

# NORTHERN CANADA POWER COMPANY, LIMITED

## Electrical Energy Supplied Over Porcupine District

Modern Hydro-Electric Generating Stations on Mattagami River Supply Power and Light to Mines and Towns, Using Thirty-five Miles of Main and Branch Transmission Lines.

Northern Canada Power Company, Limited, supplies electrical power to all the mines in the Porcupine district.

They have two developments on the Mattagami River, namely, Wawaiten Falls, 12 miles southwest, and Sandy Falls, 6 miles northwest from the Town of Timmins, Ont.

Wawaiten Falls plant is located in the Township of Thornloe at the foot of Lake Kenogamisse. A concrete dam 1,000 feet long at this point, diverts the water into a 1,200 foot canal. From intake at foot of canal, water is carried by two 9-foot wooden stave pipes, each 1,500 feet long, to a 40-foot diameter surge tank on top of the hill overlooking the power house. Two 8-foot iron pipes 1,300 feet long, lead from this surge tank down the side of the hill direct to the wheels in the power house. The power house is of reinforced concrete and contains two 3,300 h.p. Morgan Smith water wheels under head of 125 feet, direct connected to two 2,500 k.v.a., 3 phase, 12,000 volt Canadian Westinghouse alternators; two 70 k.w. exciter sets driven by independent water wheels and Westinghouse switching and switchboard apparatus. The original construction had one 12-foot iron pipe 1,500 feet long, from intake at foot of canal to the surge tank, but this was replaced during the season of 1913-14 by two 9-foot wooden stave pipes of 3-inch Oregon fir, erected by the Pacific Coast Pipe Company of Seattle, Wash., under the personal supervision of their engineers. By replacing the iron pipe by two wooden stave pipes, the company can almost double the present installation at this point for a very reasonable sum of money, and are making exhaustive examination of storage conditions to be ready for the increased development of the Porcupine Camp.

Sandy Falls plant is located in the Township of Mountjoy. A solid concrete dam and intake, approximately 1,500 feet long, diverts the water into one 8-foot steel pipe, direct connected to water wheel with surge tank to protect; and one 8-foot wooden stave pipe, direct connected to water wheel with surge tank also to protect. The power house is of wood covered on outside and roof with corrugated iron, and on inside completely sheeted with asbestos board and contains two 1,200 h.p. organ Smith wheels under a head of 33-feet direct connected to two 950 k.v.a., three phase, 12,000 volt, Canadian Westinghouse alternators with exciters on the same shaft. Switching and switchboard apparatus is of Canadian Westinghouse manufacture.

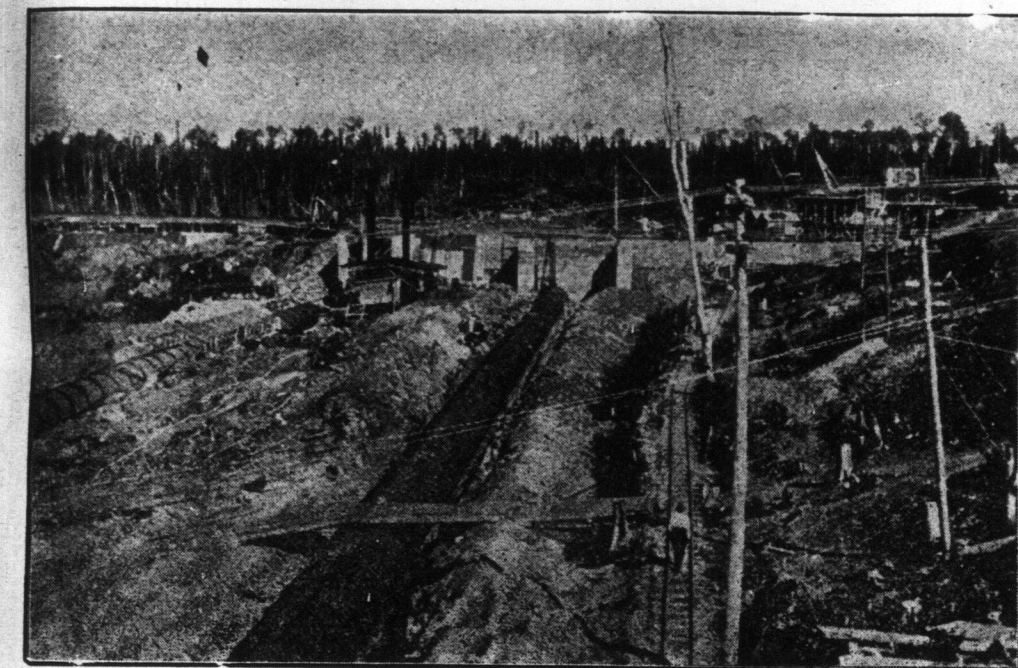
The power company has 35 miles of main and branch transmission lines now operating in the district. There are two separate transmission lines from Wawaiten Falls to the Hollinger and Dome, and one transmission line with two circuits from Sandy Falls to the Dome via the Hollinger, complete with switching towers so that the two plants work continually in parallel.

Since the present company took over what was considered two finished plants, they have spent over \$600,000.00 in new construction, replacements and betterments, so as to guarantee to their customers continuous and satisfactory service, and are preparing to take care of any increase in demand in the camp.

Mr. David Fasken, K.C., Toronto, Ontario, is president and Mr. J. H. Black, Cobalt and Timmins, Ont., is general manager.



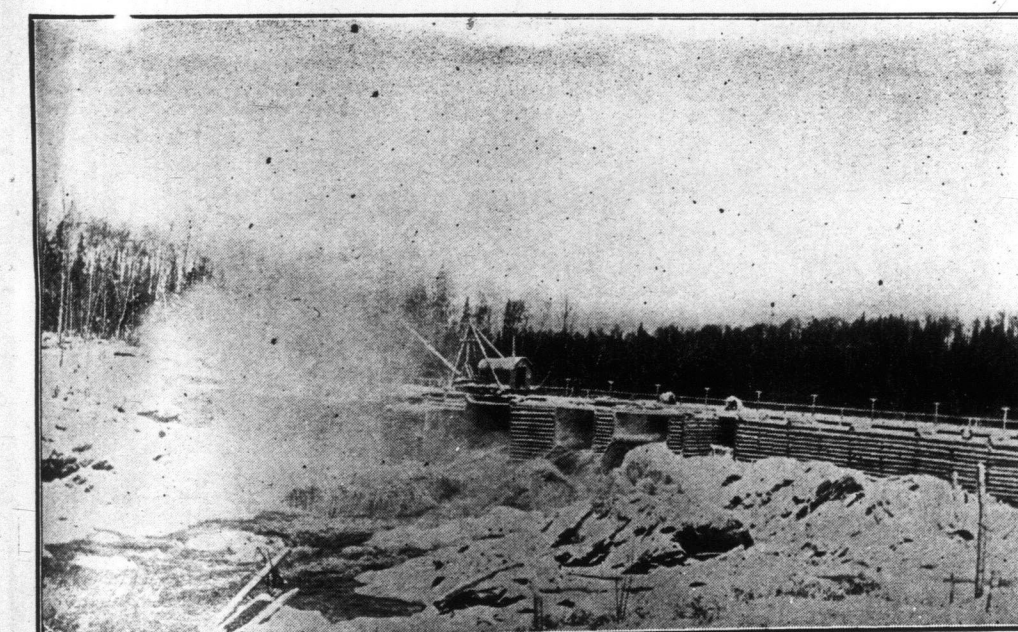
Completed Surge Tanks on Penstocks, During Construction at Sandy Falls.



Installing Nine-Foot Stave Pipe and Eight-Foot Steel Pipe Penstocks at Sandy Falls, Intake and Dam in Distance.



Installation of Nine-Foot Wooden Stave Pipe at Sandy Falls.



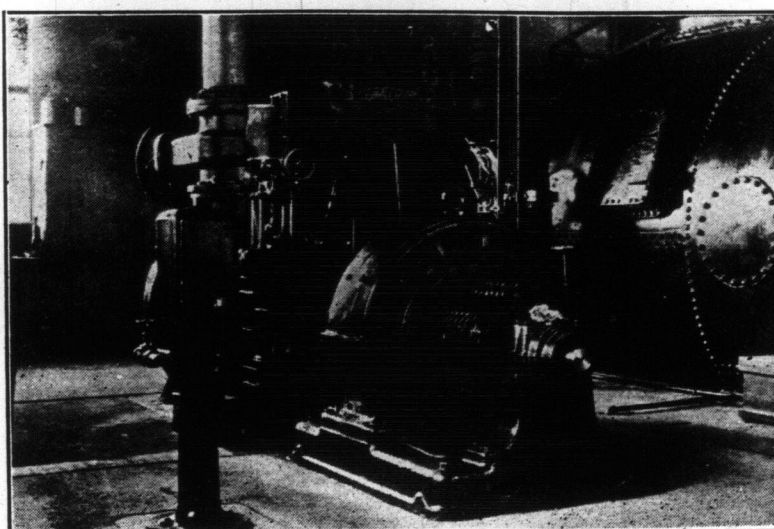
Wooden Dam at Sandy Falls, Replaced by Concrete.



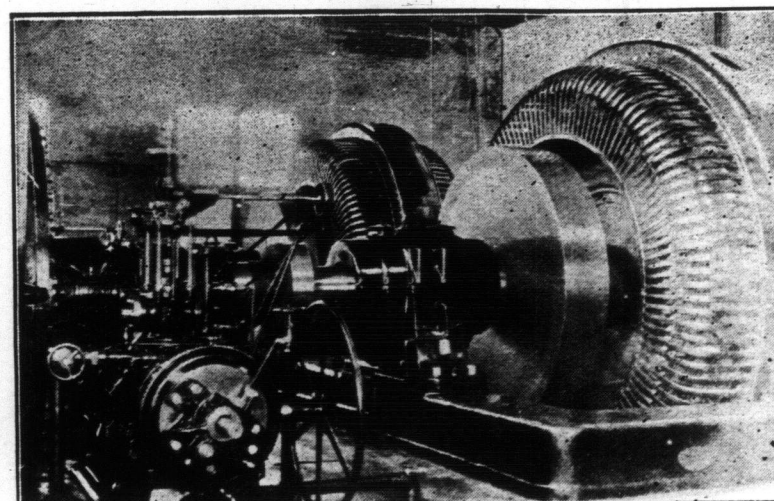
Large Tank and Switching Tower, Sandy Falls.



Direct Connected Exciters, Sandy Falls.



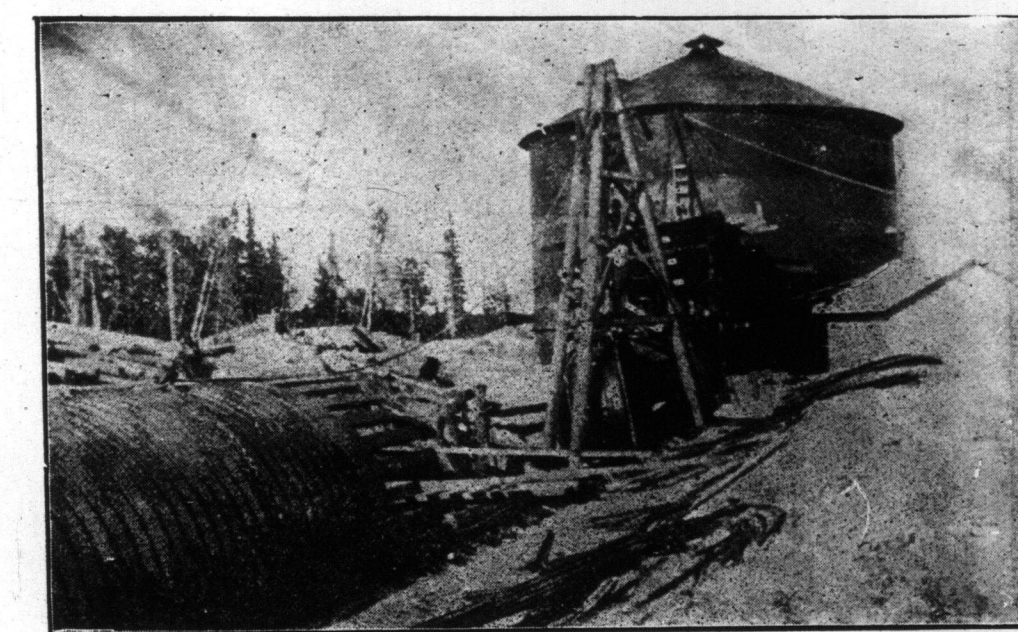
Water-Wheel and Exciter at Wawaiten.



Interior of Power House, Showing Generators and Governors, Wawaiten Falls.



Wawaiten Canal.



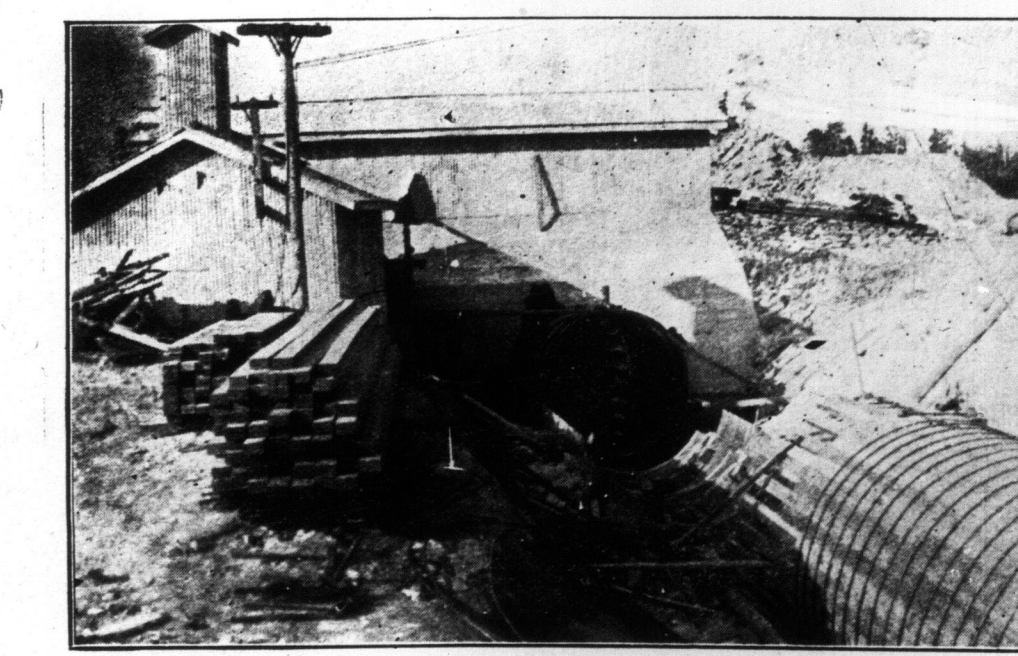
Installing Ten-Ton Controlling Valve on Nine-Foot Pipe at Wawaiten.



Portion of Wooden Stave Pipe at Wawaiten Before Back Filling With Sand and Clay.



Housing Over Valve on Wooden Stave Pipe, and Over Intake at Canal Entrance, Wawaiten.



Installation of Ten-Ton Controlling Valve, Nine-foot Pipe and Intake at Canal Entrance, Wawaiten.