

incorporating the power-houses, in conjunction with a dam at the foot of the Long Sault Rapids, will establish a head-pond about 125 miles downstream from the eastern end of Lake Ontario. The development will make use of most of the mean difference of 92 feet in the water levels between Lake Ontario and Lake St. Francis. The operating head will range from 76.6 to 87.6 feet and the normal head will be 83 feet.

The construction operations in connection with the power houses and dams will not interrupt navigation in the present 14-foot canal. The structure incorporating the power-houses will have a maximum height of 162 feet above the foundation and an over-all length of 3,300 feet. It will span the channel between the eastern end of Barnhart Island and the Canadian shore, almost three miles west of Cornwall, and will be bisected by the International Boundary. The Canadian power-house, simple and functional in style, will be of the modified outdoor type, having removable housings rather than the conventional superstructure over the generating equipment. Each of the two power-houses will have 16 generating units. The switchyard for the United States power-house will be on Barnhart Island, the switchyard for the Canadian power-house will be located on the Canadian mainland.

The Long Sault dam will reach from the upper end of Barnhart Island to the United States mainland and will control the levels of the water in the head-pond, allowing any excess water to by-pass the power-houses as required. This dam will be a concrete, gravity, curved-axis, spillway structure, 2,250 feet long and having a maximum height of about 145 feet above the foundation. Its discharge capacity will far exceed the maximum flow of the river. The spillway section will have thirty vertical lift gates, each 50 feet in width.

The Iroquois dam will be about 25 miles upstream from the Long Sault dam and located between Iroquois Point on the Canadian side and Point Rockway on the United States side of the river. Its main purpose will be to regulate the flow of water from Lake Ontario.

In addition, some 14 miles of dykes will be required as well as improvements in the river channels in order to meet certain navigation and power requirements.

Preparations for the building of cofferdams and for dewatering the construction sites were begun in July 1954, and work was proceeding by the late summer. The first units are scheduled to be placed in service in 1958.

When the head-pond is raised to full level, areas on both sides of the river will be inundated. On the Canadian side the flooded area, about 20,000 acres extending along a 46-mile stretch of the river, will include the village of Iroquois, the hamlets of Aultsville, Farrans Point, Dickinson's Landing, Wales, Moulinette, and Mille Roches, and one-third of the town of Morrisburg. Some 6,500 people in this area will be affected. Between thirty-five and forty miles of railway line and approximately thirty-five miles of highway must be relocated, and all trees and structures will be removed from the land to be inundated.

Proposals for community planning and rehabilitation are being developed and as these proposals receive acceptance they will become a part of the over-all plan for the re-establishment of the communities in the St. Lawrence valley.