

CAVANAUGH TOCCI ASSOCIATES, INCORPORATED

327 F BOSTON POST ROAD, SUDBURY, MA 01776-3027 • TEL: (978) 443-7871 • FAX: (978) 443-7873 • E-MAIL: cta@cavtocci.com

SENIOR PRINCIPALS

WILLIAM J. CAVANAUGH, FASA, Emeritus
GREGORY C. TOCCI, PE, FASA, PRESIDENT

PRINCIPALS

DOUGLAS H. BELL
LINCOLN B. BERRY
TIMOTHY J. FOULKES, FASA, INCE, Bd. Cert.
MATTHEW J. MOORE, CTS

ADMINISTRATOR

DONNA L. RAFUS

SENIOR AND STAFF CONSULTANTS

ALEXANDER G. BAGNALL
ANDREW C. CARBALLEIRA
EMILY L. CROSS, P. ENG
WILLIAM J. ELLIOT
AARON M. FARBO
JOHN T. FOULKES
BRION G. KONING
MICHAEL D. MAYNARD, CTS
CHRISTOPHER A. STORCH

MARKETING MANAGER

PATRICIA A. CASASANTO

ASSOCIATED CONSULTANTS

NICHOLAS BROWSE, SMPTE
STEWART RANDALL, CTS-D
MARTIN CALVERLEY, CTS

August 25, 2008

Mr. Roland Baril, Chairman
Town and Village of Clayton Planning Board
Riverside Drive
Clayton, New York 13624

c/o Augusta Withington
Bernier Carr & Associates, P.C.

Subject: Clayton Wind Farm Project – Executive Summary
Clayton, New York

Dear Roland,

We have reviewed the *Noise Analysis PPM Clayton Wind Farm* memorandum dated January 15, 2007 for the Wind Power Project in Clayton, New York. In addition, we have reviewed a number of technical papers and documents pertinent to the operation and acoustic effects of wind turbines. This letter presents the executive summary of our February 15, 2008 report.

1. The NYSDEC guidelines suggest that sound level increases over existing background produced by a facility not exceeding 6 dBA would be acceptable. NYSDEC does not specifically require use of the equivalent sound level (L_{eq}) or the 90th percentile sound level (L_{90}) for quantifying background sound level; however, we recommend the use of the L_{90} instead of the L_{eq} used in the project document.
2. The *Noise Analysis PPM Clayton Wind Farm* document states, “as a project participant becomes one willingly and derives benefit from the project, therefore a relative significance threshold for participants is not established.” Not establishing a significance threshold for participants would require that real estate deeds be marked as having a noise easement sold to PPM Clayton Wind Farm. Future land owners would need to accept the sound exposure produced by the wind farm and may not appreciate its potential noise impact until they occupy the dwelling.
3. The existing background sound levels were measured at five locations. These measured data have been used to represent sound levels at approximately 200 receptors over the project area; many of these receptor locations are quite distant from background sound measurement locations. Similarly, wind speeds were measured at one or more undisclosed site locations, and these data have been used to characterize wind speeds over the entire project area.

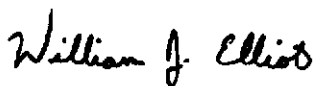
4. The report data show that there is little or no correlation between wind speed and background sound level. Among the reasons for this are that 1) the wind speed over the site is not properly characterized by wind speeds measured at one tower or as the average of wind speeds measured at more than one location, and 2) the IEC 64100-11 standard is an approximation for estimating wind speed at one elevation on the basis of a measured wind speed at another.
5. Tables 6 and 7 of the *Noise Analysis PPM Clayton Wind Farm* document lists background (L_{eq}) and predicted turbine sound levels at receptor locations. Background sound levels have been determined using their regressions. About half the time, the estimated background sound level is overestimated. Hence, turbine sound will often exceed the background sound by more than the NYSDEC recommendation of not more than 6 dBA. Using the L_{90} background sound data, as we have recommended, would lead to even larger differences between background and turbine sound.

If we can provide any further information, please do not hesitate to contact us. Thank you.

Yours sincerely,
CAVANAUGH TOCCI ASSOCIATES, INC.



Gregory C. Tocci



William J. Elliot