

Preliminary Information

Installation of Three New Hydrometeorological Stations

Hydro-Québec Production, Direction régionale – La Grande Rivière

Prepared by: Équipe soutien environnemental Nord-Ouest

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1. APPLICANT NAME AND CONTACT INFORMATION

1.1 Promoter identification

Name: Hydro-Québec Production, Direction régionale – La Grande Rivière

Street address: 1095, rue Saguenay, Rouyn-Noranda (Québec) J9X 7B7

Name and title of signatory(ies) authorized to submit the application: Rubens Durocher, Regional Director – La Grande Rivière and Director – Production

Telephone No.: 819 764-5124 ext. 4901

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1.2 Enterprise number

Québec enterprise number (NEQ): 8811141181

2. PROJECT LOCATION AND SCHEDULE

2.1 Identification and location of project and project operations

The three planned hydrometeorological stations are located in the Baie-James region, on the territory governed by the *James Bay and Northern Québec Agreement*.

Land categories (I, II or III): The three hydrometeorological stations are located on Category III lands.

2.2 Description of project site

The stations will be built on land, and two of them will be equipped with water-level gauges buried in an aquatic environment.

2.3 Schedule

The work will take place between June 1 and late October 2018 and could continue in the summer of 2020.

2.4 Location maps

Attached are an aerial photo showing the location of the three hydrometeorological stations and a more detailed location map for each station. Each location map gives the corresponding geographic coordinates.

3. PROJECT OVERVIEW

3.1 Project title

Project for the installation of three hydrometeorological stations: Lac Corvette, Sheshamush and Rivière Misask

3.2 Site subjection

The hydrometeorological stations are being installed in a "gray area."

3.3 Summary of project and alternative installation methods

Description of work

- Clearing of an 8-m radius for the building location and a 15 x 15 m plot for the measuring instruments
- Installation of a prefabricated fiberglass building and measuring instruments
- Installation of a wooden helipad (clearing of a 20-m radius if necessary)
- Installation of water-level tubes (at two sites: Rivière Misask and Sheshamush)

Work methods

- The sites are accessed by helicopter only. All necessary materials and equipment will be hauled by helicopter.
- Manual clearing using a chainsaw
- No clearing of the buffer strip
- A mini-excavator lubricated with vegetable oil will be used to excavate for the concrete pilings and the measuring instruments.
- The concrete will be mixed using a small electric mixer and poured manually using a pail.
- A trench 1-m deep will be excavated between the building and the measuring instruments for burying the cables and will then be backfilled with excavation material.
- The helipad will be manually assembled on site (pieces of wood fastened with screws) and positioned on concrete slabs or anchored in the rock, depending on local soil type.
- Installation of water-level tubes: The tubes will be buried in the buffer strip in a 1-m trench excavated manually using a small round shovel. A trench measuring about 30 cm will be dug manually on the shoreline. The tubes will be laid there and fastened to piles driven 1.2 m deep. The piles will be driven using air-powered tools lubricated with vegetable oil. The tubes will then be protected by backfilling with excavation material. In case of installation in the rock, the tubes will be secured using anchors 3 to 5-in. long. The inshore trench is about 20 m from the shoreline.

3.4 OTHER RELEVANT INFORMATION

Appendix 1 contains a series of photographs illustrating the work methods used, as well as three location maps of the planned hydrometeorological stations.

3.5 Project objectives and justification

Hydrometeorological stations collect data that Hydro-Québec uses for operations, generation planning, the environment, safety and civil engineering. That data is also shared with outside partners, such as the Ministère de l'Énergie et des Ressources naturelles, the Centre d'expertise hydrique du Québec and SOPFEU.

4.1 Information and consultation activities

The Chisasibi and Mistissini tallymen affected by this project will be consulted by early April 2019.

5.1 Description of main project issues

No issues have been identified.

5.2 Description of primary anticipated impacts on the host environment

The anticipated environmental impacts related to the installation of hydrometeorological stations are minimal in view of the work methods used. Furthermore, the Ministère de l'Environnement considers that the installation of meteorological stations by Hydro-Québec does not require a certificate of authorization under Section 22 of the *Environment Quality Act*.

6.1 Greenhouse gas emissions

The sites of the planned hydrometeorological stations are accessible by helicopter only, and this entails greenhouse gas emissions. However, solar panels are used to provide the electric power for each installed station.

Appendix 1 – Photo illustrations of work methods (Shown here: installation of Chevalier hydrometeorological station near Outardes-3 generating station) After a potential site has been identified, there is a helicopter search for a suitable spot to land and make preparations.



That spot must then be partially cleared to build a helipad and a platform for the shed that will house the measuring equipment.



Next, a diver installs the water-level tubes, diving to verify that the chosen spot is suitable. A camera attached to the diver's helmet allows the crew on the bank to see the riverbed and validate the choice of location.



The diver's helmet is also fitted with earphones so that he or she can hear the crew leader's instructions for installing the tubes.



The crew has to prepare the construction equipment for transportation to the station site. The equipment is fastened down and secured by a cable for hoisting and hauling by helicopter. This is known as slinging. It takes several slinging operations to haul all the equipment needed for the job.



The prefabricated building and the mini-excavator are brought in by helicopter.



Once the foundation has been laid, the helicopter lifts up the prefabricated building again and sets it in its permanent location. Solar panels are installed to power the hydrometeorological measuring instruments.

The instrumentation rack housing the data transmission equipment is mounted in the shed.



The station is now ready to transmit its first measurements via satellite. The wooden helipad is shown in the photo below.

