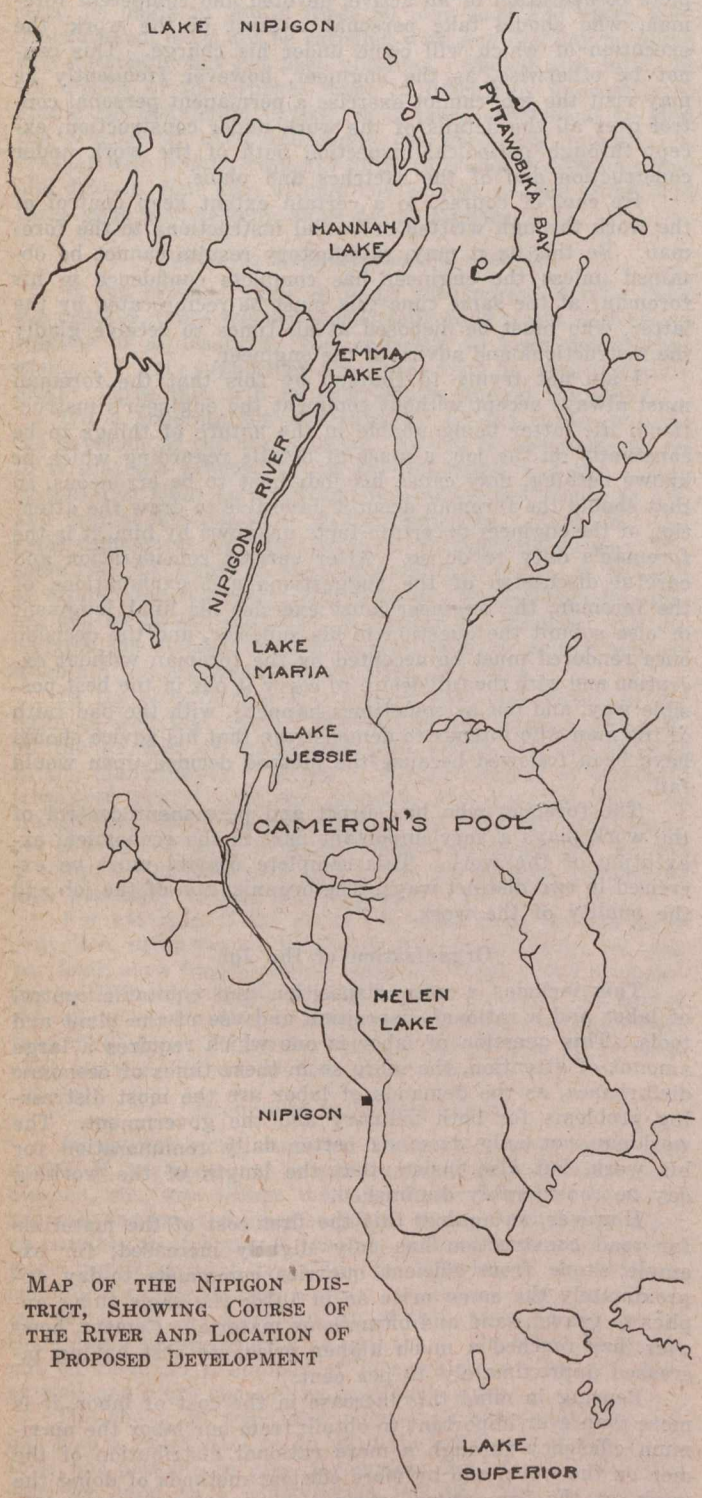
vided with cranks for outside connections to a cast steel regulating ring, and will be carefully fitted together so as to reduce to absolute minimum the leakage of water when they are in the closed position. The vanes will be pivoted so as to be approximately balanced under water pressure at one-third gate opening and will tend to close to this position from any operating position.

The upper portion of each draft tube may possibly be formed of cast iron or steel plate, and will be shaped so as



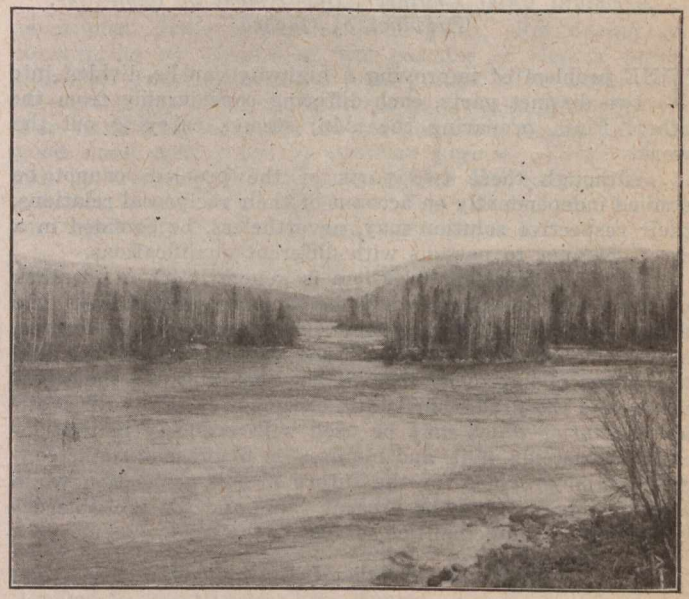
MAP OF THE NIPIGON DISTRICT, SHOWING COURSE OF THE RIVER AND LOCATION OF PROPOSED DEVELOPMENT

to direct the discharge from the runner with a minimum of disturbance due to eddying or distortion of stream lines.

The turbine shaft will be of open-hearth forged steel, with an ultimate tensile strength of 75,000 lbs. per sq. in. and an elastic limit of not less than 37,500 lbs. per sq. in.

The brakes must be capable of bringing the unit to rest from normal speed in five minutes when operated with air at 200 lbs. per sq. in. pressure.

The governors will be of the water pressure type and will be supplied with distant speed controllers, hand control gate limiting devices, over speed shut down devices, manual speed adjustments, gate opening indicators and tachometers.

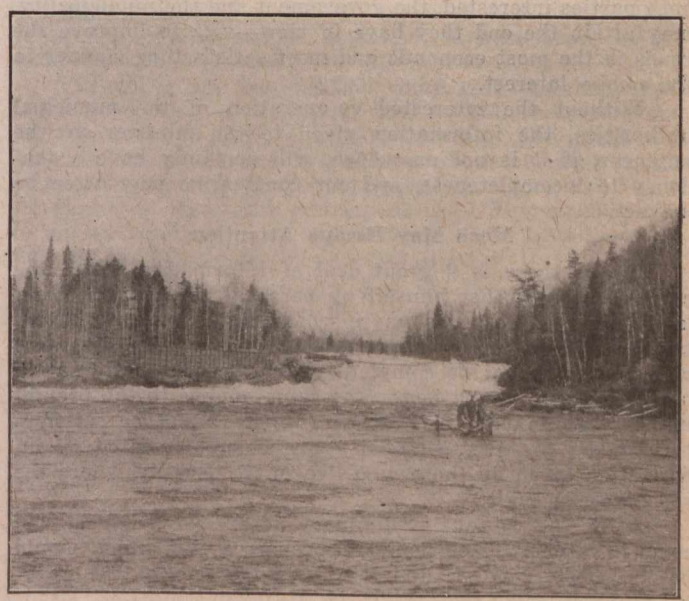


CAMERON RAPIDS AND POOL

The governors will be so adjusted that the normal closing time of the gates will be two seconds. The governors must readjust the gates whenever the speed varres more than one-half of 1% from normal.

The turbines are to be erected complete in the builder's shops before shipment. After erection in the power house, tests are to be carried on for a continuous period of at least two weeks. There also may be required a test of each turbine extending at least for a period of fifteen minutes at runaway speed; that is, under friction load only and with gates full open.

The design and construction of the Nipigon development is being handled by the regular staff of the Hydro-Electric Power Commission of Ontario, of which Sir Adam Beck is chairman and F. A. Gaby, chief engineer. H. G. Acres is hydraulic engineer; T. H. Hogg, assistant hydraulic engineer; M. V. Sauer, designing hydraulic engineer; E. T. Brandon, electrical engineer; A. H. Hull, assistant electrical engineer; A. V. Trimble, construction engineer.



LOOKING UP NIPIGON RIVER FROM EAST END OF PROPOSED REINFORCED CONCRETE DAM