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The articles now running in the Canadian Engineer on the Electrical Power Developments of Canada, will be reprinted in book form, with diagrams and folding plates. Price \$5.00 per copy Advance orders received.

Subscribers who intend binding the last volume of The Canadian Engineer, and who require a copy of the index, will please advise us at once.

THE KOOTENAY-ROSSLAND POWER TRANSMISSION.*

BY GEO. P. LOW.

A few miles east of the Columbia river, at a point some sixty miles below its source, are two comparatively small lakes a mile or so apart. From the northerly one the Beaver Foot river rises, eventually reaching the Columbia; in the southerly lake the Kootenay river finds its source and continues in a south-easterly direction, parallel with and at a distance varying from ten to fifteen miles from the Columbia river, though the streams flow in opposite directions for about sixty miles. When the head of the Columbia is reached and further paralleling is impossible, the Kootenay approaches within three miles of its rival, but quickly turns from it, flowing away one hundred

* Condensed from description in Journal of Electricity.

and fifty miles further south into Montana, whence it retraces its course into British soil and finally joins the Columbia near Robson, some thirty miles north of the boundary line. Before doing so, however, it forms the Kootenay lake, which is perhaps sixty miles long and from four to eight miles wide, and from the lake it continues to the Columbia through a broad, resistless water course something less than fifty miles in length. It is near the lower end of this portion of the Kootenay river, which forms the connecting link between Kootenay lake and the Columbia river, that the Bonnington Falls are located, and at the lower Bonnington Falls is the generating station of the West Kootenay Power and Light Company, Limited. Thirty-two miles distant is Rossland, which is one of the newest and most prosperous and promising gold mining camps in British Columbia, and in which electricity is not only fast superseding all other forms of power in mining work, but is also put to mining service ordinarily classed as impossible of accomplishment. It has been my fortune to make personal examinations of the principal electric power transmissions of the West, and it is without hesitation that I state that in none of them is the West Kootenay transmission exceeded in points of thoroughness, of engineering design and commercial advantage. The manner in which it has grappled with every phase of the power problem as applied to mines, and the thoroughness with which it has worked out the complete solutions of these problems, enables it to stand as one of the most perfect mining transmissions on the Pacific Coast. Among its features may be enumerated the extraordinary thoroughness and reliability of the water power development, and the difficulties which attended the building of the pole line over a rugged route. The plant was built essentially for power purposes, and of its present load only about twelve per cent. is in lighting, the remainder being in both synchronous and induction motors in mining duty for the operation of compressors, hoists, rock breakers, roasters, bricqueting machines, blowers, machine shops and other equipments used in and about mining and smelting work.

The general view of the Bonnington Falls, upper and lower, and the country about the power house, is given in the accompanying engraving. At low water the falls, both upper and lower, are capable of delivering 267,000 horse-power, but the West Kootenay company utilize only a portion of the lower falls, which, under the 40-foot head available at extreme low water, are capable of delivering 100,000 horse-power. The river is 400 feet wide at the lower falls and in developing a portion of its water power the West Kootenay company constructed a canal 650 feet in length and some 26 feet in width, all through the hard country