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The Honourable Jim Bradley
Minister of Environment
11th Floor, Ferguson Block
77 Wellesley Street West
Toronto, ON
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Email: Minister.MOE@Ontario.ca

Dear Minister Bradley:

**Re: Wabagishik Rapids GS - Proposed Waterpower Project
Xeneca's Response to ORA and VRS's Part II Order Request**

I am writing on behalf of Ontario Rivers Alliance (ORA) and Vermilion River Stewardship (VRS) in response to Xeneca's letter dated 20 December 2013, and their attachment entitled "Xeneca Overview Response" (Overview), regarding our Part II Order request on the proposed Wabagishik Rapids Generating Station on the Vermilion River.

We are addressing this letter to you, Minister Bradley, as through our Part II Order request we have placed this matter in your hands. We have carefully studied the proponent's Environmental Report (ER) and supporting documentation, and sent our well-considered comments and recommendations to you. There is no intervener funding available to the public to enter into long and involved negotiations with the proponent, and we have no desire to continue a letter writing campaign with Xeneca as they have managed to totally undermine all trust and confidence in their company and the proposed project.

Xeneca has responded to our Part II Order request with a total of 69 pages that are, at best, a repetition of information which was contained in the ER, yet disturbingly continues to offer statements of denial, diversion, and obfuscation of facts. Therefore, rather than repeat what is already contained in our Part II Order request to you, dated 1 November 2013, we are compelled to focus on some of the misleading and incorrect statements contained within Xeneca's Overview Response (Overview).

Many other requesters have also received this same Overview document with minor additions and modifications, so I will be referring to what is contained in this document throughout this response. Underlined text is used to make emphasis.

In this Overview document Xeneca makes claims that contradict their own ER – as follows:

1. **Parish Geomorphic Erosion Study:** The Parish Geomorphic Study clearly states, “Due to time constraints and access issues, sediment data for reaches W1, W2 (Wabagishik Lake), and W7 was not collected.”¹ Also, “Due to time constraints and access issues, reaches W1 and W2 were not visited as part of the field program.”² (W1 is defined as the Vermilion River below Lorne Falls Dam, W2 is defined as Wabagishik Lake above its outlet, and W7 represents the lake/pool area before the confluence of the Vermilion with the Spanish River).

And yet, throughout their Overview, Xeneca desperately tries to convince the requesters that:

“Extensive study of the lake was carried out as outlined in the ER, including geomorphology, hydrology, water quality, aquatic habitat and other studies.”³ In fact the only studies carried out on the upper portion of the river and Wabagishik Lake were the hydrology related assessments. This is blatantly misleading.

“Terrestrial studies, such as bird and reptile, were not carried out around the lake since no change to the natural seasonal lake level conditions is proposed and no terrestrial impacts around the shoreline were derived.”⁴ Xeneca provides no scientific basis or clear and traceable path as to how it was determined that no terrestrial impacts would occur.

“It was concluded that +/- 5 centimeters of daily variation is less than the average wave fluctuation height and it was determined that such fluctuations would not have an erosional impact on the shoreline.”⁵ Since no sediment and erosion studies were performed on Wabagishik Lake and the upper portion of the Vermilion River, how can Xeneca make any determination that “such fluctuations would not have an erosional impact on the shoreline”? Again, there is no indication of how this conclusion was determined.

“The technical studies in the EA (geomorphology study and hydraulic modeling) concluded that the proposed operation will not disturb sediment upstream in Wabagishik Lake or downstream.”⁶ Nowhere in the hydraulic modeling report did the word “erosion” appear, and the geomorphology study did not include Wabagishik Lake as previously pointed out. This is clearly not the case.

“Monitoring of erosion at Lorne Falls, located at the far upstream end of Wabagishik Lake (i.e. 10 kilometers upstream) was not included because it was considered completely impossible for the proposed project operation to cause erosion that far upstream.”⁷ Yes this area is considered within the “zone of influence”, and again there is no traceable path to show how this determination was made.

“Impacts associated with any lake level fluctuations are anticipated to be limited to the shallower, littoral areas of the lake. These littoral areas, estimated to cover 12.5

¹ Annex 1, Vermilion River Hydroelectric Project Geomorphic Assessment, Wabagishik Rapids, 3.3.1, Bed Material - P-14

² Annex 1, Vermilion River Hydroelectric Project Geomorphic Assessment, Wabagishik Rapids - P-17

³ Wabagishik ORA Quick Reference – Xeneca Overview Response Chart, P-3

⁴ Wabagishik ORA Quick Reference – Xeneca Overview Response Chart, P-3

⁵ Wabagishik ORA Quick Reference – Xeneca Overview Response Chart, P-3

⁶ Wabagishik ORA Quick Reference – Xeneca Overview Response Chart, P-4

⁷ Wabagishik ORA Quick Reference – Xeneca Overview Response Chart, P-4

*ha, already fall within the existing natural zone of fluctuation of Wabagishik Lake subject to the effects of wave action, seasonal level changes and seiche effects. Although there will be an increase in the frequency of small water level fluctuations, impacts to biota in the littoral zone are predicted to be minimal and not significant, as the ± 5 cm water level fluctuations resulting from operations are within the range of naturally-occurring fluctuations on the lake.*⁸ This statement demonstrates that Xeneca is aware there will be impacts associated with lake level fluctuation to the shallower, littoral areas of the lake, and yet they failed to study to what extent. Xeneca also continues to refer to annual seasonal range of water level fluctuations and wind and wave action as having the same impact as daily fluctuations and flow velocities, when they have no basis for this assumption. As was pointed out in Erik Szkokan-Emilson's Part II Order request, "*natural variation occurring across seasons is quite different than daily peak events. Daily changes in flow (the response letter states 43 m³/s) are far more likely to cause severe erosion of sediment than occasional storm events and seasonal changes in flow.*"⁹

- 2. Zone of Influence vs. Headpond Inundation:** The Overview explains that "*The upstream extent is physically defined as the extent of Wabagishik Lake. It has been confirmed with hydraulic analysis that there is no effect upstream of the lake*"¹⁰ Yet Xeneca also refers to a detailed discussion of the definition of the zone of influence given in the ER in Section 1.2.1 where it states, "*Once operational, any modification of flow that affects the headpond also affects the lake. Xeneca has proposed to carry out daily operation whereby more water is released during daytime hours than during nighttime hours. This aspect is described in detail in the Operating Plan in the ER (Annex I). This operation will cause both the headpond and the lake level to fluctuate throughout the day.*"¹¹ So, in Annex 1, this report states, "*The headpond will extend approximately 11.5 km upstream during the LTAF and approximately 0.6 km during the 1:100 year flood. The proposed structure would raise water levels upstream in Wabageshik Lake during all normal flows but excluding the extremely rare flood events. This rise in water levels would extend to the downstream side of the Lorne Falls Hydropower Generating Station.*"¹²

Vale "*requested LiDAR data and flow modeling to better determine if Xeneca's operating levels would have any impacts on their Lorne Falls GS*".¹³ In fact, "*the results of the one-dimensional hydraulic modelling using HEC-RAS for the Wabageshik Rapids Project on the Vermilion River are presented within this letter report and are supplemented by the inundation maps and electronic modelling files.*"¹⁴ These maps refer to the upper portion of the Vermilion River and Wabagishik Lake area, in Annex 1, Part 2, 06-121, as "Project - Headpond Inundation Mapping".

The only studies Xeneca completed on Wabagishik Lake and the Upper portion of the Vermilion River below the Lorne Falls dam, were the LiDAR and hydrology assessment

⁸ Wabagishik ORA Quick Reference – Xeneca Overview Response Chart, P-4

⁹ Erik Szkokan-Emilson's Part II Order Request, dated 1 November, P-1

¹⁰ Wabagishik ORA Quick Reference – Xeneca Overview Response Chart, P-1

¹¹ Wabagishik Rapids ER, 1.2.1 Zone of Influence, P-2

¹² Annex 1, 2 of 6, March 29, 2012 letter from Canadian Projects Limited to Mr. Nava Pokharel, Xeneca - HEC-RAS Inundation Mapping, P-12

¹³ Wabagishik Rapids ER, 6.4.1 Public Information Centres, P-113

¹⁴ Annex 1, 2 of 6, March 29, 2012 letter from Canadian Projects Limited to Mr Nava Pokharel, Xeneca – HEC-RAS Inundation Mapping, P-12

and analysis. Wabagishik Lake would in fact be used as an impoundment, reservoir, or headpond, and yet there were no other studies undertaken.

- 3. Hutchinson's Water Quality and Fish Tissue Studies:** Hutchinson Environmental Solutions Ltd. (HESL) reports, "*HESL understands from Xeneca that the facility will not impound water in Wabagishik Lake.*"¹⁵ This understanding formed the basis of the Hutchinson water quality and fish tissue sampling study, and is obviously incorrect as Wabagishik Lake will be used to impound water for the hydroelectric facility, and the lake will be utilized within a 10 cm operating band.

The HESL Report clearly did not consider the lake when it reported that "*the baseline sample location is downstream of all inputs to the Vermilion River from the facility's limit of inundation to its proposed powerhouse tailrace, and represents the most stringent baseline reference. The baseline samples represent the pre-development water quality immediately downstream of the proposed facility and in the proposed inundation area, and should have water quality similar to the future upstream reference site which will be unaffected by the proposed facility.*" Also, "*Post-development reference water quality samples will be collected upstream of the limit of inundation in the southwest bay at the outlet of Wabageshik Lake, as shown on Figure 3.*"¹⁶

The Baseline Water Quality and Fish Tissue Mercury study did not include the lake and upper Vermilion River area because Xeneca claimed that the limit of inundation did not include Wabagishik Lake, as you can see by the photo below taken out of the report:



Figure 3. Water quality sampling locations at the Wabagishik Rapids facility.

"To provide a reference of mercury in fish from a location that fish cannot migrate to from a proposed facility once it is developed, MOE (2012) recommends that fish sampling be conducted upstream of the proposed facility on the upstream side of the nearest barrier to fish migration. This sampling is recommended at baseline and post-development for

¹⁵ Annex IV, Wabageshik Rapids Surface Water Quality & Fish Sampling Guidance, Hutchinson Environmental Sciences Ltd., P-3

¹⁶ Annex IV, Wabageshik Rapids Surface Water Quality & Fish Sampling Guidance, Hutchinson Environmental Sciences Ltd., P-5

*spatial and temporal comparison of results.*¹⁷ This was not done, as Lorne Falls Hydroelectric Facility is within the zone of influence and is a barrier to fish migration – Ella Lake is above the dam and was not sampled.

*“Upstream fish sampling should be conducted in the impoundment” and “Xeneca has informed HESL that the dam and power house will not represent impassable barriers to upstream fish migration. Fish will be able to move freely into Wabageshik Lake from the head pond upstream of the facility. If the status of fish passage at the facility changes, HESL requests to be notified immediately, and the fish sampling program will need to be revised.”*¹⁸ This brings into question the area Xeneca has designated as the headpond or impoundment – see my comments.

Xeneca’s erroneously claims:

*“Nonetheless, the lake has been included in the baseline study program for water quality...”*¹⁹ This is untrue.

*“The generation of methyl mercury requires anaerobic conditions, a source of organic material and a source of mercury. The proposed new inundation related to the proposed Project is very small (0.4 hectares) in relation to the size of the existing aquatic habitat in the ZOI. The proposed inundation is shallow and channel-like, ensuring that stagnation and anaerobic conditions are not likely to occur.”*²⁰ Again, Xeneca provides no clear and traceable scientific basis for this conclusion.

All of the above noted conditions are present in Wabagishik Lake, but to what extent we don’t know because Xeneca did not study it. As a matter of fact, as stated in Our Part II Order request, Fish Consumption Restrictions are already in place on Wabagishik Lake, and yet that information did not appear anywhere in the ER. Xeneca also does not address the internal loading that can happen when flow is impeded from the downstream for hours and sometimes days at a time. However, this is all included in our Part II Order request so we will not repeat it all again.

- 4. Contaminated Wetlands, Soils and Sediments:** Xeneca only refers to the downstream wetlands, when in fact there was no mapping or study done at all on Wabagishik Lake or the upper portion of the Vermilion River to determine what wetlands may be affected from the daily fluctuation of water levels within the headpond/zone of influence. Xeneca claims that *“The average daily water level in this area will remain unchanged, due to a commitment to release all upstream flow every day. The combination of limiting the daily water level fluctuations, combined with maintaining the average water level within existing conditions will ensure that no significant wetting and drying occurs in these wetland areas.”*²¹ However, Xeneca does not show where they have actually studied this, so there is no clear and traceable path to determine how they came to this conclusion.

¹⁷ Annex IV, Wabageshik Rapids Surface Water Quality & Fish Sampling Guidance, Hutchinson Environmental Sciences Ltd., P11

¹⁸ Annex IV, Wabageshik Rapids Surface Water Quality & Fish Sampling Guidance, Hutchinson Environmental Sciences Ltd., P-3

¹⁹ Wabagishik ORA Quick Reference – Xeneca Overview Response Chart, P-4

²⁰ Wabagishik ORA Quick Reference – Xeneca Overview Response Chart, P-5

²¹ Wabagishik ORA Quick Reference – Xeneca Overview Response Chart, P-3

There are numerous erroneous claims that Xeneca has made in this regard throughout the letter and responses to other requesters, however, the ER and its supporting documentation clearly tells a different story.

Our concerns have not been alleviated by Xeneca's response; in fact they are heightened as a result of their continued insistence that studies were completed when clearly they were not. As a result of this, one has to wonder what else they are not telling us. What will happen when a company like this takes over a large 20 to 30 km section of lake and river that local stakeholders and aquatic life rely on – all to produce approximately 1.7 MW of power. Xeneca's behaviour does nothing but erode our trust and confidence even further.

There are numerous outstanding significant environmental and transparency issues that cannot be resolved through further discussions with the proponent, or through mediation, as the proponent will not even admit to any inadequacies.

With the lack of proper studies, the severely contaminated sediment made evident by the 1986 MOE study, as well as the study presented by Erik Szkokan-Emilson²², this project has the potential to damage several kilometers of lake and riverine ecosystem, release heavy metals into the environment, and to place public health and safety at risk. There are simply too many unknown factors that have not been properly studied or considered.

Consequently, VRS and ORA request that the Minister consider what has been relayed in this letter, as well as our Part II Order request dated 1 November 2013, where we expressed numerous additional concerns surrounding the Walleye fishery, Lake Sturgeon, heavily contaminated sediments, mercury in fish tissue, and the cumulative effects of this and other existing and planned projects both upstream and downstream.

Elevating this proposal to an Individual Environmental Assessment would ensure a higher and more rigorous level of scrutiny that would ensure crucial studies are completed, that contaminated sediment is properly considered and contained, and that proper mitigation measures are in place to ensure an environmentally and socially responsible and sustainable project. These studies should be completed by an independent third party as we no longer have any trust or confidence in this company.

It is also important to note that many of our local community members have made elevation requests on the Wabagishik proposal in the hopes that proper studies and mitigation measures would take place. Their requests to you have been responded to by Xeneca, but they are perplexed when this company continues to push for meetings and for withdrawal of their Part II Order requests when this matter is now before you. Therefore, we respectfully await your consideration and decision on this matter, and trust that Xeneca will do the same.

Respectfully,



Linda Heron
Chair, Ontario Rivers Alliance
Chair, Vermilion River Stewardship
Attachments

²² Szkokan-Emilson et al. (2013) Drought-induced release of metals from peatlands in watersheds recovering from historical metal and sulphur deposition. *Biogeochemistry* DOI: 10.1007/s10533-013-9919-0.

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