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U.S. DEPARTMENT OF THE INTERIOR

B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

FEDERAL BUILDING, 1002 N.E. HOLLADAY

News

Release on Receipt

September 29, 1964

Wanted: Bigger extension cords for a region with six million people and 27 federal dams.

This is the way a housewife might describe Bonneville Power Administration's program to build a new main grid.

It will be the nation's largest 500,000-volt grid and it will overlay the present transmission network, the backbone of the Northwest Power Pool.

BPA is constructing the first 300 miles of the grid. Congress has approved another 525 miles. These figures do not include lines that will be built in the Northwest as part of the Northwest-Southwest Intertie.

The new 500,000-volt grid will move more power to market at a lower cost per kilowatt.

As compared with 230,000-volt lines--those you are used to seeing--the new 500,000-volt lines will require much less right-of-way to transmit the same amount of power.

BPA's system now consists mostly of 230,000-volt lines. They require a right-of-way 125 feet wide for a line with a capacity of 250,000 kilowatts.

A 500,000-volt line with four times the capacity--a million kilowatts--requires a right-of-way only 150 feet wide. The higher voltages conserve land for other uses, such as growing timber.

The 500-kilovolt construction now underway includes a 70-mile line from Arlington to Blaine, a 110-mile line from The Dalles to Portland, and a 120-mile line from the vicinity of Wanapum Dam to Kent, near Seattle.

Towers are up on a 49-mile section from Portland to Sandy and a 23-mile section from The Dalles to Parkdale. Half of the towers are up between Arlington and Blaine, and erection has started on a 33-mile section at the east end of the line from Wanapum Dam to Kent.

Towers for the 500,000-volt lines are larger. They average about 85 feet tall and 67 feet wide at the top. Towers for a 230,000-volt line average about 73 feet tall and 45 feet wide.

The easiest way to tell one from another is by the length of the insulator strings. A 500,000-volt string is nearly twice as long--12 feet six inches. A 230,000-volt string is about six feet 9 inches long.

Congress recently appropriated \$11,800,000 to start construction of the additional 520 miles of 500-kv lines. The total cost of these lines is estimated at \$81.3 million. Another \$3.9 million was appropriated for a major 500-kv switching station to be built near John Day Dam.

The added mileage of 500-kv construction includes a 138-mile line from John Day Dam to Lower Monumental Dam on the Snake River, a 57-mile line from Lower Monumental to Hanford, a 21-mile line from John Day Dam to The Dalles, a 169-mile line from John Day Dam to Marcola in southwest Oregon, a second 120-mile line from Wanapum to Kent, and the switching station near John Day Dam.

Large blocks of power are scheduled to come on the grid in 1967 and 1968, mostly from John Day and Lower Monumental Dams.

BPA will need about 1,600 miles of 500-kv lines in operation by 1973. This compares with a total of 3,352 miles of 500-kv lines which the nation's private utilities last January reported they plan to build by 1973.

The proposed line to southern Idaho and the intertie with the Southwest are not included in either the BPA or private company figures.

BPA operates one of the world's largest networks of high voltage transmission lines--9,000 circuit miles. It transmits power an average distance of 150 miles. The BPA service area stretches 475 miles from north to south and 550 miles from east to west. The area includes Oregon, Washington, Idaho and western Montana.

In the Northwest most of the generating facilities lie east of a mountain range--the Cascades. Most of the electricity is consumed in the population centers west of the mountains. Transmission lines cross the heavily timbered and rugged slopes of the Cascades. Suitable transmission routes are rather limited.

Power from 21 federal dams flows over BPA lines to private and public utilities, large electroprocess industries and to federal agencies. BPA also transmits over its lines power owned by various Northwest utilities. Six more federal dams are being built.



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FEDERAL BUILDING, 1002 N.E. HOLLADAY

News

For Release Wednesday,
September 1, 1965

A detailed, technical report on water resources in the Pacific Northwest has been completed by the U. S. Geological Survey for the Bonneville Power Administration.

The report is one of a series of studies being completed for BPA as part of a comprehensive economic base study. Both agencies are under the U. S. Department of the Interior.

The general conclusion of the report is that there is "an adequate supply of water in the Pacific Northwest to satisfy the needs of man today and in the foreseeable future, although there may be local shortages."

The report does not consider:

- 1--Proposals for diverting water from the Northwest to other regions.
- 2--The use of water for generating electric power.

A BPA preface to the Geological Survey study cites independent BPA studies which show that 99.6 per cent of the flow of the Columbia River at The Dalles Dam can be used for the production of electric energy by 1990. If a second powerhouse is built at Bonneville Dam, virtually the entire flow of the river can be used there for power production, too.

There are no hydroelectric plants below Bonneville Dam. But the Geological Survey study points out that significant volumes of water in that stretch of the river will be required for navigation, dilution of wastes, and fish.

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"This report is the first of its kind dealing with the adequacy of water supplies for the future needs of a growing Pacific Northwest economy," Charles F. Luce, Bonneville Power Administrator, said.

"It represents the assemblage, analysis and summary of information from hundreds of reports and records pertaining to water in this region.

"Since the study was begun, several of the Pacific Northwest states have undertaken water studies. This study is no substitute for the studies being made by the states or for the work and research that is being undertaken by the Western States Water Council, formed by the Western Governors' Conference.

"However, we hope the data and analysis found in this report will be of value to those vested with the responsibility for the study, development, or management of water resources in the Pacific Northwest."

The Geological Survey study examines and evaluates the economic role of water in the Northwest by regional sub-areas (power supply areas) for five-year intervals to 1985. Projections are made to the year 2010. Emphasis is placed on the adequacy of the quantity and quality of water to support industrial expansion and economic development in the region.

The report points out that on a per capita basis "far more good quality water is available in streams of the Pacific Northwest than in the streams of any other major region in the conterminous United States."

It also points out that streamflows and rainfall vary greatly from time to time and from place to place within the region. Water is not necessarily available when and where it is needed most.

"Comparison of available supplies and projections of water requirements to the year 2010 indicates that, for the region as a whole, the supplies of water

will be adequate for man's needs in the foreseeable future," the report says.

"However, local water shortages exist and can be expected in the future. Serious shortages may occur in one sub-area (The Snake River Basin in Southern Idaho, Eastern Oregon and Southeast Washington) by 2010 because projections of water requirements for that year are considerably greater than the water that will be available in that area for once-only use. All the other areas also may have serious local shortages, only some of which can be anticipated on the basis of information now available."

Although great variations occur within the region, the average annual precipitation for the entire region is 28 inches. The inflow from Canada is equivalent to another 3 inches. About 12 inches returns to the atmosphere through evaporation and transpiration. Sixteen of the 28 inches become runoff which flows toward the ocean. About 2 inches is withdrawn by man for domestic, industrial and agricultural use and, of this, two-thirds of an inch is consumed. The remainder of the runoff is virtually untouched and is available for other uses. As BPA points out, these statistics do not include the use of runoff for the production of electric power.

The report distinguishes between water that can be used and reused and water which is consumed and is not available for reuse.

Net water requirements in the region by the year 2010 are expected to be about 40,000 million gallons per day (45,000,000 acre-feet per year). This is about 42 per cent of the water originating in the region.

Irrigation use will consume the greatest amount of water--about 91 per cent of the total consumption expected in 2010.

Net water requirements in the region in 1960 were about 29,400 million gallons per day (33,000,000 acre-feet per year). This amount represented 31 per cent of the water originating in the Northwest.

The report also discusses new techniques in finding, developing and using--or even creating by weather modifications and desalination--water supplies at "acceptable costs" to help meet the demand for quality water in the Northwest. Also considered in the report is improved management of water resources in the Northwest through subsurface reservoirs, glaciers, and alpine snowfields, and the use of deep wells to tap underground supplies now too costly to reach with current technology.

The complete title of the report is "The Role of Water in Shaping the Economy of the Pacific Northwest." The Geological Survey men who prepared it are G. L. Bodhaine, B. L. Foxworthy, J. F. Santos, and J. E. Cummins.

Copies of the report are available from the Bonneville Power Administration, Walla Walla Area Office, P. O. Box 1518, Walla Walla, Washington 99362.

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FEDERAL BUILDING, 1002 N.E. HOLLADAY

News

For Release Thursday,
December 9, 1965

The Bonneville Power Administration today released the second in a series of five surveys of major industrial plant sites in the Pacific Northwest. The volume covers some 60 sites in 11 counties on both sides of the Columbia River from the mouth to The Dalles area. It is titled, "Volume II, Lower Columbia River Area."

The sites generally cover 50 acres or more and are suitable for heavy industry. The report includes topographic maps and describes the size, ownership, zoning, soil conditions, and access to transportation and utilities.

Large amounts of low-cost power have sparked an interest in sites by industries using big blocks of electric energy. The power will be made available by the Pacific Northwest-Pacific Southwest Intertie, the Canadian Treaty, new dams on the Columbia River, and the Hanford atomic generating project.

A similar report published earlier covered industrial sites in the Puget Sound area. Both reports were prepared for BPA, an agency of the Department of the Interior, by Ivan Bloch and Associates. Other reports on sites on the Upper Columbia and Snake Rivers, along the Oregon and Washington coasts, and in miscellaneous inland areas will follow.

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Information for the reports is supplied by many local governmental agencies, organizations, and individuals, including railroads, electric, gas, and water utilities, port districts, state and local industrial development agencies, and chambers of commerce.

Copies may be obtained from Bonneville Power Administration, P. O. Box 1518, Walla Walla, Washington 99362.

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BONNEVILLE POWER ADMINISTRATION

FEDERAL BUILDING, 1002 N.E. HOLLADAY

News

For Release:
May 26, 1966

Bonneville Power Administration, Department of the Interior, today published a report forecasting that copper, lead, and zinc production in the Pacific Northwest will increase more rapidly between now and 1985 than it has since World War II.

The report was prepared for BPA by the Albany, Oregon office of the Bureau of Mines, another Interior agency.

According to the report, the anticipated rise by 1985 will be 30 percent for zinc, 50 percent for copper, and 15 percent for lead. However, the report adds, the number of jobs in mining, smelting, and refining zinc will drop 20 percent, in copper, 15 percent, and in lead, 25 percent -- all due to increased productivity per worker.

The report adds that discovery of large lead deposits in Missouri has reduced the potential use of Northwest lead between now and 1985.

In all, total employment for the three industries in the region, now more than 10,000, is expected to decline to 8,500. No new plants are forecast for the area. Present installations include the American Smelting and Refining Company's copper smelter and refinery at Tacoma, Washington, Bunker Hill Company's zinc smelter and refinery at Kellogg, Idaho, and Anaconda Company's copper and zinc smelters at Anaconda, Montana.

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Entitled, "Copper, Lead, and Zinc Industries in the Pacific Northwest", the 140-page report is the 11th in a series BPA is publishing for its economic base studies. Previous reports have covered abrasives, coal, steel, magnesium, sulfur, water, titanium, personal income, forest industries, and agriculture. All are available from Bonneville Power Administration, P. O. Box 1518, Walla Walla, Washington 99362.

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FEDERAL BUILDING, 1002 N.E. HOLLADAY

News

For A. M. Release

Sunday, October 9, 1966

BPA SETS UP KEY TASK FORCE

Bonneville Power Administrator David S. Black announced today that he has set up a special task force to assist in regional planning in preparation for the era of steam generation impending for the Pacific Northwest.

He also announced a regional meeting to be held in Portland on October 13 to discuss Northwest power requirements and the steam plants of the future.

"The Northwest must continue to have an abundance of electricity at low cost," Black said. "To get this power the region must build a series of large plants that will use steam to produce electricity. The plants will use nuclear fuel or coal.

"If the power they produce is to reach the consumer at the least cost, these generating plants must be built at the right times and in the right places. And it is essential that they be large enough to achieve what we call economies of scale. In other words, they will have to be big to pro-

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duce low cost power.

"We foresee plants of a size that will produce at least a million kilowatts, which is equivalent to the present output of two Bonneville Dams.

"Plants of this size will be so large that their output cannot be absorbed economically by a single utility or group of utilities in the Northwest.

"The power they produce will have to be integrated with BPA's power system so that if one of these large plants goes off the line for one reason or another, the region will not experience a power outage."

Black said his task force, or team of BPA experts, will lead BPA's work with the region's utilities and large power users.

He said that public and private utilities will attend the Portland meeting on October 13.

General Electric Company and Westinghouse will present details of their light water nuclear generating plants on October 11 and 12. The Northwest Public Power Association will sponsor this meeting. All of the meetings will be held in the auditorium of the Interior Building.

BPA's task force will present a detailed analysis October 13 of the amounts of power and the generation needed to meet Northwest requirements between now and 1985.

BPA will also outline criteria for the location and construction of steam plants.

"We will lay our analysis of the various alternatives out on the table," Black said. We hope to work with the utilities and large industrial users to find the approach that will give the consumer, who ultimately pays the

power bill, the most for his money."

Black said that BPA's studies of the future indicate that the region could use or sell the output of a plant completed in 1971. The region will require a new, million-kilowatt plant each year beginning not later than 1976. Construction of these plants must start five to eight years ahead of the time they are needed, he said.

Black said that power from the new steam plants must be combined with power from the dams in a manner that will enable the Northwest to continue to offer power not only to homes and businesses but also to industrial users at a low cost for years to come.

"We think this is possible--with the proper planning," he said. "The supply of low cost electricity has been, and will continue to be, one of the most important factors in the economic growth of the Pacific Northwest."

The Hanford generating plant with a generating capacity rated at 860,000 kilowatts is the only large steam plant in the Northwest. Before Hanford came on the line all but a small fraction of the generators in the Northwest were installed at hydro projects. Early in the 1970's the region will run out of feasible hydro sites that can produce firm power on a day-after-day year-after-year basis, Black said. Additional generators can be installed at existing dams to enable them to carry heavier peak loads but this will not significantly increase their overall energy output.

Members of the BPA task force are:

Donald J. Harris, chairman, assistant power manager. Harris coordinated the negotiations for the Canadian Treaty and agreements for

optimizing power production at Northwest plants.

Eugene C. Starr, consulting engineer. Starr, an expert on generating power with nuclear fuels, formerly was BPA's chief engineer. A former professor of electrical engineering at Oregon State University, Starr has been a consultant to the Atomic Energy Commission's reactor development division since 1953.

Everett J. Harrington, BPA's assistant chief engineer. Harrington is one of the country's leading authorities on direct current transmission.

Ray Foleen, assistant to the BPA administrator. Foleen has been coordinating Bonneville's participating in the Hanford nuclear generating plant.

Kenneth Kaseberg, a member of the regional solicitor's staff. Kaseberg helped draw up contracts for the Pacific Northwest-Pacific Southwest Intertie and drafted the bill which became Public Law 38552, the Northwest preference legislation.

Robert E. Ratcliffe, a member of the regional solicitor's staff. Ratcliffe also helped draw up the Intertie contracts and aided in the legal arrangements for the Hanford generating plant.

Harold Kropitzer, secretary, assistant to the power manager. Kropitzer, an attorney, played a key role for BPA in the legal arrangements for Hanford and the Canadian Treaty.

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FEDERAL BUILDING, 1002 N.E. HOLLADAY

For release, Noon

Friday, December 9, 1966

Bonneville Power Administrator David S. Black urged today in Seattle that "ideological differences" between public and private power "be pushed aside" in a regional approach to supplying the region's future thermal power needs.

Addressing the Washington State Public Utility Districts Association at the Benjamin Franklin Hotel, Black pointed out that by the mid-1970s the region will no longer be able to rely solely on the Columbia River for its power requirements.

By then, he said, utilities of the region will have to build each year at least one big steam plant of one million kilowatts or bigger--either coal-fired or nuclear--to meet the region's growing power needs.

He said BPA does not propose to build the steam plants, but expects to participate in their planning and to share their output by direct purchase or exchange. He said BPA also could provide transmission, hydro peaking and reserves to make the operation of non-Federal steam plants more economic.

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"We can have a coordinated, cooperative approach which in the past has enabled us to do things for the region none of us could have done individually," he said, "or we can have a fragmented approach which will produce inefficiency and high costs."

Black noted that all segments of the utility industry can agree, in theory at least, on a regional approach, and added, "these words we have uttered frequently of late, but perhaps without communicating anything."

He offered his definition of a regional approach as one that considers the total needs of the region, including publicly and privately owned utilities and industries, rather than the needs of a single entity.

"It involves planning on the same basis as if there were single ownership of the region's electric utility systems," he said, "while at the same time preserving our diverse ownerships."

"It requires that ideological considerations be pushed aside, by privately owned utilities and publicly owned systems, both. It does not ask that either segment really sacrifice anything, but rather it calls for enlightened self-interest, with the end result that all utilities of the region, and their customers, and the economy, will benefit in the long run."

Black said that utilities in this region had come a long way toward a regional approach to power supply and reliability problems in the past few years and that "we are off to a good start toward a regional approach in the transition to thermal."

He said that at a meeting in Portland November 23 BPA and representatives of both private and public power had agreed to form a joint policy

group and to establish work groups to make studies and recommend courses of action leading to construction of steam plants. He added:

"I don't expect that these great projects will all be built by the same entity or combination of interests. Nor do I believe such domination of ownership would be consistent with the continued vitality of the total utility industry in the Northwest.

"We must, to be sure, seek the lowest possible costs. These low costs, however, may be available by a variety of methods, and we should not become frozen to any single approach."

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