Issue Alert

BPA

Bonneville Power Administration
U.S. Department of Energy

July 1984
IA-4-14

Update: BPA's New Intertie Access Policy

Introduction

After months of public review, BPA has proposed a near-term policy for allocating capacity on the large power lines collectively known as the Intertie (see boxed item describing "The Intertie"). In recent years, billions of dollars in energy sales have flowed over the Intertie between the Northwest and California. BPA built and operates most of the Intertie north of the Oregon-California border.

This Issue Alert seeks to explain the new near-term policy, a policy expected to remain in effect until August, 1986. BPA soon will also ask the public's advice on a long-term Intertie Access Policy which will go through extensive environmental and public involvement review in the months ahead. It will replace the near-term policy as soon as it is completed.

When the Intertie was built 20 years ago, Congress intended the benefits ...would be fairly divided between the regions.

BPA's new near-term policy has three major points:

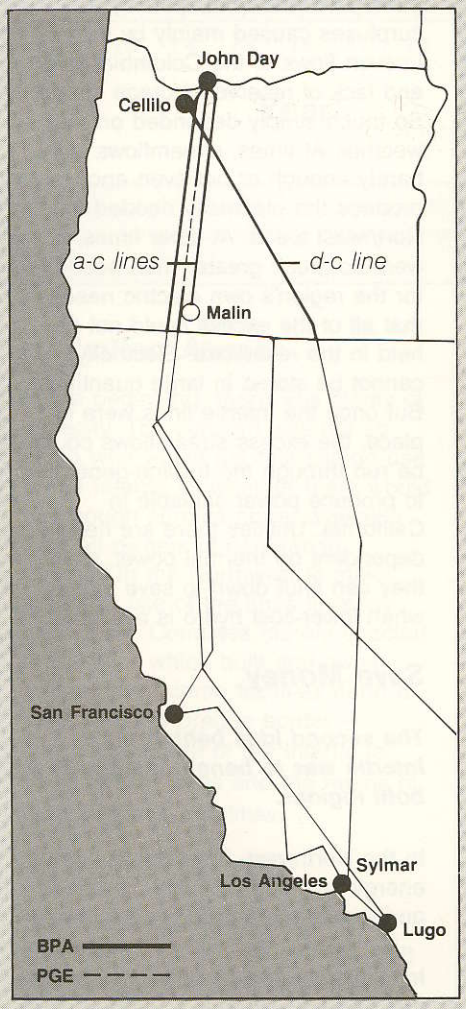
First, it seeks to make the benefits flowing to California and the Northwest from use of the Intertie more equitable.

When the Intertie was built 20 years ago, Congress intended the benefits from the power sold to be fairly divided between the regions. That's pretty much how it worked until 1981. We explain in this updated Issue Alert how changing conditions at the beginning of this decade led to California utilities receiving an increasingly larger share of the benefits. Today, these lost benefits are unfairly harming Northwest ratepayers.

Second, the near-term policy will help keep Northwest electric power rates low and assist BPA in meeting its obligations to pay back the U. S. Treasury for the $8 billion spent over the years to create the massive system of hydroelectric dams along the Columbia River and its tributaries.

BPA is catching up on some $218 million worth of deferred interest

The Intertie



The full and proper name of the Intertie is the "Pacific Northwest-Pacific Southwest Intertie." Throughout this document we use the word "California" in lieu of "Pacific Southwest." We do so because the only transactions over the Intertie lines are between the Northwest and California, not other parts of the Pacific Southwest.

The Intertie consists of a direct current line with 1,560 megawatts of capacity and two alternating current lines with 2,800 megawatts of capacity. BPA built and owns most of the Intertie north of the Oregon-California border, and has control over about 3,700 megawatts of the 4,360 megawatts total.

The northern terminal of the d-c line is at the Celilo Converter Station near The Dalles, Oregon, and the southern terminal is at Sylmar Substation on the outskirts of Los Angeles. The northern terminals of the two a-c lines are at John Day Dam, a few miles east of The Dalles, and the southern terminals are south of Los Angeles at Lugo.

The original Congressional authorization included a link with Arizona that may someday be built. Earlier this year, Congress authorized actions which could bring about upgrading the existing lines by as much as 3,100 megawatts.

expense during Fiscal Year 1984. We are anxious to meet our obligations in the future.

Third, the near-term policy gives all the utilities in the Northwest an equal chance to dispose of their respective shares of the region's surplus power, without interfering with BPA's ability to carry out its power marketing program. BPA considered a policy of reserving Intertie capacity for BPA sales. While such a policy would have protected BPA sales, it would adversely affect the surplus sales of other Northwest utilities. The proposed policy shares the Intertie with other Northwest utilities without substantially interfering with BPA surplus energy sales.

Effective Dates

The new policy results from long study and a public process that produced many suggestions. It is currently a proposal, planned for initial adoption in mid-August for six months. During that time, public comment will be sought which could lead to modifications governing its application for the next 18 months.

NEPA Requirements

Meanwhile, development of a long-term policy will go forward, including the thorough environmental process that must precede adoption of a long-term policy. We will evaluate these actions from the standpoint of the National Environmental Policy Act (NEPA) and complete whatever studies are necessary.

BPA soon will begin *"scoping"* the environmental issues and will announce this fall commencement of a full and complete public policy and environmental review for the long-term policy.

This updated Issue Alert contains more detail on each of the three numbered points above, but first presents some background for the sake of perspective.

Perspective

The first idea behind the Intertie was efficient use of resources. The Intertie made possible the sale of excess hydroelectric power from the Northwest to California. Utilities there use the Northwest surpluses to displace more expensive thermal power.

Thermal power requires a fuel, usually coal or oil or natural gas, which is burned to boil water to make high-pressure steam to drive the turbine-generators inside the power station. Nuclear power is also a form of thermal power. Controlled fission is used to boil the water to make the steam. In a hydroelectric power system, dams are built to hold back the river. Water is dropped through tubes to strike the blades of turbine-generators housed at the bottom of one dam, then moves on down the river to produce power at the next dam, and so on. If more streamflow is available than needed for power production at any moment, the water either must be stored in reservoirs behind the dams or be spilled over the tops of the dams and allowed to flow to the sea unused.

Northwest surpluses in the early 1960s, when the Intertie was authorized and built, were *hydro* surpluses caused mainly by the uneven flows of the Columbia River and lack of reservoir storage space. So much simply depended on the weather. At times, streamflows were barely enough or not even enough to produce the electricity needed for Northwest loads. At other times, flows were so much greater than needed for the region's own electric needs that all of the excess could not be held in the reservoirs. Electricity cannot be stored in large quantities. But once the Intertie lines were in place, the excess streamflows could be run through the turbine-generators to produce power saleable in California. Utilities there are heavily dependent on thermal power, which they can shut down to save money when lower-cost hydro is available.

Save Money

The second idea behind the Intertie was to benefit ratepayers in both regions.

In the Northwest, the sale of surplus energy provides BPA with revenues and lowers rates to BPA customers.

In California, the benefits result from fuel savings. The power carried south costs less than the fuel with which the California utilities produce electricity. Whenever Northwest surpluses are available, thermal power plants are shut down, and the fuel normally required to run them is conserved. The California thermal power plants can be restarted easily when the Northwest power stops flowing.

Even when no surplus power is available from the Northwest, economic exchanges of power can be made over the Intertie lines, particularly to help California utilities deal with peak demand. During peak hours, such as the dinner hour, BPA and Northwest utilities send power south. At off-peak hours, California power plants that otherwise would not be fully utilized produce power for return to the Northwest.

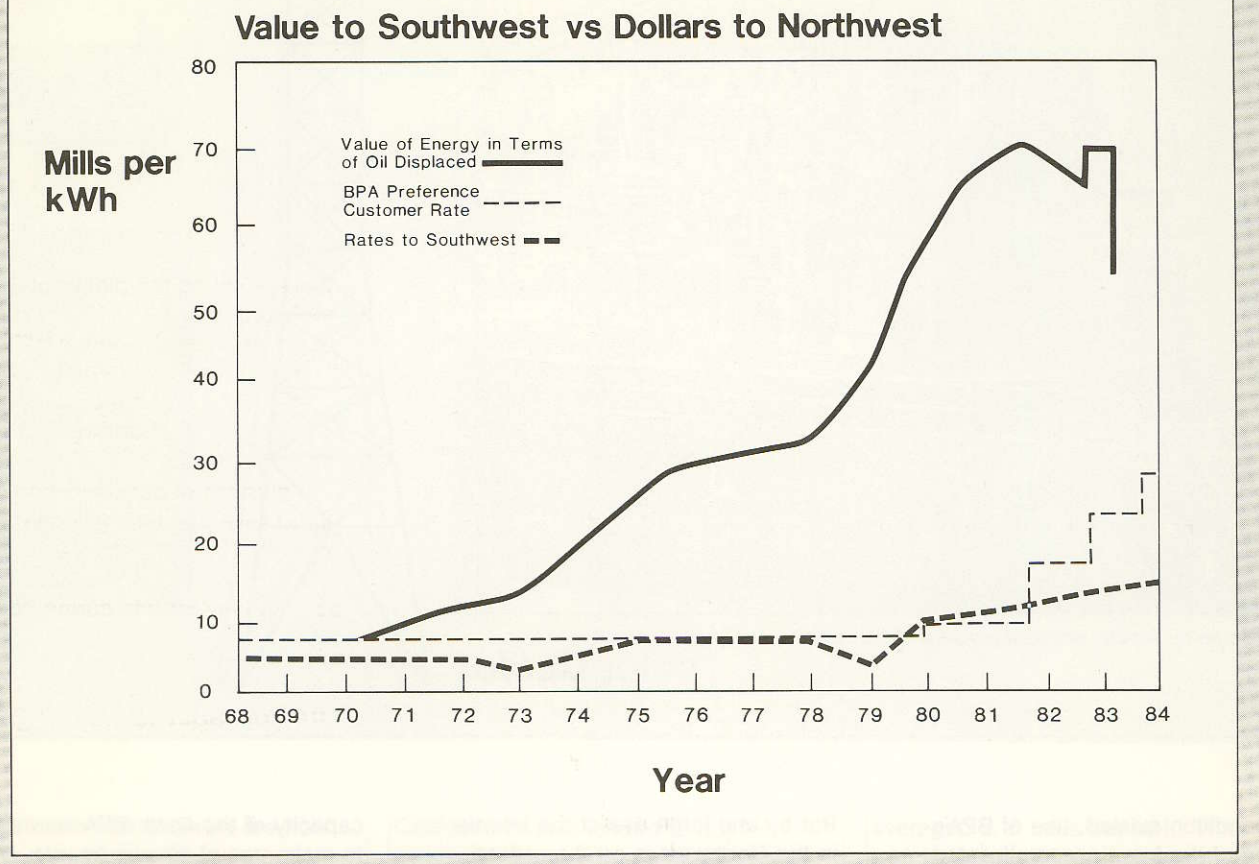
The purpose of such exchanges is not to save fuel for California utilities, but to save construction of some power plants that would have had to be built only for use during short peak periods each day. There also are seasonal differences that make additional exchanges of power economically sound. California has summertime air-conditioning needs and the Northwest has wintertime heating peaks.

But the split is no longer anywhere near 50-50. In 1983 California benefits were $1.6 Billion compared to the Northwest's $0.3 Billion — an 81-19 ratio.

Enough water is released to enable Northwest dams to produce the power California needs at peak times. Power returned by California utilities is then used in the Northwest while an equivalent amount of streamflow is held back to refill the reservoirs.

Equitable Benefits

The third idea behind the Intertie was equitable sharing of benefits.



Until 1981, benefits from California power sales were roughly shared by ratepayers north and south, and vastly advantageous to California in terms of displaced use of oil. But today, benefits are climbing disproportionately to California -- a situation never intended when the Intertie was built.

A Congressional report in 1964 forecasted benefits to the Northwest at $1 billion in 1964 dollars over the life of the Intertie. California benefits were forecasted to be just a little less.

Today, total benefits both North and South are many times that original expectation.

But the split is no longer anywhere near 50-50. In 1983, for example, total benefits to California were $1.6 billion in 1983 dollars from the sale of BPA power alone. Additional benefits accrued from purchases from other Northwest sellers, including Canada. Northwest consumers, through BPA rates, received benefits totalling $0.3 billion in 1983 dollars -- a ratio of 18.75 percent to California's 81.25 percent. We shall return to this point.

Unlimited Access

In the beginning, there was plenty of capacity. The concern was not so much who would get first call on use of the Intertie as whether there would be enough surplus power available from all owners of generating facilities in the Northwest to make sufficient use of the lines to repay their costs. Congress merely directed that BPA -- which built and owns most of the Intertie facilities north of the California-Oregon border -- operate its share of the Intertie to serve BPA's needs and the needs of other Northwest utilities.

Wheeling Charge

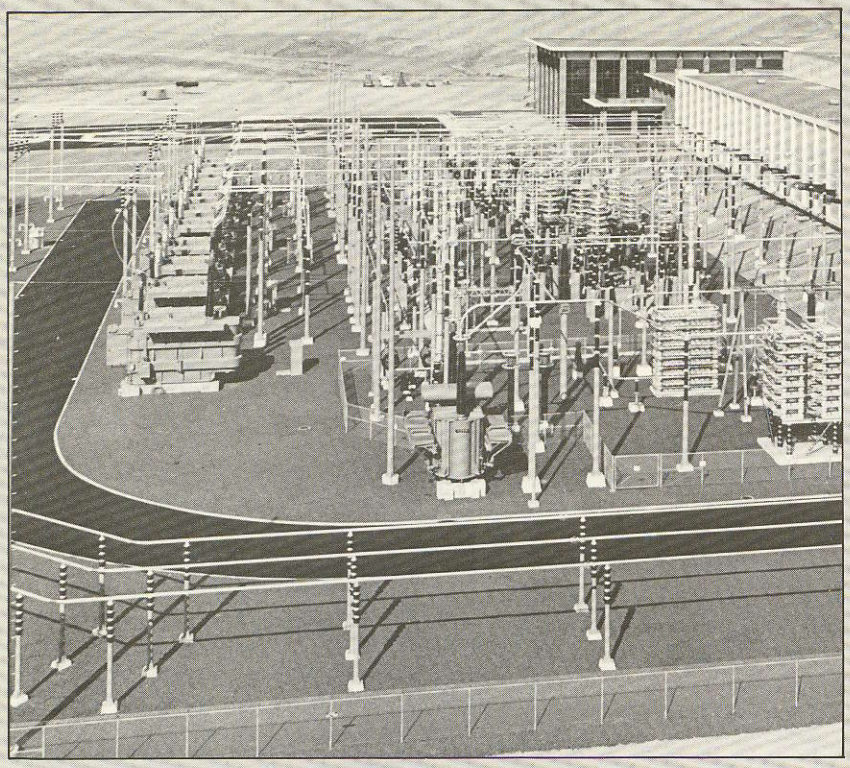
Some rules of the road had to be established. First to be settled upon was a charge for use of the lines. BPA adopted a *"wheeling rate"* sufficient only to pay the user's share of operating and maintenance costs, plus a small proportionate share of the capital cost of the lines and terminals.

All Aboard

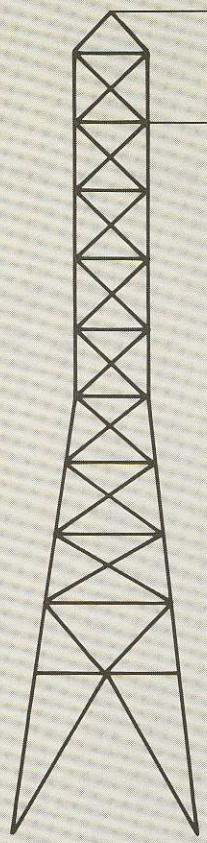
Meanwhile, BPA operated the Intertie from the beginning in a fashion -- with one important exception -- whereby any Northwest entity that could find a buyer for its power in California at any price could get aboard the Intertie. The seller would pay a small wheeling charge and get aboard, even if it meant BPA might be left with some unsold surplus itself.

Exportable Agreement

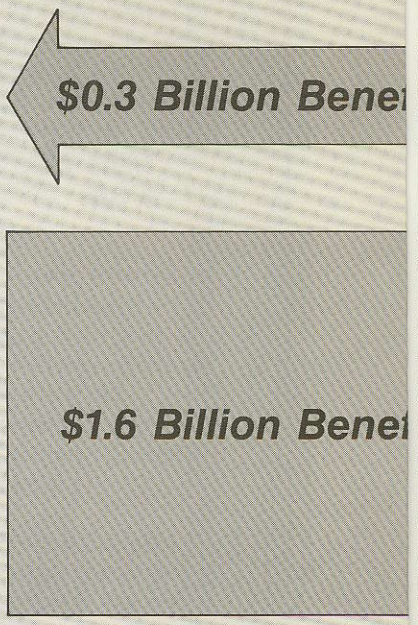
The important exception was when available Northwest nonfirm power production exceeded total California demand for nonfirm power. When



Celilo Converter Station, northern terminus of the Intertie.



Celilo



that condition existed, use of BPA's portion of the Intertie was allocated in accordance with an Exportable Energy Agreement signed by BPA and the region's electric power entities in 1969, soon after the Intertie was put into operation. BPA historically has implemented the Exportable Energy Agreement at its rock-bottom nonfirm rate called the *"spill rate".*

The current rock-bottom nonfirm rate is 11 mills (1.1 cents) per kilowatthour. However, under the newly effective policy, BPA will use its standard rate of 18.5 mills to carry out the exportable agreement unless the agency decides that more revenue can be gained by applying the spill rate.

Contracts

There also are a small number of BPA contracts -- expiring in 1986 and 1987 for the most part -- which provide specific uses of the Intertie to others.

But by and large use of the Intertie in the Northwest is on the access basis just described. Canadian utilities also have used the BPA-owned Intertie to sell their power to California.

South End Different

At the other end of the Intertie, however, access and benefits are available to only some utilities, not the many. Use of the a-c Intertie capacity in California is controlled by a handful of utilities under contracts to which BPA is not a party.

Similarly, that part of the d-c Intertie line south of the Oregon-California border is controlled by a small number of Southern California utilities. Access to the Intertie in the Southwest is considerably more limited than in the Northwest.

Changed Conditions

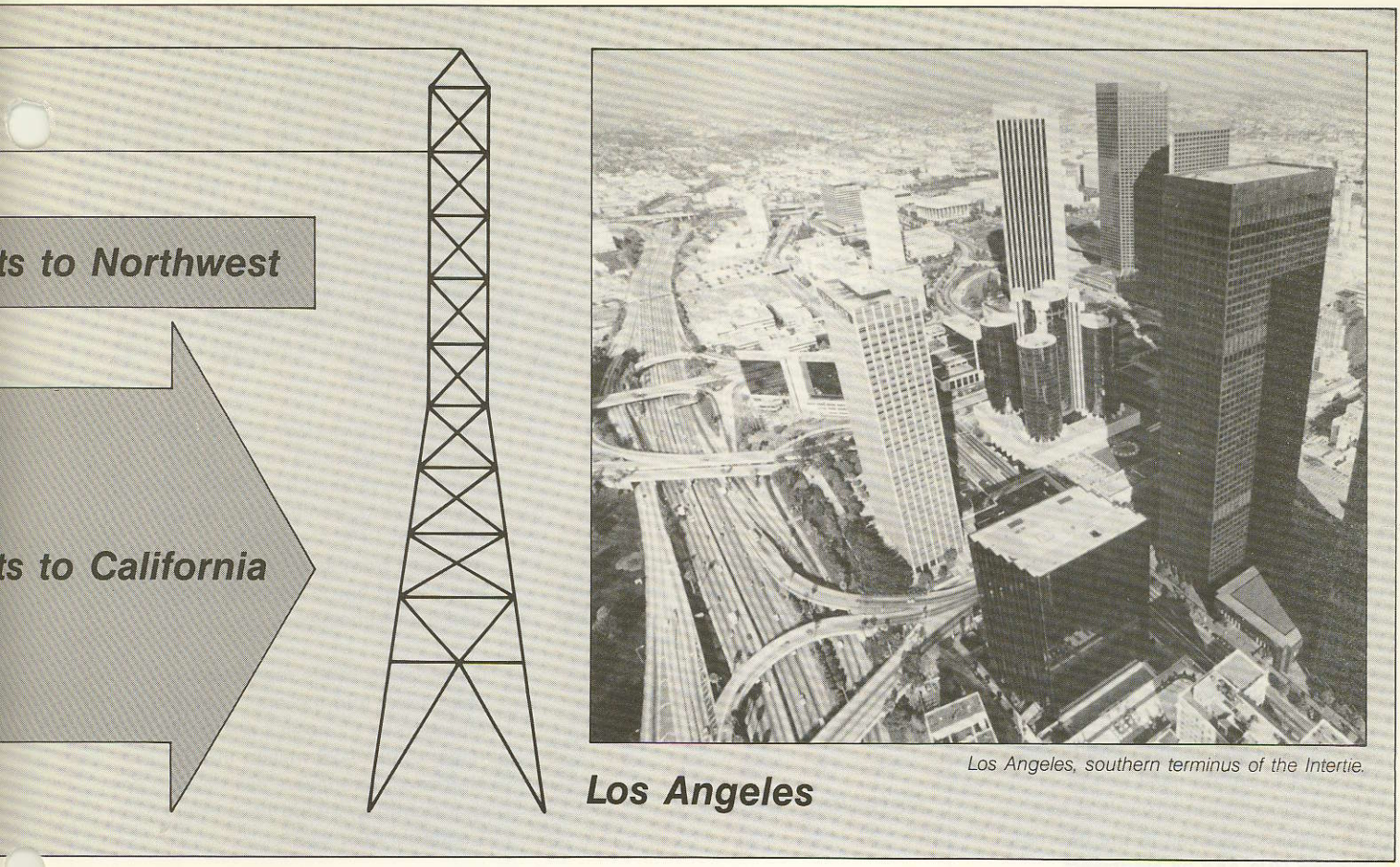
In the early years, intertie access was rarely a problem. Until recently the region seldom had enough surplus power to utilize the full capacity of the lines. BPA was able to make use of its own Intertie facilities while still allowing unlimited access to Northwest utilities. When spill conditions existed, use was apportioned under the Exportable Energy Agreement. And while this required BPA to give up use of some capacity it could have used, BPA still got a fair share along with everybody else.

Two developments, pushed BPA into an ever- weaker position on its own Intertie facilities. One is the nonfirm rate that BPA was locked into until recently. The other, even more importantly, is the Northwest's growing surplus.

We shall put off discussion of the rate structure for a moment and consider at this point only the surplus situation.

Growing Surpluses

The problem of surpluses arose when demand for power turned out to be far less than forecasted. Utilities, anticipating much higher



Los Angeles, southern terminus of the Intertie.

loads, built new plants which are now adding to the surplus. Consequently, non-Federal utilities and the Federal Columbia River Power System from which BPA sells the power both have more excess power to sell than ever before -- more, sometimes, than the Intertie lines will carry.

With any utility in the Northwest having unlimited access to the Intertie lines, and with only a handful of owners in California controling access to the lines at that end, California utilities have been in a position to tilt the market heavily in their favor.

California utilities have declined to buy Northwest surpluses early in each water year when rates higher than the BPA spill rate apply. They prefer to let Northwest reservoirs get full first and then force this region into conditions that bring the spill rate into play.

In the past, with Northwest supply and demand closer in balance, there was a greater risk that the reservoirs would not quickly fill. So the California buyers tended to buy whenever the Northwest had power to sell at whatever rate applied.

While BPA gets its share of sales at the nonfirm rate under the Exportable Energy Agreement, California tactics have deprived BPA of many sales at the higher rates which prevail at other times -- rates that reflect the full cost of the energy.

These tactics and circumstances are forcing sales at the lowest spill rate when they should and could be made at the higher standard rates that would still provide California utilities huge savings.

BPA believes an economically healthy Federal Power System in the Northwest will be able to provide long-term benefits to all ratepayers, north and south.

The Pricing Problem

The electric power which California utilities were able to buy from BPA under conditions prevailing in 1983 averaged 9.15 mills per kwh. This was less than BPA's rock-bottom spill rate of 11 mills per kwh in effect at the time. The reason such could happen is that BPA sales to California included some return of energy from contracts intended to provide economic exchanges of energy. These contracts have been in place for approximately 15 years. Instead of returning their own higher-cost energy, California utilities may purchase BPA energy for as little as 3 mills per kilowatthour. The average 9.15 mills paid by California utilities to BPA in 1983 is:

- Less than half BPA's standard rate of 18.5 mills per kwh for non-firm power, a rate based on costs.

- Only about one-third what California utilities must pay for all other purchased electricity. (They pay 25.3 mills on average for electricity purchased from other than Northwest sellers.)

- Six times less than it would cost these utilities for oil

and other fuel to make their own electricity. (The 9.15 mills per kwh from BPA replaces fuel for which California utilities must pay 49.6 to 60.1 mills.)

Historically, the nonfirm energy market in California developed as a result of the value of nonfirm energy to California purchasers. Between 1965 and 1974, BPA's rate for nonfirm energy was 2.5 mills per kwh. California utilities often refused to buy BPA nonfirm power at that rate because in those days they could generate cheaply with gas.

Consequently, BPA began in 1969 to apply a different rate -- its excess energy rate of 2 mills per kwh -- to sales over the Intertie. Five years later, this rate had been increased only to 3 mills in the summer months and 3.5 mills in the winter. By that time, 1974, oil costs in California had risen to about 15 mills per kwh.

BPA's standard nonfirm rate now is 18.5 mills. But the spill rate of 11 mills served to undercut that rate. Allocation of access to the Intertie among BPA and all Northwest generating utilities with surpluses to market should enable them to increase their revenue from California sales. BPA has gained necessary approvals to charge the standard nonfirm rate of 18.5 mills for transactions on the Intertie and intends to do so.

A Fair Price

Two issues needed to be addressed by BPA to assure that the agency exercised good stewardship of Federal power resources and the Intertie. The first was Intertie access, as previously discussed. Separate and distinct from the Intertie Access Policy is BPA's intent to begin charging its standard nonfirm rate during periods of spill or near-spill.

BPA has established in rate hearings and in court proceedings that the Federal Columbia River Power System must be treated as a whole in determining costs for any class of power.

If BPA were recovering the full costs of the surplus power, it would be getting 18.5 mills for it from purchasers in California and everywhere else.

California purchasers argue that because BPA received something for power sales there -- even as little as 9.15 mills per kwh on average -- such sales helped keep Northwest rates lower than they otherwise would have been. This may be true, but it is equally true this rate has been among the lowest prices for energy in the world, and it is far short of the cost to produce the power.

It is unfair when California utilities and their customers benefit to the tune of $4 to $5 for every $1 they pay to BPA.

Members of Congress from other regions -- including California -- have been calling attention to the fact that BPA has been running behind schedule in its payments to the Treasury and questioning BPA's creditworthiness.

Repaying Treasury

BPA is in fact anxious to meet its obligations to the U. S. Treasury. BPA did not build any Federal power projects, but it is the Federal agency Congress established in 1937 to sell power from Federal multipurpose dams in this region. Congress directed BPA to sell that power at rates that would pay part of irrigation's share as well as all the power costs of the multipurpose dams. BPA also was required to pay all the costs of its own transmission system. To these obligations totalling about $8 billion for Federal hydro projects and transmission lines have been added in recent years the growing costs of power acquired by BPA for the region.

Details of BPA's repayment schedules may be found in each year's BPA Annual Report. Suffice to say here that BPA had no trouble staying on schedule in its early years, and in fact was well ahead of schedule most of those years. Only in recent years has BPA fallen behind. Administrator Peter T. Johnson is determined to get BPA back on schedule and, in fact, considerable progress toward that end was made in the past year.

Revenue Goals

Meanwhile, the Federal Energy Regulatory Commission (FERC) is required to review and approve BPA rates to make sure they are both fair and sufficient for BPA to meet its scheduled payments to the Treasury. FERC approves rates effective for limited periods of time. BPA's current rates run from November 1983 through June 1985; the next rate period will be from July 1985 through October 1987.

For each rate period, BPA must estimate how much revenue it expects to receive from each class of power -- firm, nonfirm, etc. In the 1983 rate, BPA predicted revenues from sales over the Intertie that turned out to be $126 million less than anticipated.

Considering BPA's repayment obligations and the critical scrutiny Members of Congress are giving BPA rates, that's $126 million that Northwest ratepayers will have to pay that rightfully should be borne by California ratepayers.

In 1983, California purchasers of surplus power from BPA paid less than half BPA's standard rate of 18.5 mills per Kwh for nonfirm power.

Question of Equity

When Northwest ratepayers must bear that cost, they in effect are supporting low-cost power for their southern neighbors. If California ratepayers were to pay the true cost of the nonfirm power their utilities get from BPA, it would merely reduce their disproportionately large share of Intertie benefits, still leaving them with benefits considerably greater than ratepayers in the Northwest.

Impact on Aluminum Companies

The impact of unsold surplus power raised wholesale power rates to

Conditions for Use of the Intertie

The new near-term Intertie Access Policy sets forth three conditions for future use of the portion of the Intertie owned by BPA:

- *Condition One is when access to the Intertie is governed by the Exportable Energy Agreement. If the total market for Northwest nonfirm power is less than the supply, Northwest sellers will have use of the Intertie in proportion to their share of the total surplus. Once a seller obtains an allocation, it may sell its energy at any price. BPA intends to apply its standard rate of 18.5 mills per kwh instead of the 11-mill spill rate for its sales under the Exportable Agreement.*

- *Condition Two governs a situation in which the amount of Northwest nonfirm power is not sufficient to supply the California market, but there is more than enough power available at higher than nonfirm rates to serve that market. A pro-rata formula also will determine access to the Intertie in this situation.*

- *Condition Three governs when Northwest power at any price is not sufficient to supply the total California market. In such cases the lines would not be fully utilized and any party with power to sell may utilize the Intertie lines simply by paying BPA's low "wheeling charge." (This is the condition under which B. C. Hydro may have continued access to BPA's portion of the Intertie.)*

Northwest industrial customers that buy directly from BPA (called DSIs) by approximately 2 mills per kwh. That translates into an extra 1.5 to 1.6 cents per pound in the cost of producing aluminum in Northwest smelters. This added cost contributed to making the Northwest smelters "swing plants." Swing plants are those which would be among the first to curtail or cease operations when aluminum markets are depressed. If BPA were to lose these customers, the sums they contribute to BPA's total revenues would have to be made up by other BPA customers. This is because most of BPA's costs are fixed costs and must be paid out of revenues from whatever sales are available.

Rate Flexibility Needed

Where BPA's previous rate schedules ***required*** BPA to apply the 11-mill spill rate whenever one or more Federal dams was in spill, the 1983-85 rate schedules declare that BPA ***may*** go to the spill rate. That means BPA can charge any of several rates where the spill rate applied before. For the most part, it is BPA's intention to charge only the standard nonfirm rate of 18.5 mills.

Share and Share Alike

In trying to restore the Intertie benefits intended by Congress, BPA did not want to deprive other Northwest owners of surplus power the opportunity to use the Intertie lines. These customers, after all, helped pay for construction of the Intertie. They are important customers of BPA, and in a very real sense what harms them harms all ratepayers in the Northwest.

So the new near-term Intertie Access Policy will give other Northwest owners of surplus power access to the lines on pretty much the same basis as heretofore under the Exportable Energy Agreement (See box on *"Conditions for Use of the Intertie").* That is, access to the Intertie will be determined by a formula based on each party's share of the total surplus available in the Northwest. The near-term policy applies only to presently operating power projects.

B.C. Hydro

The near-term policy affecting B.C. Hydro is a particularly difficult question. B. C. Hydro did not participate in building the lines, or the Northwest Power Planning Council's 20-year Plan, or the Council's Fish & Wildlife Program, nor have all the benefits of full coordinated operation of the Columbia River System been fully realized on either side of the border. In addition, Congress has defined BPA's responsibilities as being primarily the transmission of power for Pacific Northwest utilities, and has directed BPA not to wheel power when it would interfere with BPA's own power marketing program. BPA does not want to completely exclude B.C. Hydro from fair use of the Intertie. For the moment, B.C. Hydro will have access after BPA and the utilities of the Northwest are provided access.

Fish & Wildlife

Use of the Intertie may be denied to any entity if it would interfere with BPA's obligations under the Regional Power Act of 1980 to provide equitable treatment for fish and wildlife. Among other things, BPA must take into account to the greatest extent practicable the Fish & Wildlife Program adopted in 1982 by the Northwest Power Planning Council as part of its responsibilities under the Act.

Summary

Despite the Northwest having paid for its portion of the lines, use of the California Intertie no longer produces roughly equal benefits for the Northwest and California, as originally intended by Congress. Recent developments have tilted benefits heavily in favor of California.

BPA's ability to charge a higher rate for nonfirm surplus sales on the Intertie, and the proposed near-term Intertie Access Policy are designed to restore some balance to the division of billions of dollars of benefits. These actions also will help BPA meet its future payments to the U.S. Treasury on schedule and keep electric rates in the Pacific Northwest lower. Over the next two years, BPA will undertake extensive public and

BPA Publications

Title	Date	Catalog Number
Issue Alerts:		
BPA's Energy Conservation Program for the Northwest	*August 1983*	*IA-4-1*
How BPA will Implement the Power Council's Plan	*August 1983*	*IA-4-2*
BPA's Proposed Customer Service Policy	*September 1983*	*IA-4-3*
BPA Launches the Hood River Conservation Project	*November 1983*	*IA-4-4*
BPA's Proposed Impact Aid Policy	*December 1983*	*IA-4-5*
BPA's Partnership Program for Northwest Energy Conservation	*December 1983*	*IA-4-6*
Average System Cost	*February 1984*	*IA-4-7*
BPA Intertie Access Policy	*February 1984*	*IA-4-8*
Lower Cost Energy for Irrigators	*March 1984*	*IA-4-9*
BPA's Strategy for Buying Future Energy Resources	*April 1984*	*IA-4-10*
Update Average System Costs	*May 1984*	*IA-4-11*
Planning for Two Northwest Nuclear Power Plants	*June 1984*	*IA-4-12*
The Public Power Rate Test	*July 1984*	*IA-4-13*
Issue Backgrounders:		
The Health Impacts of Home Weatherization	*September 1983*	*E&P-3-0*
BPA's Electric Power Rates	*October 1983*	*SLP-3-1*
BPA's Billing Credits Policy	*October 1983*	*SLP-3-2*
Surplus Power	*November 1983*	*SLP-3-3*
Local Government Energy Actions	*April 1984*	*SVP-3-4*
Enhancing Our Fish & Wildlife Resources	*May 1984*	*E&P-3-5*
BPA Project Briefs:		
Boundary-Spokane / Coquille Valley Transmission Support	*March 1984*	*BPA-5-1*

environmental review of the long-term Intertie Access Policy.

For Further Information

If you have any questions contact your nearest BPA Area or District Office, or the BPA Public Involvement office, P.O. Box 1299, Portland Oregion 97212.

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