

**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 Committee Members:

On behalf of New Hampshire Wind Watch (NHWW) and the Windaction Group, we wish to thank you for the opportunity to provide comment on the final Draft Rules. Our collective organizations represent the views of thousands of Granite Staters.

This comment document contains our final recommendations for revisions to the draft rules specific to Participating Landowners, Sound, Decommissioning, Orderly Development, Safety Setback Zones and Shadow Flicker. In addition, we include a brief summary of general comments pertaining to the draft rules.

Thank you again for the opportunity to be part of the process. If you have any questions regarding our comments, we welcome hearing back from you.

Respectfully,

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| <b>SEC RULEMAKING: REFERENCE MATRIX</b> |                    |   |
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**PARTICIPATING LANDOWNERS – Wind Energy Systems**

**CHAPTER Site 300 CERTIFICATES OF SITE AND FACILITY**

**PART Site 301 REQUIREMENTS FOR APPLICATIONS FOR CERTIFICATES**

**Site 301.03(c)(8)**

**Current Draft Rule**

Identification of all participating landowners with respect to the proposed facility and a description of the affected properties owned by such participating landowners and the scope of the waivers included in their participating landowner agreements, easements, or other contractual documents.

**Recommended Change**

Identification of all participating landowners with respect to the proposed facility and a description of the affected properties owned by such participating landowners and the scope of the waivers included in their participating landowner agreements, easements, or other contractual documents. Applicant retains an on-going requirement to update this information should additional landowners participate with the project.

## **SOUND STUDY METHODOLOGY – Wind Energy Systems**

### **CHAPTER Site 300 CERTIFICATES OF SITE AND FACILITY**

#### **PART Site 301 REQUIREMENTS FOR APPLICATIONS FOR CERTIFICATES**

##### **Site 301.18(a)(2)**

###### **Current Draft Rule**

Long-term unattended monitoring shall be conducted in accordance with the ANSI S12.9- 992 2013 Part 2 standard, provided that audio recordings are taken in order to clearly identify and remove transient noises from the data, with frequencies above 1250 hertz 1/3 octave band to be filtered out of the data;

###### **Recommended Change**

Long-term unattended monitoring shall be conducted in accordance with the ANSI S12.9- ~~992-2013~~ **1992**/ Part 2 standard, provided that audio recordings are taken in order to clearly identify and remove transient noises from the data, with frequencies above 1250 hertz 1/3 octave band to be filtered out of the data;

##### **Turbine Sound, General Comments:**

We fully accept and support the Draft Rules put forth on August 27, 2015 pending typographic correction mentioned above.

The noise methodology under Site 301.18 was developed through the SB99 stakeholder process. Representatives of the wind industry including EDP Renewables and Wagner Forest Management participated in the work sessions along with four professional acousticians.

The sound standard cited in the final draft rules<sup>1</sup> is the same ‘not-to-exceed’ standard adopted by the committee in the 2012 Antrim decision. The Committee also used the 40 dBA limit for at least one property in the Groton Wind approval.

Agreements negotiated between wind project operators and the members of the public hinder the state’s ability to fully assess whether existing projects are producing unreasonable adverse effects due to noise.

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<sup>1</sup> Site 301.14(f)(2)(a): 45 dBA or 5 dBA above background levels (measured at the L-90 sound level) between the hours of 8:00 a.m. and 8:00 p.m. each day, and the greater of 40 dBA or 5 dBA above background levels (measured at the L-90 sound level) at all other times during each day

## DECOMMISSIONING – Wind Energy Systems

### CHAPTER Site 300 CERTIFICATES OF SITE AND FACILITY

#### PART Site 301 REQUIREMENTS FOR APPLICATIONS FOR CERTIFICATES

##### Site 301.08(a)(7)

###### Current Draft Rule

A decommissioning plan prepared by an independent, qualified person with demonstrated knowledge and experience in wind generation projects and cost estimates, which plan shall provide for removal of all structures and restoration of the facility site with a description of sufficient and secure funding to implement the plan, which shall not account for the anticipated salvage value of facility components or materials, including the provision of financial assurance in the form of an irrevocable standby letter of credit, performance bond, surety bond, or unconditional payment guaranty executed by a parent company of the facility owner maintaining at all times an investment grade credit rating;

###### Recommended Change

A decommissioning plan prepared by an independent, qualified person with demonstrated knowledge and experience in wind generation projects and cost estimates, which plan shall provide for removal of all structures and restoration of the facility site with a description of sufficient and secure funding to implement the plan, which shall not account for the anticipated salvage value of facility components or materials, including the provision of financial assurance in the form of an irrevocable standby letter of credit, performance bond, surety bond, or unconditional payment guaranty ~~executed by a parent company of the facility owner maintaining at all times an investment grade credit rating;~~ which should for the life of the project have a constant credit worthiness test and the financial assurance is to be unconditional and immediately payable and a backstop provision if the bank, insurance company or parent company loses its investment grade rating.

## STATEMENT OF REASON

The penal sum of the decommissioning fund, regardless of financial vehicle, should cover all costs anticipated in decommissioning.

## **ORDERLY DEVELOPMENT - Wind Energy Systems**

### **CHAPTER Site 100 ORGANIZATIONAL RULES**

#### **PART Site 102 DEFINITIONS**

##### ADD Site 102.52

Site 102.52 “Region” or “Regional” are defined as the proposed energy facility’s host municipalities and unincorporated places, abutting municipalities and unincorporated places, and other municipalities and unincorporated places that are subject of or covered by studies included with or referenced in the application.”

### **CHAPTER Site 300 CERTIFICATES OF SITE AND FACILITY**

#### **PART Site 301 REQUIREMENTS FOR APPLICATIONS FOR CERTIFICATES**

##### **Site 301.09**

###### **Current Draft Rule**

Each application shall include information regarding the effects of the proposed facility on the orderly development of the region, including the views of municipal and regional planning commissions and municipal governing bodies, including but not limited to Master Plans and Zoning Ordinances of the host municipalities regarding the proposed facility, and the applicant’s estimate of the effects of the construction and operation of the facility on:

###### **Recommended Change**

Each application shall include information regarding the effects of the proposed facility on the orderly development of the region, including the views of municipal and regional planning commissions and municipal governing bodies, including but not limited to Master Plans and Zoning Ordinances of the host and regional municipalities regarding the proposed facility, and the applicant’s estimate of the effects of the construction and operation of the facility on:

##### **Site 301.09(a)(1)**

###### **Current Draft Rule**

A description of the prevailing land uses in the proposed facility host municipalities and unincorporated places, municipalities and unincorporated places abutting the host municipalities and unincorporated places, and other municipalities and unincorporated places that are the subject of or covered by studies included with or referenced in the application;

**Recommended Change**

A description of the prevailing land uses in the host community(s) and regional communities abutting the proposed facility; and

**Site 301.09(b)(1)**

**Current Draft Rule**

The economic effect of the facility on the proposed facility host municipalities and unincorporated places, municipalities and unincorporated places abutting the host municipalities and unincorporated places, and other municipalities and unincorporated places that are the subject of or covered by studies included with or referenced in the application;

**Recommended Change**

The economic effect of the facility on the host community(s) and regional communities of the proposed facility;

**Site 301.09(b)(3)**

**Current Draft Rule**

The effect of the proposed facility on State and local tax revenues;

**Recommended Change**

The effect of the proposed facility on State, host, and regional communities' tax revenues;

**Site 301.09(b)(4)**

**Current Draft Rule**

The effect of the proposed facility on regional real estate values;

**Recommended Change**

The effect of the proposed facility on private real property, host, and regional real estate values;

**Site 301.09(b)(5)**

**Current Draft Rule**

The effect of the proposed facility on tourism and recreation in the proposed facility host municipalities and unincorporated places, municipalities and unincorporated places abutting the host municipalities

and unincorporated places, and other municipalities and unincorporated places that are the subject of or covered by studies included with or referenced in the application;

**Recommended Change**

The effect of the proposed facility on tourism and recreation in the host community(s), communities abutting the facility and other regional communities; and

**Site 301.09(b)(6)**

**Current Draft Rule**

The effect of the proposed facility on community services and regional infrastructure;

**Recommended Change**

The effect of the proposed facility on community services and regional infrastructure including, but not limited to emergency services and highway;

**Site 301.15(a)**

**Current Draft Rule**

The extent to which the siting, construction, and operation of the proposed facility will affect land use, employment, and the economy of the county or counties in which the facility is proposed to be located;

**Recommended Change**

The extent to which the siting, construction, and operation of the proposed facility will affect land use, employment, and the economy of the host town, region, county or counties in which the facility is proposed to be located;

**STATEMENT OF REASON**

Municipal governing bodies must be given “due consideration” in the SEC hearing process for siting an energy facility. In addition, their zoning ordinances and Master Plans should also be considered. Planning Boards across the state have assembled area specific Master Plans pursuant to NH RSA 674:2.

While there may be legal precedence for RSA 162H to preempt local zoning, it is important that the Committee be sensitive to any confusion and potential conflicts arising should town zoning ordinances and guidelines differ substantially from the conditions imposed by the Committee.

Finally, Site **301.16 (b)** requires the committee to consider the economic effects to real property owners. To accomplish this, the property value impacts would need to be provided for this consideration to be possible.

## SAFETY SETBACKS - Wind Energy Systems

### CHAPTER Site 300 CERTIFICATES OF SITE AND FACILITY

#### PART Site 301 REQUIREMENTS FOR APPLICATIONS FOR CERTIFICATES

##### Site 301.08(a)(3)

###### Current Draft Rule

Description of planned setbacks that indicate the distance between each wind turbine and the nearest landowner's existing occupied building and property line, and between each wind turbine and the nearest public road and overhead utility line, and explain why the indicated distances are adequate to protect the public from risks associated with the operation of the proposed wind energy facility;

###### Recommended Change

Description of planned setbacks that indicate the distance between each wind turbine and the nearest landowner's existing ~~occupied buildings~~ and property lines, and between each wind turbine and the nearest public road and overhead ~~and underground~~ utility ~~line~~ infrastructure including transmission lines and pipelines, and explain why the indicated distances are adequate to protect the public from risks associated with the operation of the proposed wind energy facility;

##### Site 301.08(a)(4)

###### Current Draft Rule

An assessment of the risks of ice throw, blade shear, and tower collapse on public safety, including a description of the probability of occurrence of such events under varying conditions, the distances at which such events may have an impact, and the best practical measures taken or planned to avoid or minimize the occurrence of such events, if necessary;

###### Recommended Change

An assessment of the risks of ice throw, blade shear, and tower collapse on public safety, ~~including a description of the probability of occurrence of such events under varying conditions~~, the distances at which such events may have an impact, and the best practical measures taken or planned to avoid or minimize the occurrence of such events, if necessary;

##### Site 301.14(f)(2)(c)

###### Current Draft Rule

With respect to setbacks, the setback distance between a wind turbine tower and an existing occupied building shall be no less than 3 times the turbine tower height as measured from the center of the wind turbine base to the nearest point of the foundation of the occupied building, the setback distance between a wind turbine tower and another landowner's property line shall be no less than 1.1 times the turbine tower height as measured from the center of the wind turbine base, and the setback distance between a

wind turbine tower and the nearest public road shall be no less than 1.5 times the turbine tower height as measured from the center of the wind turbine base to the right-of-way line of the public road, in each case with the turbine tower height measured from the base of the turbine foundation to the tip of the blade in the vertical position.

### **Recommended Change**

With respect to safety setbacks zones, the setback distance between a wind turbine tower and ~~an existing occupied building~~ a property line shall be no less than ~~3~~ 5 times the turbine tower height as measured from the center of the wind turbine base to the nearest ~~point of the foundation of the occupied building~~ property line, ~~the setback distance between a wind turbine tower and another landowner's property line shall be no less than 1.1 times the turbine tower height as measured from the center of the wind turbine base,~~ and the setback distance between a wind turbine tower and the nearest public road shall be no less than ~~1.5~~ 3 times the turbine tower height as measured from the center of the wind turbine base to the right-of-way line of the public road, in each case with the turbine tower height measured from the base of the turbine foundation to the tip of the blade in the vertical position, in each case turbine elevation shall be taken into consideration. Greater safety setback distances may be imposed by the Committee if supported by the evidence presented.

### **STATEMENT OF REASON**

As described in testimony of 9/15/15: In the utility business, they must first conduct a deterministic risk assessment to see if there is a chance of a safety impact. If a risk is found, they can perform a probabilistic assessment to examine the causes and decide if the chance of occurring is high or low.

A probabilistic risk assessment would be inadequate in this instance since there are no data to show the likelihood of failure. Relying on a hunch or a vague belief that turbine failures are rare is insufficient to determine risk to public safety. Given the lack of data, it is appropriate for the Committee to assume a deterministic risk assessment.

The justification for safety setback zone standard was provided in the NHWW/WAG recommendation submitted on March 23<sup>rd</sup> and a letter on August 26<sup>th</sup>. Please refer to those documents for specific details outlining the reason for the safety setback zones as described above.

## SHADOW FLICKER - Wind Energy Systems

### CHAPTER Site 300 CERTIFICATES OF SITE AND FACILITY

#### PART Site 301 REQUIREMENTS FOR APPLICATIONS FOR CERTIFICATES

##### Site 301.08(a)(2)

###### Current Draft Rule

An assessment that identifies the astronomical maximum as well as the anticipated hours per year of shadow flicker expected to be perceived at each residence, learning space, workplace, health care setting, public gathering area (outdoor and indoor), other occupied building, and roadway, that falls within 1 mile of any turbine, based on shadow flicker modeling that assumes an impact distance of 1 mile from each of the turbines; "astronomical maximum" means the theoretical maximum number of hours that shadow flicker will be produced at a location assuming the sun is shining all day from sunrise to sunset, the rotor-plane of the turbine is always perpendicular to the sun, and the turbine is always operating;

###### **Recommended Change**

An assessment that identifies the astronomical maximum as well as the anticipated hours per year of shadow flicker expected to be perceived at each residence, learning space, workplace, health care setting, public gathering area (outdoor and indoor), other occupied building, and roadway, ~~that falls~~ within at least 1 mile of any turbine, based on shadow flicker modeling that assumes an impact distance of 1 mile from each of the turbines; "astronomical maximum" means the theoretical maximum number of hours that shadow flicker will be produced at a location assuming the sun is shining all day from sunrise to sunset, the rotor-plane of the turbine is always perpendicular to the sun, and the turbine is always operating;

##### Site 301.14(f)(2)(b)

###### Current Draft Rule

With respect to shadow flicker, the shadow flicker created by the applicant's energy facility during operations shall not occur more than 30 hours per year or 30 minutes per day at or within any residence, learning space, workplace, health care setting, public gathering area (outdoor and indoor), or other occupied building;

###### **Recommended Change**

With respect to shadow flicker, the shadow flicker created by the applicant's energy facility during operations shall not occur more than ~~30~~ **8** hours per year ~~or 30 minutes per day~~ at or within any residence, learning space, workplace, health care setting, public gathering area (outdoor and indoor), or other occupied building; If Shadow Flicker limits cannot be met via project layout and setback distances, curtailment technology or other mitigation tools may be considered. Reduced number of hours of Shadow Flicker may be imposed by the Committee if supported by the evidence.

## CHAPTER Site 300 CERTIFICATES OF SITE AND FACILITY – GENERAL COMMENTS

### **Site 301.08(a)(7) and (8) - Decommissioning:**

The adopted draft Rules reflect the language of decommissioning required by Vermont's wind energy permits. Pursuant to RSA 162-H:10-a (II) "For the adoption of rules, pursuant to RSA 541-A, relative to the siting of wind energy systems, the committee shall address the following: (7) Site decommissioning, including **sufficient** and secure funding, removal of structures, and site restoration." To meet the requirement of sufficient funding, the decommissioning fund should not be reduced by the salvage value when determining the funding amount. Rather, the decommissioning fund should represent the estimate of what it would cost a third party to reclaim the site. The applicant is at liberty to provide suggested salvage values.

We encourage the Committee to examine the June 2015 GAO report titled *BLM Has Limited Assurance That Wind and Solar Projects Are Adequately Bonded*<sup>2</sup> that found wind and solar rights-of-way approved by the BLM were underbonded thus placing the BLM at risk of having to assume responsibility for reclamation costs not covered by a bond.

### **Site 301.03(h)(6) and 301.14(h) - Cumulative Impacts:**

We fully accept and support the Draft Rule put forth on August 27, 2015.

Concerns pertaining to 'cumulative impacts' became most apparent following the public becoming aware of 3 industrial wind energy facilities proposed for the Newfound Lake region. The Legislature was cognizant that SEC Statute did not require consideration of the impact of multiple energy facilities in a given area. There was discussion as to whether the SEC should consider projects in the planning phases (pre-SEC filing) although they realized that may be difficult to assess. There was broad agreement to include any projects currently under consideration by the SEC as the Applicant(s) would have sufficient project detail available to aid the Committee's review.

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<sup>2</sup> The GOA report includes this paragraph: "We found wide variation in how BLM staff documented bond decisions for wind and solar project rights-of-way. Specifically, for 21 of the 33 wind rights-of-way we reviewed, there was little or no documentation to support the bond amount. For some of these rights-of-way, there was no documentation because BLM staff defaulted to the minimum amount set by BLM's wind policy without conducting any site- or project-specific analysis. BLM staff told us that they bonded wind rights-of-way at the minimum without knowing whether the minimums would be sufficient to cover reclamation costs. Some of these staff said that they used the minimum bond amount because they had no experience with bonding renewable energy projects and lacked training on making bond decisions." (*GAO-15-520 BLM Renewables Bonding Policies at 26* - <http://www.gao.gov/assets/680/670679.pdf>)

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

Dear Chairman Honigberg and Committee Members:

My name is Lori Lerner. I live in Bridgewater and I am the President of NHWindWatch. I participated in the SB-99 OEP sessions on Health and Safety, facilitated by Lisa Linowes.

A letter was submitted to the committee on August 26<sup>th</sup> outlining information relative to the need for appropriate safety setbacks. I would like to reinforce some of the information contained in that letter:

**Safety Setback Requirements**

At the April 15 public hearing, one of the Committee members stated:

“I think I'm pretty comfortable with the physical catastrophic setback, whether it's one or two, doesn't matter. But I think, number one, the likelihood of that happening is very low.

With all due respect to the committee member who made the claim, there is no data on which that statement was based. There is no central location where we can go to find the list of turbine failures. There is no government agency (including OSHA) that tracks turbine failures.

What we do know is that since 2009, there have been at least 7 *reported* catastrophic turbine failures in the Northeast alone including collapse.

What we do know is that by the end of 2014 there were 50-60 lightning strikes logged at the Granite Reliable wind facility in the 2-4 years the project had been operational.

The wind industry is well aware of the safety concerns pertaining to siting.

- Vestas recommends a 400-m (1312 feet) safety radius around its turbines;
- Nordex recommends a 500 m (1640 feet) safety distance form turbines;
- Volkswind GmbH recommends a 1000 meter (3280 feet) distance from occupied houses;
- GE has a recommended metric for determining safety distances to protect against ice and other part being toss from the machine;
- And finally, Will Staats of NHF&G reported that one operator of a wind installation informed him “the machines will throw a four hundred pound chunk of ice one thousand feet.”

The Committee can mandate operational requirements to protect the public from ice throw. But these same activities will not protect the public from turbine failures.

The safety distances now in the draft rules are insufficient. NHWW and Windaction have made a recommendation to the Committee on what the safety zones around the turbines should be.

We also recommend that a turbine safety zone be limited to land under the control of the wind developer only and not extend onto private property. Wind turbine safety distances that extend onto private properties may risk rendering those properties unsafe for further development. Local building departments could refuse to grant building permits in the setback zone and homeowner insurance companies may refuse to insure structures. The SB-99 Health and Safety Stakeholder group agreed that safety zones around the turbines should not encompass portions of non-participating properties, public roads or public gathering areas, but the current draft rules permit just that.

The latest Draft Rules Site 301.08 (a)(4) require “An assessment of the risks of ice throw, blade shear, and tower collapse on public safety, including a description of the probability of occurrence of such events under varying conditions (emphasis added), ....”. The underlined language should be removed.

In the utility business, they must first do a deterministic risk assessment to see if there is a chance of a safety impact by siting the project. If a risk is found, they can perform a probabilistic assessment to examine the causes and decide if the chance of occurring is high or low.

Risk assessments are usually done to determine cost of a failure in terms of plant losing power, or transmission coming down. In this case, we are discussing public safety. The loss could be countless dollars especially if someone is killed.

In the event of a probabilistic risk assessment, it would be inadequate in this instance since there is no data to show the likelihood of failure. Relying on a hunch or a vague belief that turbine failures are rare makes no sense. Given the lack of data, it is appropriate for the Committee to assume a deterministic risk assessment. What we do know is there have been at least 60 lightning strikes on NH’s wind turbines where there are 69 turbines (or 207 turbine blades) which equates to nearly 30% of the blades in NH have been struck, any of which could have resulted in a catastrophic failure.

Clearly, there is evidence in this docket, that shows public safety will be at risk if Safety Setbacks are adopted as written. It is our sincere hope the Committee will revisit the health and safety issues for a more informed discussion and give consideration to the recommendation we put forth back in March. If that is not possible, we recommend you forego any standards for setbacks until such time that the Committee is better equipped to explore these topics. If you do move forward with the draft Rule standard, we urge you to include the following: “**Greater safety setback distances may be imposed by the Committee if supported by the evidence presented.**” Having no standards would be preferred over adopting standards that are not fully considered.

Thank you again the opportunity to share this information with you.

Respectfully,  
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President, New Hampshire Wind Watch  
215 Lake Street Bristol, NH 03222