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KANANASKIS FALLS HYDRO-ELECTRIC DEVELOPMENT

WATER POWER ON THE BOW RIVER—CALGARY POWER COMPANY'S NEW PLANT AND EXTENSIONS TO THE HORSESHOE FALLS DEVELOPMENT—STREAM FLUCTUATION AND STORAGE POSSIBILITIES.

THE Calgary Power Company Limited, of Montreal, has recently practically completed the construction of a new hydro-electric power plant at Kananaskis Falls, on the Bow River, in Alberta, about 50 miles west of Calgary. This plant adds materially to the power

ate vicinity of the development to be described. A flow as high as 45,000 cu. ft. per sec. has occurred at Horseshoe Falls, while a winter discharge of less than 500 cu. ft. per sec. has been recorded at the same place. The section of the river suitable for power development is

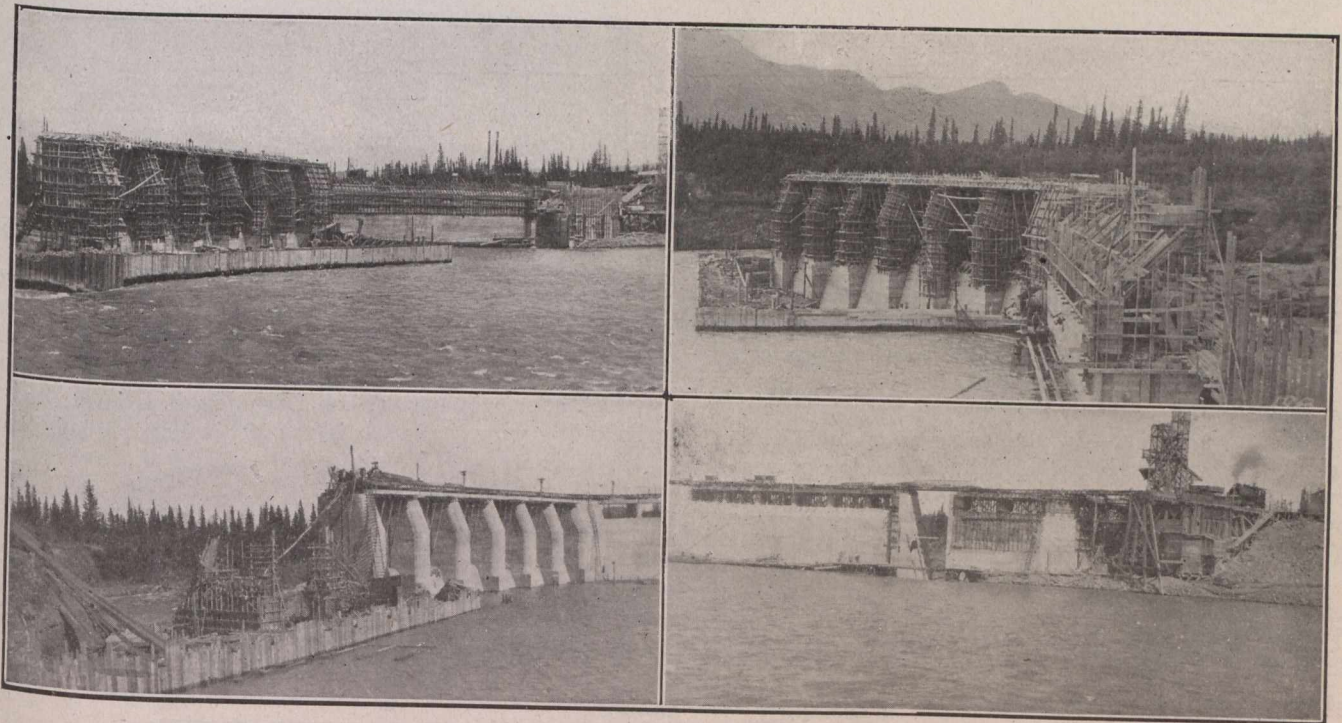


Fig. 1.—Kananaskis Dam, Showing Sluices and Spillway During Construction.

previously developed by the company at Horseshoe Falls, two miles distant, and built several years ago.

The Bow River.—The Bow River rises in the Rocky Mountains and drains an area of 3,138 square miles, 1,710 of which are above Kananaskis Falls and wholly in the mountain region. It is a typical mountain stream, rising at an altitude of some 6,500 ft. This slope is unusually steep and several falls occur. Its flow, like that of other mountain streams, is subject to sudden variations and is greatly affected by the temperature. During the hot summer months the melting of the snow in the mountains develops floods, while in the winter the cold reduces the flow to a very small proportion. There is, accordingly, a wide variation between high and low water, as evidenced by levels taken by the Canadian Pacific Railway at their bridges over Bow and Kananaskis Rivers, in the immedi-

some 30 miles in length and is well within economic transmission distance of Calgary. The river and the storage possibilities connected therewith, necessitated by the great fluctuation in the discharge, have occasioned very thorough investigation on the part of the water power branch of the Department of the Interior. A study of the power and storage possibilities of the river and its tributaries included the acquirement of copious information respecting run-off, rainfall and stream gauging. Mr. C. H. Mitchell, C.E., of Toronto, acted as consulting engineer to the government in connection with this work.

It should be stated that the direction of flow of the river is southeast from the mountains as far as the foot hills and thence east as far as Calgary. It then flows south and east to its confluence with the Belly River. Its many tributaries, most of them small, include the Kana-