

increases significantly. The worst case acoustic condition for the proposed Project occurs at a wind speed of 6 m/s, with the highest differential occurring between the wintertime  $L_{90}$  background level of 37 dBA and turbine sound power level ( $L_w$ ) of 101.7 re 1 pW at this wind speed. Table 3-28 shows the estimated frequency content of the turbine sound power level at 6 m/s, below.

**Table 3-28**  
**Acciona AW 82/1500 Sound Power Level Spectrum at 6 m/s**

Octave Band Center Frequency (Hz)	31.5	63	125	250	500	1k	2k	4k	8k	dBA
Estimated $L_w$ (dB re 1 pW)	107	104.3	103.8	102.8	100.4	96.8	90.2	82.8	72.7	101.7

The Acciona AW-82/1500 WTG sound power level spectrum at 6 m/s speed was inputted into CadnaA (ver. 3.6.115), DataKustik’s acoustic modeling program. CadnaA conforms to ISO 9613-2 *Acoustics – Attenuation of sound during propagation outdoors* and enables the Project and its surroundings, including terrain features, to be realistically modeled in three-dimensions. Modeling of the current Project layout as of October 1, 2008 assumed the nominally maximum downwind sound level from each turbine in *all directions simultaneously*. In other words, although physically impossible, an omnidirectional 6 m/s wind is assumed. In addition, a moderate ground absorption coefficient was selected to represent the rural farming land in the Project Area.

Modeling results were compared to the NYSDEC cumulative incremental increase guideline of 6 dBA, which conservatively equates to a Project-only sound level of 42 dBA, as a basis for Project compliance. Modeling results evaluating compliance with the State guideline are shown in Exhibits 3.10.2 and 3.10.3 (and in the NIA in Appendix L) in the form of sound contour maps. The area inside the 42 dBA sound contour line (in blue) represents the region where sound from the Project may result in an adverse impact. These figures indicate that the 6 dBA incremental increase criterion will be met at the vast majority of non-participating residences. Only three residences on CR 8 (between Route 12E and McKeever Road) and one at the intersection of Rt. 12E and Deerlick Rd. were found to have a nominal Project sound level that was slightly above the 6 dBA potential impact threshold. All remaining homes in the Project Area, and particularly the numerous houses along the St. Lawrence River shoreline, are well outside of the area in which adverse Project noise impacts may occur.