

## **History of Hydro Power in Whitehorse and the Construction of the Whitehorse Rapids Hydro Facility**

Early 1900s

The completion of the White Pass and Yukon Railway from tidewater to Whitehorse and the establishment of the facilities needed to support the fleet of the sternwheeler boats on the Yukon River meant that it was now possible to transport the heavy equipment necessary for large scale mining and to build the hydroelectric operations that would power this industry.

1901:

Yukon Territorial Council was petitioned to incorporate, under the terms of the Companies Ordinance, the White Horse Electric Power and Water Works Company. It proposed to “operate in and around the town of Whitehorse, supplying the locality with water systems, sewers, telephones, electric lights, tramways, wells, wharves, cisterns, reservoirs and the like, and to deal in timber.” Despite the support of several influential businessmen and politicians, this petition was denied.

1912:

Whitehorse entrepreneur E.A. Dixon applied to the Minister of the Interior for a grant to use 20,000 inches of water of Fiftymile River at the head of Miles Canyon, for the purpose of generating power, and for the right to transmit, sell and use that power. The application was eventually cancelled due to lack of follow up by the applicant.

1923:

The White Pass and Yukon Route completed a dam on the Yukon River below Marsh Lake. This held extra water to launch the sternwheelers at Whitehorse in the spring, to carry them over the shallow stretches before and after Lake Laberge, and to flush out the lake ice.

1930s:

The introduction of household appliances created a greater demand for electricity in the Whitehorse area.

1942-45:

The U.S. Army operated an electrical generating plant and distribution system in Whitehorse for military personnel. The diesel plant was located at the bottom of Two Mile Hill. After the war, this system was turned over to the Canadian Army at no cost.

1948:

The Northwest Territories Power Commission (NWTPC) was established to oversee the construction and operation of power plants in the northern territories. E.W. (Ted) Humphrys was hired as the first engineer and the first salaried

employees of NWTPC. The agency was later renamed the Northern Canada Power Commission.

1955: The federal government decided to open up the Riverdale subdivision of Whitehorse. Along with that came a new hospital, schools and a bridge across the Yukon River. The government realized that more electricity would be needed to serve all this development, so it decided to build a hydro dam.

Before settling on the Whitehorse Rapids site, the government considered two other sites: the outlet of Kusawa Lake and the outlet of Aishihik Lake. Some consideration was also given to a steam plant to burn coal from Carmacks. The Whitehorse Rapids site was found best suited to the development of the region. It offered the prospect of meeting electricity demands at a reasonable cost and could be expanded to meet future growth.

1956: Construction of the 15,000 horsepower hydro generating station in Whitehorse was approved in the summer of this year, and on-site work started in November of 1957.

Poole Construction was hired to build the facility. The company had about 80 men working on the hydro dam. During this time, the employees were housed at a local hotel. An agreement was made giving the construction company a discount on hotel costs of \$1 a day per person. In exchange, Poole Construction built a new grocery store, located near the current Yukon Inn.

1957/58: A major challenge of the dam construction was diverting the river during the various building phases. Cofferdams were wooden structures built to hold back the water from sections of the river so that the spillway, main dam and barrier dam could be built.

The reinforced concrete spillway was built with two openings about 12 meters (40 feet) wide, which can be closed by steel gates approximately 11 meters (36 feet) deep. The gates were shipped in 15 ton sections and assembled on the site. Each opening has the capability of allowing 762 cubic meters (25,000 cubic feet) of water per second to pass through the spillway.

1958: The first unit started generating power at the Whitehorse Rapids facility on November 15 of this year. The first crew at the hydro plant included Jesse Barwise, Art Farly, Al Jamieson, Lorne Vance, Henry Breaden and Harry Parker.

It cost \$7.2 million to build the Whitehorse dam. Once it began operating, power rates were reduced by 10 percent.

Also that year, a fishladder was constructed of timber and reinforced concrete, to allow migrating salmon to travel past the dam. The ladder is believed to be the

longest wooden fishladder in the world, at a length of 366 meters (about 1200 feet).