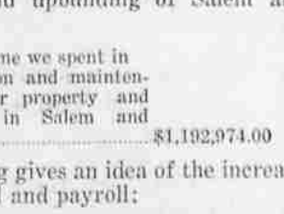
Oregon Has Vast Stand of Timber and Mighty Water Powers



Commercial Forests Hold 450,000,000,000 Board Feet or One-Fifth in All America

The Water Powers Will Eventually Be Far More Valuable Than the Timber and Will Have Mighty Influence for the State's Prosperity If Wisely Guarded and Administered —Astonishing Possibilities of the River Energy of Oregon and the United States

By Richard L. Rowe

Oregon has the greatest Commercial Timber Resource of any State in America, perhaps scarcely matched in the World. President W. J. Kerr, of the State Agricultural College, has endorsed the claim of over 450,000,000,000 board feet as being correct. That is One-Fifth of all standing Timber in the United States. With prudent logging and systematic reforestation, the supply should last forever. It includes fir, spruce, cedar, hemlock, alder and some oak.

The other Splendid Resources is the Power that may be developed from its streams. That this River Energy will eventually exceed the state's great Timber stand in value, is a reasonable probability.

The United States Geological Survey engineers calculate the gross power that any river site may develop, and usually deduct 30 Per Centum to get the net force that can be used on work. The figures quoted in this study will be the net working energy.

The engineers also determine the amount of power that can be used 90 Per Cent of the time—practically continuously—and that which may be available in much larger volume for 50 Per Cent of the time. Here is a table that will show the various summaries for four big power states of this Northwest country:

TABLE 4	Horse Power Capacity of Existing Wheels	Potential Horse Power Available 90% of Time	Potential Horse Power Available 50% of Time
OREGON	206,865	3,665,000	6,715,000
Washington	480,356	4,940,000	7,871,000
Idaho	270,918	2,122,000	4,032,000
Montana	345,040	2,550,000	3,700,000
Totals	1,303,179	13,277,000	22,318,000
United States	9,086,958	34,818,000	55,030,000
Eventual U. S. Potential		72,000,000	

It will be seen that Oregon has 3,665,000 horse power that may be used almost continually, the year around. For about half the year, when the streams are at high flowage, it can generate 6,715,000 horse power. When storage facilities are made to conserve the streams' power to the utmost, those figures may be almost doubled—as is shown by the eventual potential of the United States, which simply means that the powers will be multiplied by reservoirs to hold the high run-off and with dams to duplicate the power as often as is practicable.

Before the World War, the Geological Survey estimated that about $100 per horse power per year was the average rental value. Except in case of a few publicly owned powers, it certainly is not less now.

At $100 per horse power per year, the continuous (90 per cent of the time) volume that Oregon streams can develop has a potential earning value of $366,500,000 each twelve months, or TEN PER CENT ON $3,665,000,000! And with full conservation of all the energy of Oregon's streams, the eventual earning capacity may be DOUBLE the mighty sum stated, of $700,000,000 or more per year— representing capitalization of $7,000,000,000—more than equal to all the property values in two or three of these Northwest states at this time!

Electric Power Development

Some idea of the electrical development that has taken place in Salem and vicinity during the years 1914 to 1924 may be had from our records of the investments we have made in that period for additions to our plants and equipment:

Transmission lines	$ 39,973.00
Additions to buildings	14,359.00
Electrical and Steam machinery	180,222.00
Distribution poles and wires	242,960.00
Transformers	92,268.00
Meters	68,895.00
Street Lighting equipment	11,010.00
Telephone Lines	1,553.00
Miscellaneous	1,811.00
	653,051.00
Approximate proportionate share of hydro-electric plant construction on Clackamas River and steam electric plants in Portland	810,000.00
	$1,463,051.00

The above statement shows that we have spent over One Million Four Hundred Thousand Dollars in the above stated period in the development and upbuilding of Salem and vicinity.

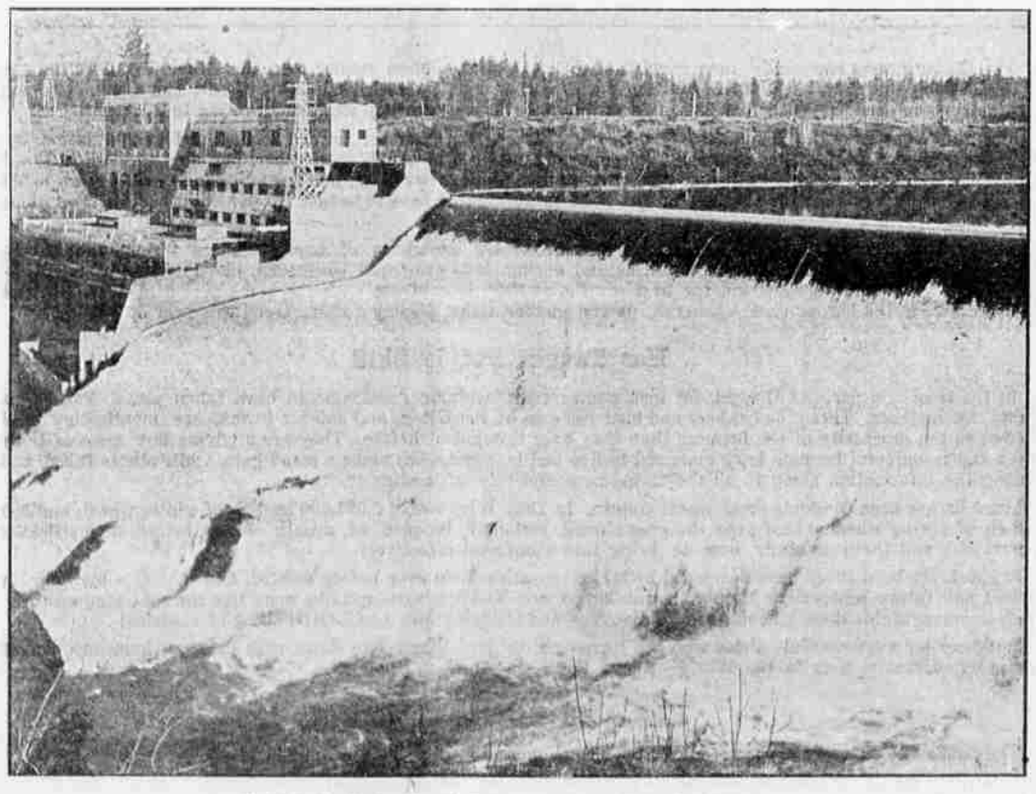
In the same time we spent in the operation and maintenance of our property and equipment in Salem and vicinity	$1,192,974.00

The following gives an idea of the increase in our personnel and payroll:

	May 1915	May 1925	Increase in %
No. of employes	65	128	97%
Amount of payroll	$4,904	$14,782	198%

Prior to 1917 we had but one transmission line supplying power to Salem from our hydro-electric plants. This line extended from our Oregon City plant to Salem via the Oregon Electric Railway.

In 1917 we extended another transmission line from our hydro-electric plant at Estacada to Mt. Angel into Salem to provide duplicate and additional capacity to increase the reliability of our service.



P. E. P. Co. Hydro-Electric Power Plant Near Estacada, Oregon.

We are now building, at a cost of $150,000, a third transmission line from Salem to Newberg via Dayton, and rebuilding the line from Newberg to Portland to connect with the steam power plants there and the ten transmission lines that extend into Portland from our hydro-electric plants.

When this new line is completed, Salem will have four sources of supply of electric power and is very fortunate in being so adequately supplied, as reliability of supply is even more important to manufacturing plants and other users of electricity than its cost.

In addition to the above, we removed our old steam electric plant at Salem in 1922 and erected another, representing an investment of $175,000.

We also have under construction in West Salem a high tension switching and transformer station, and a transmission line from that Station to our Salem Station, at a cost of $55,000.

This, when added to the cost of the new transmission line, makes a total of over $200,000 in one major improvement for the year.

We have extended many miles of distribution lines into the rural districts during the last few years, and are now supplying nearly 800 farmers in this vicinity.

Th following data shows the growth and developmnt from the standpoint of number of customers and quantity of electricity used:

	In the year of— 1914	1924	Increase in %
Number of Customers	3,693	9,095	146%
Kilowatt hours sold	333,710	2,634,692	557%

Due to the increasing use of electricity in the home for cooking and other uses, a very interesting and marked reduction in the average rate per K. W. H. paid for service is shown in the following figures:

In the year of—	1914	1924	Decrease in %
Average rate per K. W. H. paid by customers for residence service	8.6c	4.3c	50%

Due to the tremendous quantity of electric power used by the Paper Mill, which was established in the period under consideration, and the resulting very low rate earned by it and the low rates earned by other large power users at the present time, the average rate per K. W. H. paid by all customers shows a corresponding decrease:

In the year of—	1914	1924	Decrease in %
Average rate per K. W. H. paid by ALL Customers	2.6	1.7c	50

We feel that all of the foregoing figures indicate that we have been doing our part in the development and upbuilding of Salem and vicinity by providing adequate electric power facilities, which is a very important factor, and that our rates are low and of such a scale as to give the community the benefit of still lower electric power costs as its use of power increases.

PORTLAND ELECTRIC POWER COMPANY