Ministry of the Environment, Conservation and Parks
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Toronto, ON
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Ministère de l'Environnement, de la Protection de la nature et des Parcs
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Toronto, ON
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Ontario

EMAIL ONLY

MEMORANDUM

December 20, 2021

Deb Jacobs
Environmental Officer
Windsor Area Office
Ontario Ministry of the Environment, Conservation and Parks

Re: Long-Term Vibration Monitoring Interim Report No.4
North Kent Wind 1, Chatham Kent, Ontario
REA NO. 5272-A9FHRL (**Approval)**

The ministry has conducted a review of the report entitled "*Long-Term Vibration Monitoring Interim Report No.4; 1668031-4000-R04-Rev 3*" prepared by Golder Associates Ltd., dated December 2021 (**Report**).

As per Condition H of Renewable Energy Approval No. 5272-A9FHRL, the company retained a qualified expert (e.g. seismologist) to develop a ground-borne vibration monitoring program to measure and monitor ground-borne vibration generated from the operation of the wind turbines at the facility. Refer to the Annex of this letter for details associated with the measurement campaign.

Based on information presented in the Report, the ministry concurs that vibrations of the magnitude levels measured during the period between January 1, 2018 to April 1, 2021 were inconsequential with respect to the potential of causing an adverse effect to wells in the region; (measured vibration levels ranged from 4.5×10^{-3} to 4.5×10^{-4} mm/s).

By means of this letter it is acknowledged that the wind facility has fulfilled the requirements of Conditions H1 to H4 (inclusive) in their Approval.

The Report, and any updates must be made available to the public on the project website for the life of the project.

If you have any questions or require clarification on any of the points provided herein, please contact the undersigned.

Denton Miller, P. Eng.
Senior Noise Engineer
Environmental Assessment and Permissions Branch

DM/

ANNEX

Based on data in the Report, the vibration data gathered was extremely small in magnitude and of no consequence to water wells in the area, regardless of wind direction or velocity and does not have any potential for constructive vibration waveform interference.

With the assumption that vibration monitoring data was fully analyzed and presented to the ministry, I agree with the Report's conclusion and the vibration assessment.

Summary

- The largest vibration magnitudes at the top of the mock well casings were in the order of 4.5×10^{-2} mm/s.
- The largest vertical vibration magnitudes in the bedrock at the closest mock well, approximately 146 m from the turbine, was about 4.5×10^{-3} mm/s, and about 1/10 to 1/1,000th of those measured within 20 m of the turbine.
- The largest vertical bedrock vibration magnitudes at about 512 m from the turbine were about 6.3×10^{-4} mm/s and about 1/50th to 1/10,000th of those at about 20 m from the turbine