



**STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE**

Docket No. 2012-01

**Re: Application of Antrim Wind Energy, LLC for a Certificate of Site
and Facility for a Renewable Energy Facility Proposed to be
Located in Antrim, Hillsborough County, New Hampshire**

**DECISION AND ORDER DENYING APPLICATION
FOR CERTIFICATE OF SITE AND FACILITY**

April 25, 2013

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I. INTRODUCTION

On February 7, 2013, after eleven days of evidentiary hearings and three full days of deliberation, a majority of the Subcommittee of the New Hampshire Site Evaluation Committee (“Subcommittee”) appointed in this docket voted to deny the Application of Antrim Wind, LLC for a Certificate of Site and Facility (“Application”). The Application sought a Certificate of Site and Facility (“Certificate”) for the authority to site, construct and operate a 30 MW wind powered Facility (“Project” or “Facility”) along Tuttle Ridge and Willard Mountain in the Town of Antrim, New Hampshire. This Decision and Order memorializes the deliberations of the Subcommittee and sets forth the reasons for denial of the Application.

II. PROCEDURAL HISTORY

On January 31, 2012, Antrim Wind Energy, LLC (“Applicant” or “AWE”) filed an Application for a Certificate of Site and Facility with the New Hampshire Site Evaluation Committee. The Application sought authority to site, construct and operate a 30 megawatt (“MW”) wind energy Facility and associated facilities in the Town of Antrim, Hillsborough County, New Hampshire. The Facility ultimately proposed by the Applicant would include ten (10) Acciona AW 3000 wind turbine generators each having a nameplate capacity of three (3) MW. Each wind turbine generator within the Facility would be approximately 500 feet tall. The proposed wind turbines would be among the tallest free standing structures in the state of New Hampshire.

On February 9, 2012, pursuant to RSA 162-H:6-a, II, the Chairman of the Committee designated Vice-Chairman Ignatius to review the Application to determine whether it contained sufficient information to carry out the purposes of RSA 162-H. See, Correspondence from Chairman Burack to Commissioner Ignatius (Feb. 9, 2012). The Chairman of the Committee

also indicated that due to a personal conflict, he would be unable to serve as a member of the Subcommittee assigned to this matter and that, in accordance with RSA 162-H:3, Vice-Chairman Ignatius would serve as Subcommittee Chairman. See, Order Designating Subcommittee Pursuant to RSA 162-H:6-a (March 20, 2012).

On February 9, 2012, Counsel to the Committee forwarded correspondence to all state agencies that appeared to have permitting, licensing or other jurisdictional authority over matters covered in the Application. Counsel to the Committee requested that each state agency review the relevant portions of the Application and advise the Subcommittee if the Application did not contain sufficient information to consider the issuance of any permit, conditions, or licenses under the agencies' jurisdiction. No state agency reported that the Application was incomplete.

On February 9, 2012, Counsel to the Committee also forwarded correspondence to the Town of Antrim and the abutting Towns of Bennington, Deering, Hancock, Hillsborough, Nelson, Stoddard and Windsor notifying each municipality of the filing of the Application consistent with RSA 541-A:39 and the procedures to intervene in the proceeding. A similar letter was sent to the Southwest Regional Planning Commission.

On February 13, 2012, the Subcommittee Chairman issued a letter to the New Hampshire Attorney General requesting the appointment of an Assistant Attorney General as Counsel for the Public pursuant to RSA 162-H:9. On April 30, 2012, the Attorney General formally designated Senior Assistant Attorney General Peter C.L. Roth to serve as Counsel for the Public.

On March 5, 2012, the Subcommittee Chairman issued an Order pursuant to RSA 162-H:6-a, II finding that the Application contained sufficient information to carry out the purposes of

RSA 162-H pertaining to renewable energy facilities and accepted the Application. Order Accepting Application for Certificate of Site and Facility (March 5, 2012).

On March 20, 2012, the Subcommittee Chairman designated a Subcommittee to consider the Application in accordance with RSA 162-H:6-a, III and RSA 162-H:4, V. Order Designating Subcommittee Pursuant to RSA 162-H:6-a (March 20, 2012).

On March 20, 2012, the Subcommittee Chairman also issued an Order and Notice of Prehearing Conference, Site Visit and Public Information Hearing. The Order and Notice scheduled a site visit and public information hearing for the afternoon and evening of April 30, 2012, in the Town of Antrim, Hillsborough County, pursuant to RSA 162-H:6-a, IV. The Order and Notice also scheduled a prehearing conference to be held in Concord on May 7, 2012. The site visit, public information hearing and prehearing conference all occurred as scheduled.

During the pendency of this docket, the Subcommittee received motions to intervene from: (i) the Town of Antrim, through its Board of Selectmen; (ii) the Antrim Planning Board; (iii) the Antrim Conservation Commission; (iv) the Stoddard Conservation Commission; (v) the Audubon Society of New Hampshire (“Audubon”); (vi) the Harris Center for Conservation Education; (vii) Industrial Wind Action Group (“IWAG”); (viii) the Appalachian Mountain Club (“AMC”); (ix) Brenda, Mark and Nathan Schaefer; (x) Richard and Lorraine Carey Block; Robert Cleland and Annie Law; (xii) Katharine Elizabeth Sullivan; (xiii) Elsa Voelcker; (xiv) Janice Duley Longgood; (xv) Clark A. Craig; (xvi) Robert Edwards and Mary Allen; (xvii) James Hankard; (xviii) Samuel and Michelle Apkarian; and (xix) Clifton Burdette. On May 18, 2012, the Presiding Officer granted the intervention Petitions and ordered that the intervenors be consolidated into two groups: “Abutting Landowners” group of intervenors (Brenda, Mark and Nathan Schaefer, Janice Duley Longgood, and Clark Craig Jr.) and “North Branch Residents”

group of intervenors (Richard and Lorraine Carey Block, Robert Cleland and Annie Law, Elsa Voelcker, James Hankard, Samuel and Michelle Apkarian, and Clifton Burdette). Order on Motions to Intervene (May 18, 2012). On July 26, 2012, the Gregg Lake Association moved for late intervention. On August 22, 2012, the Presiding Officer permitted the late intervention of the Gregg Lake Association as a limited intervenor with the right to cross-examine the Applicant's witnesses and the witnesses of the other parties, and present arguments on the Application. Order on Outstanding Motions (Aug. 22, 2012.)

During the course of these proceedings, the Applicant submitted four supplements to the Application.

Initially, the Subcommittee scheduled a final pre-hearing conference for Friday, September 7, 2012, and public adjudicative proceedings to begin on Monday, September 10, 2012. Order and Notice of Final Pre-Hearing Conference and Public Adjudicative Proceedings (Aug. 15, 2012). However, on August 30, 2012, in response to motions by IWAG and Counsel for the Public, the Presiding Officer ruled that a pre-hearing conference would be held on September 6, 2012 to determine whether the Motions should be granted and, if so, to discuss a new procedural schedule. Procedural Order and Notice of Additional Pre-hearing Conference (Aug. 30, 2012).

In the Application for Site and Facility, the Applicant requested that the Subcommittee create a subdivided lot for the interconnection facilities associated with the Project. Ex. AWE 1, at 45. After receiving briefing regarding this issue, the Subcommittee met to hear oral argument on September 6, 2012. See, Notice of Public Meeting and Further Procedural Order (Aug. 22, 2012). At the oral argument, the Subcommittee voted to take additional procedural steps to review the Town of Antrim Subdivision regulations to determine whether the Antrim Planning

Board retained residual authority pertaining to the proposed subdivision, and indicated that it would require an additional day of hearings to address those issues. See, Order on Motions to Continue and Further Procedural Schedule (Sept. 13, 2012).

Following the September 6, 2012, hearing, the Subcommittee scheduled a pre-hearing conference for October 25, 2012, with adjudicative proceedings beginning on October 26, 2012 and continuing until November 2, 2012, with public comment scheduled for November 1, 2012 and November 2, 2012. Order and Notice of Re-Scheduled Final Pre-Hearing Conference and Public Adjudicative Proceedings (Sept. 13, 2012). The referenced pre-hearing conference was held as scheduled on October 25, 2012. Subcommittee counsel, Michael Iacopino, presided at this conference and issued a report adopted by the Subcommittee Chairman by Order dated October 25, 2012. Report of Pre-Hearing Conference (Oct. 25, 2012).

The adjudicative proceedings began on October 26, 2012, with further oral argument regarding the Applicant's request to subdivide the lot associated with the interconnection facilities, and the proceedings continued through November 2, 2012. The first few days of the adjudicative hearing were intermittently interrupted. As a result, the Subcommittee extended its normal hearing hours and met on several nights well into the evening. Nevertheless, having exhausted its reserved hearing time the adjudicative proceeding was recessed until November 27, 2012. Order and Notice of Continued Adjudicative Proceeding (Nov. 8, 2012). The evidentiary portions of the proceeding concluded on December 6, 2012. Order and Notice of Public Deliberative Proceedings and Further Procedural Order (Dec. 28, 2012). In lieu of closing arguments, the Subcommittee permitted the parties to file post-hearing briefs.

On February 5, 2013, the Subcommittee commenced public deliberations on the Application. The Subcommittee deliberated for three full days. On February 7, 2013, a majority

of the Subcommittee voted to deny the Application for a Certificate of Site and Facility.¹ This Decision contains the reasons for denial as required by RSA 162-H:16, I.

III. APPLICATION

A. The Application and Supplements

The Application was filed on January 31, 2012. Thereafter, the Applicant submitted four Supplements to the Application. On August 10, 2012, the Applicant filed the First Supplement to the Application that included additional information regarding the laydown yard, the operation and management building and temporary staging area, the proposed meteorological towers, updates regarding environmental impacts and related information provided to state and federal agencies. See, Ex. AWE 6. On August 22, 2012, the Applicant filed a Second Supplement which included, among other things, information regarding the Applicant's technical and managerial capability, aesthetics, and radar activated light control system. See, Ex. AWE 7. The Second Supplement to the Application also contained the First Supplemental Pre-filed Testimony of Sean McCabe and Ellen Crivella and the pre-filed direct testimony of Ruben Segura-Coto, a viewshed analysis that was extended to ten miles, Appendix 9-A-1, and Appendix 20 containing an agreement between the Applicant and AMC with regard to radar activated turbine lighting. See, Ex. AWE 7. The Third Supplement to the Application was filed on September 5, 2012 and included information regarding the wind energy resource at the Project Site. See, Ex. AWE 8. On October 11, 2012, the Applicant filed the Fourth Supplement to the Application which included the following additional information and testimony:

¹ Subcommittee Members Ignatius, Boisvert, Dupee, Bailey, Robinson and Simpkins voting in favor of the Motion to Deny the Application; Subcommittee members Stewart, Lyons, and Green voting against the motion to deny the Application.

- (i) additional information regarding the radar activated light system,
- (ii) Appendix 2D-1 (Application for Driveway Permit associated with temporary laydown/construction area),
- (iii) Appendix 2H (letter to Mr. Rennie regarding revisions to Alternation of Terrain, 401 Water Quality Certification, and Wetlands Permit),
- (iv) supplemental pre-filed testimonies of Jack Kenworthy, Joseph Cofelice and Martin Pasqualini, John Guariglia, Richard Will and Russell Stevenson, Colin High, Daniel Butler and Patrick Martin, Dana Valteau and Adam Gravel, Robert O'Neal, Matthew Magnusson,
- (v) Second Supplemental Pre-filed Testimony of Sean McCabe,
- (vi) First Supplemental Pre-filed Testimony of Ruben Segura-Coto, and
- (vii) Pre-filed Direct Testimony of Sally Wright.

The Application as originally filed and as supplemented over the course of the proceedings, contained all of the information that is required by RSA 162-H:7 and NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES SITE 300.01 AND SITE 300.02.

B. Summary of the Application

The Applicant is a Delaware limited liability company formed for the purposes of development, construction and operation of the Project. Ex. AWE 1 at 2, 53. The Applicant has two members: (i) Eolian Antrim, LLC (50% ownership); and (ii) Westerly Antrim, LLC (50% ownership). Ex. AWE e at 2, 53. Eolian Antrim, LLC, in turn, is owned by Eolian Renewable Energy, LLC. Ex. AWE 1 at 2, 53. Westerly Antrim, LLC is owned by Westerly Wind, LLC. Ex. AWE 1 at 2, 53. Westerly Antrim, LLC is a portfolio company of US Renewables Group, an energy investment firm founded in 2003. Ex. AWE 1 at 2, 53.

The Project is proposed to be located on and adjacent to 354 Keene Road (NH Route 9) and includes approximately 1,850 acres of private lands currently leased by the Applicant from

five landowners. Ex. AWE 1 at 5. These lands occupy the area from Route 9, southward to the east summit of Tuttle Hill, and to the north flank of Willard Mountain to the west. Ex. AWE 1 at 5. As proposed, the Project would be constructed primarily on the ridgeline that starts approximately 0.75 miles south of NH Route 9 and runs south southwest, for approximately 2.5 miles. Ex. AWE 1 at 5.

The Facility is proposed to consist of ten (10) Acciona 3000 wind turbine generators each having a nameplate capacity of three (3) MW. Ex. AWE 1, at 16. Each turbine would rise to 492 feet above ground level when measured from its base to the tip of its blade. Ex. NB 2, at 3. As proposed, each of the turbines would be constructed at the following site elevation: (1) WTG-1 1,431 feet; (2) WTG-2 1,743 feet; (3) WTG-3 1,758 feet; (4) WTG-4 1,682 feet; (5) WTG-5 1,726 feet; (6) WTG-6 1,516 feet; (7) WTG-7 1,676 feet; (8) WTG-8 1,700 feet; (9) WTG-9 1,646 feet; (10) WTG-10 1,896 feet. See, Ex. AWE 2, Appdx. 2E (FAA determinations); see also, Ex. AWE 3, Appdx. 7A (civil design drawings). The ridgeline designated for the location of the turbines has a site elevation fluctuating between 1,042 feet and 1,904 feet. Ex. AWE 1 at 48. Generally, as proposed, each turbine would be between 25% and 35% of the elevation of the ridge line where it would be located. See, Ex. AWE 2, Appdx. 2E (FAA determinations); see also, Ex. AWE 3, Appdx. 7A (civil design drawings).

In addition, the Application indicated that the Project would consist of approximately 4 miles of new gravel surfaced roads within the project area, a joint electrical collector system consisting of both underground and overhead collection lines, an interconnection substation, and an operations and maintenance building of approximately 3,000 square feet. Ex. AWE 1 at 16, 26, 33, 44.

The Applicant stated that it would have to build approximately 4 miles of new gravel surface road for access, construction and maintenance of the wind turbines. Ex. AWE 1 at 16. The main access road would be approximately 3.47 miles long and would be built in two sections: (1) the first section will connect Rte. 9 to wind turbine generator WTG #1; and (2) the second section includes the remainder of the road, from WTG #1 to the ridge and then along the ridgeline. Ex. AWE 1 at 16. The Applicant asserted that there would also be two spur roads installed to access individual turbines. Ex. AWE 1 at 16.

The Applicant proposed to interconnect the Facility to an existing Public Service Company of New Hampshire ("PSNH") 115 kV electric transmission line through the proposed interconnection substation which would be constructed adjacent to the existing PSNH L-163115 kV electric transmission line. Ex. AWE 1 at 26. The Applicant asserted that no new electric transmission lines, other than Project electrical collector system lines, would be required. Ex. AWE 1 at 26. As proposed, an underground electrical collection system would transfer the electricity generated by the turbines to the substation. Ex. AWE 1 at 26. The substation yard, in turn, would be divided into two areas: (1) the collection yard consisting of 100 feet by 111 feet and containing a transformer and a 16-foot by 12-foot control house; and (2) the interconnection yard consisting of 172 feet by 186 feet and containing a three-breaker ring bus and a 20-foot by 24-foot control house. Ex. AWE 1 at 26. The interconnection substation would be a standard three phase 115 kV transmission level substation designed and constructed by PSNH. Ex. AWE 1 at 42. The switchyard and substation would include transformers, switching equipment, protective relay and control equipment, transfer trip equipment, disturbance analyzer equipment, transducers, a Remote Terminal Unit, telemetry equipment and meters. Ex. AWE 1 at 33.

Finally, as proposed, the operation and maintenance building would be a single story structure comprising approximately 3,000 square feet including offices and associated facilities (bathrooms, kitchen, storage) for technicians, a garage for spare parts and supplies, and a computer server room. Ex. AWE 1 at 33, 45, Appdx. 7C.

The Applicant also asserted that it would install a permanent meteorological tower on the ridgeline between turbine #3 and turbine #4 to obtain wind data at the Project Site for wind turbine performance management. Ex. AWE 1 at 46, 62.

The Applicant anticipated that the overall cost of constructing the Project would be approximately \$55-65 million. Ex. AWE 1 at 55. The Applicant did not claim that it had the present financial ability to undertake the Project from its own assets, but asserted that it would be able to obtain the capital required for the construction and operation of the Facility through a combination of construction loans, and sponsor or third party equity. Ex. AWE 1 at 55.

IV. POSITIONS OF THE PARTIES

A. Applicant

As a part of its Application, the Applicant submitted the pre-filed testimony of the following individuals:

- Jack Kenworthy, Chief Executive Officer of Eolian Renewable Energy, Ex. AWE 1;
- Joseph Cofelice, founder and Chief Executive Officer of Westerly Wind, LLC and Martin Pasqualini, founding partner and Managing Director of CP Global Partners, LLC, Ex. AWE 1;
- Sean McCabe, Vice President of Development at Westerly Wind, LLC, and Ellen Crivella, Project Manager in the Environmental and Permitting Services Group at GL Harrad Hassan, Ex. AWE 1;
- John W. Guariglia, Associate Principal with Saratoga Associates, Landscape Architects, Architects, Engineers, and Planners, P.C., Ex. AWE 1;

- Richard Will, Manager, Northeast Cultural Division of TRC Companies, and Russell Stevenson, Architectural Historian of A. D. Marble & Company, Ex. AWE 1;
- Colin High, Co-Founder and Principal Consultant with Resource Systems Group, Inc., Ex. AWE 1;
- Daniel T. Butler, Manager, Civil and Transmission Engineering Department with TRC Companies, Inc., Ex. AWE 1;
- Dana Valleau, Environmental Specialist of TRC Environmental Corporation and Adam Gravel, Associate/Project of Stantec Consulting, Ex. AWE 1;
- Robert O'Neal, Principal at Epsilon Associates, Inc., Ex. AWE 1;
- Ross Gittell, James R. Carter Professor of the University of New Hampshire, Whittemore School of Business and Economics, Ex. AWE 1;

The Applicant also submitted supplemental pre-filed testimony of (i) Sean McCabe and Ellen Crivella (Ex. AWE 1); (ii) Jack Kenworthy (Ex. AWE 1); (iii) Joseph Cofelice and Martin Pasqualini (Ex. AWE 1); (iv) John Guariglia (Ex. AWE 1); (v) Richard Will and Russell Stevenson (Ex. AWE 1); (vi) Colin High (Ex. AWE 1); (vii) Daniel Butler and Patrick Martin (Ex. AWE 1); (viii) Dana Valleau (Ex. AWE 1); (ix) Dana Valleau and Adam Gravel (Ex. AWE 1); (x) Robert O'Neal (Ex. AWE 1); (xi) Matthew Magnusson (Ex. AWE 9), (xii) Ruben Segura-Coto and Sally Wright (Ex. AWE 7); and the second supplemental pre-filed testimony of Sean McCabe (Ex. AWE 9).

The Applicant asserted that the information contained in its Application, pre-filed testimony, and exhibits clearly demonstrated that the Applicant had the financial, managerial and technical capacity to construct, manage, and operate the Facility in accordance with the conditions of the Certificate. In addition, the Applicant asserted that the Facility would not unduly interfere with the orderly development of the region and would not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, natural environment, or public

health and safety. The Applicant asserted that the Subcommittee should grant the Application and issue a Certificate to the Applicant.

B. Counsel for the Public

Counsel for the Public retained the following experts: (i) Jean Vissering, a landscape architect, to provide an independent assessment of the aesthetic impacts of the proposed Project; (ii) Gregory C. Tocci of Cavanaugh Tocci Associates, Inc., to study potential noise impacts of the Project; and (iii) Trevor Lloyd-Evans of the Manomet Center for Conservation Sciences to study the effect of the Facility on birds and flying mammals. Counsel for the Public submitted pre-filed and supplemental pre-filed testimony of these experts. Ex. PC 1-6.

Counsel for the Public asserts that the Subcommittee should deny the Application because the Project will allegedly have unreasonable adverse effects on aesthetics, public health and safety and the natural environment. In general, Counsel for the Public asserts that environmental benefits of the Project are outweighed by the serious and permanent environmental harm that the Project will cause. Specifically, based on the analysis conducted by Ms. Vissering, Counsel for the Public asserts that the Project will have an unreasonable adverse effect on aesthetics because of the Project's visual impact on the area. As to the impact on natural environment, Counsel for the Public asserts that the Applicant did not meet its burden to show that the Project will not have adverse effect on the natural environment and requests the Subcommittee, if it decides to grant the Certificate, to condition it upon requirement to conduct similar environmental studies as were required by the Subcommittee in the Certificate granted to the Groton Wind Project. Counsel for the Public further asserts that the Subcommittee should deny the Certificate because the Applicant failed to demonstrate that the Project's noise will not have adverse effect on aesthetics and public health and safety.

Counsel for the Public further urges the Subcommittee to deny the Certificate because, in his view, the Applicant failed to show that it has financial and managerial capacity to construct and operate the Project. Counsel for the Public retained the consultative services of Deloitte Financial Advisory Services. Deloitte prepared a report analyzing the financial, managerial and technical capability of the Applicant and the Facility. See, PC 7.

C. Town of Antrim

The Town of Antrim supports the issuance of a Certificate. The Applicant entered into an Agreement with the Town of Antrim addressing the Town's concerns including, but not limited to, the issues of noise and decommissioning. Ex. AWE 4, Appdx. 17. The Applicant also entered into a Payment In Lieu of Taxes ("PILOT") Agreement with the Town. Ex. AWE 12-13. In addition, the Antrim Board of Selectmen advised the Subcommittee that the Project was supported by the vast majority of the townspeople. As a result, the Antrim Board of Selectmen urges the Subcommittee to issue the Certificate and to incorporate the agreements negotiated by the Town as conditions to the Certificate.

D. Antrim Planning Board

The Antrim Planning Board neither supports nor opposes the construction of the Project. It asserts, however, that it should have jurisdiction over any subdivision that may be required as a result of construction and operation of the Project.

E. Antrim Conservation Commission

The Antrim Conservation Commission neither supports nor opposes the construction and operation of the Project. In their arguments, however, the Antrim Conservation Commission urged the Subcommittee to consider the Project's impact on aesthetics and natural environment

of the region and to condition the Certificate so that the Project will not have an unreasonable adverse effect on aesthetics and natural environment of the region.

F. Stoddard Conservation Commission

The Stoddard Conservation Commission alleges that the construction and operation of the Project will adversely affect the core wildlife habitat and conservation values of the area and urges the Subcommittee to deny the Certificate. In the alternative, the Stoddard Conservation Commission requests the Subcommittee to condition the Certificate upon the following conditions: (i) remove turbines 9 and 10 from the Project; (ii) expand the acreage under the proposed conservation easements to include all of the landowners on whose land the Project will be sited; and (iii) prohibit any development on conservations easements.

G. Audubon Society of New Hampshire

Audubon urges the Subcommittee to deny the Certificate because the Project, as proposed, will have an unreasonable adverse effect on Willard Pond and on the de Pierrefeu Willard Pond Sanctuary which it manages. Audubon also states that the Certificate should be denied because the Applicant does not have the financial, technical and managerial capacity required for the construction and operation of the Project. Audubon also requests the Subcommittee to incorporate a number of conditions designed to minimize the effect of the Project on Willard Pond and on the dePierrefeu Willard Pond Wildlife Sanctuary if the Subcommittee decides to grant the Certificate.

H. Harris Center for Conservation Education

The Harris Center for Conservation Education neither supports nor opposes the Application.

I. Industrial Wind Action Group

IWAG asserts that the Applicant failed to demonstrate that it has the financial and managerial capacity required for the construction of the Project, that the Project will not unduly interfere with the orderly development of the region and that the Project will have no unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment, and public health and safety. IWAG also argues that the Project will not provide the environmental, economic or regional energy benefits claimed by the Applicant. Therefore, the Industrial Wind Action Group urges the Subcommittee to deny the Application.

J. Appalachian Mountain Club

AMC neither supports nor opposes the Application but it did enter into an agreement with the Applicant designed to reduce nighttime light pollution which may be associated with the Project. AMC requests that the Subcommittee incorporate the requirements of this Agreement into the Certificate if the Committee decides to grant the Certificate. See, Ex. AMC 5.

K. Gregg Lake Association

Although granted intervenor status, the Gregg Lake Association did not participate.

L. Abutting Landowners Group of Intervenors

The Abutting Landowners urge the Subcommittee to deny the Application. They assert that the Project will have unreasonable adverse effect on natural environment and orderly development of the region. Specifically, they state that the sound and visual impact of the Project will have unreasonable adverse effect on the residents of the region in general and on the owners of the residences abutting the Project specifically. The intervenors also expressed their concerns about the impact of the Project on the values of the real estate in the region and,

ultimately, urge the Subcommittee to conclude that the Project will have unreasonable adverse effect on orderly development of the region.

M. North Branch Residents Group of Intervenor

The North Branch Residents assert that the Project will have an unreasonable adverse effect on natural aesthetics, air and water quality, the natural environment, and public health and safety. The North Branch Residents also allege that the Project will unduly interfere with the orderly development of the region and that the Applicant does not have the financial, technical and managerial capacity required for the construction of a Project of such magnitude. The North Branch Residents assert that the turbines, as proposed, will be “far beyond reasonable proportion for the area” and will unreasonably and adversely impact aesthetics, natural environment and orderly development of the region. The North Branch Residents further assert that the construction and operation of the Project in the Rural Conservation Zone of Antrim will result in serious noise disturbance and health risk to many of the residents of the North Branch area of Antrim. As to the Applicant’s financial and managerial capacity, the North Branch Residents assert that the Applicant failed to demonstrate that it will be able to obtain sufficient funds to finance the Project on this magnitude and effectively manage its operation. Therefore, the North Branch Residents request the Subcommittee to deny the Application.

N. Edwards/Allen

The Edwards/Allen intervenors argue that the Applicant has failed to demonstrate sufficient technical, managerial and financial capability to build and operate the Facility. They argue that the lack of a fully negotiated PPA and inexperience on the part of the Applicant indicate insufficient financial, technical and managerial expertise. See Edwards/Allen Closing Memorandum at 1-5. The Edwards/Allen intervenors also complain about the PILOT and

alternative PILOT agreements reached by the Town and the Applicant. Edwards/Allen suggest that under the PILOT agreements, the Town of Antrim will be worse off financially and will not see any economic benefits as a result of the formula used to assess financial liability within the regional cooperative school district. Edwards/Allen Closing Memorandum at 11-18.

Edwards/Allen also joins Counsel for the Public and others in urging the Subcommittee to adopt the finding of Ms. Vissering that the Facility will have an unreasonable adverse impact on the viewshed in the region. Edwards/Allen Closing Memorandum at 8-10.

V. DELIBERATIONS

A. The Subcommittee Deliberation Process

The Subcommittee deliberated over the course of 3 days from February 5 through February 7, 2013. As has been done in previous dockets, the Subcommittee used RSA 162-H:16 to define the contours of its deliberations. In doing so, the Subcommittee first reviewed the status of state permits and then approached its deliberations within the outline set forth at RSA 162-H:16. In this case, a majority of the Subcommittee ultimately determined to deny the Application because of its determination that the siting, construction and operation of the Facility would have an unreasonable adverse effect on the aesthetics of the region. The deliberative process used by the Subcommittee was to engage in a general discussion of each subject area. For the most part, the general discussion was led by one member of the Subcommittee, followed by a discussion by the entire Subcommittee. At the conclusion of the discussion, the Chair would seek to obtain a sense of the Subcommittee's position with respect to that subject area. In some cases, a non-binding "straw vote" of the Subcommittee was taken. In other cases, the sense of the Subcommittee was apparent from the discussion. This section of the Decision and Order summarizes the deliberative process of the Subcommittee.

B. State Agency Permits and Reports

To commence its deliberations, the Subcommittee first reviewed the status of state permits and agency reports.

1. Wetlands Permit – Department of Environmental Services

As part of the Application, the Applicant submitted a standard Dredge and Fill Application commonly referred to as a Wetlands Permit with the Department of Environmental Services under the authority of RSA 458-A:3, and in accordance with administrative regulations promulgated by the New Hampshire Department of Environmental Services (“DES”). See, N.H. CODE OF ADMINISTRATIVE RULES ENV-WT 300 ET SEQ. The Wetlands Permit Application was included with the Application. See, Ex. AWE 2, Appdx. 2A. A Supplement to the Wetlands Permit Application was filed on August 6, 2012. See, Ex. AWE 6, Appdx. 2A. As part of the amended Wetlands Permit review process, the Applicant proposed to dredge and fill 9,755 square feet of palustrine forest and scrub shrub wetlands and to dredge and fill 452 square feet within a perennial and intermittent stream. Ex. AWE 6, Appdx. 2A. On August 31, 2012, DES issued its final decision and recommended approval of the wetlands permit with certain conditions. Ex. Comm. 12. The conditions were outlined in the Wetlands Permit issued by DES on August 31, 2012. Id. DES found that the Project would be a “major project” as defined by N.H. CODE OF ADMINISTRATIVE RULES ENV-WT 303.02. DES appended 15 conditions to the Wetlands Permit. Ex. Comm. 12. In its report to the Subcommittee, the Wetlands Bureau of DES determined that there were not many jurisdictional wetland areas within the Project’s vicinity and the Project did not affect wetlands areas considered to be of special value from a local, regional or state perspective under ENV-WT 101.90. Ex. Comm. 12. The 15 conditions

required by the Wetlands Bureau, as set forth in Comm. 12, were relatively routine. Ex. Comm. 12.

2. Alteration of Terrain Permit – Department of Environmental Services
Section 401 Water Quality Certificate

Under RSA 458-A:17, the Applicant also filed an Application for an Alteration of Terrain Permit with the Department of Environmental Services Water Division. Ex. AWE 2, Appdx. 2B. The Application for an Alteration of Terrain Permit indicated that construction of the Facility would disturb approximately 2,648,448 square feet or approximately 60.8 acres of land during construction. Ex. AWE 2, App. 2B; AWE 9, Appdx. 2H; Comm. 12. The Application for an Alteration of Terrain Permit was filed with the Water Division at DES on January 26, 2012. A copy was also filed with the Application in this docket. The Applicant revised its Alteration of Terrain Permit Application on August 30, 2012 to include an additional meteorological tower. Ex. AWE 6, Appdx. 2B; AWE 9, Appdx. 2H. The Water Division issued an Alteration of Terrain Permit Decision recommending the approval of the revised application with conditions. Ex. Comm. 12. The conditions included permit conditions from the Water Shed Management Bureau to satisfy Section 401 Water Quality Certification concerns. Ex. Comm. 12. The Water Division's approval of the Applicant's request also included recommendations from the Drinking Water and Ground Water Bureau to satisfy concerns regarding ledge blasting and monitoring through best management practices. Ex. Comm. 12.

The Alteration of Terrain Permit was issued by DES based upon the premise that the New Hampshire Programmatic General Permit issued by the United States Army Corps of Engineers applies to the Project. On March 5, 2012, the Subcommittee received confirmation

that the United States Army Corps of Engineers had determined that the Programmatic General Permit did apply in this matter. Ex. Comm. 4.

The conditions specified by DES with respect to the Alteration of Terrain Permit required the Applicant to employ the services of an environmental monitor to inspect the site during activities that will cause an alteration of terrain. Ex. Comm. 13. Site inspections were required at least once a week and under certain storm conditions. Ex. Comm. 12. As a condition of the Alteration of Terrain Permit, the Applicant was required to develop certain plans for approval by DES including a construction and best management practice inspection and maintenance plan, a turbidity sampling plan, a monitoring plan, a spill prevention control and countermeasures plan, and a water quality violation prevention plan. Ex. Comm. 12.

3. Subsurface Systems Permit - Department of Environmental Services

As part of its deliberations, the Subcommittee also reviewed the Applicant's Application for a Subsurface Systems Permit. Ex. AWE 2, Appdx. 2F. That Application was filed with DES on January 26, 2012. One individual septic system would serve the Facility. The septic system was expected to accommodate 300 gallons per day. A Subsurface Systems Permit was issued by DES on August 31, 2012. Ex. Comm. 12.

4. Driveway Permit – Department of Transportation

In order to obtain ingress and egress to the site of the proposed Facility, the Application required the construction of a driveway off N.H. Route 9. Therefore, the Applicant also filed an Application for a Driveway Permit with the New Hampshire Department of Transportation. Ex. AWE 2, Appdx. 2D. The Application for a Driveway Permit was filed on January 26, 2012. A copy was also provided in the Application for a Certificate of Site and Facility. Ex. AWE 2, Appdx. 2D. On September 4, 2012, the Department of Transportation approved that Permit for

the construction of a driveway off Route 9. Ex. Comm. 14. The Driveway Permit recognizes the heavy loads that the driveway will support during construction and contains conditions that require that the driveway landing be constructed using one foot of gravel, one foot of crushed gravel and 4 inches of bituminous asphalt pavement. Ex. Comm. 14.

5. Aviation Permits - Federal Aviation Administration

Along with the Application, the Applicant also filed a series of Federal Aviation Administration documents determining that the Facility will not cause a danger to aviation safety if operated in compliance with conditions. Ex. AWE 2, Appdx. 2E. The Subcommittee also notes that the Applicant executed a stipulation with AMC that would require the installation of a radar activated lighting system once such a system has been approved by the Federal Aviation Administration. Ex. AMC 5.

6. Historical Resources – NH Division of Historical Resources

In addition to the foregoing state and federal permits, the Applicant also submitted correspondence with the New Hampshire Division of Historical Resources. The review of historical resources is generally governed by Section 106 of the National Historic Preservation Act. The New Hampshire Division of Historical Resources is the state agency entrusted with the obligation to administer Section 106. The process of the review of historical resources is an interactive and ongoing process which often extends beyond the granting of a Certificate of Site and Facility due to the nature of the process. The Subcommittee received several reports from the New Hampshire Division of Historical Resources along with its Application. Ex. Comm. 5, 9, 11 and 15.

7. State Fire Marshal

In addition to the foregoing Permits, there are certain state agencies which provided information to the Subcommittee although they do not technically have a permit, license or certificate to issue. On February 21, 2012, the State Fire Marshal filed a letter with the Subcommittee. The Fire Marshal requested that the Subcommittee condition any Certificate on compliance with the following codes: International Building Code, 2009 Edition; NFPA 1, Fire Code, 2009 Edition; and FPA 101, Life Safety Code, 2009 Edition and NFPA 850, Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations, 2010 Edition. The Fire Marshal also asked that any Certificate of Site and Facility be conditioned upon a review of final plans by the Fire Marshal and compliance inspections. The Fire Marshal also sought a condition that would allow him to retain independent third party review at the expense of the Applicant. Ex. Comm. 1.

8. Natural Heritage Bureau – Department of Resources and Economic Development

As part of its Application for a Certificate of Site and Facility, the Applicant maintained a dialogue with the Department of Resources and Economic Development, New Hampshire Natural Heritage Bureau (“NHNHB”). Ex. Comm. 7. On July 2, 2012, NHNHB filed a progress report. Ex. Comm. 7. On August 2, 2012, NHNHB filed a final report with the Subcommittee. Ex. Comm. 10. During the course of its review, NHNHB conducted a data base check, reviewed community mapping surveys, and inspected portions of the site on December 13, 2011 and again during the growing season on July 13, 2012. NHNHB concluded that it is unlikely that the proposed Facility will impact rare plants species or exemplary natural communities. Ex. Comm. 10.

9. New Hampshire Fish and Game Department

The New Hampshire Fish and Game Department was also involved in a review of the Application. Specifically, the New Hampshire Department of Fish and Game evaluated the Avian and Bat Protection Plan (“ABPP”) proffered by the Applicant and suggested certain conditions be applied. Ex. Comm. 16. Those conditions are addressed in more detail in the section of this Order dealing with the deliberations of the Subcommittee concerning the natural environment.

Having reviewed the various permit applications and the recommended permits and conditions from the various agencies, the Subcommittee recognizes that the Applicant worked diligently with the various state agencies and provided complete information that permitted the various agencies to report to the Subcommittee in a complete and timely fashion. The Subcommittee also notes that in the event that it chose to issue a Certificate, the conditions required by the agency permits would necessarily become conditions of the Certificate. See, RSA 162-H:16, I. The Subcommittee also acknowledges that it has the authority to delegate to an appropriate state agency the authority to monitor the construction and operation of an energy facility and to delegate the authority to specify the use of any technique, methodology, practice, or procedure approved by the Subcommittee within a certificate to a state agency. See, RSA 162-H:4, III & III-a.

C. Alternatives Analysis

The Subcommittee deliberations next considered the issue of available alternatives. RSA 162-H:16, IV, requires the Subcommittee to consider “available alternatives” in deciding whether the objectives of RSA 162-H would be best served by the issuance of a Certificate. In considering available alternatives, the Subcommittee will consider the evidence of alternatives

presented by the Applicant as well as any other evidence in the record pertaining to alternative sites. See, Decision, Application of Granite Reliable Power, LLC, 2008-04, at 23 (July 15, 2009).

In presenting its evidence with respect to available alternatives, the Applicant described a site selection process consisting of 10 site selection criteria. Ex. AWE 1 at 46–50. The Applicant asserts that the choice of site for the Facility was the result of a southwestern regional prospective site analysis nested within Eolian’s statewide model for wind energy suitability in New Hampshire. Ex. AWE 1 at 47. In applying this methodology, the main site selection criteria include an adequate wind resource (based on meso wind models), environmental appropriateness, grid-interconnection, proximity to transportation routes, and distance from residences. Ex. AWE 1 at 47.

As a result of this process, the Applicant considered potential sites in Marlow and in Stoddard. Ex. AWE 1 at 47. The Applicant found the Marlow site to be less suitable than Antrim because of extensive wetlands and considerable distance to transmission resources. Id. The Stoddard site was determined to be less suitable than Antrim due to extensive conservation easements and access issues. Id.

The Application also asserts that the Applicant considered several different on-site turbine configurations, as well as relocation of various components of the Facility including the operations and maintenance building. Ex. AWE 1 at 50. In its Application, the Applicant detailed four on-site alternatives that it considered. The Applicant originally considered construction of 11 turbines. Ultimately, the Applicant eliminated a turbine that would have been located off the south flank of Willard Mountain. This turbine was eliminated in order to create a smaller overall footprint and to limit the visual impact on the Willard Pond Sanctuary. The

Applicant reports that it also considered different access and road solutions. Ultimately, the chosen route for the road was determined to be the shortest in overall length, thus minimizing the effect on the environment. In addition, the Applicant asserts that it considered different turbines and various layouts for the physical components of the Facility. Ex. AWE 1 at 50-52.

In discussing the alternatives analysis supplied by the Applicant, some members of the Subcommittee expressed concern that the Application did not include comparative maps or any tabulation of comparative information between the off-site alternatives in Stoddard and Marlow that had been considered by the Applicant. See, Transcript, Deliberations, Day 1 at 46.

Additionally, a member of the Subcommittee expressed concern that the Site selection criteria and alternatives analysis presented by the Applicant failed to address the affect of the Project on aesthetics of the area. See, Transcript, Deliberations, Day 1 at 49.

In discussing alternatives to the proposed Site, the Subcommittee also considered a proposal suggested by Jean Vissering, a witness for Counsel for the Public, and echoed by several intervenors that would have eliminated turbines 9 and 10 due to their proximity to Willard Pond and to employ the use of smaller turbines throughout the remainder of the Facility. See, generally, Ex. PC 1 at 18–19.

In addition, the Subcommittee noted that an available alternative that was not contained in the Application is a project configuration and turbine size that was presented to the SEC in the prior docket dealing with this Project: Docket No. 2011-02, Petition of Antrim Wind for Jurisdiction. That proposal involved the same site along the Tuttle Hill/Willard Mountain ridgeline but called for 10 turbines in the 2 MW size class with heights of less than 475 feet. See, Transcript, Deliberations Day 1 at 51.

D. Applicant's Financial Technical and Managerial Capability

During the course of deliberations, the Subcommittee considered the financial, technical and managerial capability of the Applicant as required by RSA 162-H:16, IV (a). In undertaking its deliberations, the Subcommittee found it more convenient to address the technical and managerial capabilities separately from the financial capability of the Applicant.

1. Technical and Managerial Capability

a. Positions of the Parties.

The Applicant asserts that it has established by a preponderance of the evidence, through the pre-filed and live testimony of Sean McCabe, Ruben Segura-Coto and Sally Wright, that it has the technical and managerial capacity required for operation and construction of the Facility. See, Ex. AWE 1, McCabe and Crivella Pre-Filed Testimony; Ex. AWE 7, McCabe and Crivella First Supplemental Testimony, Ex. AWE 9, McCabe, Wright and Segura-Coto Second Supplemental Testimony; Transcript Day 2 at 131-274. In addition, the Applicant claims that the individual and combined experience in the renewable energy sector of its staff warrants a finding that the Applicant is possessed of sufficient technical and managerial capabilities to construct and operate the Facility.

In particular, the Applicant points to the background and experience of Sean McCabe, Joseph Cofelice and Jack Kenworthy. Ex. AWE 1, Pre-Filed Testimony of Jack Kenworthy and Pre-Filed Testimony of Joseph Cofelice. Mr. McCabe has been employed in the wind power industry since 2004, holding positions of responsibility with both Catamount Energy and Duke Energy Corporation. Mr. Cofelice was employed for 15 years with American National Power where he had responsibility for project development. Ex. AWE 1, Pre-Filed Testimony of Joseph Cofelice. In addition, he is a former president of Catamount Energy where, under his

leadership, the company developed and financed wind energy projects with a total capacity of 585 MW. Id. Mr. Kenworthy submits that he has worked in the renewable energy field for 10 years and is presently leading current development for four projects. Ex. AWE 1, Pre-Filed Testimony of Jack Kenworthy. The Applicant also notes that the Deloitte Report recognized that the development team presented by the Applicant is qualified to develop this project. Ex. PC 7.

In addition to the technical and management skills of its personnel, the Applicant also relies on its intention to execute an operations and management (“O&M”) contract with Acciona Wind Power North America (“AWP”). As such, the Applicant relies on AWP to support its claim of adequate technical and managerial capability. The initial term of the O&M contract will be five years and may be renewed with AWP or another provider thereafter. Ex. AWE 7, Transcript Day 2 at 263. AWP is a subsidiary of the multinational Acciona Energy. Ex. AWE First Supplemental Pre-Filed Testimony of McCabe, Crivella and Segura-Coto. AWP operates and maintains 12 wind energy facilities across North America for a total operational capacity of 1,315.5 MW. Transcript Day 2 at 82. In addition, AWP is responsible for an additional 189 MW of wind facilities commissioned before the end of 2012, including the first two Acciona AW 3000/116 turbines located in Iowa. Id. AWP uses a state of the art SCADA system that is monitored seven days per week and twenty-four hours per day. Ex. AWE 7, McCabe, Crivella and Segura-Coto First Supplemental Testimony at 9. The SCADA system contains redundant systems that serve to protect the assets in the event of power failure or other catastrophe. Transcript, Day 2 at 145. AWP boasts a fleet availability factor of 98.2% over the time of its operations in North America, an OSHA lost time rate of 0 and in 2012 had recordable injury rate of 2.8. Ex. AWE 7, McCabe, Crivella and Segura-Coto First Supplemental Testimony at 9. In addition, the Applicant maintains that it will have three to four employees on site to oversee

project operations and attend to matters that are not within the scope of the O&M contract. Id. at 10. Based upon the experience and skills of its team and the expected O&M contract, the Applicant asserts that it has adequate managerial and technical expertise.

An additional issue raised in the docket is the commercial viability of the Acciona AW 3000/116 turbine. The Applicant suggests that the commercial viability of the turbine has been demonstrated in the market because two of the turbines have been developed for installation in Iowa and another 10 have been ordered for a project in Nova Scotia. Transcript Day 2 at 159-163. The willingness of developers to invest in the turbine allegedly demonstrates commercial viability according to the Applicant. Id. The Applicant also reports, through the testimony of Sally Wright, that the turbine has successfully undergone technical design review. Transcript Day 2 at 160-162. The turbine is presently undergoing “type certification” which is a third party validation process. Id. at 162. Type certification is not yet complete. The two turbines developed in Iowa are being used as prototypes for the type certification process.

The Applicant’s witness, Sally Wright, testified, however, that the Acciona AW 3000/116 is “not proven.” Transcript Day 2 at 166. “Not proven” is a term that is applied to any turbine that has not yet achieved 100 “turbine years” of operation. Id. The Applicant submits that many projects using “not proven” technology still obtain financing and presumably commercial operation. Applicant’s Post-Hearing Brief at 24.

Finally, the Applicant notes that Acciona has provided a warranty for the turbine and argues that “type certification” and the Acciona warranty establish the commercial viability of the turbine. Therefore, the Applicant claims that it has established by a preponderance of evidence that the proposed turbine is commercially viable. Id.

Counsel for the Public submitted the Deloitte Report as an exhibit in this proceeding. Ex. PC 7. The Deloitte Report noted that several members of the Applicant's development team have experience in the power industry and, in particular, in the renewable energy field. The Deloitte Report found that the development team was qualified to develop and construct the Project and that there was no evidence to suggest the development team was unqualified or that any specific team members were not capable of performing their duties. Ex. PC 7 at 42. Nonetheless, Counsel for the Public asserts that the Applicant failed to establish sufficient technical, managerial capabilities to construct and operate the Project.

The absence of a firm draft of the O&M Contract and the absence of a balance of plant contract for construction serve as a basis for Counsel for the Public to object to the technical and managerial capability of the Applicant. Post-Hearing Memorandum of Counsel for the Public at 48-49. Counsel for the Public argues that in the Laidlaw docket, the Subcommittee had access to key contracts and knew the identity of key personnel. Counsel for the Public asserts that this Applicant has presented no evidence of contracts for the construction of the Facility and that the O&M contract is not firm despite Ruben Segura-Coto's testimony before the Subcommittee. Id. at 48 (arguing that Segura-Coto could not provide definitive answers about the terms and conditions of an O&M agreement.) Likewise, no potential balance of plant contractor has been identified, nor has a balance of plant draft contract been submitted to the Subcommittee. Counsel argues that conditioning the Certificate on the negotiation of an O&M contract with AWP and a balance of plant contract would be contrary to the statute. Id. at 49. Counsel for the Public argues that these contracts should be presented to the Subcommittee at a hearing before the Certificate is granted so that they are appropriately reviewed. In proceeding without firm contracts in these areas, Counsel for the Public asserts that the Applicant does not have sufficient

technical and managerial capability to construct and operate the Facility in accordance with industry certificate that may be granted. In short, Counsel for the Public argues that the Applicant left too many variables subject to future conditions. See, Post-Hearing Memorandum of Counsel for the Public at 47-50.

The North Branch Residents claim that AWE is a new startup company with no experience. It claims that AWE made errors in its initial filings for variances before the Antrim Zoning Board of Adjustment and that the quality of the Applicant's filings before the Town's boards was poor and incomplete. The North Branch Residents argue that the Project, in its initial stages, was smaller and that the Applicant was incompetent to manage the construction of the Project in its smaller iteration and, therefore, should not be granted a Certificate for this much larger project. See, Final Brief North Branch Residents , at 25.

The North Branch Residents also argue that it does not trust the Applicant's estimated annual net capacity factor of 37.5 to 40.5%. The North Branch Residents argue that the wind resource is "not particularly outstanding" and that AWE has not presented data that conflict with that statement. This argument takes issue with the V-Bar Report summarizing the wind resource at the Facility. Ex. AWE 8, Appdx. 21. The North Branch Residents also claim that the projected net capacity factor assured by the Applicant is far greater than capacity factors experienced at other New England wind energy facility sites. The North Branch Residents argue that because the projected capacity factor cannot be trusted, the Applicant does not have sufficient technical and managerial capability to construct or operate the Project. See, Final Brief North Branch Residents at 26-27.

IWAG argues that the Subcommittee must immediately discount the credibility of Sean McCabe and Sally Wright because they are under contract with and/or employed by the

Applicant. IWAG also claims that Ruben Segura-Coto can only speak to the qualifications of Acciona and not the Applicant. Because no contract yet exists between the Applicant and Acciona, IWAG asserts that there is no basis to evaluate technical or managerial expertise. See, Final Memorandum of IWAG at 24.

IWAG also argues that the Subcommittee has violated the Right to Know law, RSA 91-A, by “refusing to release financial information.” It asserts that this action violated IWAG’s due process rights and effectively prohibits IWAG from commenting on financial capability. See, Final Memorandum of IWAG at 25.

Audubon, similar to Counsel for the Public and IWAG, argues that the tender of an O&M contract with AWP by the Applicant is insufficient to establish that the Applicant has adequate technical and managerial expertise to construct and operate the Facility. Audubon also argues that the record is devoid of evidence of an O&M contract after the initial 5 year period. According to Audubon, the perceived lack of information is a sufficient basis upon which to deny the Certificate. See, Post-Hearing Memorandum of Law of Audubon at 21–22.

The Edwards/Allen intervenors acknowledge that the Deloitte Report recognized that the Applicant’s development team has “direct experience” in wind energy development. However, the Edwards/Allen intervenors argue that, with the exception of Mr. Kenworthy’s management of a small wind energy generation facility in the Carribean, the record does not contain evidence of the Applicant’s “hands-on” experience with the renewable energy facilities of this magnitude.² The Edwards/Allen intervenors go on to argue that sufficient technical capacity has not been demonstrated by the Applicant. See, Closing Memorandum and Proposed Conditions of

² The Edwards/Allen statement that the record does not contain evidence of the Applicant’s experience is not supported by the resumes and testimony of Messrs. Cofelice, McCable and Kenworthy,

Edwards/Allen at 3-4. Similar to the other parties, the Edwards/Allen intervenors also argue that an O&M contract with Acciona does not presently exist and that its terms are ambiguous.

b. Subcommittee Deliberations

In a non-binding straw vote, the Subcommittee indicated that the Applicant appeared to have sufficient technical and managerial capability to construct and operate the Project. In coming to this conclusion, the Subcommittee recognized that the Applicant's team does bring considerable experience to this Project. The Subcommittee also recognized that the manufacturer of the turbines, Acciona, would be the entity primarily responsible for the initial installation and operation of the turbines for a period of approximately five years. Acciona is a large company and a world-wide leader in the field of wind power generation. While there may be some uncertainty about the terms and conditions of the O&M contract, the Subcommittee recognizes such relationships are routine in the industry. The Subcommittee concludes that the Applicant, through its association with Acciona and the O&M Agreement, demonstrated that it possesses the technical and managerial capacity required for the construction and operation of the Facility. The overall sense of the Subcommittee was that the Applicant provided sufficient evidence that it possesses the technical and managerial capability to construct and operate the Facility, between its internal experience and the employment of Acciona through an O&M Agreement.

2. Financial Capability

a. Positions of the Parties

The Applicant asserts that the record demonstrates that it possesses adequate financial capability to finance, construct and operate the Facility. In support of its claim of adequate financial capability, the Applicant relies on the following: the pre-filed and direct testimony and

cross-examination of Joseph Cofelice and Martin Pasqualini, Ex. AWE 1, Cofelice and Pasqualini Pre-Filed Testimony, Ex. AWE 9, Cofelice and Pasqualini Supplemental Testimony; the conclusions reached in the Deloitte Report, Ex. PC 7; the financial expertise and backing of its upstream investors and consultants, namely US Renewables Group. The Applicant does not claim that it has the present financial ability to undertake the project from its own assets, but rather, acknowledges that it will need to obtain and secure project financing, either through a power purchase agreement (“PPA”) or a “financial swap replicating the revenue certainty of a PPA.” Ex. AWE 1 at 55-56; PC 7 at 24. The Applicant notes that the Deloitte Report commissioned by Counsel for the Public comes to a similar conclusion. In essence, the Applicant asserts that it has adequate financial capability to obtain project financing so long as it has secured a contractual stream of revenue. Absent that, the Applicant implies that financing the Project will be impossible.

The Applicant also recognizes that it will be impossible to secure construction financing without a PPA or some alternative contractual stream of revenue from the Facility. The Applicant also argues that project financing for renewable energy projects is typical in the industry and cannot be secured until all permits (including a Certificate) are in place. The Applicant also recognizes the need for a PPA or similar device in order to induce a lender to finance the Project. Along these lines, the Applicant notes that the federal production tax credit (PTC) has been extended to projects commenced in 2013 under recent federal legislation. The implication is that the extension of the PTC should render a PPA more likely to be obtained. The Applicant also argues that the testimony presented established a robust market for construction-ready wind energy projects and that the price of Renewable Energy Credits (RECs) has increased dramatically since May 2011, thus demonstrating significant demand for wind energy resources.

Thus, the Applicant agrees that sufficient financial capability only exists if the Applicant can secure construction financing prior to the commencement of construction. The Applicant, therefore, asks for the imposition of a condition similar to the condition imposed on the Granite Reliable Project in Docket No. 2008-04. Applicant's Post-Hearing Brief at 18.

The Applicant opposes the financial arguments proffered by IWAG. While IWAG claims that the fundamentals (i.e., extent of the wind resource and the capacity factor) of the Project are overstated, the Applicant responds, by noting the V-Bar Wind Study Summary, Ex. AWE 8, at 21, and by relying on the testimony of Sally Wright, that the predicted capacity factors are consistent with typical modern wind projects using large rotor turbines. Transcript, Day 2 at 226. The Applicant also asserts that IWAG is mistaken in its attempts to measure the Project's competitiveness against the entire electric grid. The Applicant points out that government imposed measures such as the Renewable Portfolio Standard ("RPS") adopted in many states drive the cost of wind energy, not the cost of natural gas. See, Ex. AWE 9, Cofelice and Pasqualini Supplemental Testimony at 12. In this regard, the Applicant argues that its financial capability must be measured in the context of the renewable energy market and not against the overall electricity market, which it admits is driven by the price for natural gas. Applicant's Post-Hearing Brief at 16.

Counsel for the Public argues that the Applicant has failed to establish that it has adequate financial capability to support the construction and continued operation of the Facility. Counsel for the Public first compares this Facility to other projects where the Subcommittee has granted a Certificate on a condition that, among other things, the developer must have financing in place prior to construction. Counsel for the Public notes that in the Laidlaw Berlin Biopower matter, the SEC required an approved PPA and review of the financing closing prior to

construction. Counsel for the Public notes that in that case, the conditions of the Certificate required the developer to file additional documentation regarding the ability to construct and operate the project. Counsel for the Public points out that the developer in the Laidlaw Berlin Biopower docket came before the Subcommittee with a draft PPA, a “comfort letter” from a recognized lender, a fuel supply agreement for the wood to fuel the facility, and a known capital structure. By comparison, Counsel for the Public notes that the Applicant in this case has no PPA, no signed O&M agreement, no turbine supply agreement, no financing or evidence of an interested financing prospect and an unknown capital structure. See, Post-Hearing Memorandum of Counsel for the Public at 44-47.

Counsel for the Public also argues that the Applicant’s position is inferior to the developer in the Granite Reliable docket. In that docket, Counsel for the Public asserts that the developer had significant and recent experience in raising capital, had identified potential lenders and had made progress toward negotiating a PPA. Ultimately, Counsel for the Public asserts that this Applicant has failed to establish a record as strong as that made for the PPA and financing conditions in Laidlaw Berlin Biopower and Granite Reliable. Therefore, Counsel for the Public asserts that the Subcommittee is left with nothing but the experience of Mr. Cofelice and Mr. Pasqualini with CP Energy. Counsel for the Public also notes that there is no contract beyond the end of 2012 with CP Energy. Id. at 46-47.

Counsel for the Public also argues that the Deloitte Report does not support a finding of financial capability. The Deloitte Report suggests that the cost of the Project may be underestimated when compared to others in the region. Similarly, the Deloitte Report suggests that the capacity factor for the Project may be overstated when compared to capacity factors achieved at other projects. Additionally, Counsel for the Public points out that the Deloitte

Report establishes a fixed charge coverage ratio that, coupled with a PPA, might support financing of the Project with the assistance of CP Energy. Counsel for the Public claims that the Applicant argued against the Deloitte Report's conclusion and would not run it's pro forma with Deloitte's fixed charge coverage ratio. Counsel for the Public asks the Subcommittee to take that refusal as an acknowledgment that the Applicant cannot achieve the target fixed charge coverage ratio established by Deloitte. Without a PPA and without being able to meet the Deloitte fixed charge coverage ratio, Counsel for the Public argues that the Applicant has not demonstrated the financial capability to finance construction and operation of the Project. Id. at 47.

Counsel for the Public also argues that the Applicant has provided little, if any, evidence of the financial capacity to support the Project beyond the financing stage and into the operational phase. Counsel for the Public argues that the Applicant undertakes a nearsighted approach in this regard.

b. Subcommittee Deliberations

The Subcommittee expressed concern about the financial capability of the Applicant. The Subcommittee's concern stemmed from the fact that the Applicant did not present evidence of any significant progress towards obtaining construction financing, obtaining a PPA, or attracting a significant equity partner. The Subcommittee recognized and accepted the Applicant's proposition that obtaining a Certificate would enhance the ability of the Applicant to pursue project financing, additional equity partners, and the PPA. However, unlike other cases in which conditions were fashioned to address these issues, the subcommittee was concerned that the Applicant essentially comes to the table without any substantial progress towards establishing any of the key conditions necessary to render the Applicant to be financially capable to construct and operate the Facility. The Subcommittee did not make a final determination as to whether

there were conditions which, if met, would render the Applicant to be financially capable of constructing and operating the Facility as proposed. Consideration of such conditions was deferred and, ultimately, the Subcommittee voted to deny the Application on other grounds.

E. Orderly Development of the Region.

1. Positions of the Parties

RSA 162-H:16, IV(b) requires the Subcommittee to consider whether the proposed Project will unduly interfere with the orderly development of the region with due consideration given to the views of municipal and regional planning commissions and municipal governing bodies. RSA 162-H:16, IV(b).

a. Municipal and Planning Issues

The Subcommittee was presented with an unusual circumstance in this docket. Municipal and planning bodies within the Town of Antrim took different positions with respect to the Application.

The Town of Antrim, through its Board of Selectmen, supported the Project. See, Town of Antrim Post-Hearing Brief at 2. The Town, through its Board of Selectmen, negotiated an agreement with the Applicant. The Agreement with the town addressed a panoply of issues including, but not limited to, the appearance of the wind turbines, noise restrictions, construction conditions and decommissioning requirements and funding. Ex. AWE 4, Appdx. 17A. In addition, the Town of Antrim, through its Board of Selectmen, negotiated a PILOT Agreement. Ex. AWE 12. Additionally, when concerns were raised concerning the effect that the PILOT might have as a result of Antrim being in a cooperative school district, an alternative PILOT was negotiated. Ex. AWE 13. In addition, the Town of Antrim, through its Board of Selectmen, opines that the existence of the Facility in the Rural Conservation District of the Town is

consistent with the orderly development of the region and the Town's Ordinances as the Selectmen argue that public utilities are a permitted use in the rural conservation district where the Facility is proposed to be located. Town of Antrim Post-Hearing Brief at 1-2.

The Antrim Planning Board indicates that it does not take a position for or against the Facility. The Planning Board suggests that it has "defined its role as intervenor to provide the SEC with sufficient information so that it has a clear understanding of the Antrim master plan, zoning ordinances and subdivision and site plan review regulations." It has taken a position that the Antrim Planning Board should have jurisdiction over any subdivision that may be required pursuant to the Antrim Wind Energy, LLC project. Curiously, however, the Planning Board takes the position that there is insufficient evidence from which the Subcommittee could find that the Project will not unduly interfere with the orderly development of the region. The Planning Board submitted as exhibits copies of the Town's Zoning Ordinance, the Town's Master Plan, the Town's Planning Ordinance and the Town's Site Plan Review Regulations. See generally, APB 2, APB 10, APB 11, APB 12, APB 14.

The Antrim Conservation Commission similarly indicates that it is neither for nor against the proposed Facility. However, the Conservation Commission recommends conditions that would substantially reduce the size and nature of the Project and substantially increase the requirement of additional mitigation. See, Closing Memorandum and Proposed Conditions of Antrim Conservation Commission at 10-12.

In addition to the foregoing Boards and Commissions within the Town of Antrim, matters pertaining to the proposed Facility were submitted to the voters of the Town of Antrim on the Town's warrant at two Town meetings. While the Applicant, the various Boards and other intervenors vehemently disagree about how the votes at town meetings should be interpreted, it

was clear to the Subcommittee that those votes generally indicated that the townspeople who voted generally supported the development of the proposed Facility.

In addition to the aforementioned Boards and Commissions within the Town of Antrim, the Subcommittee also heard the views of the Stoddard Conservation Commission. The Stoddard Conservation Commission argued that the Application should be denied. The Stoddard Conservation Commission's opinion focused primarily on wildlife conservation issues and not issues that more generally pertain to the orderly development of the region. See, Final Brief, Stoddard Conservation Commission.

Finally, it should be noted that the Subcommittee invited the participation of the Southwest Regional Planning Commission. A letter from counsel to the Subcommittee was forwarded to the Southwest Regional Planning Commission on February 9, 2012. No response was received and the Southwest Regional Planning Commission did not participate in any manner in this proceeding.

b. Economic Impacts

As part of the Subcommittee's consideration of the impact of the proposed Facility on the orderly development of the region, the Subcommittee heard arguments from the parties addressing the likely impact of the proposed Facility on the local economy and on real estate values. The Applicant submitted the testimony of Professor Ross Gittell and Matthew Magnusson on both of these issues. Ex. AWE 1, Tab 11; Transcript, Day 6, Morning Session at 10-154. In addition, the Applicant submitted two studies performed by Professor Gittell and Mr. Magnusson. In the first study, they reviewed the economic impact of the proposed Facility. Ex. AWE 3, Appdx. 14B. In the second study, they reviewed the impact of the Lempster Wind facility on local residential property values in Lempster. Ex. AWE 3, Appdx. 14A. Professor

Gittell and Mr. Magnusson determined that the Project would contribute to the local area economy approximately \$12,000,000.00 during construction. Total economic benefits, including direct, indirect and induced benefits to the local economy from the Project are expected to be approximately \$56,000,000.00 over a 20 year period. Ex. AWE 3, Appdx. 14B at 3. Professor Gittell and Mr. Magnusson also opined that the Facility in Lempster did not have a significant impact on local residential property values. Ex. AWE 3, Appdx. 14A. Intervenor, particularly the North Branch Residents and IWAG, contested the methodology used by Professor Gittell and Mr. Magnusson in both studies. IWAG primarily attacked the economic analysis done by Professor Gittell and Mr. Magnusson by criticizing the underlying computer model used to calculate state and local impacts. See, Post-Hearing Memorandum of Industrial Wind Action Group at 18. IWAG also criticized the Gittell/Magnusson report regarding Lempster real estate values. Likewise, the North Branch Residents criticized the Lempster property value report primarily based upon anecdotal information. See generally, Ex. NB 2, Ex. RB 2 (photographs of homes for sale in the vicinity of the Lempster wind turbines).

c. Effects on Conservation Efforts as Part of the Impact of the Facility on Orderly Development

The Applicant argues that the Project's conservation plan which provides for 808 acres of permanent conservation is consistent with the conservation goals of the Antrim Open Space Plan and the corresponding conservation contained in the Town's Master Plan. See, Applicant's Post-Hearing Brief at 30. The Applicant also argues that the Project is compatible with existing and historical land uses on the Tuttle Hill Ridge. The Applicant points out that the area has historically been used for sheep farming and timber harvesting and that present uses of the region include commercial timber production, hiking, hunting, with commercial enterprises, residences

and undeveloped forests, existing along Route 9 in the vicinity of the ridge. See, Applicant's Post-Hearing Brief at 31. The Antrim Conservation Commission points out that the proposed Facility is located in an area where there have been significant conservation efforts by the Town and neighboring towns. The Antrim Conservation Commission also points out that the Facility is located within the "Quabbin to Cardigan Initiative" which is a regional interstate conservation effort. See, Closing Memorandum and Proposed Conditions of Antrim Conservation Commission at 3.

d. Subcommittee Deliberations

After reviewing and discussing the Application and the evidence as it pertained to the orderly development of the region, the Subcommittee noted that residents of Antrim voted not to prohibit the Project. The Subcommittee also noted that the Master Plan for the Town of Antrim contained certain goals that included maintaining the rural character of the community, but also encouraging energy conservation and encouraging the use of renewable energy in their community. The Subcommittee noted that the community in Antrim had been careful and diligent in its planning efforts going back at least to 1989 with the establishment of the rural conservation district and the open space conservation plan. The Subcommittee also noted that these conservation efforts were coupled with commercial uses that are consistent with rural areas such as logging and timber harvesting.

It is important to recognize that although the Subcommittee must consider the views of municipal and regional planning commissions and municipal governing bodies, the Subcommittee is free to take a position that is different than those presented by those agencies with respect to the orderly development of the region. While the Subcommittee also considered the impact on real estate values, it was determined that the information provided was too limited

in scope in order to establish that construction of the Facility would have a detrimental impact on real estate values.

During deliberations, the Subcommittee also noted that in addition to the Quabbin to Cardigan Initiative, there are easements within areas close to the proposed Facility that are part of the Forest Legacy Program, a program that supports conservation efforts and applies state and federal funds to those efforts.

After considering the various issues impacting on this decision, the Subcommittee indicated that the proposed Facility would not unduly interfere with the orderly development of the region. Prior to reaching this conclusion, the Subcommittee addressed the views of municipal and regional planning commissions and municipal governing bodies, the economic impacts of the Facility and the impact that the Project would have on conservation efforts.

VI. ADVERSE EFFECTS

Under New Hampshire law, the Subcommittee may only issue a Certificate of Site and Facility if it finds that the Facility will not have an unreasonable adverse effect on: (1) aesthetics; (2) historic sites; (3) air and water quality; (4) the natural environment; and, (5) public health and safety. See, RSA 162-H:16, IV(c). The Subcommittee must consider each of the issues set forth in RSA 162-H:16, IV(c), without discretion to determine if one area of inquiry is more important than another. The statutory requirement states that the Subcommittee “must find that the site and facility . . . will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment, and public health and safety”. See, RSA 162-H:16, IV. Therefore, if the Subcommittee finds that the proposed Project will have an unreasonable adverse effect on any one of the statutory criteria, the Subcommittee must deny a Certificate of Site and Facility.

A. Aesthetics

1. Positions of the Parties

In considering whether a Project will have an unreasonable adverse effect on aesthetics, the Subcommittee will generally consider the effects of the Project on the viewshed in the region. See, Application of Lempster Wind, LLC (SEC Docket 2006-01), Decision Issuing a Certificate of Site and Facility with Conditions at 27 (June 28, 2007). During the course of the adjudicatory hearing, the Subcommittee had the benefit of hearing from two experts. The Applicant engaged the services of Saratoga Associates. John Guariglia, a representative of Saratoga Associates, conducted a visual assessment of the Project and prepared a visual impact analysis report. Ex. AWE 3, Appdx. 9A. The analysis included a visual assessment of the area within five miles of the proposed Project. Subsequently, at the request of other parties, the Applicant had Saratoga extend its visual assessment report to an area extending up to ten miles surrounding the Project. Ex. AWE 7 at 2. In addition to creating a visual impact assessment, Mr. Guariglia also presented photo simulations from several locations to illustrate the visibility of turbines from what Saratoga considered to be a representative sample of viewsheds at varying distances from the Project. The initial and supplemental visual impact analyses identified 72 visual receptor locations within the five mile radius study and 258 visual receptors within the five to ten mile radius of the proposed Project. Ex. AWE 7, Appdx. 9A-1 at 1-14. It should also be noted that Mr. Guariglia performed additional photo simulations illustrating potential views from additional areas within the five to ten mile radius. In his testimony, Mr. Guariglia concludes that the project would not have an unreasonable adverse effect on aesthetics because the project would not be visible in a significant portion of the study area. In his testimony, he also admits that wind turbines are “large and highly visible structures”. He further admits that since the turbines

are large and highly visible in some locations, their visibility “may not be readily avoided.” Ex. AWE 1, Guariglia Pre-Filed Testimony at 17. In his testimony, Mr. Guariglia also indicated that his analysis of the effects on individual viewsheds was a concern for the effect on viewshed areas that were of “statewide significance.” However, Mr. Guariglia had some difficulty in defining what the term “statewide significance” meant. Ultimately, he indicated that his definition was “a location with scenic and aesthetic values and is protected by law or a legislative body”. Ultimately, Mr. Guariglia identifies this definition as coming from a State of Maine guidance document and from a New York State Department of Environmental Conservation policy. See, Transcript, Day 5, Afternoon Session at 197-199. Mr. Guariglia rendered the opinion that the proposed Facility would not have an unreasonable adverse effect on aesthetics and in particular, the viewshed in the area.

The Subcommittee also heard from Jean Vissering, a landscape architect consultant, hired by Counsel for the Public. Ms. Vissering did not prepare a viewshed map as part of her study, relying upon the viewshed maps created by Mr. Guariglia and Saratoga Associates, and did not dispute the finding contained within the viewshed maps that 95% of the area studied would not have a view of the turbines during leaf-on season. Transcript, Day 7 Morning at 114. However, Ms. Vissering testified that although the Saratoga study was in and of itself accurate, it was not complete and did not contain what is required for a visual impact assessment. She criticized the Saratoga Report as lacking any detailed analysis of the specific viewshed vantage points within the region. Ex. PC 1 at 17. Ms. Vissering determined that the Project, as designed, would have unreasonable adverse effects on the scenic quality and resources of the surrounding area. Ex. PC 1 at 2. Ms. Vissering found that there would be substantial impacts on visually sensitive resources throughout the region. She identified her approach as a more qualitative approach and

as an approach that should be taken in addition to the quantitative approach contained within the Saratoga Report. She found that there would be significant impacts on the viewsheds from Willard Pond, Bald Mountain, Goodhue Hill, Gregg Lake, and other locations. See, PC 1 at 5-15. In addition, she found that Willard Pond and the wildlife sanctuary, as a whole, would be unreasonably impacted by the Facility. Id. at 17. Ms. Vissering's approach and her qualitative assessment were significantly different than that provided by Mr. Guariglia. Ms. Vissering ultimately concluded that the Project, as presently configured, would have an unreasonable adverse impact on the aesthetics of the region. However, Ms. Vissering also indicated her opinion that the Site could support a wind energy facility if it were to undertake certain measures including the elimination of the turbines that would impose upon Willard Pond (believed to be turbines 9 and 10) and the use of a smaller turbine throughout the Project. Id. at 18. In addition, Ms. Vissering also indicated that the Project should use radar activated collision avoidance system for lighting of the towers and provide additional conservation lands as off-site mitigation. Additionally, Ms. Vissering recommended that steps be taken to shield the view of the road and turbine pads that may be visible from Goodhue Hill and other areas where the infrastructure of the Project other than the turbines will be significant. Id. at 18-19. It was Ms. Vissering's opinion that the Project, as configured, was not appropriately scaled and designed to work within the geographic setting. Id.

2. Subcommittee Deliberations

The Subcommittee spent considerable time evaluating the impact of the Facility on aesthetics. See, Transcript, Deliberations Day 1 at 40-71; Transcript, Deliberations Day 3 Afternoon Session at 6-79. The Subcommittee found that the Facility, as proposed, would have an unreasonable adverse effect on aesthetics. See, RSA 162-H:16, IV(c). Deliberation

Transcript, Day 3 Morning at 71. In coming to its determination, the Subcommittee considered three issues: the impact of the Facility's size and scope on the aesthetics of the overall community; the impact of the Facility on the area referred to as Willard Pond and the dePierre-feu Wildlife Sanctuary; and, the lack of satisfactory mitigation for the aesthetic impacts of the Facility.

The Facility, as proposed, would include ten wind turbine generators that would run along a ridgeline that is approximately 2.5 miles in length. Ex. AWE 1 at 5. Each turbine would rise to 492 feet when measured from its base to the tip of its blade. Ex. AWE 1 at 16. As proposed, each of the turbines would be constructed at the following site elevations: (1) WTG-1 1,431 feet; (2) WTG-2 1,743 feet; (3) WTG-3 1,758 feet; (4) WTG-4 1,682 feet; (5) WTG-5 1,726 feet; (6) WTG-6 1,516 feet; (7) WTG-7 1,676 feet; (8) WTG-8 1,700 feet; (9) WTG-9 1,646 feet; (10) WTG-10 1,896 feet. Ex. AWE 2, Appdx. 2E (FAA determinations); see also, Ex. AWE 3, Appdx. 7A (civil design drawings). The ridgeline designated for the location of the turbines has a site elevation fluctuating between 1,042 feet and 1,904 feet. Ex. AWE 1 at 48. As proposed, the height of each turbine would be between 25% and 35% of the elevation of the ridgeline where it will be located. Ex. AWE 2, Appdx. 2E (FAA determinations); see also, Ex. AWE 3, Appdx. 7A (civil design drawings).

The Tuttle Hill ridgeline is a prominent topographical feature in the Town of Antrim. The ridgeline extends along the northwest border of the Town of Antrim and along with Willard Mountain, Robb Mountain, Bald Mountain and Goodhue Hill, and creates a cradle that encompasses Willard Pond, Gregg Lake, Meadow Marsh and a number of areas containing sensitive viewpoints. Ex. PC 1 at 3-4; Ex. AWE 3, Appdx. 9A at 7. At least one of these

visually sensitive areas, Pitcher Mountain, already has an existing view of the Lempster wind project located in Lempster, New Hampshire. Ex. PC 1 at 10.

The Subcommittee finds that the size of the proposed wind turbine generators, when imposed upon the Tuttle Hill/Willard Mountain ridgeline would appear out of scale and out of context with the region. This is particularly so when considering the viewshed impacts on a combination of visually sensitive areas. There are significant qualitative impacts upon Willard Pond, Bald Mountain, Goodhue Hill and Gregg Lake. Ex. PC 1 at 5-10. There are moderate impacts on additional locations including, but not limited to, Robb Reservoir, Island Pond, Highland Lake, Nubanusit Pond, Black Pond, Franklin Pierce Lake, Meadow Marsh and Pitcher Mountain. Ex. PC 1 at 10-14.

The proposed turbines are the tallest ever sought to be certificated in this state.³ In fact, if constructed they may be the tallest free-standing structures in the state. By way of illustration, the tallest building in Manchester, New Hampshire, One City Hall Plaza, is approximately 275 feet in height. The location for the site is not remote and is within the viewshed of numerous areas, both publicly and privately owned, where the public will see a significant impact on the landscape.

The Subcommittee found Mr. Guariglia's limitation of qualitative considerations only to areas meeting his definition of "statewide significance" to be an overly restrictive approach. Moreover, it appears that Mr. Guariglia may have misunderstood the status and values of certain viewpoints. For instance, the Audubon's wildlife sanctuary is an area to which state and federal funds have been designated. Regardless of the definition used to identify an area as being of

³ Existing turbine heights are as follows: Lempster Wind, 396 feet; Granite Reliable, 411 feet; Groton Wind, 399 feet.

“statewide significance”, it is clear that the Facility would have a significant impact on areas that are of significant value for their viewshed in the Town of Antrim and the surrounding region. A majority of the Subcommittee agreed with the assessment of Ms. Vissering that the Facility is not appropriately scaled and designed to work within the geographic setting. Ex. PC 1 at 18. In short, the turbines are too tall and too imposing in the context of the setting. They would overwhelm the landscape and would have an unreasonable adverse impact upon valuable viewsheds.

In addition to the unreasonable adverse effect on the aesthetics of the region, the Facility would have a particularly profound impact on Willard Pond and the dePierrefeu Wildlife Sanctuary which is owned in fee and managed by Audubon. The Wildlife Sanctuary comprises 1,700 acres. The Facility is proposed to be constructed within one mile of the property boundary of the Wildlife Sanctuary. In addition, Audubon holds conservation easements on approximately 1,300 acres of land adjacent to the Wildlife Sanctuary. Willard Pond is located in the interior of the Wildlife Sanctuary. Willard Pond is a state designated Great Pond. See generally, RSA 4:40-a; RSA 271:20; N.H. CODE OF ADMINISTRATIVE RULES ENV-WR 101.21. Willard Pond is approximately 100 acres and boasts an undeveloped shoreline and pristine water quality. Motorized vessels are prohibited from the Pond. Willard Pond is surrounded by forested peaks, including Bald Mountain and Goodhue Hill. Willard Pond and the Wildlife Sanctuary are popular locations that are enjoyed by numerous visitors. Environmental education programs, fishing, birding, wildlife viewing, and solitude all appear to generate visitors to the Pond and Wildlife Sanctuary. The Pond and the Wildlife Sanctuary are part of a larger tract of conserved lands consisting of approximately 30,000 acres and known as the “super sanctuary.” See generally, Ex. ASNH 23.

Public funds have been dedicated to the dePierrefeu Wildlife Sanctuary and the surrounding conservation lands through a conservation program known as the Forest Legacy Program, the federal government has invested approximately \$3.5 million to conserve the lands within and directly adjacent to the Wildlife Sanctuary. Transcript Day 8 Morning at 63, 68-69. The State has invested approximately \$400,000.00 for similar purposes. Id. In addition, Willard Pond and the dePierrefeu Wildlife Sanctuary sit within the “Quabbin to Cardigan Initiative,” an interstate regional effort to conserve the Monadnock Highlands of north central Massachusetts and western New Hampshire.

The visual impact of the Facility on Willard Pond and the dePierrefeu Wildlife Sanctuary is well illustrated in the photo simulations prepared by Mr. Guariglia and Ms. Vissering. Ex. AWE 3, Appdx. 13A, Figures A8-a and A8-B; PC 1, Appdx. A, photos 1A- 1-C. In addition, the Subcommittee had occasion to visit the Willard Pond area as part of a site visit prior to the public hearing in this docket. Having visited the area, the Subcommittee was able to understand first-hand the context and the setting of Willard Pond and the Wildlife Sanctuary. Having visited the Site and understanding the size and specifications of the proposed Facility, a majority of the Subcommittee is convinced that the Facility would impose an unreasonable adverse effect on the viewshed from Willard Pond, as well as in other areas throughout the dePierrefeu Wildlife Sanctuary.

The Applicant claims, however, that the visual effects of the Facility will be mitigated physically and by the dedication of off-site mitigation lands. The Applicant asserts that it has offered to mitigate many of the physical characteristics that contribute to the visual impact of the turbines through its mitigation program. Ex. AWE 3, Appdx. 13A at 21. The Applicant asserts, among other things, that the color of the turbines will be neutral to minimize reflected glare and

visual contrast with the background sky. The Applicant notes that the turbines will not be used for commercial advertising. The Facility will also maximize the use of underground transmission lines and interconnects. The Applicant also lists additional physical measures taken to minimize the visual impact of the Facility. Id.

In addition to physical mitigation, the Applicant submits that its overall environmental mitigation for the project consists of dedicating in excess of 800 acres of land in and around the Facility to conservation easements. Applicant's Post-Hearing Brief at 12.

After consideration and deliberation, a majority of the Subcommittee found that the proffered mitigation does not appropriately mitigate the unreasonable adverse aesthetic impacts of the Facility. The physical mitigation efforts as described by the Applicant, while appreciated, are comparable to what is the standard design of any wind turbine facility in the region. The Applicant refers to the standard features of a modern wind turbine facility as mitigation. These features were considered by the Subcommittee in its review of this Application. A majority of the Subcommittee finds that the physical mitigation program cited by the Applicant is insufficient to mitigate the visual effects of this Facility on the regional setting and on the Willard Pond – dePierrefeu Wildlife Sanctuary area.

Similarly, 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. While additional conserved lands would be of value to wildlife and habitat, they would not mitigate the imposing visual impact that the Facility would have on valuable viewsheds.

A majority of the Subcommittee is reluctant to impose the mitigation measures suggested by Ms. Vissering on the Applicant. As noted above, Ms. Vissering suggested the elimination of

two turbines and a reduction in size of the balance of the Facility among other measures as mitigation. However, we note that the Applicant did not propose a smaller project as an alternative despite the fact that, at one point, this Facility was proposed to consist of smaller turbines. The reduction in scale suggested by Ms. Vissering may substantially mitigate the unreasonable adverse effect on aesthetics but would likely change other dynamics of the Project to such a degree that the Subcommittee would be unable to confidently assess the consequences of issuing a Certificate.

The Subcommittee debated whether there was some form of mitigation that would permit the Facility to be certificated while appropriately ameliorating its impacts. The Subcommittee simply could not structure appropriate mitigation measures for adverse visual effects of the magnitude presented by the Applicant without substantially affecting other important factors that must be considered by the Applicant in the planning, siting and construction of a wind-powered facility.

It should be noted that other jurisdictions have similarly denied authority for the construction of energy facilities that would cause adverse impacts on the viewshed or aesthetics of the region. In his Post-Hearing Memorandum, Counsel for the Public offers a summary of several decisions issued in other jurisdictions by agencies with siting and permitting authority. See, Post-Hearing Memorandum of Counsel for the Public at 24–26. The Subcommittee recognizes that its authority and jurisdiction has a scope that is somewhat different than the out-of-state agencies relied on by Counsel for the Public; however, the subject matter and consideration due to aesthetic issues is similar.⁴ In this docket, as in those referenced by Counsel

⁴ Counsel for the Public relies on agency decisions from the Maine Land Use Regulation Commission, the West Virginia Public Service Commission and the New York Public Service Commission. Post-Hearing Memorandum of Counsel for the Public at 24–26. In the cited Maine cases, the agency is required to “consider the state’s policy of

for the Public, the Facility will have an unreasonable adverse effect on viewsheds of significant value within the State of New Hampshire. It is for this reason that we must deny the Application for a Certificate of Site and Facility.

We note that the Applicant has received FAA Determination letters that indicate that the turbines would not cause a hazard to aviation and requiring night-time lighting. The Applicant has also entered into an agreement with the AMC to install radar activated night lighting when it is approved by the FAA. Aviation safety is of paramount importance when constructing and operating turbines as tall as proposed for this Facility. However, if the FAA determines to approve radar activated lighting, we would defer to their expertise. Thus, if a Certificate were to be granted in this docket, the Subcommittee would approve the AMC Agreement as a condition of the Certificate. The radar activated lighting would serve to mitigate a portion of the unreasonable adverse effects on the aesthetics of the region. However, a majority of the Subcommittee does not believe that the use of radar activated lighting sufficiently adds to the mitigation of the aesthetic impact as to warrant the issuance of a Certificate.

B. Historic Sites

In order to issue a Certificate to the Applicant, the Subcommittee must decide that the Project will not have an unreasonable adverse effect on historic sites in the region. See, RSA 162-H:16, IV(c). The Project is subject to review pursuant to Section 106 of the Historic Preservation Act of 1996. The lead federal agency for Section 106 review in this case is the United States Army Corps of Engineers ("Army Corps"). The Army Corps is required to act in consultation with the New Hampshire Division of Historic Resources. See, 16 U.S.C. §470 et.

identifying and protecting areas that possess scenic features and values of state or national significance." In West Virginia, the agency must determine whether the turbines will "significantly and adversely impact views from recognized public sites used as scenic overlooks."

seq. As a matter of practice, a review of historical resources is an iterative process. The evaluation considers two types of resources: (1) archeological resources, below ground, from the “pre-contact” period prior to European settlement; and (2) historic structures. Historic review under Section 106 generally involves three stages: (1) identification; (2) evaluation; and (3) mitigation, if necessary. Stages 2 and 3 are not triggered if appropriate study demonstrates that the Facility will not adversely impact any archeological resource or there will be no historic structures in the vicinity of the site.

1. Positions of the Parties

The Applicant has completed both Phase 1A and Phase 1B surveys with respect to archeological conditions. The Phase 1A survey indicated no historic period or pre-contact archeological sites were within the Project’s boundaries or within 10 kilometers of the Project that have previously been documented. Ex. AWE 1; Will and Stevenson Pre-Filed Direct Testimony at 6. Additionally, the Phase 1B inspection indicated that there were no land forms that were suitable for pre-contact period subsurface testing and that no historic period features such as cellar holes (other than stone walls) were identified within the Project area. Id. The New Hampshire Division of Historical Resources concurs with these findings. See, Ex. AWE 3, Appdx. 9C.

With respect to historic structures, the Section 106 process is continuing. The Applicant has completed a Project Area Form which has been accepted by the Division of Historical Resources. In addition to the Project Area Form, the Applicant has provided the inventory and area forms to the Division of Historical Resources and has also sought determination of eligibility for the National Register. See, Ex. Comm. 9, Ex. Comm. 15. Though the Antrim Planning Board identified a number of historic structures that would be negatively impacted, it

did not conclude that the Facility would have an unreasonable adverse impact on historic structures.

The Subcommittee has received a report from the New Hampshire Division of Historical Resources requesting that, if the Subcommittee grants a Certificate, it be conditioned upon continuing compliance with the Section 106 process, including final identification of resources, assessment of effects, and avoidance, minimization and mitigation of impacts to historic resources. RSA 162-H:16, VII permits the Subcommittee to condition a Certificate upon the results of required federal or state agency studies whose study period exceeds the application period.

2. Subcommittee Deliberations

After reviewing the record as described above, the Subcommittee unanimously indicated that the Project would not have an unreasonable adverse effect on historic sites.

C. Air and Water Quality

Pursuant to RSA 162-H: 16, IV(c), the Subcommittee must consider whether the facility, as proposed, would have an unreasonable adverse effect on air and water quality.

1. Positions of the Parties

No party claimed that the Facility would cause unreasonable adverse effect on air quality, though IWAG argued that the Facility was not needed to meet environmental standards such as the Regional Greenhouse Gas Initiative as the regional level of emissions has been dropping in recent years for unrelated reasons.

The Applicant and intervenors testified to the potential impact on water quality. Other than some concerns regarding run off and disturbance of wetlands, which are governed by

Department of Environmental Services permits, there was no claim that the Facility would not have an unreasonable adverse effect on water quality.

2. Subcommittee Deliberations

It is undisputed that the Facility will not emit pollutants into the air. While the parties may disagree about the overall contribution of the proposed facility to a reduction in air pollution, there is no concern that the Facility will have an adverse effect on air quality.

Regarding water quality, potential concerns are adequately addressed in the three recommended permits issued by the Department of Environmental Services: the Alteration of Terrain Permit and §401 Water Quality Certification; the Wetlands Permit; and the Subsurface Systems Permit. See, §V, B, 2 above. Compliance with the conditions of said permits will support a finding that the Facility would not have an unreasonable adverse effect on water quality.

D. Natural Environment

The Subcommittee must consider whether the Facility will have an unreasonable adverse impact on the natural environment. See, RSA 162-H:16, IV(c). Review of the effects of the proposed Facility on the natural environment includes a review of rare plants and exemplary natural communities located within the Project area, wildlife within the Project area, the existence of avian species and bats within the Project area, and concerns about habitat fragmentation.

1. Positions of the Parties

a. Rare Plants and Exemplary Natural Communities.

The Applicant asserts that the construction and operation of the Facility will not have an adverse effect on rare plants or exemplary natural communities. To support its position, the

Applicant presented the testimony of Dana Valleau, (Ex. AWE 1, Valleau Pre-filed Direct Testimony at 9), as well as a natural communities report, see, (Ex. AWE 1, Appdx. 11A (natural communities)). The report indicates that surveys determined that there were no significant natural communities or rare plants in the Project area. Additionally, the assessment determined that none of the surveyed communities in the project area would qualify as exemplary. In addition to the information from the Applicant, the Subcommittee received two reports from the New Hampshire Natural Heritage Bureau. On July 2, 2012, the Natural Heritage Bureau provided a report indicating that a standard database query for known locations of rare species and exemplary natural communities found nothing of concern in the Project area. The July 2, 2012 report also indicated that representatives from the Natural Heritage Bureau walked through the site in December of 2011 and on that walk, could find no evidence of rare species or uncommon natural community types or exemplary examples of natural communities. However, the Natural Heritage Bureau wished to conduct a further review during the growing season. See, Ex. Comm. 10.

On August 2, 2012, the Natural Heritage Bureau reported that its representative conducted a further on-site review on July 13, 2012. Id. The purpose of the second on-site review was to search for state listed plant species within a few targeted natural community types with greater potential for rare species. No rare plant species were observed during these surveys. As a result of the survey and mapping performed by the Applicant, and the reviews by the Natural Heritage Bureau, both database reviews and on-site reviews, the Bureau determined that the proposed project will not impact rare plants species or exemplary natural communities. See, Ex. Comm. 10.

No other party to this proceeding offered additional evidence or disputed the findings of the Natural Heritage Bureau.

b. Wildlife (exclusive of avian species and bats)

The Applicant presented the testimony of Dana Valleau and Adam Gravel with respect to the impacts of the Facility on wildlife in the Project area. In his Pre-Filed Direct Testimony, Mr. Valleau asserts that a desk top review of known environmental factors reveals no known critical habitat or endangered species that are present at the Project site. The United States Fish & Wildlife Service concluded the same. Ex. AWE 3, Appdx. 18 at 2. In addition, the Applicant, through Mr. Valleau and Mr. Gravel, prepared and submitted a wildlife impact assessment. Ex. AWE 6, Appdx. 12G. In the wildlife impact assessment prepared by Messrs. Valleau and Gravel, they assert that “direct impacts to wildlife from construction and operation of the Project are not expected to be a significant concern”. Ex. AWE 6, Appdx. 12G at 1. This conclusion is not disputed by any other parties.

c. Wildlife – Habitat Fragmentation

The Applicant presented the testimony of Dana Valleau and Adam Gravel with respect to the issue of wildlife and habitat fragmentation. Mr. Valleau and Mr. Gravel opined that the unfragmented habitat block associated with the project area consists of 12,994 acres. They point out, however, that the Project will only impact 5.4 acres of land that is designated as highest ranked habitat in New Hampshire and only 6.4 acres of land that is designated as highest ranked habitat in the biological region. Ex. AWE 9, Pre-Filed Testimony of Dana Valleau and Adam Gravel at 12. Mr. Valleau and Mr. Gravel also point out that after construction is complete, the final Project, including the maintained roads, electrical infrastructure and turbine pad footprints, will total only 11.5 acres. Id. Thus, Mr. Valleau and Mr. Gravel determined that the “narrow

and discontinuous footprint of the project does not create an island of isolated habitat and is . . . not significant habitat fragmentation”. Id. The definition used by Mr. Valteau and Mr. Gravel is the definition contained in the text, *The Theory of Island Biogeography*, by E.O. Wilson and R.H. McArthur (1967). Id. Mr. Valteau and Mr. Gravel opine that the finished Facility will not cause habitat fragmentation because it is a very small incision into an otherwise large area. They also point out that most of the wildlife species found in the Project area are considered to be “generalist” and are found in many habitat types. As a result, they concluded the species of wildlife that are within the Project will not be excluded or isolated.

The North Branch Residents , along with the Stoddard Conservation Commission, presented the testimony of Susan Morse and Jeffrey Jones. These witnesses conducted a walk-through through the Project area. Ms. Morse described the Project area as being “core wildlife habitat”. See, Ex. NB 4 at 5. In Ms. Morse’s opinion, the Project would cause disruption of movement corridors, altered wildlife behavior and consequent energy losses, and impacts to the breeding practices of wildlife in the area. Id. Ms. Morse also expressed concern over the cumulative effects caused by humans which negatively impact wildlife. However, she recognizes cumulative assessment is a “relatively new applied environmental science”. Ex. NB 4, Susan Morse Pre-Filed Testimony at 8.

d. Birds and Bats

The impact of the Facility on avian species and bats was contested amongst the parties in this docket. As a result of a tiered consultation process based on USFWS Guidelines, the Applicant submitted a number of studies. Ex. AWE 9, Valteau and Gravel Supplemental Testimony at 5-7. Though the studies are not in dispute, the parties did dispute the scope of appropriate conditions should a Certificate be granted. The Applicant’s consultants conducted a

number of pre-construction surveys pertaining to avian species and bats. Those surveys include a breeding bird survey, diurnal raptor migration surveys, radar surveys for nocturnal avian migration, rare raptor nesting surveys, acoustic bat monitoring and bat mist nesting surveys. Ex. AWE 1 at 81. Based upon the above referenced pre-construction studies and experience at other wind farms in the Northeast, Mr. Valteau and Mr. Gravel expect bird collisions at the Facility to occur at a low frequency. AWE 1, Valteau/Gravel Pre-Filed Direct Testimony at 29-30. They also opine that any impact that does occur with respect to avian population is unlikely to adversely affect that population. Id. at 31. Messrs. Valteau and Gravel also note that bat fatalities are expected to be low at the Facility. Id. at 33. However, they state that the New England bat population is presently suffering from a disease known as white nose syndrome. White nose syndrome has caused a decline of all bat species that are known to hibernate in caves or mines in the Northeast. Therefore, as the bat population is decimated by white nose syndrome, the definition of a biologically significant level of bat mortality may change. Ex. AWE 1, Valteau/Gravel Pre-Filed Direct Testimony at 33.

Audubon, through its witness Carol Foss, also provided testimony regarding avian species within the project area, although her review was primarily limited to raptors and eagles. Ms. Foss points out that the Project area is within a documented golden eagle migration corridor. Ex. ASNH 25 at 5. Ms. Foss also extrapolated a golden eagle passage rate from various sites in Maine, New Hampshire, Vermont and Massachusetts. She compared that passage rate for Antrim and determined that the passage rate at the Facility was slightly above the mean. Id. Based upon her assessment, she found that the Facility site was in Category 2 “high to moderate risk to eagles/opportunity to mitigate impacts” as defined in the U.S. Fish & Wildlife Service Draft Eagle Conservation Plan Guidance. Ex. ASNH 25 at 6.

The Subcommittee was also provided with information from the United States Fish & Wildlife Service with respect to eagles and raptors. Ex. AWE 43. The U.S. Fish & Wildlife Service predicts the risk to golden eagles within the Project area to be considered to be low. The U.S. Fish & Wildlife Service predicts annual collision rates for bald eagles to be in the moderate category. The U.S. Fish & Wildlife Service also advised the Applicant that the avian and bat protection plan prepared by the Applicant is consistent with USFW Land Based Wind Energy Guidelines. Ex. AWE 43. The avian and bat protection program, as proposed by the Applicant, requires one year of post-construction avian studies followed by a program of adaptive management and phased consultation throughout the life of the Facility. The Applicant asserts that its avian and bat protection plan, as amended, will help to assure that the construction and operation of the Facility does not have an unreasonable adverse impact on avian species and bats.

Counsel for the Public retained the services of Trevor Lloyd-Evans with respect to the effect of the Project on birds and bats. Mr. Lloyd-Evans did not conduct his own studies of the avian and bat species present on the Project site. However, having reviewed the studies prepared by the Applicant's consultants, Mr. Lloyd-Evans recommends that there be three consecutive years of post-construction avian and bat studies as well as an adaptive management program consistent with the avian and bat protection plan.

2. Subcommittee Deliberations

No party has suggested that wildlife, other than avian species and bats, will be harmed or killed as a result of the siting, construction and operation of the Facility. However, the parties do disagree with respect to whether the Project will cause habitat fragmentation that will affect the wildlife population in the project area. The Subcommittee concluded that the Facility will not have an unreasonable adverse effect on wildlife.

Regarding habitat, while Ms. Morse provided testimony regarding the potential impacts of habitat fragmentation on various species of wildlife, her testimony did not lead to a conclusion that the proposed Facility would, in fact, constitute “habitat fragmentation” of a degree that would have any impact in the Project area. In this regard, the Subcommittee finds the testimony of Mr. Valleau and Mr. Gravel to be better grounded in accepted science and more relevant to the Project area in question.

In considering the impact on birds and bats, the Subcommittee acknowledged that a one year post-construction study of avian species and bats would be too short upon which to base conclusions about impacts from the Facility, particularly given the threats to New Hampshire’s bat species. A majority of the Subcommittee ultimately determined that if the Facility were to be certificated, it would require three years of post-construction avian species and bat surveys, as well as the implementation of the avian and bat protection plan, as offered by the Applicant, with its adaptive management and phased consultation provisions. The Subcommittee engaged in extensive discussions regarding the effects of the proposed Facility on the natural environment. Virtually all of the Subcommittee members, during the course of deliberations, opined that the Facility would not have an unreasonable adverse effect on the natural environment, so long as certain conditions were imposed.

The Subcommittee determined that the following conditions would be required in order to assure that the proposed Facility does not cause an unreasonable adverse effect to the natural environment:

- The Applicant must complete 3 years of avian and bat post-construction studies in addition to implementation of all of the provisions of the avian and bat protection plan as amended, including adaptive management and phased consultation;

- During the construction of the Facility, logging operations shall be limited to periods of time when the ground is dry or frozen;
- The Applicant must use New Hampshire licensed foresters who will apply best management and forestry practices such as those contained in the publication Good Forestry in the Granite State for all of its logging and forestry operations;
- The Applicant's plan to curtail invasive species shall be extended to the post-construction period, as well as the construction period;
- The conditions contained in the October 26, 2012 letter from the New Hampshire Fish & Game Department to counsel for the Subcommittee should be adopted as part of the avian and bat protection plan.

E. Public Health and Safety

1. Positions of the Parties

a. Noise

The issue of turbine generated noise and its effect on human health and annoyance was a highly contested issue in this docket. The Applicant, Counsel for the Public, and the North Branch intervenors all retained experts to testify before the Subcommittee.

The Applicant employed Epsilon Associates and Robert O'Neal. Epsilon Associates prepared a Sound Level Assessment Report. Ex. AWE 3, Appdx. 13A. The Epsilon Sound Level Assessment predicted that sound levels from the Facility would comply with conditions set forth in previous decisions of the Site Evaluation Committee and with the 1999 Guidelines set forth by the World Health Organization and the United States Environmental Protection Agency recommended guidelines. Ex. AWE 3, Appdx. 13 A at 9-1; Ex. AWP 1, O'Neal Pre-Filed Testimony at 10-11. Epsilon Associates asserts that it took a very conservative approach in its predictive modeling. In calculating predicted sound level at each receptor, Epsilon used a computer model that assumed that all 10 turbines were operating at maximum capacity and that the receptor was downwind from all 10 turbines at the same time. Ex. AWE 1, O'Neal Pre-Filed

Testimony at 6; Transcript Day 5 Morning at 19-20. Epsilon Associates prepared a table identifying the predicted sound levels at each of 155 receptors in the vicinity of the Facility. Ex. AWE 3, Appdx. 13A, Table 7-2; see also, Ex. AWE 41. The highest predicted sound level at any receptor, according to Mr. O'Neal's analysis, would be 41 dBA. The predicted sound levels were based on guaranteed broadband sound data provided by Acciona, the manufacturer of the turbines.

In addition to measuring predicted sound levels, Mr. O'Neal took measurements of existing ambient sound levels at five locations. Results shown in table 6-2 of the Sound Level Assessment Report indicate that the average background L90 sound (where sound level was exceeded 90% of the time during measurement period) was 37-44 dBA. Ex. AWE 3, Appdx. 13A at 6-3.

Mr. O'Neal also opined that low frequency or inaudible sound could be ignored with the advent of modern upwind turbines. He reported that low frequency sound "has been reduced to low levels in modern wind turbines and is generally not an issue". Ex. AWE 3 Appdx. 13A at 4-1. In support of this claim, Mr. O'Neal relies on peer reviewed research conducted by him along with others. See, O'Neal, R.D., R.D. Hellweg, Jr., and R. M. Lampeter, "Low Frequency Noise and Infrasound from Wind Turbines," Noise Control Engineering Journal, March-April 2011, 59(2), 135-157. In addition, he relies on recent research conducted by expert panels in the wind industry and by the Massachusetts Departments of Public Health and Environmental Protection in opining that there is insufficient evidence to demonstrate a causal connection between wind turbines and health problems or disease. Ex. AWE 9, O'Neal Supp. Testimony at 14-16.

Counsel for the Public retained Cavanaugh Tocci Associates and Gregory Tocci to address sound issues. The North Branch Residents retained Mr. Richard James and E-Cooustic

Solutions. Both Mr. Tocci and Mr. James criticize the ambient sound level testing conducted by the Applicant. They point out that the sound level testing performed by Mr. O’Neal does not include a true baseline because it did not correct either for insect noise or a running brook – particularly at Locus 5 on Salmon Brook Road near the home of Intervenor Janice Longgood. Mr. Tocci obtained third octave band data from Mr. O’Neal and testified that when the data is corrected to eliminate insect noise the baseline is significantly lower. Thus, the predicted sound level will actually cause a significant increase in the sound levels that would cause a disturbance and significantly annoy people at the receptors when insect noise is not present. Mr. James opined that when the insect corrected data is considered, the increased noise at Ms. Longgood’s home may cause her to abandon the property.

Mr. James and Mr. O’Neal significantly disagree about the alleged existence and effects on human health of infrasound. Mr. James cites to a number of articles and anecdotal experience to support his claims that infrasound causes human health effects.

b. Fire and Emergency Safety Issues

In considering the effects on public health and safety the Subcommittee also addressed fire safety issues. As indicated above, the State Fire Marshall made recommendations pertaining to conditions pertaining to the construction and operation of the Facility. The Fire Marshal recommends the following conditions:

1. All structures including, but not limited to, towers, nacelle, operation and maintenance buildings be constructed in accordance with the following codes and standards:

International Building Code, 2009 edition,

NFPA 1, Fire Code, 2009 edition,

NFPA 101, Life Safety Code, 2009 edition

NFPA 850, Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations, 2010 edition.

2. The State Fire Marshal or his designee will review all plans relative to the project and perform routine compliance inspections during construction and a final acceptance inspection in conjunction with the local fire and building code officials.
3. If technical assistance is required, the State Fire Marshal may require an independent third party review in accordance with NFPA 1, 1.15.

See, Comm. Exh. 1.

2. Subcommittee Deliberations

After extensive discussion, the Subcommittee determined that the Facility would not have an unreasonable adverse effect on public health and safety as it relates to noise if subjected to conditions that placed a limit on the noise that could be received at residences during the day and at night. In coming to this conclusion, the Subcommittee noted existing standards such as the EPA Guidelines and the 1999 WHO Guidelines. The Subcommittee relied upon the newer 2009 WHO Guidelines in establishing a sound level condition. The Subcommittee also agreed that there was insufficient data to determine that the turbines will emit low frequency inaudible or infrasound that would cause harm to human health.

The necessary conditions are as follows:

1. In the daytime, sound levels generated by the Facility at the outside façades of residences shall not exceed 45 dBA or 5 dBA above ambient, whichever is greater. For the purposes of these conditions, daytime is considered to begin each morning at 8 AM and conclude at 8 PM. All other time shall be considered to be the nighttime.
2. At nighttime, sound levels generated by the Facility shall not exceed 40 dBA or 5 dBA above ambient, whichever is greater.
3. Within a reasonable time after the commencement of commercial operations, the Applicant shall retain an independent qualified acoustics engineer to take sound pressure level measurements, including one third octave band measurements in accordance with the most current version of ANSI S 12.18. The measurements shall be taken at the same receptor locations as contained in Ex.

AWE 3, Appdx. 13A (Epsilon Associates, Inc. Sound Level Assessment Report dated November 17, 2011.) In addition, the Applicant shall take sound pressure level measurements at three additional locations as agreed upon with the Selectmen of the Town of Antrim.

Regarding fire and emergency safety, the Subcommittee considered the Fire Marshal's recommendations during deliberations and determined them to be reasonable requirements designed to assure public safety.

In addition, the Subcommittee considered the establishment of emergency training and planning requirements. The Subcommittee noted that the Applicant's agreement with the Town of Antrim, Ex. AWE 17A, contains a number of reasonable conditions that are designed to assure the safety of the public. The agreement requires the Applicant to cooperate with the Town's emergency services and mutual aid partners. See, Ex. AWE 17A p. 6. In addition, the Applicant is required to consult with the Town and purchase specialized equipment that would not otherwise be required by the Town but for the existence of the Facility. See, Ex. AWE 17A at 6-7. The agreement also calls for reimbursement to the Town of extraordinary expenses incurred in an emergency response to the Facility. Id. However, the Subcommittee noted that emergency planning and training are not included within the agreement between the Applicant and the Town of Antrim.

The Subcommittee recognizes that wind turbine generation facilities are unique and may require atypical emergency response efforts. The Applicant has indicated that it intends to establish an emergency response plan in coordination with the Town of Antrim. See, Applicant's Post-Hearing Brief at 90-91. The Subcommittee sees this as a positive attribute that will also help to assure the safety of the public. If a Certificate were to be issued in this docket, the Subcommittee would adopt the agreement between the Applicant and the Town of Antrim

and require compliance with that agreement as a condition the Certificate. Likewise, the Subcommittee would adopt the recommendations of the Fire Marshal as conditions of the Certificate.

The Subcommittee would also require the Applicant to consult with officials in the Town of Antrim who are responsible for emergency services in order to prepare an emergency response plan. As part of that plan, the Applicant must include a provision that training in emergency response to wind turbine facilities will be provided to the Town's emergency service providers on a regular basis at the expense of the Applicant.

VII. CONCLUSION


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.

Likewise, this decision should not be construed as a judgment against the use of wind turbines to generate electricity. The Subcommittee is cognizant of the need for new clean and renewable energy resources. The Facility, as proposed in this docket, is simply out of scale in context of its setting and adversely impacts the aesthetics of the region in an unreasonable way.

For the reasons set forth herein, the Application for a Certificate of Site and Facility is DENIED.



Amy Ignatius, Vice Chair, SEC
Chairman, Public Utilities Commission



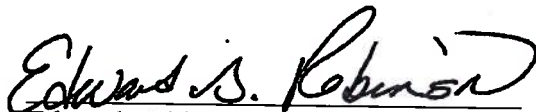
Brad Simpkins, Interim Director
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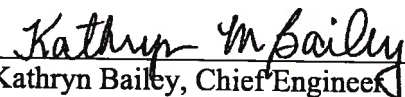
Brook Dupee, Bureau Chief
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NH Div. of Historical Resources



Edward Robinson, Biologist
NH Fish & Game Dept.



Kathryn Bailey, Chief Engineer
NH Public Utilities Commission