Record Hill Wind, LLC // Natural Resources Protection Act
Construction of 50.6 megawatt wind energy development - Roxbury

- Appeal submitted by Rufus Brown on behalf of Concerned Citizens to Save Roxbury

Record Hill Wind, LLC // Natural Resources Protection Act
Construction of 50.6 megawatt wind energy development - Roxbury

- Appeal submitted by Rufus Brown on behalf of Concerned Citizens to Save Roxbury
  - Pg 405 ○ Appeal Exhibit A – Final Order (08/20/09)
  - Pg 469 ○ Appeal Exhibit B – Draft Order (June 09)
  - Pg 531 ○ Appeal Exhibit C – Review of noise study Record Hill (02/18/09)
  - Pg 541 ○ Appeal Exhibit D – Comments from Ebbing & James (08/17/09)
  - Pg 549 ○ Appeal Exhibit E – Testimony of S. Thurston (02/19/09)
  - Pg 565 ○ Appeal Exhibit F – Testimony of S. Thurston (04/21/09)
  - Pg 571 ○ Appeal Exhibit G – Testimony of S. Thurston (05/06/09)
  - Pg 591 ○ Appeal Exhibit H – Testimony of R. Dube
  - Pg 595 ○ Appeal Exhibit I – Affidavit of M. Nissenbaum
  - Pg 605 ○ Appeal Exhibit J – Handwritten notes (03/05/09)
  - Pg 613 ○ Appeal Exhibit
    - K2 – WHO Guidelines for Community Noise (excerpts)
    - K7 – Schneider "Accuracy of Model Predictions…" NY 2007
    - K8 – Ebbing Acoustics (July 2009)
    - K12 – SPO Technical Assistance Bulletin #4
    - K14 – N. Pierpoint "wind turbine syndrome" (03/07/09)
    - K15 – ISO 9613-2
    - K16 – NASA "wind turbine acoustics"
  - Pg 861 ○ Appeal Exhibit M – Summary testimony R. James
  - Pg 865 ○ Appeal Exhibit N –

BROWN & BURKE
ATTORNEYS AT LAW
85 EXCHANGE STREET - P. O. BOX 7530
PORTLAND, MAINE 04112
www.brownburkelaw.com

TELEPHONE (207) 775-0265
FACSIMILE (207) 775-0266

RUFUS E. BROWN
M. THOMASINE BURKE

September 18, 2009

Via Federal Express

Chair, Board of Environmental Protection
c/o Terry Hanson
17 State House Station
Augusta, Me. 04333

David P. Littell, Commissioner
Department of Environmental Protection
17 State House Station
Augusta, Me. 04333

Record Hill Wind, LLC
c/o Mr. Robert Gardiner
110 Foreside Road
Cumberland Foreside, Me. 04110

Re: *Appeal of Final Order in the Record Hill Wind Project by the Concerned Citizens to Save Roxbury and other Aggrieved Parties*

Dear Gentlemen:

I am enclosing Volumes 2 & 3 of the Record on Appeal in this case. The Appeal itself will be e-mailed and mailed out on Monday, September 21, 2009.

Sincerely yours,

Rufus E. Brown

REB/encl.
Steve Thurston
Rick James

366

STATE OF MAINE
BOARD OF ENVIRONMENTAL PROTECTION

In Re: RECORD HILL WIND, LLC Roxbury, Oxford County RECORD HILL WIND PROJECT L-24441-24-A-N (approval L-24441-TF-B-N (approval)	))))))	**APPEAL OF FINAL ORDER OF DEPARTMENT OF ENVIRONMENTAL PROTECTION**

Pursuant to 38 M.R.S.A. Sections 344 and 341.D.4 and DEP Rule 2, Section 24.B(1), the Concerned Citizens to Save Roxbury ("CCSR") and other individuals identified below ("Aggrieved Parties") appeal to the Board of Environmental Protection (the "BEP") from the Final Order of the Department of Environmental Protection ("DEP") dated August 20, 2009, approving the application of Record Hill Wind, LLC (the "Applicant") for the Record Hill Wind Project. The Aggrieved Parties further request a public hearing on its appeal on the grounds that there is credible conflicting medical and technical information regarding the licensing criterion and it is likely that a public hearing will assist the BEP in understanding the evidence. See Rule 2, Section 7.B.

I. AGGRIEVED PARTY STATUS

This appeal is being filed by the following aggrieved parties, all of whom oppose the Record Hill Wind Project:

1. CCSR is an association of seasonal and year round property owners, renters, or regular visitors, in Roxbury, Maine, organized for purposes of gathering and sharing information about wind power in general and the Record Hill Wind Project in particular, participating in the local planning and zoning process, and participating in the DEP application process in this case. It is aggrieved by the DEP's Final Order on Record Hill Wind Project for the following reasons. (1) Roxbury Pond is the place we have invested substantial amounts of

money and spend substantial amounts of time in order to take advantage of the remarkable environment that includes the pond and the spectacular natural setting that it occupies. The presence of 22 wind turbines will detract from the natural experience upon which our enjoyment of our properties relies. A frequent activity of many of us is boating on Roxbury Pond to enjoy the mountain scenery that surrounds the pond and to observe resident bald eagles and other wildlife. The presence of 22 turbines towering above the nearest ridge to the pond and extending for 4 miles along this ridge will alter the natural setting and be a constant visual distraction due to the constant motion of the enormous spinning blades. (2) We are aggrieved because the environment of Roxbury Pond at night becomes very quiet, with only the cry of the loon piercing the stillness. The presence of turbine noise which rises above the background nighttime noise level will destroy the soundscape that provides an important part of the experience of living at the pond. (3) We are aggrieved because hiking, biking, snowmobiling, and ATVing are frequent activities with many trails to the tops of the numerous mountains which surround the pond, such as Old Turk, Record Hill, Flathead, Partridge Peak, Whitecap. These lands have traditionally been open to the public for recreational purposes. Mountains represent to many of us a spiritual connection to the natural world, and the experience of looking at the mountains, or climbing them to enjoy the views from the top, are an essential part of our well being. (4) We are aggrieved because Roxbury has historically been an area rich with wildlife, as evidenced by its rating of statewide significance for wildlife in the Maine's Finest Lakes Survey. The protection of wildlife is a great concern to us. The presence of turbines presents many known risks to wildlife including eagles, raptors, bats, and migrating bird flocks. Risks to terrestrial wildlife or habitat from turbine noise, or vibration are also a concern given the reports of goat deaths from sleep disturbance in Taiwan, and anecdotal reports of the disappearance of game animals from

lands near turbines from many places. (5) We have concluded that the Record Hill Wind project will have an undue adverse impact on our right to the enjoyment of life by virtue of its close proximity to our properties and to the waters of Roxbury Pond and that the project will constitute a public nuisance. (6) We have concluded that noise from the project will exceed Maine's noise limits at night due to the coherent effects of 22 turbines operating synchronously within direct line of sight of, and only 1 mile away from, nearly all properties on Roxbury Pond, which experiences very quiet rural nighttime ambient noise levels due to stable atmospheric conditions, which further compounds the noise by making it stand out above background levels. (7) We believe the applicant has failed to use generally accepted acoustical engineering principles in the prediction model and has significantly under-predicted the noise emitted by these turbines. (8) We believe the applicant has ignored widespread evidence of the potential for sleep disturbance and other health effects from the low frequency noise emitted by these enormous machines. (9) We have concluded that the enjoyment of Roxbury Pond as a source of recreation, and communion with nature will be greatly diminished by the appearance of (22) 270' tall towers with constantly moving 150' long propellers attached at the tops, each of which will be visible at all times from almost any place on the pond. (10) We believe the DEP has failed in its duty to properly protect the environment and wildlife in the Final Order by weakening the language of the draft decision in numerous places in favor of the applicant. (11) We believe the DEP has ignored testimony regarding the use of the ridges proposed for turbines by bald eagles which have been reproducing and returning to Roxbury Pond for 25 years. (12) We believe the impact of turbines on large and small mammals has been ignored, despite credible testimony that turbine noise alters normal animal behavior patterns. (13) We believe the DEP's actions in the two weeks since the permit was issued demonstrates a failure to adequately enforce Maine laws by allowing

construction to begin without requiring the applicant to fulfill the requirements of the law with regard to decommissioning, financial capacity, and the need to obtain a permit from the Army Corps of Engineers, and this failure calls into question the DEP's willingness and ability to enforce the conditions of the permit going forward.

2. The following also appeal as aggrieved individuals:

a. BARRY ALLEN is a resident of Roxbury Pond and is extremely concerned about the safety of the well on his property and also the overall ecological balance and viability of Roxbury Pond. He enjoys boating and fishing on the pond and it grieves him greatly to think that the pond may become fouled by the Record Hill project construction activity. He is aware of past situations that have had negative impacts on both his well and the pond due to clear-cutting, road work, and building construction. He states that it is through careful monitoring and sound practices of the residents of Roxbury Pond that the pond can support a variety of fish and is as healthy as it is today.

b. ANTONIO DESALLE is a resident of Roxbury Pond. He is a retired municipal police officer with twenty five years of service and an extensive background in labor negotiations. He moved from Rumford to Roxbury Pond to find beauty and serenity which he considers conducive to his well-being. Tony is very concerned about the impacts of a project such as Record Hill Wind. He has followed the issues with the Mars Hill project and believes the same problems will occur in Roxbury since adequate measures have not been taken to assure him otherwise. He realizes that the various noise studies are not consistent with each other and has heard conflicting reports regarding sound as it relates to vibration and the impact it can have on humans and wildlife. He is aware of multiple lawsuits regarding turbines in many areas across the country. He is extremely disturbed about the potential decrease in water quality of

Roxbury Pond and the other waterways in the area should the project occur. He feels that erosion from road building and blasting will have significant impacts on the delicate ecosystem. In the past, he has witnessed a decrease in the quality of the pond from periods of heavy rain, clear-cutting and construction and has been actively involved with a group of local property owners to preserve and protect it for future generations to enjoy. He fears for the eagle population on French Island. He is concerned that wind power is never going to be the answer to the energy problem and that the sacrifice of the area's natural resources at the hands of Record Hill Wind should be greatly considered before moving forward. He would like to see more effort placed on programs of conservation and efficiency before construction of any type begins. His response to Dr. Dora Mills' comment that turbine noise is merely an "annoyance" disturbs him greatly as he claims that a dripping faucet would also be considered an annoyance, however it could drive a person crazy.

c. TOM AND MICHELLE CURRIVAN are property owners on Roxbury Pond. They are very concerned about the quality of life and feel that they are being robbed of their human rights. They are very concerned for the medical issues accompanying exposure to low frequency sound from the turbines. Tom has watched the eagles for many years and is still amazed when he sees the juveniles soaring on the thermals. He is bothered by contamination of the rivers and ponds, specifically Roxbury Pond, the Swift River and the Androscoggin River. He says that the footprint of Roxbury Pond has not changed in twenty two years. No new development has occurred around the pond; a few camps have been torn down and rebuilt. The camp owners have been responsible stewards of an indescribable gift that they hold very dear to their hearts. He is very concerned for public health and safety and feels the placement of industrial scale wind turbines and associated transmission lines poses a serious

threat to humans, wildlife, and the environment.

d. RON and CHRIS DUBE are residents of Roxbury Pond. Both submitted testimony in the application process for the Record Hill Project. Their home is their major retirement investment and as property owners and residents they are very concerned about the impact the industrial wind turbines will have on the pond, property values and quality of life (noise levels, health, etc.). Christine grew up in Rumford and spent all of her school years summering at the family camp on Roxbury Pond. Her family has been in the Roxbury Pond area for five generations. Ron and Chris are opposed to this project for several reasons which have been expressed to DEP on many occasions: (1) Flawed noise studies: Ron and Chris are concerned that the noise studies done by the applicant did not consider sound as it relates to surface water and that the DEP did not take into account the expert testimony provided by Rick James but rather dismissed it. (2) Decommissioning: Ron and Chris feel strongly that adequate funds should be put aside for decommissioning prior to the start of construction and not at the end of the eleventh year of operation as is required in the Final DEP Permit. They feel that the amount should be based on the future cost to dismantle the project including labor, equipment, and restoration of the environment to the original state. (3) Eagles: The eagles have been on French Island at Roxbury Pond for the past 25+ years. During the month of March, the adults were seen rebuilding their nest. When the surface of the pond is frozen, the eagles are observed flying over the ridge of Record Hill to fish at the Swift River. Juveniles are also seen over that same ridge as they are learning to fly during the Summer months. Ron and Chris fear that the project will be endangering the eagle population if permitted. (4) Watershed: Ron and Chris have many concerns regarding blasting, tree removal, and road building as these activities have had an impact in the past on both Roxbury Pond and the Swift River. Previous clear cuts have

also had detrimental effects on the pond and the surrounding area. They state that it is only through the monitoring and diligence of property owners that the lake has rebounded. They are concerned that the ecosystem of the lake is still in a fragile state and will be in jeopardy again with no guarantee of recovery if this project is permitted.

e. NANCY FICKETT is a property owner on Roxbury Pond. Ms. Fickett is very concerned with the total lack of scientific analysis and review of the impacts that the project will have on the environment, as well as the health of residents and wildlife in the area, and she fears for impacts on her own health and well-being. Furthermore, Ms. Fickett is distressed about the poor quality of the project review, the politically motivated decision-making by the DEP and the potential devaluing of her lakefront property.

f. TOM GANLEY is a resident of Roxbury Pond

g. THEODORE & PRISCILLA GOTTO are residents of Roxbury. Their property is located at the base of Record Hill. For many years, they have traveled extensively throughout Canada on their way to Alaska. They have seen a tremendous increase in Industrial Scale Turbines and still cannot fathom the disproportionate size of them as it relates to the countryside. They are extremely disturbed to think that they will be looking at the same thing from their property. The thought of a ruined scenic view that they treasure so much sickens them greatly. The Gottos moved from an in-town location to the peaceful setting where they currently live. About fifteen years ago, they built their house along the Swift River and near the base of Record Hill. They are very concerned about the runoff during the construction phase, the noise and danger related to blasting the ridges, the groundwater contamination from disrupting the soils and bedrock, and fear for the wildlife whose habitats will be destroyed. They are strongly opposed to the Record Hill project and do not want to spend the rest of their lives

subjected to turbine noise, blade thump, shadow flicker and a ruined environment.

h. LEO F. KERSEY, SR. has always had his place at Roxbury Pond. He believes that until ALL the facts are in, there should be nothing about wind that is expedited. He is concerned that the ills caused to any human's interruption of life and its joys are untold. He is aware of numerous issues involving existing wind projects and the multiple atrocities upon the wildlife. He feels that the lake, being relatively shallow in nature and in a nearly pristine state, will never survive the fallout from its surrounding mountains. Mr. Kersey says that he is 87 years young and that it saddens him greatly to think that the Record Hill Wind project is going to ruin this "piece of paradise" that he is planning on leaving to his children and future generations of the Kersey family.

i. LINDA KURAS is a resident of Roxbury Pond

j. DALE AND BJ HODGKINS are residents of Roxbury

k. LISA HODGKINS is the closest resident to any proposed turbine location. She gave the following testimony in application process: "Thank you for the opportunity to express my concerns last week at the MVHS DEP meeting. I did not have anything in writing for that meeting, however I did verbally express my concerns and recommendations. I feel I should also put them in writing, so here I am. My husband Gary and I built a log cabin about 15 years ago here in Roxbury. We built it entirely by ourselves and put long hard days and years into building our home. My husband's family has lived in the notch for over 100 years. We enjoy the peace and solidarity in our private nest and enjoy the beautiful views of Whitecap Mountain and surrounding mountains. Their home is approximately 3100 ft (according to RHW application). Gary has measured the distance via GPS from our property line to the nearest turbine to be 2100 ft. Gary and I have two adult children who have expressed the

desire to have a piece of our land and build homes on it. Now that this project has been proposed, my children will not be able to do this as they will be closer than our home to the turbines. This greatly saddens me as Gary's grandparents, parents, uncle, and all four brothers and their families live here on the mountain. I am recommending that at least two if not three of the turbines on the south side of Partridge Peak be deleted from the project for my families and others health and safety. Dr Albert Aniel made an accurate and informative presentation at the DEP last week. I am extremely concerned about Wind Turbine Syndrome because my husband and I both suffer from migraines. My husband has heart disease and has stents in his coronary arteries, and I have always had ear/vertigo problems. With the information and body of medical knowledge presented to you verbally and in writing, I feel that you/DEP have been properly informed of the negative health effects this project will have on my family and the rest of the community, and therefore, will be responsible in the event of health decline of my family and Roxbury citizens.

l. COLLEEN MARTINEAU is a resident of Roxbury Pond where her parents also have a summer residence. She has spent her entire life enjoying the beauty and tranquility that one experiences from living near a pristine lake. She has four members of her family that suffer from photosensitivity issues, seizure disorders, or migraine headaches. She is worried that their ability to enjoy life will be severely altered if not totally diminished. She believes that to deliberately rape and destroy the landscape with total disregard for humans, wildlife, the universe, and all creation is unacceptable.

m. CATHY MATTSON is a property owner in Roxbury and a frequent user of Roxbury Pond. She has a degree in Animal Biology and is concerned with the responsible stewardship of the environment and delicate ecosystems that surround us. Together with her family she owns and operates Fryewood Farm on Route 17 in Roxbury, Maine. This

highway is designated as a Maine Scenic Highway stretching from Mexico to Rangeley. Fryewood Farm is a diversified organic farm raising livestock, vegetables and flowers. In the retail store located on the property, residents and visitors to the River Valley Area are offered a wide variety of locally grown and raised agricultural products. With over 400 acres of local fields under tillage or forage management, that they either own or lease, she is concerned that a project such as Record Hill Wind, LLC, will cause immeasurable environmental and economic impacts. Her concerns are as follows: (1) lack of thorough review of the project and associated studies by DEP before issuing final permit and (2) lack of good management practices during construction and lack of enforcement regarding remediation of degraded areas at completion and post-construction and (3) noise in all of its forms as it impacts humans, domestic animals, and wildlife during construction as well as during operation of turbines after project completion and (4) fragmentation of habitats not only from the turbines but also from degradation of natural character caused by the creation of massive access roads and transmission lines and (5) loss of the quiet, unspoiled beauty that makes the area a safe-haven for herself and others who live or visit in the area and that truly enjoy the intimate relationship with nature and its inhabitants and (6) the impact of dust pollutants and contaminants during construction from equipment as well as disruption of the delicate ecological balance from continual herbicide and pesticide applications for the life of the project which will pollute and degrade soils, springs, streams, ponds, and thus shallow wells with little or no recourse for mitigation.

n. ANNE MORIN is a resident of Roxbury Pond. She is a Biomedical Research Scientist from UCLA who is seriously dismayed and disgusted that the DEP did not accept expert testimony regarding the generation of noise that will come down the hill and across the lake where they live. She and her husband will have to hear turbine thumping instead of the

peacefulness which they now experience at the Lake. She cannot understand how the DEP could ignore the evidence from the authorities who have great standing in the professional "noise" studies community. The very men who wrote the highly regarded book on noise assessment, which is required reading for noise assessment engineers, have not been recognized for their work. Secondly, she wants to know why the wildlife was not a major consideration. She doesn't understand why the eagles that have been nesting on the island in Roxbury Pond for over 25 years are not considered in this process. She says that the wind turbine companies hire their own study companies who are guaranteed to give the desired results. Anne and her husband, and a number of private citizens, hired a company with nothing invested in the project, to do an unbiased evaluation. She says that the studies showed just what they instinctively knew....22 turbines make more noise than one turbine. She wonders if our governmental agencies have turned into "yes-Men" for the Wind Industry. As someone with a B&B business in the area, she is concerned that people from the industrialized areas, i.e. the cities, will find other places to visit rather than come to our mountains for hiking, camping and vacation time. Lastly, she is concerned as to what the impact will be on tourism when these turbines spread across the entire western mountains and how it will be evaluated.

o. LAUREEN AND ROB OLSEN are part time occupants of family property on Roxbury Pond

p. PHILIP and SARAH PAQUETTE are property owners at the base of Record Hill in Byron. They state that the voters of Byron defeated Angus King's and Rob Gardiner's attempts at wind power development. The Byron townspeople voted 69 to 5 against the project. The Paquettes feel that their property, and that of many others, will be negatively impacted by the Record Hill project. They feel that no resident of Byron should be subjected to

a decrease in property value, diminished scenic view, and subjected to the effects of noise and shadow flicker. They have presented this opinion in writing to Beth Callahan at DEP. They have received no acknowledgment of receipt of their presentation, nor did they receive a response.

q. VICKY AND TODD STANISLAWSKI are property owners on Roxbury Pond.

r. ERIC RODERICK is a resident of the Town of Byron, which defeated a proposed wind project in that town. He is opposed to the Record Hill Project.

s. MICHAEL RONAN is a seasonal camp owner in Roxbury. As a seasonal camp owner he was not allowed to vote on the proposed wind project. He is part of a group which, if allowed to vote, would have held the majority of votes in opposition to the wind project. He is concerned that his property value will be lowered substantially, but his main concern is that he is now going to have to live with the sight and sound pollution from these huge machines. He is concerned that these wind machines will destroy the quality of the wilderness surrounding the pond, as well as the visual affects it will have on the people and wildlife of Roxbury Pond. It will certainly threaten the tranquility of their lake, the wildlife's health, and the fragile watershed of Roxbury Pond. He wants to hunt the surrounding hills of Roxbury, and hike the ridges of the surrounding mountains; he wants to watch the eagles flying in safety. He wishes for these large wind machines to be built far away from people with a buffer so people cannot get close to them. This would ensure that there will be safety for the people around Roxbury Pond, as well as healthy water shed. He wants the environment to be safe from noise, sight, and sound pollution, and hopes that the scenic beauty of the surroundings can be retained.

t. ROB ROY is a property owner on Roxbury Pond

u. KELLY SASTAMOINE is a lifelong resident of Roxbury Pond

and a mother of two beautiful children who both have Autism spectrum disorders. They are prone to photosynthetic seizures as well as many other medical issues and it concerns her greatly that reports from the Epilepsy Foundation and experts such as Arnold Wilkins have been ignored in the RHW permitting process. She would also like to see the results from the Mars Hill studies utilized as they relate to this project that will impact her family.

v. RICHARD THERIAULT is a property owner on Roxbury Pond. He is concerned about the effect of the Record Hill Project on eagles in the area.

w. MATT TOWLE is a property owner on the shores of Roxbury Pond. He participated in the application process for the Record Hill Project. He and his family have owned the property for over 50 years and it will soon be his principal residence. The proposed Record Hill Wind project is directly behind his property. At this point his family uses the home as their primary residence in the summer and weekend residence throughout the year. He and his family enjoy the outdoors, boating, hiking, skiing, fishing, and the overall peace and quiet of the area. He is very concerned that the negative effects of the project will far outweigh the positive. At this point, he feels that there is not enough scientific data concerning the health risks associated with the constant noise, blade thump and shadow flicker created by the turbines. He is also concerned about the environmental affects to the Pond, the animals, and the birds. He recognizes that those people living at Roxbury Pond have been very vigilant in monitoring the water quality and have taken many steps to ensure the long term quality of the Pond. He states that the residents are very fortunate to have a large number of Moose, Deer, Loons, a very productive Eagle's nest, and some of the most beautiful views in the country. He feels that these people perhaps have a better sense of stewardship regarding the environment than does the Maine DEP. He feels that the quality of life experienced in this area is not worth trading simply

because the government is trying to play "catch-up" and get "Green" in a hurry.

x. EBEN THURSTON is a lifelong part time occupant of his family's property on Roxbury Pond. He sent an email to Beth Callahan on April 30th, 2009, recording his opposition to the Record Hill project based on the grounds that an industrial wind facility located on Record Hill will have a destructive impact on the ecology and the wildlife in the area. He specifically cited eagles, which have been proven to be killed by wind turbines. Eben Thurston is the great grandson of Ralph D. Thurston, who built his family's camp on Sunset Cove Road on Roxbury Pond in the 1920's. He has visited the area annually for 34 years. Mr. Thurston is concerned that DEP took no meaningful measures to prevent the same destruction to local ecology, wildlife, and human health that has been observed at other industrial wind facilities in Maine from happening at Record Hill. Mr. Thurston seeks a full, proper review of the flawed noise analysis, as well as proper reviews of human health impacts of low DB noise and acoustic effects, as well as animal and environmental impacts. Further, he requests that all studies of human health impacts be conducted in coordination with the Maine Medical Association.

y. LESTER THURSTON is a lifelong part time occupant of the family property on Roxbury Pond.

z. STEVE THURSTON participated in the application process under review. He is a lifelong part time occupant of family property on Roxbury Pond. He is an aggrieved by virtue of his life long experience as an occupant of his family's property on Roxbury Pond, and as one who considers Roxbury Pond and the surrounding area to be a unique and priceless treasure due to its extraordinary mountain scenery, abundant wildlife, and beautiful waters which beckon him to row, paddle, fish, and swim in the sublime peace and quiet of the morning shadow of Flathead Mountain. The experience of living at Roxbury Pond satisfies

something unexplainable deep within his psyche. The sound of a loon piercing the dead quiet of the night, or the shrill cry of eaglets waiting to be fed are experiences not shared by many, but are an integral part of his life at Roxbury Pond. The unique qualities of the Roxbury Pond environment that he loves, and shares with his parents, siblings, children, grandchildren, friends and neighbors will be greatly diminished if not extinguished by the construction and operation of the Record Hill Wind project. He cannot imagine anything that could be more dangerous to the environment and wildlife, or more disharmonious to the character of Roxbury Pond than 22 behemoth turbines looming over the pond and the hundreds of family properties that exist nearby because of the "sense of place" that Roxbury Pond represents. It fills him with frustration and literally breaks his heart to contemplate this atrocity.

aa. LES & GLORIA TURNER In 2003, Mr. Turner and his wife retired, moved to Maine, and purchased a mountain view lot to build their new home overlooking the Northwest Mountains of Roxbury, Maine. From their home, they can see the very mountain that the wind project will be built upon. Mr. Turner is retired from the U.S. Government and he understands the significance of straight line noise. He is concerned about the impact that the noise from the Record Hill Project will have on himself, his wife, and the environment. He is also aware of the negative effects that such a project could have on his property value.

bb. NANCY & CARL WAHLSTROM are camp owners in Roxbury. They are full time residents of Plattsburgh, NY, and live over a mile from an existing wind project in Cohocton, NY. They have firsthand knowledge regarding many of the issues raised by the citizens of Roxbury and ignored by the DEP. They realize that wind turbines on the mountains pose a true threat to the health and safety of the people in Roxbury. They had planned

to convert their seasonal property to a year round home but they have placed their plans on hold for the last two years as a result of the proposed Record Hill wind project. They are particularly concerned about the incomplete and inadequate review of the project. It concerns them that the DEP failed to make a truly objective scientifically factual evaluation of the proposed project. They feel that the final report showed a total lack of utilization of true scientific data presented in peer-reviewed journals. They are aware that there is well-documented evidence from the scientific and medical community that identifies serious consequences of improper siting of huge industrial machines and the impact of audible and non-audible noise and vibration. They feel that it is inconceivable that the DEP would choose to believe that the turbines are somehow exempt from the laws of physics. They are particularly concerned about the failure of the DEP to adequately review public safety issues with regard to the project including, but not limited to, noise, fire risk, ice throw, hazardous substances flowing into local wells and Roxbury pond. They feel that there will be a guaranteed reduction in property value for taxpayers who own land impacted by the project. They also recognize that the inadequate decommissioning scheme of the Record Hill project will place the burden of removing turbines on the taxpayers of Roxbury. The Wahlstrom's feel that the consideration of such a project without adequate means of funding the decommissioning shows a total lack of concern for a project whose environmental harm far exceeds any proven environmental benefit. They are concerned that the DEP has selectively accepted any and all information provided by the developer and that the DEP has ignored scientific information that contradicts the developers' position. They feel that the data provided by the developer should be used with caution since it appears to contradict that of independent scientific data.

3. SILVER LAKE CAMP OWNERS ASSOCIATION. The Silver Lake Camp Owner's Association passed the following resolution: "We, the Board of Directors of the Silver Lake Camp Owners Association (SLCOA), the appointed stewards of Roxbury Pond in Roxbury and Byron, Maine, by unanimous vote, go on record with our opposition to the Record Hill Wind LLC industrial wind project. The Board believes this project is not in the best interests of Roxbury Pond and the citizens who live here. We believe this project will have negative effects on property values and will seriously diminish the quality of life of Roxbury Pond residents.

As a result of our analysis of data provided on the Record Hill Wind LLC project, we believe industrial wind turbines would be a source of visual and noise pollution. We believe this project would have unacceptable consequences for the physical and mental health and well-being of the residents of the area. We also believe this project will threaten the existence of wildlife in the area. We believe the blasting and filling necessary to build roads and turbine foundations for this project will, over time and with heavy rains, lead to pollution of the 42 streams flowing into Roxbury Pond. Record Hill Wind LLC has publicly said, "We do not want to go where we are not wanted" and not "in places that will trigger ... organized public opposition." In fact, strong, organized, local public opposition to this project exists. The Silver Lake Camp Owners Association, Concerned Citizens to Save Roxbury and local voters have come out against Record Hill Wind LLC. We strongly urge Record Hill Wind LLC to withdraw this project and for Maine Department of Environmental Protection to deny a permit. By authority of the Board of Directors, Angela Arsenault, President."

II. FINDINGS AND CONCLUSIONS OBJECTED TO:

The Aggrieved Parties object to the DEP Final Order's Findings and Conclusions on:

1. Noise (Section 5), Final Order at 7-12.
2. Decommissioning (Section 24), Final Order at 42-44.
3. Financial Capacity (Section 3), Final Order at 6.
4. Scenic Character (Section 6), Final Order at 12-19.
5. Title, Right & Interest (Section 2), Final Order at 5-6.
6. Wildlife (Section 7), Final Order at 19-25.

The Aggrieved Parties also appeal the findings and conclusions related to these subjects, including Conclusion B at Pg. 47 of the Final Order and Approvals 4, 5 and 6 at pgs. 48-49 of the Final Order.

III. BASIS FOR THE APPEAL

A. Objections as to Noise:

The most significant issue of the Aggrieved Parties, and the only issue that the Aggrieved Parties request a public hearing on, is the subject of noise, including its potential for adverse health effects. There are five different grounds on which the Aggrieved Parties object to the findings of the Final Order on the subject of noise.

1. The Limitations of the Models Used to Measure Noise.

The Applicant has agreed to apply quiet limits of 55 dba for daytime and 45 dba for nighttime noise as provided for in DEP's Chapter 375 §10.C.1.v. Final Order at 8. The Final Order accepts the accuracy of the predictions in the Applicant's *Sound Level Assessment* prepared by Resource Systems Engineering ("RSE") of sound levels at all of the nearby protected locations (residential receiver points Pl to P19) as complying with these limitations. Final Order (*Exhibit A*) at 8-9.

The Final Order explains that the RSE prediction model for sound propagation used

Cadna/A (operating in ISO 9613-2, *Attenuation of Sound During Propagation Outdoors,* mode). Final Order at 8. The problem with this prediction model is that ISO 9613-2 (*Exhibit K-15*) was not designed for wind turbines, and it was not designed for sound sources at a height of a ridgeline, such as that proposed for Record Hill. These problems were acknowledged by the DEP's own consultant, Warren Brown of EnRad Consulting, in an internal conference call last March on the subject of noise in wind power applications pending before the DEP. In the *Notes of March 5, 2009 DEP Conference Call* between Warren Brown, Dora Mills, Maine Center for Disease Control ("MCDC"), and others (*Exhibit J*), Warren Brown stated that he "has issues with [the] model being used. Currently it's based on industrial noise, not wind power noise. ***We haven't been able to determine whether this model is accurate for wind turbines.*** " [Emphasis added.] Later in the Notes he states that RSE predicts compliance with 45 dba nighttime noise, "but [he] still [has] questions regarding the model – [it is] based on industrial noise." He states "wind turbine noise needs more investigation. 1. Need to be able to predict stable atmospheric conditions .... 2. Set up protocol for acoustic measurements with DEP staff member on site. ... Questions RSE's assumption – due to model. ... There is a period when turbines are loud. ***Not sure how to predict this yet. Need to figure out stable atmospheric conditions.***" [Emphasis added.]

There is no explanation in the record of how all these doubts by Warren Brown were resolved by August 10, 2009, when EnRad's Peer Review states that the Applicant's noise assessments are technically correct and can be accepted as being in compliance with Chapter 375, §10. This is a subject that the Aggrieved Parties would propose to pursue in questions of EnRad at a public hearing.

The concerns expressed by Warren Brown in the conference call are reflected in credible

scientific literature on the subject, making EnRad's dramatic change in position not only unexplained, but also unsupported. For example, Frank H. Brittain & Marlund E. Hale, in their article, "Some Limitations of Ray-Tracing Software for Predicting Community Noise from Industrial Facilities," NOISE-CON, Dearborn, Michigan (July 28-30, 2008) (*Exhibit K-4*), state that ISO 9613 estimates the accuracy of A-weighted sound propagation noise for distances only up to 1 km, but it is routinely used for distances greater than that. A study by Kenneth Kaliski & Edward Duncan, "Propagation Modeling Parameters for Wind Turbines, "NOISE-CON, Reno, Nevada (October 22-24, 2007) (*Exhibit K-5*), states that modeling of wind turbines in flat and relatively porous terrain may yield results that underestimate actual sound levels when using standard ISO 9613-2 algorithms, and that "wind turbines often operate with wind speeds that are higher than the ISO 9613-2 methodology recommends. The combination of higher wind speeds and high noise source may result in greater downward refraction."

The effect of "atmospheric stability" on the accuracy of sound assessments using the ISO 9613 algorithms that Warren Brown referred to is also the focus of a study by Clifford Schneider, "Accuracy of Model Predictions and the Effects of Atmospheric Stability on Wind Turbine Noise at Maple Ridge Wind Power Facility, Lowville, NY- 2007". *Exhibit K-7.* Atmospheric stability occurs at night when the land cools and vertical air movement disappears, and where wind can be calm on the ground but continue to blow at hub-height. When this occurs, Schneider explains, "[w]ind turbine sounds are more noticeable, since there is little masking of background noise, and more importantly, because atmospheric stability can amplify noise levels significantly," Pg. 6. Schneider states that most wind assessments never mention atmospheric stability. Pg. 7. Schneider concludes that the developer's predicted noise levels using ISO 9613 were too low when compared against noise levels measured during the actual operation of the

wind project. "Further the accuracy of the ISO 9613 protocol is a +/- 3 dBA, without considering reflected sounds, and it is not recommended for source levels higher than 30m" per ISO 9613 itself. Pg. 22. The same concern about atmospheric stability is expressed by Charles Ebbing in his article dated July 16, 2009, "Some Limitations and Errors in Current Turbine Noise Models" (July 2009)." *See also*, Kaliski & Duncan, *supra*, "Propagation Modeling Parameters for Wind Turbines" (*Exhibit K-8*) at 6 (when noise comes from elevated turbines, i.e., from ridge mounted turbines, "sound waves may not significantly interact with the ground over distance.").

Given the limitations of the modeling, originally expressed repeatedly by Warren Brown of EnRad in a context where he could give candid expression of his concerns, and given the support in the literature of these limitations, the Final Report was in error in accepting RSE's sound predictions at protective locations at their face value. If allowances were made by the DEP for the limitations of the sound propagation models by assuming that the noise generated by the turbines would carry further than predicted by those models, the nighttime noise limits specified by DEP Rule 375 would be exceeded for the Record Hill Project.

2. The Failure to Use Line Source Calculations.

In RSE's *Sound Level Assessment* approved by the Final Order, wind turbines were treated as "point sources", *see* Final Order (*Exhibit A*) at 8, without calculations based on "line sources." The *Sound Level Assessment* states:

> Sound propagation in air can be compared to ripples on the surface of a pond. The ripples spread out uniformly in all directions of the pond surface decreasing in amplitude as they move further from the source. For every doubling of distance from a stationary hemispherical noise source, the sound level drops by 6 dBA.

Sound Level Assessment, "Sound and Decibels" (unnumbered). "Line source" calculations measure sound propagation perpendicular to a row (line) of wind turbines, giving effect to the

combined noise from the line that radiates in a cylindrical (directed) manner as opposed to a spherical (like a ripple in a pond) manner. The decay rate of a line source is *3 dB* for every doubling of distance, one half of the decay rate of a point source of *6 dBA* per doubling.

The Aggrieved Parties objected to the Draft Order on this issue because, if a line source calculation were used, the DEP nighttime noise limits of 45 dBA would be exceeded for protected locations. *See*, E-Coustic Solutions, "Review of Noise Study" (*Exhibit C*) at 6, opining that "the appropriate decay rate for ridge mounted turbines is 3 dB." In support of this conclusion, the E-Coustic points to the NASA studies. *Id.* See, *Exhibit K-16* at 27. *See also*, Testimony of Ebbing & James on their Draft Order (*Exhibit D*) at 5-6, and C.E. Ebbing, "Applied Acoustics Handbook" (*Exhibit K-13*) at 2-8 through 2-10, Kaliski & Duncan, *supra*, "Propagation Modeling" (*Exhibit K-5*) at 6 and Mats Abon, "Sound Propagation From Wind Turbines" (Exhibit K-9) at 10. *See also*, *Testimony of Steve Thurston* on February 19, 2009 (*Exhibit E*), including his depiction of sound levels on a contour map of Record Hill using a decay rate of 3dba, and Testimony of Steve Thurston on May 6, 2009 (*Exhibit G*) at 3-5. There is clear scientific consensus on this issue.

The Final Order (*Exhibit A*) responds to this objection of the Aggrieved Parties by relying on the opinion of EnRad that "[w]hen applied correctly, point source and line source measurements produce the same data." Final Order at 11.There is no scientific evidence cited to back up this conclusion. The NASA studies show that the line source and point source produce similar results only at distances that exceed the length of the line, *see Exhibit K-16* at pg. 27, which in the case of Record Hill is over 4 miles long. Most of the homes at Roxbury Pond have a direct sight line to 22 turbines near the center of the string. If the RSE *Sound Level Assessment* had used line source calculations, the DEP noise limits would be exceeded.

3. *The Failure to Apply the SDR 5% Penalty.*

The DEP regulations on sound level limits, Chapter 375, Section 10.D. 19 defines "Short Term Duration Repetitive Sounds" ("SDR") as a "sequence of repetitive sounds which occur more than once within an hour, each clearly discernible as an event and causing an increase in the sound level of at least 6 dBA on the fast meter response above the sound level observed immediately before and after the event, each typically less than 10 seconds in duration, and which are inherent to the process or operation of the development and are foreseeable." Section 10.C.1.d imposes a 5 dBA penalty when SDR is present for purposes of measuring sound level limits.

The Applicant's *Sound Level Assessment* did not take into account SDR. The *Assessment* asserts in Section 7.4 at 32 that "published studies" state that wind turbines only have increased sound levels of 2-4 dBA, rendering the 5 dBA penalty inapplicable. The Aggrieved Parties objected to the Draft Order on these grounds. The "Review" by E-Coustic explains that the Applicant's assertion about the low level of repetitive sounds is based on a 1997 version of a British wind siting standard ETSU-R-97 that is now over 10 years old and is under critical attack by independent acoustical consultants in the UK and that many current studies show SDR sounds from wind turbines commonly in the range of 5-6 dBA and can frequently exceed 10-15 dBA. Exhibit C at 4. [1]*See also, Testimony of Ebbing and James* (*Exhibit D*), at 6-7 (pointing out that these recent studies are by persons independent of the wind power industry and show that SDRs

---

[1] The "Review" by E-Coustic also explains that RSE's *Sound Assessment* is suspect because it fails to mention that the instrument conducting the test for SDR is required to use the "fast" response setting to determine the maximum sound pressure level. "Review" at 3. The DEP Rules require use of the "fast" setting. Id.

of 10-15 dBA occur frequently late at night when they are most likely to cause sleep disturbance), Ebbing Acoustics, "Some Limitations and Errors in Current Turbine Noise Models" (July 2009) (*Exhibit K-8*) at 3-4 (explaining how the interaction of coherent sound waves from multiple turbines working in synch can increase amplitude modulation by 12 dBA when only 4 turbines are involved, whereas in the Record Hill Project there will be 22 turbines all within line of sight to more than 100 protected locations represented by homes near Roxbury Pond.), and *Testimony of Steve Thurston* on May 6, 2009 (*Exhibit G*) at 1-2.

Indeed, it is striking that the Draft Order (*Exhibit B*) acknowledged that a "*review of studies shows that 5-6 dBA is common and 10-15 dBA is possible.*" (Emphasis added.) This statement, which would require application of the 5dBA penalty, was struck from the Final Order (*Exhibit A*). But, striking the reference to what studies show does not make the studies go away. The Final Order accepts the Applicant's failure to apply the penalty on the basis of EnRad's opinion that the "position stated by [the Aggrieved Parties] is not widely accepted fact." Final Order at 11. There is no scientific evidence cited to support this bald conclusion and in fact the Final Order itself goes on to admit that "there is sufficient concern related to the model's ability to accurately predict SDR to require the applicant to implement the assessment plan referenced above." The Aggrieved Parties ask the Board to address this issue in a public hearing, as there is admittedly a conflict in scientific views on the issue, rather than burying the issue in a post construction monitoring protocol.

4. *Failure to Consider the Health Effects of Nighttime Noise.*

The preamble to DEP's noise regulations, Chapter 375.10 states:

> The Board recognizes that the construction, operation and maintenance of developments may cause excessive noise that could degrade the health and welfare of nearby neighbors.

> It is the intent of the Board to require adequate provision for the control of excessive noise …

The Maine State Planning Officer Technical Assistance Bulletin # 4 (*Exhibit K-12)* states a similar concern, warning that "[p]rolonged noise exposure is a serious threat to human health, especially when resulting in sleep interruption and especially during the nighttime hours." The Applicant's *Sound Level Assessment* fails to account at all for the potential health effects of the Record Hill Wind Project. In part this is explainable from RSE's use of flawed noise propagation modeling, as explained above. *See*, George Kamperman & Richard James, "The 'How To' Guide to Siting Wind Turbines To Prevent Health Risks From Sound" (*Exhibit K-3*) at 1 ("The errors in the predicted sound levels can easily result in inadequate setback distances thus exposing the property owner to noise pollution and potential health risks.") In part it is due to the refusal of the wind power industry to take the issue of health effects from wind turbine noise seriously.

This is a serious problem according to Dr. Robert Nissenbaum. Dr. Nissenbaum has been examining the adverse health effects of the Mars Hill Project in a study that will soon be published in the New England Journal of Medicine. Affidavit of Michael A. Nissenbaum, M.D. (*Exhibit I*, ¶3 and Exhibit B thereto) ("Dr. Nissenbaum Aff."). He opines, based on his experience with Mars Hill: "It is my opinion that the BEP should hold a public hearing to examine the potential health effects of the Record Hill Wind Project given the potential seriousness of the health issues, and to ensure that an appropriately corrected modeling process (compared to the flawed model that was in fact used) is implemented to best predict the sound

emissions that can be expected from the Record Hill Wind Project." Dr. Nissenbaum Aff. at ¶4.[2] He adds that "credible evidence of negative health effects from Industrial Wind Projects [is available] from Canada (in the form of the health/symptom survey from Ontario, Canada) by Robert McMurtry, M.D., [his] own preliminary but significant findings from Mars Hill, Maine and a draft of a potential landmark book 'Wind Turbine Syndrome' by Nina Pierpont, M.D. [*Exhibit K-14*] Dr. Pierpont is an accomplished and well respected physician who is making significant contributions to the body of knowledge on the health impacts of wind turbines. Her basic premise about the existence of wind power syndrome has been well received by some of the foremost experts in the field of Otorhinolaryngology and Otology. [He] furthermore agree[s] with her minimum protective distances of up to 1 to 3.5 km (for mountainous terrains) set forth in pages 11-12 of an excerpt of her Draft Report attached to [his Affidavit] as *Exhibit C*. Dr. Nissenbaum Aff. at ¶9.

The Final Order justifies the absence of any weight given to potential health effects on two grounds. First, it relies on EnRad's assertion that "infrasound below 20Hz (the threshold of audible sounds for 90% of the population) has been widely accepted to be of no concern" Final Order at 10. This statement is not accurate. As explained by Dr. Nissenbaum, "[i]nfrasound has not been widely accepted to be of no concern other than by non-physicians doing work contracted by members of the Wind Industry, and at least one of the key non- physicians utilized by the Wind Industry has issued conflicting opinions on the issue. There has been no medical refutation of the potential negative health effects of infrasound emitted by Industrial Wind Turbines and the subject is at the least an open medical issue of concern warranting immediate

---

2 At Mars Hill the houses are closer to wind turbines than they will be at Record Hill. However, the turbines at Record Hill (2.3 MW) are much more powerful than at Mars Hill (1.5 MW).

investigation. There is additionally at this point a small body of unrefuted medical research indicating that there may be problems associated with infrasound. Regardless, there are clear issues relating to higher frequency, audible, low frequency noise of a persistent, pulsatile nature such as created by Industrial Wind Turbines." Dr. Nissenbaum Aff. at ¶5.

Second, the Final Order relies on Dr. Dora Mills, Director of Maine Center for Disease Control, for the proposition that she found "no evidence in peer-reviewed medical and public health literature of adverse health effects from noise generated from wind turbines other than occasional reports of annoyances." *Id.* This also is not a valid reason. As Dr. Nissenbaum explains, "[w]hile the word 'annoyance' has been used in European studies relating to this turbine noise, the term has been misinterpreted by the Wind Industry and the Maine DHHS to mean an inconsequential disturbance, whereas the authors, not being medical doctors and not being native English speakers, did not describe the health significance or severity of the 'annoyance' in medical terms. A review of the Mars Hill findings suggests that this 'annoyance' is one of the root causes of the sleep disturbances and secondary negative health effects suffered by the residents of Mars Hill, Maine." Dr. Nissenbaum Aff. at ¶6. Thus "annoyance" cannot be dismissed in terms of health effects, especially in the context of a site like Record Hill, where the country "dead silence" at night accentuates the sound from wind turbines and the potential for sleep disturbance.[3]

---

[3] The record includes the opinion of E-Coustic Solutions in its Review at 5 that states that"[n]ew noise sources are properly assessed for annoyance and sleep disturbance potential by comparing the sound levels during the quietest times of the day or night when the new noise source may be operating and most clearly audible to people. E-Coustics estimates that nighttime levels of noise from the project will be substantially higher than existing sound levels at night. Thus the record supports that annoyance will be an issue, as even Dora Mills recognizes and as Warren Brown recognized in the March 6 conference call when he pointed out that there are "lots of studies done in Denmark and the Netherlands [that] show annoyance is an issue" with wind turbines.

Moreover, after the Final Draft was published, on September 12, 2009, the Maine Medical Association ("MMA") adopted a resolution recognizing that "assessing the potential health impact of wind turbines has been difficult to measure but if present would be of significant concern" and urging the DEP to adopt procedures that "reflect scientific evidence regarding potential health effects, and to further explore such potential health effects" and to "avoid [ ] unreasonable noise … with development setbacks…." Dr. Nissenbaum Aff. at Exhibit D. This resolution passed, notwithstanding the previous objections of Dr. Dora Mills in a subcommittee considering a similar resolution. According to Dr. Nissenbaum, the "Maine CDC Director's refusal to recognize any potential negative health effects of wind power projects, and her public statements urging the rapid establishment of Industrial Wind Projects in Maine seem to be at odds with the caution expressed by the wider medical community, as indicated by the attached Maine Medical Association resolution. Nissenbaum Aff. at ¶11.[4]

The need to take a more cautious approach to wind turbine siting because of the potential health effects is also supported by the *Night Noise Guidelines* in 2007(*Exhibit K-1)* issued by World Health Organization ("WHO"), recommending sound levels during the nighttime at less than 30dBA during sleeping periods for children and below 32 dBA for adults. An earlier version of these Guidelines, published in 1999 (*Exhibit K-2*), concluded that even then WHO believed that "low frequency noise … can disturb rest and sleep at low sound levels" and that the

---

4 The Maine CDC did not investigate the cluster of health complaints in Mars Hill for potential significance. Given that Mars Hill potentially represents a new negative health phenomenon resulting from the interaction of a ridge line source of Industrial Wind Turbines sited too close to human dwellings after faulty pre installation sound modeling, this represents a failure of the Maine CDC to comply with its mandate to investigate newly arising health issues to better understand them and propose solutions for mitigation and future prevention. As such, any statements emanating from the Maine CDC on this subject must be viewed as being based on incomplete information, at this point in time. Dr. Nissenbaum Aff. ¶3.

"evidence on low frequency noise is sufficiently strong to warrant immediate concern." See pg xii, xiii and 53. [Emphasis added.] *See also*, the discussion of the WHO Guidelines and other literature in George Kamperman & Richard James, "The 'How To' Guide to Siting Wind Turbines To Prevent Health Risks From Sound", *Exhibit K-10,* which recommends greater setbacks than DEP Chapter 375.10 based on the current state of scientific evidence on the health effects of low frequency sound. Nina Pierpont, M.D., PhD, in her draft publication, *Wind Turbine Syndrome* (March 7, 2009 pre-publication draft), *Exhibit K-14*, states at pg. 11 that "Kamperman and James have convinced me that single, one size fits all setback distances may not be protective and fair in all environments with all types of turbines. Even so, it is clear from this study and others that minimum protective distances need to be "greater than 1-1.5 km … at which there were severely affected subjects in this study b) greater than 1.6 km … at which there were affected subject in Dr. Harry's UK study and c) and, in mountainous terrain, greater than 2-3.5 km … at which there were symptomatic subjects in Professor Robyn Phipp's New Zealand Study." Dr. Pierpont's work was among those studies referenced at the MMA meeting resulting in the resolution described above.

Further record support for the need to take seriously the potential health effects from wind turbines can be found in Testimony of Charles Ebbing, George Kamperman, and Richard James, *Exhibit D*, at 1-5, the Report by Dr. Christopher Hanning, "Sleep Disturbance and Wind Turbine Noise" (June 2009) (*Exhibit K- 11*) ("There can be no doubt that groups of industrial wind turbines ('wind farms') generate sufficient noise to disturb sleep and impair health of those living nearby.") and the *Testimony of Steve Thurston* on May 6, 2009 (*Exhibit G*) at 3-5.

Based on this record, it would be irresponsible for the Board not to take the health effects of wind turbine noise seriously and not to at least hold a public hearing on the subject, as urged

by Dr. Nissenbaum. In his words:

> Pending the use of more appropriately designed modeling studies, and the establishment of more appropriate regulations, the DEP and LURC should exercise more caution and deliberation prior to permitting additional Industrial Wind Projects, recognizing that there are still currently unknowns. The physical scale of the Industrial Wind Turbines used today is relatively new and we are only beginning to learn, as physicians, about the presence or absence of negative health effects that may result from poor siting decisions. In so doing, they will be better discharging their responsibility to protect the health and safety of Maine citizens.

Nissenbaum, Aff. ¶13.

5. *The Failure to Provide for Adequate Compliance/ Mitigation Rules.*

The Final Order accepts the Compliance Assessment Plan proposed by the Applicant on June 2, 2009, as revised August 3, 2009. *See*, Final Order (*Exhibit A*) at 10, 11-12 and Approval 5 at 48. The Aggrieved Parties object to the Compliance Plan to the extent that the Final Order relies upon it as an alternative to findings that the Applicant has not properly included the 5 dBA penalty to account for SDR. *See* discussion at 23-24 *supra*. To substitute a post- construction and post-operation test for a setback requirement intended to be assessed as part of the application process limits the options of the Applicant and the DEP to remedy the problem after the fact, other than to adopt a variance as was done in Mars Hill, now recognized as a mistake. The compliance assessment plan does not address what will happen if there is non-compliance and this is essential to the validity of the plan. Nor does the compliance assessment provide for notice to interested parties so that they will have an opportunity to review and, if appropriate, challenge the adequacy of the compliance testing and mitigation requirements.

The Aggrieved Parties submit that an acceptable compliance program should require that (1) compliance testing occur for all conditions and operating modes for which complaints,

whether formal or informal; have been filed; (2) during such compliance testing, the Applicant should certify that the conditions being monitored represent the conditions during the complaint; (3) during compliance measurements, weather conditions (both at the location of a microphone and the top of the ridge as represented by weather data collected at the hub or other meteorological tower with a known height) should be documented for wind speed, direction, temperature, and relative humidity at a minimum in increments no longer than 5 minutes apart; (4) during compliance measurements, the operating parameters for the wind turbines nearest the measurement site should be documented in terms of power production, rpm of the rotor, blade settings, and power generated in increments no more than 5 minutes apart; and (5) the total power production and operating status of other turbines in the project within 3 km of the test site should be provided as totals. This information is needed to confirm the accuracy and legitimacy of the compliance testing. Without requiring such information and such procedures, there is no way third parties can properly assess the legitimacy of the compliance data submitted by the applicant.

B. Objections to the Decommissioning Plan.

The Final Report does not require the Applicant to have the Decommissioning Fund fully funded until near the end of the useful life of the turbines and it does not require any funding to begin until year 11 of operations. Final Order at 43. The Aggrieved Parties object to this funding scheme because it violates the letter of the law. Section B-13 of the Wind Power Development Law, Chapter 661, 123rd Legislature, Second Session, effective April 18, 2008 (the "Wind Power Act") requires DEP and LURC to jointly specify requirements for decommissioning. The law requires "Decommissioning plans [to] include[ ] demonstration of *current and future financial capacity that would be* ***unaffected by the applicant's future financial condition*** to fully fund

any necessary costs commensurate with the project's scale, location and other relevant considerations, including, but not limited to, those associated with site restoration and turbine removal." [Emphasis added.] This statutory requirement was recommended in a paper submitted to the Governor's Task Force on October 30, 2007 (See "Meeting Summaries" at the Governor's Task Force Website) titled "State Siting Process For Grid Scale Wind Energy Facilities: Issues and Options." Issue A-6,states: "Because a wind power project ... has real and potential effects on the natural environment, it is important to ensure that the project facility is properly decommissioned ...." The paper then proposed the following option:

> Develop a standardized state decommissioning policy,
> to be implemented regarding wind power, under which,
> as a condition of project approval, the applicant would establish
> a fully funded decommissioning account ... that would be
> unaffected by the applicant's future financial condition.
> [Emphasis added.]

The Wind Power Act, like the proposal that the Wind Power Act adopted, thus requires a *pre-funded* decommissioning fund, not one established in the future that might be "affected by the applicant's future financial condition." By definition, any funding requirement in the future would be affected by the applicant's future financial condition. Not only is the requirement for pre-funding obvious from the wording of the Wind Power Act, but it makes eminent sense, as evidenced by the Decision of April 16, 2009 by the Vermont Public Service Board *In the Matter of Amended Petition of Deerfield Wind ,LLC* at pgs 91-92 (part of the record and the *Testimony of Steve Thurston* on April 21, 2009, *Exhibit F*) requiring a Letter of Credit for the estimated decommissioning fund to be posted prior to construction.

The Final Decision is thus in violation of the law because it does not require the decommissioning fund to be pre-funded, but rather does not require that the fund even to be

addressed until 11 years of operation, at which time the Applicant's financial condition might well be incapable of meeting its obligations. So, in the Final Order, the Applicant's decommissioning obligations are entirely subject to the financial viability of the proposed project. As all the wind projects are new to Maine's energy market and given the large number of new projects proposed or coming on line, the risks that the Legislature required to be protected against with pre-funding, are left to the whim of the marketplace.

The Deerfield decision also disallowed a deduction for scrap metal salvaged as part of the decommissioning because "[s]crap value is vulnerable to market place volatility and thus should not be considered a viable funding source for decommissioning the Project." *Id.* at 91. The Aggrieved Parties object to the Final Order because it allows the Applicant to deduct scrap value in estimating decommissioning costs. In fact, according to the testimony of Ronald Dube (*Exhibit H*), the Applicant has already over estimated the scrap value of the Record Hill Project.

C. Objections to Financial Capacity

The Final Order (*Exhibit A*) states in Section 3 at pg. 6 that:

> The Department finds that the applicant has demonstrated adequate financial capacity to comply with Department standards provided that the applicant submits final evidence of financial capacity **prior to the start of construction** as referenced above. [Emphasis added.]

Yet in Approval No. 4 at pg. 48 of the Final Order, the Applicant is not required to submit evidence of financial capacity until ***"[p]rior to the start of operation."*** These two provisions are inconsistent. Of the two, the first (requiring demonstration of financial capacity prior to construction) is what DEP usually requires. The proposed revisions to DEP Chapter 373 explicitly state that "[e]vidence of financial capacity must be provided prior to beginning project construction ..." The current version of Chapter 373 implicitly mandates the same in Section

1.B.4, which states that in cases where there is no commitment of money until the applicant's project application is approved, a letter of "intent to fund" shall be required. The Applicant has started construction and has not yet demonstrated its financial capacity in accordance with Section 3 of the Final Order. The Aggrieved Parties urge the Board to stop construction of the Project until the proper financial capacity has been demonstrated.

D. Objections as to Scenic Character.

No visual impact assessment was done of the Record Hill Wind Project in relation to Roxbury Pond because Roxbury Pond was not considered a scenic resource of state significance. See 35-A M.R.S.A. §3452.3 and .4. Roxbury Pond was not considered a lake of state significance within the meaning of 35-A. M.R.S.A. §3451.9 because it was not listed in the "Maine's Finest Lakes Assessment" published by the State Planning Office in 1989.[5] Final Order at 15. The use of Maine's Finest Lake Assessment as a tool for the primary siting authority to determine whether a great pond (which Roxbury Pond is) is a pond of state or national significance, as applied to this Project, is improper because the Assessment is incomplete. The Assessment states at 17 that "[g]iven the lack of information, the resulting list of lakes may be incomplete *and some lakes with significant or outstanding shoreline characteristics may have gone unreported.*" [Emphasis added.] See also, Assessment at 16 ("No base of consistent published or unpublished information on visual quality within the organized portion of the state was available.") and Assessment at 29:

> It is important to note that both the LURC and the current project (organized lakes) relied heavily on existing information to rate lake resource features. Due to the large number of lakes in the state, as well as the lack of field surveys

---

5 Maine's Finest Lake study can be found on the website of the Governor's Task Force on Wind Power.

> on these lakes, **it is quite possible that some important features have been overlooked. Because of this, these lake ratings should be considered minimal findings.** Some class 3, 2, or 1B lakes may be more significant than their rating indicates." [Emphasis added].

If the methods specified in the Assessment for designating lakes as significant were applied to Roxbury Pond, it would be considered a lake of state significance. *See* the Testimony of Steve Thurston on May 4, 2009. (*Exhibit N* attached to this document) and a Visual Impact Assessment would have been required. To deny the Aggrieved Parties the protections of visual impact protections of the environmental laws solely because the Wind Power Act limits lakes to those listed on an incomplete report is arbitrary and capricious and violates the Due Process and Equal Protection Clauses of the United States and Maine Constitutions

E. Objections to Title, Right & Interest.

Section 2 of the Final Order at 5 states that the Applicant has demonstrated title, right and interest for proceeding with the Project. The Aggrieved Parties object to this finding because the Applicant does not have the necessary transmission infrastructure to connect with the grid nor allow the grid to safely absorb the project's output. This objection was overruled based on the rationale that the upgrade of the grid is a "separate project" that may proceed separately, even though the project under consideration could not proceed without the upgrade. This is an arbitrary and unreasonable finding, clearly demonstrated by the fact that the project is currently under construction although no permits for transmission lines have been issued.. If the project cannot operate without an upgrade to the grid, then it should not be approved until that upgrade is assured, for the same reason that financial capacity must be approved prior to construction. Without assurances about the upgrade prior to construction, there is an unreasonable risk that all the environmental harms that accompany the construction of the project will be suffered without

any benefit intended by the project if the necessary approvals are not received and the project fails because of that.

F. Objections to Findings on Wildlife.

In the Final Order the DEP addresses concerns by the Aggrieved Parties about the effect of the Project on migratory birds, bats and raptors. Final Order (*Exhibit A*) at pgs 21-24. The way the DEP resolved these concerns was to require a post- construction monitoring plan to guide MDIFW and the Applicant in the implementation of appropriate and practical measures for assuring the avoidance or minimization of any unreasonable adverse impacts to wildlife. The problem comes from what is said next. In the Draft Order (*Exhibit B*) , if monitoring indicated the need to do so, the Applicant would be *required to implement* (1) modified operations, (2) on-site habitat management and (3) habitat protection, whereas in the Final Order the Applicant is only required to "consider" these actions. These changes are pernicious and allow the Applicant to consider but reject mandatory measures to protect wildlife.

IV. RELIEF REQUESTED.

The relief requested by the Aggrieved Parties is for the Board to void the Final Order and send it back to the DEP for the following purposes:

1. Require the Applicant to demonstrate that it meets the Noise Restriction of Chapter 375, Sec. 10 after correcting the Noise Assessment as explained above for line source and for SDR and to provide for greater buffers to account for lack of precision in the noise modeling and because of the adverse health concerns and for a new monitoring compliance plan that specifies how mitigation will take place for non-compliance and providing for notification to interested parties of the results of monitoring and compliance testing, with an opportunity to comment and participate in decision-making with regard to the test results, for all the reasons

explained in Part III.A above. In the alternative, the Aggrieved Parties ask for a public hearing on the noise issue, with the opportunity to present further expert testimony and to cross examine experts of the Applicant and the consultant to the DEP.

2. Require the decommissioning fund to be pre-funded, for the reasons stated in Part III.B above.

3. Prohibiting the Applicant from proceeding with construction until it has demonstrated financial capacity, for the reason set forth in Part C above.

4. Treat Roxbury Pond as a scenic resource of state significance and require a visual impact analysis of the Project in relation to Roxbury Pond, as discussed in Part III. D above.

5. Prohibit further construction on the Project until the Applicant has provided assurances as to upgrading the grid, as explained in Part III.E above.

6. Amend the Final Order to restore the terminology of the Draft Order on the issue of wildlife protection as explained in Part III.F above..

V. REQUEST FOR A PUBLIC HEARIING.

The Aggrieved Parties request a public hearing on the noise issue. It has demonstrated that there is at least "credible conflicting technical information regarding a licensing criteria," namely noise, as required by Rule 2, Section 7.B. The DEP states throughout the discussion on noise in the Final Order that it disagrees with the evidence of the Aggrieved Parties and it finds its consultant and others to be more credible. Be that as it may, these findings do not mean there is no credible, technical and medical evidence that disagrees. What it means is that this is the occasion when a hearing must be held. Just to take one example, the DEP dismisses the Aggrieved Parties' concerns about health effects based on the views of Dora Mills of MCDC that there are no adverse health effects. But the Maine Medical Association does not agree with her

objections to the resolution urging the DEP to take the health effects of wind power noise seriously. How can the Board not grant a hearing on that issue? If the Board can assume jurisdiction and hold a public hearing on an application for *a dock*, see *Hannum v. Board of Environmental Protection*, 2006 ME 51, 898 A.2d 392, how can it refuse a public hearing on a serious matter of public health for a major wind power generating facility? It would be irresponsible not to. A Summary of the Proposed Testimony of the Aggrieved Parties is attached as *Exhibit I* (for Dr. Nissenbaum) and *Exhibit M* to this document (for Richard James).

Respectfully submitted.

Dated: August 21, 2009

Rufus E. Brown, Esq.
BROWN & BURKE
85 Exchange Street - P.O. Box 7530
Portland, ME 04112-7530
(207) 775-0265
rbrown@brownburkelaw.com

Attorney for The Concerned Citizens to
Save Roxbury and Other Aggrieved Parties