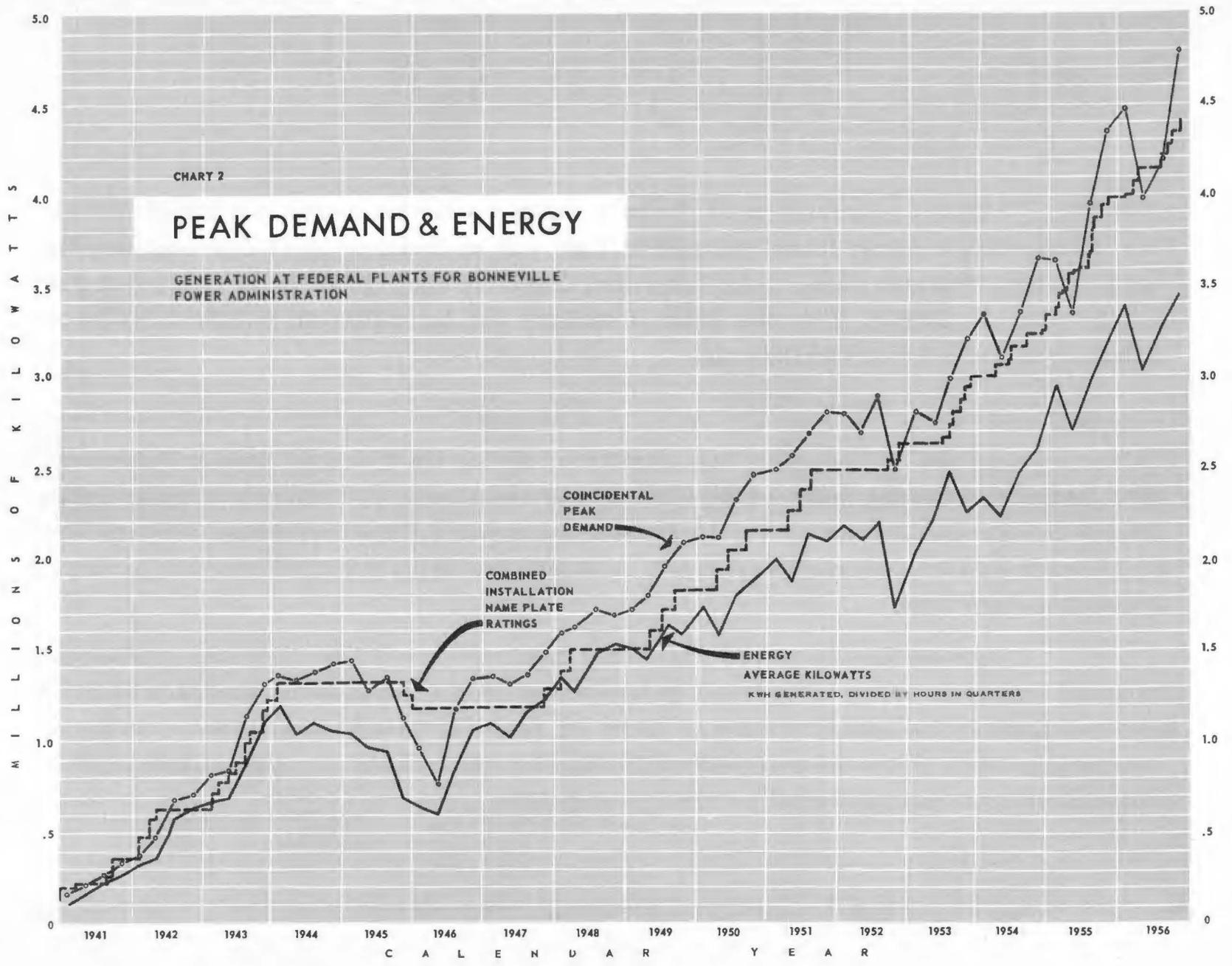


TABLE VI  
**Generation at Federal plants for the Bonneville Power Administration**  
**Fiscal years 1939-56**

By fiscal years

By plants

Fiscal years ending June 30	Generation thousands of kwh	Maximum demand kw	Load factor %		Generation Millions of kwh		Date connected to system 1/	Operating Agency
					F. Y. 1956	Total to 7/1/56		
1939-1941	1,144,932	210,000		Albeni Falls	237	258	3-25-55	Army Engrs.
1942	2,549,153	468,000	62.2	Bonneville	4,303	56,075	7-1-38	Army Engrs.
1943	5,618,436	841,000	76.3	Chandler	26	26	2-13-56	USBR
1944	9,239,823	1,355,000	77.6	Chief Joseph	1,914	1,914	8-22-55	Army Engrs.
1945	9,051,573	1,427,000	72.4	Detroit 2/	445	1,238	7-1-53	Army Engrs.
1946	6,236,163	1,346,000	52.9	Big Cliff	105	206	6-12-54	Army Engrs.
1947	8,753,737	1,335,000	74.9	Grand Coulee 3/	13,266	130,884	3-22-41	USBR
1948	10,885,907	1,610,000	77.0	Hungry Horse	1,205	2,970	10-29-52	USBR
1949	12,925,788	1,797,000	82.1	Lookout Point 2/	436	621	12-16-54	Army Engrs.
1950	14,140,834	2,106,000	76.7	Dexter	88	96	6-7-55	Army Engrs.
1951	16,472,384	2,535,000	74.2	McNary	5,574	9,968	11-6-53	Army Engrs.
1952	18,555,401	2,784,000	75.9					
1953	17,633,232	2,867,000	70.2	Total	<u>27,599</u>	<u>204,256</u>		
1954	20,195,833	3,301,000	69.8					
1955	23,253,186	3,651,000	72.7					
1956	27,599,380	4,479,000	70.1					
Total	<u>204,255,762</u>	<u>4,479,000</u>						

1/ Date of commercial operations.

2/ Excludes energy for condenser power at Detroit and Lookout Point.

3/ Includes energy transferred for Bureau of Reclamation.

*Receipts*

*and Deliveries*

Bonneville Power Administration's transmission grid forms the backbone of the interconnected transmission system of public and private utilities in the Pacific Northwest. As a result, electric energy receipts and deliveries on Bonneville's transmission system cover many complex transactions in addition to receipts from Federal power plants and deliveries by sales.

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

Transactions also involve storage by the Administration in non-Federal reservoirs as well as storage by non-Federal utilities in the Grand Coulee Reservoir. Disposition of energy includes deliveries from storage in Grand Coulee or to storage in other reservoirs, energy transfers for the Bureau of Reclamation from Grand Coulee, energy used by the Administration, and energy losses in transmission and transformation.

Table VII, electric energy account, summarizes energy receipts and deliveries for fiscal year 1956.

*Sale*

*of 26 Billion*

*Kilowatt-Hours*

Energy sales to customers of the Bonneville Power Administration totaled 26 billion kilowatt-hours during the fiscal year 1956, an increase of 19 percent over 1955.



CHART 3

# ENERGY SALES

CLASS OF CUSTOMER

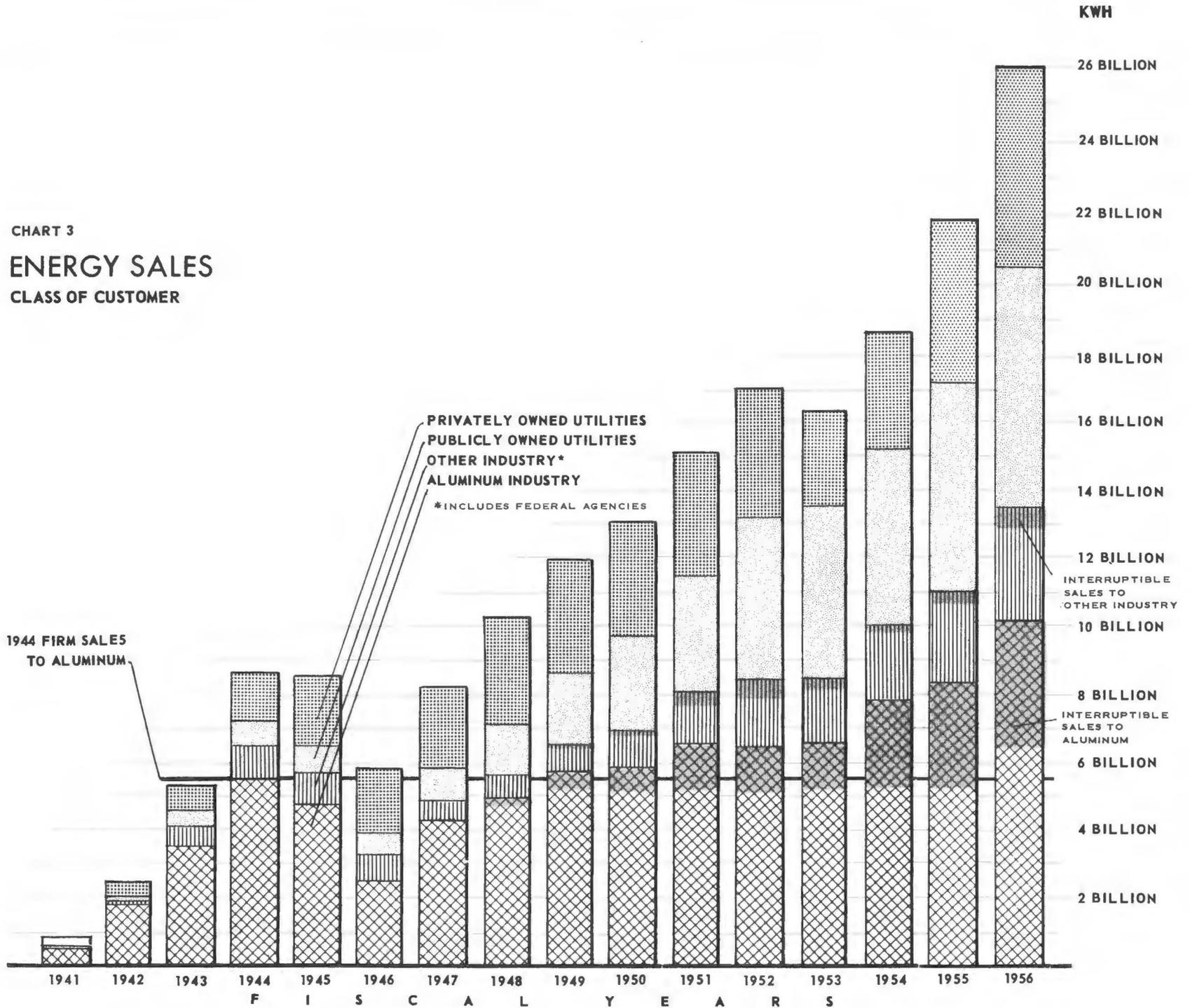


TABLE VIII  
**Electric energy sales by class of customer**  
 Fiscal years 1939 – 1956  
 ( Millions of kilowatt - hours )

Fiscal years ending June 30	Industry		Publicly owned utilities	Privately owned utilities	Total
	Aluminum	Other industries 1/			
1939–1941 .....	523	5	35	537	1,100
1942 .....	1,845	79	143	358	2,425
1943 .....	3,589	507	435	739	5,270
1944 .....	5,454	1,022	728	1,467	8,671
1945 .....	4,667	965	824	2,057	8,513
1946 .....	2,492	800	636	1,903	5,831
1947 .....	4,212	627	1,045	2,378	8,262
1948 .....	4,902	647	1,561	3,181	10,291
1949 .....	5,666	881	2,081	3,342	11,970
1950 .....	5,863	1,024	2,840	3,312	13,039
1951 .....	6,545	1,538	3,414	3,579	15,076
1952 .....	6,472	1,943	4,803	3,794	17,012
1953 .....	6,547	1,947	5,110	2,791	16,395
1954 .....	7,862	2,254	5,127	3,531	18,774
1955 .....	8,352	2,624	6,274	4,573	21,823
1956 .....	<u>10,141</u>	<u>3,422</u>	<u>6,909</u>	<u>5,502</u>	<u>25,974</u>
Total to July 1, 1956	<u>85,132</u>	<u>20,285</u>	<u>41,965</u>	<u>43,049</u>	<u>190,431</u>

1/ Includes Federal agencies.

With favorable water conditions during the year, the Administration delivered 4.1 billion kilowatt-hours of interruptible energy to industrial plants, an increase of 22.2 per cent over the previous year.

*Composite  
Average Rate  
of 2.38 Mills*

The Administration has sold 190.4 billion kilowatt-hours of electric energy at a composite average rate of 2.38 mills per kilowatt-hour during the 18 years of operation ended June 30, 1956. Sales to publicly owned utilities for the 18 years were 42 billion kilowatt-hours at an average of 2.81 mills. Privately owned utilities received 43 billion kilowatt-hours at an average of 2.30 mills, and industries 105.4 billion kilowatt-hours at 2.24 mills per kwh.

Power sales to aluminum plants were 85.1 billion kilowatt-hours at an average of 2.13 mills. These plants characteristically take power at very high load factors, approaching 100 percent, which result in the exceptionally low average cost on the Administration's C and A rate schedules. Sales to industries other than aluminum, including sales to Federal agencies, were 20.3 billion kilowatt-hours at an average of 2.68 mills.

Sales by classes of customers are shown in table VIII.

*Rate  
Schedules*

Almost three-quarters of the energy sales were made under the C-4 wholesale rate schedule at an average rate of 2.15 mills per kilowatt-hour. This is the kilowatt-year

rate for firm power delivered anywhere from the transmission system, and is also used with special measured demand provisions for sales of interruptible power. Sales are generally made under this rate to industries operating at high load factor and to utilities having substantial generating facilities. Other sales were made principally under the E schedule to utilities purchasing all or substantially all of their power requirements from the Administration. At-site power is sold under the A-4 rate. Sales under the F schedule were made to the utilities and industries requiring power at low-load factor use, and under the H schedule for dump, exchange, or experimental purposes. A summary of energy sales for the fiscal year 1955 classified by rate schedules is shown in table IX.

In addition to the usual review of wholesale rates by the regular staff of the Bonneville Power Administration, a special review of the Administration's rate structure by the New York consulting firm of Ford, Bacon & Davis Co. was completed during the 1956 fiscal year. Study of this report by the Administration's staff, BPA customers and interested agencies continued throughout the fiscal year.

*Customers  
Served*

The Administration was serving 114 customers at the end of fiscal year 1956. There were 76 publicly owned distributors of power, 18 industrial customers, 11 Federal agencies, and nine privately owned utilities.

Service was discontinued to six customers during the year: five publicly owned

TABLE IX  
**Electric energy sales by rate schedules**  
 During fiscal year 1956

<u>Rate schedule</u>	<u>Energy</u> ( thousands of kilowatt-hours )	<u>Revenue</u>	<u>Mills per</u> <u>kilowatt-hour</u>
C-4:			
Industries	12,152,389	\$25,503,711	2.10
Utilities	<u>7,026,985</u>	<u>15,659,415</u>	<u>2.23</u>
Subtotal	19,179,374	\$41,163,126	2.15
F-4:			
Industries	23,078	\$ 98,634	4.27
Utilities	<u>153,585</u>	<u>603,426</u>	<u>3.93</u>
Subtotal	176,663	\$ 702,060	3.97
A-4:			
Industries	896,988	\$ 1,541,580	1.72
Utilities	<u>11,589</u>	<u>40,600</u>	<u>3.50</u>
Subtotal	908,577	\$ 1,582,180	1.74
E-4: Utilities 1/ Experimental, H-3 and exchange:	4,065,206	\$12,679,874	3.12
Industries and Utilities	<u>1,643,907</u>	<u>4,109,767</u>	<u>2.50</u>
Total sales	25,973,727	\$60,237,007	2.32
Reconciliation with accounting records		- 452,608	
Other electric revenues		<u>1,044,307</u>	
Total operating revenues		<u>\$60,828,706</u>	

1/ Including Federal agency pumping loads.

utilities--Chelan County Coop., Molson-Chesaw Electric Coop., Pend Oreille Electric Coop., Sandy Electric Coop., Stevens County PUD; and one Federal agency--Pasco Engineer Depot. The loss of these customers does not represent a loss in load, since service was assumed by other customers of the Administration.

*Generation  
Added*

Additions to the United States Columbia River power system in fiscal year 1956 have a nameplate rating of 562,200 kilowatts. The last unit of 14,200 kilowatts capacity was installed at Albeni Falls project on the Pend Oreille River. Four additional units with a total capacity of 280,000 kilowatts were installed at McNary project, and the first four units with a total capacity of 256,000 kilowatts were installed at Chief Joseph project. The Corps of Engineers is construction agency for all three of these projects. The Bureau of Reclamation installed all units with total capacity of 12,000 kilowatts at the Chandler plant on the Yakima River.

*Projects  
Summarized*

Projects existing, under construction, and authorized for construction by the Corps of Engineers and Bureau of Reclamation are shown in table X. The existing projects, including the units to be installed during fiscal year 1957, will provide 3,056,000 kilowatts of prime power when operated as a system. With completion of the projects under construction prime capability will be 4,030,000 kilowatts and with completion of the authorized projects prime capability will be approximately 6,000,000 kilowatts. The authorized prime capability has been reduced by the presently scheduled non-Federal construction of Priest Rapids project.

**Energy deliveries to customers of the Bonneville Power Administration  
Fiscal year ended June 30, 1956**

<u>Customers</u>	<u>Energy deliveries for year 1/ kilowatt-hours</u>
<b>PUBLICLY OWNED UTILITIES</b>	
<b>MUNICIPALITIES</b>	
Bandon, Oregon	17,232,000
Bonnars Ferry, Idaho	1,370,565
Canby, Oregon	11,506,000
Cascade Locks, Oregon	11,589,000
Centralia, Washington	4,377,195
Cheney, Washington	15,008,000
Drain, Oregon	9,328,800
Ellensburg, Washington	42,530,000
Eugene, Oregon	139,632,000
Forest Grove, Oregon	40,874,200
Grand Coulee, Washington	19,564,800
McMinnville, Oregon	51,720,000
Milton, Oregon	21,979,200
Monmouth, Oregon	12,525,600
Port Angeles, Washington	152,742,442
Seattle, Washington	733,300,484
Springfield, Oregon	47,035,200
Tacoma, Washington	<u>1,065,732,000</u>
 Total municipalities ( 18 )	 2,398,047,486
 <b>PUBLIC UTILITY DISTRICTS</b>	
Benton County PUD #1	148,874,400
Central Lincoln PUD	133,637,868
Chelan Co. PUD #1	824,489
Clallam Co. PUD #1	41,162,356
Clark Co. PUD #1	470,238,390
Clatskanie PUD	21,144,013
Cowlitz Co. PUD #1	500,373,760
Douglas Co. PUD #1	95,096,265
Ferry Co. PUD #1	14,975,732
Franklin Co. PUD #1	94,640,000
Grant Co. PUD #2	282,546,393

<u>Customers</u>	<u>Energy deliveries for year 1/ kilowatt-hours</u>
Grays Harbor Co. PUD #1	295,181,000
Kittitas Co. PUD #1	7,549,950
Klickitat Co. PUD #1	80,323,623
Lewis Co. PUD #1	129,447,800
Mason Co. PUD #3	152,035,200
Northern Wasco Co. PUD	24,229,201
Okanogan Co. PUD #1	86,282,225
Pacific Co. PUD #2	82,830,353
Pend Oreille Co. PUD #1	27,095,559
Skamania Co. PUD #1	25,264,185
Snohomish Co. PUD #1	887,213,285
Stevens Co. PUD #1	8,876,238
Tillamook PUD	82,386,417
Wahkiakum Co. PUD #1	<u>13,984,964</u>
 Total public utility districts ( 25 )	 3,706,213,666
 <b>COOPERATIVES</b>	
Benton Rural Electric Assn.	43,502,978
Big Bend Elec. Coop.	38,918,291
Blachly-Lane Co. Coop. Elec. Assn.	18,108,000
Central Electric Coop.	14,558,000
Clearwater Power Co.	39,613,200
Columbia Basin Elec. Coop.	10,382,400
Columbia Co. REA	20,778,950
Columbia Power Coop.	10,828,400
Consumers Power	75,082,100
Coos-Curry Elec. Coop.	67,110,419
Douglas Electric Coop.	39,036,575
Eastern Oregon Elec. Coop.	3,583,878
Flathead Elec. Coop.	17,746,220
Hood River Elec. Coop.	17,829,600
Idaho Co. L & P Assn.	11,670,400
Inland Power & Light Co.	82,597,412
Kennewick Irrig. Dist.	4,580,800
Kootenai Rural Elec. Assn.	12,034,800
Lane Co. Elec. Coop.	46,092,438

<u>Customers</u>	<u>Energy deliveries for year 1/ kilowatt-hours</u>
Lincoln Elec. Coop. – Montana	8,296,330
Lincoln Elec. Coop. – Washington	17,281,440
Midstate Electric Coop.	5,242,944
Missoula Elec. Coop.	9,007,371
Molson-Chesaw Elec. Coop.	629,720
Nespelem Valley Elec. Coop.	7,718,400
Northern Lights	19,013,500
Okanogan Co. Elec. Coop.	4,404,400
Orcas Power & Light Co.	10,219,000
Pend Oreille Elec. Coop.	1,012,938
Ravalli Co. Elec. Coop.	7,755,950
Salem Electric	39,114,400
Sandy Electric Coop.	3,508,812
Tanner Mutual P & L Assn.	582,135
Umatilla Elec. Coop. Assn.	24,601,923
Vera Irrigation Dist. #15	24,754,800
Wasco Electric Coop.	27,525,885
West Oregon Elec. Coop.	20,031,911
Total cooperatives ( 37 )	<u>804,756,720</u>
Total publicly owned utilities	6,909,017,872
PRIVATELY OWNED UTILITIES	
British Columbia Elec. Co.	14,609,764
California Oregon Power Co.	47,778,570
California-Pacific Utilities Co.	6,805,223
Idaho Power Co.	33,340,800
Interconnected Pool 2/	1,008,660,553
Montana Power Co.	385,799,000
Pacific Power & Light Co.	1,454,258,608
Portland General Electric Co.	1,612,303,000
Puget Sound Power & Light Co.	292,262,000
Washington Water Power Co.	646,780,000
Total privately owned utilities ( 9 )	<u>5,502,597,518</u>

<u>Customers</u>	<u>Energy deliveries for year 1/ kilowatt-hours</u>
FEDERAL AGENCIES ( 12 )	1,677,468,928
INDUSTRIES	
ALUMINUM	
Aluminum Co. of America	
Vancouver Plant	1,669,326,975
Wenatchee Plant	985,426,523
Anaconda Aluminum Co.	896,989,251
Kaiser Alum. & Chem. Corp.	
Spokane Alum. Fab.	342,390,000
Spokane Alum. Red.	3,136,560,000
Tacoma Alum. Red.	620,418,000
Reynolds Metals Co.	
Longview	1,001,009,000
Troutdale	1,488,410,000
INDUSTRIES	
OTHER	
Carborundum Co.	170,620,000
Crown Zellerbach Corp.	113,805,188
Electro-Metallurgical Co.	192,392,087
Hanna Nickel Smelting Co.	289,014,652
Keokuk Electro-Metals Co.	122,564,925
Pacific Carbide and Alloys Co.	39,383,200
Pacific Northwest Alloys	266,950,000
Pennsylvania Salt Mfg. Co.	177,765,000
Rayonier Corp.	31,005,320
Victor Chemical Works	340,613,000
Total industries ( 18 )	<u>11,884,643,121</u>
Total Sales of electric energy ( 119 ) 3/	<u>25,973,727,439</u>

1/ Includes energy deliveries carried on exchange accounts.

2/ Includes PP&L Co., PGE Co., PSP&L Co., and WWP Co.

3/ 114 customers as of June 30, 1956; service to five customers discontinued during year.

TABLE X  
**U. S. COLUMBIA RIVER POWER SYSTEM**  
 General specifications – projects existing, under construction and authorized  
 Installations and capabilities correspond to a coordinated system operation

	Location	Stream	Plant installations		Nominal prime power kilowatts 2/	Pool elevation ( feet )	Usable storage ( acre – feet ) 4/	Average head ( feet )	Initial date in service	Principal purpose 5/
			Number of units	Total capacity kilowatts 1/						
EXISTING PROJECTS										
Bonneville	Wash. - Ore.	Columbia	10	518,400	458,000	72	Pondage	59	June 1938	P,N.
Grand Coulee	Washington	Columbia	18	1,944,000	1,631,000	1,288	5,072,000	326	Sept. 1941	P,I,FC,N
Hungry Horse	Montana	S. Fk. Flathead	4	285,000	187,000	3,560	2,982,000	364	Oct. 1952	P,I,FC,N.
Detroit	Oregon	N. Santiam	2	100,000	29,000	1,564	323,000	299	July 1953	P,I,FC,N.
McNary	Wash. - Ore.	Columbia	14	980,000	548,000	340	Pondage	78	Nov. 1953	P,I,N.
Big Cliff	Oregon	N. Santiam	1	18,000	10,000	1,206	Pondage	91	June 1954	P.
Lookout Point	Oregon	M. Fk. Willamette	3	120,000	36,000	926	336,000	185	Dec. 1954	P,I,FC,N.
Albeni Falls	Idaho	Pend Oreille	3	42,600	29,000	2,062	1,155,000	24	Mar. 1955	P,FC,N.
Dexter	Oregon	M. Fk. Willamette	1	15,000	12,000	695	Pondage	53	June 1955	P.
Chief Joseph	Washington	Columbia	16	1,024,000	815,000	946	Pondage	169	Aug. 1955	P,I.
Chandler	Washington	Yakima	2	12,000	11,000	620	Pondage	118	Feb. 1956	P,I.
				<u>5,059,000</u>	<u>3,766,000</u>		<u>9,868,000</u>			
PROJECTS UNDER CONSTRUCTION										
The Dalles	Wash. - Ore.	Columbia	16	1,119,000	651,000	160	Pondage	87	April 1957	P,N.
Roza	Washington	Yakima	1	11,250	6,000	1,221	Pondage	140	Mar. 1958	P,I.
Cougar	Oregon	S. Fk. McKenzie	2	25,000	14,000	1,690	154,000	418	Nov. 1960	P,I,FC,N.
Hills Creek	Oregon	M. Fk. Willamette	2	30,000	14,000	1,543	249,000	210	Nov. 1961	P,I,FC,N.
Ice Harbor	Washington	Snake	3	270,000	137,000	440	Pondage	97	Dec. 1961	P,I,N.
				<u>1,455,250</u>	<u>822,000</u>		<u>403,000</u>			
AUTHORIZED PROJECTS										
Libby	Montana	Kootenai	6	516,000	264,000	2,459	5,010,000	267	—	P,FC,N.
Lower Monumental	Washington	Snake	3	270,000	130,000	533	Pondage	92	—	P,I,N.
Little Goose	Washington	Snake	3	270,000	139,000	633	Pondage	99	—	P,N.
Lower Granite	Washington	Snake	3	225,000	114,000	715	Pondage	80	—	P,N.
John Day	Wash. - Ore.	Columbia	12	1,200,000	725,000	262	Pondage	101	—	P,I,FC,N.
Green Peter	Oregon	M. Santiam	2	81,000	22,000	984	322,000	315	—	P,I,FC,N.
White Bridge	Oregon	M. Santiam	1	15,000	9,000	670	Pondage	93	—	P.
				<u>2,577,000</u>	<u>1,403,000</u>		<u>5,332,000</u>			
					<u>- 28,000 3/</u>					
Total – 23 projects				<u>9,091,250</u>	<u>5,963,000</u>		<u>15,603,000</u>			

1/ Nameplate rating.

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

3/ Pumping requirements of 28,000 average kilowatts for 450,000 acres of the Columbia Basin Project.

4/ Storage usable for power production.

5/ P – Power; I – Irrigation; FC – Flood Control; N – Navigation.

Existing storage capacity usable for power in Federal reservoirs is 9,868,000 acre-feet. An additional 437,000 acre-feet will be provided by Cougar and Hills Creek on which construction is under way, and 5,332,000 acre-feet would be provided by Libby and Green Peter projects which are authorized for construction.

All generation and storage capacity under Federal construction will be in service by December 1961 under the present schedule. Service dates for the other authorized projects are not scheduled as no funds have been appropriated for their construction.

*Non-Federal  
Additions*

Non-Federal generating capacity in the area served by the Administration was increased in fiscal year 1956 by initial operation of the last three units at the Box Canyon plant of Pend Oreille PUD. These three units have a nameplate rating of 45,000 kilowatts. In addition, Timothy Meadows Reservoir was completed on the Clackamas River by Portland General Electric Company to add 10,500 kilowatts of prime power at the Company's downstream plants. Future additions licensed for construction by non-Federal utilities in this area are shown in table XI. These additions represent an increase of 2,100,000 kilowatts of nameplate rating over projects in a comparable status one year previously.

*Northwest  
Power Pool*

Generation during fiscal year 1956 by the principal electric utility systems of the Pacific Northwest is shown in table XII. All of these utilities are members of the North-

TABLE XI  
**Non-Federal utilities**  
**Generator installation schedule**  
**August 1, 1956**

<u>Utility and Plant</u>	<u>Stream</u>	<u>Unit number</u>	<u>Nameplate rating thousands of kilowatts</u>	<u>Date in Service</u>
City of Seattle				
Ross	Skagit	4	90	January 1957
Gorge ( reconstruction of diversion dam )	Skagit		1/	December 1958
Puget Sound Power & Light Co.				
Snoqualmie Falls No. 2	Snoqualmie	2	20	April 1957
Upper Baker	Baker	1 & 2	85	September 1959
Lower Baker ( addition )	Baker	3	55	September 1960
Portland General Electric Co.				
Pelton	Deschutes	1	36	December 1957
		2	36	January 1958
		3	36	March 1958
City of Tacoma				
Mayfield	Cowlitz	1	40	January 1959
		2,3 & 4	120	October 1959
Mossyrock	Cowlitz	1	75	October 1961
		2	75	January 1962
		3	75	April 1962
		4	75	July 1962
Washington Water Power Co.				
Noxon Rapids	Clark Fork	1	84	September 1959
		2	84	December 1959
		3	84	March 1960
		4	84	June 1960
Grant County PUD				
Priest Rapids	Columbia	1-8	630	September 1960 2/
Wanapum	Columbia	1-8	570	September 1962 2/
Chelan County PUD				
Rocky Reach	Columbia	1 & 2	180	September 1961
		3-7	450	September 1962

1/ Will increase head by 100 feet and peaking capability by 57,000 kilowatts.

2/ Date of river closure after installation of units.

CHART 4

# POWER GENERATED BY NORTHWEST UTILITIES

YEAR ENDED JUNE 30, 1956

GENERATED BY



Portland General Electric Company



Tacoma City Light



Pacific Power & Light Company



Puget Sound Power & Light Company



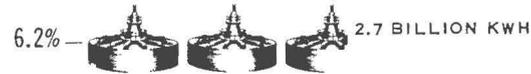
Idaho Power Company



Washington Water Power Company



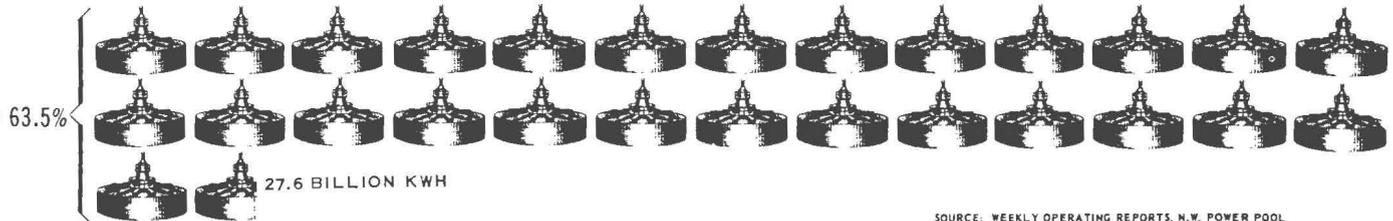
Seattle City Light



Montana Power Company



U.S. COLUMBIA RIVER POWER SYSTEM



THESE UTILITIES ARE MEMBERS OF THE NORTHWEST POWER POOL

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



REPRESENTS ONE BILLION KWH

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

CHART 5

# NORTHWEST POWER POOL

NET OPERATIONS ENDING JUNE 30, 1956

BPA SUPPLIED 90% OF NET ENERGY REQUIREMENTS

BILLIONS OF KWH

LEGEND

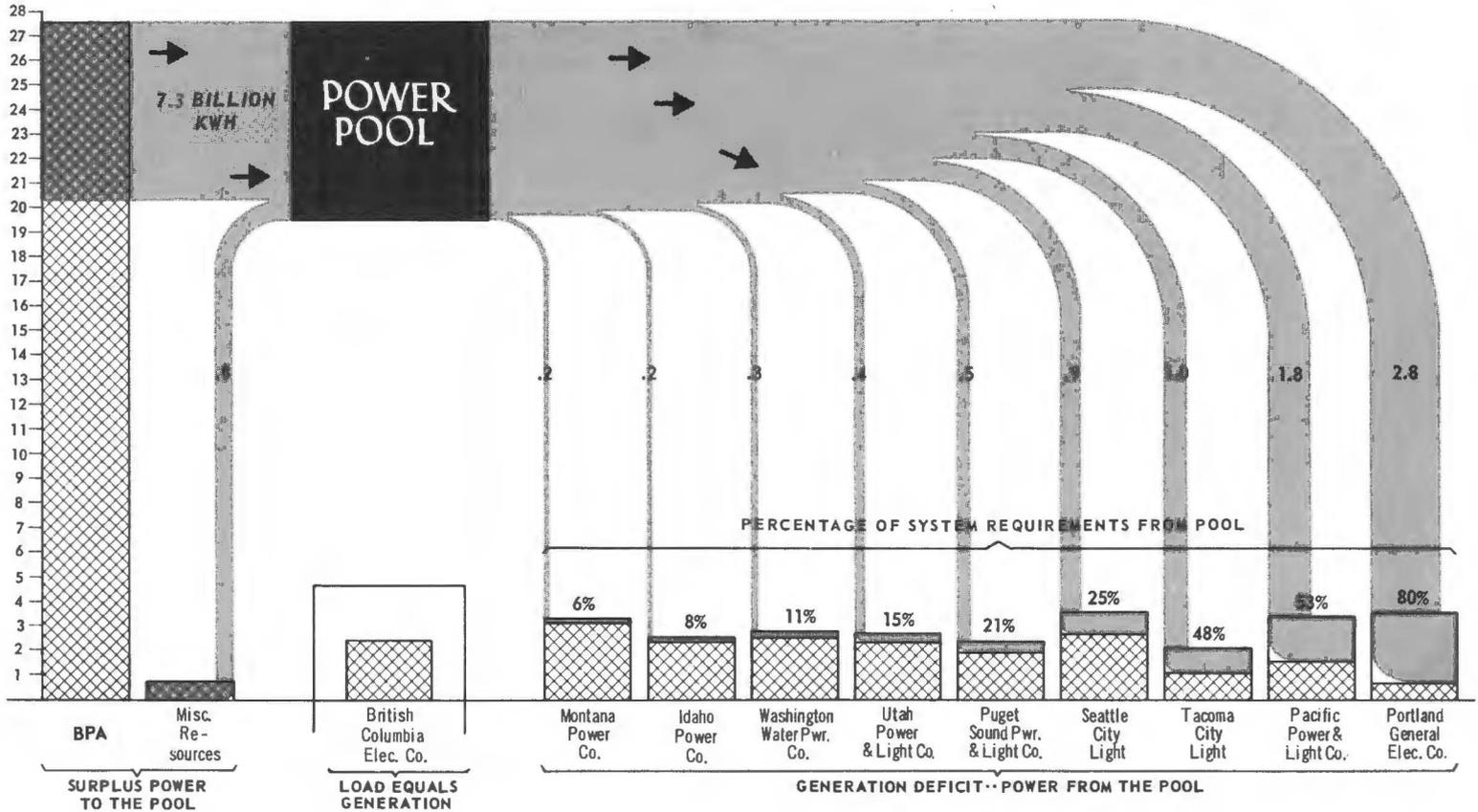
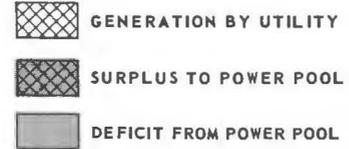


TABLE XII  
**Generation by the principal electric utility systems of the Pacific Northwest**  
 Fiscal year 1956

<u>Utilities</u>	<u>Kilowatt- hours</u>	<u>Percent of total generation</u>	<u>Utilities</u>	<u>Kilowatt- hours</u>	<u>Percent of total generation</u>
	( Billion )	( Percent )		( Billion )	( Percent )
Publicly owned:			Privately owned:		
Bonneville Power Administration ....	27.6	63.5	Puget Sound Power & Light Co. ....	1.9	4.4
Seattle City Light .....	2.7	6.2	Washington Water Power Co. ....	2.5	5.7
Tacoma City Light .....	<u>1.1</u>	<u>2.5</u>	Pacific Power & Light Co. ....	1.6	3.7
Total publicly owned .....	31.4	72.2	Portland General Electric Co. ....	0.7	1.6
			Montana Power Co. ....	3.1	7.1
			Idaho Power Co. ....	<u>2.3</u>	<u>5.3</u>
			Total privately owned .....	12.1	27.8
Total generation 1/	<u>43.5</u>	<u>100.0</u>			

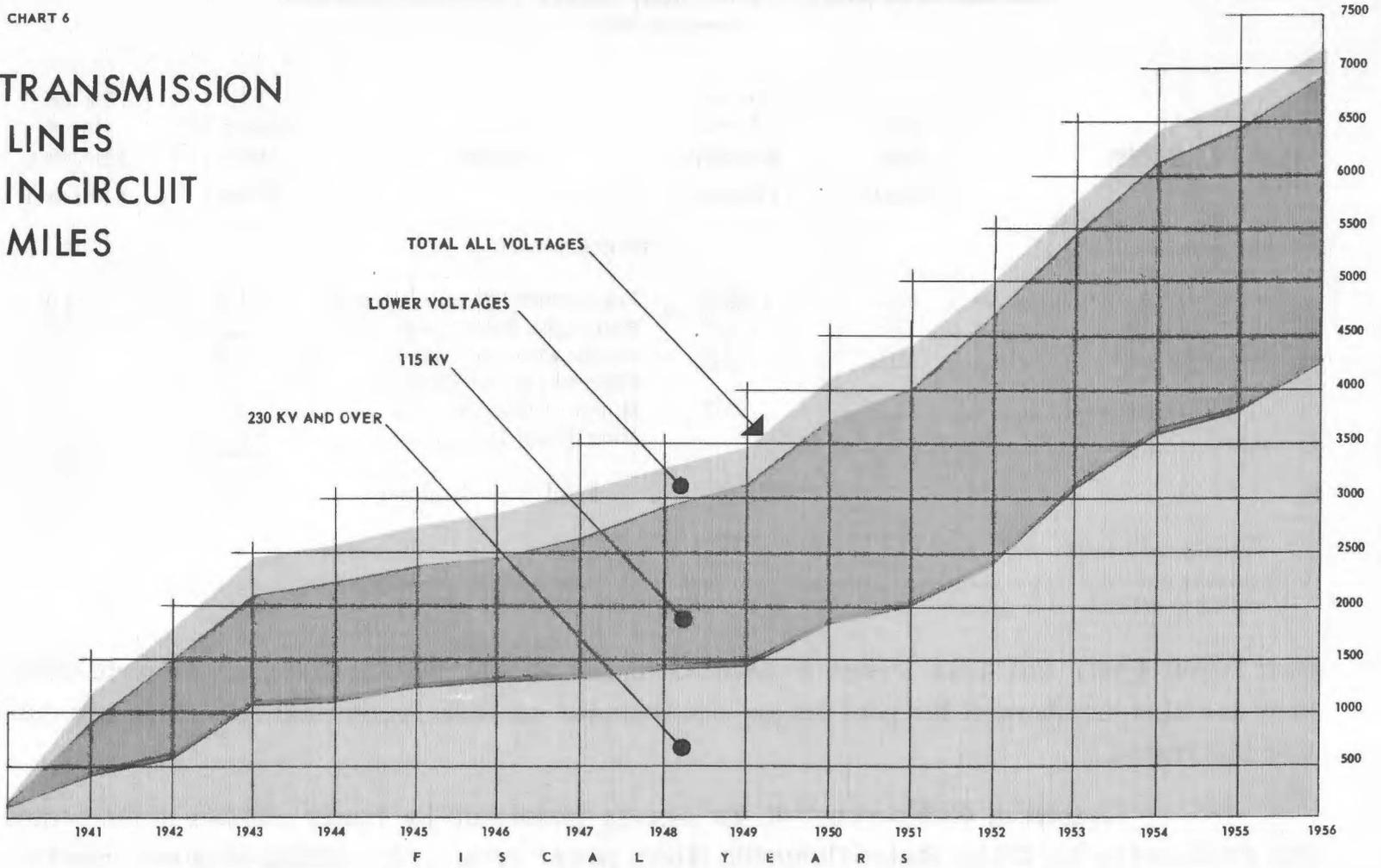
1/ Generation shown is for the members of the Northwest Power Pool. Utah Power and Light Company and British Columbia Electric Company are not included because their service areas lie outside the Pacific Northwest region.

west Power Pool. The Utah Power & Light Company and the British Columbia Electric Company are also members of the pool but are not included as their major service areas are outside the region.

A total of 63.5 percent of the energy generated by major utilities of the region was produced by the United States Columbia River power system. In addition to power require-

CHART 6

# TRANSMISSION LINES IN CIRCUIT MILES



ments of nonpool utilities and major industries served through the Administration's transmission system, 7.3 billion kilowatt-hours of energy were provided to other pool utilities for meeting their requirements.

*Transmission  
System  
Additions*

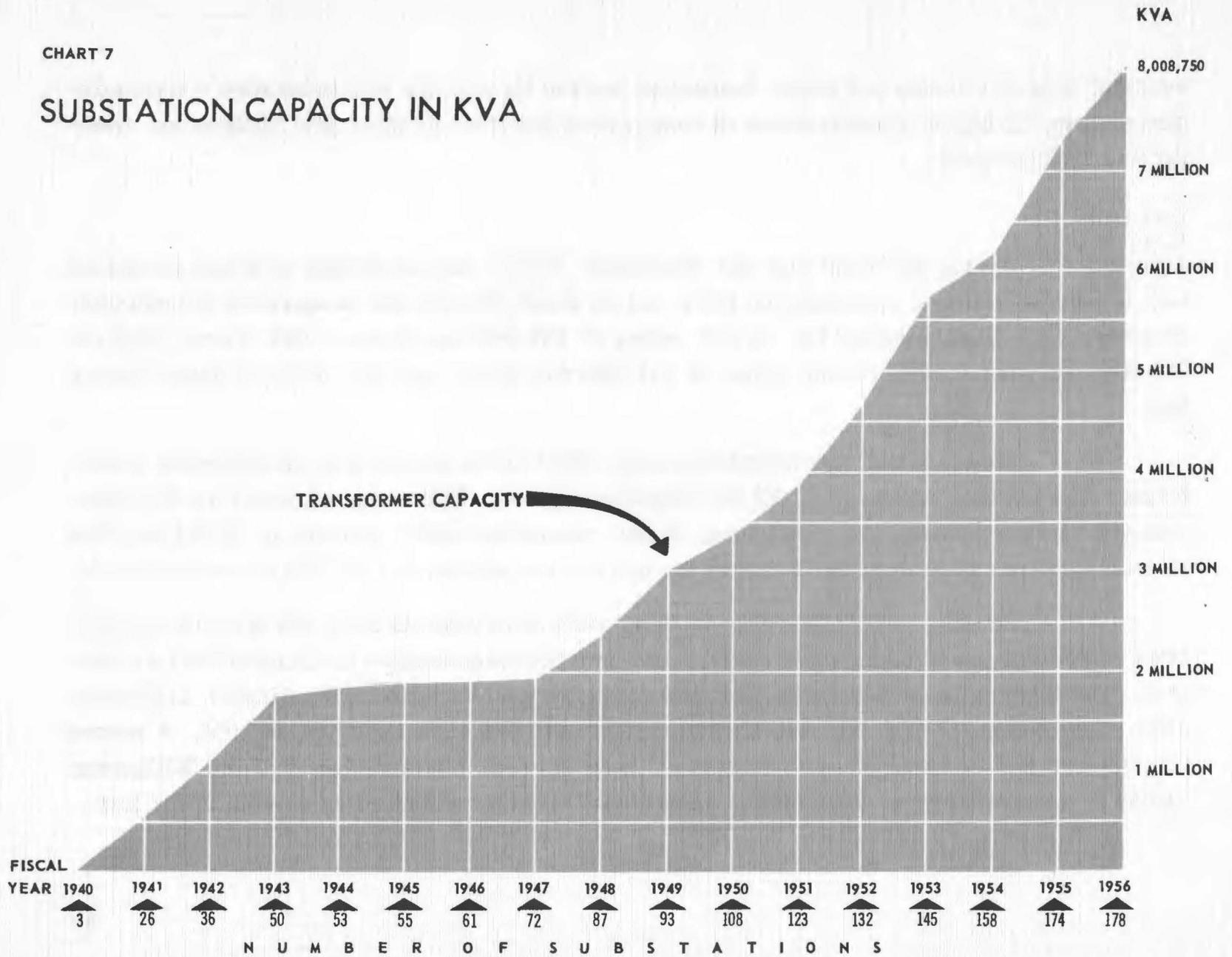
During the fiscal year the Bonneville Power Administration grid was increased to 7,195 circuit miles of transmission lines and to 8,008,750 kilovolt-amperes of transformer capacity. This total includes 231 circuit miles of 287,000-volt lines, 4,054 circuit miles of 230,000-volt lines, 2,679 circuit miles of 115,000-volt lines, and 231 miles of lower voltage line.

A total of four new substations was added to the system and the substation transformer capacity was increased by 681,300 kilovolt-amperes. With these additions the Administration's system includes 178 substations. Static capacitors with a capacity of 68,550 reactive kilovolt-amperes were installed, bringing the total on the system to 1,736,695 kilovolt-amperes.

Several major transmission lines were completed to bring the increased generation of Federal power dams under construction into the transmission grid and to the load centers. The McNary Dam-Vancouver line was extended into Vancouver, Washington, in October 1955. The voltage of this line will be increased to 345,000 volts in the fall of 1956. A second 230,000-volt line was energized in December 1955 between McNary Dam and the Willamette Valley in western Oregon. This required additional erection of 152 miles of steel tower line.

CHART 7

# SUBSTATION CAPACITY IN KVA



Grand Coulee-Snohomish lines 1 and 2 were looped into the Chief Joseph Dam in August 1955 to transmit the initial generation of this plant. In March a 133-mile, 345,000-volt line was completed and energized at 230,000 volts between Chief Joseph Dam and Snohomish, Washington, in the Puget Sound area.

A 115,000-volt tap line to the Midway-Franklin line was built and energized in January 1956 to bring the generation of the Chandler Dam into the Bonneville Power Administration system.

Four new substations, ranging in capacity from 1,000 to 20,000 kilovolt-amperes, were energized during the fiscal year. Transformer capacity by the addition of transformers, or forced cooling ranging from 6,000 to 250,000 kilovolt-amperes, was increased at 16 stations. Four static capacitor installations of 68,550 reactive kilovolt-amperes were made.

*New*

*Construction*

Major construction concentration during the fiscal year continued on the second 345,000-volt line between Chief Joseph Dam and Covington in the Puget Sound area, a 230,000-volt line between McNary Dam and Franklin, Washington, in the Columbia Basin area, and a 230,000-volt line between The Dalles Dam and Chemawa, Oregon, in the northern Willamette Valley. Additional 230,000-volt transmission facilities are being extended from the Alvey, Oregon, substation to Fairview, Oregon, in the southwest Oregon coast area, and 115,000-volt facilities from Olympia, Washington to Fairmount and Aberdeen in the Olympic Peninsula area.

# Auditors' Report

**Columbia**

**River Power**

**System**

**and Related**

**Activities**

**FINANCIAL**

**STATEMENTS**

**FOR THE**

**FISCAL YEAR**

**ENDED**

**JUNE 30, 1956**

**BY THE COMPTROLLER GENERAL OF THE UNITED STATES**



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON 25

B-114858

December 21, 1956

Dear Mr. Secretary:

The General Accounting Office has made audits of the activities of the Bonneville Power Administration and the Bureau of Reclamation, Department of the Interior, and the Corps of Engineers (Civil Functions), Department of the Army. In connection with these audits, an examination was made of the accompanying financial statements of the COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES for the fiscal year ended June 30, 1956. The examination of the financial statements was made in accordance with generally accepted auditing standards and included such tests of the accounting records and such other auditing procedures as were considered necessary in the circumstances.

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

The accompanying financial statements present on a combined basis the assets and liabilities of Bonneville Power Administration and the multiple-purpose projects (including those under construction) for which it is the power-marketing agent. Financial results from commercial power operations are also presented on a combined basis. Insofar as they relate to commercial power activities, the financial statements are based on accounts that have been

maintained to the extent practicable in accordance with the uniform system of accounts prescribed by the Federal Power Commission under the Federal Power Act.

Several important changes in statement presentation have been instituted this year. The most significant of these is the revision of a schedule included in previous years relating to the net investment in the commercial power program. This schedule (schedule 3) now shows a comparison of the repayment of the Government's investment in the commercial power program with the repayment requirements established by law or administrative policy pursuant to law. The repayment schedule and other changes, including the elimination of individual project revenue and expense statements, are discussed in notes 2 and 6 of schedule 6.

During fiscal year 1956 the deferral to future periods of interest and depreciation on the part of the cost of joint facilities at Columbia Basin, Hungry Horse, and Albeni Falls Projects allocated to future downstream river regulation has been discontinued. An adjustment of \$17,387,795 has been made by a charge to accumulated net revenues for the amount deferred in previous years. The amount deferred in fiscal year 1955 was \$2,040,279. We approve of this change and a more detailed explanation of this matter is included in note 7 of schedule 6.

Final allocations of the construction costs of the Hungry Horse Project (Bureau of Reclamation) and the Albeni Falls, Detroit-Big Cliff, McNary Dam, Lookout Point-Dexter, and Chief Joseph Projects (Corps of Engineers) have not been made to power and nonpower purposes. As explained in note 4 of schedule 6, tentative allocations of these costs have been used in preparing the accompanying financial statements. When firm allocations of costs are made, the accounts and financial statements relating to these projects may require adjustment.

Potential reimbursements, if any, for benefits in fiscal year 1956 and previous years accruing to downstream non-Federal power plants from storage at Columbia Basin, Hungry Horse, and Albeni Falls Projects have not been included in the accompanying financial statements. It is the responsibility of the Federal Power Commission to determine the amount

payable by beneficiaries; however, a decision on this matter has not been rendered by the Commission. This matter is explained in note 8 of schedule 6.

Accounting policies for the Bonneville Power Administration and the individual projects comprising the System are not wholly consistent in several important respects. Until the agencies concerned reach agreement on accounting policies for such matters as depreciation on plant in service, interest on the Federal investment in commercial power facilities, and costs incurred by other agencies and until construction cost allocations to power and nonpower purposes are firm, financial statements cannot be prepared without qualification. These matters are described in notes 3 and 4 of schedule 6.

Except for the effect of the matters referred to in the four preceding paragraphs, in the opinion of the General Accounting Office, the accompanying financial statements present fairly the assets and liabilities of the Columbia River Power System and Related Activities at June 30, 1956, and the financial results of power operations for the year ended that date in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "W. G. Campbell".

Comptroller General  
of the United States

The Honorable  
The Secretary of the Interior

## UNITED STATES OF AMERICA

## COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

## INDEX TO FINANCIAL STATEMENTS

Title	Schedule
STATEMENT OF COMBINED COMMERCIAL POWER OPERATIONS, FOR THE FISCAL YEARS ENDED JUNE 30, 1956 AND 1955 . . . .	1
STATEMENT OF COMBINED ASSETS AND LIABILITIES, JUNE 30, 1956 AND 1955 . . . . .	2
STATEMENT OF INVESTMENT AND REPAYMENT OF INVESTMENT IN COMMERCIAL POWER PROGRAM, FOR THE PERIOD FROM INCEPTION TO JUNE 30, 1956 . . . . .	3
STATEMENT COMBINING EXPENSES OF COMMERCIAL POWER OPERATIONS, FOR THE FISCAL YEAR ENDED JUNE 30, 1956 . .	4
STATEMENT COMBINING ASSETS AND LIABILITIES, JUNE 30, 1956 .	5
NOTES TO FINANCIAL STATEMENTS ON SCHEDULES 1 TO 5, INCLUSIVE . . . . .	6

## UNITED STATES OF AMERICA

## COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

## STATEMENT OF COMBINED COMMERCIAL POWER OPERATIONS

FOR THE FISCAL YEARS ENDED JUNE 30, 1956 AND 1955

	1956	1955
<u>OPERATING REVENUES:</u>		
Sales of electric energy by Bonneville		
Power Administration:		
Publicly owned utilities . . . . .	\$19,505,231	\$17,601,135
Privately owned utilities . . . . .	11,999,475	9,926,150
Federal agencies . . . . .	4,382,829	3,703,788
Aluminum industry . . . . .	20,098,110	16,909,588
Other industry . . . . .	3,804,045	3,118,062
Sales, at wholesale . . . . .	59,789,690	51,258,723
Other operating revenues:		
Project energy--use at site . . . . .	149,157	88,427
Rental of electric property . . . . .	1,053,776	719,322
	<u>1,202,933</u>	<u>807,759</u>
Total operating revenues . . . .	<u>60,992,623</u>	<u>52,066,482</u>
<u>OPERATING EXPENSES (notes 3 and 4):</u>		
Purchased power . . . . .	868,329	488,537
Operation:		
Specific power facilities . . . . .	8,382,720	7,116,106
Joint facilities . . . . .	869,723	745,019
Maintenance:		
Specific power facilities . . . . .	3,571,844	3,089,612
Joint facilities . . . . .	989,568	1,060,740
Depreciation:		
Specific power facilities . . . . .	15,438,670	12,660,862
Joint facilities . . . . .	3,101,302	2,223,045
Less amount allocated to future downstream river regulation (note 7) . . . . .	-	366,949*
Net loss on sales and abandonment of property	182,906	601,385
Total operating expenses . . . .	<u>33,405,062</u>	<u>27,618,357</u>
Net operating revenues . . . . .	<u>27,587,561</u>	<u>24,448,125</u>
<u>INTEREST AND OTHER DEDUCTIONS:</u>		
Interest on Federal investment . . . . .	26,285,045	22,693,217
Less:		
Amount allocated to future down- stream river regulation (note 7) . .	-	1,673,330*
Amount charged to construction . .	4,593,743*	5,082,478*
Miscellaneous income deductions (net) . . . .	53,153*	80,589*
Net interest and other deductions	<u>21,638,149</u>	<u>15,856,820</u>
Net commercial power revenues	<u>\$ 5,949,412</u>	<u>\$ 8,591,305</u>

\*Deduction

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

## UNITED STATES OF AMERICA

## COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

## STATEMENT OF COMBINED ASSETS AND LIABILITIES

JUNE 30, 1956 AND 1955

<u>ASSETS</u>	<u>1956</u>	<u>1955</u>	<u>LIABILITIES</u>	<u>1956</u>	<u>1955</u>
<u>FIXED ASSETS</u> , at original cost, including interest during construction (notes 3 and 4):			<u>INVESTMENT OF U. S. GOVERNMENT AND ACCUMULATED NET REVENUES:</u>		
Commercial power . . . . .	\$1,277,289,050	\$1,097,403,599	Total investment of U. S. Government (note 5) . . . . .	\$2,230,685,364	\$2,062,457,853
Irrigation . . . . .	308,851,814	290,005,964	Less:		
Flood control . . . . .	86,703,993	86,352,520	Funds returned to U. S. Treasury:		
Navigation . . . . .	55,233,412	55,050,038	Repayment of Federal investment in the power program . . . . .	449,691,188	390,040,963
Other . . . . .	166,531	-	Repayment of Federal investment in the nonpower programs . . . . .	6,905,003	5,055,534
Multiple-purpose projects under construction . . . . .	161,886,507	223,354,315	Total expense of flood control operations . . . . .	6,962,048	3,790,438
Total . . . . .	<u>1,890,131,307</u>	<u>1,752,166,436</u>	Total expense of navigation operations . . . . .	21,215,446	19,022,753
Less accumulated depreciation:			Other nonreimbursable expenses . . . . .	134,761	384,203
Commercial power . . . . .	94,236,032	76,057,579		<u>484,908,446</u>	<u>418,293,891</u>
Irrigation . . . . .	501,876	343,919	Net investment of U. S. Government . . . . .	1,745,776,918	1,644,163,962
Flood control . . . . .	1,726,034	927,648	Accumulated net revenues:		
Navigation . . . . .	3,079,302	2,553,036	Net revenues from commercial power operations since inception, including \$5,949,412 for the year ended June 30, 1956 (schedule 1). Adjustments reducing previous years' accumulated net revenues by \$17,283,539 were recorded at June 30, 1956 (note 7) . . . . .	98,745,607	110,079,734
Total . . . . .	<u>99,543,244</u>	<u>79,882,182</u>	Less net loss from irrigation operations since inception . . . . .	3,300,003	2,588,076
Original cost, net . . . . .	<u>1,790,588,063</u>	<u>1,672,284,254</u>	Total . . . . .	<u>1,841,222,522</u>	<u>1,751,655,620</u>
<u>INTEREST AND DEPRECIATION CHARGES ON JOINT FACILITIES ALLOCATED TO FUTURE DOWNSTREAM RIVER REGULATION</u> (note 7) . . . . .	-	17,387,795	<u>CURRENT AND ACCRUED LIABILITIES:</u>		
<u>CURRENT ASSETS:</u>			Accounts payable . . . . .	22,904,428	24,918,468
Unexpended funds in U. S. Treasury appropriated by the Congress for construction and for operation and maintenance (note 9) . . . . .	47,857,933	60,706,488	Employees' accrued leave . . . . .	1,924,422	1,897,043
Special deposits . . . . .	1,483,333	935,293	Total . . . . .	<u>24,828,850</u>	<u>26,815,511</u>
Accounts receivable:			<u>DEFERRED CREDITS</u> . . . . .	1,041,480	526,607
Customers . . . . .	9,719,851	9,189,986	<u>MATURED INSTALLMENTS OF FIXED OBLIGATIONS FOR USE OF IRRIGATION FACILITIES</u> . . . . .	63,216	-
Other . . . . .	1,101,263	973,284	<u>CONTRIBUTIONS IN AID OF CONSTRUCTION</u>	349,051	328,332
Materials and supplies . . . . .	6,512,403	8,815,489		<u>\$1,867,505,119</u>	<u>\$1,779,326,070</u>
Total . . . . .	<u>66,674,783</u>	<u>80,620,540</u>			
<u>OTHER ASSETS AND DEFERRED CHARGES</u>	10,242,273	9,033,481			
	<u>\$1,867,505,119</u>	<u>\$1,779,326,070</u>			

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

**UNITED STATES OF AMERICA**  
**COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES**

**STATEMENT OF INVESTMENT AND REPAYMENT OF INVESTMENT**  
**IN COMMERCIAL POWER PROGRAM (note 6)**  
**FOR THE PERIOD FROM INCEPTION TO JUNE 30, 1956**

	Total	Bonneville Power Administration	Bonneville Dam Project	Columbia Basin Project	Hungry Horse Project	Albion Falls Project	McNary Dam Project	Detroit-Big Cliff Project	Lookout Point-Dexter Project	Chief Joseph Project	Yakima Project, Kennewick Division	The Dalles Dam Project	Ice Harbor Project	Cougar Dam Project	Hills Creek Dam Project
<b>NET INVESTMENT IN COMMERCIAL POWER</b>															
<b>INVESTMENT ALLOCATED TO COMMERCIAL POWER:</b>															
Total investment of U. S. Government . . . . .	\$2,230,685,364	\$553,659,255	\$134,689,522	\$592,393,572	\$118,390,632	\$32,886,789	\$314,548,659	\$72,005,223	\$97,287,355	\$137,789,155	\$12,859,174	\$159,928,427	\$2,382,173	\$749,663	\$1,115,765
Less amounts allocated to nonpower purposes or unallocated:															
Irrigation . . . . .	329,863,365	-	-	310,660,396	-	-	-	4,072,223	5,222,778	759,372	9,148,596	-	-	-	-
Flood control . . . . .	92,988,685	-	-	-	22,669,861	186,554	-	22,417,059	47,715,211	-	-	-	-	-	-
Navigation . . . . .	73,531,387	-	43,724,358	1,036,714	-	144,932	27,606,246	140,225	878,912	-	-	-	-	-	-
Other purposes . . . . .	150,031	-	-	-	-	-	-	-	-	-	150,031	-	-	-	-
Construction in progress and other unallocated assets . . . . .	164,176,028	-	-	-	-	-	-	-	-	-	-	159,928,427	2,382,173	749,663	1,115,765
	660,709,496	-	43,724,358	311,697,110	22,669,861	331,486	27,606,246	26,629,507	53,816,901	759,372	9,298,627	159,928,427	2,382,173	749,663	1,115,765
Investment in commercial power . . . . .	1,569,975,868	553,659,255	90,965,164	280,696,462	95,720,771	32,555,303	286,942,413	45,375,716	43,470,454	137,029,783	3,560,547	-	-	-	-
<b>LESS FUNDS FROM COMMERCIAL POWER OPERATIONS RETURNED TO U. S. TREASURY:</b>															
Through June 30, 1955 . . . . .	390,040,963	196,879,297	52,232,444	112,759,901	9,325,140	1,075,060	13,578,776	3,390,000	800,345	-	-	-	-	-	-
During the year ended June 30, 1956:															
By Bonneville Power Administration . . . . .	59,405,758	22,888,758	3,400,000	12,535,000	3,610,000	1,300,000	10,000,000	1,900,000	1,900,000	1,700,000	172,000	-	-	-	-
By generating projects . . . . .	244,467	-	75	133,145	26,963	60	80,158	39	326	800	798	2,103	-	-	-
Accumulated funds returned . . . . .	449,691,188	219,768,055	55,632,519	125,428,046	12,962,103	2,375,120	23,658,934	5,290,039	2,700,671	1,700,800	172,798	2,103	-	-	-
Net investment in commercial power . . . . .	\$1,120,284,680	\$333,891,200	\$35,332,645	\$155,268,416	\$82,758,668	\$30,180,183	\$263,283,479	\$40,085,677	\$40,769,783	\$135,328,983	\$3,387,749	\$2,103*	\$-	\$-	\$-
<b>COMPARISON OF REPAYMENT AND SCHEDULED REPAYMENT OF COMMERCIAL POWER INVESTMENT</b>															
<b>REPAYMENT OF CAPITAL INVESTMENT IN COMMERCIAL POWER:</b>															
Accumulated funds returned (as above) . . . . .	\$449,691,188	\$219,768,055	\$55,632,519	\$125,428,046	\$12,962,103	\$2,375,120	\$23,658,934	\$5,290,039	\$2,700,671	\$1,700,800	\$172,798	\$2,103	\$-	\$-	\$-
Less amounts equivalent to:															
Operation and maintenance expense . . . . .	109,810,627	72,943,360	11,012,786	20,703,459	1,117,570	298,370	2,399,399	593,814	294,821	427,213	19,835	-	-	-	-
Interest charged to operations . . . . .	137,702,337	43,227,304	19,956,839	52,752,518	7,061,125	1,435,689	8,415,796	2,651,538	1,352,498	817,737	31,293	-	-	-	-
	247,512,964	116,170,664	30,969,625	73,455,977	8,178,695	1,734,059	10,815,195	3,245,352	1,647,319	1,244,950	51,128	-	-	-	-
Remainder applied to amortization of capital investment . . . . .	202,178,224	103,597,391	24,662,894	51,972,069	4,783,408	641,061	12,843,739	2,044,687	1,053,352	455,850	121,670	2,103	-	-	-
<b>SCHEDULED REPAYMENT OF CAPITAL INVESTMENT AT JUNE 30, 1956, ESTABLISHED BY LAW OR ADMINISTRATIVE POLICY PURSUANT TO LAW</b>															
	125,032,739	49,869,000	12,708,000	51,972,069	3,322,000	627,000	3,987,000	1,378,000	651,000	397,000	121,670	-	-	-	-
Excess of funds returned over scheduled repayment . . . . .	\$77,145,485	\$53,728,391	\$11,954,894	\$-	\$1,461,408	\$14,061	\$8,856,739	\$666,687	\$402,352	\$58,850	\$-	\$2,103	\$-	\$-	\$-

\*Deduction

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

## UNITED STATES OF AMERICA

## COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

## STATEMENT COMBINING EXPENSES OF COMMERCIAL POWER OPERATIONS

FOR THE FISCAL YEAR ENDED JUNE 30, 1956

	Combined to schedule 1	Bonneville Power Administration	Bonneville Dam Project	Columbia Basin Project	Hungry Horse Project	Albeni Falls Project	McNary Dam Project	Detroit-Big Cliff Project	Lookout Point-Dexter Project	Chief Joseph Project	Yakima Project, Kennewick Division
<b>OPERATING EXPENSES (notes 3 and 4):</b>											
Purchased power . . . . .	\$ 868,329	\$ 868,329	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operation:											
Specific power facilities . . . . .	8,382,720	6,256,887	349,289	903,393	133,851	78,358	293,565	100,774	106,038	150,453	10,112
Joint facilities . . . . .	869,723	-	19,845	181,098	123,270	55,378	381,985	30,838	22,392	50,000	4,917
Maintenance:											
Specific power facilities . . . . .	3,571,844	2,202,572	238,222	685,659	65,878	26,726	182,518	69,031	37,487	60,024	3,727
Joint facilities . . . . .	989,568	-	218,122	148,734	29,911	42,055	246,565	74,424	61,209	166,736	1,812
Depreciation:											
Specific power facilities . . . . .	15,438,670	10,007,172	592,178	1,502,752	479,077	348,032	1,300,361	404,959	427,156	365,511	11,472
Joint facilities . . . . .	3,101,302	-	138,093	536,132	495,277	73,043	1,261,501	190,266	177,310	222,592	7,088
Net loss on sales and abandonment of property . . . . .	182,906	180,354	284	-	-	-	-	2,268	-	-	-
Total operating expenses . .	<u>33,405,062</u>	<u>19,515,314</u>	<u>1,556,033</u>	<u>3,957,768</u>	<u>1,327,264</u>	<u>623,592</u>	<u>3,666,495</u>	<u>872,560</u>	<u>831,592</u>	<u>1,015,316</u>	<u>39,128</u>
<b>INTEREST AND OTHER DEDUCTIONS</b>											
(note 3):											
Interest on Federal investment . . . .	26,285,045	7,114,680	927,825	3,732,042	2,091,332	754,680	6,427,599	1,013,456	1,027,054	3,040,276	156,101
Less amount charged to con- struction . . . . .	4,593,743*	701,534*	812*	-	-	45,598*	1,498,451*	1*	-	2,222,539*	124,808*
Miscellaneous income deductions (net)	53,153*	1,773*	24,086*	23,459*	1,038*	60*	-	1,983*	21*	-	733*
Net interest and other de- ductions . . . . .	<u>21,638,149</u>	<u>6,411,373</u>	<u>902,927</u>	<u>3,708,583</u>	<u>2,090,294</u>	<u>709,022</u>	<u>4,929,148</u>	<u>1,011,472</u>	<u>1,027,033</u>	<u>817,737</u>	<u>30,560</u>
Total expenses and deduc- tions . . . . .	<u>\$55,043,211</u>	<u>\$25,926,687</u>	<u>\$2,458,960</u>	<u>\$7,666,351</u>	<u>\$3,417,558</u>	<u>\$1,332,614</u>	<u>\$8,595,643</u>	<u>\$1,884,032</u>	<u>\$1,858,625</u>	<u>\$1,833,053</u>	<u>\$ 69,688</u>

\*Deduction

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

**UNITED STATES OF AMERICA**  
**COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES**

**STATEMENT COMBINING ASSETS AND LIABILITIES**

JUNE 30, 1956

ASSETS	Combined to schedule 2	Bonneville Power Adminis- tration	Bonneville Dam Project	Columbia Basin Project	Hungry Horse Project	Albeni Falls Project	McNary Dam Project	Detroit- Big Cliff Project	Lookout Point- Dexter Project	Chief Joseph Project	Yakima Project, Kennewick Division	The Dalles Dam Project	Ice Harbor Project	Cougar Dam Project	Hills Creek Dam Project
<b>FIXED ASSETS, at original cost, including interest during construction (notes 3 and 4):</b>															
Commercial power:															
Specific facilities (powerhouses, generating equipment, and transmission plant) . . . . .	\$ 844,285,408	\$397,494,532	\$38,656,618	\$111,076,494	\$ 27,069,849	\$19,591,100	\$133,113,550	\$22,311,413	\$23,651,776	\$ 68,975,140	\$ 2,344,936	\$ -	\$ -	\$ -	\$ -
Joint facilities (dams, reservoirs, etc.) allocated to power . . . . .	433,003,642	-	20,969,488	93,391,853	59,797,609	11,058,161	142,609,232	19,426,685	17,924,941	66,674,589	1,151,084	-	-	-	-
	<u>1,277,289,050</u>	<u>397,494,532</u>	<u>59,626,106</u>	<u>204,468,347</u>	<u>86,867,458</u>	<u>30,649,261</u>	<u>275,722,782</u>	<u>41,738,098</u>	<u>41,576,717</u>	<u>135,649,729</u>	<u>3,496,020</u>	-	-	-	-
Irrigation:															
Specific facilities . . . . .	228,105,651	-	-	222,192,694	-	-	-	-	-	261,435	5,651,522	-	-	-	-
Joint facilities . . . . .	80,746,163	-	-	68,840,458	-	-	-	3,822,146	4,968,401	-	3,115,158	-	-	-	-
	<u>308,851,814</u>	-	-	<u>291,033,152</u>	-	-	-	<u>3,822,146</u>	<u>4,968,401</u>	<u>261,435</u>	<u>8,766,680</u>	-	-	-	-
Flood control:															
Joint facilities . . . . .	86,703,993	-	-	-	20,662,037	168,081	-	20,501,801	45,372,074	-	-	-	-	-	-
Navigation:															
Specific facilities . . . . .	28,508,896	-	6,351,124	-	-	-	22,157,772	-	-	-	-	-	-	-	-
Joint facilities . . . . .	26,724,516	-	20,969,488	1,000,000	-	130,604	3,656,648	131,647	836,129	-	-	-	-	-	-
	<u>55,233,412</u>	-	<u>27,320,612</u>	<u>1,000,000</u>	-	<u>130,604</u>	<u>25,814,420</u>	<u>131,647</u>	<u>836,129</u>	-	-	-	-	-	-
Other:															
Specific facilities . . . . .	166,531	-	-	-	-	-	-	-	-	-	166,531	-	-	-	-
Multiple-purpose projects under construction, . . . . .	161,886,507	-	-	-	-	-	-	-	-	-	-	158,094,089	2,138,649	643,406	1,010,363
<b>Total . . . . .</b>	<b>1,890,131,307</b>	<b>397,494,532</b>	<b>86,946,718</b>	<b>496,501,499</b>	<b>107,529,495</b>	<b>30,947,946</b>	<b>301,537,202</b>	<b>66,193,692</b>	<b>92,753,321</b>	<b>135,911,164</b>	<b>12,429,231</b>	<b>158,094,089</b>	<b>2,138,649</b>	<b>643,406</b>	<b>1,010,363</b>
<b>Less accumulated depreciation:</b>															
Specific facilities:															
Commercial power . . . . .	82,582,535	57,797,335	7,067,927	11,524,491	1,667,853	388,599	2,219,536	1,010,665	529,146	365,511	11,472	-	-	-	-
Irrigation (pumping power facilities), . . . . .	310,013	-	-	310,013	-	-	-	-	-	-	-	-	-	-	-
Navigation, . . . . .	1,354,174	-	544,363	-	-	-	809,811	-	-	-	-	-	-	-	-
Joint facilities:															
Commercial power . . . . .	11,653,497	-	1,649,993	4,903,409	1,547,910	443,410	2,106,470	515,827	256,798	222,592	7,088	-	-	-	-
Irrigation . . . . .	191,863	-	-	-	-	-	-	101,488	71,179	-	19,196	-	-	-	-
Flood control . . . . .	1,726,034	-	-	-	524,906	6,740	-	544,374	650,014	-	-	-	-	-	-
Navigation, . . . . .	1,725,128	-	1,649,993	-	-	5,237	54,424	3,496	11,978	-	-	-	-	-	-
<b>Total . . . . .</b>	<b>99,543,244</b>	<b>57,797,335</b>	<b>10,912,276</b>	<b>16,737,913</b>	<b>3,740,669</b>	<b>843,986</b>	<b>5,190,241</b>	<b>2,175,850</b>	<b>1,519,115</b>	<b>588,103</b>	<b>37,756</b>	-	-	-	-
<b>Original cost, net . . . . .</b>	<b>1,790,588,063</b>	<b>339,697,197</b>	<b>76,034,442</b>	<b>479,763,586</b>	<b>103,788,826</b>	<b>30,103,960</b>	<b>296,346,961</b>	<b>64,017,842</b>	<b>91,234,206</b>	<b>135,323,061</b>	<b>12,391,475</b>	<b>158,094,089</b>	<b>2,138,649</b>	<b>643,406</b>	<b>1,010,363</b>
<b>CURRENT ASSETS:</b>															
Unexpended funds in U. S. Treasury appropriated by Congress for construction and for operation and maintenance (note 9) . . . . .	47,857,933	25,390,168	287,585	3,229,278	42,693	278,866	3,427,882	331,530	967,752	4,443,089	534,585	8,254,196	278,642	182,312	209,355
Special deposits . . . . .	1,483,333	579,780	-	662,264	17,198	-	-	-	-	1,674	222,417	-	-	-	-
Accounts receivable:															
Customers . . . . .	9,719,851	9,719,851	-	-	-	-	-	-	-	-	-	-	-	-	-
Other . . . . .	1,101,263	507,656	1,361	463,294	3,383	124	55,683	4,617	6,180	31,379	20,253	6,158	-	318	857
Materials and supplies . . . . .	6,512,403	5,579,626	44,973	696,962	63,842	3,198	-	10,028	3,960	6,028	2,803	100,983	-	-	-
<b>Total . . . . .</b>	<b>66,674,783</b>	<b>41,777,081</b>	<b>333,919</b>	<b>5,051,798</b>	<b>127,116</b>	<b>282,188</b>	<b>3,483,565</b>	<b>346,175</b>	<b>977,892</b>	<b>4,482,170</b>	<b>780,058</b>	<b>8,361,337</b>	<b>278,642</b>	<b>182,630</b>	<b>210,212</b>
<b>OTHER ASSETS AND DEFERRED CHARGES . . . . .</b>	<b>10,242,273</b>	<b>1,447,896</b>	<b>38,541</b>	<b>7,884,461</b>	<b>3,278</b>	<b>425</b>	<b>24,304</b>	<b>361,555</b>	<b>46</b>	<b>12,892</b>	<b>30,834</b>	<b>216,148</b>	<b>219,460</b>	<b>1,705</b>	<b>728</b>
	<u>\$1,867,505,119</u>	<u>\$382,922,174</u>	<u>\$76,406,902</u>	<u>\$492,699,845</u>	<u>\$103,919,220</u>	<u>\$30,386,573</u>	<u>\$299,854,830</u>	<u>\$64,725,572</u>	<u>\$92,212,144</u>	<u>\$139,818,123</u>	<u>\$13,202,367</u>	<u>\$166,671,574</u>	<u>\$2,636,751</u>	<u>\$827,741</u>	<u>\$1,221,303</u>

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

**UNITED STATES OF AMERICA**  
**COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES**

**STATEMENT COMBINING ASSETS AND LIABILITIES (continued)**

**JUNE 30, 1956**

LIABILITIES	Combined to schedule 2	Bonneville Power Adminis- tration	Bonneville Dam Project	Columbia Basin Project	Hungry Horse Project	Albeni Falls Project	McNary Dam Project	Detroit- Big Cliff Project	Lookout Point- Dexter Project	Chief Joseph Project	Yakima Project, Kennewick Division	The Dalles Dam Project	Ice Harbor Project	Cougar Dam Project	Hills Creek Dam Project
<b>INVESTMENT OF U. S. GOVERNMENT AND ACCUMU- LATED NET REVENUES:</b>															
Congressional appropriations . . . . .	\$1,977,432,066	\$487,410,262	\$99,740,797	\$524,278,061	\$103,268,165	\$30,395,886	\$283,395,900	\$63,328,468	\$87,200,920	\$128,141,354	\$12,024,080	\$154,176,000	\$2,382,173	\$619,500	\$1,070,500
Cost of materials and services furnished by other Federal agencies, net . . . . .	22,346,178	15,426,159	144,668	5,675,596	454,097	85	81,344	6,541*	16,914	135,720	323,108	1,029*	-	96,000	57
Interest on Federal investment:															
Charged to operations . . . . .	155,817,037	43,227,304	31,204,942	52,752,518	8,756,417	1,460,704	9,987,299	4,352,855	3,198,275	817,737	58,986	-	-	-	-
Charged to construction . . . . .	73,633,376	6,138,823	3,599,115	9,687,397	5,911,953	1,030,114	21,084,116	4,330,441	6,871,246	8,694,344	453,000	5,753,456	-	34,163	45,208
Revenues transferred to the continuing fund . . . . .	1,456,707	1,456,707	-	-	-	-	-	-	-	-	-	-	-	-	-
Total investment of U. S. Government (note 5) . . . . .	2,230,685,364	553,659,255	134,689,522	592,393,572	118,390,632	32,886,789	314,548,659	72,005,223	97,287,355	137,789,155	12,859,174	159,928,427	2,382,173	749,663	1,115,765
Less:															
Funds returned to U. S. Treasury:															
Repayment of Federal investment in the power program (including amounts for operating expenses and interest) . . . . .	449,691,188	219,768,055	55,632,519	125,428,046	12,962,103	2,375,120	23,658,934	5,290,039	2,700,671	1,700,800	172,798	2,103	-	-	-
Repayment of Federal investment in nonpower programs . . . . .	6,905,003	-	6,604	6,641,020	220,684	2	2,536	30	699	-	33,263	165	-	-	-
Total expense of flood control operations . . . . .	6,962,048	-	-	-	2,307,300	22,696	-	2,208,361	2,423,691	-	-	-	-	-	-
Total expense of navigation operations . . . . .	21,215,446	-	18,459,935	36,714	-	17,610	2,646,451	10,453	44,283	-	-	-	-	-	-
Other nonreimbursable expense . . . . .	134,761	-	-	134,761	-	-	-	-	-	-	-	-	-	-	-
Total . . . . .	484,908,446	219,768,055	74,099,058	132,240,541	15,490,087	2,415,428	26,307,921	7,508,883	5,169,344	1,700,800	206,061	2,268	-	-	-
Net investment of U. S. Government . . . . .	1,745,776,918	333,891,200	60,590,464	460,153,031	102,900,545	30,471,361	288,240,738	64,496,340	92,118,011	136,088,355	12,653,113	159,926,159	2,382,173	749,663	1,115,765
Accumulated net revenues:															
Net revenues from commercial power operations since inception, including \$5,949,412 for the year ended June 30, 1956 (schedule 1). Adjustments reducing previous years' accumulated net revenues by \$17,283,539 were recorded at June 30, 1956 (note 7) . . . . .	98,745,607	39,709,560	15,701,230	33,317,703	985,210	191,069*	8,487,336	499,576	266,737	133,053*	102,377	-	-	-	-
Less net loss from irrigation operations since inception . . . . .	3,300,003	-	-	2,708,258	-	-	-	304,333	263,259	-	24,153	-	-	-	-
Total . . . . .	95,445,604	39,709,560	15,701,230	30,609,445	985,210	191,069*	8,487,336	195,243	3,478	133,053*	78,224	-	-	-	-
Total . . . . .	1,841,222,522	373,600,760	76,291,694	490,762,476	103,885,755	30,280,292	296,728,074	64,691,583	92,121,489	135,955,302	12,731,337	159,926,159	2,382,173	749,663	1,115,765
<b>CURRENT AND ACCRUED LIABILITIES:</b>															
Accounts payable . . . . .	22,904,428	6,355,512	115,208	1,558,181	33,465	106,281	3,126,756	33,989	89,356	3,862,821	439,250	6,745,415	254,578	78,078	105,538
Employees' accrued leave . . . . .	1,924,422	1,924,422	-	-	-	-	-	-	-	-	-	-	-	-	-
Total . . . . .	24,828,850	8,279,934	115,208	1,558,181	33,465	106,281	3,126,756	33,989	89,356	3,862,821	439,250	6,745,415	254,578	78,078	105,538
DEFERRED CREDITS . . . . .	1,041,480	1,041,480	-	-	-	-	-	-	-	-	-	-	-	-	-
MATURED INSTALLMENTS OF FIXED OBLIGATIONS FOR USE OF IRRIGATION FACILITIES . . . . .	63,216	-	-	63,216	-	-	-	-	-	-	-	-	-	-	-
CONTRIBUTIONS IN AID OF CONSTRUCTION . . . . .	349,051	-	-	315,972	-	-	-	-	1,299	-	31,780	-	-	-	-
	\$1,867,505,119	\$382,922,174	\$76,406,902	\$492,699,845	\$103,919,220	\$30,386,573	\$299,854,830	\$64,725,572	\$92,212,144	\$139,818,123	\$13,202,367	\$166,671,574	\$2,636,751	\$827,741	\$1,221,303

\*Deduction

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

COLUMBIA RIVER POWER SYSTEM AND RELATED ACTIVITIES

NOTES TO THE FINANCIAL STATEMENTS

ON SCHEDULES 1 TO 5, INCLUSIVE

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

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

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

Agency and project	Initial operation of first unit (fiscal year)	Kilowatts	
		Installed capacity June 30, 1956	Ultimate capacity
<b>Corps of Engineers:</b>			
Bonneville Dam . . . . .	1938	518,400	518,400
McNary Dam . . . . .	1954	840,000	980,000
Detroit-Big Cliff . . . . .	1954	118,000	118,000
Albeni Falls . . . . .	1955	42,600	42,600
Lookout Point-Dexter . . . . .	1955	135,000	135,000
Chief Joseph . . . . .	1956	256,000	1,024,000
The Dalles . . . . .	-	-	1,092,000
Ice Harbor . . . . .	-	-	270,000
Cougar Dam . . . . .	-	-	25,000
Hills Creek Dam . . . . .	-	-	30,000
<b>Total Corps . . . . .</b>		<b>1,910,000</b>	<b>4,235,000</b>
<b>Bureau of Reclamation:</b>			
Columbia Basin . . . . .	1942	1,944,000	1,944,000
Hungry Horse . . . . .	1953	285,000	285,000
Yakima (Kennewick Division)	1956	12,000	12,000
<b>Total Bureau . . . . .</b>		<b>2,241,000</b>	<b>2,241,000</b>
<b>Combined total . . . . .</b>		<b>4,151,000</b>	<b>6,476,000</b>

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

The Yakima Project has been included in these statements only to the extent of the Kennewick Division. The assets and liabilities of five other divisions have been omitted. Certain costs of the Storage Division, one of those omitted,

are allocable directly to the Kennewick Division by tentative Bureau of Reclamation determination. The Roza Division, also one of those omitted, had under construction a small hydroelectric plant during fiscal year 1956.

2. Revisions to the financial statements

Investment and Repayment of Investment in Commercial Power Program, schedule 3. Schedule 3, Investment and Repayment of Investment in Commercial Power Program, sets forth for the first time in this series of financial statements a comparison of the repayment of the Federal Government's investment in commercial power facilities of this System. This comparison has been made by matching the repayment of the investment with the rate of repayment which will amortize the investment over the number of years as established by law or administrative policy pursuant to law. Note 6 discusses repayment requirements in detail.

Project revenue and expense statements. The growing number of projects in the System has made it desirable to discontinue the individual project revenue and expense statements. The presentation of income and expense for commercial power operations has been revised in a manner which better emphasizes the integrated nature of system operation and the central role of the marketing agent. Accordingly, individual project revenue and expense statements have been discontinued. Total revenues are presented on a system basis which are matched in total against the consolidated power expenses of the generating projects and marketing agency.

Allocations of System receipts to the individual generating projects by the Bonneville Power Administration are based on the payout requirements of the individual projects and not on the energy supplied to the System. For this reason the allocations of System power receipts will be found on schedule 3, Investment and Repayment of Investment in Commercial Power Program, which deals with repayment.

Payments to U. S. Treasury for the Account of the Corps of Engineers in Excess of Costs Charged to Power Operations. In past years the accumulated allocations of power receipts and the accumulated expenses have been shown (net) on the statements of assets and liabilities of the individual Corps projects as "Payments to U. S. Treasury for the Account of the Corps of Engineers in Excess of Costs Charged to Power Operations." A corresponding amount was presented on the statement of assets and liabilities of the Bonneville Power Administration under a similar caption with only the amount of the payments equal to the power-operating costs being charged to accumulated net revenues. These amounts were eliminated in the consolidating statement of assets and liabilities.

This practice has been discontinued. Beginning with fiscal year 1956 the entire amount of allocations of power receipts by Bonneville Power Administration to the Corps projects is charged against the Administration's operating revenues. "Payments to U. S. Treasury for Account of Corps of Engineers in Excess of Costs Charged to Power Operations" on the Corps statements of assets and liabilities have been reclassified as accumulated net revenues. This revised presentation has no effect on the accumulated net revenues for the System.

3. Accounting policies

Accounting policies for the Bonneville Power Administration and the individual projects comprising the system are not wholly consistent in several important respects. Policies that are consistent among the agencies have not been reached on depreciation on plant in service, interest on the Federal investment

SCHEDULE 6

in commercial power facilities, costs incurred by other agencies, and allocation to purposes of joint costs and expenses of multiple-purpose projects. The latter item is included in note 4.

Depreciation. The straight-line method has been used to compute property depreciation for the Bonneville Power Administration, for all projects of the Corps of Engineers (except Bonneville Dam Project), and for the Hungry Horse and Yakima (Kennewick Division) Projects of the Bureau of Reclamation. The compound-interest method, employing an interest factor of 2.5 percent, has been used in computing depreciation on most of the property of the Bonneville Dam Project and the Columbia Basin Project of the Bureau of Reclamation.

Depreciation has been uniformly provided on depreciable property of all purposes at projects of the Corps of Engineers. Depreciation has not been provided on any property allocated to irrigation and navigation purposes at the Columbia Basin Project of the Bureau of Reclamation except for specific power facilities used for irrigation pumping. Depreciable property allocated to both flood control and power purposes is being depreciated at the Hungry Horse Project of the Bureau of Reclamation. Depreciation is provided on property allocated to all purposes, including irrigation, at the Yakima Project (Kennewick Division) of the Bureau of Reclamation.

Estimated service lives of the various classes of property have been determined by engineering studies. No item of property has been assigned a service life in excess of 100 years, except for a maximum of 150 years at the Hungry Horse Project. Columbia Basin Project differs basically from the Bonneville Power Administration, the Corps of Engineers projects, and the Hungry Horse Project in that all costs of land and land rights are being depreciated.

As stated in previous years, a uniform depreciation policy, including method and maximum service lives, is under consideration by the Department of the Interior for application by the several power agencies of the Department.

Interest. The Administration and the Corps of Engineers have included interest at the rate of 2.5 percent on the net Federal investment allocated to all purposes with appropriate charges to expense and to property costs (interest during construction). In the Bureau of Reclamation accounts for the Columbia Basin and Hungry Horse Projects, interest is recorded at 3 percent on the net investment in commercial power facilities. Under an agreement with Bonneville Power Administration for the purpose of providing data for statements on results of power operations, memorandum records are maintained at Columbia Basin and Hungry Horse Projects for interest on investment at a rate of 2.5 percent. Similar memorandum records have been maintained for interest on investment on the Yakima Project (Kennewick Division). For the Columbia Basin Project, interest is computed on the net Federal investment in commercial power only, and, for the Hungry Horse and Yakima (Kennewick Division) Projects, interest is computed on the net investment in all purposes.

Costs incurred by other agencies. Bonneville Power Administration has recorded in its accounts actual or estimated costs for rentals, materials, and other services furnished without charge by the General Services Administration and other Federal agencies, death and disability claims on account of the Administration employees paid by the Bureau of Employees' compensation, Department of Labor, and the amounts applicable to the Administration's operations of the cost of Civil Service Retirement System. For the fiscal year 1956 the Administration recorded in its accounts \$1,600,000 of such costs, of which \$600,000 was included in operating expenses. It is not the practice of the Corps of Engineers or the Bureau of Reclamation to include in their accounts amounts

incurred by other Federal agencies and not assignable to the projects pursuant to law or administrative policy.

Investigations costs. Expenditures for preliminary surveys and investigations are included as a part of construction costs of the project by the Administration and the Bureau of Reclamation but not by the Corps of Engineers.

4. Allocation of joint costs and expenses

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

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

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

Hungry Horse Project. An allocation of the construction costs of Hungry Horse Project has not been made by the Secretary of the Interior. A tentative allocation of the costs of property, plant, and equipment determined to be jointly useful for power generation and flood control purposes has been made by the Bureau of Reclamation. The allocation percentages are as follows:

	<u>Percent</u>
Commercial power:	
At site . . . . .	24.70
Downstream river regulation . .	49.62
	74.32
Flood control . . . . .	25.68
Total . . . . .	<u>100.00</u>

For purposes of this report, property costs have been allocated in accordance with the percentages shown in the tabulation above. The expense of operating

and maintaining facilities serving both power and flood control purposes has been allocated in accordance with studies conducted by the Bureau of Reclamation.

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

	Percent			
	Albeni Falls	Detroit-Big Cliff	Lookout Point-Dexter	Chief Joseph
Commercial power . . . . .	97.37	44.27	25.94	100.00
Flood control . . . . .	1.48	46.72	65.66	-
Navigation . . . . .	1.15	.30	1.21	-
Irrigation . . . . .	-	7.77	7.19	-
Municipal water supply . . . . .	-	.94	-	-
<b>Total . . . . .</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

For purposes of this report, the joint property costs have been allocated in accordance with the above percentages. The expenses of operating and maintaining facilities serving more than one purpose have been allocated to each purpose on the basis of studies made by the Corps of Engineers.

At the present time the Corps considers the entire construction costs of the joint facilities at the Chief Joseph Project applicable to commercial power, but due to related irrigation development by the Bureau of Reclamation, some amount may be assigned to irrigation at a later date.

McNary Dam Project. The River and Harbor Act of 1945 (59 Stat. 22) authorized this project and provided that the Department of the Interior market the electric energy in accordance with the terms of the Bonneville Project Act. Under the provisions of the Bonneville Project Act (16 U.S.C. 832f), the Federal Power Commission is authorized to allocate the construction costs of joint facilities to power and nonpower purposes. In an interim report the Commission allocated 97.5 percent of the joint facilities construction costs to commercial power and 2.5 percent to navigation. For the purposes of this report, the costs of joint facilities have been allocated in accordance with these percentages. Operation and maintenance expenses applicable to joint facilities have been allocated to commercial power and to nonpower operations on the same basis.

Yakima Project (Kennewick Division). An allocation of the costs of the Yakima Project has not been made by the Secretary of the Interior. A tentative allocation of the total costs to date of the Kennewick Division has been made by the Bureau of Reclamation. The costs of property, plant, and equipment determined to be jointly useful for power generation and for irrigation have been allocated between these purposes in accordance with the following percentages:

	Percent		
	Power	Irrigation	Total
Prosser diversion dam . . . . .	100.0	-	100.0
Headworks and common facilities . . . . .	14.6	85.4	100.0
Power canal--1st section . . . . .	100.0	-	100.0
Power canal--2nd section . . . . .	22.5	77.5	100.0
General plant . . . . .	71.2	28.8	100.0

In fiscal year 1956 there were no irrigation operations, and all operation and maintenance of joint facilities were charged to power.

5. Investment of the United States Government

All funds expended by the Columbia River Power System and Related Activities for property, plant, equipment, or other assets and the expenses of operation and maintenance are obtained by congressional appropriation, except that Bonneville Power Administration may use a continuing fund to defray emergency expenses and to assure continuous operation. The continuing fund was authorized by the Bonneville Project Act, as amended (16 U.S.C. 832j), to be derived from receipts from sale of electric energy. To June 30, 1956, receipts transferred to the continuing fund totaled \$1,456,707, of which \$956,707 had been expended and \$500,000 remained unexpended. With the exception of the continuing fund, receipts from the sale of electric energy and other sources are not available for expenditure and are deposited in the United States Treasury.

Interest, included as a part of the Federal investment, does not represent congressional appropriation of funds to the power system. It is a recorded estimate of the Treasury borrowing costs applicable to the System, arrived at by applying a 2.5 percent interest factor to the net Federal investment in commercial power and certain other purposes. The net cost of materials and services transferred from other Federal agencies, included in the Federal investment, does not represent appropriations to the System but only the recording of actual or estimated costs of such materials and services. (See note 3.)

The capital investment is represented by property, plant, and equipment, materials and supplies, unexpended appropriations, and other assets, with interest during construction included in property and plant costs. The remainder of the investment is represented by expenses incurred for operation, maintenance, administration and other costs, and interest expense, other than interest during construction. Note 6 explains the provisions being made for repayment of the Federal investment in the commercial power program.

6. Repayment and scheduled repayment of commercial power investment

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

agreements reached by the Administration with the Corps of Engineers and the Bureau of Reclamation.

The Statement of Investment and Repayment of Investment in the Commercial Power Program (schedule 3) is intended to compare, at this interim date, the repayment of Federal investment in commercial power achieved by current power rate levels with the scheduled repayment established by law or administrative policy pursuant to law. Power receipts returned to the Treasury have been first applied to the repayment of operation and maintenance and interest expenses, with the remainder being applied to amortization of the capital investment in commercial power. On projects in which part of the irrigation investment is assigned for repayment from commercial power revenues, the assistance is assumed to begin after repayment of the commercial power investment. Commercial power rate and repayment requirements are affected by irrigation assistance to the extent that the assistance makes necessary the recovery of commercial power investment in a shorter period of years.

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

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

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

During the year ended June 30, 1956, the Administration deposited sums of \$3,400,000, \$10,000,000, and \$22,143,251 to miscellaneous receipts in the United States Treasury on behalf of the Bonneville Dam Project, the McNary Dam Project, and the Bonneville Power Administration, respectively. An additional amount of \$745,507 deposited by Bonneville Power Administration in a special funds receipt account in the United States Treasury has been applied to repayment of the Administration's investment.

Albeni Falls, Detroit-Big Cliff, Lookout Point-Dexter, and Chief Joseph Projects. Rate and repayment requirements for these projects are governed by section 5 of the Flood Control Act of 1944. The provisions of this section are similar to the corresponding provisions of the Bonneville Project Act and state that rate schedules shall be drawn having regard to the recovery of the cost of producing and transmitting electric energy excess to project needs, including the amortization of the capital investment over a reasonable period of years. The act of July 27, 1954 (68 Stat. 568), authorized the Secretary of the Interior to construct irrigation facilities comprising the Foster Creek Division of the Chief Joseph Project under reclamation law and provided that surplus power revenues should be used to assist in repayment of the irrigation investment.

Rate and repayment requirements for these projects have been determined by Bonneville Power Administration in the same manner as for Bonneville Dam Project, McNary Dam Project, and the Administration. It has been assumed in the preparation of schedule 3 that the assistance to irrigation investment in the Foster Creek Division of the Chief Joseph Project will not be required until after repayment of the project commercial power investment.

During the year ended June 30, 1956, the Administration deposited sums of \$1,300,000, \$1,900,000, \$1,900,000, and \$1,700,000 to miscellaneous receipts in the United States Treasury on behalf of the Albeni Falls, Detroit-Big Cliff, Lookout Point-Dexter, and Chief Joseph Projects, respectively.

Hungry Horse Project. Construction of Hungry Horse Dam and Reservoir was authorized by the act of June 5, 1944 (43 U.S.C. 593a). The act made no provision for allocations of cost, rate and repayment criteria, or the application of revenues. There has been a question as to whether the Hungry Horse Project is subject to the requirements of reclamation laws, including the rate and repayment requirements of section 9 of the Reclamation Project Act of 1939. The Department of the Interior has this matter under consideration.

The interest rate and other financial data used by the Bonneville Power Administration in determining the investment to be repaid are consistent with that used in the preparation of the financial statements. Rate and repayment requirements for this project have been determined in the same manner as for Bonneville Dam Project and other projects of the Corps of Engineers.

During the year ended June 30, 1956, the Bonneville Power Administration deposited the sum of \$3,610,000 to a suspense account, Hungry Horse Project, in the United States Treasury.

Columbia Basin Project. Reclamation law, as supplemented, and Executive Order 8526 require that payments be made into the reclamation fund of the United States Treasury, for the account of Columbia Basin Project, of such revenues received by Bonneville Power Administration from the sale of electric energy as may be properly allocable to the project. By agreement between Bonneville Power Administration and the Bureau of Reclamation, entered into to effect these requirements, the Administration is making payments which will, together with revenues from other sources credited to power, over a period of 80 years equal:

1. Operation, maintenance, and replacement of facilities allocated to commercial power.
2. Interest at 3 percent on unamortized investment in facilities allocated to commercial power.
3. Investment in commercial power facilities.
4. Assistance to irrigators in repaying the investment in irrigation, estimated to require about \$470,000,000.

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

regulation through fiscal year 1956, and interest during operations has been computed at a rate of 3 percent on the unamortized capital investment. Because of these interest differences, the investment as shown in the financial statements at June 30, 1956, was about \$26,000,000 greater than the investment determined by the Bureau of Reclamation to be repayable.

The rate and repayment study by the Bureau of Reclamation indicates that commercial power investment will be repaid in about 33 years (1975) and that net power revenues after that date will render the assistance necessary to repay the irrigation investment over the remaining 47 years of the project payout period. Inasmuch as the annual payments by Bonneville Power Administration are incorporated in the rate and repayment study itself, repayment at Columbia Basin Project is considered to be just on schedule.

During fiscal year 1956, Bonneville Power Administration deposited \$12,535,000 to the reclamation fund in the United States Treasury for the account of Columbia Basin Project.

Yakima Project (Kennewick Division). Rate and repayment requirements for the Kennewick Division of the Yakima Project are governed by the Reclamation Project Act of 1939 and the authorizing act of June 21, 1948 (62 Stat. 382). The latter act provides an over-all payout period of 66 years for the reimbursable investment in power and irrigation, with power revenue assistance to irrigators in repayment of the irrigation investment. It provides also for a 2.5 percent return on the investment in commercial power and authorizes the use of one fifth of such interest to assist in repayment of the irrigation investment.

Repayment of investment in commercial power is expected to require 38 years, and net revenues after that date are to render the assistance necessary to repay the irrigation investment (about \$4,500,000) over the remaining 28 years of the project payout period. Inasmuch as the annual payments by Bonneville Power Administration are incorporated in the rate and repayment study itself, repayment is considered to be just on schedule.

During fiscal year 1956, Bonneville Power Administration deposited \$172,000 to the reclamation fund in the United States Treasury for the account of Yakima Project (Kennewick Division).

7. Adjustments to accumulated net revenues

Accumulated net revenues of previous years have been reduced \$17,283,539 (net) by the following adjustments:

Interest and depreciation charges on joint facilities allocated to future downstream river regulation. The practice of deferring interest and depreciation on plant allocated to future downstream river regulation was discontinued in fiscal year 1956 and the net deferrals of previous years were written off. The amounts and the projects affected were:

Columbia Basin Project. . . . .	\$15,927,661
Hungry Horse Project. . . . .	1,001,947
Albeni Falls Project . . . . .	<u>458,187</u>
Decrease. . . . .	<u>\$17,387,795</u>

Deferral of interest and depreciation charges associated with plant allocated to downstream river regulation began at a time when only two generating

plants were in operation. At the Columbia Basin Project, about 24 percent of the dam and reservoir cost was allocated to downstream river regulation for the benefit of downstream projects not then in existence, and this allocation represented over 12 percent of the System's electric fixed assets. To avoid undue distortion of current year operating results, the interest and depreciation costs were deferred and similar treatment was later accorded the interest and depreciation costs on downstream river regulation allocations at the Hungry Horse and Albeni Falls Projects.

The rapid expansion of the System has rendered the special accounting for downstream river regulation interest and depreciation costs a minor and unnecessary accounting refinement. Plant held for future downstream river regulation has declined in relative importance over the years to only 3 percent of the commercial power fixed assets at June 30, 1956. Had the practice of deferral been continued in fiscal year 1956, the net deferral would have amounted to less than 3 percent of System operating costs. With the completion of The Dalles Dam Project and full production at the Chief Joseph Project, the relative importance of plant held for future downstream river regulation and attendant interest and depreciation will further diminish.

Other adjustments. Several adjustments to Columbia Basin Project expenses of previous years were recorded in fiscal year 1956.

Interest and depreciation on Court of	
Claims costs . . . . .	\$ 89,437
Revised interest calculations . . . . .	<u>34,331</u>
	123,768
Less other miscellaneous adjustments . .	<u>19,512</u>
Increase, net . . . . .	<u>\$104,256</u>

In accordance with a change in Bureau of Reclamation policy, the costs of claim settlements not borne by project funds were eliminated from the books of account at Columbia Basin Project. The capitalized claims settlements cost eliminated amounted to \$803,972, and the \$89,437 adjustment to accumulated net revenues represents the related interest and depreciation charged to operations in past years. The balance of the adjustments at Columbia Basin Project consist of a revision to interest computations for fiscal years 1954 and 1955, a write-off of uncollectible accounts receivable, and other minor items.

8. Revenues from downstream non-Federal plants

The Federal Power Act (16 U.S.C. 803f) provides that a licensed project receiving benefits from the upstream improvements of another licensed project or of the Federal Government shall make payments on account of such benefits. It is the responsibility of the Federal Power Commission to determine the amount, if any, that non-Federal power installations on the Columbia River and its tributaries will have to pay for downstream benefits received or to be received from the Federal storage projects, namely, Hungry Horse, Albeni Falls, and Columbia Basin Projects (Grand Coulee Dam) of the Columbia River Power System. During the fiscal year 1956 and prior years, benefits were received by the non-Federal projects, but no revenues have been accrued in the accounts of the Columbia River Power System for such benefits because the Federal Power Commission has not rendered a decision as to the amounts payable, if any, by the beneficiaries.

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**9. Additional appropriations by the Congress**

Funds appropriated by the Public Works Appropriation Act, 1957 (70 Stat. 474), have been made available to the Bonneville Power Administration and to the projects of the Corps of Engineers and the Bureau of Reclamation as follows:

<u>Project and agency</u>	<u>Total</u>	<u>Construction</u>	<u>Operation and maintenance</u>
Bonneville Power Administration. . . . .	\$ 26,100,000	\$ 18,700,000	\$ 7,400,000
<b>Corps of Engineers:</b>			
Bonneville Dam . . . . .	1,100,000	-	1,100,000
Albeni Falls . . . . .	634,700	416,700	218,000
McNary Dam . . . . .	4,038,000	2,828,000	1,210,000
Detroit-Big Cliff. . . . .	386,000	-	386,000
Lookout Point-Dexter . . . . .	1,563,680	1,163,680	400,000
Chief Joseph . . . . .	9,775,000	9,275,000	500,000
The Dalles Dam . . . . .	49,100,000	49,000,000	100,000
Ice Harbor . . . . .	7,600,000	7,600,000	-
Cougar Dam . . . . .	1,700,000	1,700,000	-
Hills Creek . . . . .	1,960,000	1,960,000	-
<b>Bureau of Reclamation:</b>			
Columbia Basin . . . . .	17,912,000	13,750,000	4,162,000
Hungry Horse . . . . .	422,000	-	422,000
Chief Joseph, Foster Creek Division. . . . .	1,203,000	1,203,000	-
Yakima Project, Kennewick Division. . . . .	<u>1,344,000</u>	<u>1,288,000</u>	<u>56,000</u>
<b>Total. . . . .</b>	<b><u>\$124,838,380</u></b>	<b><u>\$108,884,380</u></b>	<b><u>\$15,954,000</u></b>

Appropriations by the Congress for the Corps of Engineers and the Bureau of Reclamation are not segregated by projects and the amounts presented are based on tentative allotments.

**BONNEVILLE POWER ADMINISTRATION**

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Administrator

J. LANE MORTHLAND  
Regional Solicitor  
(Office of the Solicitor)

BYRON L. PRICE  
Assistant Administrator

WARREN H. MARPLE  
Program Coordinator

LEO. J. KUDEJ  
Manager, Washington, D. C., Office

HARRY S. DORMAN  
Assistant to the Administrator

WILBUR D. STAATS  
Information Officer

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Chief Engineer

EUGENE L. WHITE  
Deputy Chief Engineer

ORIN A. DEMUTH  
Chief of System Engineering

VERNON E. TAYLOR  
Chief of Construction

RICHARD F. STEVENS  
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Acting Director of Operations and Maintenance

JOHN P. JOLLIFFE  
Chief of System Operations and Power Resources

BERNARD GOLDHAMMER  
Chief of Customer Service and Power Requirements

CHARLES J. SLATT  
Chief of Maintenance

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Manager, Seattle Area Office

THOMAS E. BLACK  
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JOHN J. MANGAN  
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Director of Administrative Management

ROBERT E. WILLIAMS 2/  
Deputy Director of Administrative Management

ROGER L. CONKLING  
Director of Budget and Management

JOSEPH J. PACHOT  
Director of Finance and Accounts

JOHN M. RATHBUN  
Chief of Supply

A. CLYDE LEGGATT  
Chief of Administrative Services

1/ Additional duty as Chief of Plant Services

2/ Additional duty as Director of Personnel

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