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Re: Coniston Generating Station – Life Extension Project
Open House #2 – Virtual Format

Dear Sirs:

The Ontario Rivers Alliance (ORA) is a not-for-profit grassroots organization with a mission to protect, conserve and restore riverine ecosystems all across Ontario. ORA advocates for effective policy and legislation to ensure that development affecting Ontario rivers is environmentally and socially sustainable.

First, it's important to give credit where credit is due. The virtual online Open House for the Coniston Generating Station (Project) Open House was very informative and well done. It is a powerful way to relay complex information in such a convenient and effective manner. I highly recommend this format for public consultation to continue, even after the COVID pandemic is over.

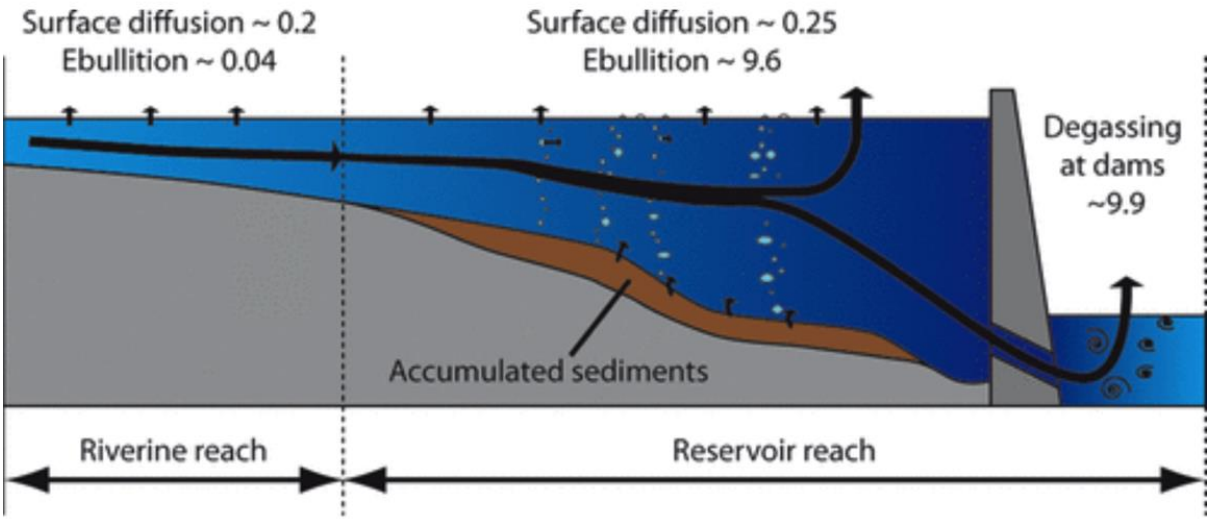
The following are questions and comments regarding the Project:

1. The link to the Project's webpage provided in the email gave an update on the Project. It stated that "*the proposed Project is being undertaken by Ontario Power Generation* [OPG] to *improve the available hydroelectric potential at the site, to reduce greenhouse gas emissions and to increase the amount of clean renewable energy available to consumers."*[1] Please explain: how will the Coniston GS reduce greenhouse gas emissions?

   Hydroelectric is not emission-free or clean. A Washington State University study on the effects of damming conducted in a central European impounded river revealed that the reservoir reaches are a major source of methane emissions and that areal emission rates far exceed previous estimates for temperate reservoirs or rivers. It showed that sediment accumulation correlates with methane production and subsequent ebullitive release rates. Results suggested that sedimentation-driven methane emissions from dammed river hot spot sites can

[1] *Coniston Generating Station Project Update*.

potentially increase global freshwater emissions by up to 7%.[2] Hydroelectric facilities need to acknowledge and account for the associated GHG emissions they produce.



All values denote mean methane fluxes in mmol CH_4 m^{-2} d^{-1}

With smaller dams, storage becomes increasingly important. Reservoirs silting up or becoming overloaded with nutrients are common problems, especially where shallower bodies of water are created. The shallower a water body, the more easily eutrophic it can become and is even more serious when they are downstream from wastewater treatment facilities. Likewise, methane generation occurs largely where water and sediment meet, and this means that a shallower water body is likely to release more methane per unit area than a deeper water body. We are led to believe it's clean and green because most countries are well-invested in hydroelectric, which in Ontario makes up over 25% and in Canada 59% of our electricity mix.

The collateral environmental damage caused by hydroelectric has been well documented for decades, including the loss or serious decline in migratory fish species and they are key factors in the listing of some iconic fish species as species at risk, declining biodiversity, impaired water quality, including elevation of mercury concentrations in fish tissue, and are key threats to imperiled aquatic species. There are 224 hydroelectric facilities in Ontario, and a total of only 3 have that have installed fish passage. The Coniston GS has no fish passage.

Hydroelectric is not emission-free and must be recognized for the significant and ongoing negative impacts that result from their impoundments, diversions, and cycling and peaking operating strategies. These effects are not being adequately identified much less properly addressed through the Class EA for Waterpower.

The Ontario Waterpower Association (OWA) and Ontario government just removed public consultation from the Class EA for Waterpower for the conversion of dams to generate power, and for the upgrades of older hydroelectric dams. Fortunately, this Project began before the amendment to the Class EA and was in a different category with an increase in capacity over 25%.

[2] *Maeck, A., DelSontro, T., McGinnis, D.F, Fischer, H., Flury, S., Schmidt, M., Fietzek, P. and Lorke, A., 2013. Sediment Trapping by Dams Creates Methane Emission Hot Spots, Environmental Science and Technology, 8130-8137, Online: http://www.dx.doi.org/10.1021/es4003907*

The OWA and OPG are now looking to Northern Ontario to dam more rivers to increase hydroelectric power generation and Ken Hartwick, President and CEO of OPG publicly referred to it as "*new non-emitting hydropower*[3], which is extremely misleading. It's time the OPG, OWA, and the Ontario government come clean and tell the truth! Hydroelectric power generation is not clean or non-emitting. It is time OPG started to account for GHG emissions at all their facilities.

2. Are there any wastewater treatment facilities upstream of this facility, because this is a factor that could also increase GHG emissions?

3. The presentation shows a very small zone of impact, that includes very little of the upstream, except in the immediate vicinity of the dam, and a very short distance downstream of the dam. This facility will cycle its operations, which can have major impacts on both the upstream and downstream. The upstream and downstream area that would be impacted by the operating strategy was always referred to as the Zone of Influence, so it is interesting that now it is a much smaller area that is referred to as the Zone of Impact. Please provide the following information:
    a. You only explain that cycling operations will result in fluctuations of downstream flows, when in fact it will impact on upstream and downstream water levels and flow volume. Why are you not taking into account the impact on the upstream reservoir?
    b. What is the distance between the dam and the upstream zone of impact?
    c. What is the distance between the dam and the downstream zone of impact?
    d. Why does the zone of impact not include Coniston Creek, when the presentation mentions that MECP requires the shutdown of all turbines to dilute metal concentrations that flow into the Wanapitei River from Coniston Creek?
    e. Why does the zone of impact not extend much further upstream when the cycling will create fluctuations in water levels and flows which will likely result in erosion, turbidity, increased water temperatures and greenhouse gas emissions?

4. What will the frequency and duration of fluctuations in water levels and flows be on a daily basis when the dam is in full operation?

5. Will the sediment that has already built up behind the dam over the last 100 years be removed? If so, how will it be removed and how and where will it be done disposed of?

6. Has the sediment been assessed or analyzed for contaminants?

7. What is a "run-to-fail" mode – can you explain?

8. The public no longer has the right to make a Part II Order request to appeal a Minister's decision, unless it relates to Indigenous treaty rights. Therefore, this reference should be removed from your website.

The loss of the public's right to appeal a Minister's decision on a hydroelectric approval, was only one of the public's rights that were removed within the last few years. With Bill 32, a Permit to Take Water was no longer required for waterpower facilities, which also meant the loss of the public's ability to appeal decisions that impact on timing, frequency and volume of flows. It also meant the loss of the strict monitoring and compliance oversight of methylmercury production in headponds, and the amount of water left in the river to support aquatic life. This was another travesty that the OWA and Ontario government are responsible for.

Thank you for this opportunity to comment.

[3] *News Release: Province asking Ontario Power Generation to Investigate New Hydroelectric Opportunities, January 20, 2022.*

Respectfully,

Linda Heron
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