



Government of Newfoundland and Labrador
Department of Environment and Climate Change
Water Resources Management Division

AMENDMENT TO PERMIT

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 49

Date: **DECEMBER 31, 2020**

File No: 536-12
Permit No: ALT6933-2013
Amendment No: 5

Permit Holder: **Muskrat Falls Corporation**
P.O. Box 13000, Station A
500 Columbus Drive
St. John's NL A1B 0M1

Attention: **Mr. Evan Porter**

Re: **Lower Churchill Muskrat Falls - Dams, Powerhouse, Spillway and North Spur Stabilization**

The original Permit dated JULY 10, 2013 is amended as follows:

This permit is valid until December 31, 2021.
Addition of terms and condition as per Appendix A.

All other terms and conditions of the original Permit will apply and failure to comply with the terms and conditions of this amendment and the original Permit will render this Permit null and void, place the Permit Holder and their agent(s) in violation of the *Water Resources Act* and make the Permit Holder responsible for taking any remedial measures as may be prescribed by this Department.

A handwritten signature in blue ink, appearing to read "A. ...".

(for) MINISTER

APPENDIX A
Terms and Conditions for Amendment

Water Resources Monitoring Network

1. The establishment of a water resources monitoring network and its operation and maintenance is required pursuant to the release of the project under the *Environmental Protection Act* and requirements under Section 31 of the *Water Resources Act SNL 2002 cW-4.01*.
2. A water resources monitoring network may consist of a station(s) that collects water quality, water level, streamflow, climate, groundwater level, web camera images, or other data deemed necessary for the management of water resources.
3. Additional water monitoring stations may be added or existing stations removed from the monitoring network through an amendment to this Permit. Monitoring stations must remain active for the life of the Muskrat Falls Hydroelectric Development unless otherwise agreed to by this Department.
4. The following locations shall comprise the water resources monitoring network:

Station Name	Station Number	Latitude	Longitude
Churchill River 6.15 km below Muskrat Falls	03OE014	53.237579	-60.675251
Pinus River	03OE011	53.147388	-61.558559
Churchill River above Grizzle Rapids	03OE013	52.970081	-61.445389
Muskrat Falls Met Station	NLENCL0006	53.24331	-60.75842
Churchill River Above Churchill Falls Tailrace	03OD008	53.524639	-64.115028
Churchill River below Metchin River	03OD009	53.239559	-63.284920
Churchill River Below Churchill Falls Tailrace	03OD010	53.504100	-63.945417
Churchill River at Happy Valley down from Courte Real Road	03OE016	53.295417	-60.292583
Mud Lake Outlet Tributary at Mud Lake	03OE017	53.303833	-60.167389
Metchin River near TLH Met Station	NLENCL0009	53.43614	-63.23372
TLH between Churchill Falls and Lab City Met Station	NLENCL0008	53.36682	-65.55509
Churchill River below Traverspine River	03OE019	53.279389	-60.272750
Churchill River at end of Mud Lake Road	03OE018	53.334833	-60.188361

Rabbit Island at the Outlet of the Churchill River	03PD002	53.402167	-60.149389
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5. Terms and Conditions contained within the following section(s) of the original Permit and Amendment(s) are valid for the life of the Muskrat Falls Hydroelectric Development unless determined otherwise by this Department:
 - a. Water Resources Monitoring Network
 - b. Dam Safety
 - c. Water Resources EA Commitments
6. All other Terms and Conditions contained within the original Permit and Amendment(s) are valid until December 31, 2021.
7. Annual operation and maintenance costs for each station to be paid for by the Permit Holder, plus applicable taxes, are as follows:

Component	Cost (\$/year)
Churchill River 6.15 km below Muskrat Falls	██████████
Pinus River	██████████
Churchill River above Grizzle Rapids	██████████
Muskrat Falls Met Station	██████████
Churchill River Above Churchill Falls Tailrace	██████████
Churchill River below Metchin River	██████████
Churchill River Below Churchill Falls Tailrace	██████████
Churchill River at Happy Valley down from Courte Real Road	██████████
Mud Lake Outlet Tributary at Mud Lake	██████████
Metchin River near TLH Met Station	██████████
TLH between Churchill Falls and Lab City Met Station	██████████
Churchill River below Traverspine River	██████████
Churchill River at end of Mud Lake Road	██████████
Rabbit Island at the Outlet of the Churchill River	██████████

8. Operation and maintenance costs will be prorated based on the date of initial station installation or station removal.
9. The annual amount payable for operation and maintenance by the Permit Holder shall remain ██████████ from the date of issue of the Permit or Amendment containing the Section: “Water Resources Monitoring Network”. The annual amount payable shall be reviewed and adjusted based on actual network operation and maintenance costs a minimum of ██████████ to reflect changes in annual costs.
10. All invoices or requests for payment shall be submitted by the Department to the Permit Holder at:

[REDACTED]

11. All payments by the Permit Holder shall be made payable to the Exchequer of Newfoundland and Labrador within thirty days of receipt of invoice and mailed to:

[REDACTED]

12. The Department shall:

- a. Ensure the operation and maintenance of the station(s) according to Departmental monitoring protocols, manuals, and guidelines.
- b. Invoice the Permit Holder for annual operation and maintenance costs for each station and any relevant work undertaken outside the scope of this permit.
- c. Follow data quality assurance/quality control protocols as outlined in Departmental protocols, manuals or guidelines to ensure data is accurate and acceptable.
- d. Perform annual performance testing and evaluation of water quality instrumentation.
- e. Monitor and analyze water quality data on a regular basis (quarterly) and report back to the Permit Holder. Prepare an Annual Report for stations monitoring water quality to be provided to the Permit Holder and made available on the Departmental website.
- f. Obtain hydrometric discharge measurements where necessary, in order to develop and ensure the integrity of stage-discharge rating curves.
- g. Maintain an inventory of spare equipment, where feasible, for deployment, in the event of instrument malfunction, to minimize loss of data.
- h. Process and archive station data and maintain a webpage to report water resources monitoring station data on a near real-time basis.
- i. Ensure a satellite or other communication link is provided for each station to allow transmission of the collected data from the station to the Department's data management system.
- j. Make use of station data to create value added tools and products as necessary.

13. The Permit Holder shall:

- a. Be responsible for all costs, including applicable Departmental rates, for additional activities not outlined in this Permit. Such activities shall be carried out with the prior written approval of the Permit Holder.
- b. Purchase water resources monitoring instrumentation required for the station(s) that meets the technical specifications provided by the Department.
- c. Be responsible for the cost associated with the repair, replacement, and/or upgrading of any instrumentation that was originally purchased by the Permit Holder in order to meet current provincial standards for instrumentation.
- d. Be responsible for the purchase of water quality sensors of the type specified by the Department as a result of annual performance testing of instrumentation related to the station(s).
- e. Be responsible for all costs associated with the repair, replacement, relocation, or decommissioning of a station(s) or station equipment arising from any cause other than the negligence or willful misconduct of the Department or the Department's employees.
- f. Provide all the instrumentation and equipment required for Departmental staff to operate and maintain a station(s) according to Departmental monitoring protocols, manuals, and guidelines.
- g. Agree to allow the Department to use station data to create value added tools and products as necessary.

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