

EDMONTON, Alberta.  
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Power Survey of Fort Vermillion, Alberta.

The Hamlet of Ft. Vermillion lies on the south bank of the Peace River and has been a trading post for fur trappers for a long time. Recently, with the advent of the McKenzie Highway this place has become an out-of-the-way point and much business is done direct with Peace River Town.

The highway has introduced farming to the district and that industry is very promising but again the best land is across the river from the hamlet and a great deal of the business is done direct with Peace River.

However there are several establishments already located at the site which will stay and develop in the future. The Dominion Experimental Farm has three residences and an office, four barns and several storage buildings besides a pump house and Garage and work shop. The farm is growing and adds a residence about every two years. They require power for many small jobs such as grain cleaning and plot threshing.

The Mission is a large establishment with a new 17 bed hospital which is very modern in all respects. The Dept. of Indian Affairs sends the Indian children to boarding school at the Mission and they are housed in two big dormitories. One building is three story. The separate school for town children is located there also. Other buildings are the Church and the Father's house. The Mission runs an adjoining farm and it has barns and shops and storage sheds.

The Dept. of Indian Affairs is provided mostly at the Mission but the Indian Agent has a house, office, garage and warehouse in a separate location from the Mission.

R.C.M.P. is established in a rented house and they do not expect to increase their requirements at that point.

Dominion Government Telegraphs have a small establishment and do not require more power than for an ordinary residence.

Post Office serves a district of 3,000 people. The local population is approximately 500. The population of the Mission is 185.

There are three stores and two small hotels, also two garages, one of which is not operating.

There are eighteen residences which are not included in the above.

C.P.A. Airport is located two miles from the hamlet and have their own power units and are satisfied with their present arrangements.

There are about eleven individual plants operating at present supplying about 41 kilowatts of power. Many of these plants are not very reliable as they have been in operation a long time. Two more plants are not operating this winter because of need of repairs. Three white families have no wiring or arrangements for power in their houses. The Mission has just installed a new 15 K.W. plant but this is not adequate to meet their total requirements. They operate twelve horse power in motors alone. They have to take turns in operating machinery so as not to be all on at the same time.

A list of establishments has been made with present facilities and requirements of each. The list includes future requirements and farm steads that are within  $\frac{1}{2}$  mile radius of the hamlet. Including everything, that is, present and future, the requirements at possible peak load would be 226 K.W. The present peak load would be about 145 K.W. It must be realized with the advent of power present services would be greatly increased and many appliances would be introduced that cannot be used at present. This 145 K.W. would be the load if everything were turned on at once but this is never likely and actual peak load would be less than this.

In arriving at a solution to power supply to the various government agencies there are two answers. First, three or four small plants could be supplied, one to each group of buildings. Indian Agent and Government Telegraphs need a 1,500 watt plant each. The Experimental Farm requires two 5 K.W. plants and as the load increases a 10 K.W. plant could be added later and the two 5 K.W. plants could be used for peak periods and for standby purposes. The Mission has a newly installed 15 K.W. generator on a 40 H.P. motor and this motor can handle another generator of almost the same size.

The other alternative is to install a large plant to supply the hamlet. This would require high voltage and a power line with transformers. There is a much higher cost of installation and maintenance, also a cost of billing and collecting for power.

All of the houses supplied would have to be rewired as present wiring is poor except in houses at the Experimental Farm. This it is realized is an individual responsibility but it is a point to consider in getting customers on the line.

The present cost of diesel fuel at Fort Vermillion is 29.5¢ per gallon.

The accompanying sketch map shows the length of lines required and distances between buildings so that location of transformers could be decided upon.

CAW/HK

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