

September 24, 2015

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Dear Ms. Ausma:

Re: Proposed Hydro-electric Generating Station at the Bala Falls

Summary

We have found that the Ministry of Natural Resources and Forestry and the proponent for the proposed hydro-electric generating station at the Bala falls have not adequately planned for the risks to public safety which the proposed project would create:

- 1) For the proposed generating station, the upstream safety boom would need to be relocated further upstream, but this would bankrupt a local business and obstruct a portage.
- 2) The proponent has not shown how they would warn the public before their proposed generating station begins operation, such notification is required by the MNR's *Public Safety Measures Plan*.
- 3) Visiting 32 nearby and similarly-sized hydro-electric generating stations shows that none have public and private docks as close, and none have in-water recreation as close. The proponent's plans to locate their generating station in the middle of a recreational area are therefore unprecedented, yet they have not presented any plans to address this.
- 4) The *Aquatic Safety Audit*, authored by the Lifesaving Society to investigate impacts this proposed project would have on in-water recreation found that:
 - a) *"The proposed installation of a hydroelectric generating station adjacent the Bala North Falls dam would create extreme new dangers, to both upstream and downstream in-water recreation."*
 - b) *"In whole, this development would create an unusually and extremely dangerous situation, and therefore requires a commensurate level of planning to be presented to agencies, stakeholders, and the public. This process should be started and completed before any construction proceeds, to both ensure it would be practical to implement, and so that any required changes could be incorporated into the design of the proposed station."*

That is, as currently proposed, the proponent's plans are unacceptably dangerous and it may not be possible to implement the required safety measures.

If the proponent cannot demonstrate to the public that they could operate this proposed station safely, then this proposed project must be cancelled. We provide details below.

Detail

1) Upstream Safety Boom

As you know, the Ministry of Natural Resources commissioned a *Public Safety Measures Plan* for the Bala Falls Dams, and the final report is dated March 2011.

Based on the *Point of No Return* calculations, as specified by Transport Canada, and which are included in that report, it was determined that for public safety requirements, it was necessary to relocate the upstream safety boom from the existing 35 m to a distance of 50 m upstream of the Bala north dam. And this was subsequently done. However:

- a) As the intake for the proposed Bala generating station would be 12 m farther upstream than the Bala north dam, the upstream safety boom would therefore need to be relocated 12 farther upstream that it is currently.
- b) However, in addition to this, as noted in Section 5.0 of the report, the above exclusion zone distance of 50 m was based on the Transport Canada *Drawdown Distance* method, which as shown in Appendix E of the report, strongly depends on characteristics of the downstream hazard. Compared to the Bala north dam, the proposed generating station would have increased dangers as:
 - It would be remotely operated (Question 13).
 - Access to emergency rescue would be restricted, as rescue efforts could not begin until the remotely-operated station could be shut down (Question 14).

As shown in the attached calculation page (“Remote and Rescue”), at the proposed station’s maximum flow of 96 m³/s (which would occur an average of 21 days every summer) with the 2 m³/s of flow over the Bala north falls, and with the above two factors of being remotely operated with restricted rescue, the *Point of No Return* calculation requires the exclusion zone distance be increased from 50 m to 60 m upstream of the hazard.

- c) We have shown both the current location, and the location which would be required for the upstream safety boom on the attached marked-up Figure 2.1 from the proponent’s Addendum (“PoNR distance”). This marked-up Figure 2.1 shows that due to the factors in a) and b) above, the required upstream safety boom location would:
 - Prevent use of the existing portage put-in / take-out at the Crown land just east of Muskoka Road 169. This existing portage put-in / take-out location is confirmed in Figure 1 of this same report.
 - Prevent use of the boat rental docks at Purk’s Place, which would bankrupt this business.
- d) The two hazard buoys installed in the past year upstream of the safety boom and the CP Rail bridge provide additional warning, however these would not keep a capsized boat or one with a stalled engine out of the exclusion zone. They would not provide the protection required for someone falling out of a boat at the boat rental docks or at the existing portage. Therefore, the two hazard buoys do not provide the protection required and would be inadequate given the extreme danger of the proposed generating station’s intake.

- e) Further to the above, it is noted that the Transport Canada *Drawdown Distance* calculation includes a factor *hw* (“Water surface elevation above the weir or spillway”) to account for the danger presented by the hazard.
- Clearly, being drawn to a generating station’s intake and held underwater would be far more dangerous than being thrown over the top of a dam.
 - If *hw* is increased from the 1.67 m used in the report (which is the height of the stop-logs of the Bala north dam) to 5.2 m (the net drop at full flow between the elevation of Bala Bay and the Moon River), then as shown by the attached calculation page (“Danger”), the exclusion zone would be 187 m. Such an exclusion zone would also prevent use of both the Town Docks on Bala Bay and also Diver’s Point. This would be unacceptable.

That is, properly applying the Point of No Return calculation for the proposed generating station shows that the required exclusion zone cannot be accommodated in this location. The proposed generating station would be too dangerous for this location.

- f) In addition to the above, there is another problem in attempting to locate this proposed generating station at this location, as follows.

Even with the additional warning signs and fencing recommended by this report, Section 5.0 of the report recommends that dam operators look for and notify those in the water downstream prior to changing flow from the dam. The proponent’s current plans do not provide such protection, as their proposed generating station would both:

- Start without warning at about noon on more than 1/3 of summer days. So the MNR’s required notification of people downstream would not be implemented.
- Have a greater minimum and cycling flow than was stated in their environmental assessment. The proposed station’s danger would therefore be greater than they previously disclosed.
 - In fact, Table 6.1 of the proponent’s 2012 Addendum notes due to their proposed Cycling Operations, the tailrace discharge water “*velocity at the cycling flow will be around 0.2 m/s, which should not result in any adverse effects on public safety*”. However a tailrace discharge water velocity lower than this caused a drowning at the Wilson’s Falls generating station in 2008.
 - Clearly, the proponent’s quoted statement above is just hopeful speculation rather than knowledgeable input, which is unacceptable given this issue concerns drowning people.

In summary, the above points demonstrate the proponent has not presented an acceptable plan. This is reinforced by our next point below.

2) ***Aquatic Safety Audit report***

For many years we have been concerned that the proponent has not adequately assessed the public safety risks which their proposed generating station would create. We have therefore commissioned an organization with the required expertise to provide an *Aquatic Safety Audit* report, which is attached, along with a cover letter which summarizes that:

- a) Before any construction is allowed to commence, the proponent for the proposed hydro-electric generating station at the Bala falls must be required to provide

plans showing both how their proposed generating station could be operated safely and that it would be practical to implement these plans.

b) The proponent's current plans are unacceptably dangerous.

That is, the Lifesaving Society, Canada's lifeguarding experts, have confirmed what Transport Canada's *Point of No Return* calculations show – that the proponent has not demonstrated that the proposed generating station could be operated safely at the Bala falls.

Conclusion

As currently proposed, the proponent's plans are unacceptably dangerous.

If the proponent cannot authoritatively demonstrate to the public that they could operate this proposed station safely, then this proposed project must be cancelled.

Please respond with what the MNRF will do to address this unacceptable situation.

Sincerely,



Mitchell Shnier, on behalf of SaveTheBalaFalls.com

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