

23rd July 2012

Township of Melancthon
157101 Highway 10
R.R. # 6
Shelburne, Ontario, Canada L0N 1S9

Attention: Denise Holmes, CAO/Clerk Treasurer

PEER REVIEW OF THE DUFFERIN WIND POWER PROJECT DRAFT NOISE STUDY REPORT

INTRODUCTION

This Peer Review has been prepared on behalf of the Township of Melancthon by Hugh Williamson Associates. The Peer Review is of the Draft Noise Study Report prepared by Dillon Consulting Limited, dated May, 2012 of the Dufferin Wind Power Project.

The Peer Review is based on the following list of Referenced Documents and background information such as Ministry of Natural Resources mapping of the area and available aerial photos.

Referenced Documents

1. Noise Report: Dillon Consulting Limited, "*Draft Noise Study Report*," May 2012, for the Dufferin Wind Power Project Renewable Energy Approval (REA), prepared for Dufferin Wind Power Inc.
2. Design & Operation Report: Dillon Consulting Limited, "*Dufferin Wind Power Project, Design and Operation Report Draft*," May 2012, prepared for Dufferin Wind Power Inc.
3. Wind Turbine Specification Report (1): Dillon Consulting Limited, "*Dufferin Wind Power Project, Wind Turbine Specification Report, Draft*" May 2012, prepared for Dufferin Wind Power Inc. – as available at the Township of Melancthon.

4. Wind Turbine Specification Report (2): Dillon Consulting Limited, "Dufferin Wind Power Project, Wind Turbine Specification Report, Draft" May 2012, prepared for Dufferin Wind Power Inc. – as available from the Dufferin Wind Power Web Site, <http://www.dufferinwindpower.ca/ReportsStudies.aspx> . Note: The information on the web site version of this report is more general, whereas the copy available at the Township of Melancthon contains more technical acoustic data on the wind turbines.
5. MoE Noise Guidelines: Ministry of Environment Publication, "Noise Guidelines for Wind Farms," October 2008.
6. MoE Technical Guide: Ministry of Environment Publication, "Technical Guide to Renewable Energy Approvals", 2011.

Dillon Consulting also provided Hugh Williamson Associates with the following electronic data: an AutoCAD file containing 5 m elevation contours of the area and an Excel file containing tabular data of turbine locations and sound powers, and, receptor locations.

It is noted that this review is based on the referenced documents as Hugh Williamson Associates has not been asked, nor had the opportunity, to visit the site. It is also noted that all of the Dillon Reports are Drafts.

In the Peer Review, the Referenced Documents are, for convenience, referred to by the shortened underlined titles in the list such as Noise Report, Design & Operation Report, etc.

It is noted that the Peer Review references tables in the Noise Report as per the Table of Contents, List of Tables, page iii of Noise Report.

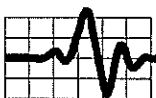
PEER REVIEW COMMENTS

The following Peer Review comments are numbered for ease of reference.

1. It was found that the Noise Report generally followed the procedures, and provided the information required, in the MoE Guidelines and MoE Technical Guide. There are some reservations which are discussed in detail below.

It was noted that not all the required information is contained in the Noise Report, and that reference to the Design & Operation Report and the Wind Turbine Specification Report (1 & 2) was necessary. Given the size and complexity of the proposed project, this is acceptable.

2. Points of Reception: For a wind farm which includes a transformer substation, as in the case of the proposed project, The MoE Noise Guidelines, Section 6.3.2, require that for dwellings up to two stories high, noise impact be assessed at the following locations:
 - 4.5 m above grade at the centre of the dwelling
 - 1.5 m above grade and 30 m horizontally from the façade of the dwelling in the direction of each wind turbine location

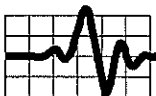


The location that results in the higher noise impact must be selected according to the MoE Noise Guidelines. In the Noise Report, Sections 4.0 first paragraph and Section 4.2 second last paragraph, it appears that this procedure for selection of the points of worst impact has not been followed. This aspect of the report should be clarified and noise modelling results amended as required.

3. Sound Power of Wind Turbines: The following points should be clarified and addressed.
 - a. In the Noise Report, sound power levels used for the acoustic modelling of the various wind turbine types, and adjusted emission levels, are given on pages 13 to 19. It is not clear how the sound power levels in the Noise Report relate to the manufacturer's acoustical data in the Wind Turbine Specification Report (1). The manufacturer's data in the Wind Turbine Specification Report (1) appear to be somewhat higher than the data provided in the Noise Report, hence it is not clear that the approach taken is appropriate.
 - b. Further, the sound power spectrum levels given on pages 13 to 19 of the Noise Report, do not correspond to the Total Sound Power Levels (dBA) given in these same tables.
 - c. The MoE Guidelines, Section 6.2.3, require that 'the wind turbine generator acoustic emission levels must be consistent with the wind speed profile of the project area' and that manufacturer's acoustic emission data should be 'adjusted to average summer night wind speed profile, representative of the site'. The meteorological data for the site has not been presented, nor has how the noise emission levels used in modelling been adjusted for local conditions. The Noise Report does not demonstrate how the values listed for adjusted emission levels in the Wind Turbine Source summary Tables 4(a), 4(b), 4(c), 5(a), 5(b), 5(c), 5(d) have been derived.
4. Noise from the POI Transformer: In the Noise Report, a noise impact analysis for the transformer to be located at the Point of Interconnection, POI, has been conducted, however, no plan has been presented which shows the locations of nearby receptors, referred to in the report as R1, R2, R3 etc. In addition no coordinates have been provided for the proposed location of the POI Transformer.
5. In the Noise Report, in Tables 8(a), 8(b) and 9, it is not clear whether 'Combined Noise Impact' means combined noise impact for Dufferin wind turbines plus Dufferin transformers or whether it means combined Dufferin and Adjacent Wind Farm turbines plus transformers. This should be clarified.

The following points describe aspects of the Noise Report which are more presentational than technical, yet are important in that they can cause confusion to the reader.

6. Table Numbers: The numbering of the Tables in the body of the Noise Report does not correspond to the table numbers given in the Table of Contents nor in the text of the Noise Report.



7. Figure E1 Noise Level Contours: The contours on this Figure are not legible. It is recommended that the noise contour information be presented in a number of figures at much higher magnification so that actual predicted noise levels can be discerned. It is also recommended that the points of reception be identified on the higher magnification figures. It is noted that there are no figures in the Noise Report which show the locations of the points of reception. One needs to look in the Design and Operations Report to find such a Figure which shows these locations. Also the elevation above grade for the presented noise contours needs to be stated.

PEER REVIEW RECOMMENDATION

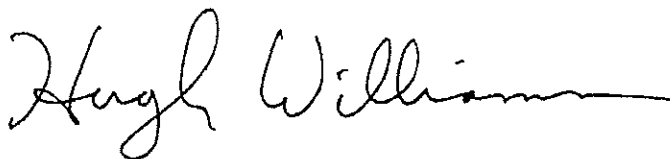
It is recommended that the Noise Study be revised taking into account the above comments and submitted for further Peer Review.

Disclaimer:

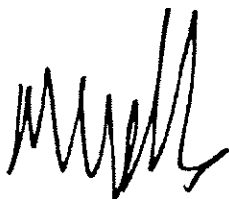
In preparing this peer review Hugh Williamson Associates has taken reasonable effort to ensure the accuracy of the information provided based on information available at the time. The information presented in the peer review is based on information provided to Hugh Williamson Associates by Third Parties. As such Hugh Williamson Associates cannot guarantee the accuracy of this information.

Please contact us if you have any questions.

Yours sincerely,



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