

Thames – Sydenham and Region Drinking Water Source Protection Source Protection Committee Discussion Paper

Report to Chair and members
Thames – Sydenham and Region
Source Protection Committee

Agenda # 2010.4.7d

Cc SP Management Committee

Date May 6, 2010

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Re: Concern about Wind Turbine as a potential threat to drinking water

Background

1. A proposal for developing a wind farm off shore from Essex County was submitted under the Green Energies Act by the proponent. When the proposal went to consultation it had grown to a much larger proposal (from 30 MW to 1400 MW) which now includes wind turbine clusters near Chatham-Kent intakes on Lake Erie (see attached map and letter).
2. The Essex Region Source Protection Committee (ERSPC) passed a resolution in September 2009 and amended it in March 2010 to request the Essex Region Conservation Authority (ERCA) to review and comment on the original and expanded proposal in considerable depth, including undertaking various studies by staff and consultants to consider the potential impacts that this development might have on the lake, shoreline and intakes (see attached excerpts).
3. The potential impacts on drinking water intakes are a concern of the municipal water system operating authorities and have been drawn to the attention of this Source Protection Committee through a letter (attached).
4. Drinking water quality issue identification for the intakes near the proposed development has identified turbidity, and other issues which are related to sediment in the water or settled near the intakes.

Discussion

1. The potential impacts on the intakes include those during:
 - construction
 - sediment re-suspension from the construction of the foundation and laying cables to the turbines
 - fuel storage/use and refueling activities
 - hydraulic oils and solvents
 - physical damage to the intake;
 - operation and maintenance

- storage of hydraulic oils (or other chemicals)
 - turbine lubricant
 - boat traffic changes
 - changes in wave and wind action on the sediment transportation in and around the intake protection zone; and
 - decommissioning
 - Construction activities similar to the construction phase.
2. The above activities may result in impacts at the intake such as increased turbidity, resuspension of contaminated sediments, and oil (and other solvents) or fuel spills affecting the intake water quality.
 3. The current proposal does not have the clusters of turbines located within currently defined IPZ-1s or IPZ-2s in the Lower Thames Valley Source Protection Area. The proposal could however, be within IPZ-3 of one or more intakes.
 4. These activities and potential effects are being considered by the ERSPC as well as the ERCA. A request for a more detailed environmental assessment has been made to MOE. The province will also need to consider that the original proposal has been expanded since application and therefore consultation on the parts of the proposal not included in the original submission may still be required.