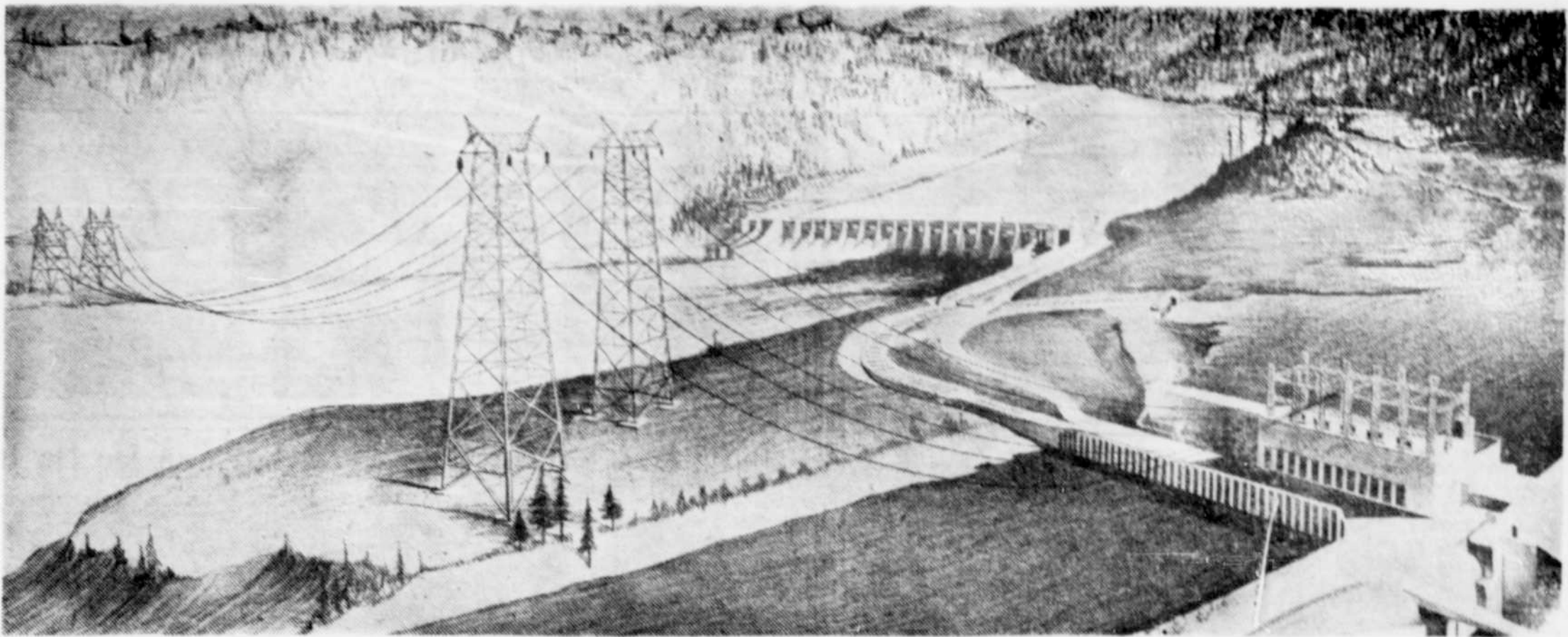


Drawing Reveals Projected Appearance of Bonneville's Forthcoming Transmission Towers



Highest man-made structure in the Columbia gorge will be the new high-tension transmission line towers at Bonneville, which will carry current from the powerhouse on Bradford Island across the river to the Washington side. This drawing indicates the approximate appearance of the yet-to-be-constructed towers.

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BONNEVILLE

FRIDAY, MARCH 10, 1939

Bonneville Towers Will Present Imposing Sight

By F. T. Humphrey
Of the Oregon Journal

Will Be 321 Feet In Height Near the spot where, in 1856, Lieutenant Phil Sheridan and a handful of bluecoats fought for their lives against the Yakima and Tumwater braves, two giant steel towers will soon rise from Bradford island.

Sixty feet square at the base, 321 feet high, and weighing 150 tons each, they will support two sets of transmission lines, as they leap the Columbia from Bonneville powerhouse to the Washington shore in two mighty strides, one 1600 and the other 1700 feet.

Key towers in the \$14,000,000 transmission system that is now taking form in Oregon and Washington, they must be high enough to allow for a line sag of 290 feet and a river clearance of from 78 to 93 feet to take care of Columbia shipping. They must be tough enough to take 40,000 pounds of pull from each inch-and-a-quarter line, withstand a horizontal line sway of 60 feet, and ride out a 60-mile gale. The lines themselves will operate at 230,000 volts, each set taking care of two Bonneville generators, and are designed to carry an ice load that will make them 5 1/2 inches in diameter.

Nowhere else in America is there such a nice problem of engineering involving such a combination of ice, wind, high voltage, clearance, and long jump conditions. It's a honey, even when you disregard the fact that the powerhouse superstructure can take only 26,000 pounds of pull per line. J. D. Ross, administrator; Charles E. Carey, principal construction engineer, and Don S. Campbell, transmission section engineer, beat the latter by making Bradford island towers high enough to take most of the load off the powerhouse and the 120-foot anchor towers on the Washington shore, both of which will escape with a 25,000-pound pull per line.

The Bradford island towers will not be the highest in the world, but they will reach skyward at that being higher than any Portland building—105 feet higher than The Journal tower, for example.

Bonneville engineers estimate that if a silver thaw, comparable to some experienced in Columbia gorge in the last half century, occurs again, the transmission cable may accumulate two inches of radial ice. In a 60 mile gale it would have to take a pressure of eight pounds per square foot of exposed area, thus making prob-

Puppet Show Set for Tonight

The Junior class of Cascade Locks High School is sponsoring a puppet show to be presented March 10, in the High School Gymnasium at 7:30 p. m.

A professional from Portland is giving the performance and will install a public address system. A matinee will be given for the school children. You may have a personal interview with the puppets after the performance. The prices are 15 cents, 10 cents and 20 cents.

The program will include "Hansel and Gretel," "The Three Wishes," and several short selections with musical accompaniment.

able a line sway of 60 to 70 feet. To meet this extreme condition, allowance of 30 feet between cables is made.

Insulation for these heavy lines is another nice problem. To meet it, engineers have designed triple strings of insulators, 18 to a string. Ten inches in diameter and 5 1/2 inches apart, they will hang down about 12 feet from the steel cross arms, like great dinner plates on a string.

The island towers, the first of five that will ultimately be built, will be both neat and gaudy. To protect air liners on the gorge route, they will be striped with white or aluminum and international orange, the orange stripes being 39 feet wide and the white 19.

At night two 1000-watt 300 mm. airway beacons will flash atop the 321-foot towers which will also bear 24-inch floodlights shining out along the cables to the Oregon and Washington shores. Instead of being hazards to air travel, they will become important guiding beacons, being visible to airmen from as far away as Yakima, Pendleton and the Interstate bridge to Vancouver.

The Bonneville crossing is not the only problem encountered and solved by Bonneville's electrical engineers. The towers to take 110,000-volt lines across the Columbia and Willamette from Vancouver substation to Portland will be notable. The Columbia towers were originally designed for 514 feet and the Willamette towers for 365, but the Oregon slough specifications (Continued on Page 4)

HOUSE RECEIVES BONNEVILLE BILL

WASHINGTON, March 8—The house received Wednesday from its appropriations committee a recommendation that it provide \$12,400,000 for the Bonneville power authority during the 1940 fiscal year.

The amount, contained in the interior department appropriations bill, was \$1,000,000 less than asked by the authority, which said it contemplated an extensive power line construction program.

SUNDAY SCHOOL PLANS LAUNCHED AT MEETING

The Sunday School Board of the Cascade Locks church held a meeting Monday evening at the home of Mrs. R. G. Wuner. Members and teachers present included Mesdames Gibson Harrison, Ben Scott, Wilbert Harrison, Newton Clark, Burt Nelson, R. G. Wuner and Rev. and Mrs. W. C. Cronk. Plans for an even bigger and better Sunday School were discussed. Easter program plans were formulated.

BRIDE-TO-BE HONORED

Miss Beth Manchester was very pleasantly surprised when a group of friends dropped in and showered her with lovely gifts for her new home last Thursday evening. The evening was spent informally with games and singing, followed by a lovely lunch in charge of Mrs. Gibson Harrison. Ladies present were Mesdames Eugene Lovell, R. J. Wuner, Wilburn Smeltzer, Wilbur Harrison, Jack Flaucher, Wilbur Carlson, Addison Harrison, Victor Wigren, Winifred Cronk, Oscar Hyde, Lester Sprague, Mike Long, C. A. Saunders, C. O. Bennett, George Miller, Ernie Manchester, Ben Scott and Russell Nichols and Misses Helen Rosenback and Jeanne Orvis. Some friends were unable to attend, but sent gifts for the bride's new home.

FORMER RESIDENTS HERE

Mr. and Mrs. A. Richards of Portland visited Andy Lane Sunday and called on a few of their friends while here. Mrs. Richards is a former proprietress of the Cascade Lodge.

War Department Okehs Big Towers

The United States War Department district engineers' office has approved blue prints for all four of the waterway cable crossings which will bring Bonneville power into Oregon by way of the north-Portland area.

Upon receipt of the War Department's permit, Acting Bonneville Administrator Charles E. Carey today announced that more than seven miles of specially fabricated conductor cable have been purchased from the Aluminum Company of America at a cost of \$41,355, and that plans are under way for the purchase and early delivery of tower steel.

Plans call for the erection of 500-foot towers on either bank of the Columbia, four and one-half miles below the Interstate Bridge. Ocean-going vessels bearing wheat from The Dalles and apples from Hood River will pass under the six big cables suspended a minimum height of 220 feet above the river.

Bids for the erection of the six high suspension towers and eight smaller structures which will carry the cables across the Columbia and Willamette rivers and the Columbia and Oregon sloughs will be opened on March 25. Erection is to be complete and the lines ready to receive power within six months after notice of the contract's award.

Original plans for the crossing gave the cables a minimum clearance of 110 feet above the surface of Oregon sloughs. The Port of Portland and industries in the area pointed out that this height was less than overhead clearances as far upriver as Ross Island and Bonneville officials cooperated by increasing the height of the towers from 185 feet to 230 feet. This will give a minimum clearance of 160 feet.

Construction of the crossing will include suspending power carrying cable across four waterways within a distance of three miles. Tallest of the six big towers will be the two, erected 3756 feet apart on the banks of the Columbia. South of the river, two 230-foot towers will carry the cable across the Oregon slough. Two 125-foot towers will take the line across the Columbia slough and the crossing job will be complete with the erection of 356-

Vote 22 to 7 In Approval of Legislation

SALEM—After 3 hours of debate the senate Wednesday passed the much-buffed people's utility district bill, vigorously opposed by the state Grange as detrimental to the public and of benefit "to private power companies."

The vote was 22 to 7. The bill now goes to the house for consideration.

In debate it was brought out by Senator Lyman Ross, Washington, that the Bonneville dam administration did not approve of the bill in its present form.

On the other hand, advocates heralded the measure as fully protecting the taxpayers, fair to all concerned and ideal for formation of districts.

POPULATION INCREASE IN THE OFFING

The population in the vicinity of the Shell Mountain Fox Farm will increase 150 to 200 within the next 60 days, Herman Suhl, owner of the fox farm announced yesterday.

Beginning tomorrow the first of the new year's pups are expected and they will continue to arrive every so often for the next 60 days. Fifty females and 20 males are the present inhabitants of the farm looking forward to the increase.

FOREST MEN ENTERTAINED

Members of the U. S. Forest Service personnel arranged a delightful party at the Charles Sigl home Saturday night. The evening was spent informally. Those enjoying the evening were Mr. and Mrs. Orville Richmans, Mr. and Mrs. Herbert Fifer, Mr. and Mrs. Arthur Bowman, Mr. and Mrs. Charles Sigl, Mr. and Mrs. Roy Weeman, Mr. and Mrs. C. F. Gray, Mr. and Mrs. Albert Wiesendanger and Mr. and Mrs. Joe Miller.

FOX FARM VISITORS

Mr. and Mrs. Newton McPherron of Cascade Locks spent last week at the Shell Mountain Fox Farm.

foot towers which will carry the line across the Willamette River about four miles below the St. Johns Bridge.

Smaller towers will carry the line between the tall structure at the waterway crossings.