

**THE STATE OF NEW HAMPSHIRE**

**SUPREME COURT**

**2017 TERM**

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Case No. 2017-0313

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APPEAL OF MARY ALLEN, ET AL. AND APPEAL OF FRED WARD

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Appeal by Petition Pursuant to RSA 541:6 (2007)  
and Rule 10 of the New Hampshire Supreme Court from an  
Order of the Site Evaluation Committee

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**BRIEF OF THE APPELLEE  
ANTRIM WIND ENERGY, LLC**

Wilbur A. Glahn, III, Bar No. 937  
bill.glahn@mclane.com  
Barry Needleman, Bar No. 9446  
barry.needleman@mclane.com  
Rebecca S. Walkley, Bar No. 266258  
rebecca.walkley@mclane.com  
MCLANE MIDDLETON, PROFESSIONAL  
ASSOCIATION  
900 Elm Street, P.O. Box 326  
Manchester, NH 03105  
(603) 625-6464

*Counsel for Appellee Antrim Wind Energy, LLC*

Oral Argument Requested. Mr. Glahn will argue.

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## STATEMENT OF THE CASE

On October 2, 2015, pursuant to RSA 162-H, Antrim Wind Energy, LLC (“AWE”) filed an application with the New Hampshire Site Evaluation Committee (“SEC”) for a Certificate of Site and Facility to construct and operate a 28.8 MW electric generation facility consisting of nine Siemens SWT-3.2-113 direct drive wind turbines, on Tuttle Hill ridge in Antrim, New Hampshire (the “Project”).<sup>1</sup> A number of parties intervened, and the Attorney General appointed Counsel for the Public.

Between September and November 2016, a Subcommittee of the SEC (the “Subcommittee”) held thirteen days of adjudicative hearings during which it heard from fifteen witnesses and received 220 exhibits, oral and written statements from interested members of the public, and written post-hearing briefs from seventeen parties. The hearing resulted in more than 4000 pages of transcripts.

The Subcommittee then deliberated for three days in December 2016, during which (as the deliberation transcripts illustrate) it reviewed the complete record, including affirmative testimony provided by AWE and rebuttal or opposing testimony provided by all of the other parties. On March 17, 2017, the Subcommittee issued a 182 page Decision and Order Granting Application for a Certificate of Site and Facility (the “Order”) (A. 1-182), and a separate Order

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<sup>1</sup> The Project is the first wind project in New Hampshire to earn the support of The Nature Conservancy and The New Hampshire Sierra Club. The Project was also supported by the Board of Selectman of the Town of Antrim, The New England Forestry Foundation, The New Hampshire Clean Tech Council, George Bald (the former Commissioner of the DRED), the International Brotherhood of Electrical Workers, and all five bi-partisan state legislators then representing Antrim. AWE also reached a settlement agreement with the Appalachian Mountain Club, which resolved all of the AMC’s concerns related to the Project, and agreements with New Hampshire Audubon (relating to the Common Nighthawk), the Town of Antrim (addressing concerns relating to decommissioning, sound and shadow flicker) and with the New Hampshire Department of Historic Resources (to address effects to a specific historic site).

and Certificate of Site and Facility with Conditions. A. 183-407.<sup>2</sup> Following motions for rehearing and further deliberations, on June 21, 2017, the SEC issued a detailed Order Denying Motions for Rehearing (the “Rehearing Order”) which addressed each of the issues raised by Appellants Mary Allen, *et al.* and Co-Appellant Fred Ward (collectively, the “Opponents”). A. 408-445.<sup>3</sup>

This appeal by the Opponents followed. Counsel for the Public did not appeal.

### **STATEMENT OF THE FACTS**

Although the Opponents challenged the Application on numerous grounds at the SEC, they now raise only four issues in this appeal. Brief of Allen, *et al.* (“AB”), at 3.<sup>4</sup> Two of these issues—*res judicata* and the composition of the Subcommittee—were raised only in motions for rehearing after the issuance of the Order. The remaining issues—a complaint about two calculations in the predictive noise study conducted by AWE’s expert, and a claim concerning the sufficiency of testimony on mitigation—were the subject of extensive testimony during the hearings. This section provides factual background relative to each of these issues.

#### **1. Composition of the Subcommittee**

On October 20, 2015, SEC Chairman Martin Honigberg appointed a seven-member subcommittee to consider AWE’s Application. A. 912-13. The Subcommittee included two public members, Patricia Weathersby and Roger Hawk. *Id.* On January 11, 2016, after Mr.

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<sup>2</sup> The conditions imposed by the SEC are set out in AWE’s Appendix 184-191. Throughout this Brief, the AWE Appendix will be referred to as “A.” The Appendix of the Appellants Mary Allen, *et al.* will be referred to as “App.”

<sup>3</sup> The briefs of the Opponents raise issues that are nearly identical. Accordingly, this brief will address the arguments raised in both of their briefs.

<sup>4</sup> The brief of Co-Appellant Fred Ward will be cited herein as “WB.” Ward raised an additional issue concerning the impact of the Project on property values. However, he did not preserve the issue below. Question 8 in his brief claims to have preserved the issue, but the reference is to his motion for rehearing, which does not mention it. WB 3. Ward also waived the composition of the panel issue (see discussion in footnote 26, below.)

Hawk resigned, Rachel Whitaker was appointed in his place. A. 914. Ms. Whitaker attended a statutorily required public information session in February 2016, and a site visit, but did not participate in the hearings. Ms. Whitaker never resigned from the Subcommittee and the Allen Appellants never once complained about her absence from the hearings until after the Order was issued.

**2. Res Judicata**

**a. The 2012 Docket – “Antrim I”**

On January 31, 2012, AWE filed an Application for Certificate of Site and Facility to construct ten 30 megawatt 492-foot turbines on Tuttle Hill in Antrim, New Hampshire (“Antrim I”). App. 310. On April 25, 2013, a Subcommittee of the SEC denied that application, finding that the project would have an unreasonable adverse effect on aesthetics, and that mitigation measures proposed by AWE were insufficient to address the impact on “valuable viewsheds.” App. 285, 290-91. The Antrim I Order focused on three issues: “the impact of the Facility’s size and scope on the aesthetics of the overall community; the Facility’s impact on the area referred to as Willard Pond and the dePierrefeu Wildlife Sanctuary; and the lack of satisfactory mitigation for that aesthetic impact.” App. 286.

During those proceedings, AWE moved to reopen the record in order to propose several significant changes to the scope and scale of the Antrim I project, including the elimination of turbine 10 (which principally impacted Willard Pond and the Wildlife Sanctuary), the addition of 100 acres of conservation land, and a payment to New Hampshire Audubon for additional conservation. These changes addressed concerns raised in Antrim I regarding the aesthetic impact of the project as viewed from specific resources, and responded to testimony from the aesthetics expert for Counsel for the Public, Jean Vissering. Ms. Vissering had proposed the

elimination of two turbines and a reduction of that facility's size, noting that "the reduction in scale...may substantially mitigate the unreasonable adverse effects on aesthetics." App. 290–91.

The Subcommittee denied the motion, finding that AWE's proposed changes "would require it to conduct an extensive re-review of the entire Application...would materially change the original Application" and would "change other dynamics to such a degree that the Subcommittee would be unable to confidently assess the consequences of issuing a certificate."

App. 320; 290–91. The Antrim I Order concludes as follows:

The Subcommittee's decision is not a determination that a wind facility should never be constructed in the Town of Antrim or on the Tuttle Hill/Willard Mountain ridgeline. The decision is based solely on the information provided regarding the specific Facility presented in this docket. A different facility may be adequately suited to the region.

App. 307.

**b. The 2015 Docket – "Antrim II"**

AWE's 2015 Application ("Antrim II") contained extensive changes from the Antrim I project including, among others, many of the same changes it had sought—but had been denied the opportunity to make—in the earlier proceeding.<sup>5</sup> The changes were described in detail in the Application. *See, e.g.*, A. 643-653. In particular, the new Application eliminated turbine 10, reduced the height of turbine 9, and employed new Siemens turbines that were both quieter and smaller. By removing turbine 10, the Project also eliminated the construction of approximately a half-mile of access roads that would have necessitated clearing along the ridgeline. AWE also added vegetative screening around the substation area to minimize visual effects. *Id.*

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<sup>5</sup> Prior to entertaining this Antrim II Application, the SEC held a jurisdictional hearing to determine whether it should assert its jurisdiction over the project, at 28.8 megawatts, despite it being below the SEC's jurisdictional limit of 30 megawatts. The SEC asserted jurisdiction over the project—a decision that was not appealed.



While these changes reduced the size of the Project by more than 10 percent, the corresponding reduction in aesthetic impact was far greater. The changes specifically addressed the core concerns raised in Antrim I—namely, the scope and scale of the project and its effect on specific resources, including Willard Pond and the dePierrefeu Wildlife Sanctuary. A. 414.

The Opponents claimed that res judicata barred the Antrim II Application. A. 36. The Antrim II Subcommittee addressed that issue by considering whether the changes in the new Application resulted in a materially different project, and thus a different “cause of action” for purposes of res judicata. A. 36-37. It reviewed the impact of each change on each of the scenic resources at issue in both dockets. A. 1096-1150. It also determined that the changes had been invited by the Antrim I Subcommittee. Order, App. 50; A. 1046, 1048. The Subcommittee concluded as follows:

The Subcommittee conducted a thorough and painstaking review of the similarities and differences between Antrim I and the present Application. Specifically, the Subcommittee cited the elimination of one turbine near Willard Pond, a substantial reduction in the height of a second turbine near Willard Pond, a reduction in overall height and size of the remaining turbines, a change in the turbine manufacturer, the addition of 100 acres of conservation land and additional mitigation measures. The substantial differences between the applications preclude a finding that the two applications represent the same cause of action. Based on the substantial factual differences between the two Applications the doctrine of res judicata does not apply. *See, Morgenstern v. Town of Rye*, 147 N.H. 558, 565 (2002).

A. 414.<sup>6</sup> In this Court, the Opponents concede that the specific changes in the scope of the Project and in mitigation were made, but argue that those changes did not meaningfully resolve

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<sup>6</sup> The deliberations of the Antrim II Subcommittee include the following statements: “[T]he 100 acres, the one less turbine, different turbines, the money for the Forest – all the changes in the Application...that causes the new Application be materially different in nature and degree from the previous application,” A. 1045-1046; “[the] changes are so numerous that you can’t help but find that there was a change.” A. 1047; and “[In the 2012 docket AWE] “attempted to alter, effectively, the Application with some changes...suggested by Ms. Vissering. And the response from the Committee at the time...was that

the concerns raised in Antrim I. AB 25. They also argue that the Antrim I Order precluded the use of off-site mitigation measures in general, and these specific measures in particular. AB 29.

As discussed below, AWE's evidence in Antrim II painstakingly addressed targeted design changes to the Project and the impact of those 2015 changes on aesthetics (and, in particular, on the scenic resources that were of concern in Antrim I). This evidence was presented in light of substantial amendments to RSA 162-H and the SEC Rules made after the decision in Antrim I. The new Rules require specific analyses to be performed, detailed information be presented to the Subcommittee, and consideration of seven specific new criteria relative to effects on aesthetics. Site 301.14 (a) (1)-(7).

To assist the SEC in evaluating the newly designed Project in accordance with the new Rules, AWE submitted a visual assessment ("VA") prepared by LandWorks, together with testimony from David Raphael, the principal of LandWorks. A. 452-642; A. 848-876. This assessment, which took nearly a year to develop, identified and evaluated the aesthetic effects of the new Project on over 290 scenic resources (as they are defined in the SEC Rules). It also addressed each of the criteria the SEC must consider under Site 301.14 (a) (1)-(7) when making findings regarding aesthetics under the amended SEC Rules. A. 473-491. Raphael assigned a rating for each of these evaluative criteria to each scenic resource and considered each such resource in light of the specific criteria in the new SEC rules. A. 462-475, 480-490. This level

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would change the – they would have to basically restart the process, because the changes would – effectively made it materially different.”) A. 1043. Dr. Boisvert, the only member of both the Antrim I and II Subcommittees, stated that the prior Subcommittee was “unanimous that this would have been an entirely new application, that the economics would change and so forth, and that [the Subcommittee] did not consider it. [The Subcommittee] said it would be a wholly new application, [and it ] would have to start over.” A. 1044. Dr. Boisvert reiterated this conclusion during the deliberations on rehearing noting: “This was not the same project.” A. 1287.

of focused detail was not previously required by the SEC rules and played a determinative role in the Subcommittee's deliberations in Antrim II.<sup>7</sup>

The newly amended Rules also require the evaluation of the visual effect on a landscape level. Site 301.14. Raphael performed a computer-based visibility analysis for a ten-mile area of potential effect ("APE") (Site 301.05(b)(4)(a)), as well as analysis of "[t]he presence of intervening topography between the scenic resource and elements of the proposed facility." Site 301.05(b)(6)(h). These rule changes and analyses addressed a critical issue discussed in Antrim I—the scope and scale of the project in the landscape.<sup>8</sup> The new approach required by the rules resulted in a more complete understanding of the lack of overall visibility within the entire project area rather than disproportionately focusing only on the few resources that have potential visibility of the project, which was the approach taken in Antrim I prior to the rule change.

The VA contained a detailed discussion of the effect of the reduction in the Project's scope and scale on specific scenic resources.<sup>9</sup> In Antrim I, twelve scenic resources, aside from Willard Pond, were identified as "sensitive areas."<sup>10</sup> Raphael cataloged the differences between

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<sup>7</sup> The Subcommittee reviewed each and every photo simulation submitted by all parties, including some simulations submitted by Ms. Vissering in Antrim I. A. 426-427; *see also* A. 119-122 and A. 1096-1163.

<sup>8</sup> Although Raphael identified 290 scenic resources in the ten-mile APE, he determined that 260 of them would not have any visibility due to intervening topography. A. 549. In applying this landscape level analysis, Raphael concluded that within the 353.2 square mile study area, only 8.8 square miles (2.5 percent) had any potential visibility of the Project. *Id.* If visibility from the turbine tips were added to this analysis, only an additional 2.6 square miles or 0.7% would have visibility of the project. *Id.*

<sup>9</sup> With respect to Meadow Marsh, the VA stated that "the removal of turbine #10 will considerably alter the visual affect from this point in particular. Though not prominent, turbine #10 was more likely to affect the primary view from the bench, including visibility of clearing for the road between #9 and #10. Since this turbine and its access road are no longer there, the primary view will not be altered." A. 572. The VA further noted that "a reduction of turbine height and turbine numbers...does not necessarily diminish or alter project visibility throughout the entire 10-mile study area, but these changes will have a more dramatic effect on reducing visibility and visual effects to local resources, *i.e.* Willard Pond." A. 588.

<sup>10</sup> These resources included Bald Mountain, Goodhue Hill, Gregg Lake, Robb Reservoir, Island Pond, Highland Lake, Nubanusit Pond, Black Pond, Franklin Pierce Lake, Meadow Marsh, and Pitcher Mountain. In addition, the Subcommittee in Antrim I also focused on Willard Pond.

the 2012 and 2015 Application at each of those twelve resources, and the impact of the project changes on those resources. A. 865-869. Several of these resources are within the dePierrefeu Wildlife Sanctuary—a principal concern of the Antrim I Subcommittee.<sup>11</sup> In response in part to the change in the SEC Rules, Raphael analyzed these resources both at an individual level and in the broader context of the entire sanctuary (the vast majority of which had no project visibility).<sup>12</sup> He also considered the effect the changes had on scenic resources beyond the sanctuary. In several instances throughout the APE, the changes resulted in the Project having no visibility from a resource where it had previously been visible<sup>13</sup> and in every other case, the visual effect was significantly reduced. A. 865-869. Raphael’s testimony concerning the impact of Antrim II design changes on these twelve resources was uncontroverted.

Raphael’s VA and testimony also addressed the aesthetic impact on Willard Pond, a specific resource of concern in Antrim I. App. 288. Raphael acknowledged that in Antrim I “[t]urbine 10 and turbine 9 in the previous layout appear to be the most dominant structures when viewed from some locations,” specifically from Willard Pond. A. 864.<sup>14</sup> The new Project

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<sup>11</sup> Resources within the sanctuary include Willard Pond, Goodhue Hill, and Bald Mountain.

<sup>12</sup> The VA noted: “[t]he sanctuary itself is considered to have no visibility, except for those few locations on Bald Mountain Trail and Goodhue Hill Trail, which have already been addressed. The impact to the Sanctuary is considered insignificant given the lack of visibility from the vast majority of the property.” A. 583. With respect to Goodhue Hill, Raphael concluded that the changes made in Antrim II have reduced the number of turbines visible by one and the closest turbine has been moved 2/10 of a mile further away lowering the visual impact from this location. A. 865. For Bald Mountain, he concluded that the change in Antrim II reduced the angle of view from 12.31% to 5.92%, thus lowering the overall effect at this resource to a “low” rating. The prominence of the project was also diminished by moving the closest turbine 3/10 of a mile further away. The number of turbines visible was therefore reduced by two at this location, again lowering the effect at this resource to low. A. 865.

<sup>13</sup> In their Questions Presented, Allen *et al.* claim that AWE failed to consider resources found to be significant in Antrim I, specifically referencing Highland Lake and Lake Nubanusit. AB 1. Raphael evaluated both resources and concluded that the elimination of turbine 10 and lowering of turbine 9, resulted in the Project having no visibility from these Lakes. A. 867.

<sup>14</sup> See also A. 951-952 (Mr. Kenworthy noting “the full removal of Turbine 10...10 full percent of the Project’s turbines, but more importantly, I think was a turbine that was identified specifically as a concern at the Willard Pond location. It was on the tallest piece of land that was associated with the Project. And

design resolved the impact of the project on Willard Pond by lowering the tower and nacelle of Turbine 9 to below tree line when viewed from the Pond, and eliminating Turbine 10 altogether. A. 869. Raphael concluded that these changes had a dramatic aesthetic effect, opining that “[i]n the 10-turbine layout, 24.8 acres or 22.5% of [Willard] pond had potential visibility of eight or nine turbines...In comparison to the new 9-turbine Project layout, only 4.7 acres or 4.3% of the pond may see just eight turbines (no part of the lake can see nine turbines), a significant change of 81%.” A. 870; *see also* A. 1002-1004. Additionally, with the 9-turbine design, “[t]he remaining area of potential visibility (95%) may see seven turbines or less, which is considered low [impact].” A. 870.

Beyond the effect on these individual resources, the design changes resulted in an “overall reduction, or shift, in area where the total number of turbines would be visible.” A. 864. On an overall landscape basis, in addition to an individual resource basis, the number of turbines visible was reduced throughout the ten-mile area of effect and, in some instances, the Project would no longer be visible at all.<sup>15</sup> The elimination of turbine 10 and lowering of turbine 9 reduced the overall scope and scale of the Project, in part, by reducing the overall area of potential visibility by 12 percent. A. 864. The Antrim II Subcommittee addressed the impact of the changes on these resources in significant detail, concluding that the “Project will not have an unreasonable adverse effect on aesthetics of the region.” A. 102-122.

The design changes in Antrim II also had an effect on the efficacy of the measures proposed by AWE to mitigate the aesthetic effects of the Project. In Antrim I, the Subcommittee concluded that “the dedication of lands to a conservation easement *in this case* would not

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all of the infrastructure between Turbine 9 and 10, which was fairly considerable amount of new road, all of that is gone.”)

<sup>15</sup> “In fact, visibility in the lower west quadrant of the 10-mile radius has been essentially eliminated with these changes in layout.” A. 864.

suitably mitigate the impact...[and] would not mitigate the imposing visual impact that *the Facility* would have on valuable viewsheds.” App. 290-91 (emphasis added). Although that Subcommittee refused to consider the changes that AWE proposed to make at that time (due to the fact that such changes would require *de novo* review), it specifically recognized that the changes suggested by Vissering in that docket—and ultimately implemented in large part by AWE—“may substantially mitigate the unreasonable adverse effects of aesthetics.” *Id.*

The Antrim II application included all of the Antrim I mitigation measures and added others, including an additional 100 acres of land that would now conserve the entire ridgeline (a concern expressly raised in the 2012 docket), with the result that the Project would now conserve 908 total acres. A.1155. AWE also agreed to donate \$100,000 to the New England Forestry Foundation for the acquisition of new permanent conservation lands in the general region of the Project, to provide additional monetary benefits to the Town of Antrim, including a payment of \$40,000 to upgrade facilities at Gregg Lake (which the Town agreed “constitutes full and acceptable compensation for any perceived visual impacts to the Gregg Lake area”), and a \$5,000 per year donation to the Antrim Scholarship Fund. A. 109; A. 652.

In a significant change from the law applicable to the 2012 Project, the amendments to the SEC Rules required that the Antrim II Subcommittee evaluate proposed mitigation and its effectiveness relative to each of the criteria the SEC must consider, including mitigation with respect to aesthetics. Site 301.14 (a)(7), (b)(5), (e)(5), (e)(6), (f)(1), (3), and (4). The Antrim II Subcommittee deliberations concerning the impact of the proposed mitigation specifically took into account how the design changes mitigated the impact of the Project on aesthetics, as well as the evidence that providing conservation land—particularly on the Tuttle Hill ridgeline—assisted in mitigating the impact. A. 1151-1161. The Order concluded that although the effect of a wind

project on aesthetics “cannot easily be mitigated by commonly used mitigating measures,” the design changes and the addition of conservation land “ensuring that...no construction and development will be conducted on conserved land thus preserving rural and forested views on such conserved land” was sufficient to support the conclusion that the Project “will not have an unreasonable effect on aesthetics.” A. 122.

### 3. **Predictive Sound Modeling**

At the outset, it is important to provide context for the technical issues the Opponents raise on appeal. The SEC Rules pertaining to wind projects require that certain objective standards be satisfied in order to avoid unreasonable adverse effects potentially associated with a project. *See e.g.* Site 301.14. Included within this category are detailed requirements for the impact of noise and “shadow flicker.” Site 301.14 (f)(2) and 301.18.<sup>16</sup>

The predictive sound modeling is required to be conducted under what is functionally worst case conditions, that is, conditions that are highly unlikely (or impossible) to occur in real life. Site 301.18 (c)(2). For example, the predictive sound study requires an assumption that all turbines operate at maximum sound levels all the time and that every home potentially impacted is always downwind from each turbine simultaneously, which is a physical impossibility. *Id.* Even with these worst case conditions used for predictive modeling, in order for the SEC to ensure that the models produce reliable results, the Rules also require detailed post-construction testing and monitoring. Site 301.18 (a)-(g). Finally, the SEC has the authority to condition any Certificate on future testing and monitoring, which limits or prevents operation if the conditions are not met or are violated. Site 302.01.

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<sup>16</sup> See further discussion of shadow flicker in part 4 a below.

**a. Predictive Sound Modeling**

AWE submitted extensive testimony and exhibits demonstrating that the methodology of its predictive sound modeling complied with SEC Rules, and that the results of the study demonstrated the Project would operate comfortably under the limits set out in the Rules. See Report of Epsilon Associates (the “O’Neal Report”). A. 660-726; A. 814-829; and A. 830-847.

Site 301.14 (f)(2)(a) requires “that sound levels during operation [of the turbines] shall not exceed the greater of 45 dBA or 5 dBA above background levels...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...at all other times during each day.”<sup>17</sup> The Rules require a highly specific methodology for preconstruction sound studies (both to determine background and predicted sound levels.) Site 301.18 (a)-(d). Of particular note to this appeal, Site 301.18 (c) (1) requires that the pre-construction modeling “be conducted in accordance with the standards and specifications of ISO 9613-2.”<sup>18</sup>

O’Neal’s sound study evaluated both background and predicted noise levels associated with the Project. A. 664.<sup>19</sup> His model used software that employs the ISO 9613-2 standard required under the SEC’s rules. See Site 301.18(c)(1). A. 686-687.<sup>20</sup> Consistent with the ISO

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<sup>17</sup> “dBA” is a designation for “A weighted sound levels.” A. 667. The specifics of the use of A weighted decibels are not relevant to this appeal, however, the methodology is explained in the Report together with a “noise thermometer,” which compares dBA levels to common outdoor and indoor sounds. A. 666-668. 40 dBA corresponds to a “soft whisper at 3 feet” or a “quiet urban nighttime.” O’Neal testified that SEC standards set more conservative levels than those of the World Health Organization. A. 821-823; A. 845.

<sup>18</sup> The ISO Standard is set out in Appendix B to the SEC Rules and also at App. 460-483.

<sup>19</sup> Background, or existing, sound levels were measured at five locations, intended to be representative of nearby residences, A. 674-679; A. 817, while predictive measurements were taken at 344 “receptors” or structures in various directions from the proposed wind facility within a two-mile radius, consistent with Site 301.18(a)(3). A. 685-694; A. 817.

<sup>20</sup> The Cadna/A software performs highly refined computations that consider the effect of topography, ground attenuation, multiple building reflections, drop-off with distance, and atmospheric absorption.



9613-2 standard, the model assumed favorable conditions for sound propagation, and employed the highly conservative assumption that each receptor is always located directly downwind from every turbine simultaneously, and that the turbines were always operating at maximum sound levels. A. 688; *see also* A. 819. While this is not physically possible, it allows for a calculation of the “worst case” as required pursuant to the SEC’s rules. Site 301.18(c)(3); A. 687-689; A. 836, 839; A. 965-966, 973-974.

The sound study demonstrated that the predicted worst case sound levels for the Project fell well below 45 dBA during the day and 40 dBA at night (as measured at all applicable receptors under the SEC rules), and thus met the required noise limits. A. 696; A. 823. In fact, of the 344 structures modeled, more than half are expected to be below 30 dBA and only seven were above 37 dBA. A. 690-694. None exceeded the 40 dBA standard. *Id.*

The Opponents did not conduct any sound modeling or perform any modeling in accordance with the ISO standard. Instead, they submitted the testimony of Richard James, who critiqued O’Neal’s Report. A. 877-895. The principal focus of this critique, and the Opponents’ sole contention in this appeal, is that O’Neal should have made two adjustments to his model inputs. First, the Opponents argue that O’Neal should have input a different ground factor or “G-Factor” and that if had he done so, his results would have increased by three decibels, thus exceeding the 40 dBA standard. AB 25-26; WB 22-24. Second, they allege that O’Neal should also have adjusted the decibel levels upward to account for the accuracy of the Standard. *See* AB 25-29. They assert that without these adjustments, O’Neal’s study did not model the worst case scenario. *Id.*

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Consistent with the ISO 9613-2 standard, the model assumes favorable conditions for sound propagation, which corresponds to a moderate, well-developed ground-based temperature inversion. A. 688. The Opponents do not challenge the software used by O’Neal but rather, the inputs made in his calculations.

**b. The G-Factor**

In his application of the 9613 Standard, O'Neal applied a G-Factor of 0.5. A. 836-837. As O'Neal explained, the G-Factor is one of several attenuation terms in the 9613 Standard.<sup>21</sup> The G-Factor accounts for the acoustical properties of the ground (*i.e.* the extent to which it is likely to absorb sound) between the source (here, the turbine) and the receptor (the structures). A. 836-837. A G-Factor of 0.0 is used for hard ground, including "paving, water, ice and concrete, and all other ground surfaces having a low porosity." A. 836-837. By contrast, a G-Factor of 1.0 reflects very porous ground covered by grass, trees and other vegetation. A. 836-837. O'Neal chose a G-Factor of 0.5 which he considered to be "conservative." A. 836; A. 969-981; 985-986.

O'Neal was cross-examined at length on the decision to use the G-Factor of 0.5. A. 967-985; A. 987-992. The Opponents contended that the 9613 Standard *required* the use of a 0.0 G-Factor because, given the height of the turbines, no adjustment should be made for interfering ground, porous or otherwise. AB at 26-27. O'Neal acknowledged that if a G-Factor of 0.0 was used, the decibel levels in his study would increase by about 3 decibels. A. 991. However, based upon his experience comparing pre-construction studies and post-construction studies, he concluded that using a G-factor of 0.0 for a site such as Antrim, which is almost entirely forested, would be inappropriate and not supported by the standard. A. 998; A. 836-837. Moreover, having also used a similar factor to calculate sound levels for other wind projects (A. 836), he concluded that there would be an attenuation of the sound and that the 0.5 factor was most appropriate. A. 836-837; A. 980-986. During deliberations, one SEC member agreed: "I would just state from my perspective that the G factor of 0.5 seemed to be reasonable. It was

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<sup>21</sup> Attenuation refers to the weakening of sound either as it travels over distance or, in the case of the G-Factor, its absorption by the ground. A. 836.

mixed ground certainly between the turbines and any of the sensitive sound structures that were considered.” A. 1180.

Although the Opponents contended that a G-Factor of 0.0 was *required* by the 9613 Standard, James admitted on cross-examination that nothing in the standard or the SEC Rules actually required the application of that Factor. A. 1033-1036. Instead, James’ conclusion was simply based on his judgment that unless the 0.0 factor was used, the model did not reflect the “worst case” scenario. A. 1033-1036. The Subcommittee disagreed. App. 154.

**c. The “Adjustment” Factor**

The Opponents also asserted at the hearing that O’Neal underestimated the sound levels because he had failed to “adjust” his model based on Table 5 of the 9613 Standard, which provides for an adjustment of plus or minus 1-3 decibels based on the height of the turbines and the distance of the receptor from the source. App. 476-477; see also AB at 28-29. James asserted that he would just “toss in...5 dBA...[and] could have said 15” as a correction. A. 1039-1042.

In response, O’Neal testified that nothing in the 9613 Standard requires such an adjustment because Table 5 applies only to turbines of less than 30 meters in height and less than 1000 meters in distance from a receptor, which are not conditions present in this Project. A. 833-836; A. 967-980; 993-997. O’Neal therefore added no additional decibels to “correct” for the accuracy of the 9613 Standard. A. 833-836. And again, James conceded that nothing in the 9613 Standard required the addition of any additional decibels. A. 1037-1038; A. 1039-1042. In short, the question of whether any additional adjustments were necessary was a matter of expert opinion.

**d. Noise Reduction Operations.**

The Sound Study plainly demonstrated compliance with the Rules, and that the Project had a margin of 2 dBA between the highest predicted sound level and the nighttime 40 dBA limit—and even then only at one receptor. A. 694; A. 1000. Yet notwithstanding that fact, AWE demonstrated that it had curtailment mechanisms available to ensure continued compliance. Testimony showed that if additional noise reduction was necessary, the Siemens' turbines have a noise-reduced operating (“NRO”) mode that can reduce sound in one decibel increments by as much as 5 decibels. A. 999-1000.

**e. The Committee's Deliberations and Decisions**

During their deliberations, one member of the Committee described the dispute over the G-Factor and other purported adjustments to the final decibel levels in the O'Neal Report as “sort of a battle of experts.” A. 1164. In assessing the experts, panel members concluded that “the G-Factor of .5 seemed to be reasonable,” that O'Neal had supported his G-Factor by post-construction testing at similar facilities, and had “used his best scientific judgment consistent with this prior research in this area, .... and even with the uncertainty factor there's still the potential to turn it down another 5 decibels if he is horribly off.” A. 1164-1187; 1180-1184. Panel members also found that the Report “assume[d] [the] worst case” in that “all measurements were taken as if somebody was downwind from the turbine.” A. 1164; 1168.

Noting that James had done no independent study, a Subcommittee member stated that the O'Neal report was “in compliance with our SEC rules and that Mr. James was looking at some differing ANSI standards.” A. 1170-1171. Other members agreed. A. 1172-1173, 1186. The members also recognized that AWE was required to perform post-construction testing, and that if the Project was not in compliance with the Rules, it would be required to shut down. A. 1177. Finally, the Subcommittee specifically took note of the agreement between the Town

of Antrim and AWE to perform post-construction noise assessments (in addition to the requirements of the Rules). A. 1191.

The Subcommittee's Order found that "the Sound Assessment report presented by Mr. O'Neal was prepared in accordance with professional standards and [SEC] rules," and that if necessary, the NRO feature of the turbine would allow the reduction of sound to comply with the Rules. A. 145-153. Accordingly, based on both the conclusion that the Certificate required future operation within the decibel levels of the Rules, and the protection of the post-construction testing, the Subcommittee concluded that the Project would "not have an unreasonable adverse effect on health and safety" as this standard relates to noise. A. 153.

The Opponents sought reconsideration claiming, as they do in this appeal, that O'Neal's study did not model a "worst case" scenario because of his use of the 0.5 G-Factor and his failure to include a further adjustment. The SEC concluded that it "found Mr. Neal's (sic) opinions to be more credible," and that "even if the modeling contains some errors [AWE] will be constrained by the absolute noise levels set out in Site 301.14 (f)(2)." App. 209-211.

Finally, in order to assure compliance, the SEC imposed specific conditions in the Certificate, including that AWE "retain a third-party noise expert, as approved by the Administrator of the Committee, to assist the Town of Antrim and the Administrator in taking field measurements in order to evaluate and validate noise complaints." A. 191. Absent compliance with the Rules, the Project would not be permitted to operate.

#### 4. **Mitigation Measures**

In addition to issues raised regarding AWE's sound study and the results of that study, there was extensive testimony before the SEC on "shadow flicker" and the aesthetic effects

associated with night lighting for the turbines. A. 154–156; 160–167.<sup>22</sup> Although the Opponents raised a number of issues concerning these topics, their appeal focuses on what they claim to be a lack of evidence to show that AWE will be able to comply with the SEC standards on these issues. AB 29–32. The evidence, however, showed that the standards had been met. Further, the SEC imposed conditions to assure compliance.

**a. Shadow Flicker**

The SEC Rules establish an objective standard for shadow flicker that is the most stringent standard in New England and that no wind project in New Hampshire has previously been required to meet. A. 1001; Site 301. 14 (f). AWE’s expert O’Neal submitted a detailed Shadow Flicker Analysis. A. 727-813. As described in the SEC’s Order (A. 160-167), and in O’Neal’s Report and his direct and supplemental testimony (A. 814-847), that study was conducted with a software program that functionally assumed “worst case” conditions. A. 827-828.

SEC rules require that the shadow flicker modeling assess both the “astronomical maximum” and “anticipated hours” of shadow flicker for each receptor within a mile of any turbine. Site 301.08(a)(2). The astronomical maximum (worst case) assumes the sun is always shining during daylight hours, no vegetative cover (bare earth), that each building is a “greenhouse” that has continuous windows on all sides, and that the turbines are always spinning, with rotors perpendicular to the line between the sun and the receptor. To calculate anticipated hours, the model incorporates these greenhouse and bare earth conditions, and site specific data on the percentage of sunshine (shadows will not be cast when the sun is not out)

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<sup>22</sup> “Shadow flicker” is defined in Site 102.48 as the alternating changes in light intensity that can occur when the rotating blades of a wind turbine are back-lit by the sun and cast moving shadows on the ground or on structures.

and wind speed/direction (flicker cannot occur if the blades are not spinning). The SEC Rules require that actual shadow flicker at a receptor shall not exceed 8 hours *per year*.<sup>23</sup>

O’Neal’s study provided both astronomical and expected shadow flicker hours and concluded that under these conservative conditions, of the 150 receptors within a mile of each of the turbines, 78 will experience no flicker, 49 will experience less than the eight hour per year limit and that 24 receptors may experience flicker amounts of between two minutes and five hours and 48 minutes per year above the limit—prior to any operational mitigation.<sup>24</sup> A. 673. For those 24 receptors that were conservatively predicted to exceed the annual limit, AWE provided testimony that Siemens (the manufacturer of the turbines) would implement a shadow control technology that would curtail the operation of specific turbines to prevent any excess flicker above the SEC standards at any receptor.<sup>25</sup> A. 681; A. 954-957; A. 1197-1207; A. 1269-1286. AWE’s Application included specific information about the components and operation of

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<sup>23</sup> In this appeal, as in the proceedings below, Ward (a meteorologist) devotes most of his energy to an attack on O’Neal’s methodology in assessing shadow flicker. WB 9–11, 21 and 25–27. Ward’s central challenge is that SEC Rules required an assessment of flicker at one mile from the entire “energy facility” rather than from each turbine and therefore, required “a much greater radius to consider all sources,” which “would likely result in (sic) much higher shadow flicker estimate.” *Id.* 10. This entire argument is based on a misreading of the SEC Rules. Ward relies on Site 301.14 (f)(2)b, which sets the standard for determining whether shadow flicker will have an adverse effect on public health and safety. That Rule provides that “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 [i.e., “receptors].” (Emphasis added). Ward thus argues that the shadow flicker study must include all buildings within a mile of the *facility*. WB 25. But the Rules also provide specifics concerning shadow flicker modeling. Site 301.08 (a)(2) states that shadow flicker is to be measured “at [receptor] 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*.” (Emphases added). Site 301.08 controls, as it governs how the modeling in standard in Site 301.14 is to be conducted. O’Neal properly followed Site 301.08.

<sup>24</sup> These exceedances are highly conservative. In many instances homes that the visual assessment identified as having no visibility of the project, still show shadow flicker impacts in the model since the model does not take into account real world trees and other vegetation that would block any shadow flicker from the turbines.

<sup>25</sup> Although the Siemens’ shadow flicker control technology has not previously been employed in the United States, it has been widely used in Europe. A. 1006.

this technology, and AWE offered additional testimony on the use of this technology. A. 449; A. 739; A. 1008-1012; *see also*, A. 1290.

The Subcommittee concluded that the study was performed in accordance with the rules and that the Siemens' shadow control technology would "limit shadow flicker to comply with [the applicable] administrative rules." A. 164. However, to safeguard compliance with the annual shadow flicker requirements, the SEC imposed additional conditions, including a requirement that AWE submit semi-annual reports that included data from the Siemens' shadow flicker control system for each year the Project is in operation to both the SEC and the Town of Antrim demonstrating compliance with the SEC shadow flicker rules. A. 164-169; A. 192.

**b. Nighttime Lighting**

Night lighting of turbines (synchronized red aircraft obstruction beacons similar to those on cell towers or buildings) may affect aesthetics. Site 301.05 (b)(9) provides that "[i]f the proposed facility is required by [FAA] regulations to install aircraft warning lighting," an applicant must provide information about the visual impact of the lighting "including the number of lights visible and their distance from key observation points." Raphael's VA and testimony contained details concerning the number of turbine lights, where they might be viewed, and how any visual impact would be mitigated by a limited "vertical beam spread," and the type of lights used. A. 494; *see also* A. 551.

In order to substantially mitigate any impact of night lighting, and as part of a settlement agreement with the Appalachian Mountain Club (A. 654-659), AWE proposed to use a radar activated lighting system, the "Aircraft Detection Lighting System" ("ADLS"). A. 154. Testimony showed that this system, which had primarily been used on transmission lines, had been approved by the FAA for use on other wind facilities and that AWE had sought and planned to obtain final approval from the FAA for implementation at the Antrim site. A. 958-



959; A. 953; A. 1005. In fact, the opposing expert for the Counsel for the Public did not include any aesthetic assessment of nighttime lighting in her VA “due to the ongoing coordination between AWE and the FAA regarding the use of radar technology to engage the aviation safety lights when there is an aircraft in the vicinity thereby eliminating the need for a constant strobing red light.” A. 1361. In short, the ADLS virtually eliminated the impact of night lighting. The SEC agreed. A. 118, 156.

During extensive deliberations on the issue, the Subcommittee noted that the Application had not included extensive nighttime lighting simulations (which are not required by any SEC rule) precisely because AWE proposed to use ADLS. A. 1075-1083. But it nonetheless discussed resolving any concerns about the nighttime lighting by mandating that before construction, AWE receive FAA approval to use ADLS. A. 1235-1256; A. 1257-1268. The Order concluded that “[i]nstallation of such systems will effectively minimize the nighttime impact of the Project while ensuring its safe operation.” A. 118. It found that “light associated with operation of the Project” would not have such an effect “*if the Project will be equipped with the ADLS.*” *Id.* (emphasis added.) However, the SEC expressly stated that “ADLS shall be installed prior to operation of the Project.” *Id.* In fact, AWE has now obtained approval from the FAA for that installation. A. 915-946.

### **SUMMARY OF ARGUMENT**

These appeals raise one issue of law—composition of the Antrim II Subcommittee—and three issues addressing whether there was insufficient evidence to support the following findings of the Subcommittee: that res judicata did not apply; that sound from the turbines would not have an unreasonable adverse effect; and that the AWE had demonstrated appropriate mitigation measures. While this Court reviews issues of law *de novo*, the Opponents’ arguments concerning the composition of the Subcommittee are meritless. And when measured against the

deferential standard of review applied by this Court to SEC proceedings, the Opponents have presented no evidence that the Subcommittee acted unlawfully or unreasonably. The Subcommittee's factual findings are sound, based on a thorough weighing of the evidence and the credibility of witnesses, and should be affirmed.

With respect to the Subcommittee's composition, the Opponents waited until after the hearings and deliberations were complete, and the Order was issued, before asserting that the entire process was void due to the failure of a member of the Subcommittee to attend the hearings. Then, and now, they had no evidence that there was a vacancy on the Subcommittee. And given the quorum requirements of the statute, they had no basis to contend that they were entitled to seven members sitting in every session. If they thought there was a vacancy or if—despite the statute—they wanted to insist on seven members participating they could—and should—have spoken up. Their failure to do so results in waiver.

The Opponents' argument that res judicata applies fares no better. In the administrative context, when a submission follows an earlier action of the agency, res judicata is primarily a factual inquiry into whether the second submission is materially different from the first, or meaningfully resolves prior concerns. The Opponents claim res judicata on only one issue—whether changes to the Antrim II Project sufficiently addressed the finding in Antrim I that the earlier project had an adverse aesthetic impact.

The SEC properly found that none of the Antrim I findings precluded a new application. The Antrim I Subcommittee refused to consider the changes included in the Antrim II Application. The Antrim II Subcommittee considered those significant changes in the scope and scale of the Project. It reviewed a completely new Visual Assessment by AWE's expert—as mandated by changes in RSA 162-H and the SEC Rules—together with extensive expert and lay

testimony on the impact of the Antrim II Project on aesthetics. Based on that evidence, the SEC found that the changes were material and thus that the projects were materially different.

The Opponents invite the Court to ignore all of that evidence, suggesting that it may conclude that there was no material difference between the projects simply by looking at photographs. The Court should decline this invitation. This approach would result in this Court substituting its factual conclusions for those of the Subcommittee, without applying the comprehensive methodology for determining aesthetic impacts under the SEC Rules. If this were a proper measure of aesthetics, there would be no need for SEC Rules, no need for expert analyses or testimony, and no need for the second hearing. The issue could have been resolved in a few hours. In fact, the Subcommittee carefully considered and debated the photo simulations, but did so in the context of all of the factual and expert testimony, which is exactly what the amended rules required. Likewise, despite the Opponents' claims that the Subcommittee did not consider any evidence on mitigation measures to address aesthetic impact, the Subcommittee received ample evidence of those measures and evaluated them with reference to the changes in the Project—changes that were made for the specific purpose of addressing the concerns addressed in Antrim I.

The Opponents' claims concerning the Subcommittee's factual findings on technical issues—noise, shadow flicker, and mitigation measures to deal with nighttime lighting—utterly fail to satisfy their substantial burden of proof in this Court. Their contention regarding the noise study is that AWE's expert failed to follow a specific standard (ISO 9613-2) which they contend would have added decibels to AWE's results, thereby causing a violation of the Rules. But their own expert conceded that the standard did not require the addition. The SEC found that AWE's

sound study followed the Rules and did not require any adjustments, and that AWE's expert was more credible. The Opponents offer no basis to find otherwise.

Finally, with respect to mitigation measures, the Opponents argue that there was no evidence to support the Subcommittee's finding that measures proposed to be taken with regard to lighting, noise, and shadow flicker were sufficient to protect the public. The Opponents simply fail to understand the import of pre-construction predictive modeling, or to advise this Court of conditions imposed by the Subcommittee to ensure that the operation of the Project did not violate SEC Rules. Given the required use of ADLS, the impact of nighttime lighting was negligible. The predictive sound study showed that the Project would comply with the SEC noise limits. As to shadow flicker, under the very conservative "bare earth" conditions required by the Rules, and that do not represent actual conditions on site, the study showed that without operational controls there could be exceedances at some receptors. However, AWE presented uncontroverted evidence that a shadow control technology would be implemented to resolve that issue. Notwithstanding all that, the Rules, and the Certificate conditions imposed by the Subcommittee require strict post-construction testing and reporting. Absent compliance, the Project cannot operate.

The SEC's findings on these issues are reasonable and lawful and should be affirmed.

## **ARGUMENT**

### **I. Standard of Review**

Decisions of the Site Evaluation Committee are reviewable in accordance with RSA Ch. 541. RSA 162-H:11; *In Re Campaign for Ratepayers' Rights*, 162 N.H. 245, 249 (2011). Pursuant to RSA 541:13, all findings of the SEC upon all questions of fact properly before it are deemed to be prima facie lawful and reasonable; and the order or decision appealed from shall

not be set aside or vacated except for errors of law, unless the court is satisfied, by a clear preponderance of the evidence before it, that such order is unjust or unreasonable. *Id.*

This Court reviews an agency's interpretation of a statute *de novo*; however, where a party contests the interpretation of a statute by the agency charged with its administration, as Opponents do here, such determination is entitled to deference. *Appeal of Old Dutch Mustard Co., Inc.*, 166 N.H. 501, 506 (2014); *Appeal of Town of Seabrook*, 163 N.H. 635, 644 (2012); *Appeal of Weaver*, 150 N.H. 254, 256 (2003) (“[S]tatutory construction by those charged with its administration is entitled to substantial deference”).

## **II. This Court Should Affirm The Subcommittee's Order.**

### **A. The Subcommittee Was Properly Constituted and The Opponents Waived Any Challenge to Its Composition.**

The Opponents sat through thirteen days of hearings in which public member Rachel Whitaker did not participate. Yet they never once complained – or even inquired – about her absence. Only after receiving the Order did they challenge the Subcommittee's composition. A. 409, 418-420. Then, they effectively sought to take a “mulligan,” by requesting that a new member be appointed and a new hearing be held.

The SEC denied the motions for rehearing, stating that “neither Counsel for the Public nor the Intervenors complained at any point during the adjudicative process about the lack of a public member or the lack of a quorum.” A. 419. It found that the appointed Subcommittee consisted of seven members at all times, including two public members, and that RSA 162-H: 4-a does not mandate a quorum of seven members or that both public members participate. A. 418-420. The SEC was correct. Moreover, the Opponents have waived the issue.

RSA 162-H: 4-a (Supp. 2016) allows for the creation of seven-member subcommittees of the SEC to consider and rule on certain matters, including the issuance of certificates. The statute provides as follows:

When considering the issuance of a certificate or a petition of jurisdiction, a Subcommittee shall have no fewer than 7 members. The 2 public members shall serve on each Subcommittee with the remaining 5 or more members selected by the chairperson from among the state agency members of the state agency members of the Subcommittee. . . . Five members of the Subcommittee shall constitute a quorum for the purpose of conducting the Subcommittee's business.

RSA 162-H: 3, XI (Supp. 2016) further provides, in relevant part, as follows:

[i]f at any time a member must recuse himself or herself on a matter or is not otherwise available for good reason....[i]n the case of a public member, the chairperson shall appoint the alternate public member, or if such member is not available, the governor and council shall appoint a replacement upon petition of the chairperson.

As is evident from this language, although seven members must be appointed to a Subcommittee, of whom two must be public members, only five members are required to carry out the duties of the Subcommittee. Remarkably, although asserting that the Legislature intended that “the voice of the public shall be heard,” and that both public members must participate in all decisions, the Allen Appellants fail to even mention the statute’s quorum requirement. AB 33.<sup>26</sup> The reason for the failure is obvious; it is fatal to their argument.

The Opponents concede that Ms. Whitaker was appointed to the Subcommittee and that it had seven members with her appointment. *Id.* at 32. This should end the matter. The process for appointing an additional member under RSA 162-H: 3, XI is not self-executing. Thus, absent

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<sup>26</sup> Ward’s brief includes an argument regarding the quorum in his challenge to the composition of the Subcommittee. WB 29-31. But he is not entitled to raise the issue here, as he did not raise it at the SEC. As his recitation of the issues on appeal recognizes, he did not preserve the issue below. See WB 1 (failing to indicate where Question 1 was preserved). In any event, Ward’s arguments fail for the reasons set out herein.

Ms. Whitaker's determination that she was no longer available, and of her (or the Chairperson's) invocation of the statutory process, the Subcommittee was properly constituted. Ms. Whitaker never so indicated, nor did the Chairperson find it necessary to seek a new appointment by the Governor and Council. The Opponents' complaint is simply that Ms. Whitaker did not attend the hearings. *Id.* But given the five-person quorum provision, there was no requirement that she do so.

Without citing any authority or evidence, the Opponents state that "there clearly was a vacancy of a public member from the subcommittee." *Id.* Apart from the absence of facts to support it, this assertion confuses a failure to participate with the required composition of the Subcommittee.<sup>27</sup> The sole evidence was that the Subcommittee always consisted of seven members. A. 419-420. In fact, Ms. Whitaker continues to be a member of the SEC and is currently sitting on the Subcommittees in the SEC's Northern Pass Docket and Seacoast Reliability Docket. Docket No. 2015-06 and Docket No. 2015-04 respectively. If the Opponents wanted to claim that Ms. Whitaker was "not otherwise available," they could (and should) have raised the matter with the Subcommittee Chairperson, who could then have determined whether Ms. Whitaker was unavailable, and if so, the Governor and Council could have decided whether a replacement was necessary. Having failed to ever assert that claim, the Opponents are not entitled to now claim that there was a "vacancy."<sup>28</sup>

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<sup>27</sup> Ward contends that Ms. Whitaker was "unavailable due to a medical condition," and that she "resigned and left on maternity leave." WB 1 and 30. He offers no evidence for these alleged facts and the Subcommittee disputed them, stating that it "does not formally recognize 'maternity leave' nor any type of 'leave.'" A. 420, fn. 5.

<sup>28</sup> Webster's Third International Dictionary defines "vacant" as "not filled or occupied by an incumbent, possessor, or officer." Merriam-Webster, 2002 at 2527. There is no evidence that Ms. Whitaker's position on the Subcommittee was vacant.

Recognizing the weakness of their “vacancy” argument, the Opponents obliquely contend that the intent of the Legislature will be thwarted unless both public members participate and vote. AB 33. Whatever validity this argument might have under a different statute without a quorum requirement, it has none under this statute.<sup>29</sup> Nothing in RSA 162-H:4-a, II requires both public members to be part of the quorum. This Court has squarely rejected the claim that where a statute requires a particular composition, but its quorum requirement does not, the quorum must contain the same composition as the statute. *Appeal of Keene State College Education Association, NHEA/NEA*, 120 N.H. 32 (1980).

*Keene* involved a challenge to a decision of the PELRB where RSA 273-A: 2, III required that two of the five members of the board come from organized labor, but the decision was entered without a labor representative. Noting that the statute provided that “[t]hree members of the board shall constitute a quorum,” this Court stated: “There is no ambiguity in RSA 273-A:2; the board’s total membership must be balanced between management and labor, but no such balance is required of a quorum. We therefore hold that the PELRB was properly constituted in the present case and that its decision was valid.” *Id.* at 35. The same rule applies here. If the Legislature had intended that both public members must be part of the quorum, it would have said so. The Subcommittee’s Rehearing Order was correct.<sup>30</sup>

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<sup>29</sup> The Opponents cite cases from Connecticut and Washington which contain specific requirements relating to panel composition without a quorum requirement, *DuBaldo v. Department of Consumer Protection*, 552 A.2d 719, 721 (Conn. 1989) and to the improper delegation of authority. *Application of Puget Sound Pilots Ass’n*, 385 P.2d 711,715 (Wash. 1963). Neither case is relevant here, where the statute plainly allows a quorum without specifying any particular composition of the panel making up the quorum.

<sup>30</sup> The Opponents argue that the lack of one public member was significant because on one issue—whether to impose a property guaranty—the panel was evenly split. AB 33, fn. 14. But there was no obligation to impose such a guaranty under SEC Rules and, in any event, the issue of such a guaranty is apparently so insignificant that the Opponents have failed to brief it, thus waiving it in this appeal. *State v. Ayer*, 154 N.H. 500, 519 (2006).



In addition to their arguments being meritless, the Opponents have waived any challenge to the number of Subcommittee members attending the hearings or deliberating on the matter. As noted, they failed to raise the issue until their motion for rehearing. While they did not have a right to a hearing or a decision by all seven members (*i.e.* a quorum of seven), absolutely nothing prevented them from asking for one. “Interested parties are entitled to object to any error they perceive in governmental proceedings, but they are not entitled to take later advantage of error they could have discovered or chose to ignore at the very moment when it could have been corrected.” *Appeal of Cheney*, 130 N.H. 589, 594 (1988). “[T]rial forums should have a full opportunity to come to sound conclusions and to correct errors in the first instance.” *Sanderson v. Town of Candia*, 146 N.H. 598, 602 (2001); *Fox v. Town of Greenland*, 151 N.H. 600, 605 (2004). The Opponents also have no claim that they are entitled to raise the issue now because the issue is “jurisdictional.” AB 30, citing *Application of Puget Sound*. As the SEC properly found, the Subcommittee always consisted of seven members. Thus, the Opponents’ complaint involves their asserted right to a seven member quorum, an issue that can be waived. The Opponents did so by waiting until they knew the outcome of the deliberations to cry foul. Their “gotcha” argument was properly rejected.

**B. The Antrim II Project Was Materially Different From Antrim I and Meaningfully Resolved the Concerns Raised in Antrim I.**

The Opponents’ *res judicata* argument focuses entirely on the question of whether the changes in the Project were sufficient to meaningfully resolve the concerns over aesthetic impact in the Antrim I docket. AB 16-25; WB 27. Their analysis of the aesthetics issue ignores SEC rule changes governing the assessment of that issue, as well as the detailed factual findings of the Antrim II Subcommittee concerning the changes in the Antrim II Project, and how those changes resulted in material differences in both the Project and its aesthetic impact. In doing so, they also

invite the Court to ignore all of the evidence—and the Subcommittee’s findings—in favor of an analysis that depends entirely on one factor, *i.e.* a view of photo simulations. AB 19. This Court should decline that invitation.

The Opponents correctly state that the doctrine of *res judicata* “bars litigation of any issue that was or might have been raised with respect to the subject matter of the prior litigation.” AB 16, citing *North Country Envtl. Servs. v. Bethlehem*, 150 N.H. 606, 621 (2004). In the administrative arena, the question of whether the same “cause of action” is raised, and of whether there was a final judgment on the merits of that action, depends heavily on the factual differences between the two proceedings. *CBDA Dev., LLC v. Town of Thornton*, 168 N.H. 715, 722 (2016) and *Morgenstern v. Town of Rye*, 147 N.H. 558, 565 (2002)(citing *Fisher v. City of Dover*, 120 N.H. 187, 190 (1980)). Thus, if there are material changes in a second application, or in the circumstances affecting the merits of the application, such as a change in the applicable law, *res judicata* will not impose a bar. *Id.* In addition, where a second application contains material changes, an agency will consider whether that application “meaningfully resolves the board’s initial concerns.” AB 17. This Court has also held that “it is logical to presume that if the [first agency] invites submission of a subsequent application modified to meet its concerns, it would find an application so modified to be materially different from its predecessor.” *CBDA Development, LLC v. Town of Thornton*, 168 N.H. at 725; citing *Hill-Grant Living Trust v. Kearsarge Lighting Precinct*, 159 N.H. 529, 536 (2009).

The Antrim II Subcommittee properly applied these principles in finding that the Antrim II Project was materially different from Antrim I, and thus not the same cause of action. App. 188-195. As described in the Statement of Facts (Part 2.b), it received extensive expert testimony on the aesthetic impact of the Antrim II Project on each scenic resource, and carefully

weighed and analyzed that evidence, addressing the effect of the Project on those resources.

A. 411-418. That evidence plainly established that the changes in the Project were material and had a very different aesthetic impact.<sup>31</sup> Apart from their exclusive reliance on the photographs, the Opponents do not challenge any of this expert testimony, or any of the SEC's factual findings, which are entitled to *prima facie* weight and substantial deference.

The Opponents concede the changes in the Antrim II Project, but challenge the Subcommittee's decision on aesthetics on two grounds, claiming that in each instance, the Antrim II Project did not meaningfully address Antrim I's findings on aesthetics.<sup>32</sup> First, as noted, they ask this Court to focus only on photos, arguing that they establish that the changes demonstrate no different aesthetic impact between the two projects. AB 19-20.<sup>33</sup> Second, they assert that the decision in Antrim I conclusively ruled that off-site mitigation measures cannot mitigate the impact of a project on "valuable viewsheds" and that, in this case, it "defies reason" to conclude that those measures were unsuitable as mitigation in Antrim I, but could be in Antrim II. AB 18.

Before addressing these issues, it is useful to address two points the Opponents overlook. First, *res judicata* applies only where a party *can*, and therefore *must*, raise an issue in the prior

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<sup>31</sup> A discussion of the law applied by the Subcommittee is found at A. 37-42.

<sup>32</sup> The Opponents describe the changes so as to suggest that they were minimal, noting the differences in the projects by percentages. AB 19. But this ignores the fact that the changes were consistent with those suggested by Vissering in Antrim I, App. 290-91, and that the removal of turbine 10 and change in turbine 9 were made precisely to deal with the aesthetic impact of the Project on Willard Pond. A. 101-121 (Willard Pond finding at 120).

<sup>33</sup> Ward's attack on aesthetics is limited to a contention that the Subcommittee should have credited his cross-examination of Raphael by "showing him cards of different sizes, which were held at different heights above heads in the room, and which were held static and moving," and that visual impact should be determined by reference to billboards. WB 7-8, 14-15, 27. The SEC Rules require no such analysis and Ward is not an expert in visual analysis. Ward's claim is simply that there was a "marked difference of opinion between Ward and Raphael." *Id.* 15. The Subcommittee was entitled to credit Raphael's expert opinion on the issue.

litigation. *Finn v. Ballentine Partners*, 169 N.H. 128, 147 (2016). Here, AWE specifically sought to change the Antrim I project to address aesthetic issues, but the Antrim I Subcommittee refused to consider that change, finding that it would result in an entirely different project. App. 290–291;320. *Supra*, Part 2.a. No more is needed to conclude that the doctrine did not bar this action.<sup>34</sup> Moreover, a finding that this action is barred would amount to a finding that the proposed changes were too material for the Antrim I Subcommittee to address, but not material enough to constitute a new “cause of action.”

Second, the Opponents attempt to minimize the impact of significant SEC Rule changes on the analysis in Antrim II, claiming that the Antrim I panel considered many of these issues. AB 23. But as also discussed in the Statement of Facts, (*supra*, Part 2.b) the new Rules (Site 301.14 (a)(1)-(7)) required a far more detailed and refined analysis, and a level of detail not previously required. Raphael’s VA analyzed the aesthetic impact using criteria required by these Rules. And contrary to the Opponents’ claim that the Antrim I Subcommittee considered all of the seven criteria in the new rules, that Subcommittee essentially focused on only two factors—scope and scale of the project and the proposed mitigation. *Cf.* App. 283-292 and 102-122.

Returning to the Opponents’ arguments, their assertion that the entire determination of whether the Antrim II Project was materially different or had a materially different impact on aesthetics from Antrim I, may be evaluated by the photographs alone is akin to applying a test similar to that employed by Justice Stewart to define obscenity, *i.e.* “I know it when I see it.”

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<sup>34</sup> The Opponents argue that the statements of the Antrim I panel to the effect that the changes proposed by AWE (and suggested by the opposing expert in that docket) would “change the dynamics of the Project to such a degree that the Subcommittee would be unable to confidently address the consequences of issuing a Certificate” (App. 291) cannot be read as suggesting that the changes were material. AB 23. They assert that the SEC was discussing only “how *significant changes in to AWE’s proposal* would effectively require a new hearing on all other criteria.” *Id.* (Emphasis added). But that is exactly the point. Whatever the context, the Antrim I subcommittee refused to consider those “significant changes” precisely because they were so material as to require a new application.

*Jacobellis v. Ohio*, 378 U.S. 184, 197 (1964) (Stewart, J. concurring). The problems with this analysis are obvious. It ignores all of the highly detailed, meticulous analysis of each site put forward by the experts and required to be included in their assessment of aesthetic impact by the SEC Rules. See discussion of Raphael's visual impact analysis, *supra* at Part 2.b. Photo simulations are only one element of that analysis and cannot be examined in a vacuum. Site 301.05. If all that were necessary was to "look at the pictures," there would be no need for Rules or experts, and there would have been no need for most of the Antrim II hearing. The Opponents' analysis also ignores the specific findings of the Antrim II Subcommittee, which involved a detailed process of evaluating each photo simulation and considering each of the new criteria.<sup>35</sup> A.118-121; *cf.* AB 19.<sup>36</sup> Put simply, the SEC did not examine the simulations in a vacuum, and the Opponents' overly simplistic photo comparison argument offers no basis whatsoever to question the SEC's findings of fact on this issue.<sup>37</sup>

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<sup>35</sup> The Committee considered: the existing character of the area, A. 1049-1053, 1055; the significance of scenic resources, 1086-1087; the public's use of those resources, 1053-1054, 1061-1062, 1066; the overall daytime and nighttime visual effect, 1076-1077, 1084-1085; and the proposed mitigation, 1092-1095 and 1151-1160.

<sup>36</sup> The Opponents identify a number of sites as to which they claim that looking at the photos will show no material difference in the two projects. AB 19-20. But they fail to point out that the Antrim II Subcommittee made findings based on the photo simulations of each of these sites when considering a project that had one less turbine, a significantly lower turbine 9, and a more than ten percent change in the entire project. A. 118-121.

<sup>37</sup> The Opponents rest their res judicata claims on a decision of an intermediate court in North Carolina. *Mount Ulla Historical Pres. Soc'y, Inc. v. Rowan County*, 754 S.E.2d 237 (N.C.App. 2013). In *Mount Ulla*, the Court found that a change only in the height of a radio tower in a second application did not result in a material change sufficient to avoid res judicata because it did not address the particular concern raised in the prior proceeding. The Court looked at the entire record of the case in deciding that the change was not material. Here, AWE's changes were in direct response to aesthetic concerns raised in Antrim I and the Subcommittee made factual findings supporting the materiality of those changes. Nothing in the facts or holding in *Mount Ulla* bears on the nature of the changes here, or the analysis undertaken of those changes in the Antrim II docket, where the changes were specifically designed to address aesthetics and there was ample testimony supporting the factual findings that the changes resulted in a materially different project.

On the issue of whether Antrim I found that off-site conservation efforts were inadequate to mitigate aesthetic impacts, the Opponents essentially contend that the Antrim I Order constitutes a finding that such efforts are *per se* inadequate in all cases to constitute mitigation. AB 18-19. This is akin to saying that Antrim I issued a final judgment on the issue, thus satisfying the third element of *res judicata*. But the Antrim I Subcommittee said nothing of the kind:

The Subcommittee finds that the offer of more than 800 acres of conservation easements in and around *the proposed Facility* is a generous offer by the Applicant. However, the dedication of lands to a conservation easement *in this case* would not suitably mitigate the impact.

App. 290 (emphasis added). That Subcommittee was plainly describing a specific Facility and the impact of specific mitigation measures *in that case*. App. 307.<sup>38</sup> Nothing in that language suggests the application of a broader rule to the effect that conservation measures are never sufficient. The Opponents would simply read the words “in this case” out of the Antrim I decision.<sup>39</sup>

The Opponents also ignore the fact that the impact of mitigation measures on aesthetics must be considered relative to the particular project in question, in this case relative to the changes made in the Antrim II Project. Thus, in the Subcommittee’s analysis of the mitigation measures, it specifically analyzed those measures against the other changes in the Antrim II

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<sup>38</sup> This conclusion is supported by this Court’s decision in *Hill-Grant Living Tr. v. Kearsarge Lighting Precinct*, 159 N.H. 529, 537 (2009), where the Court rejected a claim that a factual finding of a zoning board precluded a second application stating that “each of the findings [as to a prior application] referred to related to the consequences of granting ‘this variance,’ not of generally building above a [particular] height.”

<sup>39</sup> The Antrim II Subcommittee properly found this language meaningful. Member Weathersby noted that the use of that phrase demonstrated that “it’s not applicable to every single subsequent case.”) A. 1287-1288.

Application, including the removal of a turbine 10, the lowering of turbine 9, the ten percent size reduction, the mitigation agreement with the Town of Antrim on Gregg Lake Beach, the addition of \$100,000 funding offsite land conservation, the landscaping plan to screen the substation, the commitment to immediately vegetate cut/fill slopes and to break up the roads after decommissioning, and the fact that the new application preserved the entire ridgeline. A. 121; A. 1151-1161. The Opponents offer no reason why these factual findings are erroneous. Instead, like their “just look at the photos” test, they view the conservation measures in a vacuum, without regard to the other changes in the Project. But the Subcommittee properly analyzed the entirety of these changes, including additional conversation measures that protected the ridgeline and off-site lands, as they were required to do under the new Rules (Site 301.14 (a)(7)), which mandated specific criteria and thus constituted a change in the circumstances. These changed circumstances also prevent the application of res judicata.<sup>40</sup>

In sum, the Opponents’ arguments fail to establish that the Subcommittee erred in its factual finding that the Antrim II project was materially different from Antrim I, and will not have an unreasonable adverse effect on aesthetics. Res judicata did not bar the Antrim II Application. The SEC’s Order is lawful and reasonable.

**C. The Opponents’ Claims Relating To Sound Modeling Misconstrue SEC Rules and Ignore the Impact of Post-Construction Testing.**

After thirteen days of hearings, multiple witnesses, hundreds of exhibits and ample opportunity to cross-examine AWE’s witnesses, the Opponents can claim only one alleged technical error in the SEC’s Order; an alleged failure to conclude that AWE’s sound expert

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<sup>40</sup> The Opponents raise the issue of collateral estoppel on these issues only in a footnote. AB 18, fn. 6. There, they once again suggest, wrongly, that “the appropriateness of using off-site measures to mitigate aesthetic impacts...was fully and finally resolved on the merits by the SEC in Antrim I.” This claim for a *per se* rule is belied by the language in the Antrim I Order and equally meritless, for the reasons stated above.

misapplied two parts of the ISO 9613-2 standard. Site 301.18 (c)(1). Specifically, they argue that O’Neal was *required* to apply a different G-Factor and to artificially adjust his model projections upward for “accuracy” and that therefore, the SEC erred in finding that AWE met the noise requirements in the Rules. AB 25–29. Put simply, the Opponents complain about two inputs to the noise study software. They are wrong as a matter of fact and law.

O’Neal’s sound study established that the predicted decibel levels did not exceed the standards *at every receptor*, and that the highest reading was approximately 2 decibels below the standard, and many decibels below the standard at the majority of the receptors. A. 694.<sup>41</sup> The Opponents are unable to cite any part of the ISO 9613-2 Standard *requiring* their claimed upward adjustments. This is so for good reason; there is none, as their own expert (James) conceded. A. 1033-1036; A. 1037-1038; 1039-1042. As a result, the matter is one of professional judgment, and one in which the Subcommittee, after reviewing all the testimony, found AWE’s expert more credible.

First, with respect to the G-Factor, the Opponents rely on Table 1 of the 9613-2 Standard for their claim that a 0.0 G-Factor was required and that its application would have added three decibels to O’Neal’s results. AB 27, WB 8–9,16; App. 468.<sup>42</sup> The specific factors in that Table are not mandatory in this case because they apply only to turbines of 30 meters in height. App. 468; A. 833-836. O’Neal applied his expert judgment in using a G-Factor of 0.5 (to recognize that the area of the Project includes both porous and hard ground) and the SEC found that factor

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<sup>41</sup> Ward claims that O’Neal’s study shows that the “average noise level...would be 38 dB.” WB 9. This is false.

<sup>42</sup> Ward’s arguments on the G-Factor are essentially identical to those of the Opponents. WB 16–17, 22-23. He simply states his own opinions without offering any authority to support them. His legal argument cites only to the testimony of James, and to his own view of what ISO 9613 requires. *Id.* 23. The Subcommittee found O’Neal to be more credible, and James’ concession that the Standard did not require the use of a particular G-Factor contradicts Ward’s claims.



to be “reasonable.” A. 1164-1168; 1180-1181. Moreover, O’Neal’s expert judgment in this case was informed, in part, by another New Hampshire wind case where he used a G-factor of 0.5 in his predictive model and later determined by post-construction testing that the pre-construction results had overstated the decibel levels. A. 984; *see also* 835. The Subcommittee cited this testimony in its deliberations (A. 1165) and ultimately concluded that O’Neal’s methodology complied with SEC Rules. A. 153.

Second, the Opponents assert that an additional upward adjustment is required by Table 5 of the 9613 Standard to satisfy the “worst case” modeling. AB 28, footnote 13, citing Table 5 at App. 477; WB 17. Yet the plain language of the Standard states: “[i]n Table 5, an estimate of accuracy is not provided in this part of ISO 9613 for distances greater than the 1000 m[eter] upper limit.” *Id.* As O’Neal testified, the Table is not applicable and there is no required +/- 3 decibel limit correction for “accuracy.” A. 833-836. While James argued that five, or more, additional decibels should be included, his concession that the Standard did not mandate that result is fatal to his claim. A. 1037-1038; 1039-1042.<sup>43</sup>

The Opponents’ entire argument is based on a misconception of the purpose and value of pre-construction predictive modeling. Like many environmental regulations, the SEC rules regarding wind projects require predictive modeling as part of the permit process, in this case for noise and shadow flicker (discussed in Part II.D below). Such modeling is often conducted under theoretical conditions that are highly unlikely to occur, or based on conditions that simply

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<sup>43</sup> Opponents’ contention that a “worst case” model for sound testing requires the addition of decibels whenever possible is not borne out by the SEC Rules. Site 301.18(c)(3) states that “[t]he predictive sound modeling study shall... (c) Include predictions to be made at all properties within 2 miles from the project wind turbines for the wind speed and operating mode that would result in the worst case wind turbine sound emissions during the hours before 8:00 a.m. and after 8:00 p.m. each day.” This requires that the testing be done relative to wind, and the power of the turbines, but says nothing about the need to randomly increase the decibel levels in the test results. Moreover, as shown in the Statement of Facts, the SEC concluded that the Report “assume[d] worst case,” in that “all measurements were taken as if somebody was downwind from the turbine.” A. 1164, 1168.

do not exist in real life (for example, assumptions that the sun always shines, or the wind always blows). Regulatory bodies issuing operating permits depend initially on preconstruction modeling for predictive purposes, but ultimately rely on operational testing to verify compliance. See e.g. Site 301.18 (e)(f). In addition, such permitting bodies can – and do – regularly impose operating conditions in permits, as the SEC did here, to ensure compliance.

The Opponents ask this Court to deny a project a Certificate if a pre-construction, predictive model forecasts an exceedance under unreal, theoretical conditions, which is not the case here, anyway. This is based on a misunderstanding of the broader construct under which New Hampshire regulators have been issuing operating permits for decades, and ignores two of the three protections (post-construction testing and the imposition of conditions) that regulators such as the SEC may use to mitigate any potential impact of a project. App. 154.

Despite their claim that the SEC acted unlawfully in finding there was no unreasonable adverse effect from noise, the Opponents do not even mention the conditions imposed by the Subcommittee in this case and that were imposed notwithstanding that O’Neal’s Sound Study demonstrated compliance with the SEC noise standard with considerable margins. A. 146; 191-192.<sup>44</sup> The Subcommittee effectively viewed the requirement of post-construction testing as a fail-safe in case the predicted results (which, as demonstrated, were well below the requirements in the Rules) were inaccurate. A. 1189-1195.

In summary, predictive modeling is just one part of the Rules. Post-construction testing is used to prevent a facility from operating unless the Rules are satisfied. O’Neal’s predictive

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<sup>44</sup> Even assuming, for argument’s sake, that additional decibels were added (as Opponents argue), and recognizing the purely theoretical assumptions used in the study, there would be no violation. Even adding 5 decibels—as James wanted—only a handful of receptors would be above the 40 decibel standard—and then only by a few decibels. A. 690-694. The testimony demonstrated that the turbines were capable of stepping down the noise by up to 5 decibels. A. 1000/A. 999. As a result, the Opponents’ entire noise argument is much ado about nothing.

modeling demonstrated that the turbine noise will not exceed SEC standards. The Opponents' claims to the contrary are meritless.

**D. The Opponents Ignore the Evidence of the Possible Impact of Noise, Shadow Flicker and Lighting and the Conditions Imposed by the SEC to Mitigate Any Potential Impact.**

The Opponents claim that “no evidence” was presented to the SEC regarding mitigation measures that would address what the Opponents perceive as violations of the SEC Rules resulting from the predictive modeling for noise and shadow flicker, and the effect of nighttime lighting. AB 29–32; WB 23–27. Said another way, the Opponents simply do not agree with Subcommittee’s conclusions regarding the evidence presented. They are wrong on all counts, and do not inform the Court that the SEC imposed strict conditions to ensure compliance with its Rules.

With respect to night lighting, there was no reason for mitigation measures. The evidence submitted by both AWE—and supported by Counsel for the Public’s expert—was that the installation of ADLS effectively eliminated any aesthetic impact of lighting as the lights would operate only when approached by aircraft. A. 494; A. 1361.<sup>45</sup> AWE provided information that the FAA “has issued a Determination of No Hazard to Air Navigation for all turbines and [AWE] will comply with the FAA’s requirements for lighting all structures,” and the Subcommittee ordered AWE to file the FAA’s determination of no hazard once received.

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<sup>45</sup> Contrary to this evidence, Ward claims that “[t]he Subcommittee was presented with many reasons why there would be a substantial Visual Impact at night.” WB 15. He also cites to a comment by Member Clifford during deliberations as supporting his claim that “nighttime visual impacts were never discussed or deliberated.” *Id.* But he cites only a portion of Clifford’s remarks, which actually provide reasons for the Subcommittee’s decision not to require any further information on night lighting. Clifford was discussing a statement in AWE’s post-hearing brief in which AWE agreed to employ ADLS and stated that it was waiting for FAA approval. In discussing whether to hold AWE to that statement and to include a condition of ADLS and FAA approval in the Certificate, Clifford stated: “I’m leaning towards put it in...or come back here and get a waiver. Because I really think that all things said...that was a key component and key driver of this Project and *why the nighttime visual effects were never analyzed and dealt with.*” A. 1251-1252. (Italics added to show what Ward quoted.)

Order, App. 155-157. These conditions prevented construction without this technology. A. 62; 186-191.

Likewise, regarding noise, although O’Neal’s sound study demonstrated that the Project would comply with SEC noise limits, the evidence also shows that mitigation technology is readily available if needed. A. 696; A. 153; A. 999-1000. Yet as there are no modeled exceedances, mitigation is highly unlikely to be necessary. Nevertheless, the Subcommittee deliberated at length on the issue (A. 1164-1191) and concluded that the “Noise Reduction Operation feature of the turbine will allow [AWE] to reduce sounds omitted by the turbine when necessary.” A. 153.<sup>46</sup> Lest there be any doubt, the Subcommittee conditioned the Certificate on the retention of a third-party noise expert to be approved by the SEC, “to assist the Town of Antrim and the [SEC] in taking field measurements in order to evaluate and validate noise complaints.” A. 191. The NRO technology is just one arrow in quiver of post-construction compliance. Again, the Opponents focus only on the results of the predictive modeling – modeling that the Subcommittee found to show no exceedance of the applicable noise limits.

Finally, the Opponents attack the evidence concerning shadow flicker, a matter on which AWE’s predictive modeling demonstrated (albeit under purely theoretical conditions) that 16 percent of the receptors may experience levels above the 8 hour per year limit if there was no vegetation or trees. *Supra*, Part 4.a.<sup>47</sup> The Opponents argue that the Subcommittee had insufficient information regarding the Siemens’ shadow flicker control technology to allow it to

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<sup>46</sup> Ward claims that O’Neal’s testimony was that “the Project would not result in exceedances because AWE could implement NRO to reduce sound levels.” WB 17. What O’Neal actually said was that AWE would have to meet the standards, and “NRO could come into play to reduce sound levels,” but “that’s not likely to happen at all. The modeling is conservative. We are several decibels under the standard to begin with.....Those model results do hold. So we’re confident of them.” A. 966-967.

<sup>47</sup>AWE provided testimony illustrating the modeling was only theoretical and the Subcommittee considered this, noting that in some instances where properties exceeded the eight-hour limit, there is no visibility of the Project. A. 1013.

conclude that the “shadow flicker associated with the Project will not have an unreasonable adverse effect on human health and safety.” A. 164. They contend that the “*only assurance* to the public that shadow flicker will not exceed maximum limitations is AWE’s assurance that it will not operate the project to cause such exceedances, and....AWE will employ a program, *for which no detail was given*, to curtail shadow flicker.” AB 31 (Emphasis added). For his part, Ward claims that AWE “manipulated the proceedings” so that information on the shadow control technology was “introduced at the eleventh hour, [that] there was no opportunity for public discussion” and that the SEC did not deliberate on the matter. WB 26.

These arguments have no merit. Although AWE conceded that the Siemen’s shadow control technology had not been used thus far in the United States, the record showed that it had been widely used in Europe. A. 1006-07. Moreover, as the Opponents concede, there was extensive testimony concerning the control technology (AB 31) and O’Neal’s Report included specific information about the components and operation of the shadow flicker control technology by Siemens. A. 741. AWE committed to implement the control technology and described the key components of it as early as February 2016. Mr. Kenworthy of AWE also provided testimony during many hours of cross examination, including by many of the Opponents, concerning how the shadow control system would work and that Siemens was contractually obligated to provide it and ensure it performed. A. 254-257; A. 1197-1207; A. 1269-1286; *see also*, A. 741. Moreover, WindAction, one of the Opponents, submitted a letter on this issue that, ironically, supports AWE’s and Siemens’ position that the control system is a simple and very effective way to limit shadow flicker. A. 947-948.

The Opponents’ argument that no evidence was provided to ensure that shadow flicker would not violate the SEC standards is belied by the fact that the Subcommittee deliberated at

length on the issue (A. 1196-1234), discussed the technology, and then, “to ensure [AWE’s] compliance with shadow flicker requirements as set forth in....Site 301.14(f)(2)b,” imposed strict twice annual reporting requirements to demonstrate compliance. A. 160-161, 192. This evidence—as well as the added conditions—more than support the Subcommittee’s findings.

### **III. Conclusion**

The Opponents have strived mightily to identify some error in the Subcommittee’s 182-page Order, including a “too little, too late” attempt to redo the entire proceeding. Their efforts were for naught. The Subcommittee’s factual findings followed the weighing of thousands of pages of testimony and exhibits, an assessment of the credibility of witnesses, and the imposition of conditions designed to protect the public. The Opponents disagree with these findings, but have offered nothing to overcome their *prima facie* validity, or the deference properly given when, as in this case, an agency interprets its own Rules and decides the highly technical issues raised in this appeal. For all the reasons set forth herein, the appeals should be dismissed and the Order should be affirmed.

Dated: December 8, 2017

Respectfully submitted,

ANTRIM WIND ENERGY, LLC

By its attorneys,

McLANE MIDDLETON, PROFESSIONAL  
ASSOCIATION

By: 

Wilbur A. Glahn, III, Bar No. 937

[bill.glahn@mclane.com](mailto:bill.glahn@mclane.com)

Barry Needleman, Bar No. 9446

[barry.needleman@mclane.com](mailto:barry.needleman@mclane.com)

Rebecca S. Walkley, Bar No. 266258

[rebecca.walkley@mclane.com](mailto:rebecca.walkley@mclane.com)

900 Elm Street, P.O. Box 326

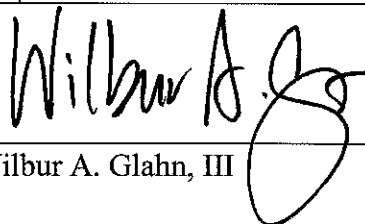
Manchester, NH 03105

(603) 625-6464

**Certificate of Service**

I certify that on December 8, 2017, I served the foregoing Brief of Appellant and accompanying Appendix by two copies of the Brief and one copy of the Appendix to each of the following counsel of record:

Eric A. Maher, Esq. Donahue, Tucker & Ciandella, PLLC 16 Windsor Lane Exeter, NH 03833	Kelly E. Dowd, Esq. 29 Center Street, Suite 12 P.O. Box 188 Keene, NH 03431
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Wilbur A. Glahn, III