

have been, declared the Premier, when the Cooper report was received it was taken quite seriously into consideration. As a result of it the Premier, with competent advisers, went over the Chippawa development work.

"Having gone over it in that way," he said, "having given as much care as we possibly could, and as much study as we possibly could, we came to the conclusion that the chances for its ultimate success were many many times the chances for its ultimate failure. Since then we have done everything possible to rush the project to completion. We considered that the objections contained in that report could not be considered alongside of the reports coming from the canal giving us the assurance of success."

That \$2 Power Tax.

Very briefly the Premier declared his reasons for not desiring to press into action the suggestions of the special committee on Hydro for imposing a \$2 per horsepower tax on power, with which to assist rural municipalities in securing Hydro extensions. The Province, he said, was going through a very serious period of industrial depression at the present time, and he feared that it would be very unwise to do anything that might tend to unsettle or disturb industry.

Although the committee had done splendid work, and although the principle of extending assistance to rural districts was one with which he was entirely in accord, he did not desire to press that particular phase of it into legislation this session. Nor, indeed, was he sure that the \$2 tax was just the right method of extending such assistance.

After the Premier and Opposition Leaders had agreed that there should be set aside one day for complete discussion of the whole Hydro situation, A. C. Lewis (Northeast Toronto) called the attention of the House to the fact that H. L. Cooper was an engineer who estimated that the St. Lawrence development scheme would cost a billion dollars, whereas the most authentic estimate placed it around \$150,000,000.

Wish to Hold It Back.

In Mr. Lewis' opinion the Government was very wise to keep the report under cover until progress at the plant had offset its representations.

Z. Mageau, in discussing the Chippawa item in the estimates, declared that expenditure of public monies on Hydro for the benefit of Western Ontario and Toronto was entirely unfair to the North and to the East.

"When critics complain that this work was first estimated to cost ten, and then twenty, and finally fifty-five millions," said Hon. D. Carmichael, in discussing the estimates, "they fail to take into their consideration that the canal was at first not to be so large, nor the total of horsepower to be developed so great. Consequently some of the statements that are being made are not strictly true."

Cooper Report Away Out.

The much-talked-of Cooper report on the Hydro development work at Chippawa was tabled in the Ontario Legislature last evening by the Premier, and it contained an estimated cost of \$71,988,626 for the work which had been estimated by Hydro engineers to cost \$55,000,000 odd. But whereas the Cooper report is dated ten months ago, the later report of Stuart and Kerbaugh, also tabled last night, is almost exactly in line with the Hydro estimates and gives a total estimated cost of \$52,271,759.

Interesting also in connection with the matter is the statement of Hon. D. Carmichael on the floor of the House only on Tuesday evening, that the cost would not exceed \$55,000,000, and that power would be generated in September on schedule time. The official information from the Hydro offices yesterday is that the work, with only four months to go, is well within the cost estimate.

More and More Glowing.

Still another report on the Chippawa—and the latest report of all—also tabled last night, is that of R. S. Lea, Consulting Engineer, which, after detailing the favorable progress made right up to April 9, 1921, says, with respect to an important

portion of the work, "Results at this stage are so promising that in all probability fewer plant units than the ten proposed, will be required. They also furnish fair indications that the expectations expressed in the previous report as to time of completion and ultimate cost will be realized."

Itemizing the various works under their various heads, Mr. Lea's report shows that power house work is well in advance of schedule, with diminishing unit costs; penstocks, it is said, will most likely be "completely installed on the scheduled date;" gatehouse work is in advance of schedule, but the costs are already running close to the estimate; concrete canal lining gives every indication of being installed on schedule and within estimated cost; excavation work, with a twenty per cent. increase in output, is now only 9 days behind schedule, whereas last fall it was 14 days behind.

Satisfactory Every Way.

Welland River and intake work, Mr. Lea reports as progressing satisfactorily, both as to progress of work and cost. Mr. Lea's report is supplementary to the joint report presented on Feb. 15 last by R. D. Johnson of New York and himself.

The Cooper report, which contains estimates of the work done to May 1, 1920, is a pessimistic one in regard to costs. Working upon the development of power with a flow of 15,000 second feet and a development of approximately 450,000 horsepower, his estimate of the total cost is put at \$71,988,626. At this time approximately \$14,000,000 had been already expended. In a second estimate, based upon a development of 20,000 second feet with a horsepower production of about 600,000, his total estimate of cost is placed at \$88,930,506.

Report of Experts.

The estimates which were later prepared by Francis L. Stuart and H. S. Kerbaugh, and dated September 30, 1920, gave a total cost much below the Cooper estimates, and decidedly more in line with the estimates of the commission's engineers. Stuart and Kerbaugh were engaged to report upon three features of the Chippawa undertaking—the suitability of the plant for the construction program proposed, the possible dates of completion of the canal for the generation of power by the first and second units, and the probable cost to complete.

Estimates Reasonable.

Their estimate, based upon the canal plans as they are actually being carried out, which means development of 15,000 second feet with a power capacity of approximately 450,000 or 500,000 horsepower, give a total estimated cost of \$52,271,759, after making an allowance for salvage recoverable of \$4,000,000 and receipts from broken stone of \$2,600,000. This estimate of cost means a total per horsepower of \$116.16.

The report of these engineers declares that it is feasible to generate power by September 1, 1921. "In general," says the report, "we have to advise you, first, that while this is a large undertaking it is in excellent shape for early completion; second, that all unknown conditions and uncertainties of construction have been eliminated; third, that the equipment is suitable; fourth, that we think the peak of inefficiency of labor and the peak of prices of material and labor have been reached; and, fifth, that with no unusual labor conditions and with material properly supplied we consider the estimates of cost and dates of completion as feasible and dependable. The project and its purposes appeal to us in all its phases. The conception and design is simple and effective, and the construction work is being carried out with proper present-day equipment and in an intelligent and capable way, with credit to all concerned."

Other Engineers Report.

In a report dated October 26, 1920, R. S. and W. S. Lea of Montreal give the result of their findings upon two or three technical points, including the provision made for protecting the intake from ice obstruction. It sets out at considerable length a new method of protecting intakes, which has been adopted by the commission.

The engineers were asked to report upon the dependable capacity of the canal, and their finding was that, with the present levels, the