

Gaspereau Lake Dam | Engineering Assessment



Description of Services Provided:

The Assembly of Nova Scotia Mi'wam Chiefs (ANSMC), through the KMKNO, retained Meco to complete an Engineering Assessment on Dams at Muskrat Cove at Gaspereau Lake. The dams consist of an earth fill embankment and reinforced concrete spillway. The dam was assessed as not compliant to Canadian Dam Association (CDA) Dam Safety Guidelines (Guidelines) by the dam owner, Nova Scotia Power Inc. (NSPI). NSPI's remedial options had significant impact on the land and potential to result in significant cultural loss and displacement. Meco was tasked to independently verify if the dams meet the CDA safety criteria, comment on the current condition of the dam(s) and comment on whether the proposed NSPI remedial options are the best options with respect to cultural impacts.

The assessment determined the dam was in fair condition but was inadequate to safely discharge the recommended design flood. Two remedial alternatives were suggested that was not previously considered. The main components of the project deliverables were:

- Perform a Dam Safety Inspection of the dams at Muskrat Cove and prepare an inspection report on whether the dams, in their current condition, are compliant with the CDA Dam Safety Guidelines.
- Complete a review of design adequacy of the dam and flood discharge structures to the ability of the facility to survive the recommended inflow design flood (IDF).
- Review the current dam consequence classification and assess whether the classification is appropriate for the facilities.
- Review nine (9) rehabilitation options proposed by Nova Scotia Power Inc (NSPI) that are intended to bring the dam into compliance with CDA requirements.
- Through our partner, Membertou Geomatics Solutions (MGS), prepare recommendations cultural loss consequences for the dam and impacts on traditional use of the land.