

The Canadian Engineer

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WATER POWERS ON THE WINNIPEG RIVER

POSSIBLE COMMERCIAL OUTPUT OF RIVER CONSIDERABLY EXCEEDS HALF MILLION HORSE-POWER—MINIMUM FLOW OF TWENTY THOUSAND SECOND-FEET OBTAINABLE AT ALL SEASONS—REVIEW OF REPORT BY DOMINION WATER POWER BRANCH.

WHILE Canada is endowed with a great natural resource in its water powers, a very small percentage of the total power available has been so far developed and used. But in the development that has taken place, Canadian financiers by their foresight; Canadian engineers by their skill; and Canadian government officials by their co-operation, have blazed a trail that can be equalled by few other countries, and surpassed by none.

It has only been in recent years that Canadians have awakened to the knowledge of the tremendous natural advantages that Canada has in her extensive and fortunately located water powers. In most provinces of the Dominion, this awakening has resulted in a sincere and successful endeavor to become fully informed of all aspects of the water power situation, in order that proper provision should be made for investigation, administration and ultimate development.

There is no part of the Dominion where the advantages and opportunities of water power are more appreciated than in the provinces of Manitoba, Saskatchewan and Alberta. In this territory the water powers are administered by the Department of the Interior through the Dominion Water Power Branch, which branch has, since its organization eight years ago, made thorough reconnaissance investigations of all the water powers in the present settled portions of the prairie provinces, and most of the water powers on the more important rivers in the hinterland. On some of the rivers close to existing commercial centres, such as the Bow River in the province of

Alberta,* and the Winnipeg River in the province of Manitoba, it was early found necessary to have a thoroughly complete investigation made of the topographic and hydraulic features of the whole power situation.

The most elaborate and extensive investigations that the Water Power Branch has carried on, have been continuously under way for over four years, under the im-

mediate direction of J. T. Johnston, chief hydraulic engineer of the branch. A complete report of these investigations has just been issued, under the title of "Water Resources Paper No. 3." The results of the investigations are of great interest from engineering, industrial and economic standpoints.

The investigations show that it is possible to develop on the Winnipeg River, at 9 power sites, 420,000 con-

tinuous 24-hour horse-power. This is sufficient power to meet the ultimate requirements of the city of Winnipeg for many years to come.

The report on the Winnipeg River powers is unique in scope and arrangement. Every possible aspect of the power situation has been gone into carefully, and the results are tabulated in convenient form.

*Reference was made in *The Canadian Engineer*, issues of November 26th and December 3rd, 1914, to the investigations along the Bow River, which show conclusively that it is possible to develop at five sites on the Bow River, a total of 55,000 continuous 24-hour horse-power, and all within a very short distance (about sixty miles) of the city of Calgary.

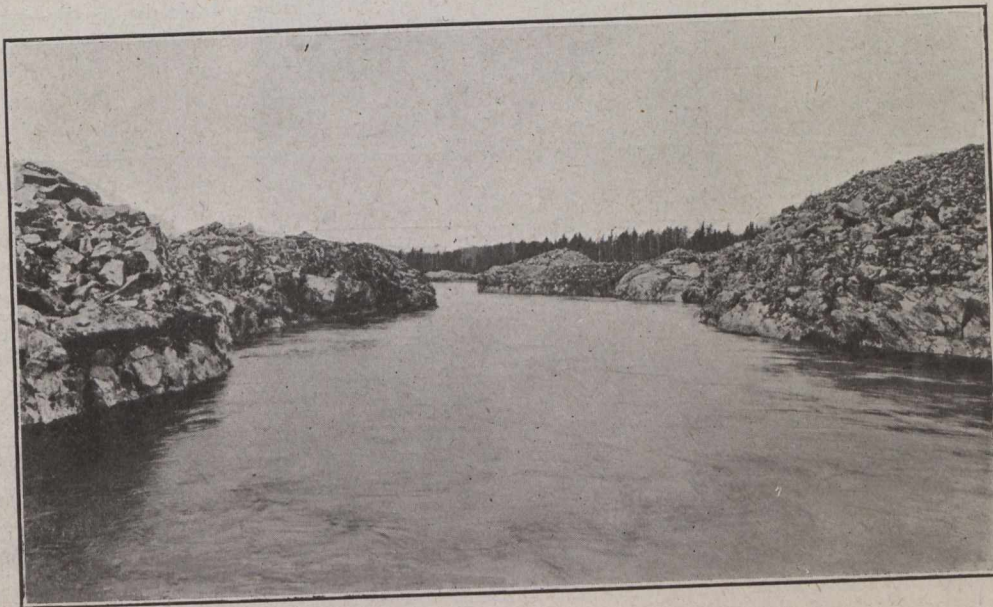


Fig. 1.—Pinawa Channel, Winnipeg River.

Sixteen miles below Slave Falls the river is broken into two channels. The main flow is through the Seven Sisters reach. The lesser flow is through the Pinawa Channel, operating the Winnipeg Electric Railway Company's plant. This was formerly a high water by-pass of the main river. The illustration shows some of the rock cutting that was necessary to straighten and deepen this channel.