CONESTOGA-ROVERS & ASSOCIATES

651 Colby Drive, Waterloo, Ontario, Canada N2V 1C2
Telephone: (519) 884-0510 Fax: (519) 884-0525
www.CRAworld.com

MEMORANDUM

TO:	David Britton Camie McGraw	REF. NO.:	630631
FROM:	Gordon Reusing/Tim Wiens/ca/1 TW	DATE:	April 20, 2010
CC:	Town Planning Board Carol Horowitz, Town Planner Daniel A. Spitzer, Esq. Sara Stebbins, EDR Kevin Sheen, Everpower Renewables James Muscato, Young/Sommer, LLC		
RE:	**Allegany Wind Farm Project – Noise Impact Modelling at Residences**		

INTRODUCTION

Conestoga-Rovers & Associates (CRA) was retained by the Allegany Town Planning Board to conduct an independent Acoustic Noise Model Assessment (Assessment) for eight (8) selected off-site sensitive residential receiver locations in the Town of Allegany, Cattaraugus County, New York, to evaluate the noise impact from the proposed EverPower Renewables (EverPower) Allegany Wind Farm Project (Project).

CRA previously peer reviewed and provided technical comments on Hessler Associates, Inc. (Hessler) "Environmental Sound Survey and Noise Impact Assessment", dated January 27, 2010, which was prepared in support of the Draft Environmental Impact Statements (DEIS) for this Project.

PROJECT AND SITE DESCRIPTION

A detailed project description for the wind farm can be found in the DEIS prepared and submitted by EverPower.

A total of twenty-nine (29) wind turbines each with a nominal electrical output of 2 to 2.5 MW are proposed. The turbines will be either Nordex N100/2500 or REpower MM92 units, each with a hub height of 100 metres (m) (328 feet).

The turbines will be situated along the crests of an east and west ridge located in southern Allegany County. Large portions of the surrounding landscape are used for timber. A number of residences are located along the edge of the Project area in Harrisburg, Nichols Run and Knapp Creek.

REGISTERED COMPANY FOR ISO 9001 ENGINEERING DESIGN

The Project is located in a predominantly rural area. The area elevation varies from exposed mountain ridges to sheltered valley terrain. Significant forest, dense foliage and natural creeks are present throughout.

RESIDENTIAL POINTS-OF-RECEPTION

The Assessment focused on eight (8) residential receiver locations that were selected by the Town as follows:

Cadna A - ID	*Owner*	*Address*
R1	Quattrone, Samuel	1320a Chipmonk Road
R2	Boser, William A	1216 Chipmonk Road
R3	Sanchez, Jose M Jr	143 Chipmonk Road
R4	Mosman, Raymond H	1064 Chipmonk Road
R5	Kelly, Paul B	1041 Chipmonk Road
R6	Henderson, Alan V	4981 Flatstone Road
R7	Boser, Beth	1136 Chipmonk Road
R8	Koebelin, David and Cathy	300 Hawthorn Lane

The locations of these residences were established based on UTM (NAD 83) coordinates that were provided to CRA and are summarized in Table 1.

All residences were assumed to be two-storey homes and were evaluated using a corresponding height of 4.5 m (14.8 feet) above grade.

NOISE SPECIFICATIONS

The developer is proposing to use either Nordex or REpower wind turbine units. The total A-weighted sound power level for a Nordex N100/2500 turbine was compared against a REpower MM92 turbine under various wind speeds and the Nordex noise data was 2 to 3 dBA higher and used as the worst-case.

The downwind, linear, non-weighted (dB), sound power octave band data for the Nordex N100/2500 was estimated by Hessler for a worst-case design level of 7 m/s. A maximum total A-weighted sound power level of 107.5 dBA was provided for the N100 unit, octave band sound level data was not available. Hessler adjusted the available octave band data for a N90/2500 unit by adding a 4.2 dB adjustment to each octave band and maintained the total 107.5 dBA sound power level that was provided by the manufacturer.

Hessler documented the estimated Nordex N100/2500 sound levels by octave band frequency, which was used to evaluate the noise impact from the 29 proposed turbine unit locations, as follows:

Frequency, Hz	31.5	63	125	250	500	1K	2K	4K	8K	**Total**
Value (dB)	120	118	114	111	104	99	99	94	82	**107.5 dBA**

CRA will request a complete noise specification from the supplier to support the sound power levels estimated by Hessler for the Nordex N100/2500 wind turbine unit.