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

Re: NH Site Evaluation Committee Antrim Wind, Docket No. 2015-02

Dear Chairman Scott and Sub-Committee Members:

On behalf of New Hampshire Wind Watch (NHWW), I wish to thank you for the opportunity to participate in the above referenced matter.

The Antrim Wind project is the first project to be reviewed under the new SEC Rules. The SEC Rules were reformulated in response to public outcry, starting back in 2012, when the Public raised concerns with the ambiguous and subjective language of the Statute. There was little trust by the citizens of NH that projects were being evaluated in a consistent, transparent manner. As a result, there were a number of legislative bills passed, including SB99, SB281 and SB245, which all served to require the SEC Statute and corresponding Rules be rewritten to achieve the following goals: Address the duration of the SEC review process, better quantify the data presented by applicants, reduce subjectivity, provide greater transparency and lead to more informed and consistent decisions. I attended every SEC Rulemaking meeting and actively participated in the process. My direct and continued involvement provided me the opportunity to observe the Committee's deliberations and its intent as the Rules were being formulated.

I am here today to express my concerns that both the letter and spirit of the Rules, as adopted, are not being followed in this docket, particularly in the area of the SEC Sub-committee's ability to make an 'informed' decision, while also reassuring the Public the process has been completed in a transparent manner. The information from the Antrim Wind Application, which has been further expanded through prefiled testimony and the cross-examination of the Applicant and its witnesses, has made it abundantly clear, the Applicant has not complied with the SEC Rules in many areas.

Thank you for the opportunity to share the areas where the Application has not met the requirements of the Rules:

Per Site 202.19(b), "An applicant for a certificate of site and facility shall bear the burden of proving facts…" Please carefully consider this statement as we continue.

Site 301.03 defines the required "Contents of Application" and Site 301.02 (c) "All information furnished shall appear in the same order as the requirements to provide that information appear in Site 301.03 through 301.09." Lack of compliance with these Rules is obvious in, at least, the following significant areas:

- **GENERAL**: Site 301.03(c)(3) "The location, shown on a map, of property lines, residences, industrial buildings, and other structures and improvements within the site, on abutting

property with respect to the site, and within 100 feet of the site if such distance extends beyond the boundary of any abutting property;"

The map provided by Antrim Wind contains only the property line of the project parcels, not that of the abutters.

- **VISUAL IMPACT**: Site 301.05(b)(8)(a) "Photosimulations shall meet the following additional requirements: Photographs used in the simulation… that creates an angle of view that closely matches human visual perception, under ***clear weather conditions*** and at a time of day that provides ***optimal clarity and contrast***, and shall ***avoid*** if feasible showing any utility poles, fences, walls, trees, shrubs, foliage, and other foreground objects and obstructions;"

  The simulations provided in Antrim's study failed to meet this requirement as the background/sky is hazy or cloudy in each picture. The vast majority of the pictures show an obstruction, such as a sailboat mast or trees, which will only serve to distract the viewer.

- **VISUAL IMPACT:** Site 301.05(b)(9) " If the proposed facility is required by Federal Aviation Administration regulations to install aircraft warning lighting or if the proposed facility would include other nighttime lighting, ***a description and characterization of the potential visual impacts of this lighting, including the number of lights visible and their distance from key observation points;*** and"

  Given that Antrim Wind is required to have nighttime lighting and does not have approval in hand for radar activated lighting, the nighttime lighting impact assessment was a requirement of their application. No such assessment exists. There was mention of an agreement with AMC that they would have the radar activated lighting installed within a year after operation, if approved. Also, Jack Kenworthy stated they would resort to the lighting of 6 turbines if they had radar activated lighting and it wasn't working. Given the strong likelihood of the radar activated lighting not being in place, how will the SEC Subcommittee make an 'informed' decision as to the visual impact of the nighttime lighting?

- **WILDLIFE:** Site 301.07(c)(5) "Description of the measures planned to avoid, minimize, or mitigate potential adverse impacts of construction and operation of the proposed facility ***on wildlife species***,… and on critical wildlife habitat and significant habitat resources, and the alternative measures considered but rejected by the applicant; and"

  Under cross-examination, Antrim's expert, Mr. Gravel stated they did not perform wildlife studies, with a comment that it wasn't requested by Fish & Game. The Rules require an assessment of potential impacts and measures to mitigate. Failure to provide this information will make it impossible for the SEC Committee to make a determination as to whether the facility will have an unreasonable adverse effect on the natural environment, including wildlife species.

- **NOISE:** The noise study from Feb 2016, shows only the sound receptors with circles showing the sound contours. According to "**Site 301.08** (a) Sound Study Methodology Measurements shall be conducted at the ***nearest properties from the proposed wind turbines that are representative of all residential properties within 2 miles of any turbine***; and Pre-construction sound reports shall include a map or diagram clearly showing the following:

  > (1) Layout of the project area, including topography, project boundary lines, and ***property lines***;
  >
  > (6) Location of all sensitive receptors including schools, day-care centers, health care facilities, ***residences, residential neighborhoods,*** places of worship, and elderly care facilities;

  Is this is another example of where the information may be contained in another area of the Application, as was the suggestion for Setbacks? I have been unsuccessful in locating it! The map does NOT show property lines nor does it provide the location of the receptors. It only provides the GPS coordinates for each receptor. Is it the responsibility of the Parties to this docket to determine the locations based on the GPS coordinates? Their sound study fails to meet the intent of the new rules, which were intended ensure that all parties impacted by the project would have a good understanding of the direct impact on THEM! People have to guess what is their property and someone else's property?

- **SHADOW FLICKER**: **Site 301.08** (a) (2) "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, outdoor or indoor public gathering area, other occupied building, and roadway, within a minimum of 1 mile of any turbine, based on shadow flicker modeling that assumes an impact distance of ***at least 1 mile*** from each of the turbines;"

  Site 301.14(f) (2) b. "With respect to shadow flicker, the shadow flicker created by the applicant's energy facility during operations shall not occur more than 8 hours per year at or within any residence, learning space, workplace, health care setting, outdoor or indoor public gathering area, or other occupied building;"

  The Antrim Application documents (Cover Letter to Supplemental Application and AWE Shadow Flicker Report) reference the "at least 1 mile" Rules language in many instances although state the following: "Shadow flicker impacts will be calculated ***out to 1 mile*** from each proposed wind turbine" or "***within 1 mile***".

  "Within 1 mile" was NOT the intent of the SEC Committee during Rulemaking, as demonstrated by Vice Chair Burack's comment during the SEC Rulemaking deliberative session, when he stated "***we should specify "1 mile as a minimum". And, effectively, leave it to the party that's making the application to identify, really, how far out they think the***

impacts might extend, if it's beyond a mile, and as a way of encouraging them not to just arbitrarily draw a line, but, really, to be thoughtful about where they think those impacts might be worthy of study. So, just a different way of formulating this, that may more quickly get us to studies that answer the questions that people really need to have answered up front."

A comparison between Antrim Wind's October 2015 and Feb 2016 Shadow Flicker reports illustrate why the modeling distance is very important when determining the number of Shadow Flicker hours a home is likely to receive. Antrim Wind's SF study in 2015 used a distance of 1130 meters from the turbines while the more recent study used 'within one mile" or 1610 meters for the distance. Comparing the SF hours results from 3 properties represented in the studies, the following was observed:

Receptor	**Oct 2015 SF Study**	**Feb 2016 SF Study**	**GPS Coordinate**
Receptor #1	0hr 0 min	13hr 48 min	269742.58/61387.33
Receptor #2	9hr 23 min	13hr 18 min	271549.49/63740.04
Receptor #3	10hr 10 min	13hr 38 min	271565.96/63747.81

This comparison illustrates that there is a direct correlation between the distance and the amount of Shadow Flicker a home is likely to receive. If Antrim Wind had complied with the SEC Rule and set the distance to extend out as far as there would be a SF impact, what would that distance have been? How many additional homes would receive Shadow Flicker (as illustrated with Receptor #1) and how many homes would have significantly more SF than projected (Receptor #2 & 3)?

Antrim Wind claims Shadow Flicker doesn't extend beyond a mile although there is documented evidence that it does extend beyond a mile. Mason County, Michigan dealt with significant shadow flicker issues at residences located more than a mile from the turbines. The County ultimately eliminated shadow flicker at the project site by retrofitting the turbines with shadow flicker sensors and selectively curtailing the offending turbines until the sun moved out of position. Mason County has adopted a 0-hours shadow flicker standard[1].

It is important to note that since the receptor is NOT at the home, it will be virtually impossible to determine how much shadow flicker a home is actually receiving. Given that Jack Kenworthy stated it will have a "minimum impact" to curtail the turbines for the Shadow Flicker beyond 8 hours, it's the recommendation of NHWW that, if this project is permitted, the Shadow Flicker limit be reduced to ZERO hours through a condition of the permit. Having a ZERO hour SF limit is the ONLY way to more assure the area residents there will be no SF impact.

[1] The story of Mason County, Michigan is briefly documented in Section C.2 of the SB-99 stakeholder document.

- **SETBACKS:** "Site 301.08(a)(3) Description of planned setbacks that indicate the distance between each wind turbine and the nearest landowner's existing building and property line,…"

  Under cross-examination regarding Orderly Development/Setbacks, Jack Kenworthy was asked about the distance to the hunting camp. When asked how close the camp or the abutting property line was to the nearest turbines Mr. Kenworthy could not answer the question. When questioned during Day 2 of the hearings, Mr. Kenworthy could only identify Figure C-3 in the Application that shows structures out to 1 mile from the turbines. The property lines for adjacent parcels are omitted from the Figure C-3 and the scale of the figure is to the nearest 1000-feet *(SEC Transcript September 15, 2016 Pages 70-80).* Mr Kenworthy has also directed the Committee to a map in the Alteration of Terrain permit to show the definition of abutting parcels but this map is devoid of any other detail, including buildings on these properties.

  Antrim Wind may argue they have met the letter of the Rule, however, providing elements of data that are out of order, and located in different, unrelated documents, fails to meet the clear purpose of the Rule. Pursuant to Site 301.02(c), the Subcommittee, parties to this proceeding, and the public should not be required to examine the entire application and attachments to locate a document that is required to be submitted within that Application area.

  The intent of the Setbacks' application requirement was derived to meet the following intent, as stated by Ms. Weathersby during the Sept 29, 2015 SEC Rulemaking deliberative session: "I was struck by the presenter during the public session who spoke about having not full use of his land or having to post his land because of the potential for ice throw landing on it, ice from the turbine coming onto his property… adding something that, ***not only will there be a setback, but the setback shall ensure that ice throw and -- shall not, you know, cross a property line, or some kind of standard that protects buildings and adjacent property owners.*** I'm not sure of exact language, but that's my concept." There is no information in the Antrim Wind Application that provides the level of information required to make a determination of safe setback distances.

  To the contrary, it appears Antrim Wind has made the determination of required safety setbacks, rather than providing the SEC Committee the information required for them to make an "informed" decision. As stated in Antrim's Application, Section I.6.b "For the two turbines closest to property lines, AWE has a setback waiver from the abutter for one, and the other maintains a setback of 1.1 times the blade tip height, which is consistent with industry practice employed to protect abutting properties from ice throw risk. Of note, the latter property is a woodlot, and is not a residential property." In addition, Antrim Wind has made a distinction between participating and non-participating landowners, which is not a consideration within the Rules.

Wind turbine safety distances that extend onto 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.

SETBACKS (continued): "Site 301.08(a)(3) Description of planned setbacks that indicate the distance …between each wind turbine and the nearest public road and overhead or underground energy infrastructure or energy transmission pipeline within 2 miles of such wind turbine, and explain why the indicated distances are adequate to protect the public from risks associated with the operation of the proposed wind energy facility;

The Cover Letter to Supplement the Application re:New Rules document states: "In addition to information already provided in the Application relating to setbacks from the proposed turbines, the nearest overhead or underground electrical line is the PSNH Ll63 transmission line. There are no energy transmission pipelines within 2 miles of the proposed wind facility."

The Rule requires the distance to be indicated between each wind turbine and the nearest public road and between each turbine and nearest overhead or underground energy infrastructure. As stated above, there is mention of a transmission line although no distance to the turbines is identified. There is also NO reference to distance to nearest public road, although other documents make reference to Route 9.

- **ORDERLY DEVELOPMENT "**Site 102.07 "Affected Communities" means the proposed energy 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 expected to be affected by the proposed facility***, as indicated in studies included with the application submitted with respect to the proposed facility.**"**

"Site 301.09 Effects on Orderly Development of Region. ***Each application shall include information regarding the effects of the proposed energy facility on the orderly development of the region, including*** the views of municipal and regional planning commissions and municipal governing bodies regarding the proposed facility, if such views have been expressed in writing, and ***master plans of the affected communities*** and zoning ordinances of the proposed facility host municipalities and unincorporated places, and the applicant's estimate of the effects of the construction and operation of the facility on:

(a) Land use in the region, including the following:

(1) A description of the ***prevailing land uses in the affected communities;*** and

(2) A description of ***how the proposed facility is consistent with such land uses and identification of how the proposed facility is inconsistent with such land uses***;"

The Antrim Wind Application did NOT contain the Master Plan for any municipalities abutting the host municipality nor did it contain any information on the consistency with land uses for any community other than the host.

While each one of these areas of non-compliance with the Rules will have a significant impact on the ability of the Subcommittee to render a decision, the overall scope of non-compliance is ***extremely*** worrisome. Antrim Wind continually states they have provided information "beyond what the SEC requires", yet it's obvious that is NOT the case!

Now is NOT the time to re-litigate the intent and the letter of the Rules, as adopted less than a year ago. If a permit decision is made where the Rules don't support the decision, an appeal will be likely.

Thank you for the opportunity to be part of the Antrim Wind docket. If you have any questions or would like to discuss these concerns further, please feel free to contact me.

Respectfully submitted,

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