newfoundland labrador hydro
a nalcor energy company

Our Hydroelectric Facilities

POWER YOUR KNOWLEDGE

DEFINITIONS

Facility Head: The distance of the vertical drop where water has to travel to flow into the powerhouse.

Megawatts (MW): One million watts or one thousand kilowatts. A unit commonly used to measure both the capacity of generating stations and the rate at which energy can be delivered.

Gigawatt Hours (GWh): One billion watt hours or one million kilowatt-hours. A measure of electricity usage by homes and businesses. The energy supplied to all customers is measured in gigawatt-hours.

BAY D'ESPOIR HYDROELECTRIC GENERATING FACILITY

Facility Head: 176 metres
Year of Service: 1967
Plant Capacity: 604 MW
Annual Energy: 2,650 GWh

It takes 17 days for the water to flow from Victoria Lake, the forebay of this generating station, to Bay d'Espoir. With a flow of 397 cubic metres per second, Bay d'Espoir is the largest hydroelectric facility in the province.

CAT ARM HYDROELECTRIC GENERATING STATION

Facility Head: 385.5 metres
Year of Service: 1985
Plant Capacity: 127 MW
Annual Energy: 680 GWh

The Cat Arm Hydroelectric Generating Station is located on the Northern Peninsula and has two units with a rated flow of 20 cubic meters per second to generate a total of 127 MW of electrical power with an average annual production of 680 GWh.

GRANITE CANAL HYDROELECTRIC GENERATING STATION

Facility Head: 38 metres
Year of Service: 2003
Plant Capacity: 41 MW
Annual Energy: 220 GWh

The Granite Canal Hydroelectric Generating Station is located within Hydro's Bay d'Espoir system. As part of Hydro's commitment to the environment, a 45,000m^2 fish habitat compensation facility was included in this development to ensure that any aquatic habitat loss was avoided, reduced or replaced.

HINDS LAKE HYDROELECTRIC GENERATING STATION

Facility Head: 214 metres
Year of Service: 1980
Plant Capacity: 75 MW
Annual Energy: 340 GWh

The Hinds Lake Development is located on the eastern shore of Grand Lake and makes use of 220m of head between Hinds Lake on the Buchan's plateau and Grand Lake. The rated flow of 40 cubic meters per second generates 75 MW of electrical power with an average annual production of 340 GWh.

PARADISE RIVER HYDROELECTRIC GENERATING STATION

Facility Head: 380.5 metres
Year of Service: 1989
Plant Capacity: 8 MW
Annual Energy: 36 GWh

This hydroelectric generating plant is located near the mouth of Paradise River on the Burin Peninsula. It operates with a rated flow of 25 cubic metres per second to generate 8 MW of electrical power with an average annual production of 36 GWh. The project, which operates under a run-of-river philosophy, has a 43m high concrete arch dam with an overflow spillway, the largest structure of this design in eastern Canada.

RODDICKTON HYDRO PLANT

Year of Service: 1980
Plant Capacity: 0.4 MW

The Roddickton Hydro Plant is located near the Town of Roddickton on the Northern Peninsula. The single unit plant is located on Marble Brook and is supplied with water through a buried polyethelene penstock. The turbine is a horizontal shaft operating under a net head of 42m, with design flow of 1.3 cubic meters per second that produces 400 kW.

SNOOKS ARM AND VENAMS BIGHT (TWO PLANTS)

Year of Service: 1955
Plant Combined Capacity: 1 MW

Constructed in 1955 by Maritime Mining Corporation to provide electricity for Tilt Cove Mines, these are the oldest units in the Hydro generation system. Located on the Baie Verte Peninsula, these two plants can produce a total of 1 MW.

UPPER SALMON HYDROELECTRIC GENERATING STATION

Facility Head: 51 metres
Year of Service: 1983
Plant Capacity: 84 MW
Annual Energy: 570 GWh

The Upper Salmon Development utilizes a portion of the residual head between Meelpaeg Lake Reservoir and Round Pond within the watershed of the Bay d'Espoir hydroelectric development. The plant operates at a normal supply level of 241m under a net head of 51 metres. The rated flow of 189.5 cubic meters per second is used to generate 84 MW of electrical power, with an average annual production of 570 GWh.