Bonneville Power Administration
1988 Annual Report

"BPA's strength depends on its relationship with its customers."

James J. Jura
BPA Administrator

Table of Contents

Financial Highlights 1
Letter to the Secretary 2
Reaching Out 4
The Bottom Line 6
Building Financial Flexibility 7
Marketing:
Success Under Changing Conditions 8
New Deals within the Region 10
Selling South 12
Stretching Our Resources 14
Toward More Efficient Loads 17
Rebuilding the Fish Runs 18
Building for the Future 21
The Use and Care of a Key Regional Resource . 22
The Fiscal Year in Review 24
Financial Section 26
Report of Independent Public Accountants . . . 34
Organization Chart 50

Bonneville Power Administration
Sam Moment Aluminum Library
Portland, Oregon

Financial Highlights

Federal Columbia River Power System
For the Fiscal Year Ended September 30, 1988

	FY 1988	FY 1987
Highlights of the year:	(Thousands of Dollars)	
Operating Revenues:		
Sales of electric power –		
Sales within the Northwest region	$ 1,769,851	$ 1,345,434
Sales outside the Northwest region	51,559	173,459
Wheeling and other sales	125,486	155,150
Total operating revenues	1,946,896	1,674,043
Total Operating Expenses	1,553,084	1,510,125
Net operating revenues	393,812	163,918
Net Interest Expense	368,547	376,468
Litigation Settlement	20,000	–
Net Revenues (Expenses)	$ 5,265	$ (212,550)

At end of year:		
Total Assets (Net of Accumulated Depreciation)	$14,064,567	$14,144,582
Total Capitalization and Liabilities:		
Accumulated net expenses	$ (580,758)	$ (586,023)
Federal appropriations	6,590,253	6,544,336
Treasury borrowings	1,792,499	1,843,799
Non-Federal projects debt	5,981,440	6,048,650
Other	281,133	293,820
	$14,064,567	$14,144,582
Employees (Staff Years)	3,298	3,398

Total Operating Revenues

Total Operating and Net Interest Expenses

To The Secretary

Honorable John S. Herrington
Secretary of Energy
Washington, D.C. 20585

Dear Mr. Secretary:

1988 was a good year for the Bonneville Power Administration and its customers. In spite of a record-setting second straight year of drought, we ended the year with net revenues of $5 million.

The U.S. Treasury received $668 million from BPA in 1988 for the Federal investment in the Columbia River power system. This is the fifth year in a row BPA has repaid more than $600 million to the Treasury. We remain fully current with our repayment obligations.

Improved Revenues

Despite the drought, our revenues improved dramatically over 1987. Three factors helped. (1) Our new rates were in effect. (2) The aluminum industry enjoyed a boom. (3) BPA shared in the industry's good fortune thanks to our variable rate. Revenues from the aluminum industry this year were almost double those of 1987. The rebounding Northwest economy used more electricity than expected, increasing BPA sales. Almost all of our revenues this year came from the Northwest.

Tight Cost Control and Improved Productivity

Our solid financial condition reflects strict cost discipline. BPA fiscal 1988 program costs were under budget. Contributing to lower costs were the benefits of the agency's reorganization completed last year. Our staff is smaller but is producing more and better results.

BPA also absorbed $79 million of exceptional expenses in fiscal 1988. Of this, $35 million went towards buying two utilities out of their residential energy exchange contracts, which will eliminate significant expenses in future years. We incurred $20 million in costs to settle litigation about Washington Public Power Supply System nuclear projects 4 and 5. And we bought $24 million worth of power and storage to hedge against continued drought. Still, we stayed in the black.

Customer involvement in our budget and ratemaking has been a positive influence on the agency. We listen to our customers in our daily contacts with them and bring them into our goal-setting and financial planning. Their watchfulness sharpens our performance.

1988 Accomplishments

Several major multi-year efforts were completed this year.

- After 5 years of spirited public debate, BPA's Long-Term Intertie Access Policy is now in effect. The policy gives utilities firm access to Federal transmission capacity between the Northwest and California. It protects the Federal investment in intertie facilities and BPA's investments in fish and wildlife in the Columbia River Basin.

- We turned the corner on long-term power sales to California, completing major sales with Southern California Edison Co. and the cities of Pasadena, Glendale, and Burbank. The sales had been in negotiation for several years. These arrangements will help keep BPA rates stable over the long term, while delivering substantial benefits to our California partners as well.

- We settled the securities fraud lawsuit and related claims arising out of the Supply System default on WNP-4 and -5. BPA did not back those projects but was sued and faced a potential risk in excess of $2.2 billion. Settlement eliminates this risk, reduces BPA's litigation costs, and helps BPA's efforts to refinance the high-interest debt on BPA-backed projects.

Well Positioned for the 1990s

Our present surplus energy supply, controlled costs, and balanced revenues assure that BPA will continue to be the Northwest's low-cost wholesale electricity supplier in the coming decade. They

also put BPA in good position to take advantage of significant opportunities to strengthen its financial situation for the 1990s.

- **Debt Restructuring.** The Supply System may soon be able to refinance high-interest debt on the net-billed nuclear projects backed by BPA. Obstacles are falling. The Bankruptcy Act of 1988 removed the largest legal barrier. Settlement of the securities fraud suit related to WNP-4 and -5 has helped put a major regional problem behind us. The Technical Corrections Tax Act has made it clear that tax-exempt refinancing may be used. The financial markets have reestablished Supply System bond ratings at an AA− level. These actions create a major opportunity to restructure our debt and significantly lower long-term fixed costs.

- **Resources for the Year 2000.** The year 2000 fast approaches. We are taking steps to assure low-cost resources are available to meet our needs. Improved coordination with British Columbia Hydro and Power Authority offers tremendous potential for additional low-cost power — up to 600 megawatts of firm power for Canada and the Northwest. We expect to reach an agreement in 1989.

  Conservation continues to be the resource of choice in the Pacific Northwest. We can supplement conservation with cogeneration, greater efficiency in the hydro system, and contracts with other utilities. We also have two preserved nuclear projects which could, if needed, provide large blocks of power at incremental costs lower than new central-plant construction.

Moving Forward Together

In conclusion, Mr. Secretary, we enter fiscal 1989 well positioned to meet the challenges the new year will bring. We have the largest quantities of the most economic power supplies around. We are poised for debt reduction and restructuring that will further stabilize our rates. We are ready to develop low-cost supplies of power from among many options. We will be able to underwrite these supplies from a very strong financial position.

Most important, we are close to our customers, and moving closer. As a self-financed agency, BPA's strength depends on its relationship with its customers. This report reflects our renewed commitment to our customers. It shares some of their experiences in working with BPA. We believe our ties to our customers have grown stronger in 1988 and will continue to improve as we enter the last decade of the century.

Sincerely,

James J. Jura

James J. Jura
Administrator

Reaching Out

Sharing Tough Choices, Setting New Direction

This year Bonneville launched a new process — Programs in Perspective, or PIP — to involve its partners in BPA strategic and financial planning in a way unprecedented by a Federal agency.

PIP forums brought decision makers face to face with those who are directly affected by BPA. Participants included BPA's utility and industrial customers, fish and wildlife agencies, conservation groups, Indian tribes, the Northwest Power Planning Council, State and local governments, and others who have a stake in BPA programs.

The process took two phases. First, it focused on the big issues — the goals and priorities Bonneville should set for the 1990s. Then, this summer, BPA opened its books to share its projected costs and revenues for the early 1990s. The forums gave BPA managers a broad, clear understanding of constituent views. They used this information in setting 1990-91 program funding levels for use in BPA revenue requirement studies. At the end of the year, Bonneville announced program levels that hold the line on costs and reflect customers' priorities.

Judging from customer reactions, Programs in Perspective is a direction well chosen. The newsletter of the Oregon PUD Association reports: "It used to be that BPA's public participation process was a required exercise. Today it is an attitude. Not only do they care what their customers want, they are willing to ask and to act."

Others came away with a new sense of the competing pressures BPA faces.

"It does make us feel better to participate, even if we are often on opposite sides."

John Whalen, President
Mason County PUD #3 Board of Commissioners

"What you begin to see," says John Whalen, "is all the interest groups. Everybody with their own axe to grind."

Springfield Utility Board's Steve Loveland agrees. "It's like a roar out there," he says. "We hear all the others shouting. It's a learning experience for us all."

Emerald PUD's Lon Topaz was one of those who helped start Programs in Perspective. "We'll have to wait until the next rate case — and beyond — to see if PIP's had an effect," he says. "But there is more understanding on the customers' part."

Chris Brown, assistant to the mayor at McCleary, Washington, expresses a similar thought. "The tendency is to refer to local government and BPA as *they*," he says. "But it's all *us*. We can influence decisions with public input. We can take part."

The Bottom Line

A Good Year, in Spite of the Drought

Revenues exceeded expenses by $5 million. This positive bottom line was very close to what had been projected in the 1987 rate case, although it was built of different proportions than planners anticipated.

Northwest sales led the way. BPA's two biggest single customers, in terms of revenues, were both Northwest customers: Reynolds Metal Co. and Kaiser Aluminum Co.

Revenues Up

Total operating revenues were $1,947 million. This was $273 million more than in fiscal 1987, an increase of 16 percent. Part of the improvement was due to the invigorated Northwest economy. Revenue from public utilities was $846 million, $100 million more than last year.

The biggest single component of the increase, however, was sales to Northwest aluminum companies. Aluminum smelters had a big year, and — thanks to the variable rate — so did Bonneville. In fiscal 1987 the aluminum companies bought $380 million worth of power from BPA. This year they paid $692 million — $312 million more than in fiscal 1987.

These revenue sources more than offset another dry year in sales to California. Due to low water conditions, Bonneville sold nonfirm energy only when water was released to help fish migrate downstream. Export power sales were $52 million. This was a drop of $122 million from fiscal 1987, which itself was a bad year for sales outside the region.

Holding the Line on Costs

Total operating expenses were $1,553 million. This was up $43 million, or 3 percent, from fiscal 1987. There were three main reasons that expenses were up at all. As a hedge against drought conditions, BPA spent an extra $24 million for power purchases and storage. BPA paid $20 million to settle litigation relating to Washington Public Power Supply System nuclear plants that were not completed. And BPA bought two utilities out of the residential energy exchange.

BPA continued to control its capital spending. Interest expense on the Federal investment was down, and Bonneville looked for new ways to pay off high-interest debts while rates were low.

No Rate Increase

Wholesale electrical rates will not change in fiscal 1989. Rates were not projected to change. They were set in 1987 for a 2-year period. But built into that rate case was a Cost Recovery Adjustment Clause, or CRAC. Most of BPA's power rates could have been adjusted if there had been a significant difference between BPA's planned and actual financial performance. CRAC was a safety net that was not needed this year.

U.S. Treasury Payments

At the close of the fiscal year, September 30, Bonneville paid the U.S. Treasury $668 million on the Federal investment in the Columbia River power system. The payment included $383 million in interest payments, $194 million to amortize principal, and $91 million for operation and maintenance of Federal dams.

This was the fifth year in a row BPA has paid the Treasury over $600 million.

This year's payments bring the total funds returned to the U.S. Treasury to more than $8 billion. The total includes $4.9 billion in interest payments, $1.5 billion to amortize principal, and $1.2 billion for operation and maintenance of Federal dams. The total also includes funds that BPA paid the Treasury for operation and maintenance of the Federal transmission system prior to 1974.

Building Financial Flexibility

With costs under control and rates stable, Bonneville focused on longer-term financial goals. Chief among those goals is reduction of the agency's debt.

In 1988 BPA looked for near-term payments that will save money for ratepayers in the long run. This year's Treasury payment, for example, included $140 million to retire a 12.2 percent conservation bond issued in 1983.

Reducing Supply System Debt

Under net-billing agreements signed in the 1970s, BPA underwrites more than $6 billion in revenue bonds issued by the Washington Public Power Supply System for the construction of three large nuclear plants. One of these plants has been operating since 1984. The other two are unfinished but in preservation. Debt service on these plants amounts to nearly one-third of BPA's total annual costs.

Bonneville this year met with customers and published studies on ways to reduce these costs. In fiscal 1991-92, high-interest bonds will become redeemable in advance of maturity. After extensive public involvement, BPA defined three possible ways — which are not mutually exclusive — to reduce costs on high-interest bonds:

- **Refinancing** — have the Supply System issue new, lower-interest bonds to redeem the high-interest bonds;
- **Revenue-Funded Bond Calls** — use BPA revenues to call bonds; and/or
- **Pre-paid Power Bills** — have BPA customers pay some of their bills in advance.

Recent external events have increased the likelihood of bond refinancing. Congress passed bankruptcy legislation and technical corrections to the 1986 Tax Reform Act which removed legal impediments to refinancing and made it clear that tax-exempt refinancing could be used for the net-billed projects. BPA, the Supply System, and other defendants have settled litigation relating to Supply System default on two additional nuclear projects. The Supply System's bond rating has been restored. All these events improve the climate for refinancing bonds.

Ending Some Exchange Agreements

BPA negotiated this year the termination of Clark County PUD's and Snohomish County PUD's participation in the residential energy exchange.

With costs under control and rates stable, BPA focused on . . . reducing its debt.

Snohomish County PUD will receive $43 million plus interest. Clark County PUD will receive $14 million plus interest.

As a result, Bonneville expects to pay less in total exchange benefits through the end of the current contract period (June 2001). The PUDs like the arrangement because it saves them the costs of reviews, filings, and paperwork.

Marketing: Success Under Changing Conditions

A Good Idea Pays Off

As recently as 1986 the Northwest aluminum industry was in a terrible slump. The worldwide price for aluminum had fallen below 50 cents a pound, and Northwest smelters were getting beaten by foreign producers. Since the aluminum plants buy huge blocks of electricity directly from BPA, Bonneville's revenues declined with the industry.

BPA devised a variable rate that reduced the aluminum companies' rate to as low as 1.5 cents per kilowatthour while the market was down. Their price for electricity would rise if the price of aluminum went up.

The market for aluminum did rebound, to $1.15 a pound at the end of this fiscal year. Three Northwest smelters that had shut down reopened. Others started potlines that hadn't run since 1981.

By the end of the year, 44 of the region's 45 potlines were operating. Not only was BPA selling more electricity to the aluminum companies, but it was also selling it at a higher rate: 2.88 cents/kWh. Operating the entire year at the high end of the variable rate, the aluminum companies paid BPA $312 million more than they did last year.

In addition, all 10 Northwest smelters signed up for Bonneville's Conservation/Modernization Program. The program gives incentives to aluminum companies that modernize plants and use energy more efficiently. It will help them stay competitive if aluminum prices fall. Efficiency improvements totaling 54 average MW of energy savings were made during the year. BPA paid incentives of about $2 million.

Making Every Drop Count

The Pacific Northwest has suffered 2 years in a row of drought. Streamflows in the winter of 1987/88 were the lowest on record. Reservoirs this spring were 20 to 60 percent below normal levels.

The situation called for creative management. BPA arranged for other utilities to store overgeneration from the spring fish flush, where water is released to help young salmon migrate to the sea. The energy was later returned to BPA. Bonneville also bought power from other U.S. and Canadian utilities when the price was right. BPA coordinated closely with others to stretch available water to meet power, irrigation, navigation, recreation, industry, and fish passage needs.

In August, for example, the Potlatch Corp. pulp and paper mill in Lewiston, Idaho, was threatened with shutdown. There was too little water in the Snake River to let the mill discharge waste within environmental limits. To help keep the mill operating — and to avoid the layoff of 1,600 workers — BPA negotiated agreements with Idaho Power Co. and Potlatch that released water upstream. Bonneville stored the resulting energy in the Federal system. The Potlatch mill stayed open.

"I wouldn't be sitting here. I didn't have a job."

Ernie Tibbets, President
Local 9170, United Steel Workers of America

"Without the variable rate, this plant could have been bulldozed before the market got here."

Brett Wilcox, President
Northwest Aluminum Co.

"The plant was gone," says Ernie Tibbets, who has lived in The Dalles, Oregon, all his life. Tibbets worked at the Martin Marietta aluminum smelter. "When the plant shut down," he says, "I was out on the street."

Now Tibbets is president of the steel workers local at the smelter, which reopened in 1986 as Northwest Aluminum Co. Today the plant — with 400 full-time employees — accounts for roughly 20 percent of the total payroll in The Dalles.

"We all had to start from scratch," says Tibbets. "We worked out a good profit-sharing plan. Bonneville gave us a chance to show what we could do with it, and we did."

"The variable rate was the most important thing," says Brett Wilcox, who bought the smelter and is now its president. "Not only for this plant but also for the rest of the Northwest aluminum industry."

New Deals within the Region

In fiscal 1988 Bonneville put new emphasis on finding ways to sell power to its partners in the Pacific Northwest. When these efforts work, local economies benefit along with Bonneville. As always, the focus was on finding assured markets at competitive prices. Success came as a result of creative negotiating. The contracts and agreements reached in fiscal 1988 were far from cookbook solutions.

Boosting Northwest Industry

Bonneville's Partnership Programs give Northwest utilities and industries the tools to compete for economic development opportunities, and to keep them competitive by encouraging their efficient use of electricity.

A Partnership Program called Staying Power, for example, offers surplus firm power at lower-than-normal rates to ailing Northwest industries. One participant is the Dow Chemical plant in Springfield, Oregon. BPA passed rate incentives through the Springfield Utility Board to help revive Dow's silicon smelting plant, which had closed. Now a 20-MW load is back on line.

"Dow is our largest customer, by far," says Steve Loveland, general manager of the Springfield Utility Board. "The program saved a lot of jobs."

A New Customer

Capping months of negotiations, Oregon Trail Electric Consumers Cooperative began serving 25,000 consumers in October. Oregon Trail is BPA's newest preference customer. It bought the electrical distribution system of CP National, a private California-based utility. Due to an earlier contractual commitment, Idaho Power Co. will supply power this year to the co-op's customers. In October 1989, Oregon Trail will start serving consumers with Bonneville power.

A New Deal with Puget Power

Bonneville and Puget Sound Power & Light Co. reached an agreement in principle this year on a long-term sale and exchange of power. More about the agreement is on the facing page.

"The contract was a breakthrough. Everybody had to give."

John W. Ellis, Chairman and CEO
Puget Sound Power & Light Co.

"I think it's an excellent first step," says John Ellis, about his agreement in principle to purchase surplus firm power from BPA over a 20-year period. "I look forward to better relations with Bonneville as we get our respective acts together."

The proposed sale — Bonneville's first long-term sale of surplus firm power within the region — converts to a power-for-power exchange if BPA gives a 5-year notice that its power surplus is running short. Or, at the latest, the sale converts to exchange in the year 2001. The initial rate for the sale is 2.85 cents per kilowatthour.

The agreement is tailored to meet each party's needs. For Puget Power, it means a long-term, reliable source of power in winter, when the utility needs it most. For Bonneville, it means a stable source of revenue while the surplus lasts. Should the contract convert to power-for-power exchange, Puget will deliver the same amount back to Bonneville in summer months.

"We've all been trying to sort things out," says Ellis. "It's commitment time. This contract is good for all of us."

Selling South

Several years of marketing efforts paid off this year as Bonneville made large long-term power sales to California. The new contracts will improve both BPA's revenue stability and its future ability to meet Northwest power needs. BPA is wrapping up discussions with other California buyers.

The California contracts start as power sales. When BPA runs out of surplus firm energy, the sales will stop. BPA will then get energy in return for sending capacity to meet California's peak power load.

To Burbank, Glendale, and Pasadena

Sale and exchange agreements with these cities took effect in January. The 20-year agreements call for the collective purchase of 36 MW annual and 36 MW seasonal surplus firm power each year.

To Southern California Edison Co.

In October BPA and Edison signed a 20-year power sale and exchange agreement. The giant utility will buy 134 average MW, 250 peak, starting in July 1989, subject to regulatory approvals. The rate is tied to oil and natural gas prices. It is limited by a floor and a ceiling which may move up or down with BPA's cost of producing power. The contract gives Edison and BPA both predictability and the ability to respond to changing world energy conditions.

A New Policy for Intertie Access

In May Bonneville adopted a long-awaited policy on the long-term ground rules for utilities selling or exchanging power over BPA's portion of the Pacific Northwest-Pacific Southwest Intertie.

The intertie consists of three high-voltage transmission lines — one direct-current and two alternating-current lines — that run from the Columbia River to California. BPA uses the intertie to sell power and help repay the Federal investment in the power system.

BPA is required by law to give priority to its own sales of power over the intertie. It must allocate remaining capacity in a way fair to all. The problem was how to be fair. After 5 years of public involvement, the new LTIAP (Long-Term Intertie Access Policy) is still subject to litigation. But it is in effect.

The LTIAP will:

- help keep rates stable;
- protect the U.S. taxpayers' investment in the Federal Columbia River Power System;
- promote competition in sales to California;
- delay the day when expensive generating plants will have to be added in both regions; and
- ensure that access to California markets will not lead to new power projects that harm fish and wildlife in the Columbia River Basin.

Immediately following BPA's adoption of the policy, new deals were struck between Northwest and Southwest utilities using BPA as a courier.

Non-Federal Participation in the Third AC

A number of Northwest utilities have expressed a desire to own capacity or to lease shares in the proposed Third AC Intertie. The Third AC would add 1,600 MW of transmission capability to the existing intertie. In March Bonneville gave Congress a study evaluating options for non-Federal participation. BPA will perform more analyses and make a participation proposal in fiscal 1989.

"This contract can be the cornerstone of a more productive relationship that will benefit both regions."

Michael R. Peevey, Executive Vice President
Southern California Edison Co.

"The contract symbolizes the start of a new era," says Michael Peevey. "It could lead to further arrangements that will help both sides."

After 4 years of negotiations, BPA has agreed with Edison on a 20-year electricity sale and exchange contract. The deal takes advantage of the fact that California's use of power peaks in the summer, with air conditioning. Northwest use of power peaks in the winter, with space heating.

In the deal with Edison, negotiators hammered out complex escape clauses and rate adjustments that will protect both sides in the event of changing economic circumstances. Should BPA no longer have surplus firm power to sell, the deal will convert to an exchange agreement.

"This is an historic achievement," says Peevey. "Both of our organizations can be proud."

Stretching Our Resources

The Power Surplus is Shrinking

During fiscal 1988, Bonneville's immediate power surplus fell from 1,440 MW to about 500 MW. The Hanford N-Reactor was shut down, eliminating power production by the Hanford Generating Project. Aluminum loads increased. And utility loads rose more than expected.

These changes are near-term. The long-term picture has not changed much. Bonneville's most-likely forecast shows BPA surplus firm power lasting beyond the year 2000. So the urgency of developing new power resources has not greatly increased.

Although the change in surplus does not require resource acquisitions, it does mean that BPA's margin is thinner. A smaller surplus could disappear more rapidly, and BPA must be prepared.

Bonneville is considering — in close cooperation with the Northwest Power Planning Council — how the change in the surplus affects BPA's resource development activities. BPA and the Council have developed a joint regional power load forecast and are working on joint supply curves. These collaborative efforts project how long the surplus will last. They also guide planning for conservation and generation resources that will be needed to meet future loads.

Another response to the dwindling surplus is that BPA's marketing philosophy has changed. BPA is wrapping up long-term sales to California. And BPA is emphasizing deals that exchange capacity — of which Bonneville has plenty — for the return of energy.

Making What We Have Go Further

Today's watchword in Bonneville's energy resource program is "efficiency."

BPA looks for ways to stretch existing resources to produce more power. Plans are in the works to better coordinate the use of the Columbia River itself, and to make turbines more efficient at converting that water to power.

Bonneville is committed to capturing cost-effective resource opportunities that will be lost to the region or would cost more later if not acquired now. BPA programs help make some new loads more efficient. They encourage the efficient use of electricity in homes, commercial buildings, and industrial plants.

At the same time BPA must watch program costs and stretch the available funding. It's a matter of careful planning to find the best resource value for BPA customers.

Improving Hydro Efficiency

Now in the development stage are improvements that could let hydraulic turbines produce more power with the same amount of water. Researchers are testing improvements for Kaplan turbines. Changing turbine blade angles could produce 55 to 113 MW more capacity at less than a third of a cent per kWh when applied to all the Kaplan turbines on the Federal system.

The Canadian Connection

Bonneville and B.C. Hydro signed an agreement in July that clarifies the computation of downstream power benefits under the Columbia River Treaty. BPA and B.C. Hydro are also exploring ways to do more with the river we share and to improve transmission links between the two systems.

Preliminary studies suggest that operations could be coordinated to take advantage of diversities in load and runoff patterns between the BPA and B.C. Hydro systems. Full coordination could convert some 600 MW of nonfirm energy to firm energy. Public utility operators of five mid-Columbia dams are involved in the study. An agreement is expected by July 1989.

"We have a tremendous sense of working together. It's hard to think of it being much better."

Larry Bell, Chairman
B.C. Hydro

"Given the existing plants, given the water we have, can we manage the system better than we do today?" says Larry Bell. "The answer is yes, we can. We will."

In addition to clarifying the rules of the Columbia River Treaty, which had not been reviewed since the 1960s, BPA and B.C. Hydro are studying ways to boost the efficiency of the interdependent power system.

"We have a natural, self-replenishing asset," says Bell. "It should be managed for the good of both Canadians and Americans."

"BPA's pilot program helped us finance over $3 million a year in residential weatherization."

"Conservation, as a concept, has always had tremendous support in this area," Jean Reeder says, meaning the Eugene, Oregon, area.

The Eugene Water & Electric Board had its own conservation department before the Northwest Power Act boosted Bonneville into many of its own conservation programs. EWEB helped Bonneville gear up. EWEB, in turn, used a Bonneville pilot program to finance the weatherization of homes in the EWEB service area through the sale of bonds.

"This way we can plan for 3 continuous years of funding," says Reeder. "We can count on it. We don't have to wait for yearly budgets."

EWEB weatherized over 9,000 homes in 1986-88 with especially good results in low-income housing. And the waiting list continues to grow.

"Our program was already in place," explains Reeder. "The bonds made it possible to put the finances together and keep the program going."

Jean Reeder, General Manager
Eugene Water & Electric Board

Toward More Efficient Loads

Promoting Model Conservation Standards

Bonneville offers financial incentives for utility and government programs that support Model Conservation Standards. These standards assure energy efficiency in residential and commercial construction. After extensive public involvement, BPA decided to continue financial support until MCS buildings are more widely accepted. Adoption of MCS building codes is the ultimate target.

Some 36 percent of new electrically heated homes were built to MCS in 1988 in areas where BPA pays incentives through Super GOOD CENTS and the Early Adopter Program. As more home builders and buyers come to appreciate the advantages of energy-efficient housing, incentive payments will be gradually decreased. BPA's total investment in MCS programs this year was $13.9 million.

Weatherizing Homes

The Residential Weatherization Program was the first and has long been the most visible of Bonneville's conservation programs. Due to funding restraints, BPA has revised its weatherization contracts to make the program more cost effective. In fiscal 1988, Bonneville continued the Residential Weatherization Program at a funding level lower than in prior years. In spite of the reductions, BPA funded weatherization of nearly 15,000 electrically heated homes in the Northwest this year at a cost of $19.3 million.

Helping Our Partners Stay Competitive

Bonneville continued its Partnership Programs to encourage energy efficiency in new and existing commercial buildings and in industry. The goal is to help BPA's Northwest customers stay competitive and to stabilize revenues of both BPA and its customers.

In fiscal 1988 Bonneville offered several new Partnership Programs. Electric Ventures, for example, offers long-term guaranteed rates to energy-efficient new or expanding loads. In another program, PowerADDvantage, utilities propose projects that have short-term need for a block of power. Smart Design helps commercial building designers make their buildings energy efficient.

Another industrial program, the Energy $avings Plan, helped Georgia Pacific's chlor/alkali plant install state-of-the-art titanium anodes in its electrolytic cells. The plant, in Bellingham, Washington, is served directly by BPA. With about a quarter of a million dollars in rebates, BPA helped finance the $350,000 anode conversion. Now using electricity more efficiently, the chlor/alkali plant produces the same amount of chlorine using less electricity.

"We couldn't have done it on our own," says Brian Hagan, plant manager. "BPA has had a direct benefit on increasing profits."

Rebuilding the Fish Runs

Some Vital Steps

Bonneville works with the Northwest Power Planning Council and others to enhance and protect fish and wildlife populations affected by Federal dams on the Columbia River and its tributaries.

The Council's Columbia River Basin Fish and Wildlife Program coordinates the activities of nearly two dozen State and Federal agencies, Indian tribes, and land management agencies. The Program's interim goal is to double the size of steelhead and salmon runs, from 2.5 million to 5 million fish.

In the 1980s Bonneville has spent over $125 million on more than 250 fish and wildlife projects. This year's spending level was $26.5 million.

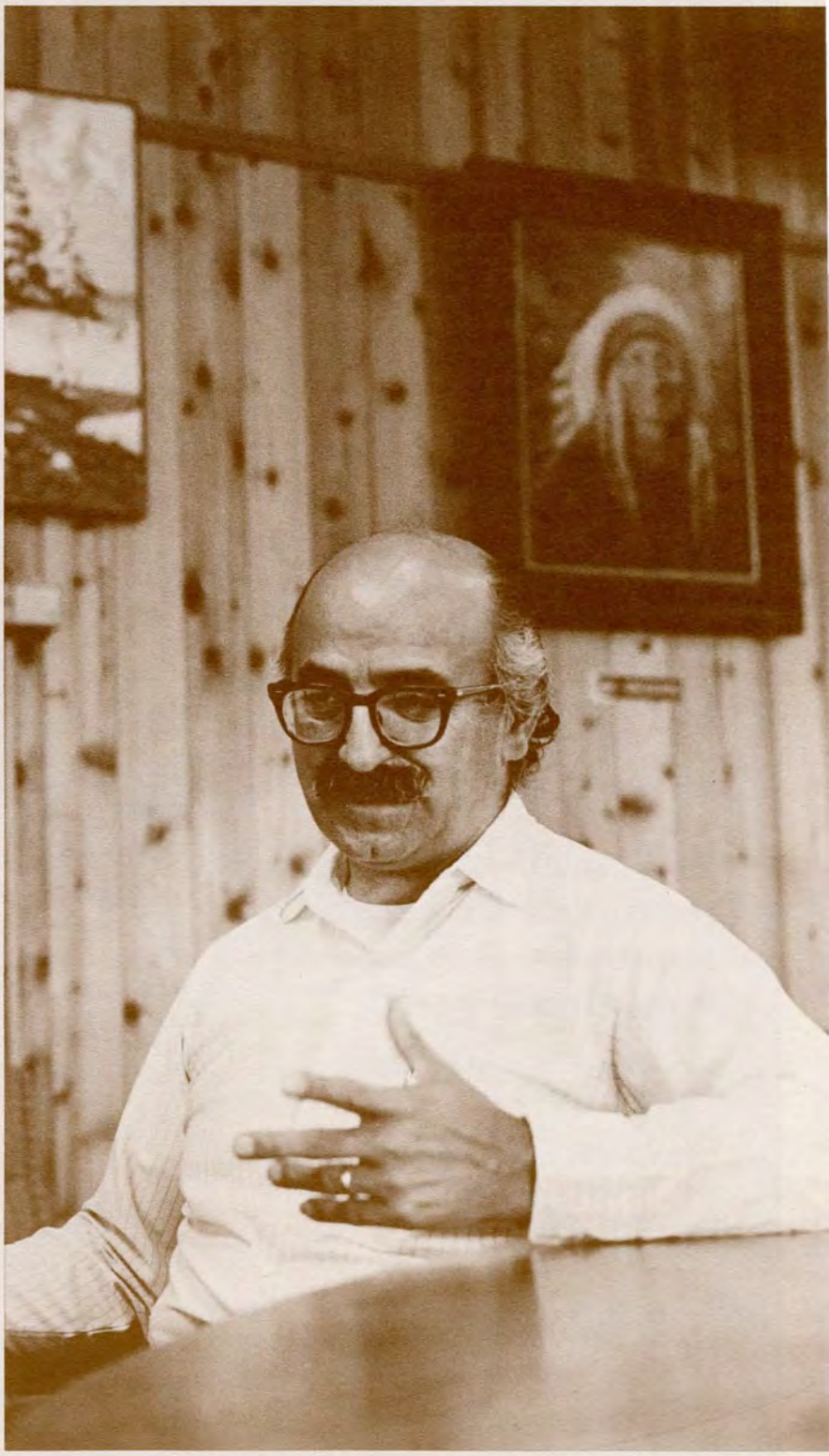
BPA also is involved in providing increased river flows and spill for fish at critical migration times. These operations — the Water Budget and spill plan — reduce BPA's ability to generate power. In addition, BPA ratepayers pay part of the costs incurred by the U.S. Army Corps of Engineers and Bureau of Reclamation for building fish ladders, screens, and hatcheries. The total cost to BPA for all fish and wildlife support is about $150 million each year.

Some of the key events in fiscal 1988:

- In April BPA opened a fish and wildlife project office in Yakima, Washington. The Yakima Basin is the site of some of Bonneville's most ambitious efforts to enhance steelhead and salmon runs, to improve upstream habitat, and to construct a major hatchery.
- Bonneville improved flows for salmon and steelhead smolts migrating in the Snake River system by signing a special storage agreement with Idaho Power Co. The agreement allowed IPC to release water for fish and to store energy with BPA for return at a later date.
- In August the Council adopted a program amendment to protect about 43,000 miles of the region's rivers and streams from future hydroelectric development. BPA had funded 3 years of study that led to the amendment.
- BPA reached agreement with the Oregon Fish and Wildlife Department and the Umatilla Tribes on operation and maintenance of the proposed $8 million Umatilla Hatchery. The new hatchery is expected to produce 290,000 pounds of young Chinook salmon and steelhead each year.

"BPA controls the funding, but we administer the hatchery."

Mike Somday, Chairman
Colville Business Council Fish & Wildlife Committee



Bonneville is paying for a $3.4 million fish hatchery that is under construction near Chief Joseph Dam. The new hatchery will raise cutthroat, rainbow, and brook trout for planting in the lakes and reservoirs on the Colville Indian Reservation.

Mike Somday and other members of the Colville Confederated Tribes, while they appreciate the new hatchery, point out that it doesn't really compensate for the loss of salmon that their native culture once thrived upon. "If we had our druthers," says Somday, "there would be no dams here at all. Or at least there would be fish ladders at Chief Joseph and Grand Coulee. We'd rather be raising salmon here than resident trout."

On the other hand, Somday is pleased with recent negotiations. The tribe won the right to retain ownership of the land the hatchery is built upon. Also, the tribe will operate and maintain the hatchery.

"We wanted control over the rearing, and where the fish go," he says. "Now we have that control."

"We had this 25-megawatt need, and we needed it tomorrow. BPA pushed it, made it happen."

Dan Kessler, General Manager
Wells Rural Electric Co.

"This is the spot to be right now," says Dan Kessler, as he idles in a long line of traffic behind an Elko, Nevada, stop sign. "We're growing by leaps and bounds."

There's gold in the hills near Elko. Cheap power from the Columbia River is helping get it out. Newmont Gold Co.'s Quarry mine runs 24 hours a day and has a power bill of $300,000 a month.

"Since 1985, when we hooked up Newmont," says Kessler, "their load has grown from 10 to 15 and now to 40 megawatts. We may need another 20 to 70 megawatts in the next 5 years," he says. "We're having BPA take a look at it."

Thanks to the boom, Kessler was able to announce a 17 percent average rate decrease for his customers this year. The mining and construction activity also made feasible the electrification of Pine Valley, a remote area that had previously relied on diesel generators for power. Rural electrification has now reached one of the last places in America.

"Without BPA," says Kessler, "our co-op members could never have afforded to serve this load."

Building for the Future

The emphasis in engineering this year was on planning and designing to meet expected growth throughout the region. Major effort also went into upgrading overloaded or obsolete power equipment on BPA's transmission system.

Expanding the DC Intertie

BPA met significant milestones on the project to expand the high-voltage direct-current intertie. Operated jointly by BPA and Los Angeles Department of Water and Power, the DC Intertie consists of a 1,000-kV transmission line and terminal facilities. The line's power transfer capability will be increased from 2,000 MW to 3,100 MW. New equipment will boost capacity at both terminals — at BPA's Celilo Converter Station near The Dalles, Oregon, and at Sylmar Converter Station near Los Angeles.

All environmental clearances have been granted. Legal challenges have been resolved. And the governing access policy is in place.

The two 500-kV lines that connect the Celilo terminal to Big Eddy Substation and BPA's main grid have been completed. Major equipment for the expansion is installed — including some of the largest transformers on the BPA system. Commercial operation is set to begin February 28, 1989.

Planning the Third AC Intertie

After more than 3 years of technical planning studies, BPA and other alternating-current intertie owners — Portland General Electric Co. and Pacific Power & Light Co. — completed a plan in July for expanding existing facilities in the Northwest for a Third AC Intertie to California. The Third AC Intertie will complement the two AC lines already in existence. Expansion will increase by 1,600 MW the capacity to transfer power between the Northwest and California at relatively little expense and with minimal new rights-of-way.

Plans call for modifications and additions at many BPA substations. A new substation — Southern Oregon — will be built near Malin. BPA will pay costs of constructing the half of PP & L's Eugene-Medford 500-kV line that is assigned to the Third AC.

More Power To 'em

The 72-mile, 161-kV Goshen-Drummond line in southeastern Idaho provides more reliable service to Fall River Electric Co-op and Lower Valley Power and Light. Without the new line, an outage during peak winter loading could have caused a blackout to both customers' service areas. Rebuilding along the existing right-of-way eased land-use requirements.

This project was a unique three-way partnership among Bonneville, a group of small preference customers, and private financing. The Snake River Power Association borrowed money on the private market and paid BPA to build the line and upgrade the terminals. This provided local control and used BPA's long-standing engineering know-how. Since the project used private financing, it also reduced the need for Federal borrowing.

Research and Development

Bonneville is an active participant in coordinating research and development among utilities. The agency shares knowledge and helps evaluate the applicability of technological advances. This year BPA sponsored the Northwest Utility Engineers' Forum and helped produce a workshop on extending the life of underground distribution cable. In August BPA completed an engineering study which suggested potential uses for high-temperature superconductivity in an electric power system.

The Use and Care of a Key Regional Resource

Avoiding Trouble and Protecting the Investment

Bonneville's transmission system is aging. A significant portion of the system has exceeded its expected economic service life. Since 1975 BPA has deferred some maintenance in order to cut costs and to help hold rates down. The result is a backlog of routine service, preventive maintenance, and replacement of worn out equipment.

If allowed to continue, this situation could compromise reliability and safety. It also would lead to higher maintenance costs over the long run.

To address this problem, BPA made a strong commitment in fiscal 1988 to reduce the maintenance backlog to an acceptable level by the year 2000, and to keep it there. During this year's construction season, Bonneville hired over 40 temporary employees to tackle the most pressing problems.

Containing Costs

Bonneville plans to strengthen field maintenance crews while reducing overall employment. BPA also is reviewing its reliability standards. The agency has a new sensitivity toward the need to control costs while maintaining the integrity of the power system. The search continues for better and more cost-effective ways to do business.

For example, the traditional method of contracting to clear right-of-way for the Naselle-Long Beach, Washington, transmission line brought a best bid that would have cost BPA $154,000. Yet the right-of-way included some good standing timber. So BPA conducted its first-ever timber sale. A logging company submitted a bid to *pay* BPA $130,000 to clear the right-of-way.

Keeping the Lights On

No matter how reliable the system, there are occasional failures. The challenge is to limit the impact of those failures when they do occur. BPA has to get the system up and running, as soon and as safely as possible.

At 3:30 a.m. on May 2, for example, a transformer failed at Columbia Basin Electric Co-op's Condon Substation. The small town of Condon, Oregon, was left without power. Crews from BPA's Pasco Substation provided a mobile transformer. Crews from McNary Substation met the transformer at Condon to make the switch. Columbia Basin staff disconnected the bad transformer while its replacement was en route. In all, a job that normally takes up to 36 hours was completed 9 hours after BPA crews were notified.

In Washington's Ferry County, the threat came from fire.

The BPA Transmission System

A Major Regional Asset

The BPA transmission system is publicly owned. It is operated and maintained for the benefit of the ratepayers and for the general economic well being of the region. It includes:

- Three-quarters of the region's high-voltage transmission capacity;
- Over 14,600 circuit miles of lines; and
- 385 substations.

The transmission system serves a 300,000-square-mile area with a population of 8.7 million.

"As the fire swept toward us, BPA people were determined to see us through."

Bill Kuehne, President (below right)
Ferry County PUD Board of Commissioners

When the forest fire jumped Sherman Peak, it rushed north toward Highway 20 and the BPA power line just beyond. Had the flames licked through the wood-pole line, the town of Republic, Washington, would have lost power to pump water. The town would have had no fire protection. As residents prepared to evacuate, Ken Coyle, the manager of Ferry County PUD, alerted BPA.

"We got total cooperation," says Coyle. "It was as if we had the entire organization at our disposal."

Portable generators began rolling toward Republic from BPA maintenance stations at Spokane and Wenatchee.

"BPA crews showed up with a pumper truck," Coyle says. "The Bonneville helicopter flew up to patrol the lines. BPA people worked around the clock."

Fire fighters, with a break from the weather, finally halted the rampaging fire after it consumed 20,000 acres. It had breathed close enough to Highway 20 to char the wooden supports on the guard rail. The vulnerable power line, less than a quarter mile away, escaped unharmed.

"Be sure and include this," says Coyle: "There were BPA people whose names we didn't even know, and the town wants to thank them."

Ken Coyle, Manager (above left)
Ferry County PUD

The Fiscal Year in Review

October 1987

- Completed the 500-kV Taft-Bell transmission line, which integrates power from Montana Power Co.'s Colstrip plants 3 and 4 into the BPA grid.
- Energized a new transmission line that will, for the first time deliver power to a BPA customer directly over a BPA line east of the Continental Divide. The line serves Vigilante Electric Cooperative near Butte, Montana.

November

- Began the Wood Heat Displacement Program with 15 utilities. Customers who replace or supplement wood heat with electric heat get a rate discount. The program boosts or preserves BPA and utility revenues.
- Sent the last of $11,500 in employee contributions to Silent Victims of Innocence, for child-abuse prevention.

December

- Announced "Programs in Perspective." Distributed written information for regionwide forums to occur in January. BPA invited its constituents to talk about major issues affecting the agency.

January 1988

- Asked the U.S. Department of Justice to file a declaratory judgment lawsuit to clarify legal issues about WNP-1 and -3.
- Signed up all 10 Northwest aluminum smelters for a $76 million BPA program to modernize their plants and use energy more efficiently.
- Sponsored a program to honor the late Martin Luther King, Jr. The guest speaker was Dr. Hosea Williams, formerly King's close associate.

February

- Announced a budget for fiscal 1989 that would hold the agency close to its 1988 level of spending.

March

- Alerted Congress and the press to drought conditions and their impact on the power system.
- Presented Congress with a study of potential non-Federal participation in the northern portion of the Third AC Intertie.
- Established an office in Yakima, Washington, for planning and managing fish projects in the Yakima Basin.

April

- Issued with the Northwest Power Planning Council a joint draft forecast of regional firm power loads. The forecast sees increased economic activity and higher loads than had been projected earlier.
- Agreed with Idaho Power Co. on a series of spring water releases to aid the migration of young steelhead and salmon.
- Signed agreements with Snohomish County PUD and Clark County PUD that ended their participation in residential energy exchange.
- Released the final Environmental Impact Statement on development and use of the Pacific Northwest-Pacific Southwest Intertie.
- Won the Department of Energy's Small and Disadvantaged Business Achievement Award for BPA's contracting practices.

May

- Adopted a long-term policy to allocate access to BPA's portion of the intertie.
- Lined up seven West Coast utilities to store energy for BPA to offset some of the risks of a dry year.
- Accepted an award from the Department of Labor as the leading Federal employer in the Pacific Northwest in returning injured employees to work.

June

- Signed contracts with the California cities of Burbank, Glendale, and Pasadena to sell and exchange power.

July

- Received a signed offer from Southern California Edison Co. for a 20-year power purchase and exchange contract.

August

- Signed a long-term agreement with Portland General Electric Co. on how to operate and expand alternating-current intertie facilities in Oregon.
- Came to agreement with the U.S. Army Corps of Engineers and B.C. Hydro on the methodology for calculating downstream benefits from the Columbia River Treaty.

September

- Completed Programs in Perspective meetings on cost and revenue tradeoffs for fiscal 1990-91.
- Submitted fiscal 1988 payments totaling $668 million to the U.S. Treasury.
- Announced that BPA will not raise power rates for fiscal 1989.

Financial Section

Management's Discussion and Analysis of Financial Condition

Results of Operations

After the $213 million net expense of fiscal year 1987, an improved financial year was the target. 1988 came in nearly on plan.

Total operating revenues increased $272 million in fiscal year 1988 from fiscal year 1987, up 16 percent. This increase occurred despite continuing low reservoir levels which restricted sales of nonfirm energy. In fact total megawatthour sales decreased from the prior year.

Total operating expenses were contained to a very modest increase. Net revenue for fiscal year 1988 was $5 million.

Operating Revenues

The most significant change in revenues for sales of electric power occurred within the Northwest region. The price of aluminum rebounded late in fiscal year 1987. Bonneville Power Administration's (BPA) variable industrial rate allowed the Northwest aluminum industry to be in operation early as their market improved. Sales were up about 25 percent and revenues from the aluminum industry were up 82 percent posting a $312 million increase from fiscal year 1987 to $692 million in fiscal year 1988.

The rate change which went into effect October 1, 1987, also accounts for part of the increase in revenues. This increase proved to be critical to BPA as the drought continued in the Northwest during fiscal year 1988. As a result revenues from sales outside the Northwest region, which had already fallen the prior two years, fell from $173 million in fiscal year 1987 to $51 million in fiscal year 1988.

Due to greater demand for BPA power from the priority firm customers in the Northwest, sales to preference customers were up about 6 percent. When the aluminum industry and priority firm customers use more power, less power is available for sales outside the Northwest region. Revenues from publicly owned utilities increased $100 million.

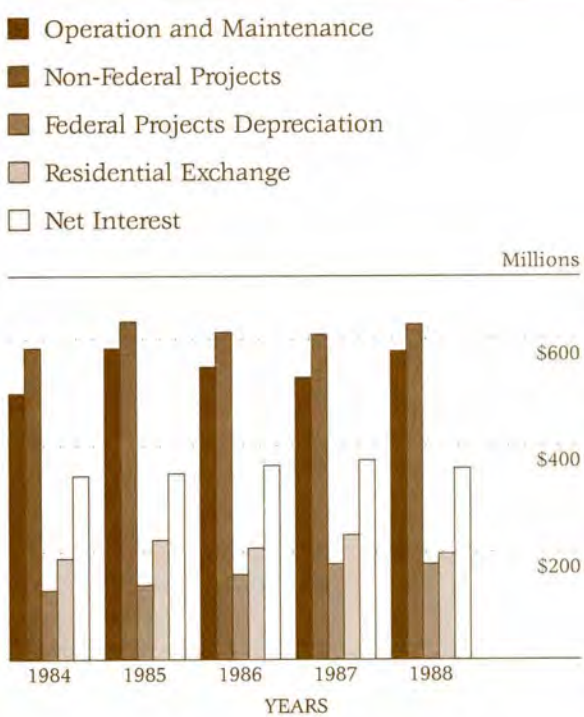
Operating Expenses

In 1988, BPA operated under the new organization formed during the prior year. Determined efforts were taken to control expenses. The result was very impressive. After adjusting total operating expenses for the WNP securities fraud litigation (MDL 551) settlement, unplanned power purchases, and buyout of two utilities from the residential energy exchange, operating expenses dropped.

Interest Expense

The interest on Federal investment decreased $15 million between the fiscal years ended September 30, 1988, and 1987. Approximately $10 million of this decrease occurred because interest expense for fiscal year 1987 included over $10 million for interest on property placed in service by the Corps of Engineers in prior years.

Expense Trend



Net Revenues (Expenses)

Because BPA is a not-for-profit Federal power marketing agency, net revenue over time is committed to repayment of the Federal investment in the Federal Columbia River Power System. When BPA's revenue is less than its expenses, it experiences "net expenses." Net revenue for the fiscal year ended September 30 was $5 million, compared to $213 million net *expenses* in the prior year. Although energy markets remain volatile, BPA has taken a number of actions to mitigate the effects of revenue swings in the coming year.

Basis for Financial Reporting

BPA prepares financial statements for the FCRPS to report its financial condition as if it were a public utility.

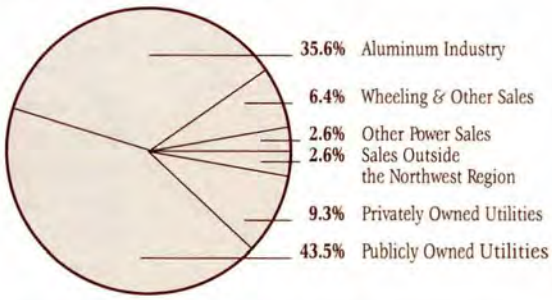
The financial statements are independently audited by Arthur Andersen & Co., independent public accountants, in accordance with generally accepted auditing standards.

Power rates are based on the FCRPS revenue requirement study. While the financial statements show historical results, the revenue requirement study shows projected costs to be recovered from rates. The revenue requirement study considers BPA's obligation to recover costs and sets a revenue level sufficient to meet those obligations. Costs include operation and maintenance; non-Federal projects debt service; interest; and recovery of the FCRPS investment in power generation, conservation, fish and wildlife, and transmission facilities. The two sets of financial reports measure different things: historical results in the financial statements and projected obligations in the revenue requirement study.

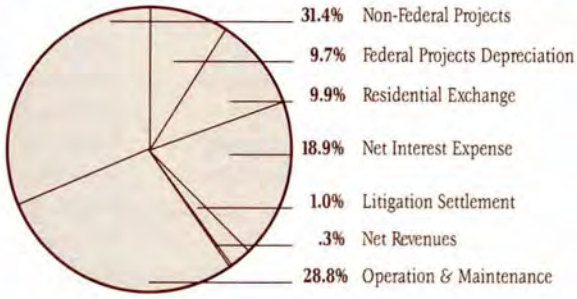
Revenue Requirement Study

The revenue requirement study, which demonstrates repayment of Federal investment, reflects revenues and costs from the 1987 Wholesale Power and Transmission Rate Proceedings. On September 29, 1987, the Federal Energy Regulatory Commission (Commission) approved the proposed rate increases on an interim basis.

1988 Sources of Revenue



1988 Disposition of Revenue and Net Revenues



Repayment Demonstration

BPA is required by P.L. 89-448 to demonstrate that the reimbursable costs of the FCRPS are scheduled to be returned to the U.S. Treasury from BPA net revenues within the period prescribed by law. BPA is required to make a similar demonstration for the costs of irrigation projects which are beyond the ability of the irrigation water users to repay. These requirements are met by conducting power repayment studies which demonstrate repayment of principal within the allowable repayment period.

Since 1985 BPA has prepared separate repayment demonstrations for generation and transmission in accordance with an order issued by the Commission on January 27, 1984, (26 FERC 61,096).

Repayment Obligation

BPA's rates must be designed to collect enough revenue to return the reimbursable power costs of each FCRPS investment and each irrigation assistance obligation within the time prescribed by law. In the absence of a specific legislated period, the costs must be returned within 50 years from the date the investment is capable of producing revenue or within the investment's average service life, whichever is less. If existing rates are not likely to meet this requirement, BPA must take action to adjust its rates.

Whether the Federal investment is repaid within the time allowed can be shown by comparing the unrepaid investment resulting from BPA's repayment schedule with the allowable unrepaid investment resulting from a "term schedule" on a year-by-year basis. A term schedule represents a repayment schedule whereby each investment would be repaid in total in the year it was due.

The reporting requirements of P.L. 89-448 are met as long as the unrepaid FCRPS investment and irrigation assistance resulting from BPA's repayment schedule is less than or equal to the allowable unrepaid investment in each year. Although the comparison is illustrated by graphs representing total FCRPS generation and total FCRPS transmission investment, the actual comparison is performed on an investment by investment basis.

Repayment of FCRPS Investment

The graphs for Unrepaid Federal Generation and Transmission Investment illustrate that the unrepaid investment resulting from BPA's generation and transmission repayment schedules is always less than the allowable unrepaid investment. This demonstrates that BPA's rates are sufficient to recover all reimbursable costs of FCRPS investments on or before their due dates.

The **term schedule** lines in the graphs show how much of the investment can remain unpaid in accordance with the repayment period for the generation and transmission components of the FCRPS. The **BPA repayment schedule** lines show how much of the investment remains to be repaid according to BPA's repayment schedules. In each year, BPA's repayment schedule is ahead of the term schedule.

This occurs because BPA plans repayment both to comply with investment due dates and to minimize costs over the 50-year repayment period. Costs are minimized by repaying highest interest-bearing investments first, to the extent possible. This will result in some investments being repaid before their due dates, while assuring that all other investments will be repaid by their due dates.

These graphs include the costs of replacements necessary to maintain the existing FCRPS generation and transmission facilities.

The Unrepaid Federal Investment graph displays the total planned unrepaid FCRPS investment compared to allowable total unrepaid FCRPS investment omitting replacements. This shows that the FCRPS investment expected through fiscal year 1989 is scheduled to be returned to the U.S. Treasury within the 50-year repayment period and ahead of due dates.

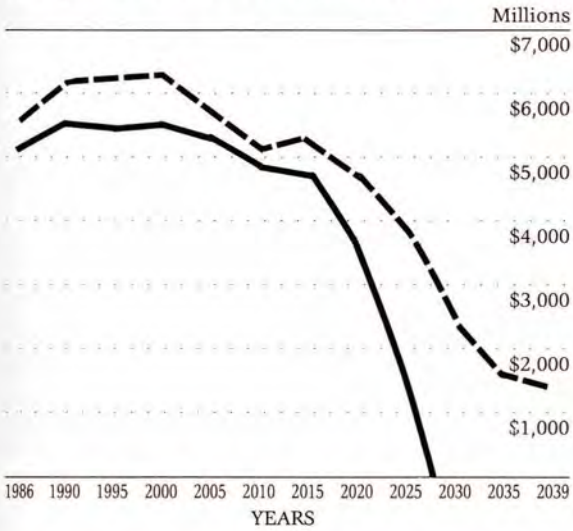
Repayment Period
Federal Columbia River Power System
Fiscal Year 1989

Ending September 30

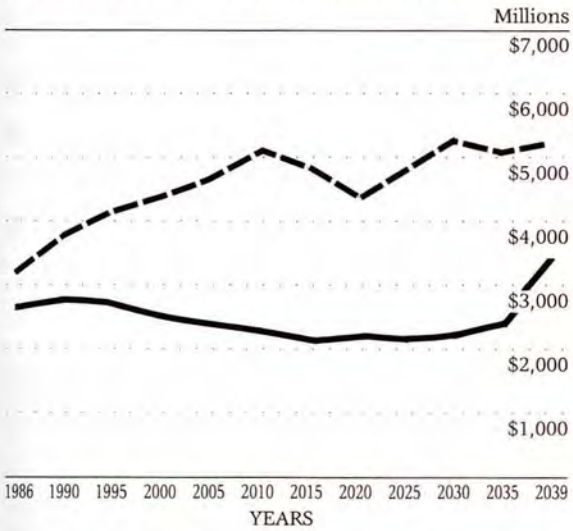
Term Schedule - - - - -

BPA Repayment Schedule ——

Unrepaid Federal Generation Investment*



Unrepaid Federal Transmission Investment*



* Includes future replacements.

Repayment of Irrigation Assistance

BPA plans to meet irrigation assistance obligations in the year they are due over the next 50 years. It is Federal policy that BPA will pay irrigation assistance on or before due dates until all irrigation assistance obligations have been met.

Unrepaid Federal Investment**

** Includes generation and transmission investments through fiscal year 1989. Excludes future replacements.

Repayment Policy

BPA's repayment policy is considered in determining its revenue requirements and rate levels. This policy, based on BPA's interpretation of laws and Department of Energy regulations, requires that FCRPS revenues be sufficient to:

1. Pay the cost of obtaining power through purchase and exchange agreements (non-Federal projects).

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

3. Pay interest on and repay the outstanding revenue bonds sold to the Treasury to finance transmission system construction, conservation, and fish and wildlife projects.

4. Pay interest on the unrepaid investment in power facilities financed with appropriated funds (Federal hydroelectric projects are all financed with appropriated funds, as were BPA transmission facilities constructed before 1978.)

5. Pay, with interest, any outstanding deferral.

6. Repay the power investment in each Federal hydroelectric project within 50 years after it goes into service (except for the Chandler Project, which has a legislated repayment period of 66 years).

7. Repay each increment of the investment in the BPA transmission system financed with appropriated funds within the average service life of the transmission facilities (45 years).

8. Repay the investment in each replacement at a Federal hydroelectric project within its service life.

9. Repay construction costs at Federal reclamation projects which are beyond the ability of the irrigators to pay, and which are assigned for payment from commercial power revenues, within the same period available to the water users for making payments. These periods range from 40 to 66 years with 60 years being applicable to most of the irrigation payment assistance.

Investments bearing the highest interest rate will be repaid first, to the extent possible, while still completing repayment of each increment of investment within its prescribed repayment period.

Generation by the Principal Electric Utility Systems of the Pacific Northwest (a)

TABLE 1	1988	
	Thousands of MWH	Percent of Total
Publicly Owned:		
Federal Columbia River Power System (b) (c)	76,600	45.4
Grant County PUD	3,150	1.9
Chelan County PUD	2,950	1.8
Seattle City Light	6,350	3.8
Douglas County PUD	750	.4
Tacoma City Light	2,950	1.8
Eugene Water & Electric Board	650	.4
Pend Oreille County PUD	400	.2
Total Publicly Owned	93,800	55.7
Privately Owned:		
Pacific Power & Light	20,600	12.2
Idaho Power Co.	12,150	7.2
Montana Power Co.	9,550	5.7
Portland General Electric Co.	11,500	6.8
Washington Water Power Co.	7,300	4.3
Puget Sound Power & Light	13,650	8.1
Total Privately Owned	74,750	44.3
Total Generation	168,550	100.0

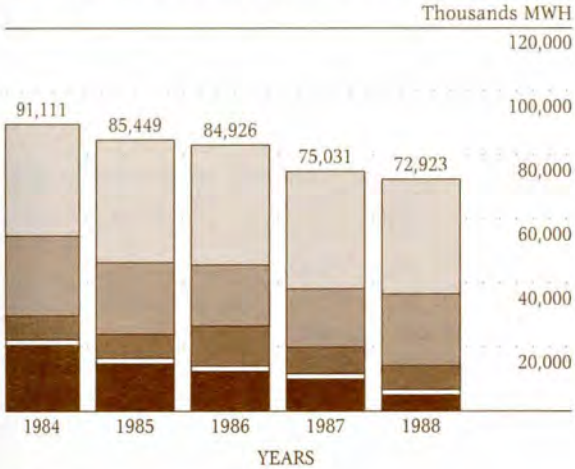
(a) Generation shown is for members of the Northwest Power Pool plus Pend Oreille County PUD and the Washington Public Power Supply System. British Columbia Hydro and Power Authority, Sierra Pacific Power Co., Trans Alta Utilities, Utah Power & Light Co., and West Kootenay Power and Light, who are members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

(b) Includes: Pacific Northwest generating facilities of the Bureau of Reclamation and Corps of Engineers; Washington Public Power Supply System's nuclear plant (WNP-2), Hanford steam plant (HGP), and Packwood hydro plant; the Okanogan PUD share of Wells; the municipality shares (Forest Grove, McMinnville, and Milton-Freewater) of Priest Rapids; the Snohomish PUD share of the Centralia steam plant and the Jackson hydro plant; the Federal share of the Trojan nuclear plant; the Pacific NW Generating Company's share of Boardman; the PGE-Kinzua co-generation project; the Clark County PUD-Great Western Malting co-generation project; the Seattle City Light and Tacoma City Light shares of Southern Columbia Basin Irrigation District hydro generation; the Seattle City Light Rocky Brook Project; and the PP & L Mid-Fork co-generation and Whiskey Run projects.

(c) In February 1988, it was decided that the Hanford steam plant (NPR) would be permanently shut down.

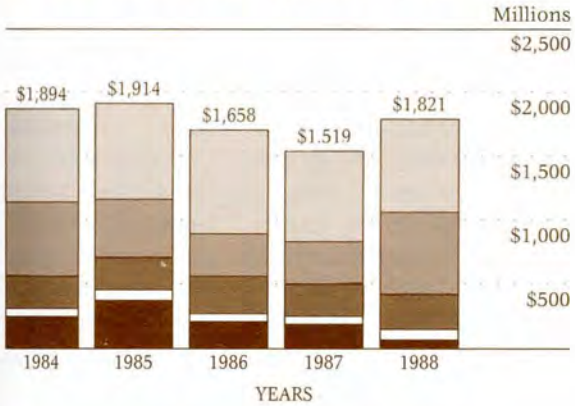
Megawatt Hours Used by Customer Class

- Publicly Owned Utilities
- Aluminum Industry
- Privately Owned Utilities
- Other Power Sales
- Sales Outside the Northwest Region



Electric Power Sales by Customer Class

- Publicly Owned Utilities
- Aluminum Industry
- Privately Owned Utilities
- Other Power Sales
- Sales Outside the Northwest Region



Sales of Electric Power (FCRPS)

Revenue in Thousands of Dollars

TABLE 2	1988			
Northwest Region –	Capacity Sales		Energy Sales	
Municipalities	MW	Revenue	MWH	Revenue
Albion, ID	8	$ 26	3,240	$ 55
Ashland, OR	317	1,084	140,686	2,374
Bandon, OR	109	405	52,440	889
Blaine, WA	101	348	48,773	833
Bonners Ferry, ID	104	332	38,092	671
Burley, ID	210	721	104,103	1,766
Canby, OR	261	892	109,248	1,864
Cascade Locks, OR	62	206	26,922	446
Centralia, WA	377	1,291	142,510	2,480
Cheney, WA	213	727	98,757	1,684
Cons. Irrig. Dist., WA	5	21	1,090	17
Coulee Dam, WA	29	102	14,808	256
Declo, ID	7	24	2,937	51
Drain, OR	56	190	28,255	477
Eatonville, WA	41	140	16,914	290
Ellensburg, WA	305	1,044	151,011	2,567
Eugene, OR	2,483	8,325	1,616,603	27,489
Fircrest, WA	95	327	42,334	723
Forest Grove, OR	287	916	140,966	2,389
Heyburn, OR	160	550	88,116	1,478
Idaho Falls, ID	1,048	3,589	534,771	9,107
McCleary, WA	78	265	32,352	550
McMinnville, OR	781	2,615	384,183	6,518
Milton, WA	94	322	41,941	718
Milton-Freewater, OR	162	487	71,864	1,211
Minidoka, ID	2	6	790	13
Monmouth, OR	120	410	52,998	906
Port Angeles, WA	1,101	3,793	659,837	11,247
Richland, WA	1,173	4,015	527,789	8,966
Rupert, ID	155	528	70,633	1,204
Seattle, WA	115	52	1,558,676	23,981
Soda Springs, OR	49	162	23,072	393
Springfield, OR	1,132	3,889	558,194	9,504
Steilacoom, WA	94	318	39,289	675
Sumas, WA	22	73	10,229	173
Tacoma, WA	3,504	11,649	2,701,823	44,283
Troy, MT	24	84	11,018	185
Vera Irrig. Dist., WA	333	1,135	149,928	2,564
WA Public Power Supply System, WA	330	1,130	77,598	1,313
Total Municipalities (39)	15,547	$52,193	10,374,790	$172,310

Sales of Electric Power (Revenue in Thousands of Dollars)

TABLE 2 Continued — 1988

Public Utility Districts	Capacity Sales MW	Capacity Sales Revenue	Energy Sales MWH	Energy Sales Revenue
Benton, Co.	2,658	$ 9,122	1,295,201	$ 20,666
Central Lincoln	2,347	8,036	1,320,637	22,269
Chelan Co.	372	169	163,039	1,788
Clallam Co.	998	3,127	418,027	6,628
Clark Co.	5,024	17,248	2,632,339	44,850
Clatskanie	1,240	4,232	751,679	12,663
Columbia River	450	1,460	230,635	3,668
Cowlitz Co.	5,268	17,816	3,678,329	61,728
Douglas Co.	425	196	(18,343)	(296)
Emerald	861	2,746	378,638	5,923
Ferry Co.	138	440	69,883	1,095
Franklin Co.	1,195	4,094	571,325	9,168
Grant Co. #2	1,198	673	88,648	304
Grays Harbor	2,059	7,042	1,093,310	18,555
Kittitas Co.	61	177	23,890	375
Klickitat Co.	485	1,539	221,532	3,436
Lewis Co.	1,037	3,375	617,360	9,921
Mason Co. #1	113	360	49,700	789
Mason Co. #3	896	3,066	405,468	6,894
Northern Wasco Co.	432	1,482	197,113	3,348
Okanogan Co.	111	375	199,042	3,298
Pacific Co. #2	534	1,831	241,724	4,117
Pend Oreille Co.	–	–	28,864	28
Skamania Co.	219	695	102,788	1,621
Snohomish Co.	8,062	27,592	4,171,672	70,117
Tillamook	672	2,218	292,502	4,782
Wahkiakum Co.	69	219	32,215	524
Whatcom Co.	255	870	162,283	2,720
Total Public Utility Districts (28)	37,179	$120,200	19,419,500	$320,979

Sales of Electric Power (Revenue in Thousands of Dollars)

TABLE 2 Continued — 1988

Cooperatives	Capacity Sales MW	Capacity Sales Revenue	Energy Sales MWH	Energy Sales Revenue
Alder Mutual Light	5	$ 15	2,273	$ 35
Benton Rural Elec. Assn.	593	1,925	272,231	4,148
Big Bend Coop.	744	2,378	371,805	5,436
Blachly-Lane Coop.	293	950	127,559	2,046
Central Elec. Coop.	698	2,222	310,825	4,747
Clearwater Power Co.	306	975	133,490	2,109
Columbia Basin Coop.	210	664	107,788	1,550
Columbia Power Coop.	53	170	24,438	361
Columbia Rural Elec. Assn.	394	1,257	192,374	2,393

TABLE 2 Continued — 1988

Consumers Power	691	2,203	305,592	4,805
Coos-Curry Elec. Coop.	549	1,750	252,412	3,966
Douglas Elec. Coop.	267	853	120,597	1,892
East End Mutual Elec.	34	114	16,601	268
Elmhurst Mutual P&L	494	1,686	216,645	3,716
Fall River Elec. Coop.	310	992	146,649	2,053
Farmers Elec. Co.	7	29	3,655	62
Flathead Elec. Coop.	300	965	136,372	2,117
Glacier Elec. Coop.	288	918	155,071	2,432
Harney Elec. Coop.	295	934	159,380	2,017
Hood River Elec. Coop.	177	605	87,025	1,489
Idaho Co. L&P Coop.	71	224	32,084	506
Inland P&L	993	3,160	453,496	7,175
Kootenai Elec. Coop.	379	1,207	182,060	2,839
Lakeview L&P	492	1,686	245,900	4,186
Lane Elec. Coop.	515	1,682	234,568	3,804
Lincoln Elec. Coop. – MT	163	518	76,133	1,193
Lincoln Elec. Coop. – WA	217	690	106,034	1,395
Lost River Elec. Coop.	121	383	61,365	810
Lower Valley P&L	795	2,538	368,256	5,771
Midstate Elec. Coop.	439	1,396	204,500	3,117
Missoula Elec. Coop.	257	821	122,275	1,903
Nespelem Valley Elec. Coop.	82	267	36,547	563
Northern Lights	416	1,325	214,647	3,396
Ohop Mutual Light Co.	91	288	37,667	601
Okanogan County Coop.	61	199	30,105	451
Orcas P&L	269	857	117,857	1,864
Pacific NW Generating Co.	13	44	3,283	58
Parkland Light & Water	197	675	96,676	1,653
Peninsula Light Co.	803	2,751	343,287	5,882
Prairie Power Coop.	19	60	8,728	118
Raft River Elec. Coop.	322	1,007	179,690	2,088
Ravalli Elec. Coop.	169	540	79,100	1,228
Riverside Elec. Co.	29	98	13,108	199
Rural Elec. Co.	166	549	78,767	1,213
Salem Elec.	604	2,034	288,436	4,896
Salmon River Coop.	293	953	163,946	2,448
South Side Elec. Lines	81	260	38,014	509
Surprise Valley Elec.	229	729	110,614	1,523
Tanner Elec.	71	225	29,562	469
Umatilla Elec. Coop.	1,021	3,315	529,926	7,373
Unity P&L	141	464	67,399	1,007
Vigilante Elec. Coop.	245	777	115,395	1,650
Wasco Elec. Coop.	205	649	90,333	1,397
Wells Rural	353	1,126	200,877	3,097
West Oregon Coop.	136	433	62,472	1,022
Total Cooperatives (55)	17,166	$55,535	8,165,889	$125,046

Sales of Electric Power (Revenue in Thousands of Dollars)

TABLE 2 Continued — 1988

Aluminum Industry	Capacity Sales MW	Capacity Sales Revenue	Energy Sales MWH	Energy Sales Revenue
Alcoa	3,214	$ 16,395	2,244,888	$ 45,037
Columbia Aluminum Co.	2,500	13,276	1,800,729	38,153
Columbia Falls Aluminum Co.	4,199	21,751	2,961,357	62,329
Intalco Aluminum Co.	5,444	29,014	3,989,362	83,968
Kaiser Aluminum Co.	7,151	37,413	5,121,891	106,386
Northwest Aluminum Co.	1,621	8,640	1,167,687	24,580
Reynolds Metals Co.	8,093	43,096	5,864,359	123,343
Vanalco, Inc.	1,940	10,207	1,348,719	28,465
Total Aluminum Industry (8)	34,162	$179,792	24,498,992	$512,261

Sales of Electric Power (Revenue in Thousands of Dollars)

TABLE 2 Continued — 1988

Other Industries	Capacity Sales MW	Capacity Sales Revenue	Energy Sales MWH	Energy Sales Revenue
ACPC, Inc.	21	$ 84	9,687	$ 166
Georgia Pacific Corp.	399	1,654	286,646	4,946
Gilmore Steel	3	13	974	18
Hanna Nickel Smelting	–	–	2,756	71
Oregon Metallurgical	99	409	64,191	1,171
Pacific Carbide	40	70	915	15
Pennwalt Corporation	840	3,476	600,244	10,372
Port Townsend Paper	149	618	81,486	1,530
Stewart Elsner/Camp High Cliff	–	–	8	–
Total Other Industries (9)	1,551	$ 6,324	1,046,907	$ 18,289

Sales of Electric Power (Revenue in Thousands of Dollars)

TABLE 2 Continued — 1988

Privately Owned Utilities	Capacity Sales MW	Capacity Sales Revenue	Energy Sales MWH	Energy Sales Revenue
California Pacific National Corp.	–	$ –	5,697	$ 88
Colockum Transmission Co.	408	187	(13,528)	(240)
Idaho Power Co.	–	–	55,509	961
Montana Power Co.	960	3,289	686,627	10,829
Pacific Power & Light Co.	14,296	48,232	705,305	11,034
Portland General Elec. Co.	8,568	27,133	1,384,811	26,607
Portland General Exchange	–	–	22,680	698
Puget Sound P&L Co.	2,547	3,994	1,537,857	28,310
Utah Power & Light Co.	–	–	9,278	171
Washington Water Power	1,287	3,447	1,066,583	16,438
Total Privately Owned Utilities (10)	28,066	$86,282	5,460,819	$94,896

Sales of Electric Power (Revenue in Thousands of Dollars)

TABLE 2 Continued — 1988

Federal Agencies	Capacity Sales MW	Capacity Sales Revenue	Energy Sales MWH	Energy Sales Revenue
U.S. Department of Energy	802	$2,736	484,642	$ 8,147
U.S. Bureau of Mines	17	51	5,674	97
U.S. Air Force	84	288	41,910	705
U.S. Bureau of Reclamation	–	–	139,456	402
U.S. Bureau of Indian Affairs	453	1,542	195,258	3,160
U.S. Navy	698	2,392	369,188	6,224
Total Federal Agencies (6)	2,054	$7,009	1,236,128	$18,735
Sales Within the NW Region (155)	**135,725**	**$507,335**	**70,203,025**	**$1,262,516**

Sales of Electric Power (Revenue in Thousands of Dollars)

TABLE 2 Continued — 1988

Sales Outside the Northwest Region	Capacity Sales MW	Capacity Sales Revenue	Energy Sales MWH	Energy Sales Revenue
Anaheim, CA – Public	–	$ –	931	$ 17
Burbank, CA – Public	188	857	100,004	2,004
Glendale, CA – Public	100	445	75,232	1,486
Los Angeles, CA – Public	–	–	214,138	4,041
Nevada Power Co. – Private	–	–	3,150	50
No. California Power Agency – Public	–	–	43,610	1,170
Pacific Gas & Elec. Co. – Private	–	(4)	1,734,567	31,068
Pasadena, CA – Public	2,950	347	22,270	482
Riverside, CA – Public	–	–	2,604	47
Sacramento, CA – Public	–	–	242,290	4,232
San Diego Gas & Elec. – Private	–	–	10,289	164
Sierra Pacific Power Co. – Private	–	–	695	11
So. Cal. Edison Co. – Private	–	–	250,220	4,781
State of California – Public	–	–	20,037	355
WAPA – Mid Pacific Region – Federal	–	–	396	6
Total Sales Outside the NW Region (15)	**3,238**	**$1,645**	**2,720,433**	**$49,914**
Sales of Electric Power (170)	**138,963**	**$508,980**	**72,923,458**	**$1,312,430**

Report of Independent Public Accountants

To the Administrator of
Bonneville Power Administration,
United States Department of Energy:

We have audited the accompanying balance sheets of the Federal Columbia River Power System (FCRPS) as of September 30, 1988 and 1987, and the related statements of revenues and expenses, changes in capitalization and cash flows for the years then ended. These financial statements are the responsibility of FCRPS's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of FCRPS as of September 30, 1988 and 1987, and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

As discussed in Note 7 to the financial statements, pending and threatened litigation related to the allocation of certain costs among Washington Public Power Supply System nuclear projects may have a significant impact on FCRPS. The ultimate outcome of the litigation cannot presently be determined. Accordingly, no provision for any liability that might result has been made in the accompanying financial statements.

Our audits were made for the purpose of forming an opinion on the basic financial statements taken as a whole. The Schedule of Amount and Allocation of Plant Investment as of September 30, 1988, (Schedule A) is presented for purposes of additional analysis and is not a required part of the basic financial statements. The information in Schedule A has been subjected to the auditing procedures applied in our audits 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.

Portland, Oregon,
December 19, 1988.

Arthur Andersen & Co.

Federal Columbia River Power System

Statements of Revenues and Expenses

For the Years Ended September 30, 1988 and 1987

	1988	1987
	(Thousands of Dollars)	
Operating Revenues:		
Sales of electric power –		
Sales within the Northwest region –		
Publicly owned utilities	$ 846,263	$ 746,572
Aluminum industry	692,053	379,808
Privately owned utilities	181,178	172,440
Other power sales	50,357	46,614
Sales outside the Northwest region	51,559	173,459
	1,821,410	1,518,893
Wheeling and other sales	125,486	155,150
Total operating revenues	1,946,896	1,674,043
Operating Expenses:		
Operations and maintenance	560,351	513,232
Non-Federal projects (Note 4)	612,132	602,303
Federal projects depreciation	188,363	177,359
Residential exchange (Note 5)	192,238	217,231
Total operating expenses	1,553,084	1,510,125
Net operating revenues	393,812	163,918
Interest Expense:		
Interest on Federal investment –		
Appropriated funds	214,012	231,508
Long-term debt	165,684	163,981
Allowance for funds used during construction	(11,149)	(19,021)
Net interest expense	368,547	376,468
Litigation Settlement (Note 7)	20,000	–
Net Revenues (Expenses)	$ 5,265	$ (212,550)

The accompanying notes are an integral part of these statements.

Federal Columbia River Power System

Balance Sheets

September 30, 1988 and 1987

Assets	1988	1987
	(Thousands of Dollars)	
Utility Plant (Notes 1 and 3):		
Completed plant	$ 8,674,908	$ 8,503,261
Accumulated depreciation	(1,943,406)	(1,802,999)
	6,731,502	6,700,262
Construction work in progress	297,328	316,289
Net utility plant	7,028,830	7,016,551
Non-Federal Projects (Notes 1 and 4):		
Hanford	20,335	23,500
Trojan	125,905	129,060
WNP No. 1	2,076,035	2,094,090
WNP No. 2	2,207,130	2,233,775
WNP No. 3	1,564,350	1,574,905
Idaho Falls	39,565	40,005
Conservation	14,925	15,655
Total non-Federal projects	6,048,245	6,110,990
Conservation, net of accumulated amortization of $120,994 in 1988 and $88,554 in 1987 (Notes 1 and 2)	530,366	510,321
Fish and Wildlife, net of accumulated amortization of $2,561 in 1988 and $1,420 in 1987 (Note 1)	19,783	13,197
Current Assets:		
Cash	158,819	271,533
Accounts receivable	13,683	11,617
Accrued unbilled revenues	88,127	78,078
Materials and supplies, at average cost	35,698	35,477
Prepaid expenses	88,323	71,645
Total current assets	384,650	468,350
Other Assets	52,693	25,173
	$14,064,567	$14,144,582

Capitalization and Liabilities	1988	1987
	(Thousands of Dollars)	
Accumulated Net Expenses (Note 3)	$ (580,758)	$ (586,023)
Federal Appropriations (Note 3)	6,590,253	6,544,336
Long-Term Debt (Notes 2 and 3)	1,792,499	1,843,799
Non-Federal Projects Debt, net of current portion (Notes 1 and 4)	5,981,440	6,048,650
Commitments and Contingencies (Notes 6 and 7)		
Current Liabilities:		
Current portion of non-Federal projects debt (Notes 1 and 4)	66,805	62,340
Accounts payable	113,542	201,617
Employees' accrued leave	11,857	11,460
Litigation settlement (Note 7)	20,000	–
Total current liabilities	212,204	275,417
Deferred Credits	68,929	18,403
	$14,064,567	$14,144,582

The accompanying notes are an integral part of these balance sheets.

Federal Columbia River Power System

Statements of Changes in Capitalization

For the Years Ended September 30, 1988 and 1987

	Accumulated Net Expenses	Federal Appropriations	Long-Term Debt	Non-Federal Projects Debt	Total Capitalization
	(Thousands of Dollars)				
Balance at September 30, 1986	$(373,473)	$6,482,754	$1,458,799	$6,168,510	$13,736,590
Federal appropriations:					
Operations and maintenance	–	92,125	–	–	92,125
Construction	–	62,913	–	–	62,913
Increase in long-term debt	–	–	620,000	–	620,000
Reduction of long-term debt:					
Repayment	–	–	(150,000)	–	(150,000)
Refinance	–	–	(85,000)	–	(85,000)
Decrease in non-Federal projects debt	–	–	–	(57,520)	(57,520)
Repayment of Federal appropriations:					
Operations and maintenance	–	(92,125)	–	–	(92,125)
Construction	–	(1,331)	–	–	(1,331)
Net expenses	(212,550)	–	–	–	(212,550)
Balance at September 30, 1987	(586,023)	6,544,336	1,843,799	6,110,990	13,913,102
Federal appropriations:					
Operations and maintenance	–	90,576	–	–	90,576
Construction	–	55,452	–	–	55,452
Increase in long-term debt	–	–	323,700	–	323,700
Reduction of long-term debt:					
Repayment	–	–	(185,000)	–	(185,000)
Refinance	–	–	(190,000)	–	(190,000)
Decrease in non-Federal projects debt	–	–	–	(62,745)	(62,745)
Repayment of Federal appropriations:					
Operations and maintenance	–	(90,576)	–	–	(90,576)
Construction	–	(9,535)	–	–	(9,535)
Net revenues	5,265	–	–	–	5,265
Balance at September 30, 1988	$(580,758)	$6,590,253	$1,792,499	$6,048,245	$13,850,239

The accompanying notes are an integral part of these statements.

Federal Columbia River Power System

Statements of Cash Flows

For the Years Ended September 30, 1988 and 1987

	1988	1987
	(Thousands of Dollars)	
Cash from Operating Activities:		
Net revenues (expenses)	$ 5,265	$(212,550)
Expenses not requiring cash:		
Depreciation	154,782	148,941
Amortization	33,581	28,418
Amortization of non-Federal projects	62,745	57,520
Litigation settlement	20,000	—
(Increase) decrease in:		
Receivables and unbilled revenues	(12,115)	17,660
Materials and supplies	(221)	130
Prepaid expenses	(16,678)	(36,803)
Increase (decrease) in:		
Accounts payable	(88,075)	26,190
Employees' accrued leave	397	366
Other	23,006	(1,306)
Cash provided by operating activities	182,687	28,566
Cash Used for Investment Activities:		
Investment in:		
Utility plant	(167,061)	(198,447)
Conservation	(52,485)	(65,958)
Fish and wildlife	(7,727)	(4,709)
Cash used for investment activities	(227,273)	(269,114)
Cash from Borrowing and Appropriations:		
Increase in long-term debt	323,700	620,000
Refinance of long-term debt	(40,000)	(85,000)
Refinance of notes to bonds	(150,000)	—
Repayment of long-term debt	(185,000)	(150,000)
Repayment of non-Federal projects debt	(62,745)	(57,520)
Increase in Federal appropriations:		
Operations and maintenance	90,576	92,125
Construction	55,452	62,913
Repayment of Federal appropriations:		
Operations and maintenance	(90,576)	(92,125)
Construction	(9,535)	(1,331)
Cash from borrowing and appropriations	(68,128)	389,062
Increase (decrease) in cash	(112,714)	148,514
Beginning Cash Balance	271,533	123,019
Ending Cash Balance	$158,819	$271,533

The accompanying notes are an integral part of these statements.

Federal Columbia River Power System

Notes to Financial Statements

September 30, 1988 and 1987

1. Summary of 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 of 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 specific purposes through a cost-allocation process. Only the portion of total project costs allocated to power is included in these statements.

FCRPS accounts are maintained in accordance with generally accepted accounting principles and the uniform system of accounts prescribed for electric utilities by the Federal Energy Regulatory Commission (Commission). FCRPS accounting policies also reflect specific legislation and executive directives issued by U.S. Government departments (BPA is a unit of the Department of Energy; the Bureau is part of the Department of Interior and the Corps is part of the Department of Defense). FCRPS properties and income are tax-exempt.

Regulatory Authority

FCRPS power rates must be confirmed and approved by the Commission.

Revenues

Operating revenues are recorded on the basis of service rendered.

Utility Plant

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 costs of additions, major replacements, and betterments are capitalized. Repairs and minor replacements are charged to operating expense. The cost of utility plant retired, together with removal costs and less salvage, is charged to accumulated depreciation when it is removed from service.

Allowance for Funds Used During Construction

The allowance for funds used during construction (AFUDC) constitutes interest on the funds used for utility plant under construction. AFUDC is capitalized as part of the cost of utility plant and results in a non-cash reduction of interest expense.

AFUDC capitalization rates are stipulated for certain generating projects (2.5% to 8.5% in 1988 and 2.5% to 8.9% in 1987). Capitalization rates for other construction approximate the cost of borrowings from the U.S. Treasury (10.1% in 1988 and 11.1% in 1987).

Depreciation and Amortization

Depreciation of utility plant is computed on the straight-line method based on estimated service lives of the various classes of property, which average 45 years for transmission and 85 years for generation. Amortization of conservation and fish and wildlife is computed on the straight-line method based on estimated service lives of the various classes of intangible assets, which are 20 years for conservation and 15 years for fish and wildlife.

Non-Federal Projects and Non-Federal Projects Debt

BPA has agreed to acquire all or part of the generating capability of five nuclear power plants and one hydro project. BPA has also agreed to fund debt service on Eugene Water & Electric Board (EWEB) bonds issued to finance conservation programs sponsored by BPA. The non-Federal projects will be amortized as such costs are scheduled to be recovered in rates.

Retirement Benefits

FCRPS employees belong to either the Civil Service Retirement System or the Federal Employees' Retirement System. FCRPS and employees contribute to the systems. Retirement benefits are payable by the U.S. Treasury and not by the FCRPS.

Net Revenues

Because BPA is a nonprofit U.S. Government power marketing agency, net revenues over time are committed to repayment of the U.S. Government investment in the FCRPS and the payment of certain irrigation costs as discussed in Note 6.

Cash

For purposes of reporting cash flows, cash includes cash in the BPA fund and unexpended appropriations of the Bureau and Corps. Cash paid for interest was $383 million in 1988 and $381 million in 1987.

Reclassifications

Certain reclassifications of prior year amounts have been made to conform to 1988 financial statement presentation.

2. Long-Term Debt

To finance its capital programs, BPA is authorized by the Federal Columbia River Transmission System Act to issue to the U.S. Treasury up to $3.75 billion of interest-bearing debt with terms and conditions comparable to debt issued by U.S. Government corporations. A portion ($1.25 billion) of the $3.75 billion is reserved for conservation and renewable resource loans and grants. At September 30, 1988, $515 million of this reserved amount and $1,277 million of other borrowings were outstanding. The following table reflects the terms and amounts of long-term debt.

Issue Date	First Call Date	Maturity Date	Interest Rate	Construction Debt	Conservation Debt	Cumulative Total
				(Thousands of Dollars)		
Bonds:						
Sep 1985	none	1990	10.15%	$ –	$ 50,000	$ 50,000
Mar 1986	none	1991	7.80%	–	50,000	100,000
Jun 1987	none	1992	8.35%	100,000	–	200,000
Jun 1987	none	1992	8.35%	–	50,000	250,000
Mar 1986	none	1996	8.15%	100,000	–	350,000
Mar 1986	none	1996	8.15%	–	50,000	400,000
Sep 1984	1989	2004	13.05%	–	150,000	550,000
Apr 1987	1992	2007	9.30%	–	75,000	625,000
Apr 1988	1993	2008	9.90%	–	90,000	715,000
Sep 1978	1983	2013	8.95%	50,000	–	765,000
Jun 1979	1984	2014	9.45%	28,799	–	793,799
Jul 1987	1992	2017	9.55%	95,000	–	888,799
Feb 1988	1993	2018	9.50%	43,700	–	932,499
Jun 1983	1988	2018	11.70%	30,000	–	962,499
Nov 1983	1988	2018	12.30%	30,000	–	992,499
Sep 1984	1989	2019	13.05%	60,000	–	1,052,499
Jun 1985	1990	2030	11.25%	100,000	–	1,152,499
Jun 1986	1991	2031	8.95%	300,000	–	1,452,499
Apr 1987	1992	2032	9.30%	100,000	–	1,552,499
Jul 1987	1992	2032	9.55%	50,000	–	1,602,499
Feb 1988	1993	2033	9.50%	150,000	–	1,752,499
Jun 1988	1993	2033	9.90%	40,000	–	1,792,499
Total				$1,277,499	$515,000	$1,792,499

The weighted average interest rate was 9.8% and 10.1% on outstanding long-term debt as of September 30, 1988 and 1987, respectively. While all the construction and conservation bonds are term bonds, most have a call provision that allows them to be repaid beginning five years after the date of issuance.

3. Federal Appropriations

Construction and replacement of Corps and Bureau generating facilities is financed by annual Federal appropriations. Annual appropriations are also made for their operation and maintenance costs, although these are repaid by BPA to the U.S. Treasury by the end of each fiscal year. BPA construction and operations and maintenance costs were also financed by appropriations before the Federal Columbia River Transmission System Act was passed in 1974.

Interest rates on the appropriated funds range from 2.5% to 12.4% (the weighted average rate was 3.7% in 1988 and 3.3% in 1987). The rates have been set by law, administrative order pursuant to law, or administrative policies.

Federal appropriations and long-term debt in generating projects and the transmission system are to be repaid to the U.S. Treasury within 50 and 45 years, respectively, from the time each facility is placed in service. The cumulative amount of Federal appropriations and long-term debt repaid through September 30, 1988 exceeded the amount required to be repaid.

If, in any given year, there are not enough revenues to cover all cash needs, including interest, any deficiency becomes unpaid annual expense. Interest is accrued on unpaid annual expense until paid. This must be paid from subsequent years' revenues before any repayment of Federal appropriations and long-term debt can be made.

The following table shows the planned and term repayments of the remaining Federal appropriations ($6,590,253) and long-term debt ($1,792,499) as of September 30, 1988.

	Planned to be Repaid (a)	Term Repayments (a)
	(Thousands of Dollars)	
1989	$ 148,057	$ —
1990	170,041	50,000
1991	180,741	50,000
1992	197,543	151,408
1993	201,856	17,785
1994-1998	677,425	198,410
1999-2003	351,454	234,546
2004-2008	533,847	1,095,806
2009-2013	566,868	552,434
2014-2018	630,085	835,668
2019-2023	1,872,944	1,458,431
2024-2028	2,457,077	1,488,749
After 2028	394,814	2,249,515
	$8,382,752	$8,382,752

(a) Excludes planned payments on future replacements.

4. Non-Federal Projects

BPA has acquired all or part of the generating capability of five nuclear power projects. The contracts to acquire the generating capability of the projects, referred to as "net-billing agreements," require BPA to pay all or part of the annual project budgets, including debt service, whether or not the projects are completed. BPA has also acquired all of the output of the Idaho Falls Bulb Turbine project and has agreed to fund debt service on EWEB bonds issued to finance conservation programs sponsored by BPA. The projected payments under these agreements are shown in the following table.

Project and Percent Capability Acquired	Project Status	Megawatts Acquired		Actual 1987	Actual 1988	Estimated Annual Project Costs 1989	1990	1991	1992	1993
				(Thousands of Dollars)						
Hanford Generating Project (72%)	Shutdown	430	Interest (a)	$ (405)	$ (42)	$ 400	$ 200	$ –	$ (200)	$ –
			Principal	4,085	3,165	3,500	5,100	5,600	5,700	400
			Operations	13,420	(725)	600	200	100	–	–
				17,100	2,398	4,500	5,500	5,700	5,500	400
Trojan Nuclear Project (30%)	Operational	339	Interest	7,231	6,782	6,300	6,400	6,200	6,100	5,800
			Principal	3,015	3,155	3,300	3,500	3,700	3,800	4,100
			Operations	46,292	54,582	50,600	63,600	69,400	62,400	66,100
				56,538	64,519	60,200	73,500	79,300	72,300	76,000
WNP No. 1 (100%)	Preserved	1,250	Interest	184,198	189,926	189,600	188,000	186,500	184,900	183,000
			Principal	15,470	18,055	19,000	21,500	22,600	23,800	25,600
			Preservation (b)	–	1,146	4,300	1,800	1,200	1,300	1,300
				199,668	209,127	212,900	211,300	210,300	210,000	209,900
WNP No. 2 (100%)	Operational	1,100	Interest	197,094	195,705	193,800	191,700	189,500	186,900	184,200
			Principal	24,925	26,645	28,500	30,600	32,800	35,300	38,000
			Operations	124,333	153,899	162,100	191,600	203,600	191,800	205,000
				346,352	376,249	384,400	413,900	425,900	414,000	427,200
WNP No. 3 (70%) (c)	Preserved	868	Interest	152,361	152,675	151,800	151,000	150,100	149,200	148,100
			Principal	8,925	10,555	11,300	12,100	13,100	14,000	15,100
			Preservation (d)	22,383	499	16,100	13,200	13,300	15,300	17,100
				183,669	163,729	179,200	176,300	176,500	178,500	180,300
Idaho Falls Hydro (100%)	Operational	24	Interest	3,103	3,117	3,100	3,000	3,000	2,900	2,900
			Principal	410	440	500	500	500	600	600
			Operations	1,095	1,003	1,300	1,400	1,400	1,500	1,600
				4,608	4,560	4,900	4,900	4,900	5,000	5,100
EWEB Conservation	N/A	N/A	Interest	1,201	1,224	1,300	1,300	1,200	1,100	1,100
			Principal	690	730	800	800	900	1,000	1,000
				1,891	1,954	2,100	2,100	2,100	2,100	2,100
				$809,826	$822,536	$848,200	$887,500	$904,700	$887,400	$901,000

(a) Interest income on project funds is anticipated to exceed interest expense on project obligations.
(b) Estimated preservation costs during the delay period for WNP No. 1 are not shown separately because it is anticipated such costs will be funded by WNP No. 1 bond funds currently available.
(c) Pursuant to the WNP No. 3 settlement agreement, BPA has an irrevocable offer to acquire the remaining 30% capability of the project.
(d) Estimated preservation costs for WNP No. 3 include the 30% IOU share assumed by BPA pursuant to the settlement agreement.

BPA's commitment under the net billing agreements extends for the life of the projects. Construction on two projects, WNP No. 1 and WNP No. 3, has been delayed indefinitely. A construction restart of WNP No. 1 and WNP No. 3 and the need for additional financing will depend on factors such as the forecasted power needs in the Pacific Northwest and the cost effectiveness of these projects compared to other resources.

Operating expense is included in operations and maintenance in the accompanying statements of revenues and expenses. Future principal and interest payments required for non-Federal projects are $17.8 billion, of which $11.8 billion represents interest. BPA and the Supply System are currently evaluating the feasibility of refinancing a portion of existing debt.

5. Residential Exchange

As provided for in the Pacific Northwest Electric Power Planning and Conservation Act of 1980, Section 5(c), BPA entered into Residential Purchase and Sale Agreement contracts with several electric utilities. These contracts allow each utility to sell to BPA its qualified residential and irrigation load at the average system cost of the utility's resources. In exchange, BPA sells to the utilities electric power for their residential and irrigation loads at BPA's priority firm power rates. Purchases and sales of electric power by BPA during fiscal years 1988 and 1987 under these contracts were as follows:

	1988	1987
	(Thousands of Dollars)	
Residential exchange expense	$953,975	$1,013,956
Residential exchange revenues	761,737	796,725
Residential exchange	$192,238	$ 217,231

Current year expense includes approximately $35 million for terminating Clark and Snohomish County PUDs' residential exchange contracts. The remaining expense of the terminations, about $22 million, will be deferred until 1989 matching the amount to be recovered in rates.

6. Commitments and Contingencies

Irrigation Assistance

Legislation requires that FCRPS net revenues be used to pay the U.S. Treasury for costs allocated to irrigation of certain Pacific Northwest projects that are determined to be beyond the ability of the irrigation water users to repay. The first planned irrigation assistance payment from power revenues will be made in 1997, and cumulative payments will ultimately total $812 million. Although paid by power ratepayers, such costs are for the benefit of the water users and are not a regular operating cost of the power program. Accordingly, they are not reflected in the balance sheets.

Residential Exchange

Section 7(b)(3) of the Pacific Northwest Electric Power Planning and Conservation Act of 1980 provides that if there is an overall net revenue surplus or deficiency for the period ending June 30, 1985, a portion of it shall be repaid to or recovered from customers, over a reasonable period of time, on the basis of power sales during that period. The surplus or deficiency must relate to (1) a difference between projected and actual power deliveries to the direct service industrial customers and (2) recovering too little or too much of the net residential exchange.

In its 1987 rate case, BPA tentatively determined the aforementioned Section 7(b)(3) adjustment was not warranted. In the opinion of BPA management, any challenges to this determination will not have a material effect on the FCRPS financial statements.

Nuclear Insurance

BPA is a member of Nuclear Electric Insurance Limited (NEIL) established to provide insurance coverage for replacement power costs resulting from an accidental outage at a member's nuclear site, excess property damage and decontamination liability. Under its property and decontamination coverage, BPA could be subject to a maximum assessment of $8.2 million in the event of a loss to any NEIL-insured nuclear plant.

As a separate requirement, BPA is liable under the Nuclear Regulatory Commission's indemnity for public liability coverage under the Price-Anderson Act. In the event of nuclear incidents, BPA could be subject to a retrospective assessment of $63 and $18.9 million limited to an annual maximum of $10 and $3 million for WNP No. 2 and Trojan, respectively.

7. Litigation

Involving the Washington Public Power Supply System (the Supply System)

On January 22, 1982, the Supply System stopped construction of two nuclear projects: WNP No. 4 at Hanford and WNP No. 5 at Satsop. After the termination, the Supply System defaulted on $2.25 billion of outstanding WNP Nos. 4 and 5 bonds for which FCRPS has no obligation, and delayed construction of WNP Nos. 1 and 3. The above actions of the Supply System have led to a number of lawsuits which involve BPA. In 1987 BPA was dismissed, subject to appeal, from the securities fraud litigation (MDL551). On October 31, 1988, BPA, the State of Washington, and various utility defendants entered into a settlement agreement for $236 million, of which BPA's share is $20 million. In return plaintiffs have agreed to drop their action against BPA and will indemnify for any claims brought against BPA by remaining defendants. Accordingly, a provision for the settlement of $20 million has been made in the accompanying statement of revenues and expenses.

In addition to direct claims against BPA, there are lawsuits against the Supply System which have asserted a right to execute on all the assets of the Supply System, including WNP Nos. 1, 2 and 3, to satisfy judgments related to WNP Nos. 4 and 5. The Washington Supreme Court has ruled that the utilities who loaned money to the Supply System to pay for the mothballing and termination of WNP Nos. 4 and 5 were limited to satisfying their judgment from the funds of WNP Nos. 4 and 5. Three claims for goods and services provided for WNP Nos. 4 and 5 have resulted in money damages against the Supply System; however, a Washington State court judge has ruled in one case that the judgment is only recoverable from WNP Nos. 4 and 5 funds.

In another case the Federal District Court ruled that a debt for work performed on WNP No. 5 was only payable from WNP Nos. 4 and 5 project funds. BPA will vigorously oppose any attempt of these litigants to satisfy their claims from the assets of WNP Nos. 1, 2 and 3, and in the opinion of BPA General Counsel, the likelihood of the litigants being able to satisfy their claims from the assets of WNP Nos. 1, 2 and 3 to the extent they are WNP Nos. 4 and 5 debt, is remote.

WNP Nos. 1 and 4 and WNP Nos. 3 and 5 share certain common facilities. The participants of the terminated projects have demanded that the heretofore equitably shared costs be reallocated retroactively to WNP Nos. 1 and 3. If the plaintiffs are successful, this could result in these two projects assuming additional costs of up to $750 million. Because of the net-billing agreements discussed in Note 4, which require BPA to pay the participants' portion of the annual project costs for WNP Nos. 1, 2 and 3, BPA might be required to fund judgments against the Supply System affecting the net-billed projects. BPA General Counsel cannot predict the outcome of this matter.

Involving Rates

BPA is involved in litigation concerning various rate matters. In the opinion of BPA General Counsel, either the likelihood of success by the filing party is remote; the ultimate outcome will not have a material effect on the FCRPS financial statements; or any payments by BPA resulting from the litigation would be recovered through future rates.

Other Matters

Certain other claims, suits and complaints have been filed or are pending against entities of FCRPS. In the opinion of counsel and management for those entities, the actions are either without merit or involve amounts which are not material to the FCRPS financial statements.

Federal Columbia River Power System

Schedule of Amount and Allocation of Plant Investment

September 30, 1988

Schedule A

	Commercial Power				Irrigation			Nonreimbursable					
	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 Returnable From Commercial Power Revenues
	(Thousands of Dollars)												
Bonneville Power Administration –													
Transmission facilities	$ 3,437,045	$3,211,460	$225,585	$3,437,045	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –	100.0%
Bureau of Reclamation –													
Boise	81,290	7,364	3,289	10,653	17,722	36,124	53,846	–	16,791	–	–	–	34.9%
Columbia Basin	1,746,183	1,022,647	23,221	1,045,868	558,963	83,307	642,270	1,000	51,518	4,847	154	526	91.9%
Hungry Horse	101,792	76,939	215	77,154	–	–	–	–	24,638	–	–	–	75.8%
Minidoka-Palisades	272,090	14,288	334	14,622	10,353	61,239	71,592	–	64,364	1,623	6,011	113,878	9.2%
Yakima	170,238	6,315	1	6,316	11,273	120,109	131,382	–	1,025	31,265	250	–	10.3%
Total Bureau projects	2,371,593	1,127,553	27,060	1,154,613	598,311	300,779	899,090	1,000	158,336	37,735	6,415	114,404	73.9%
Corps of Engineers –													
Albeni Falls	35,505	32,998	671	33,669	–	–	–	147	187	–	1,502	–	94.8%
Bonneville	839,869	784,811	4,129	788,940	–	–	–	47,578	–	–	1,289	2,062	93.9%
Chief Joseph	541,936	531,885	419	532,304	752	–	752	–	–	–	3,854	5,026	98.4%
Cougar	61,893	18,776	970	19,746	–	3,076	3,076	547	38,316	–	–	208	31.9%
Detroit-Big Cliff	67,722	41,040	121	41,161	–	5,130	5,130	237	21,194	–	–	–	60.8%
Dworshak	360,684	302,121	1,240	303,361	–	–	–	9,520	34,400	–	13,403	–	84.1%
Green Peter-Foster	90,726	50,101	12	50,113	–	5,858	5,858	367	30,477	–	1,856	2,055	55.2%
Hills Creek	49,121	17,543	9	17,552	–	4,327	4,327	627	26,343	–	–	272	35.7%
Ice Harbor	224,311	171,843	3,184	175,027	–	–	–	46,442	–	–	2,842	–	78.0%
John Day	587,267	425,659	12,564	438,223	–	–	–	89,780	21,304	–	11,551	26,409	74.6%
Libby	608,368	473,035	517	473,552	–	–	–	–	97,715	870	5,594	30,637	77.8%
Little Goose	282,248	237,681	3,177	240,858	–	–	–	34,735	–	–	4,051	2,604	85.3%
Lookout Point-Dexter	98,859	47,022	76	47,098	–	1,484	1,484	743	49,013	–	521	–	47.6%
Lost Creek	150,310	27,014	1	27,015	–	2,203	2,203	–	53,439	24,516	29,446	13,691	18.0%
Lower Granite	438,099	361,782	3,266	365,048	–	–	–	52,568	–	–	12,641	7,842	83.3%
Lower Monumental	300,048	254,045	3,366	257,411	–	–	–	39,398	–	–	2,822	417	85.8%
McNary	353,752	274,711	7,682	282,393	–	–	–	68,193	–	–	3,166	–	79.8%
The Dalles	334,194	283,828	3,279	287,107	–	–	–	44,965	–	–	2,100	22	85.9%
Total Corps projects	5,424,912	4,335,895	44,683	4,380,578	752	22,078	22,830	435,847	372,388	25,386	96,638	91,245	80.8%
Irrigation assistance at 12 projects having no power generation	191,902	—	—	—	147,928	43,974	191,902	–	–	–	–	–	77.1%
Total plant investment	11,425,452	8,674,908	297,328	8,972,236	746,991	366,831	1,113,822	436,847	530,724	63,121	103,053	205,649	85.1%
Repayment obligation retained by Columbia Basin project	4,639	2,836 (a)	—	2,836	1,803	–	1,803	–	–	–	–	–	100.0%
Other repayment obligation	6,747	—	30	30	6,717	–	6,717	–	–	–	–	–	100.0%
Investment in Teton project (b)	79,107	—	7,269	7,269	56,573	3,681	60,254	–	9,151	–	2,433	–	80.7%
	$11,515,945	$8,677,744	$304,627	$8,982,371	$812,084	$370,512	$1,182,596	$436,847	$539,875	$63,121	$105,486	$205,649	85.1%

(a) Amount represents joint facilities transferred to Bureau of Sports Fisheries and Wildlife. This is included in other assets in the accompanying balance sheets.

(b) The $7,269,000 commercial power portion of the Teton project is included in other assets in the accompanying balance sheets. Teton amounts exclude interest totaling approximately $2.2 million subsequent to June 1976 which was charged to expense.

Federal Columbia River Power System

General Specifications of Projects

September 30, 1988

				Existing		Authorized-Licensed		Potential		Project Totals	
Project	State	River	Initial Date In Service	Number of Units	Nameplate Rating-kW	Number of Units	Nameplate Rating-kW	Number of Units	Nameplate Rating-kW	Number of Units	Nameplate Rating-kW
Minidoka	Idaho	Snake	May 7, 1909	7	13,400	–	–	–	–	7	13,400
Boise River Div.	Idaho	Boise	May 1912	3	1,500	–	–	–	–	3	1,500
Black Canyon	Idaho	Payette	Dec 1925	2	8,000	–	–	–	–	2	8,000
Grand Coulee	Washington	Columbia	Sep 28, 1941	24	6,580,000	–	–	6	4,200,000	30	10,780,000
Anderson Ranch	Idaho	S Fk Boise	Dec 15, 1950	2	40,000	–	–	1	13,500	3	53,500
Hungry Horse	Montana	S Fk Flathead	Oct 29, 1952	4	285,000	–	–	4	150,000	8	435,000
Chandler	Washington	Yakima	Feb 13, 1956	2	12,000	–	–	–	–	2	12,000
Palisades	Idaho	Snake	Feb 25, 1957	4	118,750	–	–	2	135,000	6	253,750
Roza	Washington	Yakima	Aug 31, 1958	1	12,950	–	–	–	–	1	12,950
Grand Coulee PG (a)	Washington	Columbia	Dec 30, 1974	6	300,000	–	–	–	–	6	300,000
Teton (b)	Idaho	Teton			–	3	30,000	–	–	3	30,000
Total Bureau of Reclamation				55	7,371,600	3	30,000	13	4,498,500	71	11,900,100
Bonneville	OR-WA	Columbia	Jun 6, 1938	18	1,092,900	3	7,600	–	–	21	1,100,500
Detroit	Oregon	North Santiam	Jul 1, 1953	2	100,000	–	–	–	–	2	100,000
McNary	OR-WA	Columbia	Nov 6, 1953	14	980,000	6	768,000(c)	–	–	20	1,748,000
Big Cliff	Oregon	North Santiam	Jun 12, 1954	1	18,000	–	–	–	–	1	18,000
Lookout Point	Oregon	M Fk Willamette	Dec 16, 1954	3	120,000	–	–	–	–	3	120,000
Albeni Falls	Idaho	Pend Oreille	Mar 25, 1955	3	42,600	–	–	–	–	3	42,600
Dexter	Oregon	M Fk Willamette	May 9, 1955	1	15,000	–	–	–	–	1	15,000
Chief Joseph	Washington	Columbia	Aug 28, 1955	27	2,273,800	–	–	6	525,000	33	2,798,800
The Dalles	OR-WA	Columbia	May 13, 1957	22	1,807,000	–	–	–	–	22	1,807,000
Ice Harbor	Washington	Snake	Dec 18, 1961	6	603,000	–	–	–	–	6	603,000
Hills Creek	Oregon	M Fk Willamette	May 2, 1962	2	30,000	–	–	–	–	2	30,000
Cougar	Oregon	S Fk McKenzie	Feb 4, 1964	2	25,000	1	35,000	–	–	3	60,000
Green Peter	Oregon	Middle Santiam	Jun 9, 1967	2	80,000	–	–	–	–	2	80,000
John Day	OR-WA	Columbia	Jul 17, 1968	16	2,160,000	4	540,000	–	–	20	2,700,000
Foster	Oregon	South Santiam	Aug 22, 1968	2	20,000	–	–	–	–	2	20,000
Lower Monumental	Washington	Snake	May 28, 1969	6	810,000	–	–	–	–	6	810,000
Little Goose	Washington	Snake	May 19, 1970	6	810,000	–	–	–	–	6	810,000
Dworshak	Idaho	N Fk Clearwater	Sep 18, 1974	3	400,000	3	660,000	–	–	6	1,060,000
Lower Granite	Washington	Snake	Apr 15, 1975	6	810,000	–	–	–	–	6	810,000
Libby	Montana	Kootenai	Aug 29, 1975	5	525,000	–	–	3	315,000	8	840,000
Lost Creek	Oregon	Rogue	Dec 1, 1975	2	49,000	–	–	–	–	2	49,000
Strube	Oregon	S Fk McKenzie		–	–	1	4,600	–	–	1	4,600
Total Corps of Engineers				149	12,771,300	18	2,015,200	9	840,000	176	15,626,500
				204	20,142,900	21	2,045,200	22	5,338,500	247	27,526,600

(a) PG-Pump Generation
(b) Teton Dam ruptured June 5, 1976.
(c) McNary Second Powerhouse estimate includes 6 units of 124,500 kW each.

ADMINISTRATOR (A)
James J. Jura
DEPUTY ADMINISTRATOR
Jack Robertson
EXECUTIVE ASSISTANT ADMINISTRATOR
Steven G. Hickok

WASHINGTON, DC, (AC)
Assistant Administrator
Lee F. Johnson
Deputy Assistant Administrator
Roger E. Seifert

OFFICE OF FINANCIAL MANAGEMENT (D)
Assistant Administrator
Stephen A. Ailshie

- **DIVISION OF FINANCE AND BUDGET (DR)** — Dir., Charles E. Meyer
- **DIVISION OF ACCOUNTING AND FINANCIAL SYSTEMS (DS)** — Dir., Herb C. Kuhn

SENIOR ASSISTANT ADMIN. POWER FACILITIES (AN)
Marvin Klinger
R & D Manager (AND)
Walter E. Myers

OFFICE OF ENGINEERING (E)
Assistant Administrator
Charles F. Clark
Deputy
Clifford C. Perrigo

- **DIVISION OF ELECTRICAL & ELECTRONIC ENGINEERING (EE)** — Dir., Milton J. Brown
- **DIVISION OF FACILITIES ENGINEERING (EF)** — Dir., Gary A. Parks
- **DIVISION OF LABORATORIES (EL)** — Dir., Ingo P. Thurein
- **DIVISION OF SYSTEM PLANNING (EO)** — Dir., Dean E. Perry

OFFICE OF OPERATIONS, MAINT. & CONSTRUCTION (M)
Assistant Administrator
James L. Jones
Deputy
Michael L. Holm

- **DIVISION OF CONSTRUCTION (MK)** — Dir., Lyndon E. Bradshaw
- **DIVISION OF SYSTEM MAINTENANCE (MM)** — Dir., Frederick M. Johnson
- **DIVISION OF SYSTEM OPERATIONS (MO)** — Acting Dir., Darrel G. VanCoevering

SENIOR ASSISTANT ADMIN. POWER MANAGEMENT (AM)
Edward W. Sienkiewicz, Jr.

OFFICE OF POWER SALES (P)
Assistant Administrator
Walter E. Pollock, III
Deputy
James H. Curtis

- **DIVISION OF FISH AND WILDLIFE (PJ)** — Dir., John R. Palensky
- **DIVISION OF CONTRACTS AND RATES (PM)** — Dir., Shirley R. Melton
- **DIVISION OF POWER SUPPLY (PS)** — Dir., Robert D. Griffin
- **CALIFORNIA MKT. REPRESENTATIVE (PC)** — Stephen J. Wright

OFFICE OF ENERGY RESOURCES (R)
Assistant Administrator
Sue F. Hickey
Deputy
Richard L. Perlas

- **DIVISION OF RESOURCE MANAGEMENT (RM)** — Dir., Sydney D. Berwager
- **DIVISION OF NUCLEAR PROJECTS (RN)** — Dir., James R. Lewis
- **DIVISION OF RESOURCE PLANNING (RP)** — Dir., Gary L. Fuqua

GENERAL COUNSEL (AP)
Harvard P. Spigal

OFFICE OF MANAGEMENT SERVICES (S)
Assistant Administrator
George E. Bell
Deputy
David E. Dunahay

- **DIVISION OF PERSONNEL MANAGEMENT (SP)** — Dir., Mary L. Herring
- **DIVISION OF MATERIALS AND PROCUREMENT (SR)** — Dir., Howard F. Perry
- **DIVISION OF ADMINISTRATIVE SERVICES (SS)** — Dir., John E. Kiley
- **DIVISION OF INFORMATION SYSTEMS (SW)** — Dir., Gary L. Ragsdale
- **MANAGEMENT ANALYSIS (SM)** — Mgr., Paul O. Crabtree
- **SAFETY (SI)** — Mgr., Al A. Stanford

ASSISTANTS TO THE ADMINISTRATOR

- **PLANNING (A)** — Paul H. Schrader
- **ADP STUDY PROJECT (AD)** — Steven C. Kallio
- **CONTRACTS AND PROPERTY MANAGEMENT (AE)** — Norman L. Linscott
- **EQUAL OPPORTUNITY PROGRAMS (AH)** — Curtis B. Kirkpatrick
- **ENVIRONMENT (AJ)** — Anthony R. Morrell
- **INTERNAL AUDIT (AK)** — Jack L. Strayer
- **EXTERNAL AFFAIRS (AL)** — Donna L. Geiger
- **COUNCIL LIAISON (AR)** — Larry C. Larson

LOWER COLUMBIA AREA (L)
Area Manager
George E. Gwinnutt
Deputy Area Manager
Thomas M. Noguchi

- **POWER MANAGEMENT (LC)** — Asst. Area Mgr., Phillip A. Livesley
- **OPERATIONS & MAINTENANCE (LD)** — Asst. Area Mgr., Charles W. Spiker
- **ENGINEERING (LE)** — Asst. Area Mgr., Edward A. Peterson
- **MANAGEMENT SERVICES (LA)** — Asst. Area Mgr., Glenn E. Ball, Jr.
- **EUGENE DISTRICT (LG)** — Dist. Mgr., Ladd Sutton

PUGET SOUND AREA (T)
Area Manager
Terence G. Esvelt
Deputy Area Manager
L. Kirk Hall

- **POWER MANAGEMENT (TC)** — Asst. Area Mgr., George T. Reich
- **OPERATIONS & MAINTENANCE (TD)** — Asst. Area Mgr., Donald W. Spragg
- **ENGINEERING (TE)** — Asst. Area Mgr., Donald D. Rempe
- **CONSERVATION (TB)** — Asst. Area Mgr., Frank E. Brown
- **MANAGEMENT SERVICES (TA)** — Asst. Area Mgr., Lynda M. Boetcher

UPPER COLUMBIA AREA (U)
Area Manager
Wayne R. Lee
Deputy Area Manager
Frederic D. Rettenmund

- **POWER MANAGEMENT (UC)** — Asst. Area Mgr., Arthur A. Harlow
- **OPERATIONS & MAINTENANCE (UD)** — Asst. Area Mgr., Earl C. Schoer
- **ENGINEERING (UE)** — Asst. Area Mgr., Paul E. Eichin
- **MANAGEMENT SERVICES (UA)** — Asst. Area Mgr., Randy L. Ridenhour
- **MONTANA DISTRICT (UM)** — Dist. Mgr., George E. Eskridge
- **WENATCHEE DISTRICT (UW)** — Dist. Mgr., Ronald K. Rodewald

SNAKE RIVER AREA (W)
Area Manager
Thomas V. Wagenhoffer
Deputy Area Manager
Patrick G. McRae

- **POWER MANAGEMENT (WC)** — Asst. Area Mgr., Robert A. Rogers
- **OPERATIONS & MAINTENANCE (WD)** — Asst. Area Mgr., Truman W. Conn
- **ENGINEERING (WE)** — Asst. Area Mgr., Robert R. Goranson
- **MANAGEMENT SERVICES (WA)** — Asst. Area Mgr., Allan D. Polvi
- **IDAHO FALLS DISTRICT (WI)** — Dist. Mgr., Robert N. Laffel
- **BOISE DISTRICT (WL)** — Dist. Mgr., Thomas H. Blankenship

Official Organization Chart
U.S. Department of Energy
Bonneville Power Administration
November 13, 1988

Administration Offices

BPA Headquarters
Public Involvement Office
905 N.E. 11th Street
Seventh Floor
P.O. Box 12999
Portland, Oregon 97212
(503) 230-3478
Toll-free lines:
Oregon — (800) 452-8429
Other Western States — (800) 547-6048

Lower Columbia Area
1500 Plaza Building, Suite 243
1500 N.E. Irving Street
P.O. Box 3621
Portland, OR 97208
(503) 230-4551

Eugene District Office
U.S. Federal Building, Room 206
211 E. 7th Street
Eugene, OR 97401
(503) 687-6952

Upper Columbia Area
U.S. Court House, Room 561
W. 920 Riverside Avenue
Spokane, WA 99201
(509) 456-2515

Wenatchee District
301 Yakima Street, Room 307
P.O. Box 741
Wenatchee, WA 98807
(509) 662-4377

Montana District
800 Kensington
Missoula, MT 59801
(406) 329-3060

Puget Sound Area
201 Queen Ann Avenue North, Suite 400
Seattle, WA 98109
(206) 442-4130

Snake River Area
101 West Poplar
Walla Walla, WA 99362
(509) 522-6226

Idaho Falls District
1527 Hollipark
Idaho Falls, ID 83401
(208) 523-2706

Boise District
Federal Building, Room 494
550 W. Fort Street
Boise, ID 83724
(208) 334-9137

Washington, D.C. Office
Bonneville Power Administration
Forrestal Building, Room 8G033
1000 Independence Avenue
Washington, D.C. 20585
(202) 586-5640

California Office
2101 Webster Street, Suite 1700
Oakland, CA 94612
(415) 446-7706

Bonneville Power Administration – A Profile

Congress enacted the Bonneville Project Act in 1937, creating the Bonneville Power Administration to market and transmit the power produced by Bonneville Dam on the Columbia River. Since then, Congress has directed BPA to sell at wholesale the power produced at a total of 30 Federal dams in the Pacific Northwest, and to acquire conservation and non-Federal generating resources sufficient to meet the needs of BPA's customer utilities.

The dams and the electrical system are known as the Federal Columbia River Power System.

Bonneville sells wholesale power to public and private utilities, rural cooperatives, large industries, and several Federal agencies. BPA also sells or exchanges power with utilities in California.

BPA uses revenues from the sale of power and transmission services to recover its own expenses, to repay the Federal investment in the power system, and to repay the non-Federal investment in generating capability it has acquired. BPA pays for operation and maintenance expenses at the Federal dams and at non-Federal power plants. It also provides funds for irrigation works and for fish and wildlife projects.

Mission Statement

BPA will work in a regional partnership to define and achieve the electric power, conservation, and fish and wildlife objectives of the Pacific Northwest. We will provide our customers a low-cost, reliable, and environmentally sound power supply and transmission system. We will do so in an open and businesslike way, responsive to citizens' concerns and to our obligations as a Federal agency. We will provide creative leadership and fulfill our responsibilities with professional excellence.

Revised February 1988

DOE/BP-1043
December 1988
2.5M