

HOW THE COST OF ELECTRICITY AT YOUR HOME IS MADE UP

To arrive at a proper conception of the power situation in the North, or anywhere else, it is necessary to understand various factors which enter into the cost of power. Many people confuse electric power with other commodities, such as wheat or potatoes. Some think that if energy can be sold in one place at a certain price it can be sold at the same price in another.

In order to show the fallacy of some ideas, a knowledge of the true items of the cost of power is necessary.

The first item is by no means the greatest. It is the cost of generation. It is divided into two parts, one consisting of interest on the capital involved in the plant, the dams, etc., and it is an item often entirely overlooked by the layman. It is a variable item, too, for the question of market for power enters in. For instance, assuming for argument's sake that a 10,000 h.p. plant can be built for a million dollars, it follows that interest on this amount must be met whether the plant is running part time or full capacity. Assuming that there is a market for full capacity of 10,000 h.p., the cost of this item alone would be \$5 per h.p., assuming further that money could be borrowed at such a rate.

However, such an ideal combination of capacity and market is almost an impossibility, and often a power company must be content to run a plant at half capacity, in which instance the interest cost runs up to \$10 a h.p.

Then in respect of the capital cost in the generating of power is the second point that money must be set aside each year against the depreciation of the plant and its eventual renewal, and against the retirement of the initial capital. The power plant that serves a big city may continue in undiminished operation for fifty or one hundred years. It is plain that the power plant which serves a mining field may be in an altogether different category.

The actual cost of generating power is only a small proportion of the total incurred by the time the customer takes delivery. In practice the ratios vary, as one company may serve a few large users

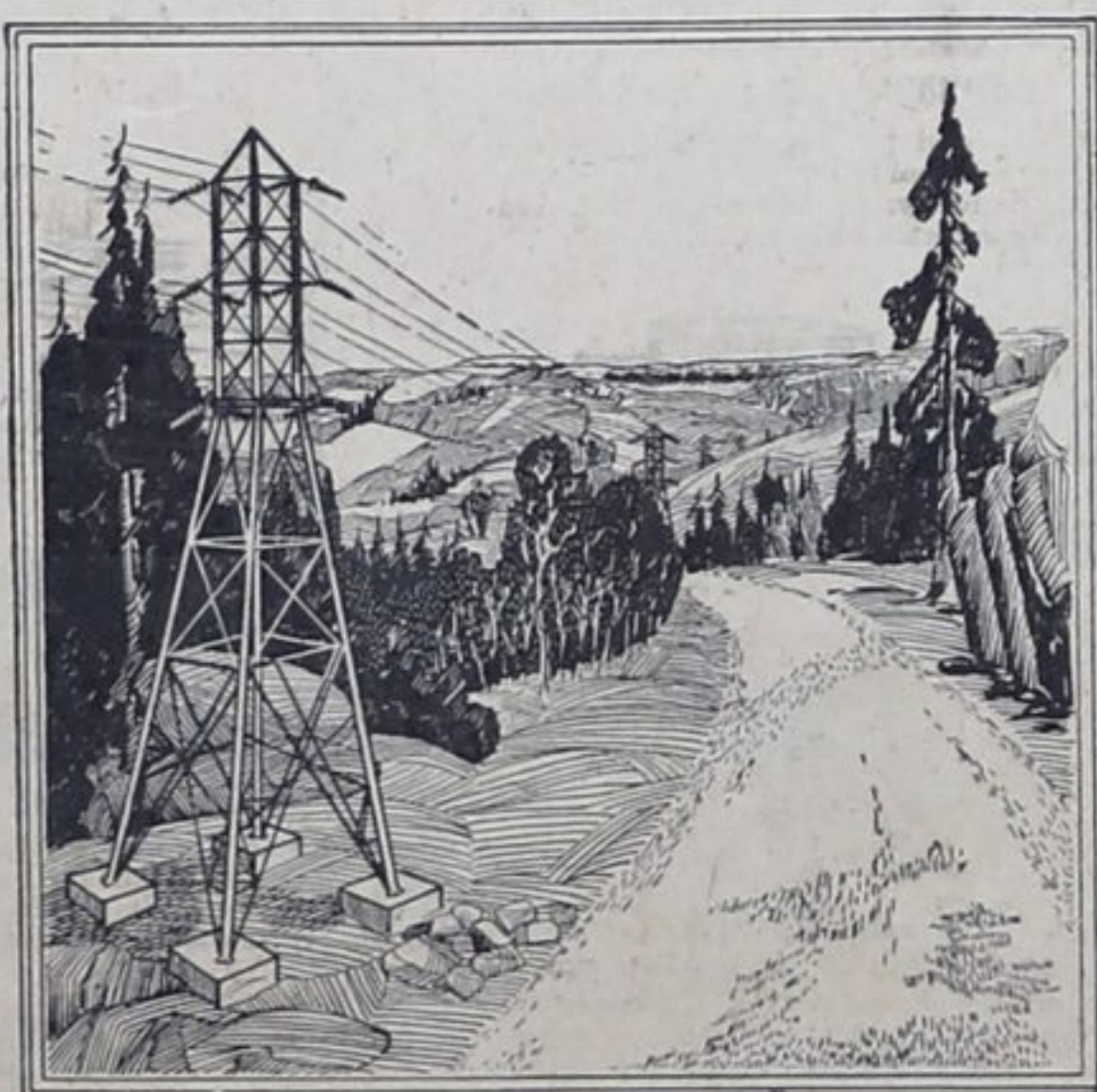
whose plants are close to the power station, while another may supply a multitude of consumers spread over remote areas. With a company serving an extensive mining district the expense of transmission and distribution rapidly assumes proportions which greatly exceed the cost of producing power. The experiences of a large number of power producers have made it possible, though, to arrive at an average proportion of the total cost, as illustrated above.

In the industry a clear distinction is made between transmission costs and distribution costs. The first term is applied to the system of transmission lines over which power that has been stepped up to a high voltage in order to avert excessive line loss is conducted from the generating station to the sub-station which acts as a distributing centre. Where power has to be sent long distances, as in the North, voltage has to be stepped up very high, entailing the installation of heavy and expensive transformers as well as costly lines adapted to such higher voltages. At the other end costly transformers and sub-stations are required to step down the power.

It is at this point that the heavy expenses of distribution begin to mount up, for in order to serve the residents of a town many poles, lines and transformers must be provided in order to deliver the small quantity of electricity used in an ordinary house. These lines require to be maintained in all kinds of weather, against the ravages of sleet, wind and lightning and ordinary decay. Even after the line has been brought to the street in front of the customer's house the expense has not ended. Service wires must be installed, a meter provided and this meter read periodically. Offices must be maintained for the preparation of bills and collection of accounts.

By the time all these items are added together an impartial observer will see that there are a host of costs which cannot be avoided and are never suspected by the layman.

We had almost overlooked the matter of taxes—where the power supplier pays taxes. This company last year paid taxes at the rate of a thousand dollars a day.



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