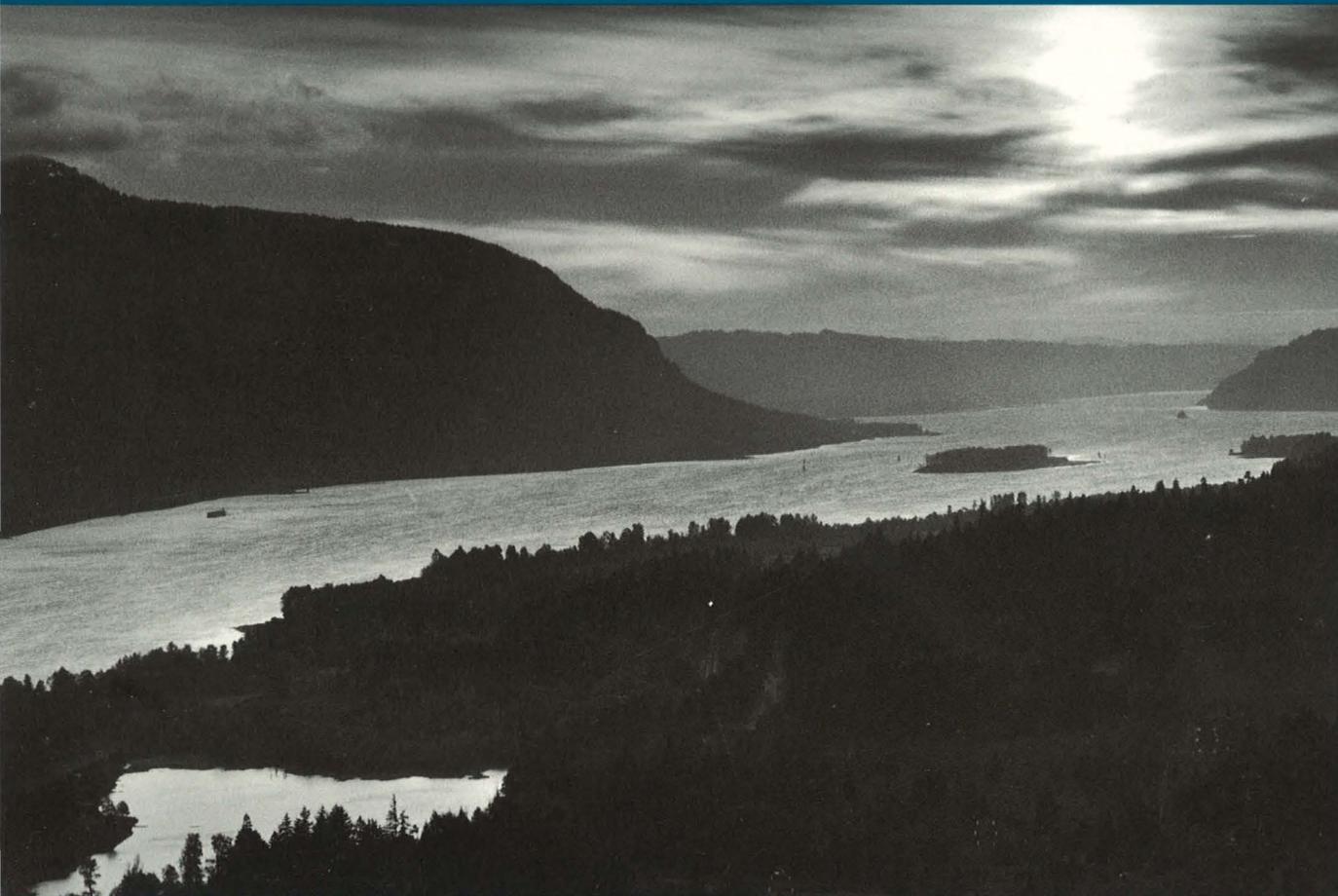


BONNEVILLE POWER ADMINISTRATION  
ANNUAL REPORT 1991



“IN FEW PLACES IN THE WORLD  
HAS A RIVER MORE STRONGLY INFLUENCED  
THE COURSE OF EVENTS...”

—EARL ROBERGE

*COLUMBIA: GREAT RIVER OF THE WEST*



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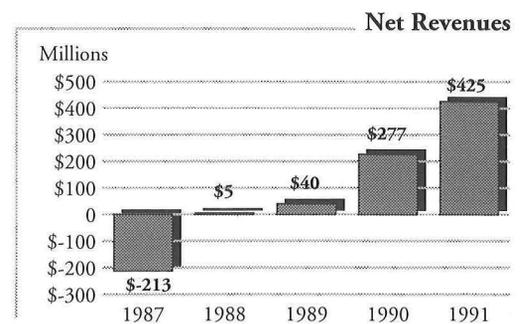
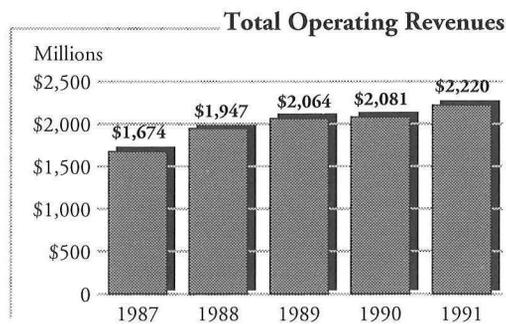
# Financial Highlights

For the years ended  
September 30, 1991 and 1990

Operating Results:	FY 1991	FY 1990
	(Thousands of Dollars)	
<b>Operating Revenues:</b>		
Sales of electric power-		
Sales within the Northwest region	\$ 1,897,561	\$ 1,787,110
Sales outside the Northwest region	196,225	158,244
Wheeling and other sales	126,445	135,408
<b>Total operating revenues</b>	<b>2,220,231</b>	<b>2,080,762</b>
<b>Total operating expenses</b>	<b>1,488,147</b>	<b>1,453,153</b>
<b>Net operating revenues</b>	<b>732,084</b>	<b>627,609</b>
<b>Net interest expense</b>	<b>307,017</b>	<b>350,902</b>
<b>Net Revenues</b>	<b>\$ 425,067</b>	<b>\$ 276,707</b>

**End of Year:**

<b>Total Assets (Net of Accumulated Depreciation)</b>	<b>\$15,697,660</b>	<b>\$15,051,014</b>
<b>Total Capitalization and Liabilities:</b>		
Accumulated net revenues (expenses)	\$ 160,917	\$ (264,150)
Federal appropriations	6,727,882	6,697,535
Treasury borrowings	1,671,573	1,694,499
Non-Federal projects debt	6,894,285	6,708,549
Other	243,003	214,581
	<b>\$15,697,660</b>	<b>\$15,051,014</b>
<b>Employees (staff years)</b>	<b>3,399</b>	<b>3,280</b>



The Honorable James D. Watkins  
Secretary of Energy  
Washington, DC 20585

Dear Admiral Watkins:

■ Having assumed the duties of Administrator at the end of fiscal year 1991, I am reporting about the Bonneville Power Administration under the guidance of my predecessor, Jim Jura. The financial health reflected in BPA's balance sheet is a credit to his leadership, which put us on solid ground to face the challenges of the 1990s. ■ Among those challenges are to find and acquire new resources, to come to the aid of wild salmon runs, to improve the efficiency of the regional transmission grid, and to work with our customers on long-range financial strategies. ■ During Jim Jura's tenure, BPA became more open and responsive to its public. Thanks to his vision — and the cooperation of our customers — we are well positioned to meet today's challenges.

#### An Average (!) Water Year

■ After 3 years of drought and an improved 1990, the Columbia River sent us normal flows in 1991. We ended the year some \$425 million in the black, compared to net revenues of \$277 million in 1990. ■ Because we had more water, we sold more power. Overall revenues rose \$139 million, or about 7 percent. ■ Total 1991 expenses were \$9 million less than in 1990. ■ In May, BPA and its customers agreed on a proposed 1992-93 wholesale power rate increase of about 2.7 percent for publicly owned utilities. Now we are working with customers and the public to develop a long-term financial plan.

#### The River Can't Do It All

■ Right now, 90 percent of the power we sell comes from the Federal hydro system. This percentage is sure to drop. There are new constraints on the amount of power we can generate from the river, and Bonneville is now roughly in load/resource balance. Demand for power will increase, while our traditional sources shrink. ■ We are buying new resources. Conservation tops the list of new resources that are cost-effective and environmentally sound. We received many promising responses to our 1991 requests for resource proposals. ■ We are also moving to improve transmission reliability and efficiency. By upgrading the existing system and consummating seasonal power exchanges with other regions, we can take better advantage of the resources we have.

#### Giving Back to Nature

■ The National Marine Fisheries Service has listed one wild salmon run under the Endangered Species Act and has proposed two more listings. Early this year, regional resource managers responded to a call by U.S. Senator Mark Hatfield to convene the Salmon Summit and find a regionwide solution. The Salmon Summit identified some immediate actions, and we are working closely with others in the region to find an effective, long-term plan to restore salmon runs. ■ In weighing new resources, we evaluate their environmental costs. In siting new transmission lines, we consider the environmental and social impacts. And we exchange power with other regions in ways that improve fish passage and air quality.

#### A River for All Seasons

■ The Columbia River and its tributaries flow through nearly all that we at Bonneville do. Its gifts and withholdings determine most of BPA's revenues. In the hydrologic cycle we find our blueprint for operations. And in the river's seasonal ups and downs are the ageless patterns we follow to keep fish and wildlife at the core of the Pacific Northwest way of life. ■ So this annual report is a review of 1991 as the Columbia River gave it to us, season by river season.



Randall W. Hardy  
Administrator

## Letter to the Secretary



Randall W. Hardy



James J. Jura

## The River in Fall and Early Winter

■ AS THE FISCAL YEAR BEGINS, ON OCTOBER 1, THE MOUNTAIN CREEKS THAT FEED THE COLUMBIA RUN LOW, AWAITING THE FIRST GOOD RAINFALL. WHEN THE RAINS COME, SALMON SURGE UP THE COLUMBIA AND BRANCH OFF TO SPAWN IN SWIFT, GRAVEL-BED STREAMS. IN THE HIGH COUNTRY, THE YELLOW LEAVES OF ASPEN SHAKE AND DROP TO THE WATER. CANADA GEESE FAN UPWARD AND INTO THE PACIFIC FLYWAY, POINTED SOUTH. IN NORTHWEST HOMES, BUSINESSES, AND FACTORIES, THE THIRST FOR ELECTRICITY STEADILY RISES AS DAYS GROW SHORTER. LIGHTS FLICK ON SOONER. THE EARTH COOLS, THE AIR CHILLS, AND THERMOSTATS CLICK ON.

■ RESERVOIRS, NEAR FULL, ARE IN THEIR "FIXED DRAW-DOWN" STAGE. POWER SUPPLY FORECASTERS ARE NOT YET SURE OF THE COMING WINTER'S SNOWPACK, SO RESERVOIRS ARE DRAFTED STEADILY TO MEET FIRM POWER DEMANDS. LEVELS ARE GOVERNED BY HISTORICAL DATA THAT SHOW HOW MUCH WATER NEEDS TO BE HELD BACK IF THE NEXT 4 YEARS MATCH THE DRIEST YEARS ON RECORD. PLAN CONSERVATIVELY, TO BE SURE OF HAVING ENOUGH.

■ In fact the fiscal year 1991 did start with unusually dry weather. The rains held off. To hedge its bets, Bonneville bought over 500 average megawatts of extra

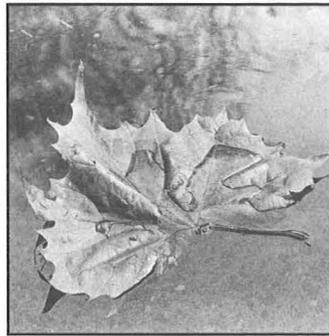
power. When the rains came, in November, the reservoirs rose. And they stayed near normal levels for the rest of the year.

### Three Big Issues

■ As the river began another cycle, Bonneville geared up to meet three great challenges: to buy new resources, to preserve wild salmon runs, and to draw up a long-term financial plan.

### Resources: How Much Is Enough?

■ The generating resources BPA has on hand — including 30 Federal dams in the Columbia River Basin — produce about 8,500 average megawatts of firm power a



year, about equal to BPA's current firm loads. ■ BPA's 1990 Loads and Resources Study, released as the fiscal year began, concluded that BPA must add resources to meet customers' growing needs in the 1990s and beyond. The study forecast a demand for about 9,800 average megawatts of firm power by the year 2011. So BPA's resources will need to grow by about 1,300 average megawatts.

■ As a start, BPA reached agreement with Lewis County PUD to buy the output of the Cowlitz Falls dam the utility will build and operate. The dam will add 22 average megawatts to BPA's firm power supply. ■ Bonneville also tested new ways to buy conservation and generating resources. BPA offered billing credits to customers who come up with new resources on their own, cutting their need for BPA power. BPA planned to award contracts for 50 average megawatts through billing credits. The first contracts will be signed soon. ■ An all-sources competitive bidding program was expected to add another 100 average megawatts. Proposals poured in, while the need for resources was growing. BPA extended the deadline, upped the goal to 300 average megawatts, and received bids totaling 5,325 megawatts. ■ In evaluating proposed resources, BPA includes environmental costs in the equation. This helps BPA sponsor resources that are truly lowest-cost.

### Fish: An Even Greater Commitment

■ In spring of 1990, the Shoshone-Bannock Tribes requested that Snake River sockeye salmon be listed under the Endangered Species Act. Requests for listing four other species quickly followed. Since then, the National Marine Fisheries Service of the Department of Commerce has listed the Idaho sockeye as endangered and proposed two more wild Snake River



chinook runs as threatened. Salmon Summit meetings were convened in October to search for a comprehensive, regionwide plan to help wild stocks. ■ Bonneville is no stranger to regionwide cooperative efforts on behalf of fish and wildlife. BPA has paid, to date, about \$700 million for hatcheries and fish ladders associated with Federal hydro projects. Since the passage of the Northwest Power Act in 1980, BPA ratepayers have invested an additional \$1 billion in the Northwest Power Planning Council's Fish and Wildlife Program. Indian tribes, state and Federal agencies, and others helped plan and carry out fish and wildlife projects. ■ The endangered species issue added a new urgency and a new focus on wild fish to the goals already established by the Council. To the table came new players, including irrigators and river transporters, whose cooperation with power producers and fishery groups will be essential to any comprehensive solution. ■ At the Salmon Summit BPA proposed the Columbia Basin Accord, a comprehensive, \$1.5-billion, 10-year effort to stabilize and increase native salmon and steelhead runs.

#### How to Pay?

■ New mandates to buy resources, protect wild fish, and enhance the BPA transmission system increase the need for careful financial planning. Where will the money come

from? ■ All of Bonneville's activities are accompanied by a process of open public involvement. Programs in Perspective, or PIP — our major public forum — runs in a 2-year cycle to let the public and customers help clarify BPA's long-term goals and define programs.

■ During PIP, in November 1990, BPA proposed a long-term plan to reduce debt-financing to 90 percent of its capitalization, rather than borrowing for all investments from the U.S. Treasury. Customer response was generally negative. Discussions about financial planning spilled over into the winter's rate case, in which BPA proposed a 5 percent increase in wholesale power rates to publicly owned util-



Idaho Dept. of Fish and Game

ities. Part of the increase was intended to help reduce BPA's reliance on borrowing in 1992-93. BPA also opened a public process with customers to prepare a long-term financial plan for the agency. ■ BPA continued to save by refinancing long-term debt. In October of 1991, Bonneville and the Washington Public Power Supply

System completed the last in a series of six bond sales to refinance three Supply System nuclear projects. The proceeds — a total of \$4.4 billion — paid off higher-interest bonds issued years ago. BPA owns the capacity and pays the costs for WNP-1, -2, and -3.

#### Transmission: Sharing The System

■ Although there are limits to how much water the river will send BPA's way, Bonneville is taking steps to share transmission systems and put that water to work more efficiently. ■ By cooperating with neighbors in Canada and California, BPA gets a better return on the resources it has. Canada has huge water storage capacity. The Pacific Northwest has great hydro generating capacity but not much storage. And California has different peaks of seasonal power demand. So energy and capacity exchanges, expanded transmission ties, and coordinated storage make utilities all along the West Coast more efficient and cost-effective. ■ A key to greater efficiency is the Federal transmission intertie linking the Northwest with California. Almost 7 years of litigation ended in 1991 when the U.S. Supreme Court declined to review two challenges to BPA's right to regulate use of the intertie. ■ BPA reserves 800 megawatts of its intertie capacity for firm sales by Northwest utilities. BPA provides additional ac-

cess through joint venture agreements. More than 400 megawatts of such firm sales by Northwest utilities were completed this year.

■ A recent interconnection agreement brought the Third AC Inter-tie closer to reality. The agreement will increase capacity between the Northwest and Southwest by 800 megawatts. BPA signed another agreement in August that helps assure that the Third AC line will reach its full 1,600-megawatt capacity by November 1993, its planned completion date. The Northern California parties broke ground on their part of the line in October. BPA and other Northwest owners are at work on their share of the line. Meanwhile, BPA has proposed ways to share 725 megawatts of its ownership of the Third AC with non-Federal utilities.

■ Sharing can also make power distribution and sales more efficient. In 1991 BPA joined with 40 others in British Columbia and the western U.S. in asking the Federal Energy Regulatory Commission to make the Western Systems Power Pool a permanent arrangement. Begun in 1987 as an experiment, the pool helps utilities up and down the West Coast use the power system more efficiently. It shares information on available transmission and power, and it provides an immediate mechanism for power sales and exchanges.



BPA's challenges for the 1990s include upgrading the transmission system, developing a long-range financial plan, buying new power resources to meet growing demand, and protecting wild fish runs.

THESE WATERS HELP  
 LIGHT CITIES, TRANSFORM  
 DESERT INTO VERDANT  
 GARDENS, REFINE  
 METALS, AND CARRY ON  
 THEIR BROAD BACK THE  
 BURDEN OF THE EMPIRE  
 THEY HELPED CREATE.

EARL ROBERGE  
 COLUMBIA: GREAT RIVER  
 OF THE WEST

## Winter and Early Spring

■ IN JANUARY, FEBRUARY, AND MARCH, PREVAILING WESTERLIES BLOW RAIN-LADEN CLOUDS OFF THE PACIFIC. MOISTURE THAT REACHES THE ROCKY MOUNTAIN HIGH COUNTRY FALLS AS SNOW. THE COLUMBIA'S MOUNTAIN SOURCES, FROM THE BRITISH COLUMBIA ROCKIES AND THE COLUMBIA ICEFIELD TO THE SLOPES OF THE TETONS, ARE LOCKED IN GLACIAL FREEZE AND SNOWPACK, WAITING FOR LATER RELEASE. ■ RESERVOIRS ARE BEING DRAWN DOWN TO MEET POWER DEMANDS. SOME OF THEM ARE MAKING ROOM FOR FLOOD CONTROL. BUT NOW THERE'S A DIFFERENCE. INSTEAD OF LOOKING ONLY AT HISTORICAL DATA, FORECASTERS ARE ALSO MEASURING SNOWPACK AND ISSUING RUNOFF PREDICTIONS. WHAT ABOUT 1991?

■ Early indications looked good. January snowpack readings forecast the Columbia's January-to-July runoff at 107 percent of the 25-year average. But predictions assumed average precipitation through June. In fact, monthly forecasts varied significantly through winter and early spring. One month, it was not as good as we predicted. The next, it was better.

### Record Cold, Record Demand

■ A holiday cold snap gripped the Northwest in the week before



Christmas of 1990 and didn't let go until well into the new year. The BPA power system set a new record for peak load of 13,025 megawatts on Dec. 21. High winds toppled power lines and caused many local outages. But no major outage occurred on the BPA system. ■ To meet the power crunch, BPA called up all available generation. The U.S. Army Corps of Engineers spilled water from Dworshak reservoir to spin the turbines at lower river dams. Both nuclear power plants were running at full capacity. Combustion turbine generators fired up. BPA stopped power sales to California and sold all it had to Northwest utilities. Power managers rerouted much of the power supply to Puget Sound, which was hard hit.

### A River of Power

■ BPA's Federal transmission network carries power to more than 160 utilities and large industries. The power flows along 14,779 circuit miles of high-voltage lines and through about 400 substations. About 30 percent of BPA's trans-

mission network is used to provide firm access to other utilities. The utilities, in turn, send the power to retail customers in the Northwest. The region takes its power supply for granted, but BPA is constantly reinforcing the system to assure reliable service. ■ Prior planning helped the system survive the holiday cold snap. BPA and utilities near Puget Sound and other heavily populated areas had drafted a set of contingency actions. Some new capacitors had already been installed. The plan was used to call up generation as needed and to shift loads. ■ To boost the long-term reliability of its transmission system, BPA in 1991 geared up implementation of its 10-year Operations, Maintenance and Replacement Plan. The plan will catch up on delayed maintenance and replace aging equipment. Included in the plan is work to reduce hazardous wastes, clean up residues from past spills, and prevent future contamination. For example, BPA has an ongoing pilot project to reduce its need for chlorinated solvents. Also, BPA is working at substations throughout the system to replace old capacitors with new, PCB-free capacitors.

### Cold Weather Boosts Power Sales

■ The holiday cold brought a big surge in power sales. ■ After the cold spell, good runoff forecasts gave BPA nonfirm energy to sell. In mid-January, BPA offered to sell



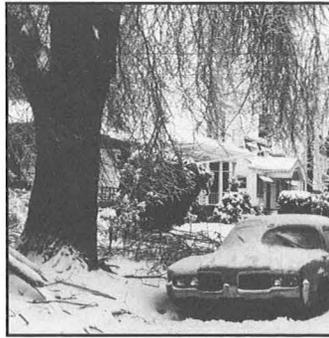
Northwest utilities nearly 300,000 megawatt-hours of surplus firm power. None responded. So BPA signed contracts with three Southwest utilities. These sales brought in over \$7 million, recouping the costs of power purchases made in the fall.

### Hearing from Our Customers

■ Through the winter, BPA managers heard growing concerns from customers about BPA's proposed rate increase and interim financial plan. Particularly controversial was BPA's plan to use part of the proposed rate increase to reduce its reliance on borrowing. Several customer groups sued BPA, claiming that the financial plan deserved more time, thought, and customer input before its elements went into place. ■ BPA responded to customers by assuring them that its interim proposal was not a "done deal." Bonneville would work out a proposed long-range plan with its customers over the coming year.

### Conserving Power

■ Conservation, like other new energy sources BPA is acquiring, helps BPA meet its growing loads. More and more, conservation is proving its value as a power resource. Newly adopted energy codes in Washington and Oregon, for example, are expected to save a combined 110 average megawatts



over the next 20 years. Idaho also passed an Energy Act that took effect in 1991. ■ In the past, Bonneville designed, administered, and paid for regionwide conservation programs in commerce, industry, and agriculture. In 1991, the emphasis shifted to helping local utilities tailor programs to their own needs. BPA is also working with utilities on how to save energy in corporations such as chains and franchises, which cross state and utility boundaries. ■ The BPA-sponsored Super Good Cents program continued to build momentum in 1991. For the 12 months through June 1991, over 35 percent of new Northwest electrically heated homes were SGC homes.

### A Finite Resource

■ As the region moves to adopt the conservation ethic, all parties must also cooperate to stretch what the river can provide. The dams and reservoirs prevent flooding, water crops, produce power, float barges, and support recreation. Hardly a drop goes down the river that isn't

covered by more than one interest group. And each drop is used several ways. Multiple uses of Columbia River water call for careful planning and sometimes-painful tradeoffs to balance what the river can, or should, do. ■ With the Corps of Engineers and Bureau of Reclamation, Bonneville is reviewing how the Columbia River system is managed. This System Operation Review looks at the costs, benefits, and tradeoffs among all the competing demands for Columbia River water.

### Environmental Exchanges

■ Northwest salmon and California air quality both got a boost in March when Bonneville and Southern California Edison Co. agreed to a power swap. In spring and summer, water was released to help young fish migrate downstream. Power generated by that flow went to California. This reduced California's need to operate fossil fuel power plants in summer, when air pollution was at its worst. Edison will return the energy in the winter of 1991-92. ■ Exchanges such as this have long been practiced for economic reasons. This one is the first exchange specifically for environmental reasons.

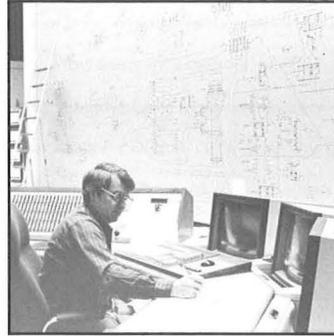
### Summit Proposes Fish Remedies

■ The Salmon Summit met through the winter to try to create a better future for wild salmon and

came up with an interim agreement for 1991. Participants pledged to keep working toward a comprehensive, long-term solution. ■ The Salmon Summit outlined some immediate steps that include:

- Double the seasonal flows in the Snake River by lowering reservoirs, to move young fish downstream more quickly.
- Install fish screens at all dams.
- Expand predator control programs.
- Reduce commercial salmon harvests.
- Improve habitat.
- Redesign hatcheries to produce fish that are hardier and more adaptable to conditions in the wild.

■ Bonneville immediately started negotiating power swaps and water releases to shape the river's flow for wild fish. In addition to the \$43 million BPA spent on fish enhancement in 1991, BPA added \$8 million in Salmon Summit-related fish programs and absorbed another \$25 million in lost revenues. ■ As winter's snow began melting, the hydro system was being readied to help the river go about its natural work: sweeping a new generation of salmon smolts to the Pacific.



BPA's transmission grid set a new record for peak load during the holiday cold snap. Dispatchers adjusted power supply to assure uninterrupted service to Northwest businesses and homes.

THE COLUMBIA IS FAR MORE THAN SIMPLY THE LARGEST STREAM IN THE NORTHWEST: IT IS ALSO ITS MAIN ARTERY, PULSATING WITH THE LIFE BLOOD OF THE WHOLE REGION.

EARL ROBERGE  
*COLUMBIA: GREAT RIVER OF THE WEST*

## The River Springs Alive Into Summer

■ WATER DRIPS FROM A GLACIER IN THE COLUMBIA ICE-FIELD, HIGH IN THE CANADIAN ROCKIES, AND JOINS THE FLOW FROM OTHER GLACIERS, OTHER PLACES, INTO BRAWLING MOUNTAIN TORRENTS. WILLOWS ARE GREENING, AND THE GEESE HEAD BACK NORTH FOR THEIR NESTING SEASON. SPRING RAINS ADD TO GLACIA SNOW-MELT, AND THE COLUMBIA'S TRIBUTARIES GATHER STRENGTH. YOUNG SALMON, NOW ABOUT THE LENGTH OF AN INDEX FINGER, GET THE URGE TO RIDE THE SWIFT CURRENTS TOWARD THE SEA. ■ THE RESERVOIRS, DRAWN DOWN, BEGIN ANOTHER CYCLE OF FILLING. HEAVY RAINS IN MAY AND EARLY JUNE ADD TO THE RIVER'S RUNOFF. FISH GET STRONG FLOWS, AND ALL THE TURBINES AT THE DAMS ARE SPINNING. LAKE ROOSEVELT IS UP IN TIME FOR THE ANGLERS AND BOATERS WHO VACATION THERE. NATURE, ON ITS OWN, TAKES CARE OF EVERYTHING ELSE THE RIVER IS EXPECTED TO DO.

### Surplus Energy Sales

■ In 1991, the last of the reservoirs filled by July 31. Total runoff for the season was 99 percent of normal. The Columbia ran so high in late spring that BPA sold all the nonfirm energy its customers could absorb. BPA had been selling nonfirm energy continuously since

Feb. 12. Nonfirm energy sales didn't end until July 16, and then mainly due to extended nuclear plant outages. BPA collected more revenues from nonfirm sales in 1991 than it had since 1986.

### A Solution to Rates and Planning

■ Financial reserves grew, mainly due to refinancing, and BPA was able to revise its original rate proposal. Bonneville, Northwest utilities, and others agreed in May on how rates should be set for 1992-93. BPA reduced its proposed wholesale power rate increase from about 5 percent to 2.7 percent for



publicly owned utilities. BPA also reduced its proposed transmission rate increases by about half. The agreement settled the lawsuit that utilities and industries had filed against BPA over financial goals. The rest of the rate case hearings were cancelled because all parties agreed to BPA's revised rates.

■ BPA began meeting with customers to craft a 10-year financial plan. Options include looking at different ways to assess and manage

BPA's financial risks. In a parallel forum, at the request of U.S. Senator Mark Hatfield, BPA and other utilities began looking at alternatives to BPA's traditional practice of borrowing from the U.S. Treasury for all of its capital programs.

### Fish Migration

■ Spring and early summer is the time of year young fish need more water to speed their outward migration past the dams. On April 26, the Corps of Engineers began releasing 400,000 acre-feet of water from Dworshak Dam. To make the Dworshak releases possible, BPA, the Corps, and Reclamation transferred flood control requirements from Dworshak to Grand Coulee Dam. ■ This year's extra releases from Dworshak were in addition to the Water Budget, an amount of water set aside annually since 1984 to help flush young fish downstream. ■ BPA also contracted with Idaho Power Co. to release up to 150,000 acre-feet of water from Brownlee Dam.

### More Help for Fish

■ Squawfish in reservoir waters eat millions of young salmon moving downstream each year. BPA started paying a bounty on squawfish in 1990, and expanded the program in 1991. Catch a squawfish, turn it in, and get paid three dollars. Thousands of Northwest citizens took up the call. In May through September, the squawfish catch



came to 210,000. ■ In an emergency effort to save the Snake River sockeye run, BPA funded a project to trap young salmon and kokanee smolts migrating out of Redfish Lake. Idaho biologists and the Shoshone-Bannock Tribes will rear the smolts to adults, spawn them, and release their offspring into the Snake River system. ■ Bonneville also announced in September a 3-year, \$9.7-million effort to beef up law enforcement and public awareness to protect salmon from poachers.

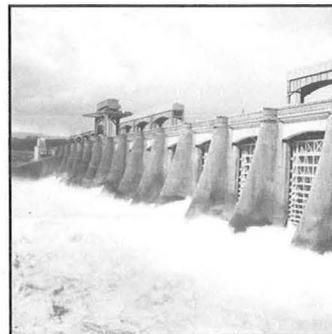
#### **Animals, Birds, and People**

■ While fish drew the spotlight in 1991, BPA was active on other environmental fronts. ■ Bonneville bought 400 acres of wetlands called Burlington Bottoms, near Portland, to protect habitat for Columbia River white-tailed deer, waterfowl, and songbirds. On the South Fork of the Snake River, BPA is working with local tribes and wildlife agencies to protect bald eagle habitat. These and other projects help compensate for wildlife habitat losses due to Federal dams in the Columbia River Basin. ■ Due to public concern and scientific uncertainty about the possible health effects of electric and magnetic fields (EMF), BPA has revised its practice of encouraging multiple use of transmission rights-of-way. In December 1990, BPA adopted a moratorium on new rights-of-way uses, such as parks or playgrounds,

that would increase public exposure to EMF. Scientific research, to date, has not confirmed any hazardous effect of EMF. ■ BPA supports an active research program to help answer EMF questions. This year BPA released preliminary results of a study on sheep raised beneath a 500-kilovolt BPA power line. The results are nonconclusive on the effects of EMF on the sheep's hormone levels or reproductive cycles. A follow-up study is under way.

#### **More Cycles, New Seasons**

■ Even as Bonneville follows the seasons and cycles of the Columbia River through the year, BPA has its



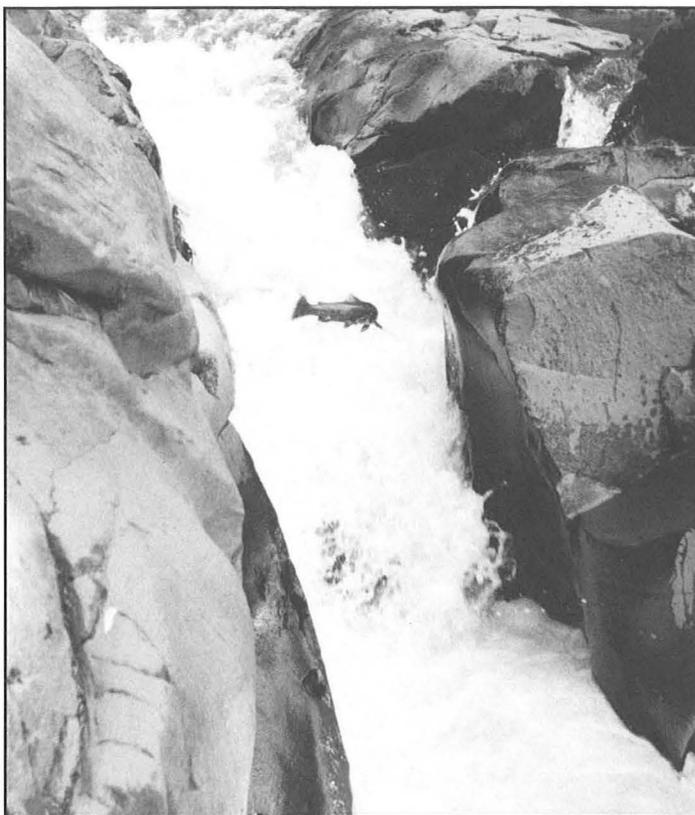
own cycles of long-range planning. ■ A new wave in the resource-planning cycle began in April, when Bonneville launched its 1992 Resource Program. This public process is conducted every other year to plan future acquisitions. BPA is also preparing an environmental impact statement to assure that cumulative resource choices carry the lowest economic and environmen-

tal cost. The Resource Program is one way BPA acts upon the Northwest Power Planning Council's Power Plan. ■ BPA's long-term planning also aims at improving transmission links. For example, Bonneville proposed upgrading a 59-mile, 115,000-volt transmission line between Bonners Ferry, Idaho, and Libby Dam in Montana, to reinforce the system where demand is growing. BPA and four Puget Sound utilities have proposed a new substation north of Ellensburg, Washington, to help prevent winter electrical blackouts in the Puget Sound area. BPA also started working with others on plans to handle potential voltage emergencies in the Portland area. ■ BPA and the Washington Water Power Co. reached agreement this year on joint ownership and construction to relieve bottlenecks on the transmission systems across northern Idaho and Montana. BPA and Puget Sound Power & Light Co. are cooperating to reinforce the system near Bellingham to improve reliability and to aid transfers of power between Canada and the Northwest. ■ In 1991, BPA squared to face other big decisions on the energy horizon. Under terms of the Columbia River Treaty, the United States must begin returning some downstream power to Canada in 1998. Coming up are renewal of the Pacific Northwest Coordination Agreement and replacement of BPA's long-term

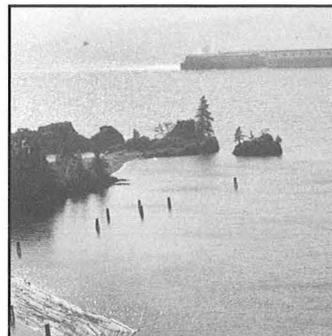
contracts with customers. Decisions on these matters are crucial to the continued stability of the region's power system.

### Competitive and Socially Responsible

■ As the fiscal year washed to a close, BPA finished another cycle of Programs in Perspective to hear ideas from customers and the public on strategic issues. PIP meetings in September focused on a vision statement: that Bonneville intends to be "the most competitive and socially responsible power system in the nation." ■ To be competitive, the stakeholders agreed, Bonneville should keep power reliable, services exceptional, and rates low and stable. Electricity rates, services, and reliability are major pillars supporting the Pacific Northwest economy. ■ To be socially responsible, stakeholders thought, is not in conflict with the drive to be competitive. In the long run, socially responsible programs are good business. Conservation programs, fish and wildlife projects, and other environmental protection efforts, for example, make the Northwest a better place to live. ■ As the Columbia River flows, renewing its life-giving gifts each year, so will BPA protect and enhance this great natural resource for the economic benefit and quality of life of many generations to come.



Oregon Dept. of Fish and Wildlife



Salmon runs share the Columbia River watershed with shippers, vacationers, irrigators, and Northwest citizens who benefit from flood control and reliable, low-cost power.

IT IS SEVERAL RIVERS,  
AND EACH ONE CAN  
CHANGE ITS MOOD  
SEVERAL TIMES IN ONE  
DAY, OR EVEN AN HOUR.

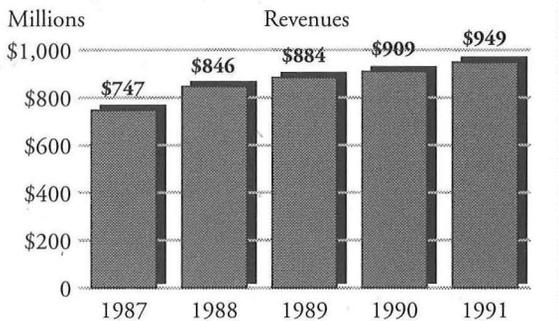
EARL ROBERGE  
*COLUMBIA: GREAT RIVER  
OF THE WEST*



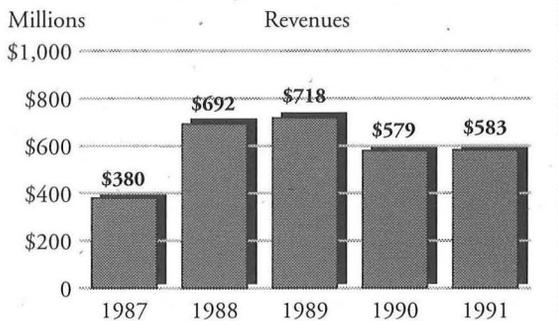
Financial  
Section

## Management's Discussion and Analysis

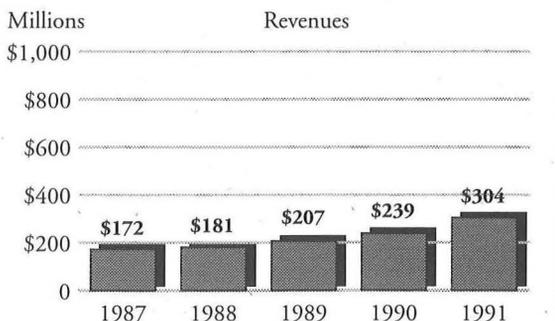
### Publicly Owned Utilities



### Aluminum Industry



### Investor-owned Utilities



## Results of Operations

■ Total Federal Columbia River Power System revenues exceeded expenses by \$425 million in 1991. This is an increase over last year's net revenues of \$277 million. BPA was blessed with an average water year that allowed for significant sales of nonfirm power. Bonneville saved money due to the refinancing of Washington Public Power Supply System bonds.

## Revenues

■ The Northwest economy leveled off in 1991 from its recent high growth rate, but BPA revenues continued to climb. The main reason is that the FCRPS operated with average water conditions, after a series of drier years. Revenues from sales of nonfirm energy were the highest since 1986, the most recent year of average runoff in the Columbia River Basin. ■ Total operating revenues increased by \$139 million to \$2,220 million, up 7 percent. ■ Revenues from sales within the Pacific Northwest increased by \$110 million. Sales outside the region came to \$38 million more than 1990, after Northwest markets were met and reservoirs were sure to fill. Trends in revenues vary by customer class, as indicated in the accompanying charts and the following descriptions.

### Northwest Publicly Owned Utilities

■ Revenues from sales to publicly owned utilities rose \$40 million, up 4 percent. This category includes 39 municipalities, 28 public utility districts, and 56 cooperatives. Together they are BPA's largest

customer group. Revenues were \$949 million in 1991. ■ Publicly owned utilities serve residential, commercial, and industrial customers, so their loads are fairly stable. Loads and sales have increased in each of the last four years, following the steady growth of the Pacific Northwest economy. Economic growth in the region slowed in 1991, but still moved ahead. About half of the year's increase in revenues came in December, when utilities bought a lot of BPA power to get through a prolonged cold spell.

### Aluminum Industry

■ Eight Northwest aluminum smelters buy power directly from BPA. They account for about 26 percent of BPA's total revenues. Since their need for energy can change dramatically with the world price of aluminum, BPA established a variable industrial rate for these customers in 1987. The variable rate helps stabilize their power purchases. When the aluminum market is soft, they can stay in business because they pay less for electricity. When aluminum prices go up, they pay BPA a higher rate. ■ In fiscal 1991, aluminum prices started at 90¢ a pound, which corresponded to a BPA rate three months later of 28.8 mills. Aluminum prices fell, and so did BPA's variable rate. At year's end, aluminum was 56¢ a pound, and BPA's variable rate bottomed out at 16.9 mills. ■ The average rate for 1991 and total revenues, 22.5 mills and \$583 million, were virtually the same as last year. The region's aluminum companies remained at or near full production.

**Northwest**

**Investor-Owned Utilities**

■ Eight Northwest investor-owned utilities buy power from BPA to replace or supplement their own resources. Revenues from power sales to this group were \$304 million, up 27 percent from 1990. Sales increased in 1991 because BPA had more low-cost nonfirm hydropower available. Existing firm loads were easily met, and BPA signed some new firm contracts with these private utilities. Another increase in revenues came from a higher rate some of these utilities began paying on exchange contracts.

**Other Northwest Power Sales**

■ In this group are six Federal agencies, such as the U.S. Department of Energy and the U.S. Navy, and eight direct-service, non-aluminum industries. 1991 revenues were \$62 million, up 3 percent from 1990.

**Sales Outside the Northwest**

■ When BPA has more than enough power to meet Northwest needs, it sells energy over the Federal intertie to California. Customers include 13 publicly owned utilities, 4 investor-owned utilities, and 1 Federal agency. ■ Revenues from sales outside the region in 1991 were \$196 million, up 24 percent from 1990. And 1990 revenues had more than doubled from the year before. Improved reservoir levels and good runoff forecasts allowed nonfirm sales to start earlier in 1991 than in 1990. And BPA converted some energy exchanges to energy sales, accepting dollars instead of energy in return for energy delivered south.

Revenues from nonfirm sales are influenced by gas and oil prices, and how much Californians will pay to use Northwest hydro instead of their own thermal plants. The prices BPA received for its hydropower this year were down a little from 1990, as a result of increased supply rather than due to fluctuations in gas and oil prices.

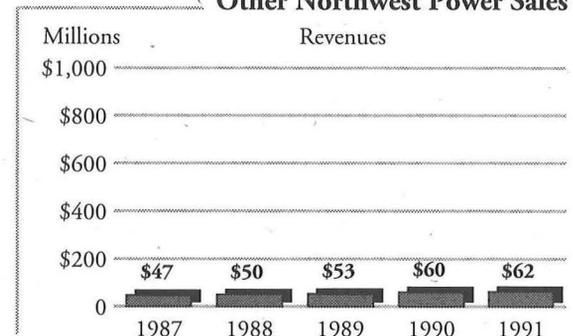
**Wheeling and Other Sales**

■ 1991 revenues were \$126 million, down 7 percent from 1990. Wheeling revenues decreased because the more BPA uses the intertie for its own energy sales, the less intertie capacity is available for other users.

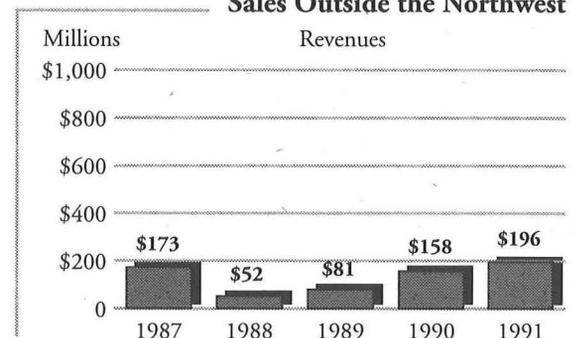
**Expenses**

■ Operations and maintenance expenses were \$777 million, up \$85 million or 12 percent from 1990. This category includes operating expenses of BPA, the U.S. Army Corps of Engineers, Bureau of Reclamation, and Washington Public Power Supply System. Most of the increase in 1991 was related to WNP-2, power scheduling, and transmission system maintenance. ■ Savings from refinancing Supply System bonds reduced non-Federal expenses from \$391 million in 1990 to \$317 million in 1991. Depreciation on Federal projects was an expense of \$208 million, down \$2 million. Residential energy exchange cost BPA \$186 million, an increase of 17 percent due to higher exchange loads and increased average system costs of some participants. Net interest expense on long-term Federal debt decreased by \$37 million, reflecting increased earnings

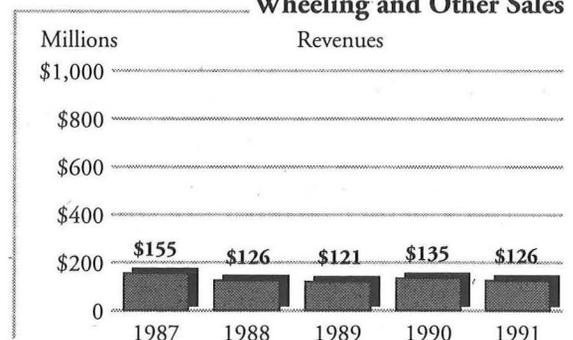
**Other Northwest Power Sales**



**Sales Outside the Northwest**



**Wheeling and Other Sales**



from BPA's higher cash balances.

■ Total operating and net interest expenses in 1991 were \$1,795 million, down nearly \$9 million from last year.

### Financial Condition

■ Bonneville raised its wholesale power rates an average of 1.7 percent at the start of the 1992 fiscal year. 1991 rates were the same as those in 1990. In September 1991 the Federal Energy Regulatory Commission approved BPA's proposed higher rates on an interim basis. The new rates took effect on Oct. 1, 1991, and are expected to apply for two years, until Sept. 30, 1993.

■ The modest rate increase, well below the expected level of inflation, was projected to generate net revenues of \$80 million per year in 1992 and 1993. But there is a high degree of uncertainty of whether net revenues of \$80 million per year will be achieved. Power revenues can

swing more than \$300 million in a single year depending on the economy, the weather, aluminum prices, and the price of natural gas.

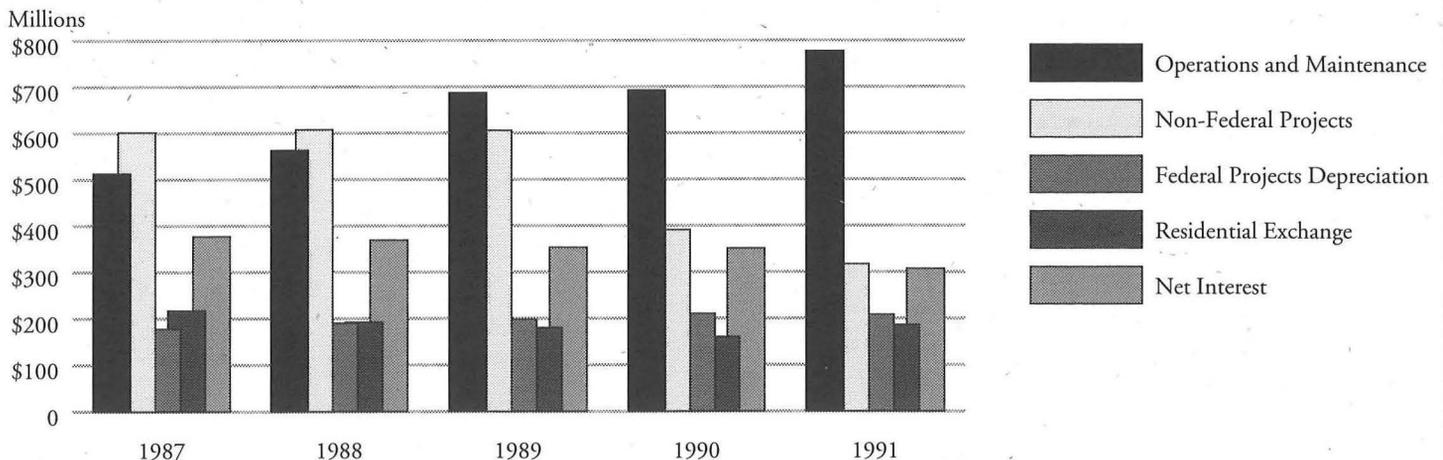
■ Another revenue uncertainty is the future of the Trojan nuclear plant, and the FCRPS's 30 percent share of its output. Trojan shut down in March of 1991 and is scheduled to resume production by March 31, 1992, pending replacement or repair of aging parts. The FCRPS's share of Trojans's generating capacity has historically approximated 5% of FCRPS's annual capacity. ■ In December of 1991, the Northwest Power Planning Council (NPPC) enacted measures to halt the Columbia River salmon's decline. The council's proposal includes increasing the water flow through certain FCRPS dams to flush young salmon to the sea. ■ This change in operations at certain dams is anticipated to reduce power output. The anticipated reduction in

generating capacity represents approximately 4% of total annual generation. Any increased costs are anticipated to be recovered in future rates. ■ The extent of the NPPC's requirements could be modified by the National Marine Fisheries Service (NMFS) which enforces the Endangered Species Act for salmon. They are currently in the process of classifying certain Snake River chinook runs as endangered. As a result, NMFS could require larger cutbacks in the system's hydroelectric production.

### Financing

■ To finance its capital programs such as transmission system development, conservation, and fish and wildlife programs, BPA exercises its authority to borrow from the U.S. Treasury. At the end of fiscal year 1991, BPA's debt in this category totaled \$1,672 million. ■ The Corps of Engineers and Bureau of

### Expense Trends



Reclamation use Federal appropriations to finance new construction and replacement investments, as well as operation and maintenance expenses, at their generating projects. These Federal appropriations, like BPA's own, are to be repaid to the U.S. Treasury by BPA. The total remaining to be paid at the end of the year was \$6,728 million.

■ Another \$6,894 million is owed to non-Federal sources for the financing of three Supply System nuclear projects, the FCRPS share of Trojan, and several smaller generation and conservation investments. BPA backs the bonds issued by others on the private market to finance these projects.

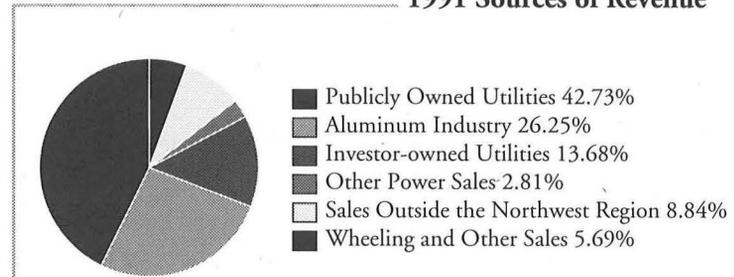
**Considering Changes**

■ Most large utilities use a combination of borrowing and internally generated cash to finance their capital investments. BPA, traditionally, has planned to finance all of its capital investments by borrowing, either in the form of appropriations or of bonds sold to the Treasury. This practice is under review in light of Federal budget pressures and the magnitude of BPA's debt. At the end of 1991, Bonneville owed the Treasury and other bond holders about \$15.3 billion. Its non-current assets total about \$14.7 billion.

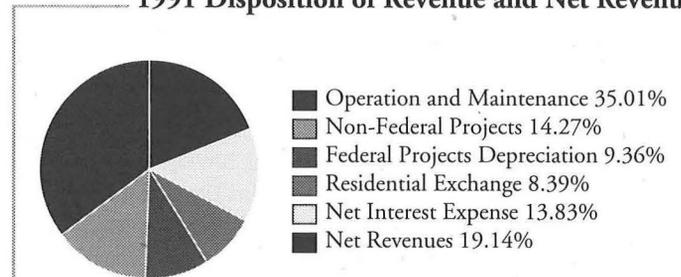
■ Bonneville began meeting with customers and other interested parties in 1991 to find ways to reduce BPA's reliance on Federal borrowing. The first steps were to share information and to clarify the issues, and to agree on a process to develop a 10-Year Financial Plan. In

a parallel forum, at the request of Senator Hatfield, BPA and its public power customers met to consider financial alternatives. ■ Among the questions being asked: What mix of capital sources should BPA rely on for funding its capital investments? What changes in legislation would be necessary to assure BPA's access to new sources of capital? What alternative debt structures or repayment terms might increase regional certainty over servicing BPA's capital investments? What role will revenue financing or reserve levels play in determining BPA's access to cost-effective capital sources? ■ We don't yet have the answers. But BPA is working closely with customers and others to address the issues in a way that will assure program continuity and rate stability and predictability in the future.

**1991 Sources of Revenue**



**1991 Disposition of Revenue and Net Revenues**



**Selected Quarterly Information (Unaudited)<sup>1</sup>**

3 Months Ended	December 31	March 31	June 30	September 30
(Thousands of Dollars)				
<b>1991</b>				
Operating Revenues	\$ 617,878	\$ 659,582	\$ 499,813	\$ 442,958
Operating Expenses	263,389	382,765	404,099	437,894
Net Interest Expenses	85,933	80,622	70,404	70,058
<b>Net Revenues (Expenses)</b>	<b>\$ 268,556</b>	<b>\$ 196,195</b>	<b>\$ 25,310</b>	<b>\$ (64,994)</b>
<b>1990</b>				
Operating Revenues	\$ 530,327	\$ 602,328	\$ 481,733	\$ 466,374
Operating Expenses	382,980	344,155	327,620	398,398
Net Interest Expenses	88,180	87,152	92,488	83,082
<b>Net Revenues (Expenses)</b>	<b>\$ 59,167</b>	<b>\$ 171,021</b>	<b>\$ 61,625</b>	<b>\$ (15,106)</b>

<sup>1</sup>BPA's net revenues are normally higher in the first and second quarters of the fiscal year than in the third and fourth. In fall and winter, loads grow to serve Northwest heating needs. In warmer weather, loads decline and BPA spends more on yearly maintenance.

# Report of Independent Accountants

## *Price Waterhouse*



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

In our opinion, the accompanying balance sheets and the related statements of revenue and expenses, changes in capitalization and cash flows present fairly, in all material respects, the financial position of the Federal Columbia River Power System (FCRPS) at September 30, 1991 and 1990, and the results of its operations, changes in capitalization and its cash flows for the years then ended in conformity with generally accepted accounting principles. 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 of these statements in accordance with generally accepted auditing standards which 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, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

As discussed in Note 7 to the financial statements, pending 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, the accompanying financial statements do not include any adjustments which might result from the outcome of this litigation.

Our examination was 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, 1991, (Schedule A) is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the examination of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

*Price Waterhouse*

Portland, Oregon  
December 13, 1991

# Statements of Revenues and Expenses

For the years ended  
September 30, 1991 and 1990

	1991	1990
(Thousands of Dollars)		
<b>Operating Revenues:</b>		
Sales of electric power-		
Sales within the Northwest region-		
Publicly owned utilities	\$ 948,747	\$ 909,010
Aluminum industry	582,847	578,591
Investor-owned utilities	303,650	239,260
Other power sales	62,317	60,249
Sales outside the Northwest region	196,225	158,244
	2,093,786	1,945,354
Wheeling and other sales	126,445	135,408
Total operating revenues	2,220,231	2,080,762
<b>Operating Expenses:</b>		
Operations and maintenance	777,205	691,847
Non-Federal projects (Note 4)	316,906	391,216
Federal projects depreciation	207,820	210,249
Residential exchange (Note 5)	186,216	159,841
Total operating expenses	1,488,147	1,453,153
Net operating revenues	732,084	627,609
<b>Interest Expense:</b>		
Interest on Federal investment		
Appropriated funds	228,196	228,398
Long-term debt	101,425	138,002
Allowance for funds used during construction (AFUDC)	(22,604)	(15,498)
Net interest expense	307,017	350,902
<b>Net Revenues</b>	<b>\$ 425,067</b>	<b>\$ 276,707</b>

The accompanying notes are an integral part of these statements.

# Balance Sheets

September 30, 1991 and 1990

Assets	1991	1990
	(Thousands of Dollars)	
<b>Utility Plant (Notes 1 and 3):</b>		
Completed plant	\$ 9,134,024	\$ 9,029,179
Accumulated depreciation	(2,359,992)	(2,221,254)
	6,774,032	6,807,925
Construction work in progress	414,167	272,403
	7,188,199	7,080,328
<b>Non-Federal Projects (Notes 1 and 4):</b>		
Hanford	7,385	12,220
WNP No. 1	2,319,518	2,318,400
WNP No. 2	2,384,362	2,309,415
WNP No. 3	1,845,685	1,897,159
Trojan	115,465	119,125
Conservation	12,720	13,635
Idaho Falls	38,055	38,595
Cowlitz Falls	171,095	—
	6,894,285	6,708,549
<b>Conservation</b> , net of accumulated amortization of \$244,486 in 1991 and \$201,568 in 1990 (Notes 1 and 2)	541,970	533,253
<b>Fish and Wildlife</b> , net of accumulated amortization of \$10,296 in 1991 and \$6,656 in 1990 (Notes 1 and 2)	54,188	40,148
<b>Current Assets:</b>		
Cash	636,613	323,014
Accounts receivable	7,478	12,378
Accrued unbilled revenues	76,537	91,572
Materials and supplies, at average cost	49,353	42,012
Prepaid expenses	209,986	182,250
	979,967	651,226
<b>Other Assets</b>	39,051	37,510
	\$ 15,697,660	\$ 15,051,014

Capitalization and Liabilities	1991	1990
	(Thousands of Dollars)	
Accumulated Net Revenues (Expenses) (Note 1)	\$ 160,917	\$ (264,150)
Federal Appropriations (Note 3)	6,727,882	6,697,535
Long-Term Debt (Note 2)	1,521,573	1,644,499
Non-Federal Projects Debt, net of current portion (Notes 1 and 4)	6,792,128	6,622,599
Total capitalization and long-term liabilities	15,202,500	14,700,483
<b>Commitments and Contingencies (Notes 6 and 7)</b>		

**Current Liabilities:**

Current portion of long-term debt	150,000	50,000
Current portion of non-Federal projects debt (Notes 1 and 4)	102,157	85,950
Accounts payable	160,627	136,972
Employees' accrued leave	15,572	14,283
Total current liabilities	428,356	287,205

Deferred Credits	66,804	63,326
	\$ 15,697,660	\$ 15,051,014

The accompanying notes are an integral part of these statements.

# Statements of Changes in Capitalization

For the years ended  
September 30, 1991 and 1990

	Accumulated Net Revenues (Expenses)	Federal Appropriations	Long-Term Debt	Non-Federal Projects Debt	Total Capitalization
(Thousands of Dollars)					
<b>Balance at September 30, 1989</b>	\$ (540,857)	\$ 6,643,275	\$ 1,794,499	\$ 6,158,193	\$ 14,055,110
Increase in Federal appropriations:					
Operations and maintenance	—	104,953	—	—	104,953
Construction	—	67,056	—	—	67,056
Repayment of Federal appropriations:					
Operations and maintenance	—	(104,953)	—	—	(104,953)
Construction	—	(12,796)	—	—	(12,796)
Increase in long-term debt:	—	—	50,000	—	50,000
Reduction of long-term debt:					
Repayment	—	—	(150,000)	—	(150,000)
Refinance	—	—	—	—	—
Net Increase in non-Federal projects debt	—	—	—	621,979	621,979
Payment of non-Federal projects debt	—	—	—	(71,623)	(71,623)
Net revenues	276,707	—	—	—	276,707
<b>Balance at September 30, 1990</b>	(264,150)	6,697,535	1,694,499	6,708,549	14,836,433
Increase in Federal appropriations:					
Operations and maintenance	—	109,841	—	—	109,841
Construction	—	82,934	—	—	82,934
Repayment of Federal appropriations:					
Operations and maintenance	—	(109,841)	—	—	(109,841)
Construction	—	(52,587)	—	—	(52,587)
Increase in long-term debt:	—	—	110,000	—	110,000
Reduction of long-term debt:					
Repayment	—	—	(132,926)	—	(132,926)
Refinance	—	—	—	—	—
Net Increase in non-Federal projects debt	—	—	—	270,936	270,936
Payment of non-Federal projects debt	—	—	—	(85,200)	(85,200)
Net revenues	425,067	—	—	—	425,067
<b>Balance at September 30, 1991</b>	\$ 160,917	\$ 6,727,882	\$ 1,671,573	\$ 6,894,285	\$ 15,454,657

The accompanying notes are an integral part of these statements.

	1991	1990
	(Thousands of Dollars)	
<b>Cash from Operating Activities:</b>		
Net revenues	\$425,067	\$276,707
Expenses (Income) not requiring cash:		
Depreciation	161,262	166,845
Amortization	46,558	43,404
Amortization of non-Federal projects	85,200	71,623
AFUDC	(22,604)	(15,498)
(Increase) decrease in:		
Receivables and unbilled revenues	19,935	(8,659)
Materials and supplies	(7,341)	(3,193)
Prepaid expenses	(27,736)	(85,900)
Increase (decrease) in:		
Accounts payable	23,655	11,792
Employees' accrued leave	1,289	1,378
Other	1,937	(419)
<b>Cash provided by operating activities</b>	<b>707,222</b>	<b>458,080</b>
<b>Cash Used for Investment Activities:</b>		
Investment in:		
Utility plant	(246,529)	(172,370)
Conservation	(51,635)	(39,807)
Fish and Wildlife	(17,680)	(16,192)
Non-Federal projects	(270,936)	(621,979)
<b>Cash used for investment activities</b>	<b>(586,780)</b>	<b>(850,348)</b>
<b>Cash from Borrowing and Appropriations:</b>		
Increase in Federal appropriations:		
Operations and maintenance	109,841	104,953
Construction	82,934	67,056
Repayment of Federal appropriations:		
Operations and maintenance	(109,841)	(104,953)
Construction	(52,587)	(12,796)
Increase in long-term debt	110,000	50,000
Repayment of long-term debt	(132,926)	(150,000)
Refinance of long-term debt	—	—
Net increase in non-Federal projects debt	270,936	621,979
Payment of non-Federal projects debt	(85,200)	(71,623)
<b>Cash from borrowing and appropriations</b>	<b>193,157</b>	<b>504,616</b>
Increase in cash	313,599	112,348
<b>Beginning Cash Balance</b>	<b>323,014</b>	<b>210,666</b>
<b>Ending Cash Balance</b>	<b>\$636,613</b>	<b>\$323,014</b>

## Statements of Cash Flows

For the years ended  
September 30, 1991 and 1990

The accompanying notes are an integral part of these statements.

# Notes to Financial Statements

September 30, 1991 and 1990

## 1. Summary of General Accounting Policies

■ 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 U.S. Army Corps of Engineers (Corps) and the Bureau of Reclamation (Reclamation) 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 Reclamation 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; Reclamation 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 and Net Revenues

■ Operating revenues are recorded on the basis of service rendered, which includes estimated unbilled revenues. ■ Bonneville's rates are established in accordance with several statutory directives. Rates proposed by Bonneville are subjected to an extensive formal review process, after which they are established by Bonneville and reviewed by the Commission. The Commission's review is limited to three standards set out in the Northwest Power Act. The Commission reviews Bonneville's rates for all firm power, for nonfirm energy sold within the Region, and for transmission service under such statutory standards that include a requirement that these rates be sufficient to assure repayment of the Federal investment in the FCRPS over a reasonable number of years after first meeting Bonneville's other costs. ■ After final Commission approval, Bonneville's rates may be reviewed by the United States Court of Appeals for the Ninth Circuit. Action seeking such review must be filed within 90 days of the final Commission decision. The Commission and the Court of Appeals may either confirm or reject a rate proposed by Bonneville. It is the opinion of Bonneville's General Counsel that, if a rate were rejected, it would be remanded to Bonneville for reformulation. By contract, Bonneville has agreed that rates for the sale of power pursuant to its present contracts may not be revised

on less than nine month's notice and may not be increased more than once in a twelve month period.

■ The Commission has approved on an interim basis Bonneville's rates for fiscal years 1992 and 1993 which increased average rates by 1.7%.

■ Because BPA is a 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.

### 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. While cash is not realized currently from this allowance, it is realized under the rate-making process over the service life of the

related property through increased revenues resulting from higher plant in-service and higher depreciation expense. ■ AFUDC capitalization rates are stipulated in the Congressional Acts authorizing construction for certain generating projects (2.5% to 9.0% in 1991 and 2.5% to 9.1% in 1990). Capitalization rates for other construction approximate the cost of borrowing from the U.S. Treasury (8.8% in 1991 and 8.9% in 1990).

**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, 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 two hydro projects. 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

(CSRS) or the Federal Employees' Retirement System (FERS). FCRPS and employees contribute to the systems. Both are contributory pension plans. Retirement benefit expense under CSRS is equivalent to 7% of eligible employee compensation and under FERS is variable based upon options chosen by the participant but does not exceed 24.2% of eligible employee

compensation. Retirement benefits are payable by the U.S. Treasury and not by the FCRPS.

**Cash**

■ For purposes of reporting cash flows, cash includes cash in the BPA fund and unexpended appropriations of Reclamation and the Corps. Cash paid for interest was \$306 million in 1991 and \$351 million in 1990.

**Note 2. Long-term Debt<sup>1</sup>**

Issue Date	First Call Date	Maturity Date	Interest Rate	Construction & Fish & Wildlife	Conservation	Cumulative Total
(Thousands of Dollars)						
<b>Bonds:</b>						
June 1987	none	1992	8.35%	\$ 100,000	\$ —	\$ 100,000
June 1987	none	1992	8.35%	—	50,000	150,000
Feb. 1991	none	1995	7.55%	60,000	—	210,000
Sept. 1989	none	1995	8.60%	—	66,000	276,000
Mar. 1986	none	1996	8.15%	100,000	—	376,000
Mar. 1986	none	1996	8.15%	—	50,000	426,000
May 1991	none	1996	7.95%	50,000	—	476,000
May 1989	none	1999	8.95%	25,000	—	501,000
May 1989	none	1999	8.95%	75,000	—	576,000
Sept. 1989	none	2002	8.65%	—	66,000	642,000
Apr. 1987	1992	2007	9.30%	—	75,000	717,000
Apr. 1988	1993	2008	9.90%	—	90,000	807,000
July 1989	none	2009	8.55%	—	40,000	847,000
July 1987	1992	2017	9.55%	95,000	—	942,000
Feb. 1988	1993	2018	9.50%	43,700	—	985,700
Jan. 1990	2000	2030	9.25%	50,000	—	1,035,700
June 1986	1991	2031	8.95%	295,873	—	1,331,573
Apr. 1987	1992	2032	9.30%	100,000	—	1,431,573
July 1987	1992	2032	9.55%	50,000	—	1,481,573
Feb. 1988	1993	2033	9.50%	150,000	—	1,631,573
June 1988	1993	2033	9.90%	40,000	—	1,671,573
				\$1,234,573	\$ 437,000	\$1,671,573
<b>Less current portion</b>						(150,000)
						<b>\$1,521,573</b>

<sup>1</sup> The weighted average interest rate was 8.9% and 9.0% on outstanding long-term debt as of September 30, 1991 and 1990, respectively. All the construction, conservation, and fish and wildlife bonds are term bonds.

## 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, 1991, \$437 million of this reserved amount and \$1,235 million of other borrowings were outstanding. The table on the previous page reflects the terms and amounts of long-term debt.

## 3. Federal Appropriations

■ Construction and replacement of Corps and Reclamation generating facilities are 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 8.9% (the weighted average rate was 3.4% in 1991 and 1990). The rates have been set by law, administrative order pursuant to law, or administrative policies. ■ Federal appropriations relating to 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 repaid through September 30, 1991, 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 can be made. ■ The table below shows the term repayments of the remaining Federal appropriations as of September 30, 1991.

## 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 projects budgets, including debt service, whether or not the projects are completed. BPA has also acquired all of the output of the Idaho Falls and Cowlitz Falls projects and has agreed to fund debt service on EWEB bonds issued to finance conservation programs sponsored by BPA. ■ BPA recognizes expenses for these projects based upon total project cash funding requirements reflected in project budgets that are adopted by BPA and the Washington Public Power Supply System (Hanford Generating Project, WNP Nos. 1-3), Eugene Water and Electric Board (Trojan, EWEB conservation), City of Idaho Falls (Idaho Falls hydro), and PUD No. 1 of Lewis County (Cowlitz Falls hydro). Operating expense for the projects is included in operations and maintenance in the accompanying Statements of Revenues and Expenses. ■ Following restoration of the Supply System's bond rating in late 1988, BPA and the Supply System developed a refunding plan to refinance outstanding high-interest rate net-billed bonds. By the end of fiscal year 1991, five advance refunding sales were completed. The final refunding was completed in October 1991, refunding \$486 million of previously outstanding bonds with \$550 million of new bonds. ■ In total \$4.4 billion of refunding bonds were issued to refinance \$3.4 billion of previously outstanding bonds. These advance refundings reduced the cash

### Federal Appropriations

	Term Repayments (a) (Thousands of Dollars)
1992	\$ 1,408
1993	17,785
1994	14,402
1995	—
1996	—
After 1996	6,694,287
	<b>\$6,727,882</b>

(a) Excludes planned payments on future replacements.

## Non-Federal Projects Debt Service

Project and Percent Capability Acquired		Actual		Forecasted Non-Federal Debt Service (a)						Total
		1990	1991	1992	1993	1994	1995	1996	1997+	
(Thousands of Dollars)										
Hanford Nuclear 72%	Principal	\$ 4,885	\$ 4,835	\$ 5,612	\$ 1,639	\$ 134	\$ —	\$ —	\$ —	\$ 7,385
	Interest (b)	(305)	322	(1,754)	(1,551)	(496)	—	(297)	—	(4,098)
		4,580	5,157	3,858	88	(362)	—	(297)	—	3,287
WNP No. 1 100%	Principal	23,552	24,455	28,165	34,105	35,890	37,825	41,255	2,142,278	2,319,518
	Interest	139,748	83,542	152,042	148,879	146,329	135,494	142,742	1,678,555	2,404,041
		163,300	107,997	180,207	182,984	182,219	173,319	183,997	3,820,833	4,723,559
WNP No. 2 100%	Principal	23,476	32,800	37,160	31,860	34,225	45,765	32,425	2,202,927	2,384,362
	Interest	152,473	48,397	157,837	155,067	156,089	147,472	151,019	1,298,533	2,066,017
		175,949	81,197	194,997	186,927	190,314	193,237	183,444	3,501,460	4,450,379
WNP No. 3 70%	Principal	14,905	17,995	25,715	30,745	32,720	34,875	40,505	1,681,125	1,845,685
	Interest	17,615	89,723	108,759	105,655	103,476	102,259	95,558	1,512,455	2,028,162
		32,520	107,718	134,474	136,400	136,196	137,134	136,063	3,193,580	3,873,847
Trojan Nuclear 30%	Principal	3,475	3,660	3,840	4,055	4,275	4,500	4,755	94,040	115,465
	Interest	6,230	5,773	5,197	4,987	4,771	4,539	4,283	23,067	46,844
		9,705	9,433	9,037	9,042	9,046	9,039	9,038	117,107	162,309
EWEB Conservation	Principal	830	915	1,090	1,155	1,230	1,305	1,390	6,550	12,720
	Interest	818	992	806	741	672	597	512	1,229	4,557
		1,648	1,907	1,896	1,896	1,902	1,902	1,902	7,779	17,277
Idaho Falls Hydro 100%	Principal	500	540	575	635	685	755	815	34,590	38,055
	Interest	3,014	2,957	3,288	3,238	3,182	3,119	3,050	30,278	46,155
		3,514	3,497	3,863	3,873	3,867	3,874	3,865	64,868	84,210
Cowlitz Falls Hydro 100%	Principal	—	—	—	—	—	1,960	2,070	167,065	171,095
	Interest	—	—	—	—	—	10,626	10,517	185,412	206,555
		—	—	—	—	—	12,586	12,587	352,477	377,650
		\$391,216	\$316,906	\$528,332	\$521,210	\$523,182	\$531,091	\$530,599	\$11,058,104	\$13,692,518

(a) Estimates in these columns are consistent with BPA's 1991 Rate Filing.

(b) When negative amount is shown, interest income on project funds exceeds interest expenses.

requirements pursuant to the project budgets BPA is required to pay under the net-billing agreements by \$146.7 million in fiscal 1990 and \$183 million in 1991 from 1989 levels. Additionally the structure of

the advance refundings allowed the use of cash reserves held by the bond trustee to further reduce the project budgets for fiscal 1990 and 1991. In 1990 this resulted in \$68.5 million of lower project budgets for WNP

Nos. 1 and 3. The 1991 project budgets for WNP Nos. 1 and 2 were reduced by \$107.1 million due to the use of cash reserves. ■ In summary, non-Federal project expense included in the Statement of

Revenues and Expenses was reduced by \$215.2 million and \$290.1 million for fiscal 1990 and 1991, respectively, relating to these non-recurring factors. Future principal and interest payments required for non-Federal projects total \$13.7 billion, of which \$6.8 billion represents interest. ■ 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.

### 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 Exchange 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 rate. Purchases and sales

of electric power by BPA during fiscal years 1991 and 1990 under these contracts are shown in the table below.

## 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 irrigation assistance payment from power net revenues is planned to be made in 1997, and cumulative payments could ultimately total \$819 million. Although such costs may be paid by power ratepayers, these costs are for the benefit of the water users and are not a regular operating cost of the power program. Accordingly, these costs will be reflected in the financial statements if paid.

### Net-Billing Agreements

■ BPA has agreed with the Supply System that, in the event any Participant shall be unable for any reason, or shall refuse, to pay to the Supply System any amount due from such Participant under its net-billing agreement for which a net-billing credit or cash payment to

such Participant has been provided by the BPA, BPA will be obligated to pay the unpaid amount in cash directly to the Supply System, unless payment of such unpaid amount is made in a timely manner pursuant to the net-billing agreements.

### Nuclear Insurance

■ BPA is a member of the 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, and excess property damage and decontamination liability. Under its property and decontamination coverage, BPA could be subject to a maximum assessment of \$7.0 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 (NRC) indemnity for public liability coverage under the Price-Anderson Act. In the event of a nuclear incident, BPA could be subject to a retrospective assessment of \$63 million and \$18.9 million, limited to an annual maximum of \$10 million and \$3 million for WNP No. 2 and Trojan, respectively.

### Decommissioning Costs

■ Decommissioning costs are charged to operations over the operating life of each project. External sinking funds for these costs are being funded monthly or annually, as payments are made pursuant to the net-billing agreements, for WNP No. 2 and Trojan, respectively. The sinking funds are expected to provide for decommissioning at the end of each project's operating life in accordance with NRC requirements. Sinking fund requirements for WNP No. 2 and Trojan are based upon

### Residential Exchange

	1991	1990
	(Thousands of Dollars)	
Expense	\$ 888,338	\$ 820,969
Revenue	(702,122)	(661,128)
Net Residential Exchange Expense	\$ 186,216	\$ 159,841

periodically updated estimates of decommissioning costs. ■ The estimated decommissioning costs for WNP No. 2 are \$403 million (in 1987 dollars). Total payments to the sinking fund for the years ended September 30, 1991 and 1990 were \$2.7 million and \$2.6 million, respectively. ■ The estimated decommissioning costs for Trojan are \$220 million (in 1989 dollars), 30% of which are BPA's responsibility. This increase from the previous estimate of \$117 million was due to a change in the NRC's allowed assumptions regarding decommissioning technology and funding methods. Total payments to the sinking fund for the years ended September 30, 1991 and 1990 were \$1.9 and \$1.5 million, respectively. Decommissioning costs are included in operations and maintenance expense in the Statement of Revenues and Expenses.

## 7. Litigation

### Involving the Washington Public Power Supply System (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. WNP Nos. 1 and 4 and WNP Nos. 3 and 5 were to be built as two sets of twin plants, sharing many common elements, including design and some shared facilities. Costs of constructing the twin plants were to be shared on the basis of proportion of respective benefit to each project. Chemical Bank, the WNP Nos. 4 and 5 bond trustee, now seeks to have the terminated plants' portion of those shared costs retroactively

reallocated to WNP Nos. 1 and 3. On October 5, 1990, the court ruled that principles of incremental cost sharing was required. The court stated that because such principles were not applied, WNP Nos. 4 and 5 apparently have more than their fair and equitable share of construction costs. BPA and several other parties appealed the Court's October 1990 decision. Argument on the appeal was heard on November 8, 1991. The trial court has stayed the case for nine months or until the Court of Appeals rules. ■ If Chemical Bank is successful, this could result in WNP Nos. 1 and 3 assuming additional costs. Chemical Bank is claiming approximately \$1 billion, including interest through September 30, 1991. 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. ■ In addition to the above litigation, there are lawsuits against the Supply System in which the plaintiffs assert 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. The Washington State Court of Appeals has affirmed this ruling. ■ In the second 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. This was affirmed on appeal by the Ninth Circuit Court of Appeals. In the third case, the Superior Court of King County, Washington, allowed the plaintiff to deduct the amount it owed WNP No. 1 from an amount owed the plaintiff by WNP Nos. 4 and 5. Despite this, the Superior Court held that the net amount still owed by WNP Nos. 4 and 5 is payable only from funds of those projects. The Supply System has appealed the ruling. 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 debts, is remote.

### Other Matters

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

**Schedule of Amount and Allocation of Plant Investment**

September 30, 1991

	Commercial Power			
	Total	Completed Plant	Construction Work in Progress	Total Commercial Power
(Thousands of Dollars)				
<b>Bonneville Power Administration-</b>				
Transmission facilities	\$ 3,823,817	\$ 3,589,058	\$ 234,759	\$ 3,823,817
<b>Bureau of Reclamation-</b>				
Boise	103,142	10,716	412	11,128
Columbia Basin	1,809,964	1,061,121	21,160	1,082,281
Hungry Horse	113,616	77,098	11,668	88,766
Minidoka-Palisades	291,181	14,443	9,878	24,321
Yakima	184,149	6,576	7	6,583
<b>Total Bureau projects</b>	<b>2,502,052</b>	<b>1,169,954</b>	<b>43,125</b>	<b>1,213,079</b>
<b>Corps of Engineers-</b>				
Albeni Falls	37,852	34,663	878	35,541
Bonneville	855,930	799,604	4,265	803,869
Chief Joseph	560,684	550,205	1,298	551,503
Cougar	62,493	19,808	529	20,337
Detroit-Big Cliff	68,043	41,209	210	41,419
Dworshak	361,993	302,385	2,224	304,609
Green Peter-Foster	90,905	50,179	35	50,214
Hills Creek	49,180	17,563	12	17,575
Ice Harbor	184,222	133,812	1,281	135,093
John Day	606,146	440,046	15,267	455,313
Libby	609,310	473,312	541	473,853
Little Goose	242,824	199,634	1,979	201,613
Lookout Point-Dexter	100,050	47,251	322	47,573
Lost Creek	150,518	27,055	12	27,067
Lower Granite	398,519	323,794	1,856	325,650
Lower Monumental	260,200	216,314	1,428	217,742
McNary	349,495	276,973	1,291	278,264
The Dalles	343,469	288,330	6,920	295,250
Columbia River Fish Bypass	47,224	3,970	43,189	47,159
Lower Snake	183,316	128,905	52,746	181,651
<b>Total Corps projects</b>	<b>5,562,373</b>	<b>4,375,012</b>	<b>136,283</b>	<b>4,511,295</b>
Irrigation assistance at 12 projects having no power generation	199,386	—	—	—
<b>Total plant investment</b>	<b>12,087,628</b>	<b>9,134,024</b>	<b>414,167</b>	<b>9,548,191</b>
<b>Repayment obligation retained by</b>				
Columbia Basin project	4,639	2,836 (a)	—	2,836
Investment in Teton project. (b)	79,107	—	7,269	7,269
<b>Total</b>	<b>\$ 12,171,374</b>	<b>\$ 9,136,860</b>	<b>\$ 421,436</b>	<b>\$ 9,558,296</b>

(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.

**Schedule A**

Returnable from Commercial Power Revenues	Returnable from Other Sources	Total Irrigation	Nonreimbursable					Percent of Total Returnable from Commercial Power Revenues	
			Navigation	Flood Control	Fish and Wildlife	Recreation	Other		
(Thousands of Dollars)									
\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	100.0%
20,613	43,917	64,530	—	27,484	—	—	—	—	30.8%
557,995	106,695	664,690	1,000	56,419	4,894	154	526	—	90.6%
—	—	—	—	24,850	—	—	—	—	78.1%
10,048	61,308	71,356	—	64,316	1,644	7,290	122,254	—	11.8%
16,942	120,036	136,978	—	924	39,426	238	—	—	12.8%
<b>605,598</b>	<b>331,956</b>	<b>937,554</b>	<b>1,000</b>	<b>173,993</b>	<b>45,964</b>	<b>7,682</b>	<b>122,780</b>	<b>—</b>	<b>72.7%</b>
—	—	—	162	206	—	1,943	—	—	93.9%
—	—	—	48,710	—	—	1,289	2,062	—	93.9%
230	—	230	—	—	—	3,987	4,964	—	98.4%
—	3,286	3,286	548	38,322	—	—	—	—	32.5%
—	5,144	5,144	232	21,248	—	—	—	—	60.9%
—	—	—	9,518	34,385	—	13,481	—	—	84.1%
—	5,871	5,871	368	30,541	—	1,856	2,055	—	55.2%
—	4,605	4,605	628	26,372	—	—	—	—	35.7%
—	—	—	46,273	—	—	2,856	—	—	73.3%
—	—	—	91,528	21,345	—	11,551	26,409	—	75.1%
—	—	—	—	97,779	870	6,171	30,637	—	77.8%
—	—	—	34,556	—	—	4,051	2,604	—	83.0%
—	1,506	1,506	753	49,697	—	521	—	—	47.5%
—	2,206	2,206	—	53,519	24,550	29,473	13,703	—	18.0%
—	—	—	52,386	—	—	12,641	7,842	—	81.7%
—	—	—	39,219	—	—	2,822	417	—	83.7%
—	—	—	67,951	—	—	3,280	—	—	79.6%
—	—	—	46,098	—	—	2,099	22	—	86.0%
—	—	—	65	—	—	—	—	—	99.9%
—	—	—	1,665	—	—	—	—	—	99.1%
<b>230</b>	<b>22,618</b>	<b>22,848</b>	<b>440,660</b>	<b>373,414</b>	<b>25,420</b>	<b>98,021</b>	<b>90,715</b>	<b>—</b>	<b>81.1%</b>
155,105	44,281	199,386	—	—	—	—	—	—	77.8%
<b>760,933</b>	<b>398,855</b>	<b>1,159,788</b>	<b>441,660</b>	<b>547,407</b>	<b>71,384</b>	<b>105,703</b>	<b>213,495</b>	<b>—</b>	<b>85.3%</b>
1,803	—	1,803	—	—	—	—	—	—	100.0%
56,573	3,681	60,254	—	9,151	—	2,433	—	—	80.7%
<b>\$ 819,309</b>	<b>\$ 402,536</b>	<b>\$ 1,221,845</b>	<b>\$ 441,660</b>	<b>\$ 556,558</b>	<b>\$ 71,384</b>	<b>\$ 108,136</b>	<b>\$ 213,495</b>	<b>—</b>	<b>85.3%</b>

## Federal Repayment

### 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 Price Waterhouse, independent 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

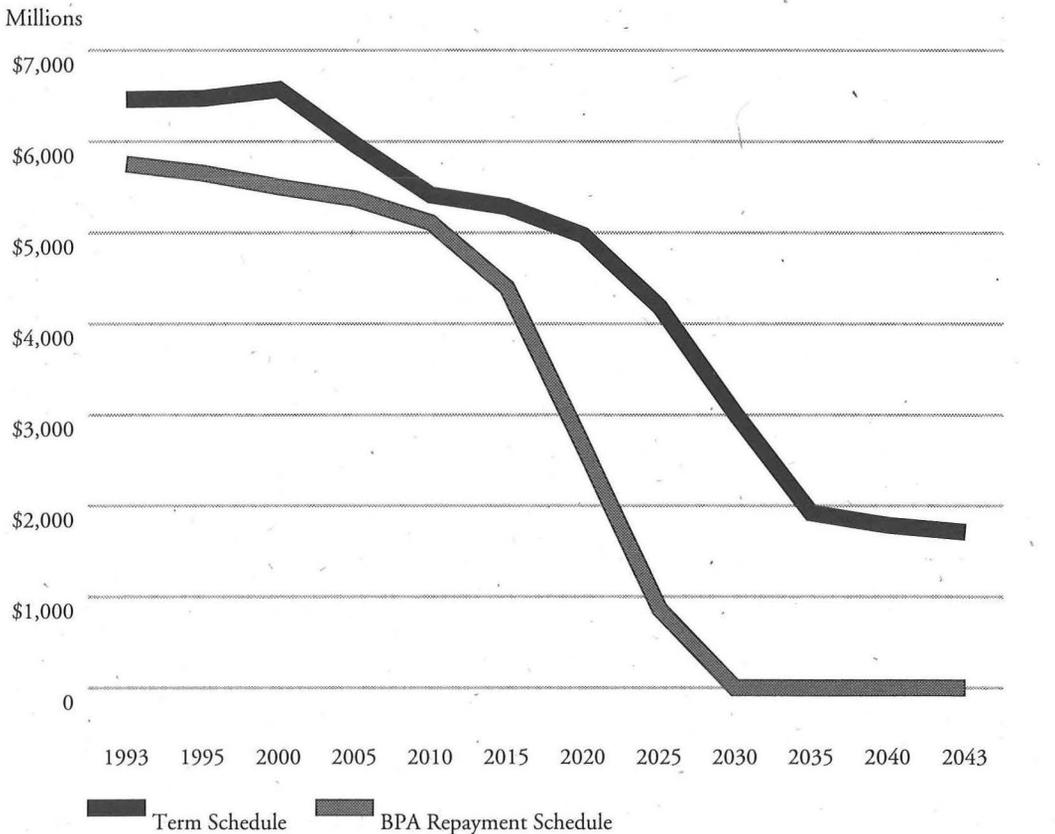
■ The revenue requirement study, demonstrates repayment of Federal investment. It reflects revenues and costs from the 1991 Wholesale Power and Transmission Rate Proceedings. On September 13, 1991, the Federal Energy Regulatory Commission approved the proposed rates on an interim basis for the test period fiscal years 1992 and 1993.

### 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 22 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).

### Unrepaid Federal Generation Investment<sup>1</sup>



<sup>1</sup>Includes 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 directives, 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 net revenues, within the same period available to the water users for making payments. These periods range from 40 to 66 years with 50 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

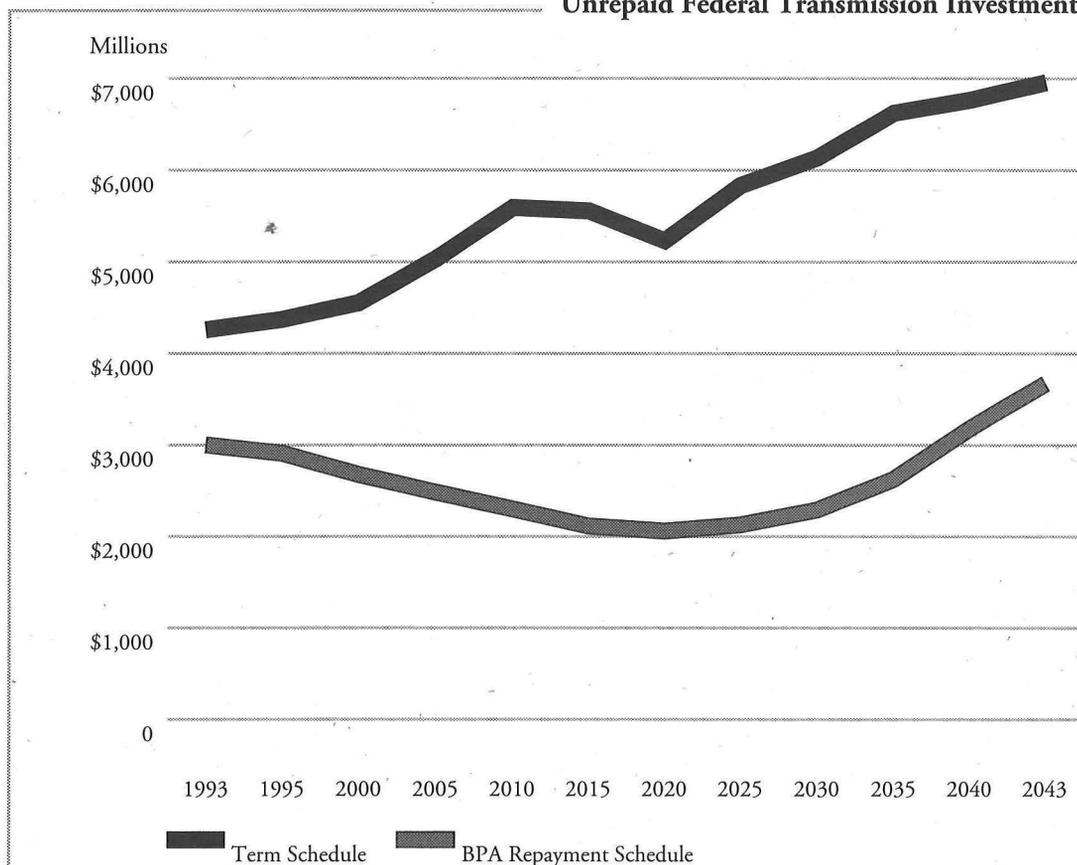
prescribed repayment period.

### 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. However total irrigation assistance payments cannot require an increase in the BPA power rate level. 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.

**Unrepaid Federal Transmission Investment<sup>1</sup>**



<sup>1</sup>Includes future replacements.

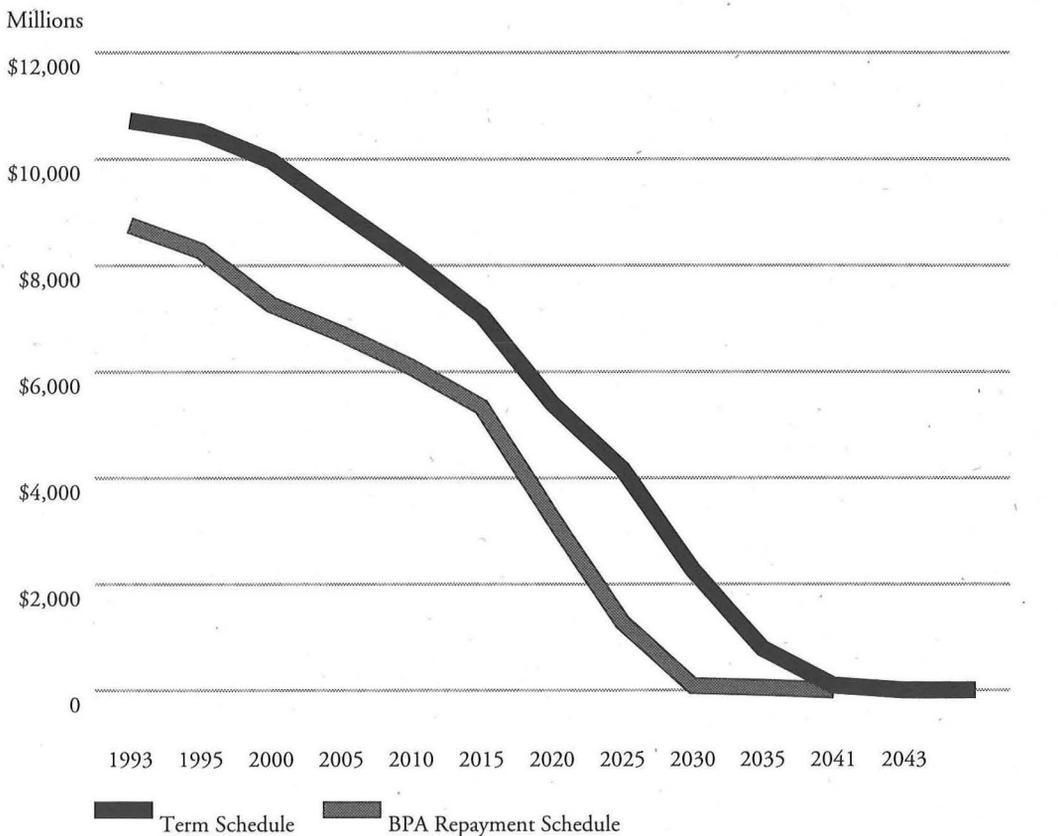
89-448 are met as long as the unrepaid FCRPS investment and irrigation assistance resulting from BPA's repayment schedule is less than or equal to the allowable unrepaid investment in each year. Although the comparison is illustrated by graphs representing total FCRPS generation and total FCRPS transmission 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 on the two prior pages 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 1993 is scheduled to be returned to the U.S. Treasury within the 50-year repayment period and ahead of due dates.

### Unrepaid Federal Investment<sup>1</sup>



<sup>1</sup>Excludes future replacements.

# Generation and Sales Tables

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

Table 1	1991	
	Thousands of MWH	Percent of Total
<b>Publicly Owned</b>		
Federal Columbia River Power System (b)	98,550	48.2%
Grant County PUD	3,800	1.9%
Chelan County PUD	3,650	1.8%
Seattle City Light	9,800	4.8%
Douglas County PUD	1,100	.6%
Tacoma City Light	4,050	2.0%
Eugene Water & Electric Board	700	.3%
Pend Oreille County PUD	500	.2%
<b>Total Publicly Owned</b>	<b>122,150</b>	<b>59.8%</b>
<b>Investor-owned</b>		
Pacific Power & Light	21,550	10.5%
Idaho Power Co.	11,950	5.9%
Montana Power Co.	10,300	5.0%
Portland General Electric Co.	13,700	6.7%
Washington Water Power Co.	8,800	4.3%
Puget Sound Power & Light	15,900	7.8%
<b>Total Investor-owned</b>	<b>82,200</b>	<b>40.2%</b>
<b>Total Generation</b>	<b>204,350</b>	<b>100.0%</b>

(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) 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 Clark County PUD-Great Western Malting cogeneration 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 cogeneration and Whiskey Run projects; PSP&L share of The Dalles Dam North Fishway hydro project generation from N. Wasco Co. PUD.

## Sales of Electric Power (FCRPS)

Revenue in Thousands of Dollars

Table 2	1991			
Northwest Region-Municipalities	Capacity Sales		Energy Sales	
	MW	Revenue	MWH	Revenue
Albion, ID	8	\$ 27	3,317	\$ 58
Ashland, OR	371	1,280	163,382	2,768
Bandon, OR	138	477	59,295	1,000
Blaine, WA	117	401	59,033	1,003
Bonniers Ferry, ID	112	386	40,293	715
Burley, ID	223	770	109,288	1,849
Canby, OR	281	974	119,760	2,035
Cascade Locks, OR	40	128	19,150	304
Centralia, WA	368	1,272	139,021	2,390
Cheney, WA	224	778	106,019	1,803
Cons. Irrig. Dist., WA	3	12	1,224	20
Coulee Dam, WA	33	112	15,311	136
Declo, ID	6	26	3,213	55
Drain, OR	57	198	26,757	454
Eatonville, WA	46	159	20,242	346
Ellensburg, WA	318	1,102	158,503	2,684
Eugene, OR	2,915	9,926	1,568,524	26,731
Fircrest, WA	95	330	43,325	739
Forest Grove, OR	337	1,115	164,021	2,784
Heyburn, OR	177	612	101,869	1,704
Idaho Falls, ID	1,162	4,019	537,960	9,130
McCleary, WA	79	273	34,667	587
McMinnville, OR	883	2,999	416,944	7,066
Milton, WA	105	365	49,721	846
Milton-Freewater, OR	188	595	72,361	1,246
Minidoka, ID	2	6	883	15
Monmouth, OR	134	462	58,538	996
Port Angeles, WA	1,124	3,917	690,091	11,626
Richland, WA	1,324	4,582	583,820	9,871
Rupert, ID	174	600	79,105	1,343
Seattle, WA	341	847	1,566,592	26,981
Soda Springs, ID	47	165	23,308	394
Springfield, OR	1,472	5,093	761,859	12,887
Steilacoom, WA	95	331	41,530	712
Sumas, WA	28	95	14,247	240
Tacoma, WA	3,350	11,271	2,478,467	41,311
Troy, MT	31	108	15,044	261
Vera Irrig. Dist., WA	378	1,309	164,894	2,811
WPPSS, WA	96	331	48,246	820
<b>Total Municipalities (39)</b>	<b>16,882</b>	<b>\$ 57,453</b>	<b>10,559,824</b>	<b>\$ 178,721</b>

Sales of Electric Power (FCRPS)

Revenue in Thousands of Dollars

Table 2 continued

1991

Public Utility Districts	Capacity Sales		Energy Sales	
	MW	Revenue	MWH	Revenue
Benton Co.	3,014	\$ 10,427	1,418,204	\$ 22,543
Central Lincoln	2,618	9,059	1,397,228	23,484
Chelan Co.	351	200	51,770	907
Clallam Co.	1,155	3,680	483,855	7,681
Clark Co.	5,997	20,811	3,067,872	52,260
Clatskanie	1,420	4,912	877,228	14,714
Columbia River	559	1,799	285,960	4,482
Cowlitz Co.	5,663	19,371	3,765,660	63,123
Douglas Co.	356	163	—	—
Emerald	873	2,807	386,192	6,019
Ferry Co.	226	724	120,210	1,881
Franklin Co.	1,282	4,435	612,580	9,668
Grant Co. #2	1,171	816	74,860	1,288
Grays Harbor	2,207	7,635	1,161,144	19,675
Kittitas Co.	75	223	32,351	505
Klickitat Co.	576	1,863	272,552	4,157
Lewis Co.	1,222	4,019	688,437	11,079
Mason Co.#1	124	398	54,379	859
Mason Co. #3	1,074	3,457	480,858	7,578
Northern Wasco Co.	535	1,853	224,887	3,805
Okanogan Co.	122	185	160,003	2,704
Pacific Co. #2	591	2,047	265,184	4,504
Pend Oreille Co.	276	956	212,502	3,665
Skamania Co.	250	801	110,948	1,760
Snohomish Co.	9,158	31,682	4,952,693	82,886
Tillamook	839	2,704	350,175	5,511
Wahkiakum Co.	78	252	35,494	560
Whatcom Co.	244	845	137,306	2,255
<b>Total Public Utility Districts (28)</b>	<b>42,056</b>	<b>\$138,124</b>	<b>21,680,532</b>	<b>\$ 359,553</b>

Sales of Electric Power (FCRPS)

Revenue in Thousands of Dollars

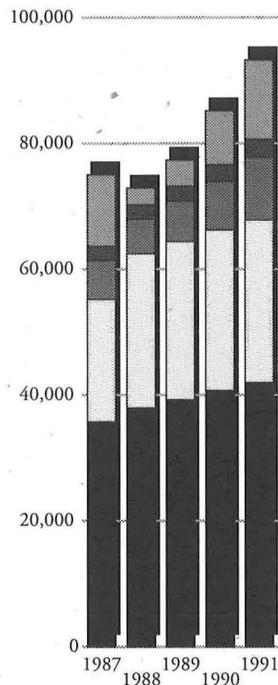
Table 2 continued

1991

Cooperatives	Capacity Sales		Energy Sales	
	MW	Revenue	MWH	Revenue
Alder Mutual Light	6	\$ 19	2,704	\$ 43
Benton Rural Elec. Assn.	685	2,209	305,879	4,472
Big Bend Coop.	783	2,517	380,794	4,618
Blachley-Lane Coop.	314	1,032	131,824	2,109
Central Elec. Coop.	892	2,865	381,756	5,774
Clearwater Power Co.	345	1,109	150,603	2,377

Megawatthours Used by Customer Class

Thousands MWH



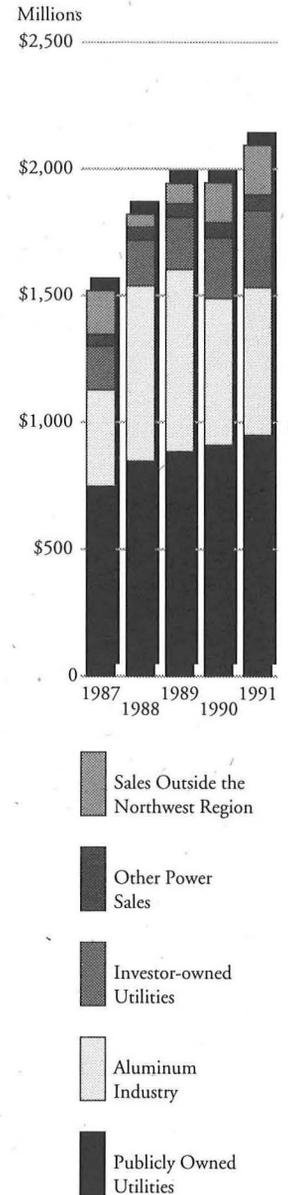
- Sales Outside the Northwest Region
- Other Power Sales
- Investor-owned Utilities
- Aluminum Industry
- Publicly Owned Utilities

Table 2 continued

1991

Columbia Basin Coop.	231	\$ 735	113,704	\$ 1,626
Columbia Power Coop.	58	186	26,650	386
Columbia Rural Elec. Assn.	423	1,345	204,522	2,426
Consumers Power	757	2,433	318,169	4,996
Coos-Curry Elec. Coop.	628	2,021	274,162	4,289
Douglas Elec. Coop.	301	964	130,855	2,054
East End Mutual Elec.	39	131	17,876	256
Elmhurst Mutual P&L	544	1,882	242,444	4,148
Fall River Elec. Coop.	342	1,097	151,742	2,161
Farmers Elec. Co.	10	30	3,811	64
Flathead Elec. Coop.	362	1,166	161,458	2,503
Glacier Elec. Coop.	304	980	157,794	2,460
Harney Elec. Coop.	367	1,176	205,536	2,665
Hood River Elec. Coop.	192	664	92,180	1,574
Idaho Co. L&P	73	236	34,504	543
Inland P&L	1,139	3,664	492,014	7,777
Kootenai Elec. Coop.	450	1,451	208,264	3,270
Lakeview L&P	542	1,871	271,442	4,607
Lane Elec. Coop.	477	1,567	210,068	3,397
Lincoln Elec. Coop.-MT	190	613	88,127	1,397
Lincoln Elec. Coop.-WA	194	607	96,118	1,114
Lost River Elec. Coop.	136	432	64,787	809
Lower Valley P&L	924	2,972	434,951	6,856
Midstate Elec. Coop.	575	1,847	253,126	3,790
Missoula Elec. Coop.	298	953	136,103	2,120
Nespelem Valley Elec. Coop.	84	276	38,438	578
Northern Lights	478	1,527	245,725	3,869
Ohop Mutual Light Co.	105	344	46,008	734
Okanogan County Coop.	71	232	33,622	536
Orcas P&L	321	1,020	146,713	2,324
Oregon Trail Elec.	1,254	4,031	548,467	8,519
Pacific NW Generating Co.	19	66	20,203	245
Parkland Light & Water	213	739	104,568	1,785
Peninsula Light Co.	957	3,297	409,929	6,999
Prairie Power Coop.	23	71	10,300	133
Raft River Elec. Coop.	356	1,121	181,442	1,999
Ravalli Elec. Coop.	194	626	87,156	1,339
Riverside Elec. Co.	32	106	13,744	204
Rural Elec. Co.	185	619	84,233	1,305
Salem Elec.	684	2,365	334,591	5,661
Salmon River Coop.	319	1,042	160,415	2,587
South Side Elec. Lines	80	263	37,814	501
Surprise Valley Elec.	237	751	111,468	1,585
Tanner Elec.	91	293	40,495	641
Umatilla Elec. Coop.	1,142	3,734	593,663	7,970
Unity P&L	151	508	70,748	1,049
Vigilante Elec. Coop.	259	827	118,310	1,630
Wasco Elec. Coop.	216	690	92,953	1,416
Wells Rural	611	1,963	374,835	5,826
West Oregon Coop.	150	483	64,432	1,012
<b>Total Cooperatives (56)</b>	<b>20,813</b>	<b>\$67,768</b>	<b>9,714,239</b>	<b>\$147,128</b>

Electric Power Sales by Customer Class



## Sales of Electric Power (FCRPS)

Revenue in Thousands of Dollars

Table 2 continued

1991

Aluminum Industry	Capacity Sales		Energy Sales	
	MW	Revenue	MWH	Revenue
Alcoa	3,059	\$ 15,838	2,137,876	\$ 32,879
Columbia Aluminum Co.	3,376	17,991	2,460,494	37,448
Columbia Falls Aluminum Co.	4,109	21,898	2,987,344	45,289
Intalco Aluminum Co.	5,382	28,684	3,947,872	59,694
Kaiser Aluminum Co.	7,270	38,002	5,219,884	80,260
Northwest Aluminum Co.	1,975	10,527	1,420,418	21,540
Reynolds Metals Co.	7,807	41,579	5,665,001	86,668
Vanalco, Inc.	2,730	14,550	1,980,942	30,000
<b>Total Aluminum Industry (8)</b>	<b>35,708</b>	<b>\$189,069</b>	<b>25,819,831</b>	<b>\$393,778</b>

## Sales of Electric Power (FCRPS)

Revenue in Thousands of Dollars

Table 2 continued

1991

Other Industries	Capacity Sales		Energy Sales	
	MW	Revenue	MWH	Revenue
ACPC, Inc.	15	\$ 63	4,959	\$ 89
ATOCHEM North America/Pennwalt Corp.	907	3,744	612,706	10,587
Georgia Pacific Corp.	301	1,245	206,866	3,540
Gilmore Steel	3	12	1,628	32
Glenbrook Nickel Co.	1,100	3,656	649,321	10,179
Oregon Metallurgical	134	557	71,186	1,246
Port Townsend Paper	184	763	96,954	1,649
Stewart Elsner/Camp High Cliff	—	—	7	—
<b>Total Other Industries (8)</b>	<b>2,644</b>	<b>\$10,040</b>	<b>1,643,627</b>	<b>\$27,322</b>

## Sales of Electric Power (FCRPS)

Revenue in Thousands of Dollars

Table 2 continued

1991

Investor-owned Utilities	Capacity Sales		Energy Sales	
	MW	Revenue	MWH	Revenue
Colockum Transmission Co.	378	\$ 174	1,715	\$ 48
Idaho Power Co.	—	—	560,469	6,107
Montana Power Co.	—	—	770,032	27,321
Pacific Power & Light Co.	14,182	50,430	2,369,604	39,511
Portland General Elec. Co.	3,936	11,209	2,362,907	55,908
Portland General Exchange	40	151	88,501	2,936
Puget Sound P&L Co.	1,401	642	2,573,912	72,570
Washington Water Power	304	140	1,298,110	36,503
<b>Investor-owned Utilities (8)</b>	<b>20,241</b>	<b>\$62,746</b>	<b>10,025,250</b>	<b>\$240,904</b>

## Sales of Electric Power (FCRPS)

Revenue in Thousands of Dollars

Table 2 continued

1991

Federal Agencies	Capacity Sales		Energy Sales	
	MW	Revenue	MWH	Revenue
U.S. Department of Energy	628	\$ 2,172	373,295	\$ 6,279
U.S. Bureau of Mines	16	54	5,776	99
U.S. Air Force	93	323	48,509	802
U.S. Bureau of Reclamation	—	—	121,155	452
U.S. Bureau of Indian Affairs	483	1,672	209,414	3,435
U.S. Navy	761	2,633	417,220	7,034
<b>Total Federal Agencies (6)</b>	<b>1,981</b>	<b>\$ 6,854</b>	<b>1,175,369</b>	<b>\$ 18,101</b>
<b>Sales Within the NW Region (153)</b>	<b>140,325</b>	<b>\$532,054</b>	<b>80,618,672</b>	<b>\$ 1,365,507</b>

## Sales of Electric Power (FCRPS)

Revenue in Thousands of Dollars

Table 2 continued

1991

Sales Outside the Northwest Region	Capacity Sales		Energy Sales	
	MW	Revenue	MWH	Revenue
Anaheim, CA-Public	72	\$ 338	409	\$ 7
Bountiful, UT-Public	—	—	5,710	37
Burbank, CA-Public	—	—	111,255	1,297
Glendale, CA-Public	20	109	146,577	2,121
Los Angeles, CA-Public	—	—	1,387,152	16,959
Modesto Irrigation Dist.-Public	—	—	31,522	526
No. California Power Agency-Public	—	—	12,225	119
Pacific Gas & Elec. Co.-Investor	—	—	5,537,264	89,068
Pasadena, CA-Public	12	66	68,297	892
Riverside, CA-Public	71	334	53,678	814
Sacramento, CA-Public	181	775	746,120	11,041
San Diego Gas & Elec.-Investor	—	—	498,959	7,370
Santa Clara, CA-Public	—	—	7,800	85
Sierra Pacific Power Co.-Investor	—	—	5,796	121
So. Cal. Edison Co.-Investor	—	—	2,619,030	41,440
State of California-Public	—	—	517,620	8,720
Turlock Irrig. Dist.-Public	—	—	77,627	1,129
WAPA-Mid Pacific Region-Federal	100	428	820,975	12,429
<b>Sales Outside the NW Region (18)</b>	<b>456</b>	<b>\$ 2,050</b>	<b>12,648,016</b>	<b>\$ 194,175</b>
<b>Sales of Electric Power (171)</b>	<b>140,781</b>	<b>\$534,104</b>	<b>93,266,688</b>	<b>\$ 1,559,682</b>

# General Specifications of Projects

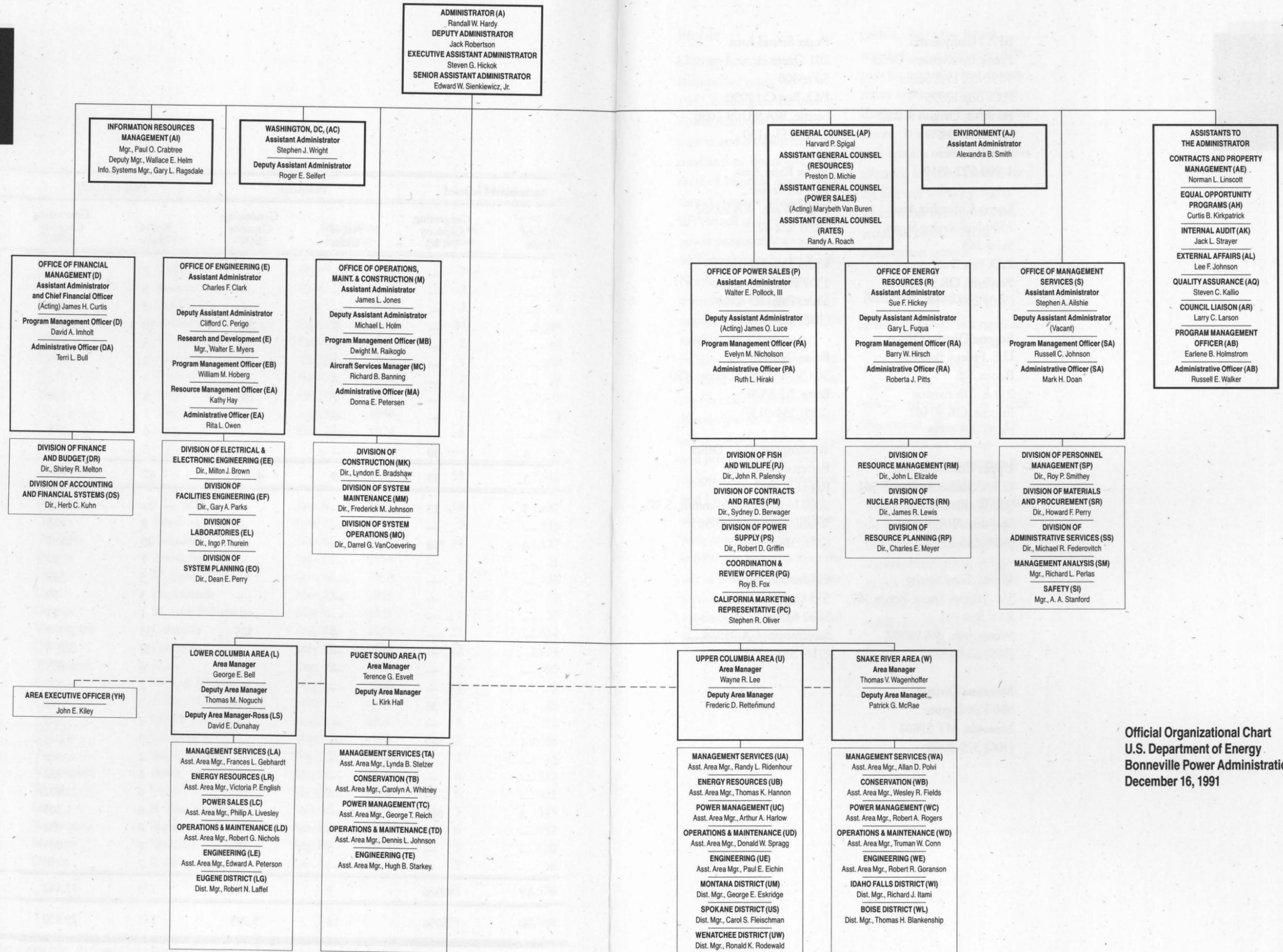
September 30, 1991

Project	State	River	Initial Date In Service		Existing	
					No. of Units	Generating Capacity (MW)
Minidoka	Idaho	Snake	May 7, 1909	7	16	
Boise River Div.	Idaho	Boise	May 1912	3	2	
Black Canyon	Idaho	Payette	Dec. 1925	2	10	
Grand Coulee	Washington	Columbia	Sept. 28, 1941	24	6,684	
Anderson Ranch	Idaho	S. Fork Boise	Dec. 15, 1950	2	40	
Hungry Horse (a)	Montana	S. Fork Flathead	Oct. 29, 1952	4	328	
Chandler	Washington	Yakima	Feb. 13, 1956	2	13	
Palisades	Idaho	Snake	Feb. 25, 1957	4	131	
Roza	Washington	Yakima	Aug. 31, 1958	1	13	
Grand Coulee PG (b)	Washington	Columbia	Dec. 30, 1974	6	275	
Teton (c)	Idaho	Teton		—	—	
<b>Total Bureau of Reclamation</b>				55	7,512	
Bonneville	OR-WA	Columbia	June 6, 1938	18	1,147	
Detroit	Oregon	North Santiam	June 12, 1954	2	115	
McNary	OR-WA	Columbia	Nov. 6, 1953	14	1,127	
Big Cliff	Oregon	North Santiam	June 12, 1954	1	21	
Lookout Point	Oregon	M. Fork Wilamette	Dec. 16, 1954	3	138	
Albeni Falls	Idaho	Pend Oreille	Mar. 25, 1955	3	50	
Dexter	Oregon	M. Fork Wilamette	May 9, 1955	1	17	
Chief Joseph	Washington	Columbia	Aug. 28, 1955	27	2,614	
The Dalles	OR-WA	Columbia	May 13, 1957	22	2,074	
Ice Harbor	Washington	Snake	Dec. 19, 1961	6	693	
Hills Creek	Oregon	M. Fork Wilamette	May 2, 1962	2	35	
Cougar	Oregon	S. Fork McKenzie	Feb. 4, 1964	2	29	
Green Peter	Oregon	Middle Santiam	June 9, 1967	2	92	
John Day	OR-WA	Columbia	July 7, 1968	16	2,484	
Foster	Oregon	South Santiam	Aug. 22, 1968	2	23	
Lower Monumental	Washington	Snake	May 28, 1969	6	932	
Little Goose	Washington	Snake	May 19, 1970	6	932	
Dworshak	Idaho	N. Fork Clearwater	Sept. 18, 1974	3	445	
Lower Granite	Washington	Snake	Apr. 15, 1975	6	932	
Libby	Montana	Kootenai	Aug. 29, 1975	5	620	
Lost Creek	Oregon	Rogue	Dec. 1, 1975	2	56	
<b>Total Corps Of Engineers</b>				149	14,576	
				204	22,088	

(a) Potential capacity is based on rewind of existing units. (b) Grand Coulee Pumping Generation. (c) Teton Dam ruptured June 5, 1976.

No. of Units	Generating Capacity (MW)	Potential		Project Totals	
		No. of Units	Generating Capacity (MW)	No. of Units	Generating Capacity (MW)
—	—	—	—	7	16
—	—	—	—	3	2
—	—	—	—	2	10
—	—	6	4,200	30	10,884
—	—	1	13	3	53
—	—	—	107	4	435
—	—	—	—	2	13
—	—	2	135	6	266
—	—	—	—	1	13
—	—	—	—	6	275
3	30	—	—	3	30
3	30	9	4,455	67	11,997
3	23	—	—	21	1,170
—	—	—	—	2	115
6	768	—	—	20	1,895
—	—	—	—	1	21
—	—	—	—	3	138
—	—	—	—	3	50
—	—	—	—	1	17
—	—	6	525	33	3,139
—	—	—	—	22	2,074
—	—	—	—	6	693
—	—	—	—	2	35
1	35	—	—	3	64
—	—	—	—	2	92
4	540	—	—	20	3,024
—	—	—	—	2	23
—	—	—	—	6	932
—	—	—	—	6	932
3	660	—	—	6	1,105
—	—	—	—	6	932
—	—	3	315	8	935
—	—	—	—	2	56
17	2,026	9	840	175	17,442
20	2,056	18	5,295	242	29,439

# Organization Chart



Official Organizational Chart  
U.S. Department of Energy  
Bonneville Power Administration  
December 16, 1991

## Administration Offices

**BPA Headquarters**  
Public Involvement Office  
905 N.E. 11th Street  
P.O. Box 12999  
Portland, Oregon 97212  
(503) 230-3478  
Toll-free line:  
1-800-622-4519

**Lower Columbia Area**  
1500 N.E. Irving Street,  
Suite 243  
P.O. Box 3621  
Portland, OR 97208  
(503) 230-4558

**Eugene District Office**  
U.S. Federal Building,  
Room 206  
211 E. 7th Avenue  
Eugene, OR 97401  
(503) 465-6958

**Upper Columbia Area**  
U.S. Courthouse, Room 561  
920 W. Riverside Avenue  
Spokane, WA 99201  
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(509) 662-4377

**Montana District**  
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Missoula, MT 59801  
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**Puget Sound Area**  
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**Snake River Area**  
101 W. Poplar  
Walla Walla, WA 99362  
(509) 522-6213

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

**Boise District**  
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Boise, ID 83702  
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**Washington, D.C. Office**  
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**California Office**  
555 Capitol Mall  
Suite 445  
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(916) 551-2792

## 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 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 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 pay for the resources it has acquired. BPA pays for operation and maintenance expenses at the Federal dams and at non-Federal power plants. It also pays for irrigation benefits of Federal projects allocated to power to repay, and for fish and wildlife projects which offset damage to these resources by the Federal hydropower system.

## 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 business-like 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.

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