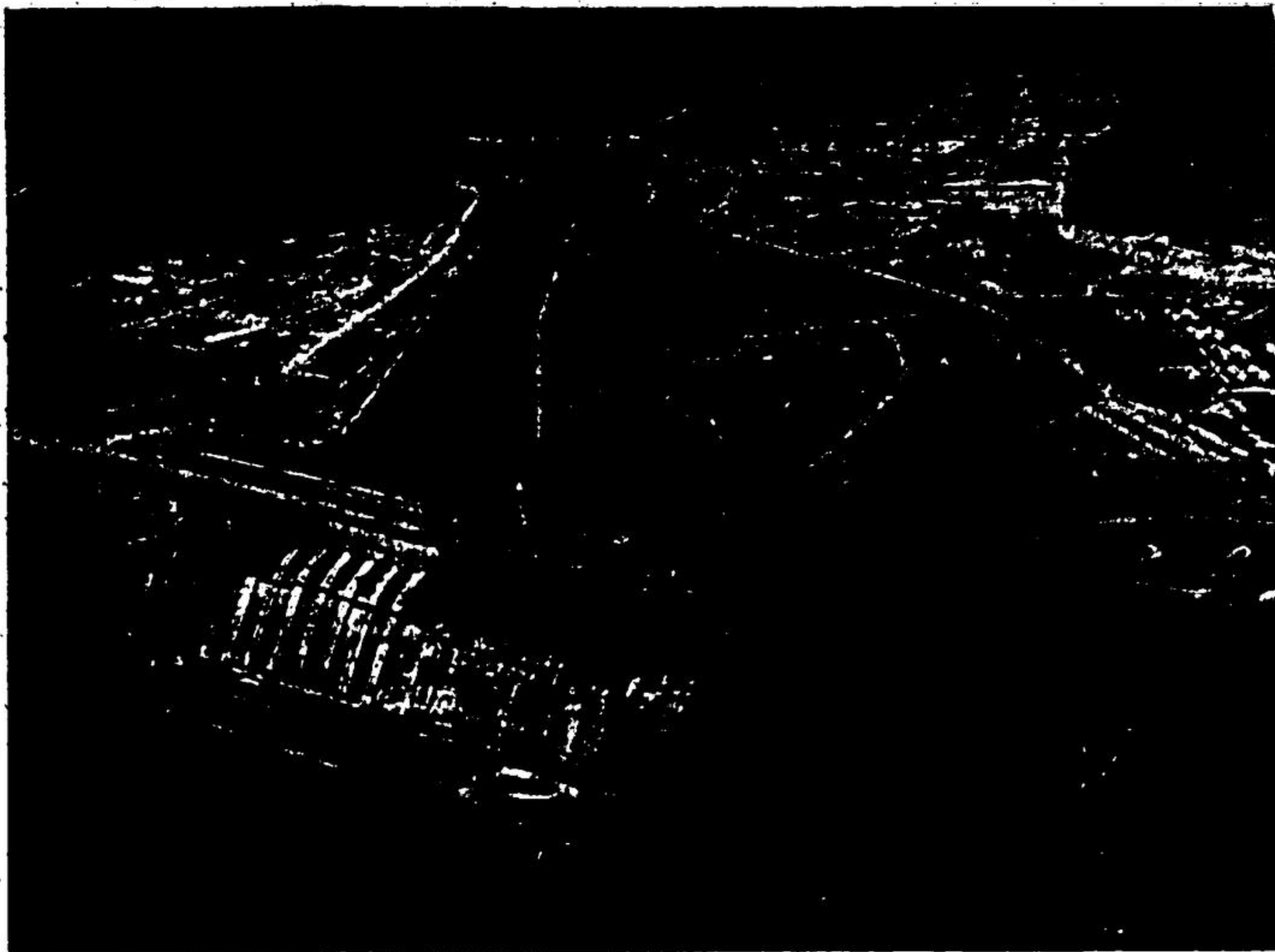


PRIDE-OF ONTARIO HYDRO



● HERE, where three-and-a-half years ago there were only the bare and ancient rocks of the 300-foot cliffs of the Lower Niagara Gorge, Ontario Hydro engineers and workmen have created the modern giant of the 1,828,000 horsepower Sir Adam Beck-Niagara Generating Station No. 2, adjacent to its 1921

predecessor (extreme right.) On the side of the cliffs, and blending into their natural grandeur, are the power house and penstocks of the new station. Above these are the two canals, the new one at the left dwarfing the older channel. The entire 2½ mile length of the new open-cut canal is now watched since

the blasting early in June of a massive rock plug at the upper cross-over of the two canals, enabling water to enter the section of the new canal leading back to the exit portals of the twin 5¼ mile underground tunnels. One unit of the new plant is already in service, and four will be in operation when the

station is officially opened August 30th by Her Royal Highness, the Duchess of Kent. Just back of the right-hand tip of the original power house is Hydro's famous Floral Clock. On the "island" between the forebays, is the switchyard for the new station.

80 Ontario Newsmen View Advanced Construction At Hydro's Niagara Project

With actual construction due to begin very shortly on the St. Lawrence power project, press and radio representatives from many parts of the province on Saturday, June 19, viewed at first-hand how Hydro tackled its 1,828,000 horsepower Niagara development, one of the most unique and complex engineering projects of its kind ever undertaken in Canada.

The group from East, Central and Toronto regions, including Garfield McGillivray representing the Herald, assembled in Toronto to go by bus on the tour, stopping at the Brant Inn, Burlington, for luncheon and continuing to Niagara, where following the tour they were entertained at the Sheraton Hotel and the camp cafeteria.

Chairman Robert H. Saunders addressed the group at Burlington and hydro officials conducted the tour of the project. Included in the group were some of the winners of Ontario Hydro's newly-established awards to outstanding correspondents among the province's weekly newspapers. Six plaques and certificates were awarded at the recent annual convention of the Ontario Weekly Newspapers Association.

Begun in December, 1950, the first 100,000 horsepower unit of the Sir Adam Beck-Niagara Generating Station No. 2 was placed in service early this spring. It will be officially opened on August 30th by her Royal Highness the Duchess of Kent. More than 7,000 men were employed on the job during the peak construction period of last summer. Chairman Saunders paid tribute to all those associated with the project — engineers, contractors and men of labour, who met, with great success, the many challenges posed by it, both in the construction and personnel field. He believes the experience gained at Niagara will be of immeasurable value in pushing through the St. Lawrence power phase as quickly as possible.

Completion of the 12-unit phase of the Sir Adam Beck No. 2 plant is scheduled for 1956 and in early 1957, a huge pumped-storage reservoir will be in operation. Provision has been made for the addition of four more units as required, to give the development an eventual capacity of 1,828,000 horsepower.

Co-leads with Mr. Saunders on the press tour were E. G. Gurnett, Manager, East Central Region and Adam W. S. Smith, manager, Toronto region.

To obtain hydro-electric power at Niagara, construction crews mined out some 10,000,000 tons of rock beneath the bustling city of Niagara Falls to create two colossal 5¼ mile long tunnels, running at a maximum depth of 350 feet underneath the "moonstruck" city. They are now being resealed to divert 15,000,000 gallons of water per minute from the Niagara River from a

point two miles above the famous Twin Cataracts where the intake structures, resembling giant concrete mouth-organs, are located. Yet, this is only part of the amazing engineering story of the development. At the outlets of the 45-foot diameter tunnels, a 2¼ mile-long, open-cut canal was excavated to convey water to the forebay of the ultimate 16-unit capacity powerhouse, situated six miles downstream from the Cataracts, at the base of 300-foot cliffs of the lower Niagara Gorge.

Plant in Initial Service Ahead of Schedule

Early this spring, Hydro utilized the canal and forebay system, serving the adjacent Sir Adam Beck No. 1 plant, in order to place the new project in initial service. Water was diverted to the new forebay from the old canal at the unique 'X' cross-over, just upstream from the No. 2 forebay, and by an interconnecting channel between the forebays of No. 1 and No. 2 plants.

Early this month, preparatory to the watering of No. 1 tunnel in late June, a massive rock plug at the upper cross-over of the old and new power canals was blasted out. For the first time, this enabled water to enter the section of open-cut canal leading back to the exit portals of the twin tunnels. In filling the No. 1 tunnel, the water from the new canal will be allowed to enter at the exit portal of the tunnel, spilling over the steel stoplogs there.

When grouting and clean-up operations are finished in No. 2 tunnel, four of the five shafts will be closed and filled in with sand and rock. Shaft No. 5 will be retained and eight pumps installed, capable of emptying either or both of the tunnels, each containing approximately 280 million Imperial gallons. Estimated time required to empty a tunnel of this volume if desired, would be about seven days. The water would be pumped up the shaft, and conveyed in a pipe line to the Niagara River.

At the opposite end of the project, in the big new powerhouse located at the foot of the Niagara River Gorge near Queenston, rapid advance is being made. With one of the ultimate sixteen 100,000 horsepower turbo-generators now in service, it is expected that a second unit will be in operation shortly.

In addition to speeding to completion, the basic features associated with the power project, considerable work has been done on the pumped storage reservoir, to contain 650,000,000 cubic feet of water, which will be built adjacent to the forebay. A pumping plant will be installed to raise the water from the canal to the reservoir. The pumped storage will increase the generating capacity of the project by pumping water into the reservoir at night, and at peak power de-

mand periods running the same water back through the pumps as needed. The pumps are, in reverse, turbine generators with a capacity of 228,000 horsepower.

Hydro Key to Economic Progress

On all fronts, Ontario Hydro is moving ahead with programs of construction which, for size, have no parallel in the history of the province, to meet the ever-increasing demands of 1,400,000 direct and indirect customers. Hydro's present assets total \$1,401,000,000. Since 1945, Hydro has placed in full or partial service 14 new power sources and only recently authorized the start of a 15th new project, to be located at Manitou Falls in northwestern Ontario. By the end of 1956, when 12 units at the Niagara development will be in service, the total dependable peak capacity of the Commission will be brought up to 6,342,000 horsepower, or 144 per cent greater than it was in December, 1945. The amazing economic progress of this province in recent years can be directly keyed to the Commission's ability to maintain adequate supplies of electricity at low cost.

FARM NEWS

SAVING LABOUR ON THE DAIRY FARM

Labour constitutes 26 per cent of the cost of producing milk. With farm wages at 75c per hour a dairy farmer can afford to spend \$45.00 on improvements for every minute per day he can save in chore time. An interesting circular, well illustrated on the important subject of Labor Saving on the Dairy Farm, has just been released by the Farm Economics Branch, and is available at the Milton branch of the Ontario Department of Agriculture.

Your visits and visitors are news. Phone them to the Herald for the Social and Personal column.

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Apple pie... coming up

A KNOX-SIZE apple pie weighing over a hundred pounds was recently baked for the Washington State Apple Blossom Festival. The specially built aluminum pie pan — the largest ever made — measured eight feet across.

Made us wonder how big a pie you'd get if all the apple pies baked in one day on regular-size aluminum pans were put together. And that brings to mind all the different aluminum cooking utensils used today in homes and hospitals and restaurants... No wonder Canada is stepping up her production of this light, bright metal to one and a quarter billion pounds a year! Aluminum Company of Canada, Ltd. (Alcan).

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