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June 9, 2015

Mr. Douglas Fine, Assistant Commissioner
Department of Environmental Protection
One Winter Street, Boston, MA 02108

Reference: Kingston Wind Independence Turbine Acoustical Monitoring Study
Technical Report, HMMH Report No. 305270.001, April 16, 2015, Draft for Public Comment

Response Part 5: Wind Shear, KWI 12 m/s Hub-Height Comparison

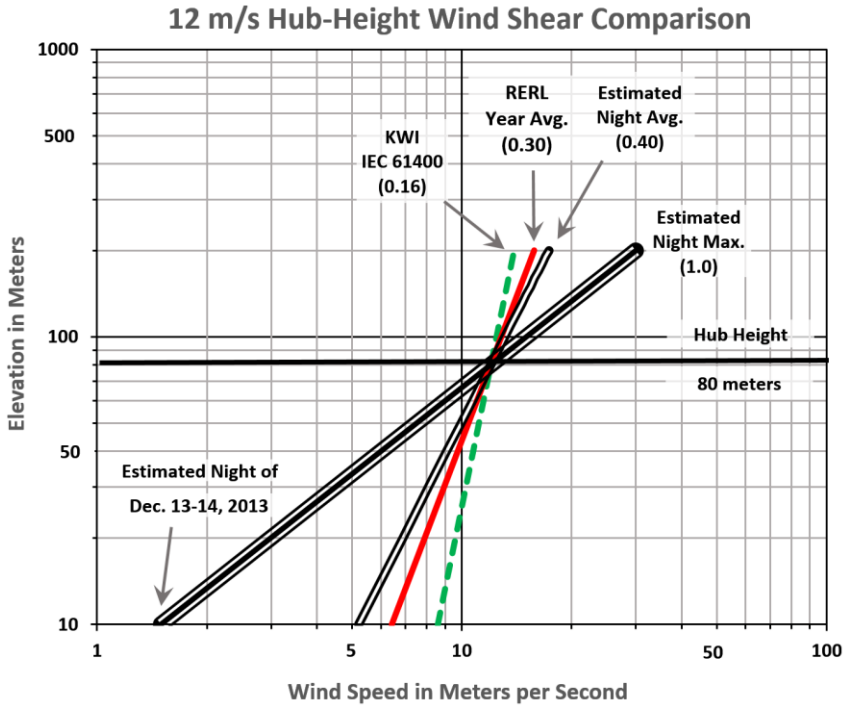
Dear Assistant Commissioner Fine,

Wind shear also shows the differences for ground level wind speed for a constant hub-height wind speed. Wind shear values varies and are dependent on differences in daytime and nighttime atmospheric conditions above ground surface roughness.

KWI hub-height is 80 meters and the wind speed has been fixed at 12 meters per second.

Four wind shear values were evaluated for wind speed at 80, 10 & 1-meter elevations, the latter approximating ground level.

Wind Shear	0.16	0.30	0.40	1.0
80-m Hub-Height	12.0	12.0	12.0	12.0
10-m Wind Speed	8.6	6.4	5.2	1.5
1-m Wind Speed	6.0	3.2	2.1	0.2



Ground level wind speed decreases from 6.0 to 0.2 meters per second (calm). High wind shear produces full electric power output and maximum sound power level at low ground level wind speed. This indicates that the baseline nighttime ambient L90 is less than 30 dBA when KWI is shut down.

Respectfully,

Stephen E. Ambrose, ASA, INCE, *Board Certified*
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