

"HYDRO" ACQUIRES ONTARIO POWER CO.

Sir Adam Beck announced last week that the Hydro-Electric Power Commission of Ontario had acquired the assets and rights of the Ontario Power Co. The commission pays eight million dollars in its own debentures for the ten million dollars outstanding stock of the company, and assumes the company's bond liability of \$14,669,000. The company is to receive the current assets and assume the current liabilities.

The deal involves no cash outlay by the province. The company's book valuation is \$26,900,694, and the total revenue for 1916 from the sale of power was \$2,396,277. The net income for the year was \$1,501,353. The bond interest was \$767,118, so that the net earnings of the company were \$734,235. F. A. Gaby, chief engineer of the commission, estimates an annual surplus of \$201,009 after paying the interest on the Hydro bonds, but without allowing for depreciation.

A portion or all of the water now used by the Ontario Power Co. will probably be diverted through Chippewa Creek and used in connection with the Queenston Heights development of the Hydro Commission. The Hydro's new plant will be capable of developing 27 electrical h.p. per second foot, whereas only 16 h.p. is developed by the Ontario Power Co. at the present time, and from 12 to 13 h.p. by the Canadian, Niagara and Electric Development companies. The Hydro Commission will have a 315 ft. gross head and a net head of 303 ft., and Hydro officials state that their calculations are conservatively estimated on a basis of 84 per cent. turbine efficiency and 93 per cent. generator efficiency.

The ultimate capacity of the Queenston plant is expected to be about one million horse-power, and to develop this Sir Adam Beck will have to buy out the two remaining Canadian power companies, so as to get the whole of the Canadian allotment of 36,000 cubic ft. per second, or else the Canadian government will have to induce the United States to make an agreement whereby Canada will be allowed to divert more water from the falls. There has been considerable agitation in the United States for a further diversion on that side of the boundary, and it is probable that within the next four or five years a new treaty will be entered into, permitting greater diversion both in the United States and Canada.

The Hydro Commission is spending fifteen million dollars on the Chippewa scheme, which will no doubt absorb the Ontario Power Co.'s system in the course of time. It is figured that the Ontario Power Co.'s plant will pay for itself in fifteen years by the "scrapping" process; that is, by applying to surplus the revenue ordinarily apportioned to depreciation.

Sir Adam Beck considers the Ontario Power Co. the most efficient power concern on the Canadian side of the Niagara River, as this plant is said to suffer less interruption from ice troubles than the other plants. Moreover, it has a franchise capacity of 180,000 h.p., and by means of an additional conduit (and enlargement of the franchise) its capacity can be increased to 240,000 h.p. The Electrical Development Co.'s plant has a capacity of 125,000 h.p., and that of the Canadian Niagara Co. has 100,000 h.p. capacity.

Of the 36,000 second feet permissible diversion from the falls, the Ontario Power Co. is entitled to 11,180, the Canadian Niagara Co. to 8,820, and the Electrical Development Co. to 9,390, leaving a surplus of 6,610 which will be used for the Chippewa scheme. By using the Ontario Power Co.'s water, the Chippewa scheme will now have a supply of 17,790 second feet, by means of which it is expected to develop at least 480,000 h.p.

In connection with the transfer of the property, Sir Adam Beck succeeded in modifying the company's contract with the Niagara, Lockwood and Ontario Co., by means of which the Ontario Power Co. was bound to deliver about 60,000 h.p. until the year 2010. An arrangement has been made to terminate this contract in 1950, so that 60,000 h.p. additional will be available for Canadian use sixty years sooner than would have otherwise been the case, assuming that the export of power would not have been prohibited anyway by the Dominion Government before that time.

Construction work on the Chippewa Creek scheme is going ahead as fast as the equipment is arriving on the ground. One steam shovel and a gang of one hundred men are now at work under Superintendent Angel.

The Hydro Commission is now selling about 146,000 h.p. in the Niagara District alone, of which 100,000 h.p., is being secured from the Ontario Power Co., and 46,000 h.p. from the Canadian Niagara Co. It is expected that by November 1st,

1917, the requirements of the Niagara district will have reached 190,000 h.p. This is exclusive of the 60,000 h.p. now being sold to Canadian customers by the Ontario Power Company. Immediately upon taking over the latter concern, the Hydro's Niagara load really became 206,000 h.p.

These figures are exclusive of the requirements in the territory covered by the Hydro's other districts, viz., Severn, Wasdell's, St. Lawrence, Eugenia, Ottawa, Port Arthur, Muskoka, Central, and Northern.

Twenty cities, thirty-four towns, one hundred and twenty villages and seven townships of Ontario are embraced in the Hydro-Electric System. The System represents a public expenditure of \$69,350,000, not including the \$15,000,000 for the Chippewa scheme, and not including the Ontario Power deal.

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Under ordinary conditions, and with the figures now before us, we would have no hesitation in recommending the adoption of Scheme 2, with provision for boulevards, as its cost of operation per h.p. per year is the lowest. But under the circumstances which have allowed of the contractor being able to proffer a claim of \$1,469,338.17 on a contract of \$3,012,562, on which work to the amount of \$1,148,731.38 had been completed at the end of 1916, the question is different. We must also take into account the fact that the contractor has to be reckoned with for any changes or additions to the present plan. We would, therefore, recommend:—

1st. That the south wall of the aqueduct be at once extended to the rock section and that the west earth section be completed with paving where needed, as this should be done for all schemes.

2nd. That no work be done on the rock section nor on the east earth section until the final scheme is decided upon. This also applies to the tailrace.

3rd. That you immediately ask the several companies furnishing electric power in the city for firm bids of power. Carefully worked out specifications should be furnished to the power companies setting forth the exact conditions of the service required.

Prices should be, at the same time, obtained from the contractor for all changes, and additions to the present contract.

As soon as this is done (and it could be done in a couple of weeks) you shall be able to come to a decision with full knowledge of the costs of operation of all schemes.

As all our figures will be in the hands of your chief engineer, he will be able to place before you the exact cost of each scheme.

In the meantime, studies should be started and designs made for the proposed electric motor-driven pumping station. This station should be designed to pump the output of the proposed new filter plant, which is to be 100,000,000 Imperial gallons per day. Provision should also be made for future extensions. The equipment of this station will be the same whether you generate your own electric power, or buy it. The plans for the steam standby station should also be put in hand. We have suggested that the new pumping plant be located on the south side of the aqueduct near the filters. This should provide a most convenient location for all piping connections. It also facilitates the connection of the steam standby to the heating system that is proposed for the filters.

No addition or alterations to the present steam pumping plant should be made.

The plans for the hydro-electric station may be delayed until you have to come to a decision regarding the source of power.

We would also recommend:—

4th. That the lands required be secured at once, so as to prevent further delays to the work.

5th. That the addition to the filtration works at a cost of \$900,000, as estimated on page 85 in the annual report of 1915, be proceeded with.

Mr. Thomas J. Dillon has been appointed general manager of Canada Foundries and Forgings, Limited. Mr. Dillon has had jurisdiction over the western plants at Welland, Ont., the Canada Forgings and Billings and Spencer. This now extends to the James Smart Manufacturing plant at Brockville. Mr. Dillon is also a director of the company.