The Power Project

The development of 2.2 million horsepower of electricity in the International Rapids section of the St. Lawrence was indeed a task of major proportions. The unique project, with installations set squarely across an international boundary, got underway in 1954.

Simultaneously, on the Canadian and United States shores facing Barnhardt Island, preparations began for building one of the world's greatest powerhouses. The major problem was to dry up a section of the river-bed: first, a causeway was built behind the Island to block the flow in the north arm of the River; then, in front of the site for the powerhouse —to seal off this part of the River completely—a cofferdam was built.

The hollow cells of the cofferdam formed a circular wall of sheet-steel pilings to be filled with earth. Huge template discs made a framework through which the pilings were driven into the river-bed.

Work continued through the winter as, section by section, pilings of the giant coffercells were threaded into position.

With the cofferdam completed, the water was drained from the enclosed part of the River. Work on the powerhouse now began. The heavy artillery of the construction arsenal was trained on the river-bed. Excavation to depths as great as ninety feet continued until, at last, the earth was ready for the foundations of the powerhouse.

An assembly-line of carpenters produced concrete-forms. Each of these was carefully numbered, so that it would be sure to find its place in the intricate pattern. Then came the mammoth concrete buckets, each carrying four cubic yards a load. Bucket by bucket, four million tons of concrete.

Compressed air vibrators released air bubbles and settled the concrete. The great spiral casings for the turbines took shape. Overhead, the steel superstructure of the powerhouse control building rose above the dam.

Erection work here was done by Mohawk Indians—famous for their skill at high steel construction.

The headworks of the powerhouse stretched across the skyline. Below, the sixteen power units on Canada's half of the dam were readied, one by one, to receive the generators, gigantic speedrings girdling each unit. And, early in 1958, the powerhouse was completed.

While work continued here, another job was under way behind the Island. A triangular cofferdam was built across one side of the River, and a channel cut around it to let the water flow past. With the water by-passing the cofferdam, the enclosed area was excavated for the south half of the Long Sault dam. Then, the cofferdam was removed and the channel closed. A new channel was cut higher up to divert the water from the Long Sault through the completed half of the dam.

On December 3, 1956, a gate was raised allowing the first flow of water through the completed Stage 1 structure of the Long Sault Dam. The south half of the Dam was at work.

To complete the dam it was necessary to dry up the Long Sault Rapids. A causeway upstream and a cofferdam downstream blocked off the Long Sault, so that the Rapids could be pumped dry. Half a million cubic yards of fill material