

Background: Dam Breach Studies undertaken for the Muskrat Falls dam on the Churchill River, Labrador

An 824 megawatt (MW) hydroelectric generating facility is being constructed at Muskrat Falls on the lower Churchill River, approximately 30 km west of Happy Valley-Goose Bay. The facility consists of two dams and a powerhouse, and will be the second-largest hydroelectric facility in the province when complete.

Dam Safety

The design, construction, and operation of water retaining structures are important activities for any hydroelectric operator. An incident involving a breach of a these structures has the potential for significant public safety and business impacts, so great care is taken to ensure to avoid such an incident.

In Newfoundland and Labrador, the construction and operation of dams is subject to conditions established in the [Water Resources Act](#). Given the potential for losses in the event of an incident, dam owners maintain facilities to a high standard. In addition, the potential for incidents involving public safety is a professional consideration for professional engineers involved in dam design, construction, and operation.

The overarching objective of the stabilization activities on the north spur is to establish the north spur as an engineered dam with the same safety margins as any other constructed dam in Canada. As a member of the [Canadian Dam Association](#), Nalcor Energy and its subsidiaries comply with the Association's Dam Safety Guidelines for its facilities.

Dam Breach Studies

Dam breach (or break) studies are undertaken to help plan for a very unlikely but high consequence event – the failure of a dam. While the engineering associated with dam design, construction, and operations is rigorous and applies very conservative approaches, these studies are undertaken to ensure that everybody - operators, governments, and the public, understand the potential consequences of a failure.

The dam breach studies undertaken for Muskrat Falls include:

- Dam Break Analysis For Muskrat Falls Construction – an analysis to address a breach of the temporary cofferdam used during construction of the main dam (Chapter 2).
- Muskrat Falls Dam Break Study – an analysis to address a breach of the main Roller Compacted Concrete (RCC) dam.
- North Spur Dam Break Analysis – an analysis to address the failure of the North Spur.

These documents are available on the Muskrat Falls Project website at:

<http://muskratfalls.nalcorenergy.com/newsroom/reports/>.