

July 6, 2011

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Ministry of the Environment
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Dear Mr. Sanzo:

**Re: Tailrace Flow for Proposed Project to
Build a Hydro-electric Generating Station at the North Bala Falls**

Summary

It has come to our attention that the proponent's environmental screening report has not addressed the significant environmental issue of the change in direction of the water entering the Moon River:

- The boundary for the proponent's River2D simulation did not include the south shore of the Moon River, where the flow from the proposed project could create navigational difficulties and public safety concerns.
- A flow regime which is never used by the Ministry of Natural Resources (it was implemented once so the proponent could calibrate their River2D simulation) was used by Transport Canada as a basis to state there would be marine navigation benefits for the proposed project. This conclusion appears to be erroneous.

Detail

- 1) By adjusting the south dam stop-logs, Ministry of Natural Resources staff direct most of the water from Lake Muskoka to the Moon River over the south dam and through the south channel. Due to the shape and orientation of the south channel, the water is then directed down the centre of the Moon River. This current flow is shown in Figure 1. However, due to the orientation of the proposed hydro-electric generating station at the Bala Falls, the water from the tailrace would be directed at the south shore of the Moon River, as shown in Figure 1.

Unaddressed impacts of this flow of fast water directed directly at the shore include:

- a) Navigational difficulties for boats on the Moon River (pushing them to shore rather than down-river).
- b) Impinging the riparian rights of those on the south shore of the Moon River, as swimming and boat docking would become dangerous.
- c) In the spring, direct the ice break-up at the shoreline, or create a gyre in the bay of the Moon River south of the south channel, risking damage to shoreline property such as docks and boat houses.

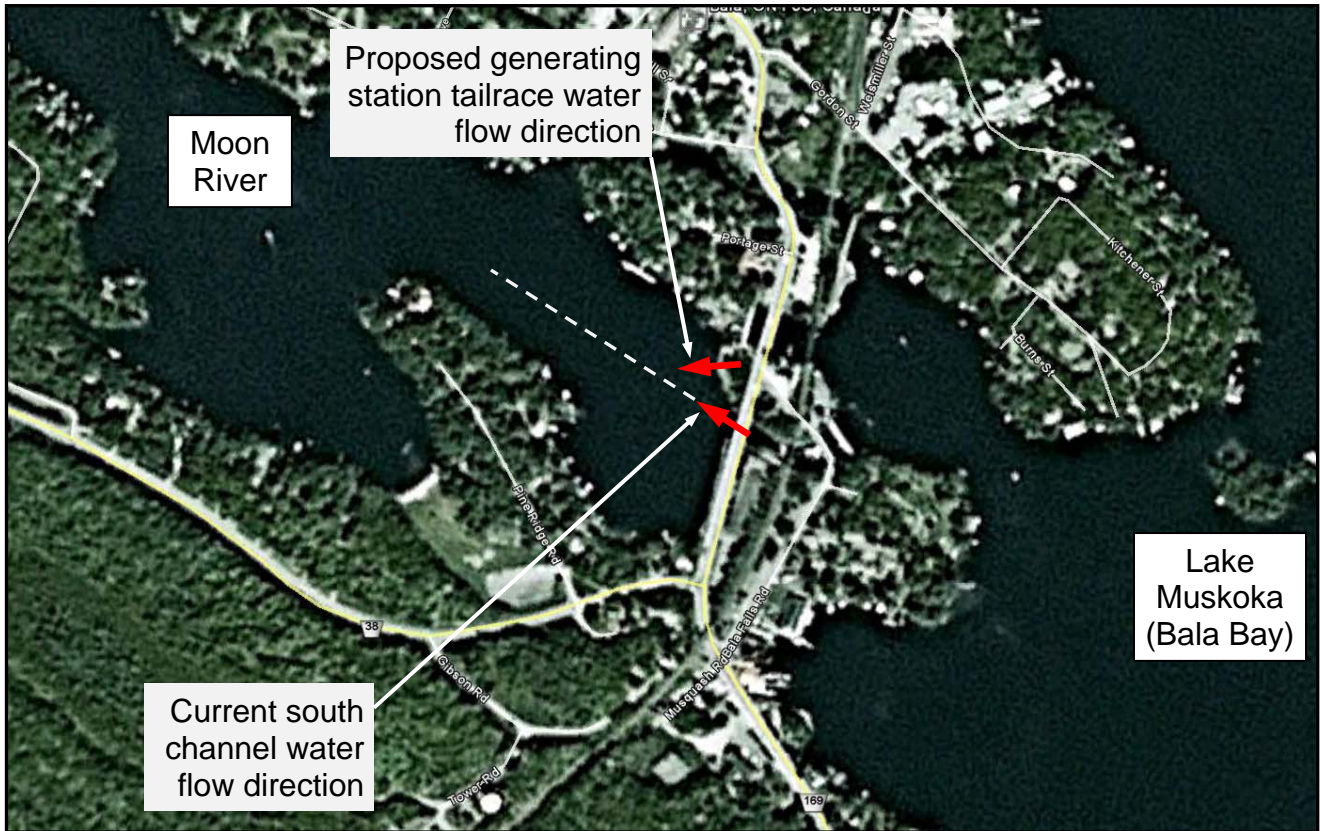


Figure 1 – Satellite View of Moon River, Showing Current and Proposed Flow

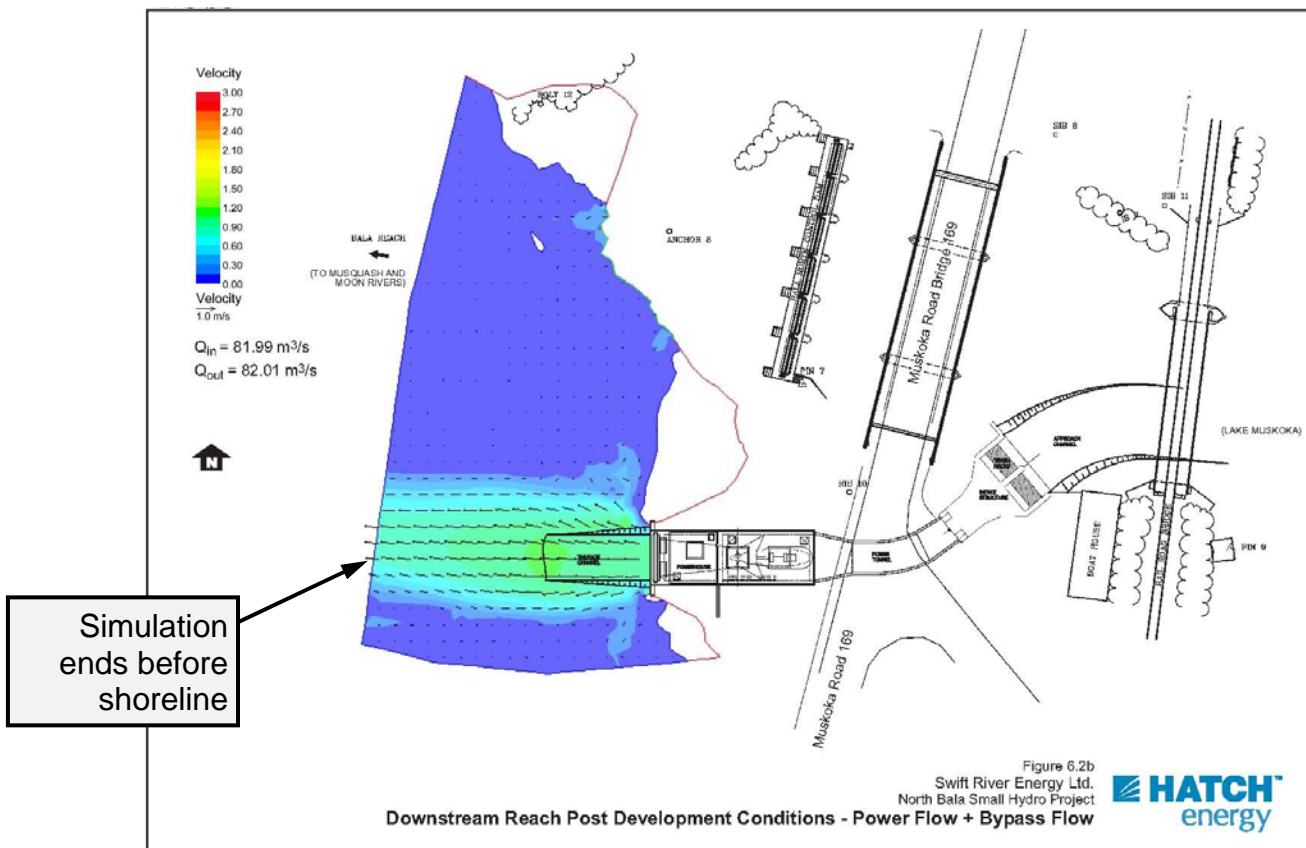


Figure 2 – Proponent's Flow Simulation

We note that Section 6.2.2.3 of the proponent's environmental screening report notes "flow velocity and vector are significantly altered downstream from the North Bala Dam due to flow diversion through the powerhouse" and that Figure 6.2b in their environmental screening report presents a River2D simulation of this (reproduced as Figure 2 above). Note that Figure 2 does not include the south shore of the Moon River, and also that the proponent notes "The flow plume from the tailrace exits the model boundary traveling in a westerly direction at a velocity of approximately 1.0 m/s."

That is, the proponent's proposed project would direct all the water exiting the tailrace at the south shore of the Moon River, the proponent states this would be a high velocity of water, and yet they do not complete the analysis to show the impact on the whole of the Moon River in this area.

- 2) Also, we note that Figure 6.2a of the environmental screening report shows a counter-clockwise gyre and that Transport Canada has stated that proposed project would facilitate marine navigation as there is no such gyre shown in Figure 6.2b. For example, in a letter dated January 22, 2010 from Mr. Al Robertson, Senior NWP Officer, Transport Canada, to Trion Clarke, Hatch Ltd., the following is stated:
 - a) "Velocity in the outfall area will ... be directed straight downstream".
 - **This is a misinterpretation** of Figure 6.2b (largely because the proponent does not include the shorelines of the Moon River). Looking at the angle of flow relative to the orientation of the north dam as shown in Figure 6.2b, and the Satellite view in Figure 1 above shows that the flow **would not** "be directed straight downstream".
 - b) "... This will remove the circular flow patterns that exist and should make navigating a small vessel easier and more predictable".
 - As can be seen by observing the Moon River, the existing flow from the south channel is in fact straight downstream. There is no circular flow pattern.
Transport Canada has assumed that Figure 6.2a is the current situation and it is not.
- 3) The conclusion that there is currently a gyre in the Moon River, or that there would not be a gyre produced by the proposed generating station **cannot be drawn from the information presented**, for the following reasons:
 - a) The situation for Figure 6.2a never occurs as (is frequently stated by the Ministry of Natural Resources) the south channel is the primary flow control structure and the dams are never adjusted to have all the flow through the north channel and no flow through the south channel. As noted in Section 6.2.2.3 of the environmental screening report, this unusual flow was implemented only for the purpose of calibrating the River2D model, and it is therefore **wrong for Transport Canada to conclude any marine navigation advantage** to the proposed project, as this unusual flow is not part of any flow regime used by the MNR.
 - b) The simulation shown in Figure 6.2b **needs to be extended** to include the south shore of the Moon River as this is where the flow would change direction and a gyre may therefore result outside of the shown simulation.

Conclusion

- The proponent needs to expand the boundary of their River2D simulation to include the south shore of the Moon River.
- Any conclusions about marine navigation must be done using flow regimes which are actually used.

Accordingly, we request individual environmental assessment for this proposed project so the public can receive all the information needed to be sure that all negative impacts have been acceptably mitigated.

Sincerely,

A handwritten signature in cursive script that reads "Mitchell Shnier".

Mitchell Shnier, P. Eng., on behalf of SaveTheBalaFalls.com

Cc: The Honourable John Wilkinson, Minister of the Environment, JWilkinson.mpp.co@liberal.ola.org