

BY ELECTRONIC MAIL

September 18, 2015

Chairman Martin Honigberg
New Hampshire Site Evaluation Committee
21 South Fruit Street, Suite 10
Concord, NH 03301

Re: NH Site Evaluation Committee Rulemaking, Docket No. 2014-04

Dear Chairman Honigberg and SEC Committee Members:

Thank you for the opportunity to provide these joint comments pertaining to New Hampshire's rulemaking for wind energy siting.

During the September 15, 2015 public hearing, several speakers expressed the importance of establishing rules governing the creation of visual simulations. Please find attached proposed language that, if adopted, will go a long way in ensuring that pre-construction visualizations more closely represent what we can expect after the project is constructed. These recommendations mainly apply to large-scale wind turbines however the rules are relevant for other applications.

Also attached, please find actual visual simulations submitted to the SEC in the Antrim Wind and Wild Meadows Wind dockets. We believe these simulations provide important context for why the revisions we are requesting are necessary.

We wish to express our appreciation to the Committee as well as Attorneys Wiesner and Iacopino for the herculean effort to reach this point. If you have any questions regarding our request, please do not hesitate to contact us.

Respectfully,

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PART Site 301 REQUIREMENTS FOR APPLICATIONS FOR CERTIFICATES

Site 301.05(b)(7)

Current Draft Rule

Photosimulations from representative key observation points, from other scenic resources for which the potential visual impacts are characterized as “high” pursuant to (6) above, and, to the extent feasible, from a sample of private property observation points within the area of potential visual impact, to illustrate the potential change in the landscape that would result from construction of the proposed facility and associated infrastructure, including land clearing and grading and road construction, and from any visible plume that would emanate from the proposed facility; photographs used in the simulation shall be taken at an equivalent focal length of 50 millimeters and represent the equivalent of what would be taken with a 75 millimeter focal length lens on a full-frame 35 millimeter camera and printed at 15.3 inches by 10.2 inches, or 390 millimeters by 260 millimeters; at least one set of photosimulations shall represent winter season conditions without the presence of foliage typical of other seasons;

Recommended Change

Photosimulations from representative key observation points, from other scenic resources for which the potential visual impacts are characterized as “high” pursuant to (6) above, and, to the extent feasible, from a sample of private property observation points within the area of potential visual impact, to illustrate the potential change in the landscape that would result from construction of the proposed facility and associated infrastructure, including land clearing and grading and road construction, and from any visible plume that would emanate from the proposed facility; photographs used in the simulation shall be taken **in high resolution under optimal conditions with good, clear visibility using a full frame digital camera with a 50 millimeter fixed focal length lens or equivalent; Viewpoints should be free from any avoidable foreground objects and other obstructions such as power poles, fences, walls, boat masts and unnecessary foreground, trees, shrubs or foliage unless typical of the view. Simulations shall be an equivalent focal length of 50 millimeters and represent the equivalent of what would be taken with a 75 millimeter focal length lens on a full frame 35 millimeter camera and printed at high resolution at 15.3 inches by 10.2 inches, or 390 millimeters by 260 millimeters;** at least one set of photosimulations shall represent winter season conditions without the presence of foliage typical of other seasons.

(a) Field conditions in which a viewpoint is photographed shall be recorded including:

- (1) Global Position System (GPS) location points with an accuracy of at least 3 meters for each simulation viewpoint to ensure repeatability;**
- (2) Camera make and model and lens focal length;**
- (3) All camera settings at the time the photograph is taken;**
- (4) Date, time and weather conditions at the time the photograph is taken;**

(b) When simulating wind turbines, the following shall apply:

- (1) Turbines shall be placed with full frontal views and no haze or fog effect applied;**

(2) Turbines shall reasonably represent the shape of the intended turbines for a project including the correct hub height and rotor diameter;

(3) Turbine blades shall be set at random angles with some turbines showing a blade in the 12 o'clock position. Adjustments may be required to prevent turbines from being hidden behind landforms;

(4) The lighting model used to render wind turbine elements shall be a reasonably faithful match to the lighting visible in the base photograph.

STATEMENT OF REASON

Visualizations are illustrations that attempt to represent the appearance of development that has not yet occurred. Such visualizations can never exactly match what the viewing public will experience in reality. One of the most significant difficulties of photographing wind energy facilities, as opposed to other types of development, is that they typically appear along the skyline where there is little contrast between the light-colored turbines and a light-colored sky. It is essential that all baseline photographs be taken in good visibility.

The location of the various sites where the turbines will be viewed should be chosen so as to avoid the view of the project being misrepresented by the inclusion of atypical local features, such as a single tree or power pole in the foreground. The time of day, the weather conditions, the camera settings and other information relating to when and how the baseline photograph was taken are important to understanding the accuracy of the simulation after the turbines are dropped in. The recommended amendments aim to ensure more accurate visualizations.

Source: *Scottish Natural Heritage Visual Representation of Wind Farms Version 2.1, December 2014*
<http://www.snh.org.uk/pdfs/publications/heritagemanagement/Visual%20representation%20of%20wind%20farms%20-%20version%202.1%20-%20December%202014.pdf>



Simulations:

Top Pict:

- **Antrim Wind Turbines shown frontal facing. Pier in foreground is distracting element.**

Lower Pict:

- **Wild Meadows with turbine rotor assembly facing away from viewer.**





Wild Meadows Simulation

- **Turbine rotor assembly facing away from viewer and blades removed from view.**
- **Image enlarged here to show the blades were simulated as blurred out.**

Antrim Wind (Docket 2015-05)

- **Baseline image (absent the turbines)**
- **Sail boat mast in foreground dominates view.**

EXHIBIT 8: EXISTING CONDITIONS FROM GREGG LAKE, ANTRIM (SHEET 1 OF 2)

ANTRIM WIND VISUAL ASSESSMENT

