

# Power firm erects building to meet new Island demands

Tremendous increases in the demand for electric power in Canadian provinces have taken place during the past years and Prince Edward Island is no exception.

The island is surging ahead with an increase of about 12 per cent in required power output by the Maritime Electric Company Limited each year.

Around this time last year the total miles of distribution line on the island numbered 1,000. In just 10 years this has increased to close to 2,000 miles of company and P.E.I. government lines. The lines served more than 5,000 rural families 10 years ago and this figure has increased to an almost unbelievable 12,000 families.

### HOUSES GENERATOR

The structural steel frame building now houses the 20,000 kilowatt turbogenerator, built and tested by the Associated Electrical Industries Ltd. of Manchester, England. The generator has increased output by 60 per cent.

An oil-burning boiler, required by the new turbogenerator, was installed in the building. This was purchased from Babcock-Wilcox and Goldie-McCallloch Ltd., Galt, Ontario.

Montreal Engineering Co. Ltd. was the consulting firm for the building and for the installation of the new equipment, which also included an extension to the existing pump house.

This additional generating equipment requires 20,000 gallons of water per minute, and to accommodate this need an extra pump was installed in the pump house extension.

### DOUBLE AS LARGE

The new turbogenerator operates at twice the steam pressure of the former units in the Charlottetown plant: 850 pounds per square inch, at a temperature of 900 degrees, and a marked increase in efficiency resulted from this advance in pressure and temperature.

This new 110-watt unit is twice as large as any that were in use before, and increased the plant's output by over 60 per cent, a total of 22,500 kilowatts.

The percentage of island farms now using electric power under the P.E.I. government's rural electrification program is well over 80 per cent, a ratio not even equaled in Great Britain.

In addition to the growth in the number of rural domestic customers, those who have had electric service for the past 10 years or so now use twice as much power as they did when the lines were first put in.

From the time of the first built about 1886, a steady increase in power output has been necessary. Through the years additional equipment and space has been added to the plant to keep abreast of the rising electrical needs of the population.

### INCREASE FORECAST

After studying the forecast of expected increases in the use of electric power on P.E.I. Maritime Electric Company Limited decided they would require additional capacity by the fall of 1963 to maintain an adequate reserve to meet the peak load.

In 1961 a study was made of the feasibility of a submarine cable connecting the Maritime Electric system with the Maritime grid near Shediac. An examination of costs showed that it would be just as economical to increase the Charlottetown plant.

It has always been the company's policy to provide power as economically as possible for its customers, and while a submarine cable might offer some appreciable savings in the future it might not be the most economical for all customers in the long run.

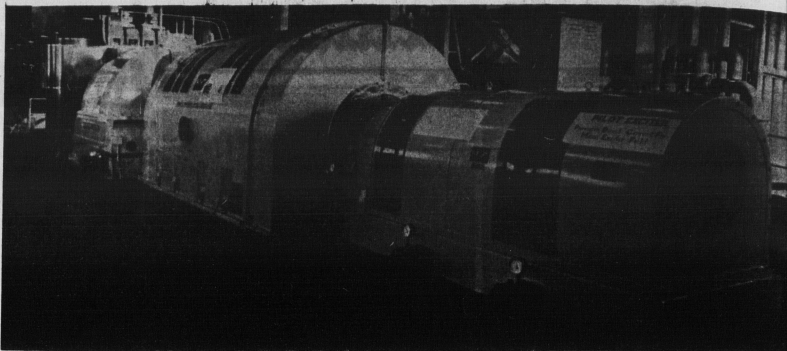
In the summer of 1961 the order was placed with the Associated Electrical Industries Ltd. for the new unit of 20,000 kilowatts capacity. This unit has proven to be more economical to operate than earlier ones and now the majority of the company's load is supplied by this one machine. The company recently made application to the Public Utilities Commission of Prince Edward Island for a rate reduction which passes the total of this estimated saving to all its domestic customers.

### PUMPING CAPACITY

These units were installed and since that time have been operating continuously on a 24-hour basis.

In order to provide sufficient cooling water for the latest unit, it was also necessary to increase the pumping capacity at the river pump-house by an additional 15,000 gallons per minute, bringing the total pumping capacity from the Charlottetown harbour to 45,000 gallons per minute. This water is screened and treated with chlorine to keep the system clean.

This station now produces nearly 10,000 kilowatt hours of electrical energy per month using approximately 35,000 gallons of cooling water per minute and consuming approximately 200,000 gallons of bunker fuel oil per week.



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