

## Pinawa Generating Station — a bold move into uncharted waters

The construction of Pinawa Generating Station on the Winnipeg River between 1902 and 1906 was a bold move, requiring both imagination and courage on the part of the Winnipeg Electric Railway Company (WERCo.). Pinawa was built at a time when nobody knew whether or not the Winnipeg River was suitable for hydroelectric development. The Dominion Water Board, which was responsible for the administration of water power resources in Manitoba, did not begin its investigation into the potential power capacity of the Winnipeg River until July 1911.



*Pinawa Generating Station was located close to the Pinawa townsite, seen at upper right.*

In addition to not really knowing the hydroelectric potential of the Winnipeg River, building Pinawa was an engineering challenge in 1902 — at least equivalent to the challenge of building generating stations on the Nelson River in the 1970s. The area where Pinawa was built was rough and unsettled, with no roads and no rail lines into the site.

The modern methods and the machinery available to engineers today did not exist, making the undertaking very laborious. To quote the account of a Mr. W.H. LeRoy, who worked as a rigger during the construction of Pinawa, "Rock drilling was done by tripod steam drills. Steam was supplied

by boilers set on skids, and these were moved from one location to another by the riggers. Hoist and cableway engineers were trained as required. When derricks or heavy equipment had to be moved some distance, they were set on skids and pulled by teams assisted by block and tackle or by using the steam hoist when possible."

Transportation of materials was one of the chief problems. During the winter, heavy equipment had to be carried over the river ice, and in summer a scow ferried material from Lac du Bonnet. The roads were mostly lumberjack trails. When these became impassable, detours or corduroy roads, had to be built. In all, from 50 to 75 teams of horses were kept in constant use.

LeRoy reported, "Moving heavy loads such as transformers, generators, and turbine parts was slow and costly. It was customary to build a rail line from the storage shed to the powerhouse. The piece to be moved was jacked up, rails slipped underneath, and the load hauled into place by block and tackle and horses."

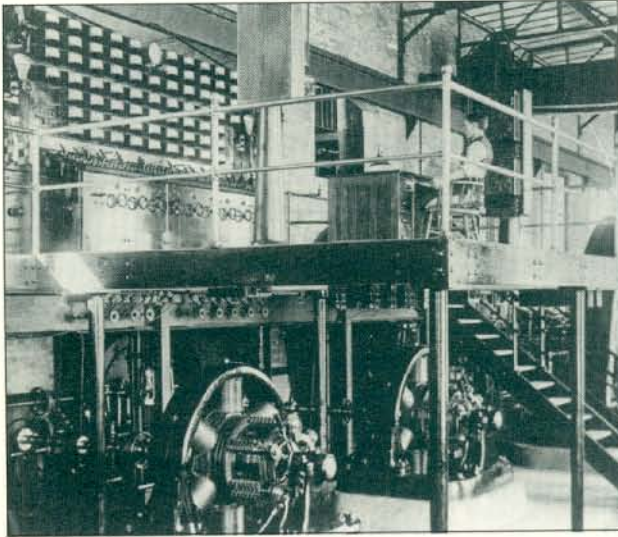
The construction of Pinawa required a total investment of over \$3,000,000, one third of which was allotted for concrete dams alone. Many people had claimed that a plant production of 18,643 kW was far too large for the potential consumer demand in Winnipeg and that the cost was unwarranted. But Winnipeg's population quadrupled over the 10 years after the generating station officially opened in 1906. It was the greatest period of expansion in the City's history.

In fact, during the ensuing years, the capacity of the plant was developed and increased to a standard of 22,371 kW. Occasionally, peaks of 27,964 kW were reached.

Another important fact about Pinawa was that halfway through its construction, the City of Winnipeg realized the plant would provide the privately owned WERCo. with a virtual stranglehold on this valuable energy source. Consumers at the time paid 20 cents per kilowatt-hour (kW·h) for electricity. However, the city charter did not allow the City to generate power itself. Alderman John Wesley Cockburn took matters into his own hands in the belief the city charter could be changed, and secured the development rights to Pointe du Bois Falls in his own name. He transferred the rights to Winnipeg when the city charter was amended in 1906, at the time the City of Winnipeg Hydro Electric System (City Hydro) was born.

WERCo. reduced electricity rates from 20 cents to 10 cents per kilowatt-hour when Pinawa came on line. This made its service more attractive to customers and challenged the City owned utility. However, Cockburn then promised that Pointe du Bois would supply the citizens of Winnipeg with electricity at the rate of three cents per kilowatt-hour. But the rate turned out to be 7.5 cents per kilowatt-hour, and the citizens rose up against their own utility, demanding the three cents per kilowatt-hour rate they were promised. Finally, the rate was reduced to 3.3 cents per kilowatt-hour. Low electricity rates had come to Manitoba — and today they remain among the lowest in North America.

Pinawa was retired from service on October 25, 1951, after 45 years, four months, and 27 days of faithful service. By that time it was inefficient — and small compared to the new generating stations. In fact, one turbine generator's output of electricity at Seven Sisters Generating Station was equal to Pinawa's total output. With the construction of Seven Sisters, the fate of Pinawa was sealed. The design of Seven Sisters called for the full flow of the Winnipeg River, which meant the Pinawa Channel on which the older plant was located had to be dammed up.



*Inside Pinawa Generating Station, on the mezzanine floor, are the plant's controls and one of the operators (seated at the desk). The photo was taken about 1910.*

Some of the workers and their families who had made their homes at Pinawa were transferred to other generating stations, while some of the veterans who had spent a lifetime with WERCo. retired from service.

The closing of Pinawa truly marked the end of the pioneer era for Manitoba. Today, the site of Pinawa Generating Station is a Provincial Heritage Park.

*This float illustrating the transmission of electricity from the generating station to the substation, and from there to homes and businesses, celebrated the first delivery of power from Pinawa in 1906.*

