FAGE SIX

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Stave Falls, B.C., the source of power for the Western Canada Power Company.

GREAT HYDRAULIC POWER DEVELOPMENTS HAVE BEEN GREATED IN GANADIAN WEST

Most Accessible Source of Power in Manitoba is Winnipeg River .-- Conditions in British Columbia Differ Considerably From Those in Other Parts of Canada --- North-West Provinces Making Good Progress.

(By H. G. Acres, B. Sc.)

In the 1910 report of the Conservation Commission the drainage basin of this river has an area of 57,000 on the "Water Powers of Canada," the following square miles, and the total drop in the river between is made with regard to the then available the interprovincial boundary and Lake Winnipeg is statement data relating to the hydraulic resources of Western about 271 feet. The controlling factors of drainage area and national head are further reinforced by Canada:-

"Owing to the paucity of information available, it the existance of an immense area of natural lake storthe more immediately accessible powers in Manitoba, equalled by few rivers on the continent.

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has not been possible to do more than refer briefly to age which imparts to the Winnipeg River, a regimen. Alberta, Saskatchewan. British Columbia. Northwest areas, Rainy Lake, Lake of the Woods and Lac Seul Territories and Yukon. Statements without any re- being the most important, are furthermore suscepliable basis have been made respecting the powers tible of a degree of artificial regulation which would in these provinces and territories, but, with few ex-increase by possibly 70 per cent. the present con-ceptions, they can only be characterized as guesses."

The City of Winnipeg has an ext*nsive municipal

development at Point du Bois on the Winnipeg River. where permanent works have been constructd for the ultimate installation of \$3,200 wheel horse power 25,000 h.p. being already installed.

The power is transmitted to Winnipeg and envirous over a 77 mile, 66.000 volt steel power transmission The municipal system now carries a load of about 17.600 h.p. of which 11.000 h.p. is used for domestic and commercial lighting purposes, and 6,600 h.p. for general industrial load.

It is evident from the above that the Province of Manitoba is endowed with magnificent hydraulic resources, and the economic importance of the Winnipeg River powers in particular can hardly be over-estimated. These great water powers, with their 400,000 h.p. of potential capacity, situated as they are at the western portal of the Empire's granary, within 80 miles of Winnipeg, and within feasible transmission distance of practically all the commercial centres of the province, will in the not distant future place Manitoba in a position to compete on even terms with any of the older provinces in the manufacturing field. Alberta, Saskatchewan and the Northwest Territories

Under this head is included the huge basin of the President, Western Canada Power Company, Ltd. Mackenzie and the basins of a number of other large

rivers draining the Arctic Slope. The Arctic Slope is Owing to the fact that the hydrology of the Nelson to all intents and purposes unknown at the present the larger rivers, notably the Fraser, would be most Owing to the fact that the nutrowy or the stand point of an internet and purposes unstroan at the present the stign rives, notand to many cases practically The Kamloops paint is in come of come the difficult and expensive, and in many cases practically the Barriere River, where a 200 foot head is being degards estimates of power capacity. It appears, how- undoubtedly an enormous aggregat- potentiality dor- impossible.

the shore is about 300 feet of natural sead cap-able of development and on this basis the most con-bevelopment and on this basis the most con-severing estimate of extreme minimum power capa-city is 2550 000 h.p. This latter the extent of the hydraulic resources of the Artice the extent of the hydraulic resources of the Artice the control of the preliminary installation is to be severing and on Yancover Island. This is due The extent of the hydraulic resources of the Artice the the inter-montane the basis the basis the most control of the preliminary installation is to be severing and on Yancover Island. This is due The extent of the hydraulic resources of the Artice ct is 250,000 h.p. Another estimate places the total minimum capacity at 5,00,000 h.p. This latter total minimum capacity at 5,00,000 h.p. This latter the extent of the hydraulic resources of the Artice the Extent of the British Columbia tives are generally of small size. The operating head is 70 feet, the Installed capacity 1,200 h.p. and the surplus capacity about 1,000 h.p. This is due there are another the Extent of the frame the operating head is 70 feet, the High heads uniformity obtainable, serves to make the area the avaluable for purposes of artificial store areas the large uphand lakes of Ontario and Quebec. The operating head is 70 feet, the Hadson Buy Rallway and the Port Nelson ter-

sation of the storage p Thich which has been carried out by the Water Power Stanch of the Department of the Interior, has demon-trated the possibility or materially increasing the strated the pos

toritinuous power expects. The rupidly growing demand for power in the Cal-gary district will no dount necessitate the develop-ment of this storage in the near future, either under sovermmental or private auspice. The only other important development in this ter tory is that at Cole Rapids on the North Saskatche wan, where a plant is being constructed by the town of Prince Albert. The plant is to operate under a head of 28 feet, and is, said to be designed for an ultimate

capacity of about 14,000 h.p. Various other smaller developments are also under consideration for the supply of power to the muni-cipalities of Red Deer, Battleford, Saskatoon and Ed-

monton. British Columbia Owing to the fact that the urban population of Bri

tish Columbia is almo st wholly confined within a strip about 200 miles wide parallel to the international boun dary, the interior and northern water powers have not yet come within the scope of commercial utiliza tion, and as a result a very large Dercentage of the

power sites physically capable of development are acres of lake storage and developes no less than 85,- that 100,000 h.p. of Commercial capacity may be ultipower sites physically capable of development are either entirely unknown or have not been intelligentity investigated. During the last four years, however, the Conservation Commission, assigned by the Prod water from 74 square miles of drainage area, and power, or half its total designed capacity on year of the prod water from 74 square miles of drainage area, and power, or half its total designed capacity on year to the company solution of the prod water from 74 square miles of drainage area, and power, or half its total designed capacity on year to the company of the prod water from 74 square miles of drainage area, and power, or half its total designed capacity. Power to the product of transmission at 13000 area to 0 and the set the sub physically capacity of the prod total designed capacity. Power

MR. A. M. NANTON.

Director Winnipeg Electric Railway.

The West Kootenay system as it now exists is a monument to the commercial vision of its promoters, as natural wealth.

In the interior district are also located the municipal plants of Nelson, Kamloops and Revelstoke The Nelson plant is located at Bonnington Falls on the Kootenay River. There is now 2,500 h.p. installed and 3.000 h.p. of available capacity undeveloped. The transmission is 10 miles at 12,000 volts.

The Kamloops plant is in course of construction on

the of development and on this basis the most con- limmigration has not set northward strengly emerged. Strengly emerged to the main channels of the preliminary installation is to be 2,000 h.p. and the city

MR. E. R. WOOD. Director Calgary Power Co., Limited.

age load of 25,000 h.p. is carried by the present installation

The Campbell River Power Company has an m portant project under consideration on Vancouver Island, where it is proposed to develope a site mar Elk Falls under a head of 250 feet. The ultimate stimated capacity is 68.000 h.p. While it is evident that

the Hudson Bay Rallway and the Port Nelson ter-minals will place the great power resources of this river well within the zone of commercial exploita-tion. This may uldmaiely apply in an increase to the water power on the lower Churchill River, con-cerning which practically nothing is now known, be-site water. The available water power on the Saskatchewan in Manitoba is humied to a short section of river be-conditions oftain, and the main branches of the Saska-ter leaving the foot-hills indically different flow conditions ontain, and the main branches of the Saska-ter leaving the foot-hills indically different flow conditions ontain, and the main branches of the Saska-ter leaving the foot-hills indically different flow conditions ontain, and the main branches of the Saska-ter leaving the foot-hills indically different flow conditions ontain, and the main branches of the Saska-ter leaving the foot-hills ndically different flow conditions ontain, and the main branches of the Saska-ter leaving the foot-hills ndically different flow conditions ontain, and the main branches of the Saska-ter leaving the foot-hills ndically different flow conditions ontain, and the main branches of the Saska-ter leaving the foot-hills ndically different flow conditions ontain, and the main branches of the Saska-ter leaving the foot-hills ndically different flow conditions ontain, and the main branches of the Saska-ter leaving the foot-hills ndically different flow conditions ontain, and the main branches of the Saska-

Never in History of Trade tuations Been so Since Outbreak of HEAVY MARGIN

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s How About 37,000,000 B Possibly 100,000,000 Bushels for Shipment.

stusive Leased Wire to Journal Chicago, March 18 .- The grain mar ntic. Never in the history of the nectuation in cereal prices been a sings as since the outbreak of the fo 1% cents a bushel on July 14th; M in price to \$1.67 in a perio ropped 31 %c a bushel to \$1.35%; re decline in the next three days' and again broke over five cents a bu tew days to under \$1.50 a bushel. The reasons for the present weakne he demand of grain houses for a 50c transactions, prospects of the la inter wheat crop ever harvested with prease in acreage and the steady inc purchasers from the American mar port movement from Argentine, whi eported that the Italian government its purchases of American wheat wh erially reduces the export demand f

It is generally figured that there \$7.000.000 bushels of American whea available for export before the next or market next July but in the meantim supply about 100,000,000 bushels, while fer about 75.000.000 bushels in May ere would seem to be no possibi shortage in the next three months. of wheat supply is Russia where pos shels may be available but the tim s very uncertain depending entirely fall of the Dardanelles.

LEATHER BUSINESS SL

Boston, Mass., March 13 .- There i ng in the leather market. Trading it was two weeks ago. Domeste or large nor numerous, and very little f is being booked at present, although cently been more inquiries from abi perhaps, that there will be a broader ther for army shoes and other acc near future

The hide markets are dull, with for lower prices. The pelts now com ket are of pool quality, as is natural and taking this into consideration,] fully two cents a pound higher than fall, whereas on a quality basis they c ing 11/2 cents lower. The packers, light stocks and show no particula make lower prices unless they have move their poor quality hides in large at present. Prices are therefore larg Conditions in the country hide me the same. There are no large accumu r, but holders are rather anxious It is believed some concessions may be stocks a little more freely. With hide advanced prices so firmly, however, ta

they are justified in getting all they The gradual improvement in many

ness is giving encouragement to she ers and tanners alike, but the shoe has not shown any great increase, and not come in in large quantity.

FAIR WOOL MARKET

Boston, Mass., March 13 .- A moderat tivity pervades the wool market, but feature to the trading. The usual w of late is between 3,000,000 and 4,0 Values are all working higher becaus so great, and supplies so small. Price

tually top. Very little buying has yet taken pla for growers are looking for fabulous to 30 cents, or nearly twice as much as spite the increased clip. There has buying in Utah and Arizona.

Abroad prices are buoyant, and at t London auctions, Americans were of for fine wools. A new series will be and continue to March 31st. Stocks 000 bales of merinos, and 41,000 bales

Merinos are up from 4 to 8 cents a po uary already, and crossbreds have rise

The trade is much relieved over the arrangements with the Textile Alliance

to be able soon to expedite shipments.



MR. C. H. CAHAN, K.C.

As previously mentioned the most accessible source of bydraulic power for the Province of Manitoba is the Munipeg River, one of the two main tributaries of the Nelson. Above the Ontario-Manitoba boundary

Important undeveloped possibilities also exist on the rapid run-off of precipitation. These conditions, bad centration, but sufficient, nevertheless, to insure a Waterhen, Fairford and Dauphin. Rivers where there are five possible sites having an estimated aggregate of lake storage and the existance of shifting river botcapacity of 33,000 h.p. These figures, and those re- toms of sand and silt, so that from every point of view capacity of 35,000 n.p. These result of pre-hating to the Sankatchewan, are the result of pre-the controlling conditions are inimical to the interests of hydraulic development. The hydraulic resources liminary investigations carried out by the water Power Branch of the Department of the Interior and represent available capacity under conditions of mini-num flow. With the natural storage facilities avail-able, it would be physically possible to at least double, the continuum and only a total lack of compensating condiand in some cases to quadruple, the continuous capa- tions would justify the abnormal espenditure neces As previously mentioned the most accessible source power on an adequate scale. It so happens that comsary in connection with the development of hydraulic

> should always be exhaustively considered as bearing on the ultimate economy of hydraulic development in the prairie district.

The most important existing developments in the Saskatchewan basin are those of the Calgary Power Co. long the Bow River, about 55 miles west of Cal-Sury. This company has two by dro-electric plants one at the Horseshoe Falls, and one recently com-pleted at Kananaskis Falls. Both plants operate under a 70-foot head, and have a combined installed capacity of 31,100 h.p., about 12,000 h.p. of availabl capacity being yet undeveloped. The output of thes two plants is disposed of mainly in bulk to the City of Calgary and the Canada Cement Co., power bein: supplied over two 55,000 volt lines to Calgary and one 12,000 volt line to the Exshaw plant of the Canada Cement Company. The Calgara Power Company vistern Canada Power Plant at has suffered considerably from the extremely variable

Stave Falls, B.C.

flow characteristics of the river, but a careful inv

Stoney Falls, Alberta.

The available water power on the Saskatchewan in Manifolda is himited to a short section of river be-settimated that 50,000 hop is capable of development. None of this power is at present utilized. with 25,000 h.p. at present installed. It is planned to increase the capacity of the Jordan River plant to 36,000 h.p. when necessary by the construction of five storage dams, and plans are also under consideration or the development of power on the Lillooe River. The consummation of these plans will make in all about 200,000 h.p. of hydraulic capacity available. The pre-sent installed capacity of 110,000 h.p. is used, through the medium of about 190 miles of high tension trans mission line, to carry the lighting, railway and in-dustrial load of Vancouver, New Westminster, Victoria, Esquimalt, Chilliwack and numerous suburbs and outlying municipalities. Having been in existance for about the same length of time, the British- Columbia Electric Railway Co.

has performed the same service for the coast cities s regards the development of transportation and manufacturing industry as the West Kootenay Power & Light Company has performed for the mining industry in the interior, and the progress of develo ent has in both cases been marked by the efficient execution of a courageous and far-sighted busine policy.

The most important development scheme recently indertaken in British Columbia is that of the Western Canada Power Company at Stave Lake. The hydraulic plant is located on the Stave River about niles from the town of Ruskin and about 35 mile The main feature of the develop from Vancouver. ment is the large volume of storage, 14 billion cubi feet, which is to be held in Stave Lake. The complete scheme involves the construction of two plants upper one operating under a head of 110 feet and the lower under a head of about 145 feet. As a result of the complete control of run-off which will be possible with the Stave Lake storage, it is estimated



Sydney, C.B., March 13.-Ordershave been received o date for 100,000 shells. Winter shipments of con by the Dominion Coal Co. to St. John, Bost on and Everett, have continued steadily to date this season The corrected output from the collicities for the month of February, was 282, 373 tons.

Dominion	No. 1	
	No. 2	
	No. 3	3.205
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Total



Bow River, Calgary (Horseshoe Falls Plant).



