

Muskrat Falls Project

Project Overview

The lower Churchill River is one of the most attractive undeveloped hydroelectric sites in North America and is a key component of the province's energy warehouse. The Muskrat Falls hydroelectric development on the lower Churchill River in Labrador includes construction of an 824 megawatt (MW) hydroelectric generating facility and more than 1,500 kilometres of associated transmission lines that will deliver electricity to homes and businesses in Newfoundland and Labrador.

The development of Muskrat Falls will provide a clean, renewable source of electricity to meet the province's growing energy demands. It will provide Newfoundland and Labrador with stable electricity rates and will be a valuable power-producing asset for the province well into the future. In addition, the development will help Canada's efforts to reduce greenhouse gas emissions.

The Muskrat Falls Project was sanctioned by the Government of Newfoundland and Labrador in 2012. Construction commenced in late 2012 and first power from the Muskrat Falls hydroelectric generating facility is expected in late 2017.



Project Advancements in 2014

Progress was made across all areas of the Muskrat Falls Project in 2014 with several milestones achieved during the year.

At Muskrat Falls, all infrastructure was in place to support construction of the 824 MW hydroelectric generating facility, including a 1,500-person accommodations complex. The first placement of concrete in the spillway structure in August was a major milestone for the facility.

For transmission line work in Labrador, right-of-way clearing was completed on the line between Muskrat and Churchill Falls. In October, the first transmission tower was safely erected and progress on line construction continued throughout the year.

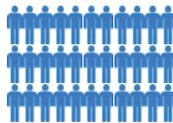
Work also progressed on the Labrador-Island Link (LIL) from Muskrat Falls to Soldiers Pond, including the Strait of Belle Isle marine cable crossing. Construction of the 1,100 kilometre transmission line began in summer 2014 with clearing and access road construction south of Muskrat Falls in Labrador. Work also started on tower line construction and assembly in Labrador. The horizontal directional drilling program in the Strait of Belle Isle was successfully completed before the end of the year, marking a significant milestone for that component of the project.

2014 at a Glance: Benefitting Newfoundlanders & Labradorians



Over **5M hours** worked in 2014

Over **10M hours** worked since start of construction



3,274 NL residents

working on the project at peak in 2014

81% of project workforce



3,539 people working in Labrador at peak in 2014; **1,147** were Labrador residents

507 NL Aboriginal people working on Muskrat Falls at peak in 2014



547 women working on the project at peak in 2014

92% of women working on the project were **NL residents**



\$394M invested in NL in 2014

\$705M invested in NL labour & business since start of project construction

**Figures above for 2014 and project to date*

Benefits for Newfoundlanders and Labradorians

The Muskrat Falls Project will meet Newfoundland and Labrador's energy needs into the future and deliver significant long-term value to the people of the province.

Economic and employment benefits from the project are being realized across the province. In 2014, employment on the project peaked at just over 4,000 people; 81% of those workers were residents of Newfoundland and Labrador. The project has also fostered tremendous economic benefits, with almost \$400 million invested in over 500 businesses in the province in 2014.

In 2014, employment of women peaked in August at 547, accounting for 16% of the workforce in that month. Employment of Newfoundland and Labrador people who self-identified as a member of an Aboriginal group reached a peak of 507 workers and 450 of these workers were members of one of the three Labrador Aboriginal groups.

Investing in Newfoundland and Labrador

The Muskrat Falls Project is generating significant benefits for businesses and labour in Newfoundland and Labrador. In 2014, total expenditures for the project were almost \$984 million, with almost \$400 million invested in Newfoundland and Labrador businesses, representing around 40% of total project expenditures during the year.

Engineering, Procurement and Construction

Overall, construction is progressing as planned on the Muskrat Falls Project. Major milestones were achieved in 2014 and Nalcor expects to see these achievements continue for all components of the project in the 2015 construction year.



Detailed project engineering work for the Muskrat Falls Project was 98% complete at the end of 2014 with carry-on engineering work that will support the construction effort continuing through to project completion. Also in 2014, significant procurement activities continued with many large contracts awarded. At the end of the year, over 90% of total contract value had been committed. All awarded contracts and procurement information is reported in the Muskrat Falls Project's Monthly Reports and available at www.muskratfalls.nalcorenergy.com.

Activity ramped up in all areas of the project across the province throughout the year. At the Muskrat Falls hydroelectric generation site in Labrador, mobilization of Astaldi Canada, the main contractor responsible for constructing the intake, powerhouse, spillway, and transition dams continued. Progress was made in the areas of integrated cover system erection, concrete placement, foundation preparation, installation, formwork and rebar placement. Progress was also made on the manufacturing of the gates, turbines and generators, with the first delivery of turbine components to the Muskrat Falls site by the end of the year.

Mobilization of the contractor for the transmission line between Muskrat Falls and Churchill Falls in Labrador and LIL commenced, and progress was made on the clearing as well as assembly and installation of transmission equipment and towers.

Civil works was completed in Muskrat Falls, Churchill Falls, the Strait of Belle Isle and Soldiers Pond in preparation for the installation of electrical infrastructure. The Strait of Belle Isle marine cable crossing program continued and by the end of the year, the sixth and final bore hole required for the crossing of the submarine cable from Forteau Point, Labrador to Shoal Cove, Newfoundland was completed.



Moving forward with the project, the focus will continue to be on safe execution of work to ensure the delivery of power within the schedule and budget. Additional information on construction activities is available on the Muskrat Fall Project website at: www.muskratfalls.nalcorenergy.com.

Aboriginal Affairs

Following execution and ratification of the Tshash Petapen (New Dawn) Agreements, Nalcor commenced implementation of the Impact and Benefits Agreement (IBA) with the Innu Nation. By the end of December 2014, the \$140 million procurement commitment outlined in the IBA with Labrador Innu Nation was exceeded with more than \$450 million in contracts being awarded to Innu-owned businesses or joint ventures.

Processes and personnel have been put in place to support Innu employment. In 2014, employment of Labrador Innu workers peaked in August, with 206 Labrador Innu working on all components of the project.

Throughout 2014, Nalcor continued to work with the Labrador Aboriginal Training Partnership (LATP) and contractors to build local capacity through education and training to help Labrador Aboriginal people qualify for employment opportunities with the Muskrat Falls Project.

Committed to Environmental Stewardship

Nalcor is committed to maintaining a high standard of environmental responsibility that will help sustain a diverse and healthy environment for generations of Newfoundlanders and Labradorians. The company has implemented an Environmental Management System (EMS) for the Muskrat Falls Project to ensure regulatory compliance, and that commitments and conditions of environmental assessment are met.

Environmental protection plans have been developed for both the generation and transmission projects and have been submitted to, and approved by, the provincial and federal governments. Environmental effects monitoring programs have been initiated for many environmental components in 2013 and continued throughout 2014.

Submitted by: Nalcor Energy