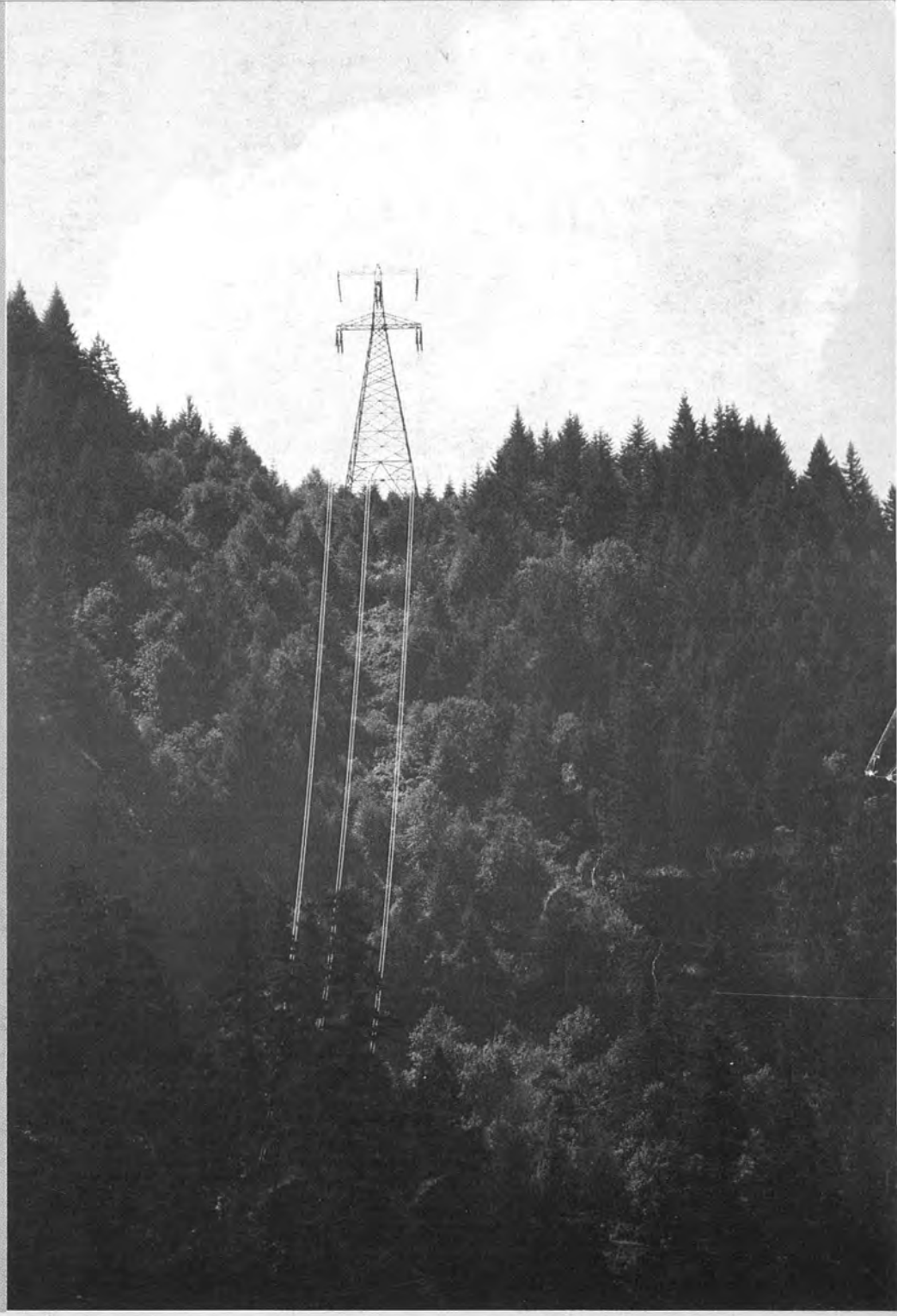

Bonneville Power Administration 1982 Annual Report
U.S. Department of Energy

Fiscal Highlights

(In Thousands)

	1982	1981	Percentage Increase
Sales of Electric Energy (KWH (000))	101,711,378	81,222,174	25%
Operating Revenues	$1,336,803	$ 705,329	90%
Operation and Maintenance Expense	208,410	180,234	16%
Purchase Power Expense	517,071	269,625	92%
Residential Energy Purchased	428,371	0	
Depreciation Expense	60,607	54,835	11%
Net Interest Expense	251,800	206,526	22%
Net Revenues (Expense)	$ (129,456)	$ (5,891)	

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Bonneville Power Administration 1982 Annual Report

U.S. Department of Energy

The Financial Year

This is the Bonneville Power Administration's 45th annual report on the Federal Columbia River Power System. It covers fiscal 1982, a year that saw tremendous change in the Administration's financial affairs.

Revenues reached $1,337 million, up $632 million, or 90 percent over fiscal 1981.

Expenses increased sharply, and revenues fell short of estimates. This resulted in an excess of expenses over revenues of $129.5 million for the fiscal period. The figure compares to $5.9 million for fiscal 1981.

The decline in economic activity continues to be deeper and more prolonged than was envisioned in July 1981 when rates were set to bring in the revenues required during fiscal 1982. BPA did not sell as much firm power as projected. Because of a high water year, a large amount of firm power was sold instead as surplus power at lower rates.

Fiscal 1982 was the first full year of operation under the Pacific Northwest Electric Power Planning and Conservation Act and the first year BPA has implemented the residential exchange provisions of the Act. Under these provisions, the low rates of the Federal Columbia River Power system are made available to residential and farm customers of Northwest utilities.

The exchange works this way. Each utility who contracts with BPA to take part in an exchange buys Federal power from BPA. In exchange, BPA purchases an equal block of power from that utility at the utility's "average system cost."

In fiscal 1982, BPA purchased $428.4 million worth of residential energy and recorded $211.8 million of revenues under these exchanges. This resulted in $216.6 million of rate relief to the residential and farm customers of the participating utilities. The Regional Act provides that the net residential exchange costs incurred prior to July 1, 1985, be recovered largely from the direct service industrial customers—through BPA rates.

Purchase and exchange power costs increased $247.4 million between fiscal 1981 and 1982. The increase was due primarily to a rise in costs of the Washington Public Power Supply System and BPA's purchase of $71.6 million worth of additional resources. The Supply System costs were $381.4 million, or $68.2 million higher than originally estimated. This was due primarily to the accelerated sale of bonds at higher interest costs to meet construction cash needs of the Supply System.

Capital additions cost a total of $376.5 million in fiscal 1982. They included $200.8 million for transmission facilities, $114.3 million for Corps of Engineer and Bureau of Reclamation generating facilities, and $61.4 million for programs to conserve electric energy.

BPA continues to return significant amounts to the U.S. Treasury for operation, maintenance and interest expenses of the Corps and Bureau and for BPA interest expense. These payments amounted to $285.7 million in 1982 and $282.0 million in 1981.

As of September 30, 1982, BPA had deferred repayment of $152.2 million to the U.S. Treasury. It is the agency's intention to increase revenues to a point where they are sufficient to repay the total, cumulative deferral of $152.2 million, plus normal amortization, over the next rate period. It extends from November 1, 1983, to July 1, 1985.

Letter to the Secretary

Honorable Donald Paul Hodel
Secretary of Energy
Washington, D.C. 20585

Dear Mr. Secretary:

The story of electric power in the Pacific Northwest is one of enormous achievement: the building of the great Columbia River hydro system; the establishment of the regional transmission grid; the completion of the Pacific Northwest-Southwest Intertie and the passage of the Regional Power Act.

In contrast, the past 18 months have been marked by turbulence. We find ourselves caught up in swiftly changing events.

We are as a region moving through a difficult passage in our history. So concerned are we with the day-to-day obstacles before us that we tend to overlook the strengths of our positions and the really positive accomplishments of the past year or so.

In the accomplishments of the last year and a half, I see reason to expect a renewal of predictability in utility affairs before the end of 1983.

The Tangle of Events

In the spring of 1981, the region was engaged in one of the most ambitious nuclear construction programs in the nation. The Washington Public Power Supply System was building five nuclear plants. Investor-owned utilities were trying to site four more reactors.

The region's utilities measured regional demand for power with a forecast done by the Pacific Northwest Utilities Conference Committee. This forecast had declined significantly in recent years, but continued to predict up to 2,000 megawatts of shortage if low water and diminished hydro-generating capacity were to occur in any year of the 1980's.

So public utility decisionmakers, relying on prudent utility practices, viewed the Supply System projects as essential resources for the mid-1980's and beyond. The Washington Public Power Supply System, which had experienced construction management problems in the past, was under strong new leadership in the person of Robert Ferguson, its managing director.

The region pursued other issues of great importance in the same period. The Pacific Northwest Electric Power Planning and Conservation Act, signed into law in December 1980, provided a blueprint for regionwide planning and the tools to construct a new electric energy future. It was a future in which cost-effective conservation would be the resource of first priority. The Act established a representative regional power planning process and provided the means to assure the region of an efficient and adequate supply of power.

The Act gave BPA its marching orders. The first task was to organize the Bonneville staff to carry out new responsibilities under the Act in a businesslike manner. We made important changes, including the creation of an Office of Conservation on a level with the other major operating offices, and the strengthening of financial management functions.

We also initiated a significant strategic planning process among key managers. That process began in earnest in the fall of 1981 when these managers gathered for a two-day retreat, and continues to the present.

BPA Administrator Peter T. Johnson (seated) and, from left, Roy L. Eiguren, Special Assistant to the Administrator, Robert E. Ratcliffe, General Counsel, and James J. Jura, Executive Assistant Administrator.

The fruits of our reflection are summed up in the BPA mission statement. The statement is a product of the collective thinking of our managers. Every word has been tested and debated. The statement provides a broad framework for decisions, an expression of the character of the agency. Because actions recounted in this report are traceable directly to the mission statement, I include it here in its entirety:

"BPA will act as a catalyst for achieving the electric energy objectives of the Pacific Northwest. We will work to assure the region an adequate, economical, reliable, efficient, and environmentally acceptable power supply, and will do so in an open and businesslike way, consistent with our responsibilities as a Federal agency and responsive to citizens' concerns for their well-being and the quality of their environment. BPA will provide leadership in the region, performing our responsibilities with professional excellence."

The Region Beset by Change.

By the fall of 1981, the region was falling into a vortex of change. We knew that BPA would have to be fully prepared to anticipate and respond to new circumstances. And we were able to identify critical needs based on the information we had at the time. Some of that information was coming from the Supply System itself.

In May 1981, Ferguson announced that Wall Street had closed the door on further financing for Washington Nuclear Projects (WNP) 4 and 5. The Supply System began to wind down construction on those two plants.

Recognizing how little was known about the consequences of mothballing or terminating WNP 4 and 5, we supported formation of a blue ribbon panel of top business executives to probe the issue. The Governors of Oregon and Washington appointed the panel. In October 1981, its three members issued a prophetic report and recommendation. "Termination . . . makes no economic sense," the panel said. The most prudent course of action was to preserve the assets of the projects pending determination of need for them in the long term, the panel concluded. In January 1982, however, the participants in the projects conceded that they had been unable to pull together a mothball plan. They opted for termination.

Under Ferguson's leadership, the Supply System also reassessed the costs of Washington Nuclear Projects 1 2, and 3, the three net-billed projects. When Ferguson proposed his first budget in July 1981, he told the region that the Supply System's costs for these three plants would leap 44 percent. Instead of $7.4 billion, the total cost would be $10.6 billion. An increase of this magnitude was unexpected.

New Expectations, New Needs

These events only made the need for long-term planning more urgent. We saw the need to accelerate the development of BPA's own forecasting capability. Information was needed for decisions on conservation and generation that had to be made before the Northwest Power Planning Council's energy plan could be completed.

The results proved to be a difficult prophecy for the utility community. Previous forecasts done by utilities generally showed load growth in the range of 3.5 percent per year or higher through the year 2000. The BPA forecast, released in draft form in April 1982, pointed to demand growth of about 1.6 percent.

Hard New Realities

In the early months of 1982, the region was spinning with change. Ratepayers saw their electricity bills spiraling upward. Frustrated by the apparent inability of the region's utility institutions to control thermal plant costs, ratepayer groups demanded action. In Washington State, they took their frustration to the polls and approved Initiative 394, which required elections before bonds could be sold for the construction of large energy projects, such as WNP 1, 2 and 3.

At the same time, our forecast was telling us that the region could no longer expect the large generating deficits predicted earlier. Now, with three Supply System plants due to come on line in the mid-1980's, the utilities would be looking for ways to sell a large surplus of generation into the 1990's.

These were the conditions when, in late April, the Supply System looked again to Wall Street for a bond sale needed in May. Our financial advisors informed us that the Supply System probably would not be able to sell enough bonds to continue construction of all three BPA-backed nuclear projects on schedule. A delay of one or more projects was necessary to reduce costs and relieve the mounting fiscal pressure on BPA and the Supply System.

From left (seated), Assistant Administrator for Conservation, Steven G. Hickok, and Assistant Administrator Stephen A. Ailshie, Financial Management. Standing, George A. Tupper, Assistant Administrator for Regional Operations, and Marvin Klinger, Assistant Administrator for Engineering and Construction.

We were equipped to deal confidently with these unfolding circumstances. With internal planning capabilities and procedures in place, we were able to launch a thorough analysis of resource alternatives. Out of this effort came the recommendation to the Supply System that WNP 1 be delayed for up to 5 years.

The delay of WNP 1 accomplished several things. It lowered overall costs, allowing BPA to reduce its October 1, 1982 rate increase from an anticipated 74 percent to 60 percent. It also had the effect of focusing the attention of the Supply System team on the completion of WNP 2, which BPA had identified as a critical objective. Today, WNP 2 is a healthy project, marching steadily toward startup in early 1984.

Other Major Actions

Bonneville has accomplished much under demanding circumstances. I have already discussed ways in which we have acted as a catalyst in regional decisionmaking on generating resources. We were able to make very important contributions in other areas as well.

The agency continued to operate one of the largest and most reliable transmission systems in the world. The work required to maintain and operate this magnificent system is sometimes taken for granted. Great expertise and commitment are required to keep it humming–all 13,380 circuit miles of it.

We moved ahead expeditiously with implementation of the Regional Act. One of the principal purposes of the Act was to provide rate relief to the residential and farm customers of utilities throughout the Northwest. More than 60 percent of all residential customers are served by private utilities. The benefits of low-cost Federal resources were passed on to these customers under exchange contracts, which went into effect in October 1981. Since that time, the contracts have saved the private utility customers a total of $216.6 million.

Under the Act, Bonneville was also directed to offer long-term power sales contracts to all utilities in the region by September 1981. Negotiating those contracts was perhaps one of the most challenging and important tasks ever undertaken by the agency. It was challenging because of the number of parties involved – about 143 BPA customers – with individual interests. And it was important because the contracts provide the mechanism for carrying out the Act. The contracts were negotiated and offered before the September deadline. All but six utilities subsequently signed the contracts by August 1982, assuring that the Regional Council's plan can be implemented.

BPA also negotiated and offered short-term conservation contracts, making a menu of regionwide conservation services available through BPA. In fiscal 1982, BPA budgeted $61.4 million for conservation. In fiscal 1983, we have included $253 million in our conservation budget. By 1990, we will have programs in place with a savings capability of more than 1,000 average megawatts – which is equivalent roughly to the output of a large nuclear power plant.

All of our steps under the Regional Act to date were taken with an expressed goal of making the Council more effective in its role. BPA is committed to creating an environment for the Council that will enable it to be strong, effective and respected.

We also registered a significant success in the area of transmission siting in 1982. By means of a concentrated effort to address the concerns of Montanans, we were able to reach agreements that allowed BPA to begin constructing its portion of the Colstrip transmission lines. We negotiated a memorandum of understanding with the State which will allow future planning to proceed in an atmosphere of cooperation rather than confrontation.

The Key: Fiscal Responsibility

Our overriding concern in all that we have done in the past year and a half is to preserve and enhance the fiscal integrity of the agency. Simply stated, fiscal integrity means to us that BPA will hold costs as low as prudently possible, then set rates sufficient to cover costs over time.

Guarding BPA's fiscal integrity is not a selfish goal. The agency exists primarily to serve the people of the Pacific Northwest, as it has done with distinction since its formation in 1937. It must continue to do so in the new era marked by passage of the Regional Act. BPA's credit is the foundation of the Act, and unless that credit is maintained BPA will be unable to borrow to carry out programs for conservation, fish and wildlife, and new resources.

The Future

As BPA's mission statement directs, we have conducted our affairs in an "open and businesslike way." In every decision, we have acted in "response to citizens' concerns for their well-being." We have "performed our responsibilities with professional excellence." We have set a standard in the areas of resource economics and fiscally prudent decisionmaking.

Deputy Administrator Earl E. Gjelde (seated) with Edward W. Sienkiewicz (left), Assistant Administrator for Power and Resources Management, and George E. Bell, Assistant Administrator for Management Services.

Formidable challenges rise before us in coming months. We must hammer out with utilities here and in the Pacific Southwest an effective long-term marketing program for surplus power. We rely on our extensive experience in interregional power sales and the advantages to all parties in reaching an agreement.

We will continue to work cooperatively and constructively with the Regional Council to develop a sound, cost-effective plan to meet the power requirements of the Northwest.

We will continue to pursue completion of all three net-billed nuclear projects, with emphasis on WNP 2 and 3. When economic and other conditions dictate, we will support a restart of WNP 1.

We will review and reassess our policies and programs to assure that the Federal transmission system remains economical as well as reliable.

We will continue to improve our relationships with the states in all aspects, but particularly concerning siting of transmission facilities.

Sincerely,

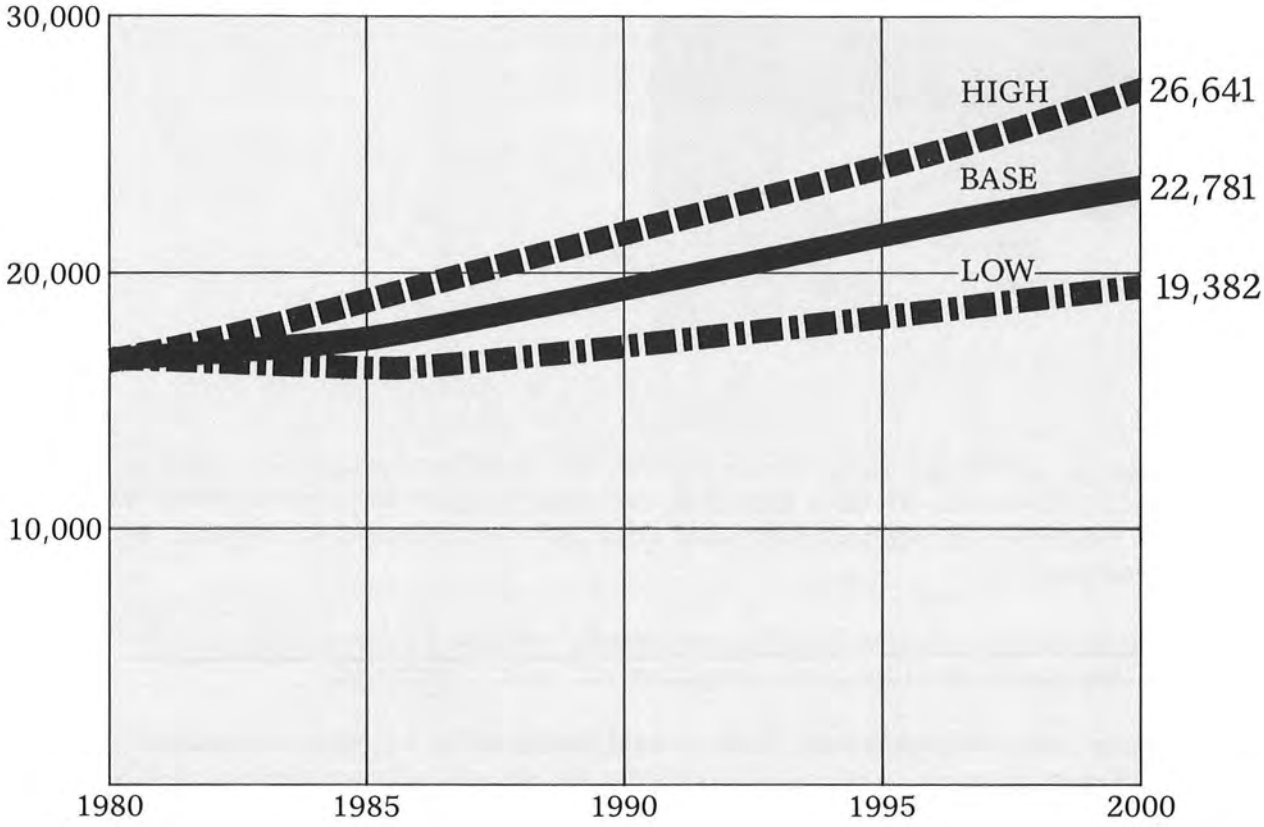
Peter T. Johnson

Administrator

BPA's first regional load forecast predicted a baseline growth rate of 1.6% per year with high and low ranges of 2.4% and 0.8%.

Forecasts of Firm Electricity Loads for Pacific Northwest to Year 2000

In Average Megawatts



Forecasts

The load forecast is among the most important tools available in the electric utility industry. This educated guess tells us how much electricity will be required over a given period of time–usually 10 or 20 years. It provides data on how much generation and what transmission lines will have to be built to keep electricity flowing to the homes, farms, and factories of the Pacific Northwest. The forecast also has a profound influence on many varied supporting activities, not the least of which is BPA's annual budget.

BPA released a draft of its first long-range load forecast in April 1982. Since then this forecast has influenced most of the agency's major actions. The forecast documented a complete turnaround in the supply situation. Instead of facing power shortages, BPA faces surpluses and the challenge of marketing them through the 1980's. Resource planning and acquisition, marketing, transmission construction, and even proposed rate increases, have been dramatically affected by the projected surpluses.

BPA's staff followed a long, complicated process in developing the forecast. The staff evaluated several energy forecasting models and submitted them to public review before one was selected. Projections were made as to how the Northwest economy will develop between now and the end of the century. The staff asked regional economists outside BPA for their opinions. All of this information was then incorporated into a final forecast.

BPA issued this final BPA forecast in July. It projects a compounded annual growth rate of 1.6 percent until the year 2000. The forecast ranges from a high growth rate of 2.4 percent per year to a low of 0.8 percent.

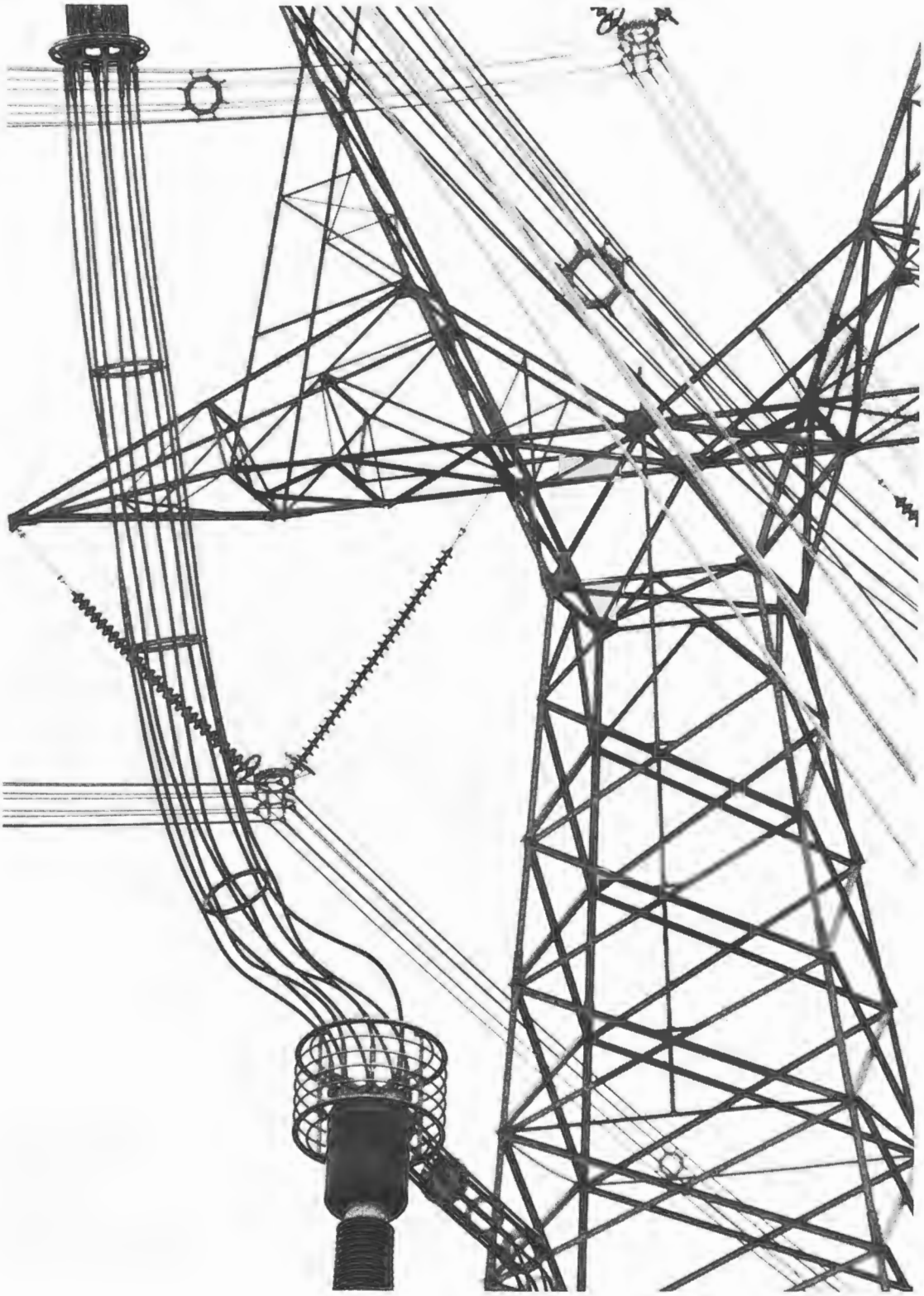
BPA's forecast was one of four made by different organizations in the region in the past year. The annual growth rates for all of the other forecasts fall within a range of 1.5 to 2.5 percent. The spread in load between the 1.5 and 2.5 percent growth rates over a period of 10 years is the rough equivalent of the output of three large nuclear plants.

BPA's 1982 forecast was the first independent, regionwide forecast ever prepared by this agency. Previously, BPA relied upon individual load forecasts prepared by each utility in the region. These utility forecasts were combined by the Pacific Northwest Utilities Conference Committee to form a regional forecast of power loads and resources and published annually.

One purpose of the forecast was to provide a basis for decisions prior to April 1983 when the Northwest Power Planning Council's official 20-year forecast and energy plan will be announced. After that date, BPA will plan its program and acquire appropriate resources guided by the Council's plan.

BPA will continue to develop its forecasting capability in concert with other regional agencies. The Congress has given BPA the responsibility of meeting the loads of those utilities that sign power requirements contracts. Thus, the agency must have an independent means of forecasting what these requirements are likely to be.

High-voltage hardware at BPA's Lyons UHV test site.



Marketing

Power Supply

BPA had an abundance of power to sell in 1982. Streamflows were well above normal. Mild temperatures depressed the demand for electricity for heating. And the economic recession cut deeply into the operations of the electroprocess industries in the Northwest. As a result, firm loads underran forecasts by as much as 10 percent.

The January-July flow of the Columbia River at The Dalles – 129.9 million acre-feet – was 19 percent above the 15-year average. It was the sixth largest runoff in 57 years. Part of the flow was diverted from the turbines to the spillways where it was used to enhance the downstream fishery migration during the spring and early summer months. Although water was diverted, BPA was able to store 500 million kilowatthours (kWh) of energy upriver in Canadian reservoirs during the peak of the fish runs.

Power sales to the Pacific Southwest reached an all-time high in 1982. Federal and nonfederal sales over the Pacific Intertie amounted to nearly 33.6 billion kWh. This was an increase of 6.4 billion kWh over 1981, the previous record year. Part of the increase was due to a technical modification which boosted the capacity of the two alternating current Intertie lines from 2,500 to 2,800 megawatts.

BPA's operating plan for July 1982 through June 1983 shows a surplus of about 750,000 average kilowatts of firm power for the Federal system if streamflows were to drop to critical levels. BPA was able to sell 285,000 average kilowatts to Northwest and Southwest customers in the 6-month period from July to December 1982. Several factors limited these sales: a surfeit of low cost power in the region; competing sales by Northwest and Canadian utilities; and the 60-day call-back provision in Public Law 88-552 for firm power sales outside the Northwest.

Power Sales Contracts

As required by the Regional Act, BPA on August 28, 1981, offered long-term power sales contracts to existing and prospective public agency, direct service industry, and investor-owned utility customers. These entities had one year to accept or reject BPA's offer.

Within 90 days of the contract offer (the deadline set by the Act), all of BPA's customer classes filed lawsuits. These lawsuits challenged specific provisions of the contracts or sought to clarify provisions deemed ambiguous. BPA quickly reached a settlement agreement with two classes of customers: the investor-owned utilities and its industrial customers.

BPA in April 1982 met with its public customers at their request to attempt to settle the issues raised by their lawsuit. The issues were resolved and contracts were accepted within the statutory period.

All but six of BPA's customers signed their new 20-year power sales contracts before the August 28, 1982, deadline. Contracts were accepted by 115 publicly owned utilities, 8 investor-owned utilities, 7 Federal agencies, and 15 industrial customers.

The six customers that declined to sign were Pend Oreille County PUD, Mason County PUD No. 3, Pacific County PUD, and the cities of Centralia, Washington, and Canby and Cascade Locks, Oregon. These customers hold contracts that have 10 years or less to run.

One of BPA's industrial customers, Stauffer Chemical of Anaconda, Montana, also did not sign. Stauffer decided to buy power from Montana Power Company.

With the long-term, 20-year sales contracts in place, the BPA Administrator commented that the Regional Council, BPA's customers and BPA could now begin to implement the Regional Act – and achieve its benefits.

Exchange Contracts

The Regional Act provides for the exchange of power between BPA and the region's utilities. The purpose of this exchange is to make low-cost Federal power available to residential and small-farm customers of the region's investor-owned utilities.

The exchange provisions alleviate for residential/farm customers rate disparities existing between investor-owned and publicly owned utilities.

Under the exchange provisions of the Act, a utility may acquire a block of Federal power from BPA. In exchange, BPA purchases an equal amount of power from the utility at the latter's "average system cost."

The Act requires that the benefits of this exchange be passed on to each utility's residential/farm customers in the form of lower rates. During 1982, the rate relief extended to the residential customers of participating utilities totaled $216.6 million. As of December 31, 1982, eight investor-owned utilities and 101 publicly owned utilities were participating in the program.

In 1981 when the exchange began, 60 percent of the utilities' residential load was exchanged – with a commensurate increase in BPA rates to industrial customers. An additional 10 percent of the eligible residential load is being picked up each year until a full exchange is achieved in 1985.

The exchange agreement, as originally envisioned, was intended to reflect the costs of utilities with generation. Customers without generation have since asked for a similar arrangement for transmission costs. Negotiations currently are under way to develop such an agreement. It is referred to as the Exchange Transmission Credit Agreement.

Sales and Revenues

Bonneville Power Administration sold a record 101.7 billion kilowatthours of energy in fiscal 1982, an increase of 25 percent. Twenty-three percent of the increase was due to sales of exchange energy.

Electric power revenues again reached a new high, $1,269,580,000, an increase of 95 percent over 1981. The increase was due in large part to the sales of exchange energy and to an interim rate adjustment on July 1, 1981.

Revenues from sources other than energy sales – mainly sales of capacity, wheeling, coordination, and headwater benefits – totaled $67,223,000.

BPA sold 16.6 billion kilowatthours of nonfirm energy to utilities outside the region, most of them in California. This figure is nearly twice that of 1981 when sales outside the region totaled 8.8 billion kilowatthours.

Approximately 36.9 billion kilowatthours went to a total of 117 publicly owned utilities. Sales to these utilities dropped 1 percent as compared with 1981.

Some 6.8 billion kilowatthours – exclusive of the exchange energy – was sold to eight investor-owned utilities. This was a decrease from 1981 of 600 million kilowatthours.

Sales to Federal agencies totaled 930.7 million kilowatthours, or 1 percent of total sales.

Twenty-four percent of the energy, or 20.2 billion kilowatthours, was sold to aluminum plants. This figure is down 19 percent from last year's sales of 24.9 billion kilowatthours. It reflects the reduced demand for aluminum.

Sales to BPA's other direct service industrial customers totaled 1.6 billion kilowatthours, or 2 percent of total sales. This was a drop of 500 million kilowatthours from 1981.

The industrial loads that BPA serves directly have declined steadily since the fall of 1981. Aluminum producers in the Northwest are using less electricity because the demand for their product is down. For example, the manufacturers of construction and transportation equipment have reduced their demand for the product by 50 percent in the past 2 years because of the recession. Meanwhile, many foreign producers have continued to operate at almost full capacity, glutting the market.

The price of refined aluminum has dropped by almost half, and Northwest aluminum producers have curtailed production. In some cases, they are maintaining only enough production to retain markets shares and labor pools.

BPA has allowed its industrial customers to reduce their 1982-83 operating demand. Their actual loads have since dropped below these reduced levels.

BPA rates for these industries were increased 50 percent on October 1, 1982, to an average of 25.9 mills per kWh. This rate – which determines whether the residential/farm exchange can be carried out – may affect the competitive position of the Northwest's aluminum plants. The profit shown by each individual plant generally determines that plant's competitive position and level of activity.

Rates

BPA is obligated by law to set its rates at a level that will produce revenues sufficient to pay all of its costs and repay a substantial share of the total $9.7-billion investment in the Federal Columbia River Power System, plus interest. This system includes 30 Federal hydroelectric projects and BPA's transmission system.

About 84 percent of this investment is allocated for repayment from power revenues. BPA revenues are also used to pay for a portion of the irrigation costs which are beyond the ability of irrigators to repay.

BPA is also obligated by net billing agreements to pay the costs of four nuclear projects. The agreements cover 100 percent of Washington Nuclear Projects (WNP) 1 and 2, and 70 percent of WNP 3, as well as 30 percent of the Trojan plant near Rainier, Oregon. Trojan has been operational since 1975. The three Washington plants are still under construction.

WNP 2 is now scheduled to be completed in February 1984, and WNP 3 in 1986. The completion of WNP 1 was deferred for up to 5 years pursuant to a recommendation made in April 1982 by the BPA Administrator.

The decision to delay WNP 1 reduced the size of the BPA rate increase that became effective October 1, 1982.

As a result of the 1982 rate increase, the price of priority firm power went up from 1.13 cents per kilowatthour to 1.8 cents, a rise of almost 7 mills, or 60 percent. Priority firm is the class of service that most directly affects BPA's preference customers.

BPA rates to its industrial customers went up from 1.73 cents per kWh to 2.59 cents, an increase of about 50 percent. The increase in the industrial rate was due in part to increases in the average system costs reported by utilities that had contracted with BPA for exchanges of power.

Increases in rates were also needed because of:
- Rising costs of the Supply System's three net-billed plants;
- Higher costs of operating, maintaining, and constructing Federal generation and transmission facilities;
- Increases in interest costs paid to the Treasury; and
- Amounts owing to the U.S. Treasury which have been deferred over the past several years and a decision to repay these sums over a 3-year period.

Future Rate Increases

BPA will be required to adjust its wholesale power and transmission rates during the coming year. The rate development process will be similar to that used for the past two wholesale rate filings. If approved, the increase will go into effect late in 1983. BPA rates will not be adjusted again until the latter half of 1985.

BPA currently is conducting the studies that must precede a rate filing. These include a repayment study, cost-of-service analysis, a time-differentiated long-run incremental cost analysis, and rate design studies. The environmental effects of the wholesale and transmission rate increases will be evaluated.

BPA will begin the formal rate hearing process early in 1983. The public will have ample opportunity to review and comment on the studies and the initial rate proposals. The proposals and any further studies will then be developed in accordance with the comments and any new information received. The final proposal will be submitted directly to the Federal Energy Regulatory Commission for interim and final confirmation.

Despite the anticipated rate increases, the Pacific Northwest will continue to have rates that are among the lowest in the United States, as it has for nearly half a century. The low cost of power in the region will continue to be an important incentive to economic growth.

Washington Public Power Supply System

The Supply System's nuclear construction program changed drastically during fiscal 1982.

In April, after carefully reviewing all alternatives, the BPA Administrator recommended that the Supply System extend construction of WNP 1 for up to 5 years. His suggestion was accepted by the Supply System Executive Board, and the date of completion was extended for up to 5 years, or until 1991. The delay reduced near-term financial requirements and scheduled completion of the plant nearer to the time when it will be needed to meet loads. The Administrator also urged that WNP 2 be brought on line as rapidly as possible to provide revenues. The Supply System as a result has focused its resources on the completion of WNP 2 and the continued construction of WNP 3.

As of December 31, 1982, WNP 2 at Hanford was about 95 percent complete. The Supply System expects to receive an operating license from the Nuclear Regulatory Commission for full commercial operation in early 1984. BPA on behalf of its participating customers has acquired the entire capability of this 1,100,000-kW plant in exchange for a commitment to pay its annual costs.

WNP 3, the 1,240,000-kW project near Satsop, Washington, was about 68 percent complete. BPA has acquired 70 percent of the plant's capability. The plant, which is to begin producing power commercially in 1986, is slightly ahead of schedule.

WNP 1 was 62.5 percent complete when the decision was reached to slow its construction. The 1,250,000-kW project had been scheduled to come on line in 1986, the same year as WNP 3. The difficulty in marketing the output of both plants figured in the decision to delay one of them.

WNP 2 near Richland, Washington.

The choice between deferring WNP 1 or 3, both of which were progressing well, was a difficult one. BPA and the Supply System's directors weighed all relevant factors. These included the need to finish WNP 2, remaining financing requirements, the ability to defer construction and restart it, and the potential impact on the power needs of four investor-owned utilities who own 30 percent of WNP 3.

Another development that bore heavily on the construction program was the creation in June 1982 of the Supply System's new 11-member Executive Board. Authorized by the Washington State Legislature, the board includes a majority of six outside directors, selected for their expertise in business, finance, utility management, and construction.

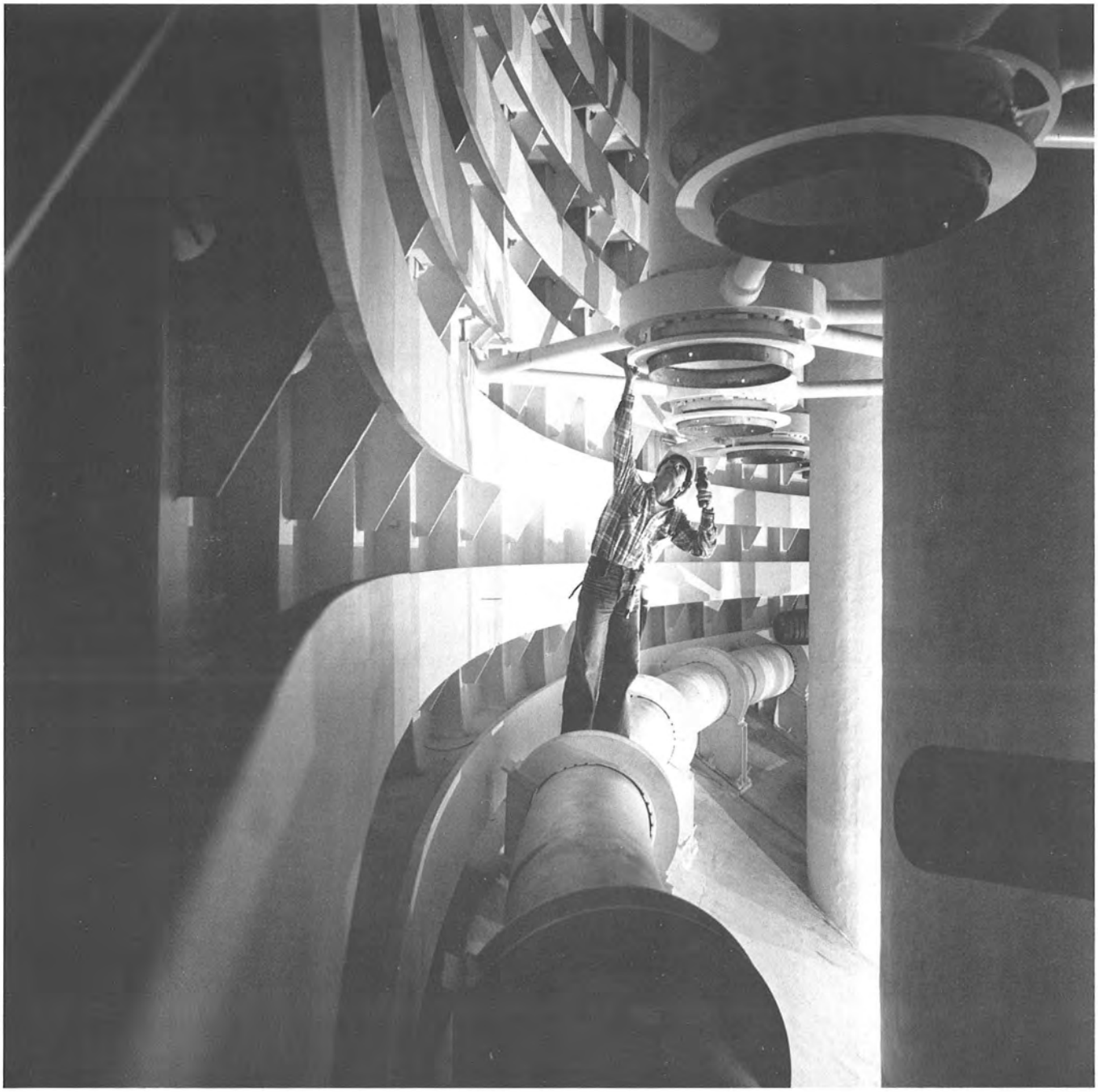
Although the BPA Administrator is not a voting member of the Executive Board, he has a standing invitation in recognition of BPA's substantial stake in the Supply System's success to sit with the board at its meetings. He has done so, and this arrangement has been mutually beneficial to both organizations.

In January 1982, the Supply System terminated construction of two nuclear projects: WNP 4 at Hanford and WNP 5 at Satsop. This precipitated a number of lawsuits. Most are still in court. Eighty-eight entities are participating in these two projects. All 88 are BPA customers. Some have threatened to default on payments to the Supply System. These payments would cover the debt service on $2.25 billion in bonds previously issued. The payments are scheduled to begin in late January 1983.

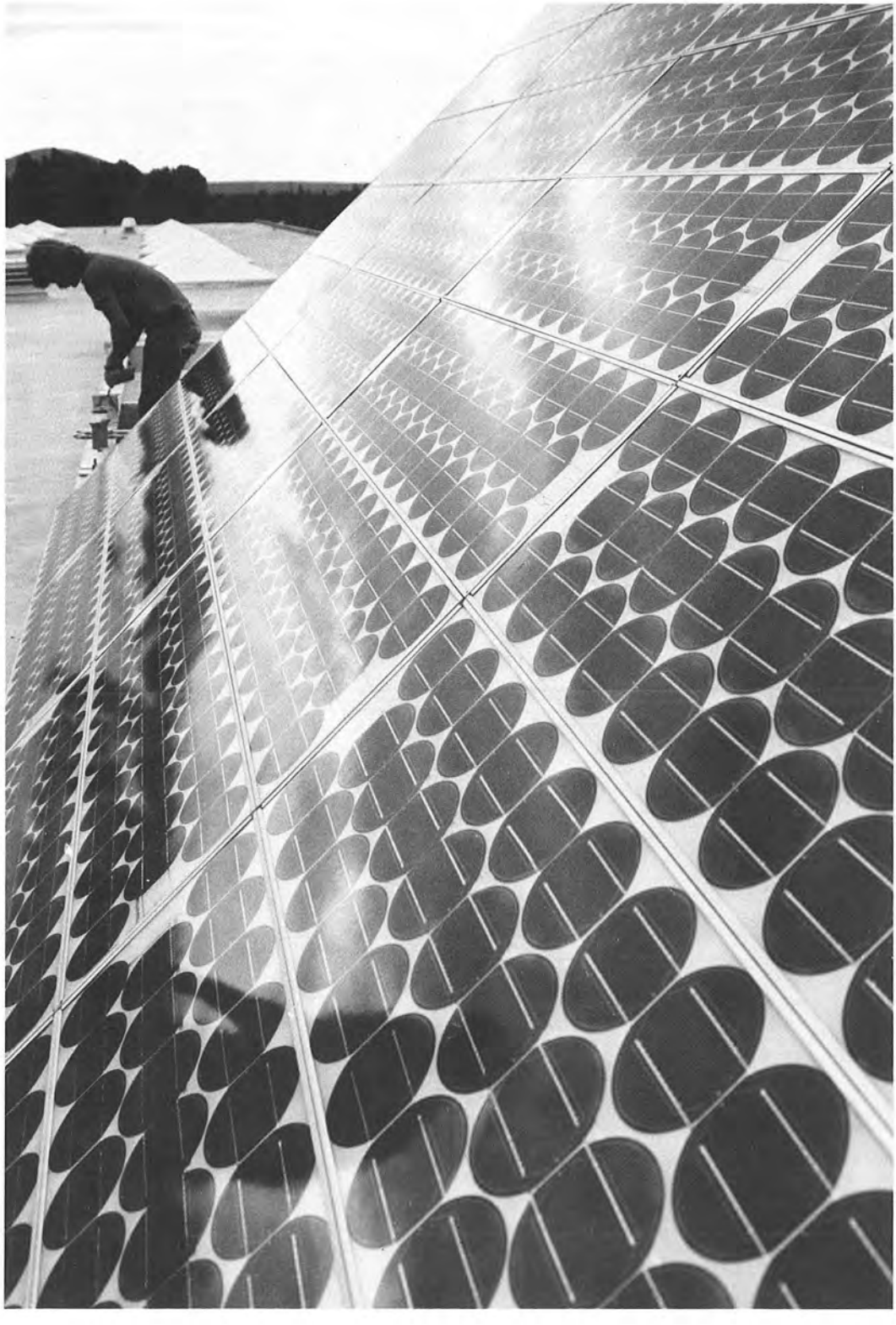
It is generally recognized that default by participants may jeopardize the Supply System's ability to complete WNP 1, 2 and 3. Default may also seriously impair the ability of other public entities in the Northwest to finance public projects by marketing bonds.

Initiative 394 was passed by Washington voters in November 1981. Among other things, it required the approval of voters in 23 Washington State political jurisdictions before the Supply System could sell additional bonds to finance the completion of its three nuclear construction projects, WNP 1, 2, and 3. A Federal District Court judge, however, held that Initiative 394 was unconstitutional with respect to projects 1, 2, and 3. His decision was appealed to the Ninth U.S. Circuit Court of Appeals at San Francisco. The Court of Appeals affirmed the decision of the District Court. At the time this report was being prepared, it was not known whether this decision will be appealed to the U.S. Supreme Court. The resolution of this issue will assist in clarifying the Supply System's ability to finance its construction program.

Interior of nearly completed WNP 2, near Richland, Washington.



Solar photovoltaic installation at BPA's Redmond, Oregon, substation.



Conservation, Renewables, and Other Resources

In view of the electric power surplus forecast for the region during the next 6 years, BPA has modified its planning for new power resources, both near and long term. New planning tools have been developed to approach this problem. These tools include a mathematical model that identifies a least-cost mix of resources, including conservation, to meet loads over a 20-year period. This model will facilitate the selection of the most cost-effective and appropriate sources of electric energy.

BPA issued its proposed near-term resources policy draft in July 1982. This policy is designed to guide BPA in the development of resources through 1985. It sets forth criteria for conservation, renewable resources, other generating resources, financial assistance for developers, and resource research. A final version is expected to be adopted after the Regional Council's plan is issued in April 1983.

Regional public workshops, held in six cities during June, played an important part in the conservation planning process. More than 300 representatives of utilities, State and local governments, public interest groups, and ratepayers helped BPA select programs that are to be put into effect in fiscal years 1983-85. These programs offer incentives to consumers for a much broader array of conservation measures.

Utility leaders and others in the region have speculated on how much electricity and money could be saved if a utility were to launch an intensive effort to weatherize homes in its service area. BPA and Pacific Power & Light Company are setting out to find the answer. They are planning a cooperative 2-year $15-million project at Hood River, Oregon, that is to begin in March 1983. The things they hope to learn include: (a) how to promote the rapid and effective use of conservation measures, and (b) whether an aggregate of these measures can be used as a "resource block," or predictable resource increment, in the planning that attempts to match future generation with future loads.

BPA also plans to promote conservation in irrigation farming and industrial processes. The irrigation program is already under way. A program to conserve electric energy used in industrial processes is to begin in 1984.

Conservation Programs

BPA's Analysis of Resource Alternatives, issued in April 1982, identified the conservation programs budgeted by BPA as alternative resources. These programs will continue as long as they are cost-effective. All but one of BPA's currently operating programs cost less than 20 mills per kWh.

BPA offered contracts for three new conservation programs in 1982. They will complement existing BPA programs and use established institutions to encourage proven, cost-effective conservation measures.

One such program is the BPA-sponsored technical assistance program. BPA is supporting the work of State energy experts who are assisting local governments and consumers in the areas of conservation and the application of renewable resources. BPA and the States of Idaho, Washington, Oregon, and Montana signed contracts in April and May 1982 to implement the program.

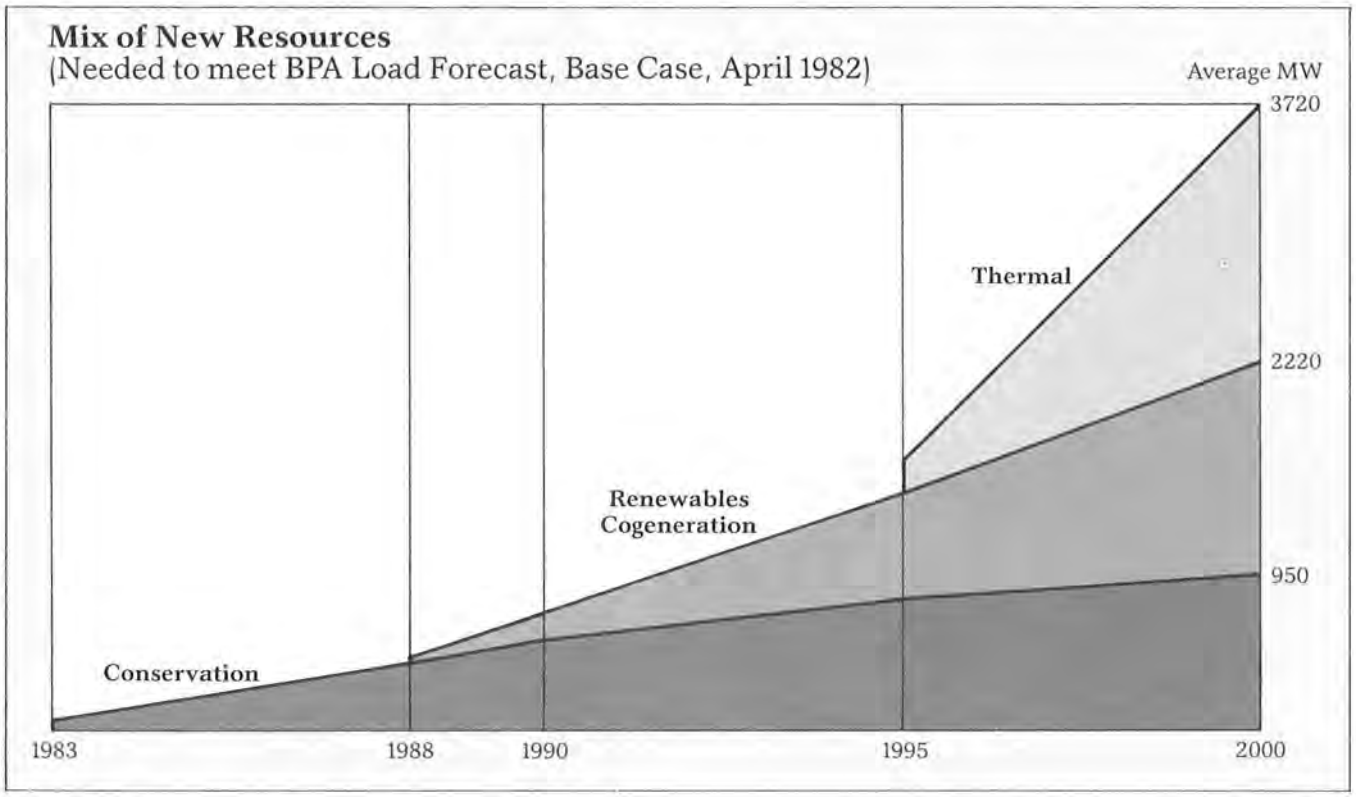
BPA Administrator Peter Johnson opens the Solar Home Show in Spokane.

The States will assist local governments in developing energy-efficient building codes, local rules for solar access, and zoning ordinances. State extension services will offer workshops, publications, referral services, and other assistance. This part of the program is designed to encourage homeowners and small commercial consumers to use energy-efficient lighting, space heating, and water heating equipment.

The BPA low-income weatherization program is essentially the same as BPA's utility-run regionwide program, except that it may be operated by State energy offices in areas where the local utility does not offer a program. It encompasses an aggressive information effort – door-to-door visits, targeted advertising, and mailings – to inform low-income families that weatherization services are available through this program. In most areas, the utilities and State offices will work closely with community action agencies. BPA hopes to weatherize 60,000 of an estimated 81,000 electrically heated low-income residences in the Pacific Northwest over the next 8 years.

BPA's institutional buildings program is a 5-year, $40 million effort to install electric energy-saving measures in 75 percent of the region's institutional buildings. Oregon, Washington, Idaho, and Montana signed contracts in October 1982 to take part in the program. It complements the present U.S. Department of Energy program for schools and hospitals and offers conservation aid to Federal, State, Indian tribal, and public care facilities, many of which were not covered by the DOE program.

BPA awarded a number of development grants during 1982 to fund conservation projects. Twenty local governments and Indian tribes received financial assistance totalling $759,313. A portion of these grants will be used to fund local efforts to develop and adopt building codes, zoning, and subdivision laws that save electricity. Energy education programs were funded at the Pacific Science Center in Seattle, Washington, and the Oregon Museum of Science and Industry in Portland, Oregon.



This chart shows the combination of conservation, renewables, and cogeneration, and thermal power resources which would meet the projected need for power through the year 1990 at the lowest possible cost. These numbers were derived using BPA's least-cost mix model.

New Strides in Continuing Conservation Programs

BPA this year helped sponsor solar home shows in Portland and Spokane. The shows, which were heavily attended, gave local residents a chance to tour solar homes and learn firsthand how solar heating could work in their own environment. About 40,000 persons attended the Portland show in June, and 30,000 toured the Spokane show in August. BPA has installed monitoring equipment in 17 solar homes and will collect data for one year to measure the effectiveness of passive solar designs.

New utilities continued to sign up for BPA regionwide programs in residential weatherization, shower flow restrictors, water heater wraps, commercial lighting and water heating, and street and area lighting. A total of 102 utilities have now signed BPA's conservation agreement. They serve three-fourths of the electricity consumers in the Northwest.

More than 13,000 homes have been weatherized under BPA's weatherization programs. Some 1.3 million shower flow restrictors have been distributed and 345,000 residential water heaters wrapped with insulation. Cooperating utilities have replaced more than 54,000 street lamps with energy-efficient lights.

In a portion of the program aimed at the commercial sector of users, the utilities distributed about 32,000 shower flow restrictors, wrapped 9,700 water heaters and presented rebates for 84,000 energy-efficient lamps.

BPA estimates that the conservation measures to be installed under these programs will conserve some 470 average megawatts of electricity each year.

Renewables and Generating Resources

In August 1981, BPA issued a public request for proposals to develop small generating projects. Each was to be capable of producing at least 500 average kilowatts and be operational by July 1, 1987. BPA received 74 proposals. It screened them during the first half of 1982 and selected 22 for further evaluation, based on their technical, environmental, and economic features.

However, in July BPA rejected all of the proposals, principally because the new load forecast with its projected surplus had made all of them economically unattractive.

Nonetheless, BPA in 1983 and the years immediately ahead will continue to pursue programs that will bring resources on line when they are economical and needed to meet loads.

Idaho Falls Hydroelectric Acquisition

BPA signed its first long-term power acquisition contract on April 1, 1982. It was a contract with the City of Idaho Falls to acquire the output of its municipal hydro project. The plant is expected to produce about 20 average megawatts under average water conditions. The project appears to be a reliable and inexpensive source of power.

Billing Credits

Under the Regional Act, BPA's customers may develop their own resources to meet their loads. The Regional Act directs BPA to grant billing credits to customers for developing conservation, generating resources, or retail rate structures that reduce customers loads on BPA and in turn BPA's obligation to acquire other resources to meet these loads.

BPA began to develop a policy for such a program in March 1981. It expects to issue a final version of the policy in 1983.

Engineering for Conservation and Renewable Resources

BPA in 1982 established a Division of Resource Engineering in the Office of Engineering and Construction to do research and development work, conduct demonstration projects, and provide technical support for conservation and renewable resource programs.

Activities of the new division include:

– Investigations into cost-effective ways to reduce electrical losses on customer distribution systems. This work has led to the publication of a guidebook for customers and seven workshops throughout the region.

– Studies of indoor air quality in homes. A number of studies have been started. They include an assessment of radon concentrations using employee homes as study sites and laboratory studies on the effectiveness of air-to-air heat exchangers.

– A "Notice of Program Interest" for conservation-related proposals. Seventy-four proposals were received and are now being reviewed. They range widely over industrial, commercial and agricultural applications designed to conserve electric energy or use renewable resources. BPA expects to negotiate and award contracts in the last half of 1983 to pursue the most promising of these proposals.

– A "Notice of Program Interest" for proposals that promote more efficient generation of electricity with renewable resources. BPA received 163 responses. Nine were chosen for further action, and negotiations are now under way with the sponsors. Contracts are to be awarded in 1983. The proposals include demonstration projects using biomass gasification, tests to improve the efficiency of small hydro projects, improvements for low head hydro systems, and a study of the feasibility of siting wind turbine generators on the coast.

– A project to recover waste heat from a Seattle City Light substation and use it in nearby buildings. This project, which is now in the design stage, is to go into operation in 1984.

– A 10-kW photovoltaic installation on the roof of a control house at Redmond Substation. It will allow BPA to study the integration of power from photovoltaic sources.

– Continued testing and study of the large, experimental MOD-2 wind turbines near Goldendale, Washington.

Street Lighting Program converts original mercury vapor lamp to energy-efficient high pressure sodium lamp at Tillamook, Oregon.

Northwest Power Planning Council

The Northwest Power Planning Council, which was established in April 1981, is now well on its way toward fulfilling the responsibilities set out for it under the Regional Act. It is composed of eight members—two appointed by each Northwest Governor. The Council's basic mission is to develop a long-range electric energy plan. The main purpose of the plan will be to identify future resources, including both conservation and generation, and indicate when these resources are needed to meet the region's growing electrical loads. This plan is to be issued in April 1983 and revised at least once each 5 years.

The Council, as required by the Regional Act, adopted a fish and wildlife program on November 15, 1982, one year after the Council received recommendations from Federal and State fish and wildlife agencies, Indian tribes, and other groups. The Regional Act directed the Council to formulate a program as part of its energy plan to protect and enhance fish and wildlife that have been affected by hydroelectric projects in the Columbia River Basin.

Other major elements of the plan include a 20-year demand forecast, a 20-year forecast of resources required by BPA, an energy conservation program, recommendations for BPA-funded research and development, a methodology for quantifying environmental costs and benefits, and an analysis of regional reserves and reliability.

BPA, the U.S. Army Corps of Engineers, the Bureau of Reclamation, and other Federal agencies have started to implement the Council's fish and wildlife program. For BPA and the other Federal operating agencies, this will require, among other things, the preparation of environmental impact documents and a detailed proposal for the Federal budget.

A key feature of the fish and wildlife program is the "water budget." The water budget will turn over to fishery interests control of a block of streamflow during the period from April 15 to June 15 each year. This water is to be used to facilitate the passage downstream of juvenile salmon and steelhead. It is hoped that this will greatly improve juvenile salmon and steelhead survival.

The water budget will reduce the region's firm energy generating capability by about 550 average megawatts, which is almost enough electricity to serve the City of Tacoma for a year. The diversion will reduce BPA's revenues by $160 to $170 million a year. It is estimated that other elements of the Council's plan will cost an additional $650 to $740 million over a period of 20 years.

BPA also pays the Council's compensation costs and other expenses. In fiscal 1982, the first full year of Council activities, its expenditures totaled approximately $6 million; the 1983 budget is approximately $6.1 million. BPA's ratepayers will bear most of the costs of the Council's water budget and other elements of its fish and wildlife program.

The BPA Administrator has described BPA and the Council as partners—with a common purpose and common objectives. While the Council's task is to plan how to serve BPA's loads through the acquisition of resources, including conservation, and to develop a program to protect and enhance fish and wildlife in the river basin, BPA and several other Federal agencies are charged with the responsibility of putting the fish and wildlife program and the energy plan into effect. BPA is committed to carrying out its responsibilities as provided in the Regional Act.

Fish and Wildlife Measures

Juvenile salmon produced at Bonneville fish hatchery.

To implement the Council's fish and wildlife program, BPA established a Division of Fish and Wildlife under its Office of Power and Resources Management. The Division will oversee research and development activities and coordinate BPA's planning and marketing on fish and wildlife and provide special expertise to the agency.

BPA has begun revising its budget to reflect the scope of the Council's program. As a result, BPA in fiscal 1982 increased its fish and wildlife budget to approximately $5 million; it will be raised to $10 million in fiscal 1983. BPA has used part of this money to fund some of the activities of fish and wildlife agencies and Indian tribes in preparing recommendations for the Council.

Finally, BPA, as it has since 1978, worked to provide flow and spill regimes on the Snake River and the mainstem of the Columbia River to improve the survival rate of young salmon and steelhead during 1982. These activities were conducted through the Columbia River Water Management Group Committee on Fisheries Operations. BPA hopes to implement the Council's water budget during the 1983 spring migration.

Residents of St. Regis, Montana, meet to voice their opinions about BPA's 500-kV Garrison-Spokane transmission line.

Improved Relations with States

Memoranda of Understanding

BPA's relations with the Northwest States are being improved through joint action. The Administrator and Oregon Governor Victor Atiyeh signed a memorandum of understanding between BPA and the State of Oregon on October 21, 1981. This agreement recognizes the legal authorities of the parties, the need for subagreements in specialized areas of mutual concern, and the desirability of openly sharing information.

A similar agreement was signed by the Administrator and Montana Governor Ted Schwinden on August 31, 1982. In addition, a subagreement covering the siting of transmission facilities was signed that same day by Marvin Klinger, BPA Assistant Administrator for Engineering and Construction, and Leo Berry, Director of Montana's Department of Natural Resources and Conservation.

Using these agreements as models, BPA is working with the States of Washington and Idaho to complete similar arrangements. Transmission facility siting subagreements are being negotiated with Oregon, Washington, and Idaho.

Impact Aid

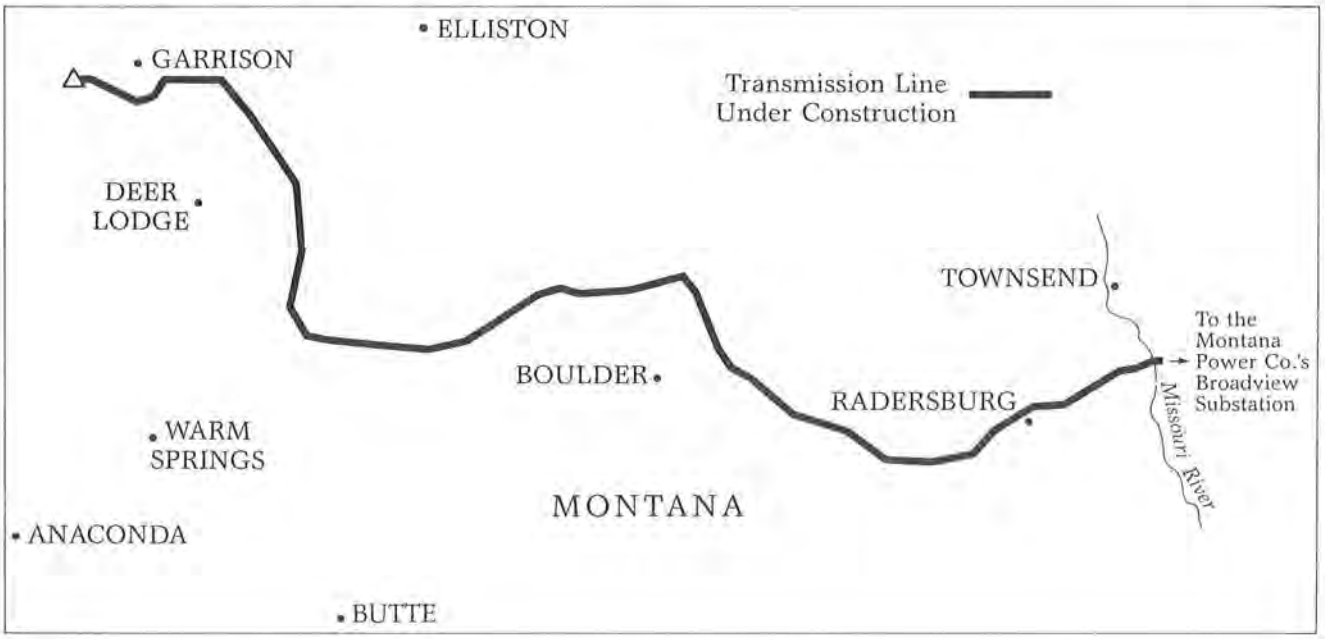
Under the Regional Act, BPA may make payments to local governments to compensate them for the impact of locating major transmission facilities within their boundaries. Impact aid payments will be based on a uniform, regionwide formula being developed by BPA where construction or modification of facilities is completed after December 5, 1980, the date the Regional Act went into effect.

An impact aid formula circulated by BPA has been reviewed regionwide. A revised draft of the proposal, incorporating public comments, is nearing completion. After further public review and approval by the Administrator, the impact aid formula will be sent to the Federal Energy Regulatory Commission for final approval early in 1983. Upon such action and completion of a comprehensive energy plan by the Northwest Regional Power Planning Council, impact aid payments to local governments could begin by fiscal 1984.

Solar-efficient BPA substation control house under construction at Garrison, Montana.

Engineering and Construction

Townsend-Garrison 500-kV Transmission Project



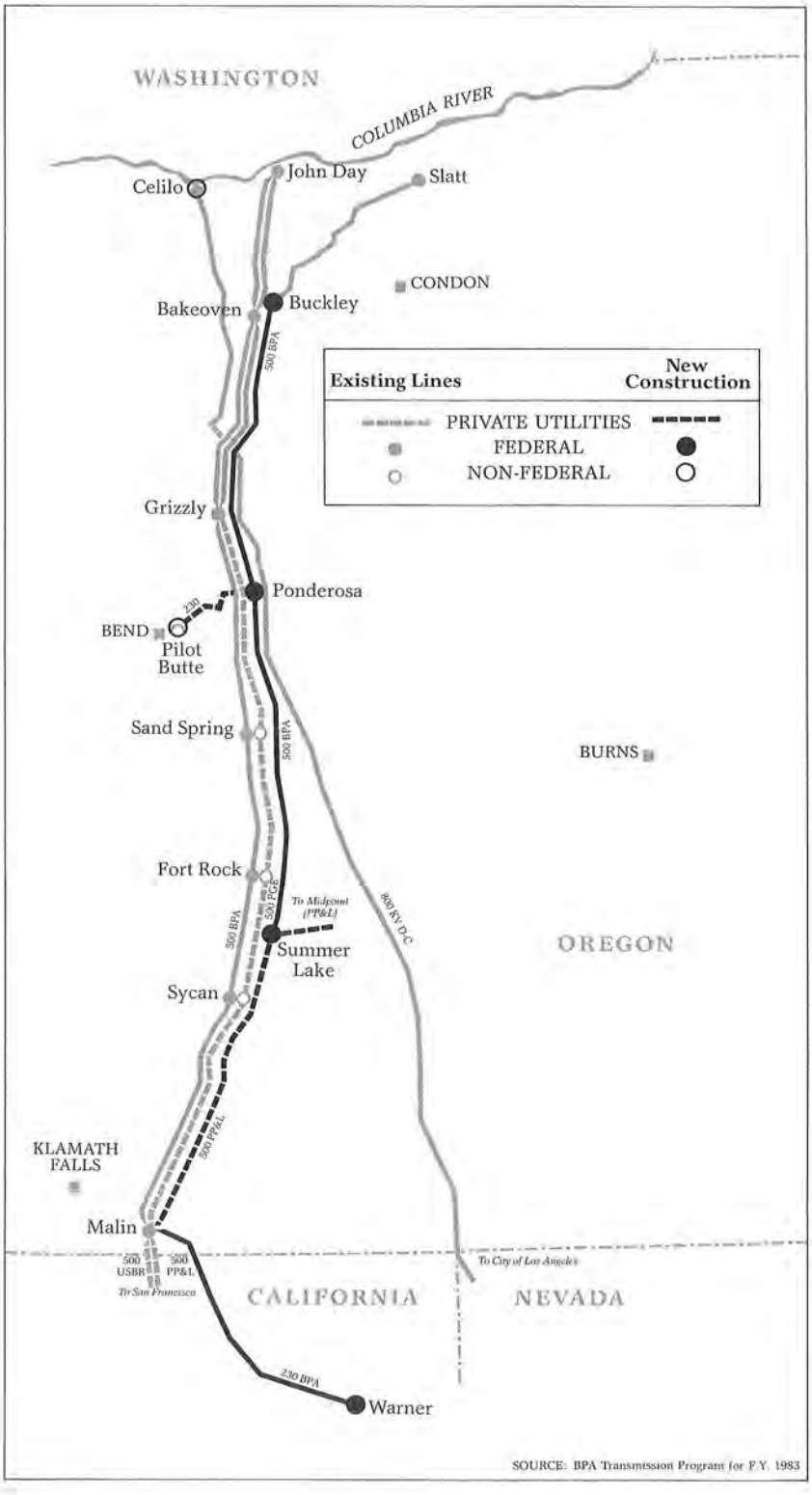
Western Montana Transmission

BPA began building its portion of the Colstrip transmission project through western Montana in July 1982. Construction started after the Montana State Land Board granted permits for State lands and the Board of Natural Resources and Conservation determined that BPA's plans complied with substantive standards of the Montana Major Facility Siting Act.

Three contractors began constructing sections of the double-circuit 500-kV lines along a 97-mile route between Townsend and Garrison. A fourth started the construction of Garrison Substation, a large facility on an 83-acre site midway between Drummond and Deer Lodge.

Two 500-kV lines are being built from the Colstrip generating project to Townsend, a distance of 230 miles, by The Montana Power Company. The company heads a group of five utilities that are building Colstrip generating plants 3 and 4, twin coal-fired 700-megawatt units in southeast Montana. Colstrip 3 is to come on line in October 1983 and Colstrip 4 in 1985.

The lines will connect near Townsend with MPC's 500-kV lines to Billings. At Garrison a 500/230-kV switchyard will hook up with BPA's existing Anaconda-Hot Springs 230-kV line and MPC's existing Anaconda-Ovando 230-kV line. These lines and connections will have sufficient capacity to integrate Colstrip 3. They are expected to be completed before that unit begins producing power.



SOURCE: BPA Transmission Program for F.Y. 1983

BPA will extend the 500-kV circuits west from Garrison. A double-circuit line will extend approximately 160 miles to one of three points, Taft, Plains or Hot Springs. One of these sites will be selected for substation facilities, and a single 500-kV line will be built from there to Spokane, a distance of 100 to 150 miles.

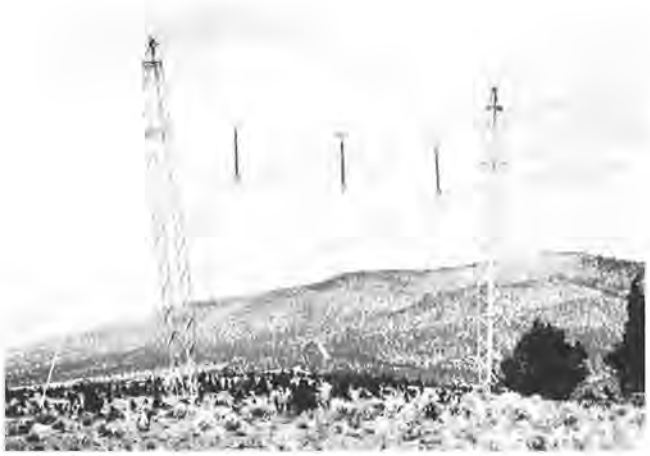
A draft EIS for the Garrison-Spokane segment was issued for review on May 28, 1982. Thirteen public meetings have been held along this route to solicit comments and information. The Montana Department of Natural Resources and Conservation is taking part in a continuing siting analysis under a $370,000 contract with BPA. Review meetings are being held with State and Federal agencies.

BPA plans to award clearing contracts for this route in 1983. The lines west to Taft, Plains, or Hot Springs are to be completed by the fall of 1985 and the single circuit line to Spokane in 1986.

Intertie Capacity Increased

BPA's ability to sell surplus power to markets outside the region is limited by the transmission capability of the Pacific Intertie. When heavy streamflows occurred in 1982, BPA and other utilities using the Intertie began to look for a way to increase the capacity of its three large lines.

They launched an engineering study and came up with a plan that has boosted the scheduling capability of the Intertie's two alternating current lines—from 2,500 to 2,800 megawatts with no increase in investment. The scheme accommodates disturbances on the interconnected system by dropping generation at hydro plants on the Columbia River.



New cross-rope suspension tower on Buckley-Summer Lake line in central Oregon.

Meanwhile, BPA and the Los Angeles Department of Water and Power (LADWP) launched a project to increase the capacity of the Intertie's direct current line. The benefits will be great and costs comparatively low.

This project is expected to bring BPA an average of $16 million a year in increased power sales (in 1978 dollars). BPA will spend $35 million to add a fourth valve group at the northern terminal of the line near The Dalles. LADWP will spend a like amount to upgrade the southern terminal.

Experience with long-distance overhead direct current lines was limited when this line was designed. Because of more recent advances in technology, BPA is now raising the voltage of this line from 800 to 1,000 kV and increasing its capacity from 1,600 to 2,000 megawatts. This can be done without changing the present conductors or the spacing between them. The project is to be completed by 1985.

Ship lays BPA 115-kV submarine cable under Lopez Sound in San Juan Islands to serve Orcas Power and Light Company.

New, energy-efficient BPA Construction and Services Building at Ross Complex, Vancouver, Washington.

The increased capacity will be used to market surplus power in the Southwest for which there is no market in the Northwest and to import power to the Northwest during periods of low water. Besides increasing BPA revenues and helping to keep Northwest rates low, the exchange will conserve 1 to 2 million barrels of oil a year at Southwest generating plants.

The scheduling capability of the Intertie is now 4,400 megawatts. When the d-c line is upgraded, this capability will be increased to 4,800 megawatts.

San Juan Cable

On August 10, 1982, three tugs guided a ship on a carefully controlled course across Lopez Sound in the San Juan Islands. As the ship slowly sailed eastward, a large cable uncoiled from the forward hold, slithered along the port side, passed through a tensioning machine, and slipped quietly off a chute at the stern. It disappeared into the cold gray waters of the Sound.

The ship covered the 2 miles in 80 minutes. The end of the cable was then floated to shore on big inner tubes. Two days later the operation was repeated. The ship slowly sailed 4.6 miles across Rosario Strait from Fidalgo Island to Decatur, and the end of the cable was again floated to shore.

The ends were spliced into another section of cable that crosses Decatur underground. The cable and its installation cost BPA $3.5 million. It means that the 6,000 customers of Orcas Power and Light Company can count on an adequate supply of power for the next 20 years.

A total of three cables now serves the islands. The new cable is operated at 115-kV. It is the largest BPA has ever installed under water.

Solar Project

BPA expects to complete the construction of its passive solar Construction and Services Building at the Ross Complex in Vancouver, Washington in early 1983. The structure will be a regional showplace for energy conservation.

The building's design incorporates concepts that will reduce the energy it uses by about 80 percent as compared with a more conventional structure. The concepts will conserve 1.8 million kWh a year and save $800,000 in energy costs in 20 years. The building will house a computer center, offices, and light industrial shops.

Gas-insulated Substation

The Buckley-Summer Lake line has another first: the gas-insulated Buckley Substation. BPA has been using gas-insulated circuit breakers, disconnects, and ground switches since 1975, but it was not until this year that it began construction of its first fully integrated gas-insulated substation. It is to be energized in April 1983.

The equipment in the station will be insulated with sulfur-hexafluoride, an inert gas, instead of air. The equipment occupies less space and is quieter. Lessons learned at Buckley will be applied to new installations.

System Statistics

During the fiscal year, BPA added 102 circuit miles of 230-kV transmission lines, 6 circuit miles of 500-kV lines, 6 new substations, and 6 new transformer banks with a total capacity of 1,594,950 kVA.

These additions brought the system totals to 13,380 circuit miles of lines and 363 substations. Total transformer capacity: 57,518,621 kVA.

Research and Development

Over the years, BPA's research and development program has established many "firsts" in the utility industry and saved ratepayers throughout the Northwest – and the world – many millions of dollars. Current R&D projects underway include:

– The world's first application of a superconducting magnetic energy storage system for an electric power system. Developed by the Department of Energy and the Los Alamos National Laboratory, it has been installed by BPA at a substation in an industrial setting near Tacoma.

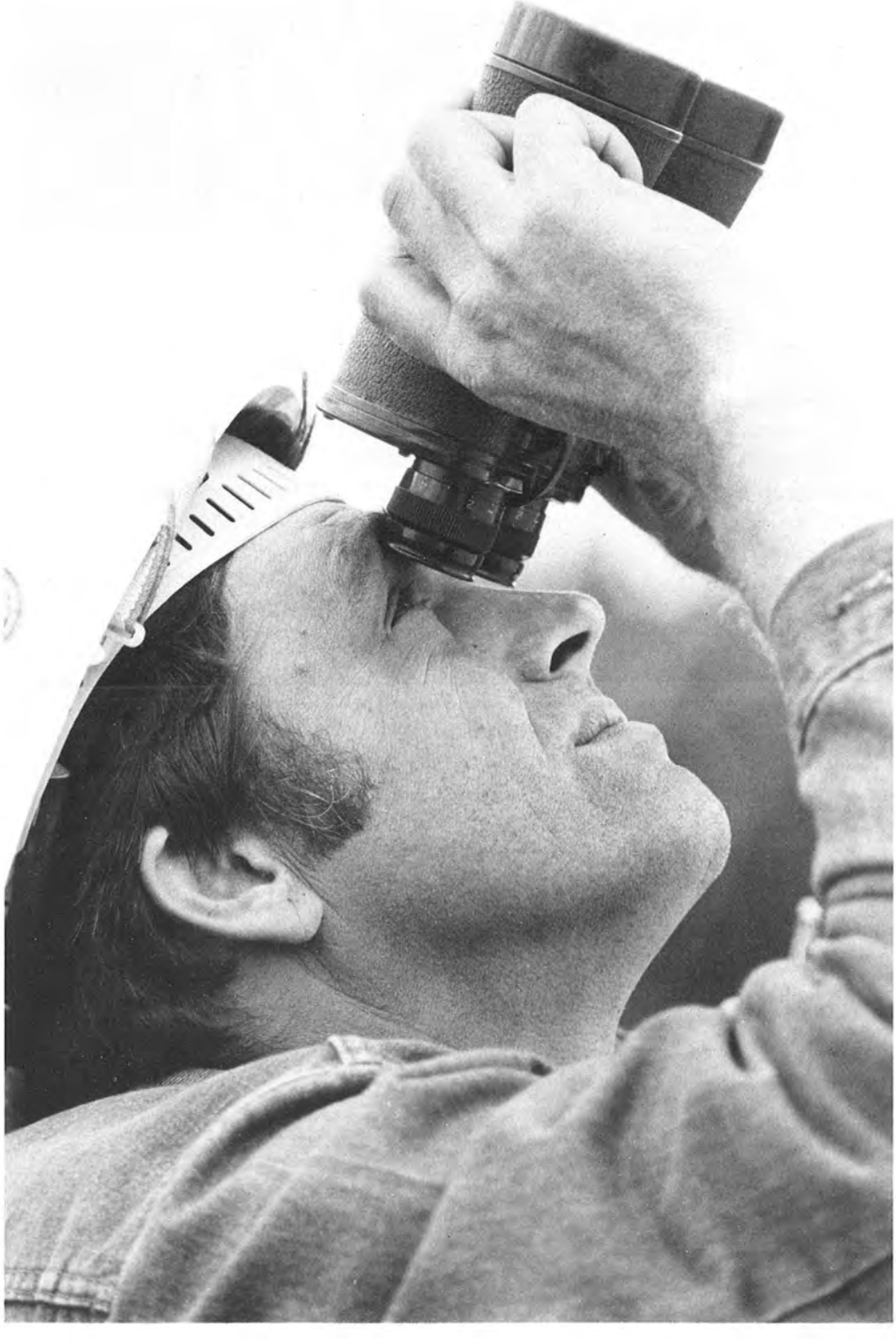
– An investigation of the effects of wind and ice on conductors. A summary of 6 years of study at BPA's Moro 1200-kV mechanical test facility is being published.

– A first-in-the-industry application of fiber optics to fault location equipment.

– A new automatic "microtime" fault locator that promises to make transmission lines more reliable because it does a better job faster with less equipment.

– The 1200-kV prototype facility at Lyons, Oregon.

BPA worker surveys line construction.



Regional Operations

The Office of Regional Operations acts through its Area and District organizations and two operating divisions. Its activities range from daily contacts with our customers on various programs to the operation, maintenance, and control of power throughout the BPA transmission system.

Operation and Maintenance

The many-faceted programs of operation and maintenance undergo continual scrutiny and adjustment to balance these twin responsibilities: reliable service and fiscal integrity.

To satisfy both of these goals, BPA seeks out new equipment with lower maintenance requirements and redundant capabilities. This search, however, is not limited to new system additions. For example, BPA, working with the Electric Power Research Institute and the Forest Research Laboratory at Oregon State University, has researched a treatment for wooden power poles that makes them last longer and saves about $2 million a year.

The effects of vandalism, notably the destruction of insulators by gunfire, is being reduced through the presence of special patrols in trouble areas and through the use of non-ceramic insulators that do not shatter.

With regard to power system control facilities, major emphasis is placed upon on-line monitoring and trouble diagnosis. A trend toward centralized control over the past decade has resulted in a greater dependence upon communication systems, especially microwave radio. The reliability of this equipment is important because it lessens the likelihood of power failures.

Improvements in microwave technology have reduced personnel costs associated with system monitoring while improving the communication capability. BPA, for example, has designed a new microwave monitor. This monitor continuously samples information being sent by microwave radio and issues warnings of service interruptions before they occur.

Maintenance Information Resource Management

Operation and maintenance activities call for a huge volume of data—system outage statistics, equipment failure identification, work reports, preventative maintenance schedules, service cost data, etc. Computers have been used for many years to gather, store, and process this information. Computer software programs are being developed to better correlate and analyze this information and thus simplify a monumental task. By virtue of this improvement, BPA will make giant strides in maintenance programming while saving on manpower costs.

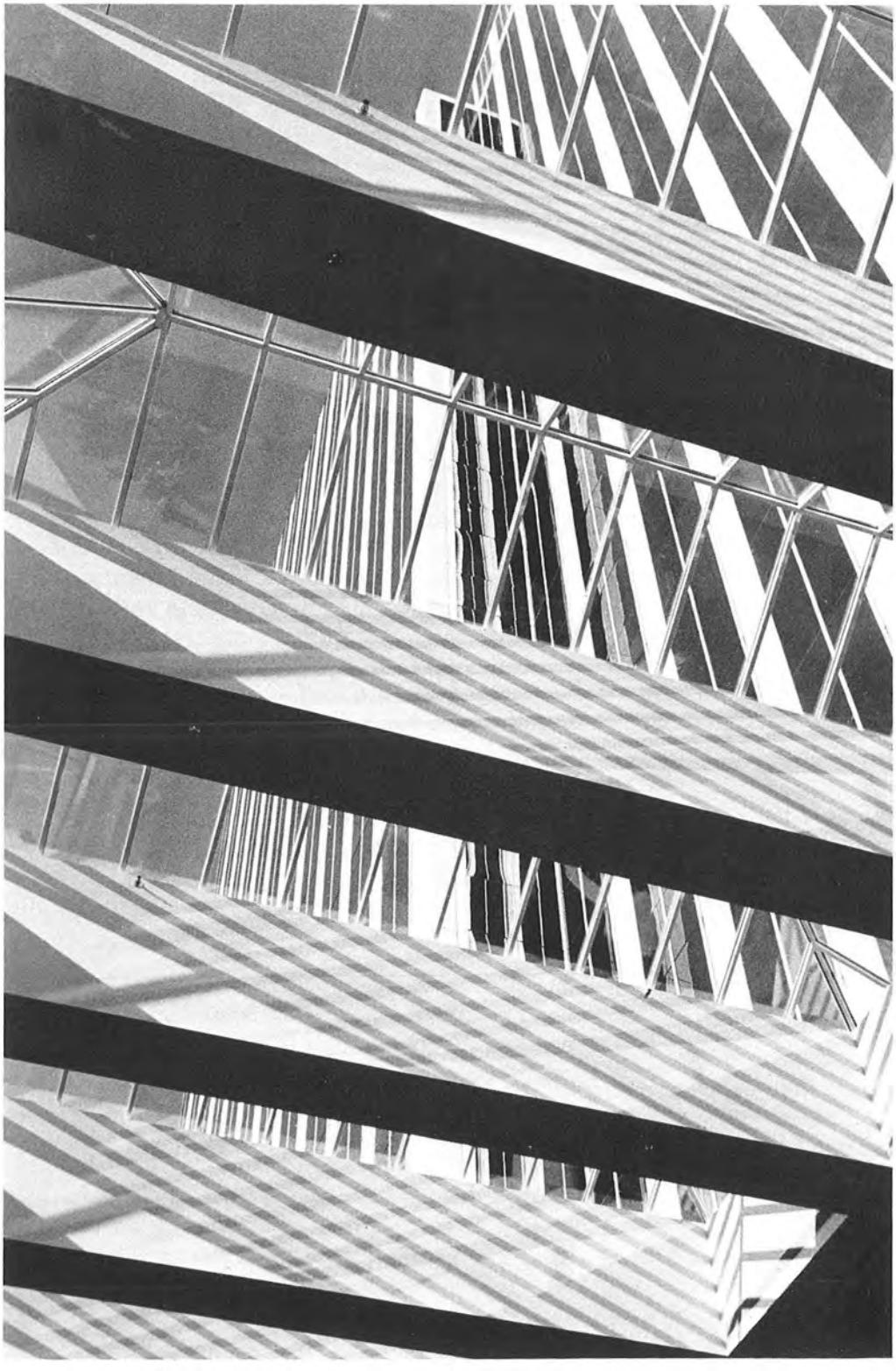
In the area of operations, BPA has also achieved economies through improved information and control automation.

Automation in System Operations

Installation of the Supervisory Control and Data Acquisition (SCADA) Systems I, II, and III has greatly contributed to cost-effective operation of the BPA grid.

Over the past six years, the number of BPA substations has increased from 347 to 363. During this period, BPA has been able to reduce its complement of substation operators from 250 to 202 without sacrificing reliability.

View from lobby of new Lloyd Tower Building.



Administration-Management

Leaner, Readjusted Work Force

Throughout 1982, BPA sought to balance an expanding workload against constraints that limit the number of employees BPA may hire. The workload has grown because of the new and larger role created for BPA by the Regional Act.

The staff has responded by limiting outside hiring and by reassigning employees based on changes in program priorities. Higher levels of productivity have helped to overcome staffing limitations.

Organizational Changes

BPA has made a number of changes in its internal management structure, each of which is designed to improve a key management function.

Two of the more important changes occurred within the Administrator's office: the establishment of a new position of Executive Assistant Administrator and a new position of Special Assistant to the Administrator. The Executive Assistant Administrator will be responsible for BPA's internal management and serves as third in line of authority after the Administrator and Deputy Administrator. The Special Assistant to the Administrator will provide confidential advice and assistance on all matters affecting BPA's program and policy responsibilities.

BPA in another important move set up the Office of Conservation to fulfill its responsibilities under the Regional Act. The Act charts a new direction for conservation in the Northwest.

The Office of Financial Management under BPA's Financial Manager, an Assistant Administrator, was established in January 1981. The office has assumed a stronger role in BPA management affairs in order to deal more effectively with the agency's financial responsibilities. These responsibilities have grown under impetus of the 1974 Transmission Act, the 1980 Regional Act, and BPA's obligations toward WNP 1, 2 and 3. The office has strengthened its information system and financial controls. It is raising the levels of fiscal awareness and accountability in all echelons of the agency.

Public affairs functions have also been reorganized. The Regional Act requires that BPA inform the public of Northwest power issues and consult with its customers and other interested parties in establishing major policies. To fulfill this requirement, the agency has established an office of Assistant to the Administrator for External Affairs.

It is the responsibility of this office to encourage public participation in the development of BPA programs and policies, communicate the impact of these policies to the public, and work with the news media. The office replaces the former Office of Public Affairs and Public Information Office. It also incorporates the Public Involvement staff which has been part of the Office of Power and Resource Management.

The Public Involvement staff gathers information and comment from the public on key issues and decisions. During 1982, this staff guided public involvement on such issues as power sales contracts, billing credits, the load forecast, resource acquisitions, and the rate filing, which required formal hearings.

Public response varied widely from issue to issue. For example, four forums on power sales contracts drew only a handful of people and only six written comments. But hundreds of persons attended the rate hearings and 287 testified. The hearings generated 9,000 pages of transcript, 3,000 pages of testimony, and 250 written comments.

Office Facilities

During the past fiscal year, BPA has moved 750 employees in its engineering organization, the Office of Engineering and Construction, into office space in the Lloyd Center Tower. The move was part of a plan to manage office space while the General Services Administration constructs a new Federal office building on the parking lot south of BPA's headquarters building.

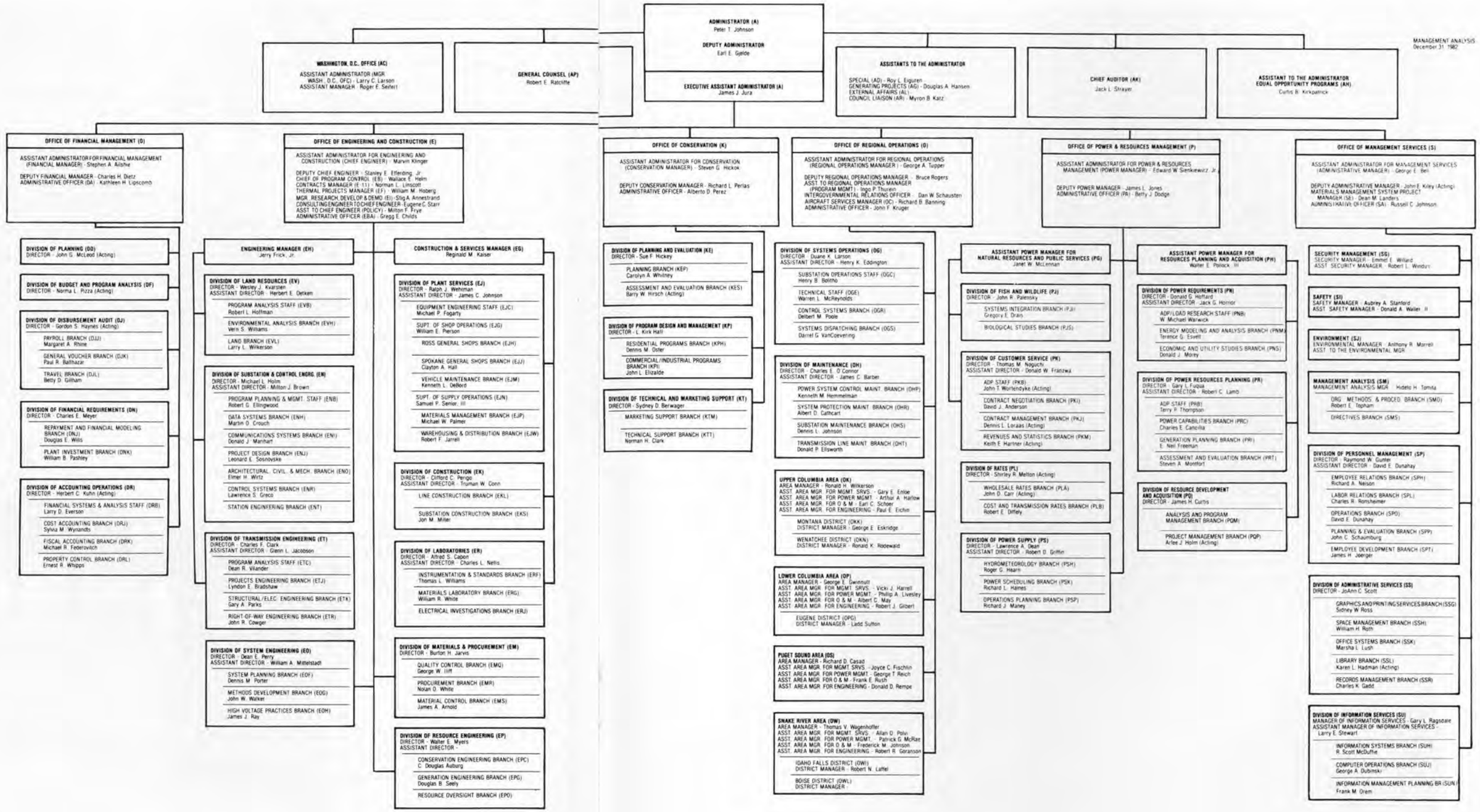
BPA will occupy about 325,000 of the 385,000 square feet of office space in the new building, which is scheduled to be finished in 1986. It will accommodate some 1,950 employees presently dispersed in the area. They perform headquarters functions and represent slightly more than half of BPA's total work force. The present headquarters building will be renovated to accommodate other Federal agencies now occupying leased space.

New Main Computer

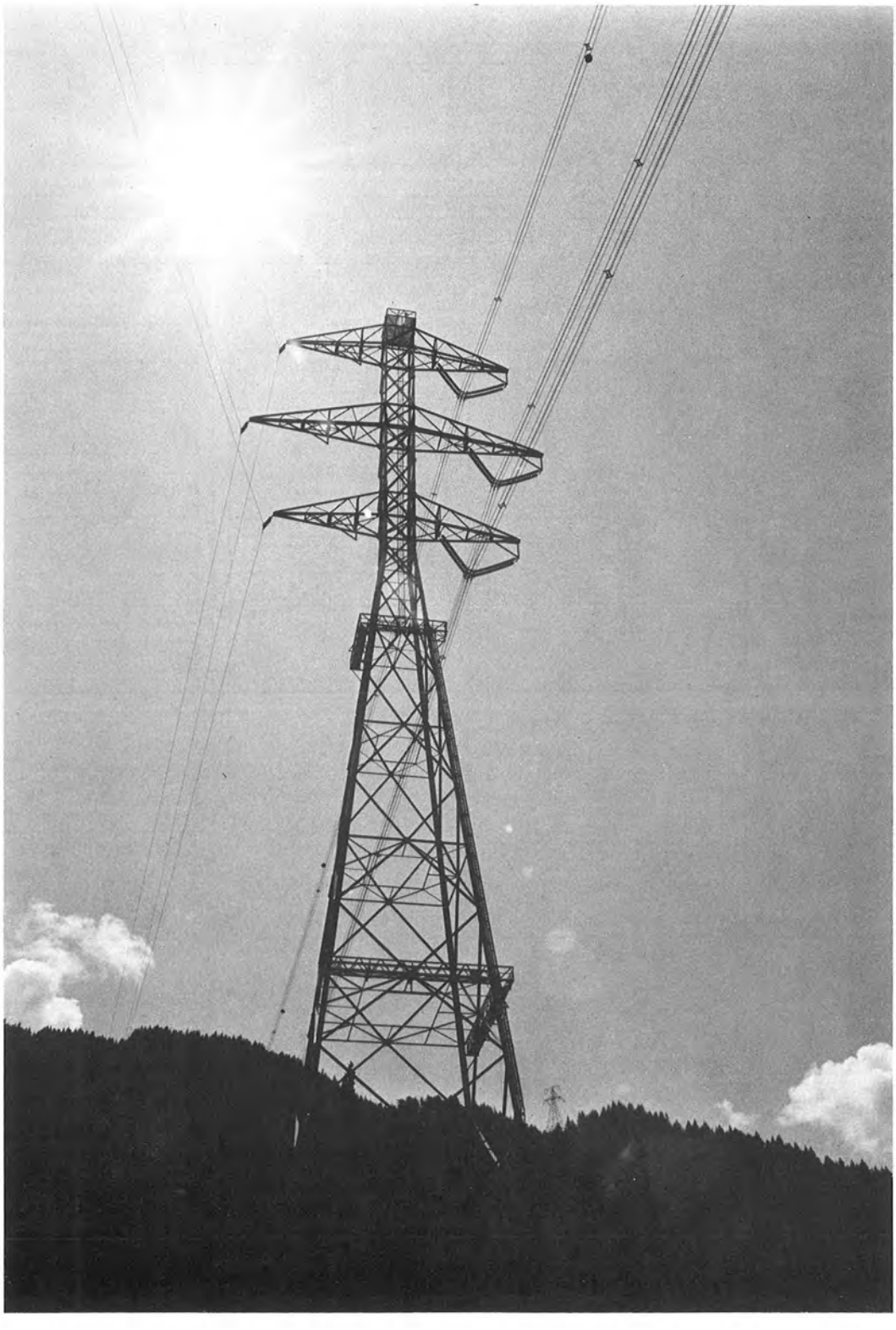
BPA in May 1982 requested proposals from computer suppliers for a new main frame computer system to replace the one that was installed in 1968. The system, which is to be installed by March 1983, is oriented toward modern business requirements.

Official Organization Chart

Bonneville Power Administration
U.S. Department of Energy



BPA line in Columbia Gorge near Bonneville Dam.



Financial Section

Basis for Financial Reporting

BPA prepares financial statements for the FCRPS on a cost accounting basis to assess its financial condition from the viewpoint of a commercial enterprise. The financial statements are independently audited by the firm of Coopers & Lybrand, Certified Public Accountants, in accordance with generally accepted auditing standards. The complete financial statements with the auditor's opinion appear on pages 53 through 66. A graphic portrayal of financial results on this basis appears on page 42.

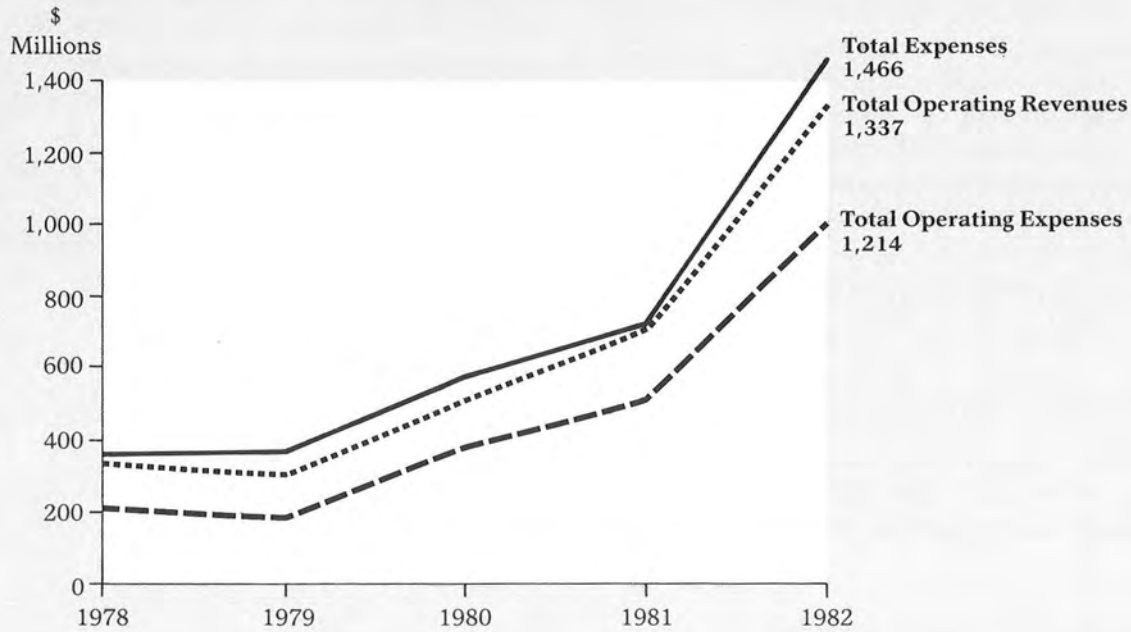
Power rates, however, are not set to recover costs as determined on the cost accounting basis, but are based upon what is called the repayment basis. The report also includes the FCRPS Repayment Study (Table 4, pages 48 and 49).

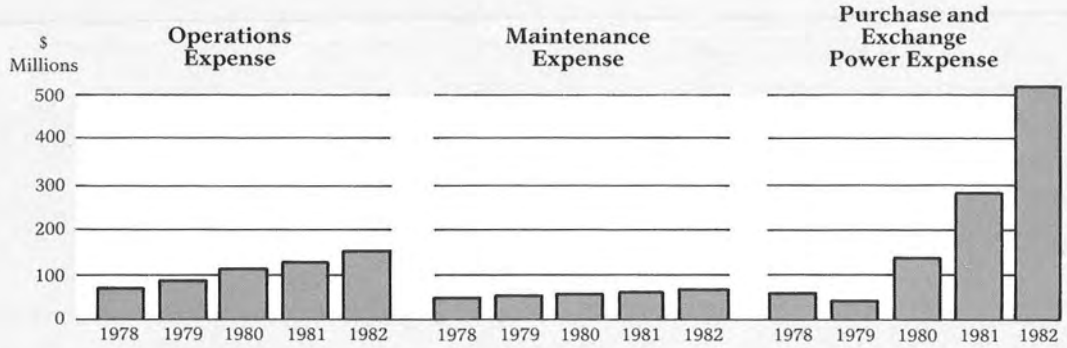
The cost accounting financial statements present financial results on an annual basis. The Repayment Study consists of long-range forecasts of future revenues and expenses and the repayment of the investment in power facilities. The two sets of financial reports measure two different things, current financial results in the cost-accounting statements and future financial requirements in the Repayment Study.

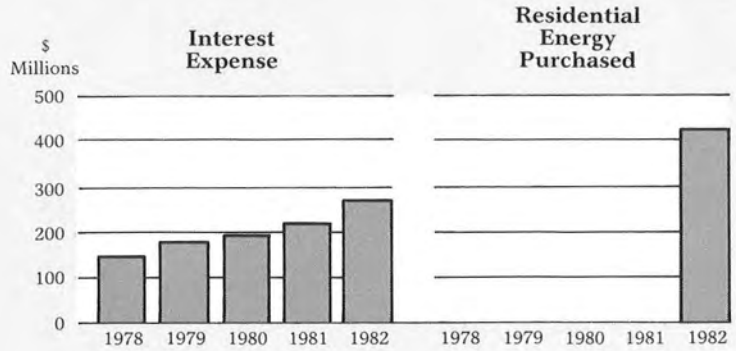
The cost accounting financial statements include depreciation of the power facilities over their expected useful lives, which extend up to 100 years in some cases. The repayment policy (see page 50), however, requires that the investment in all power facilities be fully repaid within 50 years of each facility being placed in service. The level of revenue required to meet the repayment requirement is higher than needed to cover costs on the cost accounting basis.

Another major difference between the two is that prior to December 20, 1979, estimated net billing advances were included as annual costs in the Repayment Study while on the cost accounting statements these costs were shown as deferred expenses until the plants start operating. However, beginning December 20, 1979, net billing advances were charged to expense on a current basis for cost accounting purposes. For a reconciliation of cost accounting results to the Repayment Study, see schedule B on page 67.

Revenue & Expense Trend







Repayment Study

The Repayment Study included in this report (Table 4, pages 48 and 49) is the Final Repayment Study which is based on the current rates as developed in the 1982 Wholesale Power Rate Filing which were made effective October 1, 1982. An adjustment line has been added to this study to reflect the actual cumulative results through FY 1982.

New Repayment Studies are now being prepared which will show that BPA needs to increase its revenues in FY's 1984 and 1985 in order to meet all the FCRPS repayment requirements as forecasted for the next two fiscal years (October 1, 1983, through September 30, 1985). The results of these repayment requirements will be announced in March 1983 and discussed with BPA's customers in April 1983.

The new Repayment Studies will be the basis for an Initial Power Rate Proposal for November 1, 1983, through June 30, 1985.

An Official Notice of the proposed rates will probably be published in the Federal Register in March 1983, and public hearings on the proposal will be conducted during the period April through August 1983.

A revised Repayment Study will be prepared in July for the final Power Rate Filing scheduled to be submitted to the Federal Energy Regulatory Commission (FERC) by October 1983. The preliminary Repayment Study will be revised to include updated data and to reflect any significant changes deemed necessary as developed during the rate hearing process. A revised study could indicate a need for a revenue requirement different from the requirement indicated by the preliminary study. To comply with the requirements of Public Law 89-448 for an annual report to the President and the Congress which includes all authorized Federal Power facilities, a note to the Repayment Study (page 51) lists the authorized projects not specifically included in the Repayment Study, together with pertinent data thereof.

Electric Energy Account — Table 1

Fiscal Year 1982

Energy Received (millions of kilowatt-hours)	
Energy Generated for BPA (Excludes Residential Exchange):	
Bureau of Reclamation	24,308
Corps of Engineers	64,437
Hanford Steamplant (NPR)	3,040
Centralia Thermal Project	1,167
Trojan Nuclear Plant	1,370
Other Generation	761
Power Interchanged In	71,839
Total Received	166,922
Energy Delivered (millions of kilowatt-hours)	
Sales (Excludes Residential Exchange)	83,109
Power Interchanged Out	80,109
Used by Administration	67
Total Delivered	163,285
Energy Losses in Transmission	3,637
Total	166,922
Losses as Percent of Total Received	2.2
Maximum Demand on Generation (kilowatts) (Date & Time) January 6, 1982, 0900	17,150,000
Load Factor	63.3

Generation by the Principal Electric Utility Systems of the Pacific Northwest[1] — Table 2

Fiscal Year 1982

Utility	Kilowatt-Hours (Billions)	Of Total Generation (Percent)
Publicly Owned:		
Federal Columbia River Power System[2]	94.8	53.6
Grant County PUD	10.1	5.7
Chelan County PUD	9.5	5.4
Seattle City Light	6.4	3.6
Douglas County PUD	4.3	2.4
Tacoma City Light	3.1	1.8
Eugene Water & Electric Board	0.5	0.3
Pend Oreille County PUD	0.4	0.2
Total Publicly Owned	129.1	73.0
Privately Owned:		
Pacific Power & Light	13.7	7.7
Idaho Power Company	13.6	7.7
Montana Power Company	6.2	3.5
Portland General Electric Co.	7.5	4.2
Washington Water Power Co.	4.7	2.7
Puget Sound Power & Light Co.	2.2	1.2
Total Privately Owned	47.9	27.0
Total Generation	177.0	100.0

[1]Generation shown is for members of the Northwest Power Pool plus Pend Oreille County PUD and Washington Public Power Supply System. Utah Power & Light Co., British Columbia Hydro and Power Authority, West Kootenay Power and Light and Trans Alta Utilities, who are members of the Power Pool, are not included because their service areas lie outside the Pacific Northwest.

[2]Includes generation from the Washington Public Power Supply System's Hanford steamplant (NPR), Okanogan PUD's share of Wells, the municipalities of Forest Grove, McMinnville, and Milton-Freewater share of Priest Rapids and Wanapum, the Kittitas share of Priest Rapids, and the Federal share of the Centralia steamplant and the Trojan Nuclear Plant.

Federal Columbia River Power System

Sales of Electric Energy — Table 3

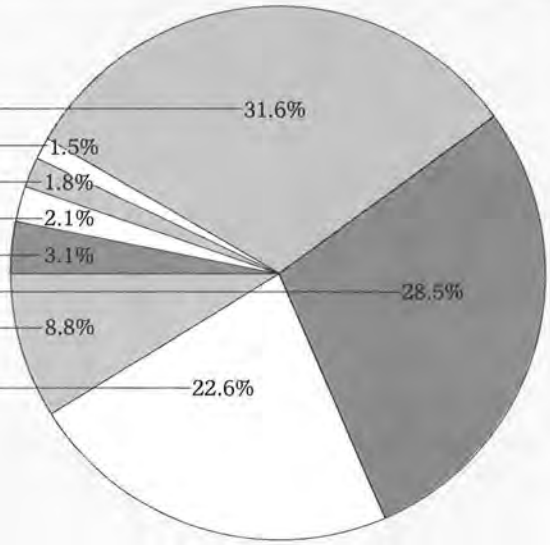
Fiscal Year 1982

Customer	MWH	Revenue
Northwest Region Municipalities		
Albion, Idaho	3,474	$ 43,432
Ashland, Oregon	63,895	753,073
Bandon, Oregon	53,636	665,772
Blaine, Washington	42,699	518,606
Bonners Ferry, Idaho	26,416	388,646
Burley, Idaho	112,767	1,322,964
Canby, Oregon	99,754	1,255,512
Cascade Locks, Oregon	24,971	305,963
Centralia, Washington	102,494	1,422,217
Cheney, Washington	96,252	1,165,032
Consolidated Irrigation District, Washington	1,907	28,279
Coulee Dam, Washington	16,198	194,872
Declo, Idaho	2,999	37,200
Drain, Oregon	25,465	311,419
Eatonville, Washington	16,171	204,344
Ellensburg, Washington	148,084	1,732,312
Eugene, Oregon	1,345,168	14,618,237
Fircrest, Washington	44,434	549,940
Forest Grove, Oregon	12,346	45,295[1]
Heyburn, Idaho	73,364	832,053
Idaho Falls, Idaho	479,133	5,719,588
McCleary, Washington	33,846	430,706
McMinnville, Oregon	219,325	2,536,886[1]
Milton, Washington	30,344	385,773
Milton-Freewater, Oregon	−22,842	−367,014[1]
Minidoka, Idaho	1,145	13,808
Monmouth, Oregon	54,015	690,559
Port Angeles, Washington	655,393	7,333,400
Richland, Washington	511,269	6,283,611
Rupert, Idaho	74,745	910,734
Seattle, Washington	2,128,501	22,680,006[1]
Springfield, Oregon	644,391	7,533,736
Steilacoom, Washington	38,995	486,485
Sumas, Washington	7,244	87,938
Tacoma, Washington	2,300,663	26,343,256[1]
Vera Irrigation District, Washington	145,237	1,786,425
Washington Public Power Supply System	88,307	1,044,296
Total Municipalities (37)	9,702,205	110,295,361
Public Utility Districts		
Benton Co. PUD #1	1,365,753	$ 15,976,346
Central Lincoln PUD	1,170,492	13,428,667
Chelan Co. PUD #1	174,715	1,950,671[1]
Clallam Co. PUD #1	400,786	5,018,095
Clark Co. PUD #1	2,529,263	29,759,562
Clatskanie PUD	721,592	7,519,637
Cowlitz Co. PUD #1	3,542,626	37,419,235[1]
Douglas Co. PUD #1	97,822	933,872[1]
Ferry Co. PUD #1	59,233	653,942
Franklin Co. PUD #1	556,924	6,497,374
Grant Co. PUD #2	76,046	1,219,058
Grays Harbor Co. PUD #1	1,192,448	13,689,934
Kittitas Co. PUD #1	22,953	246,831[1]
Klickitat Co. PUD #1	227,114	2,564,804
Lewis Co. PUD #1	746,915	8,642,188
Mason Co. PUD #1	55,567	680,168
Mason Co. PUD #3	385,701	4,738,360
Northern Wasco Co. PUD	218,949	2,640,945
Okanogan Co. PUD #1	334,095	3,566,695
Pacific Co. PUD #2	245,864	3,024,577
Pend Oreille Co. PUD #1	0	0
Skamania Co. PUD #1	91,119	1,077,348
Snohomish Co. PUD #1	4,748,151	56,461,863
Tillamook PUD	331,116	4,081,997
Wahkiakum Co. PUD #1	39,737	460,765
Whatcom Co. PUD #1	131,009	1,365,996
Total Public Utility Districts (26)	19,465,990	$ 223,618,930

Customer	MWH	Revenue
Cooperatives		
Alder Mutual Light Co.	2,138	$ 25,456
Benton Rural Elec. Assn.	278,364	3,176,386
Big Bend Elec. Coop.	395,086	4,037,869
Blachly-Lane Co. Coop. Elec. Assn.	96,047	1,137,792
Central Elec. Coop.	274,202	3,144,096
Clearwater Power Co.	143,691	1,664,466
Columbia Basin Elec. Coop.	113,303	1,213,624
Columbia Power Coop.	24,122	265,947
Columbia Rural Elec. Assn.	180,129	1,864,891
Consumers Power	311,021	3,570,239
Coos-Curry Elec. Coop.	219,539	2,493,609
Douglas Elec. Coop.	127,324	1,460,759
East End Mutual Elec. Co. Ltd.	14,426	161,313
Elmhurst Mutual Power & Light Co.	190,416	2,362,578
Fall River Elec. Coop.	120,533	1,327,298
Farmers Elec. Coop.	6,993	89,264
Flathead Elec. Coop.	127,829	1,410,064
Glacier Elec. Coop.	161,205	1,699,778
Harney Elec. Coop.	152,681	1,544,515
Hood River Elec. Coop.	80,649	935,314
Idaho Co. Light & Power Coop. Assn.	35,338	401,961
Inland Power & Light Co.	444,528	5,045,556
Kootenai Elec. Coop., Inc.	156,600	1,760,315
Lakeview Light & Power Co., Inc.	217,270	2,587,591
Lane Elec. Coop.	233,507	2,831,042
Lincoln Elec. Coop. – Mont.	58,873	669,439
Lincoln Elec. Coop. – Wash.	110,753	1,133,929
Lost River Elec. Coop.	62,078	631,203
Lower Valley Power & Light Co.	281,104	3,173,113
Midstate Elec. Coop.	205,085	2,284,280
Missoula Elec. Coop.	111,941	1,243,017
Nespelem Valley Elec. Coop.	39,449	453,408
Northern Lights	192,436	2,092,874
Ohop Mutual Light Co.	32,886	395,854
Okanogan Co. Elec. Coop.	27,669	312,695
Orcas Power & Light Co.	108,302	1,242,730
Peninsula Light Co.	301,237	3,776,994
Parkland Light & Water Co.	98,626	1,201,266
Prairie Power Coop.	10,348	115,858
Raft River Elec. Coop.	186,876	1,893,907
Ravalli Elec. Coop.	74,358	832,231
Riverside Elec. Co.	10,688	126,982
Rural Elec. Co.	79,277	949,589
Salem Elec.	257,573	3,114,294
Salmon River Elec. Coop.	56,698	609,086
South Side Elec. Lines	32,397	370,870
Surprise Valley Elec. Corp.	110,306	1,179,740
Tanner Elec.	24,630	288,499
Umatilla Elec. Coop. Assn.	755,576	7,848,666
Unity Light & Power Co.	58,718	703,592
Vigilante Elec. Coop.	108,878	1,163,817
Wasco Elec. Coop.	90,683	1,038,134
Wells Rural Elec. Co.	70,744	726,608
West Oregon Elec. Coop.	61,556	699,565
Total Cooperatives (54)	7,726,686	$ 86,483,963
Federal Agencies		
U.S. Department of Energy	412,514	$ 4,743,565
U.S. Bureau of Mines	5,382	77,639
Fairchild Air Force Base	26,928	313,179
Bureau of Reclamation	4,335	43,359
U.S. Bureau of Indian Affairs	163,216	2,055,074
U.S. Navy	318,320	3,594,322
Total Federal Agencies (6)	930,695	$ 10,827,138

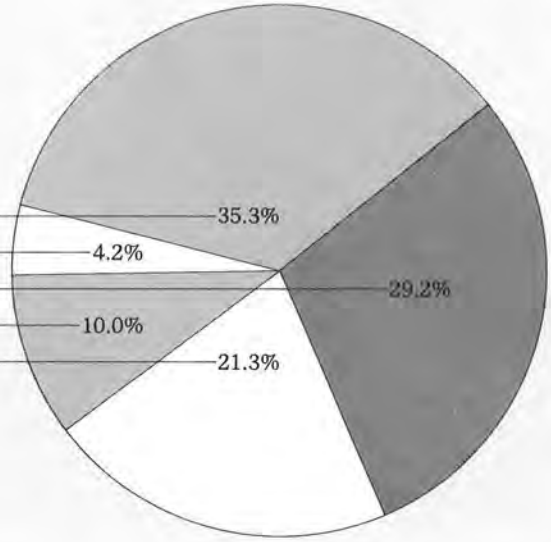
1982 Sources of Revenues

Public Utilities	$463,630,000	31.6%
Miscellaneous	21,818,000	1.5%
Other Industries	26,065,000	1.8%
Federal Agencies	30,428,000	2.1%
Wheeling	45,405,000	3.1%
Private Utilities	418,487,000	28.5%
Interest & Depreciation (not covered by revenues)	129,456,000	8.8%
Aluminum Industry	330,970,000	22.6%
	$1,466,259,000	



1982 Disposition of Revenues

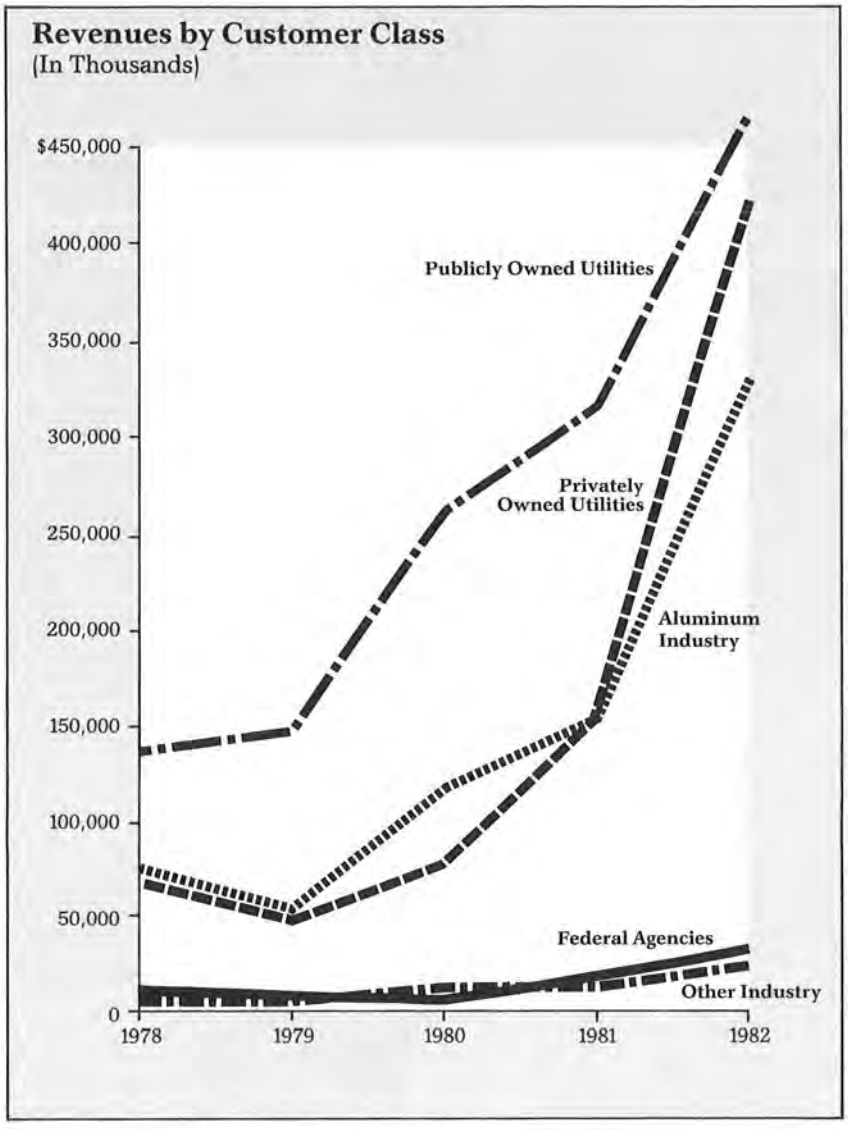
Purchase & Exchange Power	$517,071,000	35.3%
Maintenance	62,093,000	4.2%
Residential Energy Purchased	428,371,000	29.2%
Operation Expenses	146,317,000	10.0%
Depreciation & Interest	312,407,000	21.3%
	$1,466,259,000	



Customer	MWH	Revenue
Outside Northwest Region		
Alameda, California – Public	811	$ 21,024
Bountiful, Utah – Public	1,368	7,647
B.C. Hydro – Public	0	0
Burbank, California – Public	299,676	2,213,069[2]
Glendale, California – Public	334,645	2,328,642[2]
Healdsburg, California – Public	41	1,065
Lodi, California – Public	374	9,693
Los Angeles, California – Public	3,706,517	29,542,854[2]
Lompoc, California – Public	156	4,060
Pasadena, California – Public	227,199	1,765,324[2]
Sacramento, California – Public	0	0
Santa Clara, California – Public	1,897	49,157
Ukiah, California – Public	130	3,370
Pacific Gas & Elec. Co. – Private	4,864,110	41,662,929[1]
San Diego Gas & Elec. Co. – Private	747,673	4,739,720
Sierra Pacific – Private	4,008	30,502
Southern California Edison Co. – Private	5,267,173	35,379,760
State of California – Public	0	0
WAPA – Mid Pacific Region – Federal	1,245,455	17,829,918[1]
WAPA – Upper Colorado Region – Federal	0	0
WAPA – Upper Missouri Region – Federal	0	0
Total Outside Northwest Region (21)	16,701,233	$ 135,588,734

Customer	MWH	Revenue
Privately-Owned Utilities		
California-Pacific Utilities Co.	16,087	$ 105,430
Idaho Power Co.	396,286	5,710,657
Montana Power Co.	409,314	6,728,814[1]
Pacific Power & Light Co.	1,751,165	38,143,799[1]
Portland General Elec. Co.	2,232,806	30,585,666[1]
Puget Sound Power & Light Co.	931,914	8,973,753[1]
Utah Power Co.	949,828	6,480,182
Washington Water Power Co.	68,270	606,439[1]
Total Privately-Owned Utilities (8)	6,755,670	$ 97,334,740
Aluminum Industries		
Alcoa (combined)[3]	2,161,545	$ 35,563,395
Anaconda (Arco Alum. Co.)	2,035,277	32,446,734
Martin Marietta Co. (combined)[3]	3,202,448	51,626,268
Intalco Alum. Co.	3,815,869	61,163,263
Kaiser Aluminum (combined)[3]	4,723,311	76,017,048
Reynolds Metals Co. (combined)[3]	4,236,402	67,687,849
Total Aluminum Industries (6)	20,174,852	$ 324,504,557

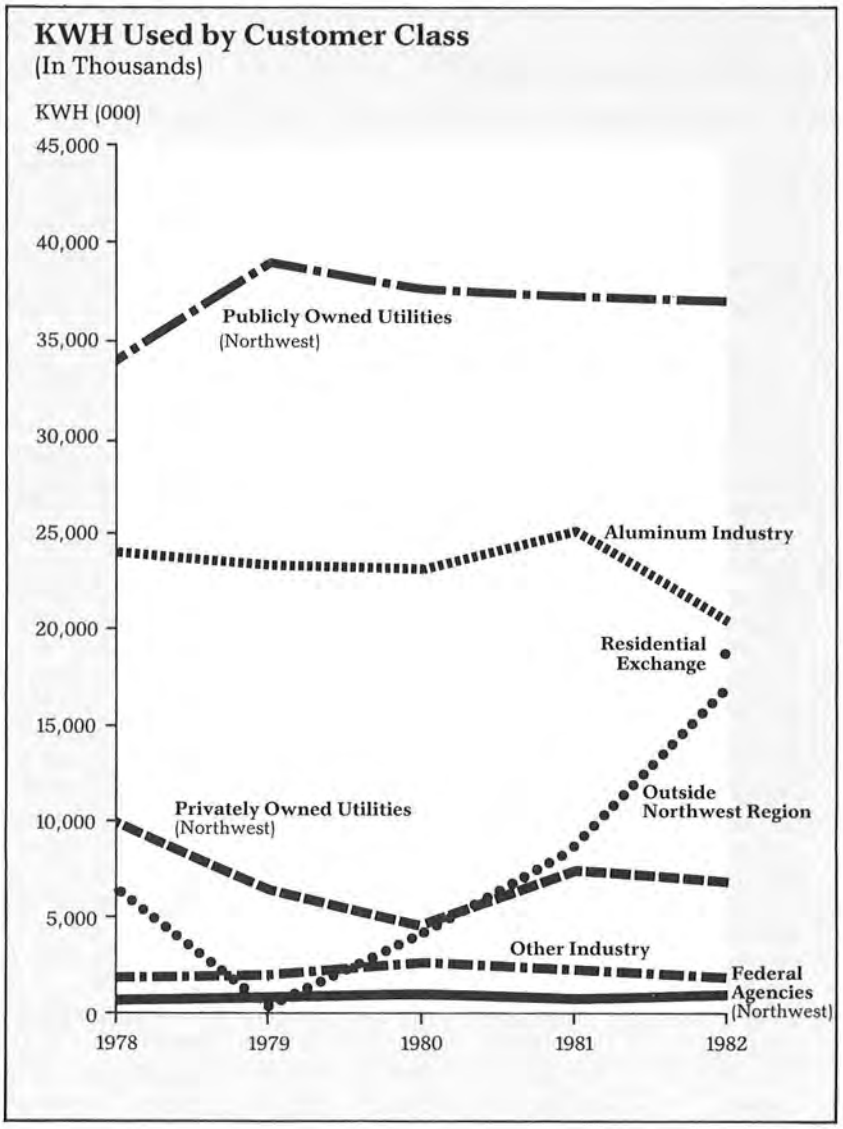
[1]Includes capacity sales.
[2]Financial transactions resulting from exchanges of capacity and energy.
[3]See table, amounts estimated.



Customer	MWH	Revenue
Other Industries		
Carborundum Co.	123,565	$ 1,991,365
Crown Zellerbach	115,024	1,909,820
Georgia Pacific	96,237	1,605,776
Hanna Nickel	438,435	4,851,204
Cominco American	0	0
Oregon Metallurgical	48,537	800,447
Pacific Carbide	71,899	1,159,874
Pennwalt Corp.	366,515	5,921,052
Stewart Elsner	5	445
Union Carbide (Elkem)	993	24,490
Stauffer Chemical	390,162	6,723,464
Total Other Industries (11)	1,651,372	$ 24,987,937
Total Northwest Region (148)	66,407,470	$ 878,052,626
Total Sales Excluding Residential Exchange (169)	83,108,703	$ 1,013,641,360[4]

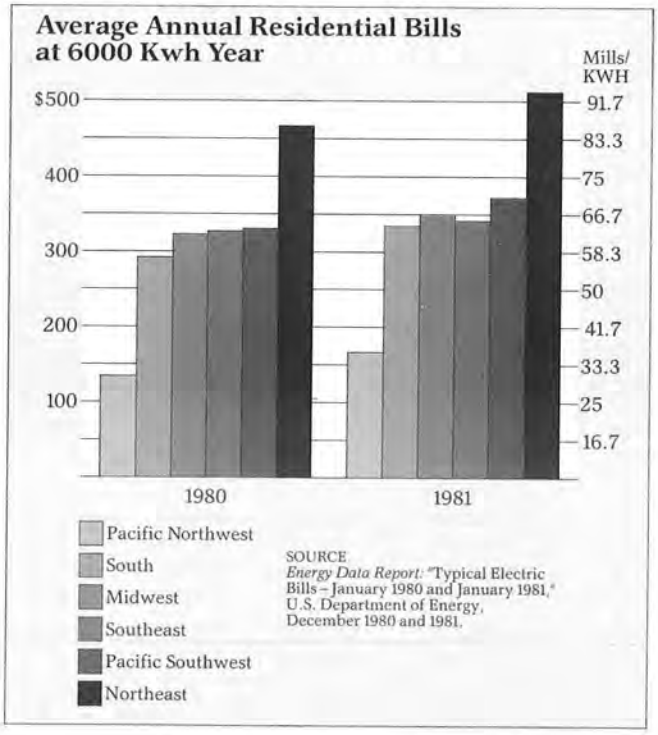
Customer	MWH	Revenue
Residential Exchange		
California-Pacific Utilities Co.	181,042	$ 2,050,150
Coos-Curry Elec. Coop.	9,452	128,000
Idaho Power Co.	2,597,339	101
Montana Power Co.	21,939	250,379
Pacific Power & Light Co.	4,445,803	50,468,606
Portland General Electric Co.	3,830,163	43,711,808
Puget Sound Power & Light Co.	5,203,199	59,381,610
Utah Power Co.	585,384	6,648,202
Washington Water Power	1,728,354	19,701,058
Total Residential Exchange	18,602,675	$ 211,777,914
Total Sales of Electric Energy	101,711,378	$ 1,225,419,274[4]

[4]Based on actual billings, not including cost accounting accruals.



Pro Rata Breakdown by Plant Location
(relates to footnote 3)

Customer	MWH	Revenue
Aluminum Co. of America		
Addy	475,540	$ 7,823,947
Vancouver	972,695	16,003,528
Wenatchee	713,310	11,735,920
Kaiser Alum. & Chem. Corp.		
Spokane Reduction	2,786,754	44,850,058
Spokane Rolling	472,331	7,601,705
Tacoma Reduction	1,464,226	23,565,285
Reynolds Metals Co.		
Longview	2,923,117	46,704,616
Troutdale	1,313,285	20,983,233
Martin Marietta		
Washington	1,985,518	32,008,286
Oregon	1,216,930	19,617,982



Federal Columbia River Power System

1982 Wholesale Rate Filing Final Repayment Study

Table 4

Adjusted to Incorporate the 1982 Actual Results *(All Amounts in $1,000)*

Fiscal year Ending Sept. 30	Revenues[1]	Operation and Maintenance Expense	Purchase and Exchange Power	Interest Expense	Investment Placed in Service: Initial Project	Investment Placed in Service: Replacements	Investment Placed in Service: Total	Cumulative Investment in Service: Initial Project	Cumulative Investment in Service: Replacements	Cumulative Investment in Service: Total
Cumulative										
1982	6,349,745	1,738,366	1,929,917	2,170,771	7,192,177		7,192,177	7,192,177		7,192,177
Adjust[2]	−52,236	−1,984	−1,871	+17,342	272,810		272,810	272,810		272,810
1983	2,226,566	289,180	1,390,500	322,783	550,510		550,510	8,015,497		8,015,497
1984	2,226,566	289,180	1,399,400	357,148		51,703	51,703	8,015,497	51,703	8,067,200
1985	2,226,566	289,180	1,402,600	338,051		51,454	51,454	8,015,497	103,157	8,118,654
1986	2,145,560	289,180	1,410,100	341,920		51,905	51,905	8,015,497	155,062	8,170,559
1987	2,145,560	289,180	1,411,400	332,542		71,788	71,788	8,015,497	226,850	8,242,347
1988	2,145,560	289,180	1,413,000	322,654		58,909	58,909	8,015,497	285,759	8,301,256
1989	2,145,560	289,180	1,413,700	309,446		74,647	74,647	8,015,497	360,406	8,375,903
1990	2,145,560	289,180	1,415,100	304,899		85,436	85,436	8,015,497	445,842	8,461,339
1991	2,145,560	289,180	1,412,300	295,640		79,359	79,359	8,015,497	525,201	3,540,693
1992	2,145,560	289,180	1,410,900	299,789		176,417	176,417	8,015,497	701,618	8,717,115
1993	2,145,560	289,180	1,411,400	296,522		69,225	69,225	8,015,497	770,843	8,786,340
1994	2,145,560	289,180	1,411,200	297,508		106,852	106,852	8,015,457	877,695	3,893,192
1995	2,145,560	289,180	1,411,100	293,623		75,482	75,482	8,015,497	953,177	8,968,674
1996	2,145,560	289,180	1,416,400	282,636		130,192	130,192	8,015,497	1,083,369	9,098,866
1997	2,145,560	289,180	1,431,500	276,455		109,486	109,486	8,015,497	1,192,855	9,208,352
1998	2,145,560	289,180	1,430,000	275,908		81,505	81,505	8,015,497	1,274,360	9,289,857
1999	2,145,560	289,180	1,430,300	268,216		95,339	95,339	8,015,497	1,369,699	9,385,196
2000	2,145,560	289,180	1,430,200	259,431		80,340	80,340	8,015,497	1,450,039	9,465,536
2001	2,145,560	289,180	1,430,300	252,642		112,681	112,681	8,015,497	1,562,720	9,578,217
2002	2,145,560	289,180	1,422,500	245,869		146,067	146,067	8,015,497	1,708,787	9,724,284
2003	2,145,560	289,180	1,399,700	249,292		85,492	85,492	8,015,497	1,794,279	9,809,776
2004	2,145,560	289,180	1,401,200	255,540		97,394	97,394	8,015,497	1,891,673	9,907,170
2005	2,145,560	289,180	1,400,600	262,977		95,872	95,872	8,015,497	1,987,545	3,042
2006	2,145,560	289,180	1,398,900	271,819		113,775	113,775	8,015,497	2,101,320	116,817
2007	2,145,560	289,180	1,395,600	281,921		137,430	137,430	8,015,497	2,238,750	254,247
2008	2,145,560	289,180	1,396,400	291,406		101,662	101,662	8,015,497	2,340,412	355,909
2009	2,145,560	289,180	1,396,800	300,269		112,696	112,696	8,015,497	2,453,108	468,605
2010	2,145,560	289,180	1,397,200	310,429		151,265	151,265	8,015,497	2,604,373	619,870
2011	2,145,560	289,180	1,397,700	331,588		272,066	272,066	8,015,497	2,876,439	891,936
2012	2,145,560	289,180	1,338,500	341,142		180,729	180,729	8,015,497	3,057,168	1,072,665
2013	2,145,560	289,180	1,162,000	365,124		150,441	150,441	8,015,497	3,207,609	1,223,106
2014	2,145,560	289,180	1,162,300	343,674		117,054	117,054	8,015,497	3,324,663	1,340,160
2015	2,145,560	289,180	1,162,600	322,999		104,366	104,366	8,015,497	3,429,029	1,444,526
2016	2,145,560	289,180	1,163,000	295,444		280,859	280,859	8,015,497	3,709,888	1,725,385
2017	2,145,560	289,180	1,113,700	252,122		127,782	127,782	8,015,497	3,837,670	1,853,167
2018	2,145,560	289,180	911,400	211,712		136,592	136,592	8,015,497	3,974,262	1,989,759
2019	2,145,560	289,180	769,100	150,136		103,768	103,768	8,015,497	4,078,030	2,093,527
2020	2,145,560	289,180	769,100	105,892		145,607	145,607	8,015,497	4,223,637	2,239,134
2021	2,145,560	289,180	769,100	80,098		130,438	130,438	8,015,497	4,354,075	2,369,572
2022	2,145,560	289,180	769,100	56,715		187,603	187,603	8,015,497	4,541,678	2,557,175
2023	2,145,560	289,180	769,100	27,691		104,069	104,069	8,015,497	4,645,747	2,661,244
2024	2,145,560	289,180	769,100	13,168		118,149	118,149	8,015,497	4,763,896	2,779,393
2025	2,145,560	289,180	769,100	13,125		109,204	109,204	8,015,497	4,873,100	2,883,597
2026	2,145,560	289,180	769,100	15,364		148,682	148,682	8,015,497	5,021,782	3,037,279
2027	2,145,560	289,180	769,100	15,347		141,014	141,014	8,015,497	5,162,796	3,178,293
2028	2,145,560	289,180	769,100	14,329		112,487	112,487	8,015,497	5,275,283	3,290,780
2029	2,145,560	289,180	769,100	15,620		132,635	132,635	8,015,497	5,407,918	3,423,415
2030	2,145,560	289,180	769,100	14,655		105,242	105,242	8,015,497	5,513,160	3,523,657
2031	2,145,560	289,180	769,100	17,287		153,509	153,509	8,015,497	5,666,669	3,682,166
2032	2,145,560	289,180	769,100	19,435		191,281	191,281	8,015,497	5,857,950	3,873,447
2033	2,145,560	289,180	769,100	15,751		106,040	106,040	8,015,497	5,963,990	3,979,487
Totals	115,964,087	16,484,562	62,366,046	13,423,466	8,015,497	5,963,990	13,979,487			

[1] The cumulative revenues for the repayment study are on a cash basis. The financial statements are on an accrual basis and as such are different by $152,189,000.

Fiscal year Ending Sept. 30	Amortization	Unamortized Investment	Allowable Unamortized Investment: Initial Project	Allowable Unamortized Investment: Replacements	Allowable Unamortized Investment: Total	Irrigation Assistance: Cumulative Amount In Service	Irrigation Assistance: Amortization	Irrigation Assistance: Unamortized Amount	Irrigation Assistance: Allowable Unamortized Amount	Cumulative Surplus Revenues	Annual Expense −Deferred +Paid
Cumulative											
1982	662,880	6,529,297	7,111,589		7,111,589	630,271		630,271	630,271		−152,189
Adjust[2]	–	272,810	272,828		272,828	11,281		−11,281	−11,281		−65,723
1983	6,191	7,346,426	7,925,169		7,925,169	630,155		630,155	630,155		217,912
1984	180,838	7,217,291	7,915,641	51,703	7,967,344	666,503		666,503	666,503		
1985	196,735	7,072,010	7,885,406	103,157	7,988,563	673,852		673,852	673,852		
1986	104,360	7,019,555	7,865,100	155,062	8,020,162	684,663		684,663	684,663		
1987	112,438	6,978,905	7,837,511	226,850	8,064,361	723,306		723,306	723,306		
1988	120,726	6,917,088	7,768,958	285,759	8,054,717	743,528		743,528	743,528		
1989	133,234	6,858,501	7,723,859	360,404	8,084,263	897,710		897,710	897,710		
1990	136,381	6,807,556	7,698,567	445,787	8,144,354	937,982		937,982	937,982		
1991	148,440	6,738,475	7,606,213	525,102	8,131,315	987,063		987,063	987,063		
1992	145,691	6,769,201	7,547,724	701,393	8,249,117	1,024,174		1,024,174	1,024,174		
1993	148,458	6,689,968	7,458,972	770,564	8,229,536	1,056,824		1,056,824	1,056,824		
1994	147,672	6,649,148	7,408,792	877,323	8,236,115	1,083,059		1,083,059	1,083,059		
1995	151,657	6,572,973	7,398,033	952,100	8,350,133	1,116,682		1,116,682	1,116,682		
1996	157,344	6,545,821	7,375,603	1,082,048	8,457,651	1,150,452		1,150,452	1,150,452		
1997	129,723	6,525,584	7,339,542	1,191,237	8,530,779	1,184,508	18,702	1,165,806	1,165,806		
1998	150,472	6,456,617	7,295,461	1,272,240	8,567,701	1,213,984		1,195,282	1,195,282		
1999	157,864	6,394,092	7,253,054	1,366,770	8,619,824	1,243,587		1,224,885	1,224,885		
2000	166,749	6,307,683	7,194,457	1,443,481	8,637,938	1,267,428		1,248,726	1,248,726		
2001	163,147	6,257,217	7,120,068	1,555,120	8,675,188	1,291,371	10,291	1,262,378	1,262,378		
2002	188,011	6,215,273	7,055,304	1,682,144	8,737,448	1,309,758		1,280,765	1,280,765		
2003	207,388	6,093,377	6,487,716	1,765,431	8,253,147	1,328,223		1,299,230	1,299,230		
2004	198,859	5,991,912	6,255,076	1,860,525	8,115,601	1,347,052	781	1,317,278	1,317,278		
2005	192,803	5,894,981	5,899,888	1,954,027	7,853,915	1,366,533		1,336,759	1,336,759		
2006	185,661	5,823,095	5,726,969	2,053,322	7,780,291	1,386,382		1,356,608	1,356,608		
2007	178,859	5,781,666	5,527,643	2,189,584	7,717,227	1,410,071		1,380,297	1,380,297		
2008	165,623	5,717,705	5,282,722	2,290,119	7,572,841	1,433,858	2,951	1,401,133	1,401,133		
2009	153,013	5,677,388	5,138,757	2,400,441	7,539,198	1,457,451	6,298	1,418,428	1,418,428		
2010	148,751	5,679,902	4,974,513	2,551,263	7,525,776	1,481,141		1,442,118	1,442,118		
2011	127,092	5,824,876	4,882,573	2,821,153	7,703,726	1,501,992		1,462,969	1,462,969		
2012	176,235	5,829,370	4,598,327	2,985,151	7,583,478	1,522,633	503	1,483,107	1,483,107		
2013	291,079	5,688,732	4,507,833	3,132,699	7,640,532	1,543,358	38,177	1,465,655	1,465,655		
2014	308,266	5,497,520	4,421,602	3,242,715	7,664,317	1,566,843	42,140	1,447,000	1,447,000		
2015	324,165	5,277,721	4,373,559	3,340,366	7,713,925	1,590,423	46,616	1,423,964	1,423,964		
2016	331,743	5,226,837	4,120,408	3,613,591	7,733,999	1,614,098	66,193	1,381,446	1,381,446		
2017	434,596	4,920,023	3,861,965	3,733,831	7,595,796	1,646,593	55,962	1,357,979	1,357,979		
2018	713,185	4,343,430	3,620,451	3,864,287	7,484,738	1,662,905	20,483	1,353,808	1,353,808		
2019	874,211	3,572,987	3,327,518	3,920,022	7,247,540	1,687,772	62,933	1,315,742	1,315,742		
2020	953,101	2,765,493	3,189,944	4,016,298	7,206,242	1,712,658	28,287	1,312,341	1,312,341		
2021	988,063	1,907,868	3,062,517	4,081,827	7,144,344	1,730,260	19,119	1,310,824	1,310,824		
2022	1,011,200	1,084,271	3,014,113	4,195,344	7,209,457	1,747,862	19,365	1,309,061	1,309,061		
2023	705,445	482,895	2,971,777	4,240,554	7,212,331	1,777,149	6,126	1,332,222	1,332,222	340,018	
2024	115,963	485,081	2,860,116	4,286,240	7,146,356	1,806,436	18,226	1,343,283	1,343,283	1,287,941	
2025	107,128	487,157	2,190,023	4,327,420	6,517,443	1,828,894	10,906	1,354,835	1,354,835	2,244,062	
2026	146,698	489,141	1,749,065	4,409,784	6,158,849	1,851,352	21,667	1,355,626	1,355,626	3,147,613	
2027	139,056	491,099	1,607,763	4,447,335	6,055,098	1,873,203	3,497	1,373,980	1,373,980	4,076,993	
2028	110,558	493,028	1,268,222	4,491,885	5,760,107	1,895,054	22,702	1,373,129	1,373,129	5,016,684	
2029	130,693	494,970	1,087,299	4,526,880	5,614,179	1,916,905	4,029	1,390,951	1,390,951	5,953,622	
2030	103,243	496,969	909,149	4,559,432	5,468,581	1,938,149	2,458	1,409,737	1,409,737	6,920,546	
2031	151,450	499,028	828,855	4,590,664	5,419,519	1,959,393	11,223	1,419,758	1,419,758	7,827,866	
2032	189,151	501,158	98,148	4,630,152	4,728,300	1,980,637		1,441,002	1,441,002	8,706,560	
2033	103,792	503,406		4,658,984	4,658,984	2,002,033		1,462,398	1,462,398	9,674,297	
13,476,081							539,635				

[2] The adjustments line represents the difference between 1982 actual results and the 1982 estimates originally included in the repayment study. Repayment study estimates are based upon the presumption of average conditions. The effect of the differences over the long run can be expected to be offset by the occurrence of some above-average years at some time within the repayment period.

Repayment Policy

The basis on which BPA establishes its revenue requirements, and hence its rate level, is the repayment policy. This policy, which is based upon the Department of Energy's interpretation of statutory requirements, provides that FCRPS revenues from power sales, wheeling service, and other miscellaneous sources must be sufficient to satisfy the following criteria:

1. Pay the cost of obtaining power through purchase and exchange agreements.

2. Pay the cost of operating and maintaining the power system.

3. Pay interest on and amortize outstanding revenue bonds sold to the Treasury to finance transmission system construction.

4. Pay interest on the unamortized investment in power facilities financed with appropriated funds. (Federal hydroelectric projects are all financed with appropriated funds. BPA transmission facilities constructed prior to BPA authorization to finance its construction program with sales receipts and revenue bonds were financed with appropriated funds.)

5. Repay, with interest, any outstanding unpaid annual expenses. (See discussion of deferral below.)

6. Repay each increment of the power investment in the Federal hydroelectric projects within 50 years after such increment becomes revenue-producing.[1]

7. Repay each annual increment of the investment in the BPA transmission system previously financed with appropriated funds within the average service life of the transmission facilities (currently 35 years).

8. Repay each annual increment of financing for conservation within the average service life (currently 20 years).

9. Repay the investment in each replacement of a facility at a Federal hydroelectric project within its service life. (In repaying the investment financed with appropriated funds, the investment bearing the highest interest rate will be amortized first to the extent possible while still completing repayment of each increment of investment within its prescribed repayment period.)

10. Repay the portion of construction costs at Federal reclamation projects which is beyond the ability of the irrigation water users, and which is assigned for repayment from commercial power revenues, within the same overall period available to the water users for making their repayments. These periods range from 40 to 66 years with 60 years being applicable to most of the irrigation repayment assistance.

[1]Except for the Chandler Project, which has a legislated amortization life of 66 years and Lost Creek Project, which has a legislated amortization life of 60 years.

Repayment of Deferral

BPA's actual cumulative deferral as of September 30, 1982, amounted to only $152.2 million. BPA estimates no additional deferral will be required in FY 1983. BPA has made an administrative decision to increase revenues in FY 1984 and FY 1985 to a level which is sufficient to fully repay the total $152.2 million deferral plus all the normal amortization that would have been scheduled during the FY 1983 through FY 1985 period, if no deferral existed.

As discussed in the section on Repayment Policy, all deferrals must be fully repaid before any amortization can be made. Therefore, actual payments to the Treasury will be applied first to deferrals until they are fully repaid. However, for the purpose of making allocations in the Cost of Service Analysis, the deferral will be allocated over the 2 years.

Note to Federal Columbia River Power System Repayment Study

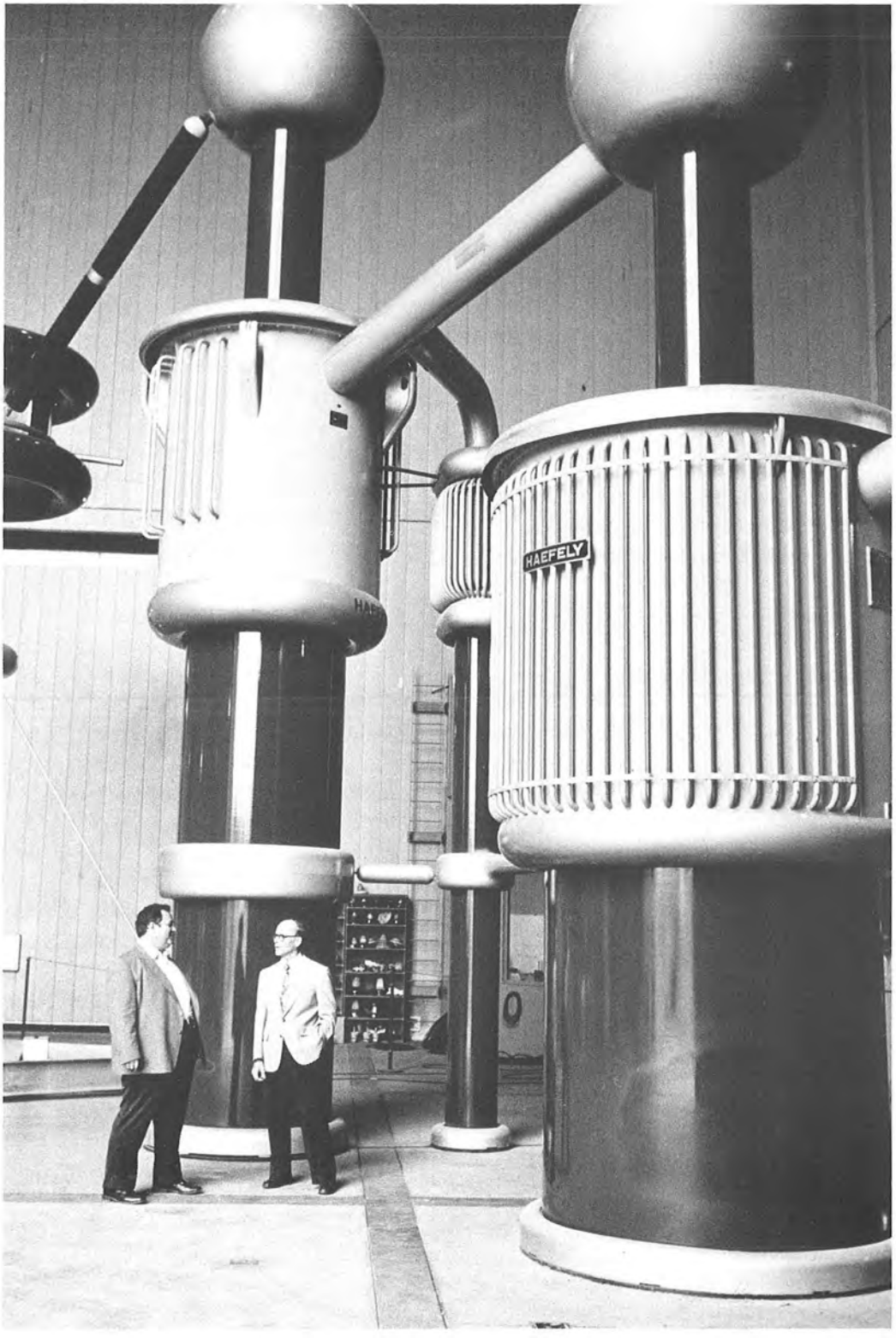
(Table 4, pages 48 and 49)
Section 2 of Public Law 89-448 (80 STAT 200) requires the submission to the President and the Congress of an annual financial statement which includes all projects authorized by Congress as components of the FCRPS. BPA previously fulfilled that requirement by publishing the FCRPS Repayment Study in its Annual Report and transmitting copies thereof to the President and the Congress. Through FY 1978 the FCRPS Repayment Study included the estimated costs of all authorized projects even though some were not yet in service or in some cases were not yet under construction. In determining revenue requirements for the purpose of establishing power rates, however, objections were raised by customers to the inclusion of projects in the Repayment Study which would not be in service during the period in which the power rates would be in effect. During preparation of the wholesale power rate increase which took effect December 20, 1979, the BPA General Counsel issued an opinion concluding that whereas P.L. 89-448 does, in fact, require the inclusion of all authorized projects in the annual financial statement to be submitted to the President and the Congress, the Repayment Study used as a basis for establishing rate levels should properly include only those projects which will be in service during the rate period. The Repayment Study in this annual report and the new FCRPS Repayment Studies that will be used in the upcoming 1983 Initial Rate Proposal submittal for the scheduled November 1, 1983, wholesale power rate increase include only those Federal power facilities expected to be in service during the cost evaluation period.

The authorized projects that will not be included in the new Repayment Studies, their estimated capital investments in 1983 dollars, and their estimated completion dates are set forth in the table below.

These projects will be included in future repayment studies for rate purposes only when they are completed and placed in service.

Libby Units		
No. 5	July 1984	$ 15 million
Cougar Unit No. 3		$ 30 million
Strube Unit No. 1		$ 57 million
McNary Second Powerhouse	Aug. 1990	$715 million
John Day additional units	July 1997	$146 million

BPA High-Voltage Test Lab at Ross Complex.



Accountants Report

Coopers & Lybrand

Certified Public Accountants

Administrator
Bonneville Power Administration
United States Department of Energy

We have examined the statement of assets and liabilities of the Federal Columbia River Power System (FCRPS) as of September 30, 1982 and 1981, and the related statements of revenues and expenses, changes in federal investment and source and use of funds for the fiscal years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As more fully discussed in Note 1 to the financial statements, the FCRPS financial statements have been prepared in accordance with accounting principles and standards prescribed by applicable legislation and executive directives of government agencies. These accounting principles differ in some respects from generally accepted accounting principles. FCRPS revenues needed to recover the costs of generating facilities are based on required repayment periods which are shorter than the periods over which such facilities are depreciated. Under generally accepted accounting principles, revenues based upon cost recovery and the related costs should be included in the determination of net revenues in the same accounting period. Accordingly, the financial statements are not intended to present financial position and results of operations in conformity with generally accepted accounting principles.

In our report dated December 11, 1981, our opinion on the 1981 financial statements was qualified as being subject to the effects, if any, on those financial statements of resolution of certain cost allocations for multipurpose projects between power and nonpower purposes. As a result of developments in and current assessments of the status of this uncertainty, as discussed in Note 5 to the financial statements, FCRPS is now of the opinion that resolution of these cost allocations will not materially affect its financial position. Accordingly, our present opinion on the 1981 financial statements, as presented herein, is different from that expressed in our previous report.

Contingencies discussed in Notes 13 and 14 arising from an initiative measure passed by voters of the State of Washington and from the termination of Washington Public Power Supply System Nuclear Projects Nos. 4 and 5 (in which projects FCRPS has no direct interest or commitments) might adversely affect FCRPS obligations under its net billing agreements, described in Note 7, for the Supply System's Nuclear Projects Nos. 1, 2 and 3.

As described in Notes 1 and 2, power rate increases which were placed into effect on an interim basis are subject to refund with interest in the event of regulatory disapproval.

In our opinion, subject to the effects of such adjustments, if any, as might have been required had the outcome of the uncertainty relating to power rate increases referred to in the preceding paragraph been known, the financial statements referred to above present fairly the assets and liabilities of the Federal Columbia River Power System at September 30, 1982 and 1981, and its revenues and expenses, changes in federal investment and source and use of funds for the fiscal years then ended, in conformity with accounting principles described in Note 1 applied on a consistent basis.

Supplemental Schedule A showing the amount and allocation of plant investment as of September 30, 1982 was subjected to the audit procedures applied in the examination of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

Coopers & Lybrand

Portland, Oregon
December 3, 1982

Federal Columbia River Power System

Statement of Revenues and Expenses

for the fiscal years ended September 30, 1982 and 1981

	Fiscal Year	
	1982	1981
	(Thousands of Dollars)	
OPERATING REVENUES (Notes 1, 2 and 8):		
Sales of electric power:		
Publicly owned utilities	$ 463,630	$ 315,855
Privately owned utilities	418,487	153,657
Federal agencies	30,428	15,822
Aluminum industry	330,970	151,642
Other industry	26,065	14,103
	1,269,580	651,079
Other operating revenues:		
Wheeling	45,405	37,197
Other	21,818	17,053
	67,223	54,250
Total operating revenues	1,336,803	705,329
OPERATING EXPENSES:		
Operation	146,317	124,298
Maintenance	62,093	55,936
Purchase and exchange power (Notes 1, 7 and 14)	517,071	269,625
Residential energy purchased (Note 8)	428,371	
Depreciation	60,607	54,835
Total operating expenses	1,214,459	504,694
Net operating revenues	122,344	200,635
INTEREST EXPENSE (Notes 3, 6 and 10):		
Interest on federal investment:		
On appropriated funds	200,998	196,313
On Transmission System Act borrowings	85,525	49,599
Allowance for funds used during construction	(34,723)	(39,386)
Net interest expense	251,800	206,526
NET REVENUES (EXPENSE)	$ (129,456)	$ (5,891)

The accompanying notes are an integral part of the financial statements.

Federal Columbia River Power System

Statement of Assets and Liabilities

at September 30, 1982 and 1981

ASSETS	September 30 1982	September 30 1981
	(Thousands of Dollars)	
UTILITY PLANT (Notes 3 and 5):		
Completed plant	$6,839,525	$6,235,586
Accumulated depreciation	(602,004)	(553,118)
	6,237,521	5,682,468
Construction work in progress	623,400	923,905
Net utility plant	6,860,921	6,606,373
CURRENT ASSETS:		
Unexpended funds (Note 6)	125,386	91,887
Accounts receivable	7,533	16,940
Accrued unbilled revenues	75,759	55,507
Materials and supplies, at average cost	36,425	30,900
Total current assets	245,103	195,234
OTHER ASSETS AND DEFERRED CHARGES:		
Trust funds (Note 9)	5,952	6,293
Net billing advances, net of accumulated amortization ($16,697 in 1982 and $10,625 in 1981) (Note 1)	195,810	201,882
Investment in Teton and Libby Reregulating dams (Note 12)	33,361	33,337
Deferred conservation program costs, net of accumulated amortization ($1,418 in 1982) (Note 4)	59,939	
Other	24,112	56,226
Total other assets and deferred charges	319,174	297,738
	$7,425,198	$7,099,345
LIABILITIES AND FEDERAL INVESTMENT		
FEDERAL INVESTMENT:		
Net investment of U.S. Government in power facilities (Note 10)	$7,177,746	$6,812,003
Accumulated net revenues	47,292	176,748
Irrigation assistance (Note 11) $677 million and $655 million, respectively		
Total federal investment	7,225,038	6,988,751
COMMITMENTS AND CONTINGENCIES: (Notes 2, 3, 4, 5, 7, 8, 11, 12, 13 and 14)		
CURRENT LIABILITIES:		
Accounts payable	166,330	87,513
Employees accrued leave	10,437	9,309
Total current liabilities	176,767	96,822
DEFERRED CREDITS:		
Trust fund advances (Note 9)	5,952	6,293
Other	17,441	7,479
Total deferred credits	23,393	13,772
	$7,425,198	$7,099,345

The accompanying notes are an integral part of the financial statements.

Federal Columbia River Power System

Statement of Changes in Federal Investment

for the fiscal years ended September 30, 1982 and 1981

	Balance September 30, 1980	Additions (Reductions)	Balance September 30, 1981	Additions (Reductions)	Balance September 30, 1982
			(Thousands of Dollars)		
Congressional appropriations	$7,003,951	$211,334	$7,215,285	$157,571	$7,372,856
U.S. Treasury transfers to Continuing Fund	7,005		7,005		7,005
Transfers from (to) other federal agencies, net	43,836	(625)	43,211	(2,644)	40,567
Federal Columbia River Transmission System Act borrowings (Note 3)	525,000	175,000	700,000	210,000	910,000
Interest on federal investment:					
On appropriated funds	2,036,737	200,256	2,236,993	157,271	2,394,264
On Transmission System Act borrowings	66,080	49,599	115,679	85,525	201,204
Unpaid annual expense (Note 10)	112,405	(3,943)	108,462	43,727	152,189
Less:					
Interest payments	(2,102,817)	(249,421)	(2,352,238)	(242,772)	(2,595,010)
Funds returned to U.S. Treasury	(1,229,811)	(32,583)	(1,262,394)	(42,935)	(1,305,329)
Net investment of U.S. government	6,462,386	349,617	6,812,003	365,743	7,177,746
Accumulated net revenues	182,639	(5,891)	176,748	(129,456)	47,292
Total federal investment	$6,645,025	$343,726	$6,988,751	$236,287	$7,225,038

The accompanying notes are an integral part of the financial statements.

Federal Columbia River Power System

Statement of Source and Use of Funds

for the fiscal years ended September 30, 1982 and 1981

	Fiscal Year	
	1982	1981
	(Thousands of Dollars)	
SOURCE OF FUNDS:		
Operations:		
Net revenues (expense)	$(129,456)	$ (5,891)
Charges not requiring funds:		
Depreciation	60,607	54,835
Amortization of net billing advances	6,072	6,071
Amortization of deferred conservation program costs	1,418	
Funds provided from operations	(61,359)	55,015
Increase in net investment of U.S. Government	365,743	349,617
Decrease (increase) in current assets:		
Unexpended funds	(33,499)	(17,936)
Receivables	(10,845)	(29,664)
Materials and supplies	(5,525)	(4,732)
Increase in current liabilities	79,945	9,217
Other sources (uses) net	42,052	(34,482)
Total funds provided	$ 376,512	$ 327,035
USE OF FUNDS:		
Investment in utility plant, net	$ 315,155	$ 327,035
Conservation program costs	61,357	
Total funds used	$ 376,512	$ 327,035

The accompanying notes are an integral part of the financial statements.

Notes to Financial Statements

1. Basis of Preparation of Financial Statements and Summary of Significant Accounting Policies:

General

The Federal Columbia River Power System (FCRPS) includes the accounts of the Bonneville Power Administration (BPA), which purchases, transmits and markets power, and the accounts representing the Pacific Northwest generating facilities of the Corps of Engineers (Corps) and the Bureau of Reclamation (Bureau) for which BPA is the power marketing agency. Each entity is separately managed and financed, but the facilities are operated as an integrated power system with the financial results combined under the FCRPS title. Costs of multipurpose Corps and Bureau projects are assigned to the individual purposes through a cost allocation process. The portion of total project costs allocated to power is included in these statements as Utility Plant. BPA may acquire power resources but cannot own or construct generating facilities. BPA resource acquisition priorities are: conservation, renewable resources, resources using waste heat or having high fuel conversion efficiency, other resources. Properties and income are exempt from taxation.

The accounts are kept in accordance with standards and principles prescribed by the Comptroller General of the United States and the uniform system of accounts prescribed for electric utilities by the Federal Energy Regulatory Commission (FERC). FCRPS accounting policies described herein also reflect requirements of specific legislation and executive directives issued by the involved government departments (BPA is a unit of the Department of Energy; the Bureau is a part of the Department of Interior and the Corps of the Department of Defense).

Revenues

Operating revenues are recorded on the basis of service rendered. Rates established under requirements of the Bonneville Project Act and related legislation are intended to provide sufficient cash to meet all required payments for system costs (including operating expenses, payment of the federal investment and interest thereon, and costs of net billed thermal projects and assigned irrigation costs—see Notes 7, 10 and 11).

If revenues in any year are not sufficient to meet all required payments, the priority for use of revenues is: net billing credits; additional payments required for net billed thermal projects and BPA operating expenses; debt service on Federal Columbia River Transmission System Act borrowings from the U.S. Treasury; Corps and Bureau operating expenses; interest on unpaid annual expense and on the Federal investment in power facilities financed through appropriations; amortization of unpaid annual expense (see Note 10); amortization of the federal investment in power facilities financed through appropriations; irrigation repayment assistance. Presently no irrigation repayment assistance is required until 1997. If insufficient cash is available to meet all payment obligations, the priority order for the application of revenues will be used in reverse order to determine what payments will be deferred. There is no fixed annual requirement for payment of the power investment or assigned irrigation costs, the only requirement being that repayments be completed within prescribed periods. Payments to repay an investment bearing a higher rate of interest may be scheduled ahead of other investments bearing a lower rate to the extent that this is possible while still complying with prescribed repayment periods.

The rates are intended to provide for recovery of the capital investment in transmission facilities within their average estimated useful service lives and within 50 years for power generating facilities. As set forth below, these assets are being depreciated in the accounts on a compound interest method over their estimated useful lives, which currently average approximately 35 years for transmission facilities and 85 years for generating facilities. Thus, annual depreciation charges are not matched with the recovery of the related capital costs and will, in the case of generating facilities, continue beyond the period within which such costs will have been recovered through revenues.

Regulatory Authorities

Effective January 1, 1979, the Secretary of Energy delegated authority to the Assistant Secretary for Resource Applications to develop, acting by and through the Administrator, and to confirm, approve and place in effect on an interim basis, power and transmission rates. This authority was exercised in approving BPA's 1979 wholesale power rates which became effective on December 20, 1979. At the same time, FERC was given authority to confirm and approve on a final basis, or to disapprove but not to modify, such rates. The Pacific Northwest Electric Power Planning and Conservation Act (the Regional Act) established authority in the Secretary of Energy to approve BPA's rates on an interim basis effective until July 1, 1982. The Secretary delegated this authority to the Assistant Secretary for Conservation and Renewable Energy and the Assistant Secretary acted under this authority in approving BPA's July 1, 1981 wholesale power and transmission rates on an interim basis. Refunds with interest are authorized if rates finally approved are lower than rates approved on an interim basis. Effective July 1, 1982, FERC has sole authority to approve both interim and final rates.

Utility Plant and Depreciation

Utility plant is stated at original cost. Cost includes direct labor and materials, payments to contractors, indirect charges for engineering, supervision and similar overhead items, and an allowance for funds used during construction. The cost of additions, renewals and betterments is capitalized. Repairs and minor replacements are charged to operating expenses. With minor exceptions, the cost of utility plant retired, together with removal costs and less salvage, is charged to accumulated depreciation when it is removed from service.

Depreciation of utility plant is computed based on the estimated service lives of the various classes of property using the compound interest method (rates from 2½% to 5⅝%). Service lives currently average approximately 35 years for transmission plant and 85 years for generating plant.

Depreciation provisions recorded in the accounts, expressed as a percent of the average cost of plant in service, approximated 2.0% in 1982 and 1.9% in 1981 for transmission plant and 0.4% in each such year for generating plant. The compound interest method adopted pursuant to executive directives of government agencies results in increasing depreciation charges in the later years of service lives.

Allowance for Funds Used During Construction

The allowance for funds used during construction (AFUDC) represents capitalization of the interest on federal investment applicable to utility plant under construction. AFUDC results in a noncash reduction of interest expense with a corresponding increase in utility plant, in accordance with accounting requirements of FERC.

Rates used are based upon interest rates stipulated for certain generating projects (2½% to 9.0%) and rates approximating the cost of borrowings from the U.S. Treasury for other construction (11.45% to 15.8% during the two years ended September 30, 1982).

Energy Conservation Costs

Energy conservation program expenditures are deferred and amortized over the estimated period of benefit.

Thermal Plant Net Billing Advances and Amortization

Net billing agreements provide that BPA make payments and/or grant billing credits prior to a nuclear project's date of commercial operation. Payments and billing credits totaling $212.5 million made prior to December 20, 1979 for Washington Public Power Supply System (Supply System) Nuclear Project No. 2 are included as deferred charges under the caption "net billing advances" in the accompanying statement of assets and liabilities and are being amortized ratably over 35 years. Similar payments and billing credits made since December 20, 1979 have been charged directly to Purchase and Exchange Power expense since subsequent increased power rates effective on an interim basis were specifically designed to provide for their recovery on a current basis.

Research and Development

Research and development costs, including depreciation of the cost of facilities constructed for research and development activities, are charged to expense. Costs charged to expense totaled approximately $13.7 million in 1982 and $9.0 million in 1981.

Retirement Benefits

Substantially all employees engaged in FCRPS activities participate in the federal government's Civil Service Retirement Fund, a contributory pension plan. Retirement benefit expense is equivalent to 7% of eligible employee compensation.

2. Revenues Subject to Refund:

On December 20, 1979 and July 1, 1981 increased power rates were placed into effect on an interim basis. Wheeling rates charged for transmission of nonfederal power were placed into effect on July 1, 1981 on an interim basis. In 1980, FERC remanded the increased power rates without prejudice for further development of the records in order to establish their conformity with applicable statutory standards. BPA has responded to the remanding and FERC is considering BPA's response.

Revenues resulting from increases in rates which are subject to refund (interest has not been included) at September 30, 1982 are as follows:

	Related to Fiscal Years			
	1982	1981	Prior to 1981	Total
	(Thousands of Dollars)			
Power sales:				
Rate order effective December 20, 1979	$322,832	$289,238	$195,775	$ 807,845
Rate order effective July 1, 1981	369,042	39,300		408,342
Total power sales subject to refund	691,874	328,538	195,775	1,216,187
Wheeling:				
Rate order effective July 1, 1981	15,858	1,432		17,290
Total revenues subject to refund	$707,732	$329,970	$195,775	$1,233,477

BPA is implementing new power sales and wheeling rates effective October 1, 1982. These rates have been approved on an interim basis by FERC.

3. Financing of FCRPS Construction Program:

The Federal Columbia River Transmission System Act (Act), approved October 18, 1974, authorized BPA to use its operating receipts and proceeds from sales of revenue bonds to finance further construction of the federal transmission system in the Pacific Northwest. Prior to the enactment of this legislation, the transmission system construction program was financed through the appropriation process. Construction performed by the Corps and the Bureau continues to be financed through annual Congressional appropriations. In order to assist in financing the

construction, acquisition and replacement of the transmission system, the Act authorizes BPA to issue to the U.S. Treasury and have outstanding at any time up to $1.25 billion of bonds, notes or other evidences of indebtedness bearing interest and having terms and conditions comparable to those prevailing in the market for similar bonds issued by government corporations.

	Outstanding at September 30,	
	1982	1981
	(Thousands of Dollars)	
Thirty-five year bonds at:		
8.95%, due September 30, 2013	$ 50,000	$ 50,000
9.45%, due June 30, 2014	75,000	75,000
9.90%, due September 30, 2014	50,000	50,000
13.00%, due September 30, 2015	115,000	115,000
16.60%, due September 30, 2016	175,000	175,000
14.40%, due December 31, 2016	50,000	
14.40%, due April 30, 2017	100,000	
14.15%, due July 31, 2017	85,000	
Total bonds	700,000	465,000
One year notes at:		
16.85%, due September 30, 1982		235,000
10.65%, due September 30, 1983	210,000	
Total borrowings	$910,000	$700,000

BPA's construction budget for fiscal year 1983 is $218 million, for which substantial commitments have been incurred. Fiscal 1983 construction appropriations for power facilities have been authorized by Congress for the Corps and the Bureau totaling $207 million and $36 million, respectively.

4. Financing of BPA Energy Conservation and Renewable Resources Acquisition Programs:

The Regional Act, effective December 5, 1980, expanded BPA's borrowing authority under the Transmission System Act to include borrowings to implement the Administrator's authority under the Regional Act (including his authority to provide financial assistance for energy conservation measures, renewable resources, and fish and wildlife programs, but not including the authority to acquire electric power from a generating facility having a planned capability of greater than 50 average megawatts). Additionally, beginning October 1, 1981 BPA's borrowing authority under the Transmission System Act was increased from $1.25 billion to $2.5 billion, as provided in advance in annual appropriation acts. The entire increase is reserved for the purpose of providing funds for conservation and renewable resource loans and grants. Energy conservation expense was $1,418,000 for fiscal 1982. At September 30, 1982 no borrowings have been made under the new authority. No expenses were recorded in fiscal 1981. BPA's energy conservation and resource acquisition budget for fiscal year 1983 is $253 million, for which substantial commitments have been incurred.

5. Cost Allocations:

Allocations of plant cost and operation and maintenance expenses between power and nonpower purposes for seven Corps projects are presently based on tentative allocations. At September 30, 1982, total costs for these seven projects approximated $2.7 billion of which $2.2 billion was tentatively allocated to power and subject to adjustment. Any adjustments would probably involve only joint (benefiting both power and nonpower uses) costs approximating $1.4 billion of which $1.0 billion has already been tentatively allocated to power. Accordingly, management estimates the amount of any adjustments that may be necessary when the allocations for these seven projects become final would not be material to the financial statements.

Under certain circumstances, final cost allocations can be changed, but Congressional approval may be required for any significant change. If a change in a final cost allocation were made, any related adjustments would most likely be prospective.

6. Unexpended Funds:

	1982	1981
	(Thousands of Dollars)	
Corps and Bureau unexpended appropriated funds	$ 43,189	$43,880
BPA cash balances with U.S. Treasury	82,197	48,007
	$125,386	$91,887

FCRPS receives credit for interest on unexpended appropriated funds by deducting them from the unamortized federal investment in determining the required interest payable on the federal investment. The Treasury gives BPA credit for its cash balances in determining interest charges. The interest expense on Treasury borrowings reflects reductions of $13.8 million in 1982 and $6.5 million in 1981 arising from credits for cash balances.

7. Purchase and Exchange Power Expense and Commitments to Exchange Power and Acquire Project Capability:

BPA has acquired from a group of utilities (participants) under net billing agreements all or part of the generating capability of the nuclear power plants listed in the table below. The agreements require that BPA pay the participants' portions of the annual project budgets, which include debt service, whether or not the projects are completed or operable. Annual project budgets have not included provisions for any future costs associated with spent fuel reprocessing, off-site storage of spent fuel or plant decommissioning.

BPA's commitment period under the net billing agreements extends for the life of the projects. The BPA estimated annual project costs related to these projects for the next five years is presented in the schedule below. The "Present Termination Commitment" represents the outstanding debt issued to finance the projects (without inclusion of costs and credits which would be associated with termination of construction, salvage of assets and utilization of unspent construction funds) which would be payable, plus interest, over the varied financing repayment periods if the projects were terminated as of September 30, 1982.

dependent upon factors such as the forecasted power supply needs in the Pacific Northwest and the cost effectiveness of Project No. 1 relative to other available resources. See Notes 13 and 14 for further discussion concerning the financing of these projects.

Following is an analysis of amounts included in purchase and exchange power expense:

	1982	1981
	(Thousands of Dollars)	
Trojan Nuclear Project:		
Share of annual generation costs	$ 40,818	$ 40,678
Supply System Nuclear Projects:		
WNP No. 1	173,362	99,390
WNP No. 2	168,047	106,246
WNP No. 3	40,000	
Power purchased from nonfederal resources for resale	94,844	23,311
	$517,071	$269,625

		Estimated BPA Portion								
						Estimated Annual Project Costs				
Project and % Capability Acquired	Projected in Service Date	Capacity In Megawatts	Present Termination Commitment	Additional Estimated Financing Requirements for Projects Under Construction		1983	1984	1985	1986	1987
			(Thousands of Dollars)							
Supply System Hanford Project (100%)	Operational	860	$ 40,215		Debt Service	$ 4,222	$ 4,241	$ 4,247	$ 4,158	$ 4,167
					Operations	8,400	34,400	36,900	39,600	42,300
Net billed projects:										
Trojan Nuclear Project (30%)	Operational	339	142,890		Debt Service	10,559	10,560	10,559	10,561	10,559
					Operations	30,381	33,913	36,290	39,005	41,713
WNP No. 1 (100%)	June 1991	1,250	2,155,000	$2,297,000	Debt Service	201,100	230,500	292,000	356,100	390,500
WNP No. 2 (100%)	February 1984	1,100	2,370,000	149,000	Debt Service	231,400	230,300	230,900	235,300	235,100
					Operations		74,100	118,400	127,800	139,500
WNP No. 3 (70%)	December 1986	868	1,600,000	961,000	Debt Service	186,400	221,600	254,900	266,200	266,400
					Operations					88,500
			$6,308,105	$3,407,000		$672,462	$839,614	$984,196	$1,078,724	$1,218,739

Amounts shown for WNP Nos. 2 and 3 are from the Supply System's fiscal 1983 budgets, adjusted for expected future bond issues. WNP No. 1 amounts are based on current bond issues adjusted for estimated additional requirements.

In April 1982, BPA initiated an extended construction delay of Project No. 1 for a period of up to five years. Restart of construction and the need for additional financing will be

BPA has also entered into an agreement with a group of utilities to exchange an agreed amount of power annually for their rights to a portion of the Canadian Entitlement (one-half of the additional power benefits realized by downstream U.S. projects from three Canadian Treaty dams for a 60-year period). The portion of the Canadian Entitlement was purchased for a 30-year period from the completion of each dam (the last dam was placed in service in 1973) by 41 Pacific Northwest utilities. BPA furnishes specified amounts of power to the utilities regardless of entitlement power generated. BPA's minimum average energy commitment to the utilities declines annually from approximately 545 megawatts currently to approximately 100 megawatts in the last year of the exchange agreement (2003).

8. Residential Energy Exchange:

As provided for in the Regional Act, Section 5(c), BPA entered into residential energy purchase and exchange sales contracts effective October 1, 1981 with several electric utilities. These contracts provide for sales of electric power to BPA not in excess of a portion of each utility's residential load (the load increases ratably from 50% to 100% over five years) at the average system cost of the utility's resources in each year. In exchange, BPA is required to sell to the utilities electric power not in excess of the utilities' residential loads at BPA's priority firm power rates. Purchases and sales of electric power by BPA during fiscal 1982 under these contracts were as follows:

	1982
	(Thousands of Dollars)
Residential energy purchased (included in operating expenses)	$428,371
Residential energy sold (included in operating revenues)	211,778
Net residential energy purchased	$216,593

The Regional Act provides in Section 7(c)(1)(A) that the net residential exchange costs projected to be incurred in each rate period prior to July 1, 1985 be included in the direct service industrial rates to the extent such costs are not allocated to rates applicable to other customers.

Regional Act Section 7(b)(3) provides that, in the event an overall net revenue surplus or deficiency exists for the period ending June 30, 1985, the portion of such surplus or deficiency caused by (1) a difference between projected and actual power deliveries to the direct service industrial customers during that period and (2) an underrecovery or overrecovery of the net costs of the exchange resulting from such differences be recovered from or repaid to customers, over a reasonable period of time, on the basis of sales of power during that period, other than power sold under Section 7(b).

Management is currently developing a methodology for determining and allocating the amount to be recovered or repaid. The proposed methodology must be the subject of a Section 7(i) rate hearing before becoming final.

9. Trust Funds and Trust Fund Advances:

These balance sheet amounts comprise funds received by BPA from customers and others for the purchase of nonfederal power for customers' benefit and for construction to be done for others.

10. Net Investment of U.S. Government:

The federal investment in each of the generating projects and for each year's investment in the transmission system is being repaid to the U.S. Treasury within 50 and 35 years, respectively, from the time the facility is placed in service. Although no mandatory repayments are due within the next five years, some amortization payments are expected to be made during such period.

Amounts are normally expected to be paid annually for interest on outstanding federal investment, net of interest capitalized on projects financed through appropriations, and for operating expenses of the Corps and Bureau funded by annual appropriations. To the extent that funds are not available for payment, such amounts become payable from subsequent years' revenue prior to any payment for amortization of federal investment. Revenues were not sufficient to pay all these annual amounts and payment of $43.7 million of interest on appropriated funds was deferred in 1982 and $108.5 million was deferred from 1981 and prior.

Interest rates (other than on Transmission System Act borrowings) range from 2½% to 9% (the weighted average rate was approximately 3.3% in 1982 and 1981). The rates have been set either by law, by administrative order pursuant to law, or by administrative policies, and have not necessarily been established to recover the interest costs to the U.S. Treasury to finance the investment. See Note 1—Revenues and Notes 11 and 12 for additional information concerning repayment requirements and policies.

11. Repayment Responsibility for Irrigation Costs:

Legislation requires that FCRPS net revenues will be used to repay to the U.S. Treasury that portion of the cost allocated to irrigation of any Pacific Northwest project authorized by Congress and determined by the Secretary, Department of Interior, to be beyond the ability of the irrigation water users to repay. The use of power revenues for such repayment represents a payment for irrigation assistance to the benefiting water users and, while paid by power ratepayers, such costs do not represent a regular operations cost of the power program and are not included therein. Irrigation assistance payments amounting to $677 million are returnable from power revenues and will be reflected as reductions of accumulated net revenues at the time future payments are made. The first payment is scheduled to be made in 1997.

12. Investment in Teton Dam and Libby Reregulating Dam:

On June 5, 1976, before the project had been completed and turned over for the use of FCRPS, a breach occurred in the Teton Dam and the project was extensively damaged. The total investment in the project at September 30, 1982 (excluding interest totaling approximately $2,678,000 subsequent to June 1976 which has been charged to expense) was $79.2 million. The amount of investment allocated to power was $13.9 million, and the amount of investment allocated to irrigation but repayable from power revenues was $46.5 million. Disposition of the project's costs and final decision as to the repayment obligation are dependent upon Department of the Interior administrative action and/or Congressional action. If repayment is not required, the cost associated with the investment in power facilities (and recovery of the related $2.7 million interest) will be charged off against the investment of the U.S. Government. Should FCRPS be directed to repay, the costs will be recovered through rates. Until a decision is made, the investment allocated to power is included as a deferred charge in the statement of assets and liabilities and the cost of applicable irrigation assistance is included in the total of other irrigation costs described in Note 11.

On September 8, 1978 the Corps was enjoined from continuing construction of a reregulating dam at Libby, Montana because of a lack of specific Congressional authority. Subsequent appeals by the Corps for removal of the injunction were denied. The total investment in the reregulating dam was $19.5 million at September 30, 1982. If authority to complete the dam is not granted by Congress and repayment is not required, the federal investment will be reduced by the unrecovered amount of the investment. Should FCRPS be directed to make repayment, the investment will be recovered through rates. Until a decision is made, the investment is included as a deferred charge in the statement of assets and liabilities.

13. Litigation:

In 1981 Central Lincoln Peoples' Utility District, et al., filed suit in the U.S. Court of Appeals, Ninth Circuit, alleging that certain sections of BPA's new contracts with direct-service industrial (DSI) customers under section 5(g)(1) of the Regional Act violated the preference clause of the Bonneville Project Act and certain provisions of the Regional Act, that the Administrator acted arbitrarily and capriciously and beyond his jurisdiction in offering the initial contracts to DSI customers which provided them a greater amount of power than their 1975 contracts, and that the initial contracts violate certain provisions in the Pacific Northwest Coordination Agreement. The court held that the power sales contracts offered by BPA to the DSI customers pursuant to Section 5(g) of the Regional Act violated the preference and priority provisions of Sections 5(a) and 10(c) of the Regional Act. As a result, the court invalidated specified sections of the Section 5(g) contracts between BPA and the DSI customers. BPA filed a motion for a rehearing en banc, which was denied. BPA is considering the options available to it. The court's decision with respect to the DSI contracts is not currently expected to have a material effect on FCRPS operations or financial position. Six cases have been filed by the major classes of BPA's customers to preserve the court's jurisdiction to adjudicate any rights that would remain unresolved in a decision in the Central Lincoln Peoples' Utility District litigation discussed above. These cases were filed immediately before expiration of the 90-day limitation set in Section 9(e)(5) of the Regional Act, after which the contracts offered by BPA to its customers would not be subject to judicial challenge.

In 1981, Central Lincoln People's Utility District, et al., filed suit in the U.S. Court of Appeals, Ninth Circuit, alleging that BPA's final proposed 1981 rates, adopted on June 24, 1981, (1) violate applicable statutory provisions in both the level and design of the rate schedules, and (2) that BPA has denied plaintiffs meaningful due process and protection guaranteed by the Regional Act and the Administrative Procedures Act. The suit seeks an order (1) declaring the final proposed rates invalid, (2) enjoining collection of revenues based on these rates, and (3) refund of any revenues collected allegedly in excess of the rate schedules allowed by law. In the opinion of the BPA General Counsel, BPA should prevail on those issues having a significant impact on BPA's revenues. If the court should find that BPA's rate structure is improper, any future rates will be structured to take into account any shortfall in BPA's revenues due to the court's decision.

Eight cases have been filed by the major classes of BPA's customers alleging substantially the same issues discussed in the preceding paragraph. They have joined in the litigation to protect their rights as they may be affected by the main litigation. All of the cases have been consolidated by the court. The court has raised on its own motion the question whether it has jurisdiction until FERC has entered a final order approving BPA's rates.

On November 3, 1981, the voters of the State of Washington passed Initiative 394, which provides that no public body "may issue or sell bonds to finance the cost of construction or the cost of acquisition of a major public energy project, or any portion thereof, unless it has first obtained authority for the expenditures of the funds to be raised by the sale of bonds for that project at an election conducted in the manner provided in this chapter." The initiative also requires a cost-effectiveness study of the major public energy project under consideration prior to the vote by eligible voters on such bond issue. The Bond Fund Trustees for WNP Nos. 1, 2 and 3 have instituted litigation challenging the constitutionality of the initiative. They allege, among other things, that the initiative impairs the validity of the contracts between the Supply System and the bondholders and violates the supremacy clause of the U.S. Constitution. The defendants are the Governor, Attorney General, and Secretary of State for the State of Washington and the Benton County, Washington Auditor. The Don't Bankrupt Washington Committee, which sponsored the initiative, was permitted to intervene. The Department of Justice filed an independent lawsuit challenging the constitutionality of Initiative 394. The allegations in the complaint are substantially similar to those in the Bond Fund Trustees' complaint. This case was consolidated with the Bond Fund Trustees' case and they were tried together on June 28 and 29, 1982. A decision was rendered in favor of the plaintiffs which has been appealed to the Ninth Circuit Court of Appeals. If the initiative were not declared invalid and a bond issue were not to be approved by the voters, it could require cessation of construction of the project involved. In the event the project(s) were terminated and the Supply System was unable to raise the funds necessary to pay its debts, the related outstanding bonds (totaling $6.125 billion at September 30, 1982 as set forth in Note 7) might be declared immediately due and payable. In the opinion of the BPA General Counsel, the plaintiffs should prevail on appeal.

In November 1982, the City of Springfield filed an action against the Supply System, the participants and BPA in the U.S. District Court for the District of Oregon requesting a declaratory judgment to determine whether the participants in the Supply System's Nuclear Projects Nos. 1, 2, and 3 had legal authority to enter into the net billing agreements for these projects or, in the alternative, if they are found not to have the authority, to declare that BPA is liable to make the payments and is estopped to claim lack of obligation to do so. The plaintiff has also named as defendants the participants in the projects and the investor-owned utilities that own a 30-percent share in WNP No. 3. Also named are Portland General Electric Company as constructor of the Trojan Nuclear Plant and 68.5 percent owner, Pacific Power and Light Company, 1.5 percent owner, and Eugene Water and Electric Board, 30 percent owner whose interest has been assigned to BPA. This case is an outgrowth of DeFazio, et al. v. The City of Springfield, et al., which was brought in the Circuit Court of the State of Oregon for Lane County by ratepayers to challenge the authority of the City and other participants in the Supply System's Projects WNP No. 4 and WNP No. 5 to participate in those projects. In the DeFazio case, the court issued a preliminary opinion on November 5 holding, among other things, that the participants' agreements constituted general obligations and that the City and other Oregon participants did not have authority to enter into the participants' agreements on those projects without submitting the question of participation to the voters of the respective entities. An appeal of the decision will be filed as soon as the final judgment is entered. The City of Springfield case was filed to resolve the cloud on the authority of the participants to enter into the net billing agreements on Projects Nos. 1, 2 and 3, as well as the correlative rights of the owners in 30 percent of WNP No. 3 and in the Trojan plant. In the opinion of the BPA General Counsel, the facts and the law should result in holding that the participants in WNP No. 1, WNP No. 2, and 70 percent of WNP No. 3 had authority to enter into the net billing agreements and that the ownership interests in WNP No. 3 and in the Trojan plant are not adversely affected. In the event the above legal actions result in decisions which are unfavorable to BPA, additional financing for WNP Nos. 1, 2 and/or 3 may not be available.

Certain other claims, suits and complaints have been filed or are pending against entities of FCRPS, including litigation relating to the installation of additional generating capacity at Bonneville and Libby dams and construction of certain transmission lines. In the opinion of counsel and management, these actions are either without merit, involve amounts which are not significant to FCRPS' financial position or results of operations, or primarily affect the overall cost of construction projects which will be capitalized and recovered through future power rates.

14. Contingencies Related to Termination of WNP Nos. 4 and 5:

WNP Nos. 1 and 4 were designed to be constructed as twin projects on a site near Richland, Washington; WNP Project No. 2 is being constructed on a site approximately one mile away. WNP Nos. 3 and 5 were to be constructed as twin projects on a site near Aberdeen, Washington. The twin plants were designed to share some common facilities. BPA is not committed to take or pay for any output of Project Nos. 4 and 5. However, in 1976 the Supply System, the participants in the projects, and BPA agreed that the costs of the facilities common to both twin projects would be shared on an equal basis.

After Projects Nos. 4 and 5 were terminated in January 1981, before their completion, the participants in those projects made a demand upon the Supply System that it retroactively reallocate the costs of common facilities entirely to net-billed Projects Nos. 1 and 3. BPA has recommended to the Department of Justice that it initiate a suit for declaratory judgment to determine the proper method of allocating costs on the twin projects in view of the demand of the Projects Nos. 4 and 5 participants. The participants' demand, if sustained, would result in an additional allocation of costs ranging from $192 million to $400 million or more being assessed to net-billed projects Nos. 1 and 3. It is BPA's position that the participants expressly agreed to the equitable cost-sharing method and that they are bound by their agreement. The Supply System has anticipated the filing of the BPA case by filing a similar action in a Federal District Court in the State of Washington. It is the opinion of the BPA General Counsel that BPA's position would be upheld. In the event a court decides the case adverse to BPA's position, the costs of completing the net-billed projects would be increased by the amount of the reallocation and these costs would have to be reflected in BPA's rates.

Financing arrangements for termination of WNP Nos. 4 and 5 have not yet been finalized. In the event that these projects should have insufficient funds to pay all valid claims, their creditors might seek, through legal process, to reach funds or revenues of Projects Nos. 1, 2 and 3. The outcome of any such litigation would be uncertain. Additionally, should the Supply System enter into voluntary bankruptcy, it is conceivable that the bankruptcy court in exercising its plenary authority could commingle the assets of Projects Nos. 1, 2 and 3 with those of Nos. 4 and 5.

Also, several of the participants in WNP Nos. 4 and 5 have taken action in the U.S. Claims Court against the United States of America to recover damages on the ground that BPA allegedly induced them to participate in the construction of those projects. They contend that BPA had oversold power to the DSI customers and, based on their anticipated electric power demands in the region, the power to be generated by the projects would be needed to meet BPA's commitments to deliver firm power to its preference customers. In the opinion of the BPA General Counsel, the facts and the law do not support the plaintiffs' allegations and the government should prevail.

As set forth in Note 1, all costs of FCRPS, including any which might occur as a result of the above mentioned contingencies, are to be recovered by BPA from its customers. Although it does not currently have the ability to borrow for purposes other than those enumerated in Notes 3 and 4, BPA can defer certain payments due to the U.S. Treasury in order to meet its short-term cash needs. BPA management estimates that such deferrals, together with revenues from power sales and borrowings for transmission construction and Regional Act purposes, will be sufficient during fiscal year 1983 to fund its obligations including those under the net billing agreements for Projects Nos. 1, 2 and 3 as currently budgeted by the Supply System. Although contingencies discussed in this and the preceding note on litigation could conceivably result in acceleration of debt service payments required of BPA under the net billing agreements and bond resolutions for Projects Nos. 1, 2 and 3 or a permanent inability to continue financing such projects, in the opinion of BPA General Counsel, the possibility of either such event occurring is remote.

Schedule of Amount and Allocation of Plant Investment

as of September 30, 1982 (Thousands of Dollars)

		Commercial Power			Irrigation			Nonreimbursable					
Project	Total	Completed Plant	Construction Work in Progress	Total Commercial Power	Returnable from Commercial Power Revenues	Returnable from Other Sources	Total Irrigation	Navigation	Flood Control	Fish and Wildlife	Recreation	Other	Percent of Total from Commercial Power Revenues
Projects in service:													
Transmission facilities (BPA)	$2,484,864	$2,175,733	$309,131	$2,484,864									100.0%
Albeni Falls (CE)	33,814	32,157	25	32,182				$ 135	$ 174		$ 1,323		95.2%
Boise (BR)	76,144	5,682	2,898	8,580	$ 12,441	$ 38,438	$ 50,879		16,685				27.6%
Bonneville (CE)	755,964	622,019	87,688	709,707				42,924			1,272	$ 2,061	93.9%
Chief Joseph (CE) (a)	473,589	466,672		466,672	739		739				2,115	4,063	98.5%
Columbia Basin (BR)	1,517,603	747,235	133,218	880,453	500,689	83,206	583,895	1,000	48,655	$ 3,074		526	91.0%
Cougar (CE)	60,555	18,441	13	18,454		3,072	3,072	547	38,274			208	30.5%
Detroit-Big Cliff (CE)	67,081	40,659	45	40,704		5,098	5,098	222	21,057				60.7%
Dworshak (CE)	350,302	296,068	123	296,191				9,372	33,724		11,015		84.6%
Green Peter-Foster (CE)	90,551	49,993	21	50,014		5,839	5,839	366	30,415		1,856	2,061	55.2%
Hills Creek (CE)	49,017	17,449	40	17,489		4,321	4,321	627	26,308			272	35.7%
Hungry Horse (BR)	101,647	76,979	11	76,990					24,657				75.7%
Ice Harbor (CE)	194,173	132,581	12,683	145,264				46,385			2,524		74.8%
John Day (CE) (a)	533,971	390,465	1,360	391,825				89,180	15,102		11,455	26,409	73.4%
Libby (CE) (a) (d)	580,714	421,205	35,330	456,535					87,080		5,591	31,508	78.6%
Little Goose (CE) (a)	250,839	180,350	12,632	192,982				51,202			4,051	2,604	76.9%
Lookout Point-Dexter (CE)	97,784	46,546	86	46,632		1,374	1,374	734	48,429		521	94	47.7%
Lost Creek (CE) (a)	148,737	26,681	8	26,689		1,983	1,983		52,825	24,257	29,193	13,790	17.9%
Lower Granite (CE) (a)	404,790	316,898	12,707	329,605				55,005			12,338	7,842	81.4%
Lower Monumental (CE) (a)	269,726	205,144	12,646	217,790				48,697			2,822	417	80.7%
McNary (CE)	345,305	272,942	2,314	275,256				67,740			2,309		79.7%
Minidoka-Palisades (BR)	198,691	14,017		14,017	10,280	107,709	117,989		60,800	299	5,586		12.2%
The Dalles (CE)	324,867	278,968	409	279,377				43,386			2,082	22	86.0%
Yakima (BR)	71,393	4,641	12	4,653	11,939	52,665	64,604		745	1,153	238		23.2%
Irrigation assistance at 12 projects having no power generation	131,584				83,717	47,867	131,584						63.6%
Plant investment	9,613,705	6,839,525	623,400	7,462,925	619,805	351,572	971,377	457,522	504,930	28,783	96,291	91,877	84.1%
Repayment obligation retained by Columbia Basin Project	2,211	1,352		1,352(b)	859		859						100.0%
Other repayment obligation	9,607				9,607		9,607						100.0%
Investment in Teton and Libby Projects (d)	98,659		33,361	33,361	46,588	4,146	50,734		12,247		2,317		81.0%
	$9,724,182	$6,840,877	$656,761	$7,497,638	$676,859	$355,718	$1,032,577	$457,522	$517,177	$28,783	$98,608	$91,877(c)	84.1%

BPA—Bonneville Power Administration
CE—Corps of Engineers
BR—Bureau of Reclamation

(a) Projects in service that have tentative cost allocations at September 30, 1982. $104,981,000 (100%) of joint costs related to additional units at Chief Joseph are tentatively allocated to power.
(b) Joint facilities transferred to Bureau of Sport Fisheries and Wildlife. This portion is included in other assets and deferred charges in the accompanying statement of assets and liabilities.
(c) Included in this amount are nonreimbursable road costs amounting to $83.7 million.
(d) The $13,861,000 commercial power portion of the Teton Dam and the $19,500,000 portion of Libby related to the reregulating dam are included in other assets and deferred charges in the accompanying statement of assets and liabilities. Teton amounts exclude interest totaling approximately $2,678,000 subsequent to June 1976 which has been charged to expense.

Federal Columbia River Power System Schedule B

Reconciliation of Cost Accounting Financial Statements To the Repayment Study for Fiscal Year Ended Sept. 30, 1982

In Thousands	Cumulative Balance 9/30/81	Fiscal Year 1982 Operations	Cumulative Balance 9/30/82	Cumulative Adj. to Repayment Basis	Cumulative Data Thru 9/30/82 on Repayment Study
Operating Revenues	$5,147,269	$1,336,803	$6,484,072	$(134,327)	$6,349,745
Expenses:					
Purchases and Exchange Power	788,664	945,442	1,734,106	195,811	1,929,917
Operation and Maintenance Expense	1,531,373	208,410	1,739,783	(1,417)	1,738,366
Interest Expense	1,921,217	251,800	2,173,017	(2,246)	2,170,771
Depreciation	729,267	60,607	789,874	(789,874)	–
Total Expense	4,970,521	1,466,259	6,436,780	(597,726)	5,839,054
Net Revenues	$ 176,748	$ (129,456)	$ 47,292		
Reconciliation to Cumulative Revenues Available for Amortization:					
Revenue Requirement Available for Amortization					510,691
Unpaid Annual Expense					152,189
Adjustment to Cash Amortization					(17,862)
Cumulative Revenues Available for Amortization			47,292	597,726	645,018(a)
Plant Investment:					
Completed Plant			6,839,525		
Retirement Work in Progress			20,907		
Repayment Obligation Retained by Columbia Basin Project (Schedule A)			1,352		
Net Retirements			168,326		
Bonds Sold to Finance 1983 Plant in Service				100,710	
Conservation Investment				61,357	
			7,030,110	162,067	7,192,177
Less: Revenues Available for Amortization					645,018(a)
Less: Adjustment to Cash Amortization					17,862
Unamortized Plant Investment					6,529,297
(a) Changes in Cumulative Revenues Available for Amortization					
Cumulative Revenues Available for Amortization Through September 30, 1981					$ 706,378
Fiscal Year 1982:					
Depreciation					60,607
Net Revenues (Expense)					(129,456)
Purchase and Exchange Power Adjustment to Cash Basis					6,072
Amortization of Conservation Program Costs					1,417
Revenues Available for Amortization for the Year					(61,360)
Cumulative Amortization Through September 30, 1982					645,018
Plus Adjustment to Cash Amortization					17,862
Cumulative Amortization through September 30, 1982					$ 662,880

Customer Service Areas

The Bonneville Power Administration was created in 1937 to market power from Bonneville Dam and construct powerlines to transmit this power to load centers. As other Federal dams and lines were built in the region, the combined generation and transmission facilities became known as the Federal Columbia River Power System.

Today BPA markets power from 30 Federal dams. To accomplish its mission, BPA has constructed more than 13,000 circuit miles of transmission lines. The system is now one of the world's largest and most reliable networks of long distance, high-voltage lines. They serve Washington, Oregon, Idaho, western Montana, and small neighboring portions of California, Nevada, Wyoming, and Utah.

BPA sells surplus power – power for which there is no market in the Northwest – to California and southwestern utilities via the Pacific Intertie, three long, high-capacity lines. A 1964 law gives the Northwest first call on this power. Revenue from these sales helps to hold down BPA's electric rates.

BPA has paid its own way with interest since 1937 when it was created by Congress. It has been self-financing since 1974 when Congress passed the Federal Columbia River Transmission System Act. BPA is required by law to repay the Federal investment in Northwest power facilities with its revenues. It sells power wholesale to approximately 150 customers. They include utilities and large electroprocess industries. BPA is not supported by tax funds.

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