

Mars Hill Windfarm Predevelopment  
Sound Level Study  
Peer Review

MARS HILL, MAINE

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## **Introduction**

UPC Wind Management LLC/Evergreen Wind Power LLC (UPC) has received site location of development permit, constructed and is now operating a 28 unit wind facility along the ridge line of Mars Hill in Mars Hill, Maine. At the request of the Maine Department of Environmental Protection (MDEP) this peer review is undertaken to provide expert opinion as to:

1. Whether the pre-development report is reasonable and technically correct according to standard engineering practices and the Department Regulations on Control of Noise(06-096 CMR 375.10) and;
2. Whether the post-development report is reasonable and technically correct according to standard engineering practices and the Department Regulations on Control of Noise(06-096 CMR 375.10) and;
3. Whether the reports provide a reasonable basis upon which to determine compliance or non-compliance with the operational noise limits set forth in the Control of Noise rules and the variance given in Department Order L-21635-26-A-N/L-21365-TG-B-N, dated June 1, 2004.
4. Based on the review of the reports, if the Contractor finds that the project is not in compliance with the Department Regulations on Control of Noise(06-096 CMR 375.10) and the variance given in Department Order L-21635-26-A-N/L-21365-TG-B-N, dated June 1, 2004, what specifically those non-compliance issues are and where they are located in relation to the project.
5. What, if any, additional studies may be warranted and
6. What, if any, additional monitoring requirements may be warranted.

## **Pre-Development Report**

The predevelopment report will be reviewed by section following the format of the original text.

The introduction correctly identifies jurisdiction of proposed facility control of noise regulatory requirements. The site description systematically identifies the development area and nearby surroundings including land uses, protected locations, and proposed wind farm site configuration.

Wind turbine specifications with noise reduction characteristics are carefully detailed. MDEP sound level limits are correctly specified for the proposed site.

Wind farm operation predicted sound levels are calculated using CADNA/A version 3.3. Calculations are based on all proposed tower locations (35) and detailed elevations. Calculations are based on wind turbine operating at 95% of rated power using

specifications provided by the manufacturer. Tonal and short duration repetitive noise potential is evaluated each using manufacturer specifications.

Parcels are identified where estimated sound levels from the proposed wind farm will be at or above sound level limits. Indication is given that the developer will seek MDEP compliance through final site configuration and/or land owner agreements/easements, etc.

A brief mention of vertical wind profile is later followed by a suggestion that site-specific wind gradients might be established for the proposed site and incorporated into predevelopment ambient sound level measurement protocol characteristic of operational levels.

Construction sound levels are briefly evaluated and by transient nature will require daytime operation and will not be subject to MDEP sound limits. Other sound limiting devices as required by federal law will be used and kept in good working condition.

Findings and recommendations are consistent with efforts to identify noise problem areas and locate protected locations qualifying as "quiet areas".

### **Discussion**

This predevelopment study is consistent with standard engineering practices customarily employed for MDEP evaluation of noise control for general site permitting under the Site Location of Development Act.

Wind farm acoustics, siting and noise control standards have in recent years become an international topic of study and debate giving rise to widespread comparison. Numerous publications and regional incidents are available on the Internet. In comparison, MDEP site location of development noise control standards are comprehensive, but of course do not address every and all issues being considered internationally or even regionally.

### **Conclusion**

This predevelopment report with predicted noise levels is reasonable and technically correct according to standard engineering practices and the Department Regulations on Control of Noise(06-096 CMR 375.10).