

April 14, 2022

Linda Heron
Chair, Ontario Rivers Alliance
379 Ronka Road
Worthington, ON P0M 3H0

BY EMAIL ONLY: Linda@OntarioRiversAlliance.ca

Dear Linda,

Thank you for your comments on the proposed Life Extension to the Coniston Generating Station (GS) Project. Please find below responses to your comments.

To begin with, as indicated in the presentation available on the www.conistongs.com website, while Ontario Power Generation (OPG) is re-developing the Coniston GS, OPG does not plan to alter the current operating regime for the facility or make any changes to the compliance water levels and flows that are outlined in the Wanapitei River Water Management Plan (WRWMP). The WRWMP was approved by the Ontario Ministry of Natural Resources in 2011. If you do not have a copy of the WRWMP, we would be pleased to send it to you.

For clarity we have copied your comments and then provided a response directly below it.

Comment #1 - Greenhouse Gas Emissions

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

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%.

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, 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.

Response #1 - Greenhouse Gas Emissions

With respect to your first comment/question under #1, you first asked: “Please explain: how will the Coniston GS reduce greenhouse gas emissions?”

The proposed Coniston GS will reduce greenhouse gas emissions. At present in Ontario, the alternative to hydroelectric facilities would be increased electricity production from natural gas generating stations. The proposed new GS is being developed to a capacity of 6 MW. However, as the GS has currently only one unit running it is not generating all the power it could potentially do so and therefore there is an opportunity to increase current production from approximately 2 MW to 6 MW, representing a 4MW increase. OPG has assumed that natural gas generating plants would be used part of the time to replace the same energy produced at the Coniston GS if the station were to stop operating (as the facility is close to 120 years old, OPG anticipates that the facility will not be able to operate more than a few years without the planned life extension to it). OPG has estimated that a re-developed Coniston GS would displace 12,880 Mg of carbon dioxide per year for each MW of power that would have otherwise been emitted through the use of natural gas. Therefore, the proposed undertaking is assumed to help offset that amount of greenhouse gas emissions (GHGs). Wind or solar power are simply not alternatives for hydropower in Ontario at present. The energy from waterpower is generally predictable and helps to provide baseload or dispatchable power whereas wind and solar are intermittent and dependent on the right conditions.

Your comment expressed the concern about GHG emissions and reservoirs. Visual examination of the stretch of the Wanapitei River immediately above the Coniston GS demonstrates that very little area would have been inundated for a reservoir. There is no large lake or impoundment immediately above the Coniston GS. There is a limited forebay to store water since Coniston is a run-of-the river GS. OPG



Because these were Falls, it is the opinion of our biologists that fish could not have moved upstream prior to the development of the GS. There are currently no fish in this section of the River that have biological reasons to move upstream of the facility. The main sportfish in this stretch of the River is Walleye and all the habitat needs of the species are met within this stretch of the River. As such, there is no biological rationale for upstream fish passage at the Coniston GS.

Comment #2 – Upstream Wastewater Treatment Facility

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

Response #2 – Upstream Wastewater Treatment Facility

There are sewage lagoons upstream of the Coniston GS. The City of Greater Sudbury has an active treatment facility for the community of Wahnapiatae. The lagoons discharge effluent seasonally, within timeframes assigned by the Ministry of Environment, Conservation and Parks (MECP). The presence of these facilities was acknowledged in the existing WRWMP.

We are not aware how the proposed life extension to the Coniston GS would somehow interact with the above facility and result in increased GHG emissions. The existing Coniston GS has been in place for close to 120 years. As already indicated, the proposed project would not change the water levels, flow or current area of the reservoir above the Coniston GS.

Comment #3 – Zone of Impact

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?

Response #3 – Zone of Impact

As you point out, OPG has identified a relatively small zone of impact. That is because the environmental effects of the project will occur in close proximity to the GS. Environmental assessment regimes across the globe are premised on assessing the impact of a proposed project against present environmental conditions. They are not premised on assessing the impact of a project according to some pre-development or historical condition. This project's zone of impact was assessed in the same manner.

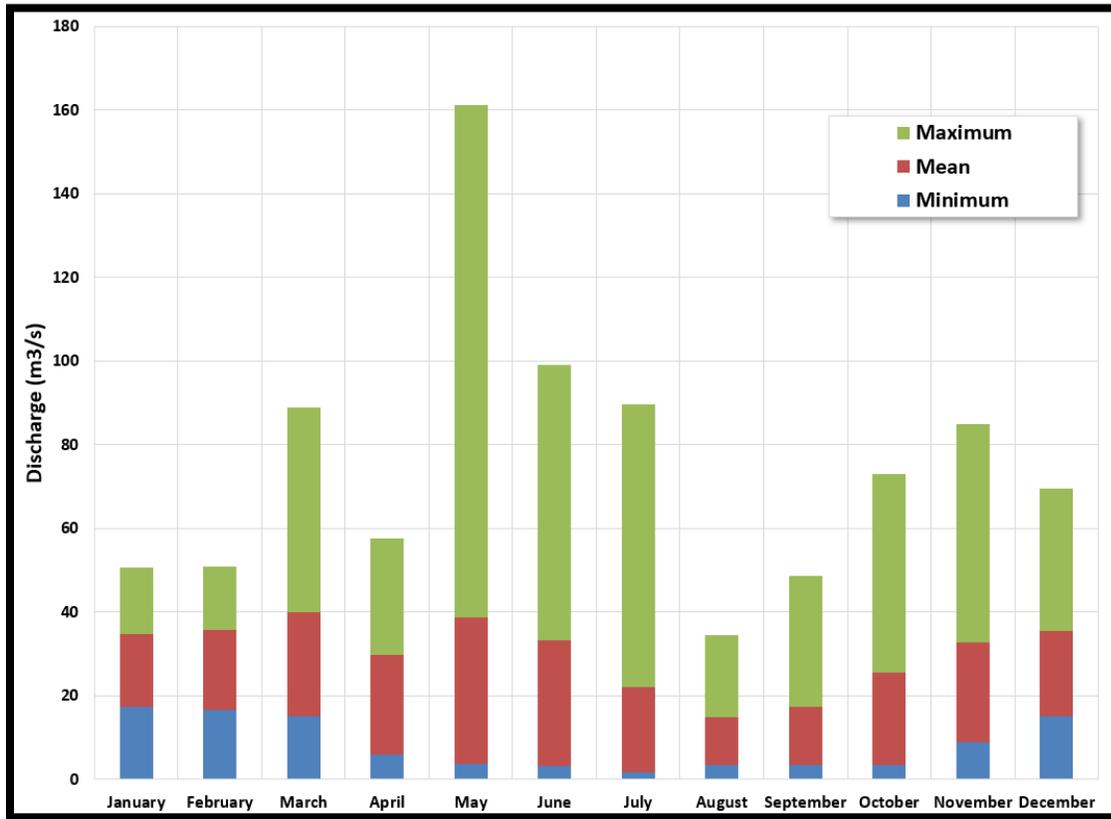
As mentioned above, OPG will be operating within the current operating regime of the WRWMP. Until recently the plant's capacity was 4.75 MW (max flow 44 m³/s). The new 6 MW (max flow 43.5 m³/s proposed) capacity stated is the result of new and more efficient generating units operating at near the same historical maximum flow of 44 m³/s. Recently, with only one operating unit (1 of 3), the capacity of the GS has been limited to well below 4.75MW and there has been limited "cycling" of units during low flow periods in order to pass the minimum daily average flow (3 m³/s). The existing WRWMP rules have and will continue to be followed. The operating rules were set up recognizing the ecological conditions of the River and were the culmination of a multi-year planning process involving numerous stakeholders and government agencies examining various conditions and issues on the River.

The only change in water management operations will be that with new functional units the station will be able to pass the available flow to generate power rather than it be passed through the spillway. As the plant was and will remain a run-of-the-river GS and only pass what flow is available from natural inflow there is very little storage capacity in the reservoir, and it will continue to be operated according to the same WRWMP operating rules. Flows through units will vary based on unit capacities and units will be cycled on or off to suit the natural available inflows with excess flow being spilled (beyond plant capacity) through the spillway. OPG has limited storage and a limited operating range (0.55m) in accordance with the WRWMP that peaking style operations are not possible. In short, the new plant is meant to be highly adaptable to various flow conditions.

No changes in operations will occur with the proposed new GS and would not have any identifiable ecological impacts on the River as total flow passed at the site will continue to match inflows on the river system. The Zone of Impact for the upstream side is just slightly upriver of the proposed dam (less than 100 meters) and was identified to account for possible cofferdams that may be required on the upstream side of the dam. The zone of impact does not extend further upstream because the GS will still

be operating within the operating rules already established within the WRWMP. The Zone of Impact for the downstream side potentially extends approximately 200 meters downstream of the powerhouse in order to include an area for the possibility of in-water work associated with fish habitat; cofferdams in close proximity to the powerhouse; and on the terrestrial side for possible vegetation clearing. The Zone of Impact does not include Coniston Creek because the proposed project won't impact Coniston Creek nor the requirement to maintain flow in the River. For context, there is a minimum daily average flow of $3.0 \text{ m}^3/\text{s}$, maintained at the request of MECP to dilute metal concentrations that flow into the Wanapitei River from Coniston Creek. These high metal concentrations have nothing to do with OPG operations and OPG provides this flow to assist with this existing environmental problem. OPG would continue to provide the minimum daily average flow in the river regardless of whether the life extension of the Coniston GS occurs or not. Lastly you indicate: "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?" The proposed re-development of the GS will not result in such effects because it will not change the overall flows and levels in the River from the existing conditions. To re-iterate, the overall compliance levels and flows will remain the same and therefore the effects will not change. It is important to remember that a River does have variable hydrological conditions. Inflows vary hourly, daily, monthly seasonally, annually and year-to-year. OPG maintains historical records, constantly assesses levels and flows and assesses the impacts of future climate changes scenarios on the hydrology for the Rivers it has facilities on. OPG uses that information to continue to manage the flows and levels on these rivers according to the compliance regimes set out in water management plans. The natural variations in the hydrology of the Wanapitei River are far greater than any slight changes that would occur with a new powerhouse (please see the figure below for data on the monthly historical flow record of the station) and with the new facility operating as a run-of-the-river facility. It is those natural/wider fluctuations that are more likely to produce the affects you suggest such as turbidity and erosion. But the compliance rules developed in the WRWMP were developed recognizing all of the historic and natural conditions.

AVERAGE, MAXIMUM, AND MINIMUM MONTHLY FLOWS AT CONISTON GS (KGS Group 2018)



The Wanapitei River is not an undeveloped River with Coniston as the only GS. There are a number of GSs on the River that operate as a run-of-the-river cascade system with limited storage capacities (except for Wanapitei Lake). As such, the re-development of Coniston GS cannot alter the fundamental way the River is operated.

The environmental effects that you are suggesting beyond the zone of impact that might occur won't be any different with the proposed project than without it, given the existing operating requirements for the Coniston GS and the future hydrological conditions on the River.

Comment #4 – Water Levels

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?

Response #4 – Water Levels

As indicated, the proposed re-developed Coniston GS will be operated according to the same water management levels and flows that are outlined in the current WRWMP. Slightly more water will go through the powerhouse instead of the main dam compared to the present situation, simply because some of the equipment is not currently operational. Furthermore, the main dam has already been operating for approximately 120 years as previously indicated and no changes will be made to the existing operations of the main dam.

Comment #5 – Sediment Behind the Dam

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?

Response #5 – Sediment Behind the Dam

There is no plan to remove or to disturb any sediment that exists behind the dam. The only work anticipated is a cofferdam upstream of the existing canal and potentially excavation in the dry in the vicinity of the canal entrance. The spillway is not closed and is rather opened several times a year to pass water flows to meet operational and dam safety requirements. As the dam is open likely during high flow events, some sediment moves down the River. OPG does not own the sediment above the dam. The sediment that exists is primarily a result of all human activities in the watershed above. OPG does regularly capture the trash and other debris that flows down the River and disposes of this material.

Comment #6 - Has the sediment been assessed or analyzed for contaminants?

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Response #6 - Has the sediment been assessed or analyzed for contaminants?

To our knowledge there has been no assessment of sediments behind the dam for contaminants. The project will not disturb any sediment buildup behind the dam beyond what may occur during normal operation of the spillway.

Comment #7 - What is a “run-to-fail” mode – can you explain?

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Response #7 - What is a “run-to-fail” mode – can you explain?

Run-to-fail mode is a strategy to minimize total maintenance on a unit that is reaching end of life, such as Coniston GS Unit 3. OPG continues to perform routine maintenance tasks on the unit to maintain operations but has determined that if a large investment is required (such as major maintenance or equipment replacement), it would not be worthwhile. Therefore, in the case that a component integral to unit operation reaches the end of its service life, the unit would be safely and permanently shut down.

Comment #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.

Response #8 – Class EA Process

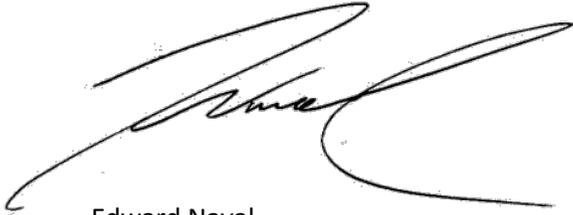
The only mention of a Part II Order request provision on the Coniston GS website is within the Open House No. 2 Presentation Panels, on slide 12. The slide states:

“Provided the requirements of the OWA Class EA planning process are met, and a Part II Order request is not made (or denied), a project is considered approved under the EA Act.”

As mentioned in your letter, Part II Order requests can still be received if it relates to Indigenous treaty rights. So OPG believes this statement is still accurate.

We trust that these clarifications help to address your questions. If you require anything further, please do not hesitate to contact me at (647) 524-3402 or email at edward.naval@opg.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Edward Naval', with a large, sweeping flourish extending to the right.

Edward Naval
Environmental Advisor, Coniston/Stinson Life Extension Projects
Ontario Power Generation

cc: Svetlana Helc, Project Manager, Coniston/Stinson Life Extension Projects
Phil Shantz, Project Manager, Arcadis