



Natural Resources Council of Maine

May 21, 2009

Department of Environmental Protection
17 State House Station
Augusta, ME 04333

Comments by Natural Resources Council of Maine Regarding Application by Record Hill Wind LLC for Record Hill Wind Farm Project

The Natural Resources Council of Maine supports the proposed 55 megawatt (MW) Record Hill wind project and urges the Department to approve it, with some suggested conditions spelled out in these comments. We have reviewed the application and conclude that the project is consistent with the appropriate state permitting criteria.

NRCM shares Maine's strong interest in the development of clean forms of electricity generation that will help reduce the environmental and public health harm caused by existing forms of power production. Of special concern are the potentially destructive impacts from climate change on Maine—including a series of current and anticipated impacts most recently described by scientists and economists from the University of Maine, such as an increase in the number of the state's threatened and endangered species (Jacobson, G.L. et al, *Maine's Climate Future*, 2009, p 30). Maine has made a commitment to reducing its contribution to the problem of global warming, and has a set of strategies and policies that call for additional wind power (38 MRSA §576.) The development of wind power projects like the proposed Record Hill Wind Farm is necessary if Maine hopes to achieve its greenhouse gas reduction goals.

In 2008, Maine adopted ambitious statutory goals for wind power development in order to significantly decrease our state's dependence on expensive, volatile and polluting fossil fuels. If Record Hill is approved and built, then Maine would be nearly 20 percent of the way to achieving the goal of 2,000 megawatts (MW) by 2015.¹ No individual project can solve our need for cleaner generation, but together they will make a substantial difference.

Evaluating a wind power project such as Record Hill requires a balancing of policy goals, potential impacts, and anticipated benefits. Because of the project's location in Maine's

¹ Projects approved in Maine are: Mars Hill (42 MW), Stetson (57 MW); Stetson II (25.5 MW), Kibby (132 MW), Rollins (60 MW), and Beaver Ridge (4.5 MW), for a total of 321 MW. Adding the 55 MW Record Hill project would bring the total to 376, or 19% of the 2,000 MW goal for 2015.

Western Mountains, a region with many sensitive and important natural, scenic and recreational resources, NRCM's comments focus on impacts that may occur in relation to these resources and uses. Our comments also address the avoided emission benefits of the project and potential sound-related impacts.

Avoided emissions

The Record Hill project will provide important clean energy benefits. This single facility will supply enough clean power annually for 18,000 average Maine homes—roughly the number in all of Oxford county—making a significant contribution to the reduction of global warming pollution. When we consider Record Hill in the context of the regional power grid, it is clear that every kilowatt-hour from wind power will replace a kilowatt-hour from another source of electricity. In almost every instance, wind power will displace power from a fossil-fuel burning facility. The applicant uses ISO-NE marginal emission rates to estimate avoided emissions. This is a common methodology, which was used in prior permit applications for wind power projects in Maine, including the Mars Hill, Stetson and Kibby Mountain wind farms. NRCM believes that this methodology for estimated avoided emissions is appropriate.

The applicant's estimation of emission benefits is based on undisputed elements of the regional power grid and how different power plants are "dispatched" to provide enough power to meet demand at all times. Maine's Public Utilities Commission has testified repeatedly in wind power hearings about the makeup of our grid and the generation resources which are generally displaced by the addition of wind power. Estimates based on avoided emissions at the marginal emission rate have been tested against—and validated by—more detailed and expensive analysis for individual projects in the past. (For example, see attached report by Resource Systems Group.) We are confident that this method of estimation yields reasonably accurate results.

Site specific environmental impacts

All wind power projects carry a mix of adverse impacts and energy and environmental benefits. Determining whether anticipated adverse impacts might be *undue* is a challenging task. Environmental impacts from wind farms on wildlife are increasingly well understood, although many specific questions remain. While Partridge Peak, Flathead Mountain and Record Hill are obviously habitat to an array of wildlife, we are not aware of any rare, threatened or sensitive species that might be significantly impacted by the project.

The New York Energy Research and Development Authority recently published the results of a comprehensive look at the wildlife impacts from six common types of electricity generation (coal, oil, natural gas, hydro, nuclear, and wind) in the New York/New England region. As summarized in the report, "The focus of the literature review was peer-reviewed literature and scientifically accepted and published reports or documents regarding effects of electricity generation on wildlife. Results were used to construct a Comparative Ecological Risk Assessment in order to make objective comparisons among the six types of electricity

generation.” The full report is attached to these comments, but a few conclusions can be highlighted:

- “The most commonly cited effect from wind power generation is injury and mortality to birds and bats from collision with wind turbines. For birds, these risks are considered Moderate Potential, and they are limited to the site. Local mortality to individuals is likely to occur with no population-level effects and a high degree of species recovery. Biodiversity declines are unlikely for birds. Endangered or threatened bird species in the NY/NE region may be exposed to potential injury or mortality, although they are at no more risk than other species.” (p 3-33)
- “Wind has Lowest to Moderate Potential risks during operation (i.e., bird and bat collisions with wind turbines). No population-level risks to birds have been noted. Population-level risks to bats are uncertain at this time.” (p 5-3)
- “...Coal as an electricity generation source is by far the largest contributor to these risks to wildlife in the NY/NE region.” (p 5-2)

Because the area is well utilized for timber and contains many logging roads, the impact from habitat fragmentation will be minimal. Given the character of the landscape (including current use, elevation and habitat types), the amount of proposed clearing for the project is not undue and appears to be minimized to the extent practical. The most important impacts likely to be associated with the project would be erosion effects, both during and after construction. NRCM believes that as Maine accelerates its development of wind power it is increasingly important that wind projects be constructed with the greatest environmental sensitivity possible. Given the potential for erosion problems of ridge top wind projects, we strongly recommend that the Department require all clearing for Record Hill to be carried out by loggers who have received independent, third-party harvest certification. We also recommend that a third-party inspector be given the authority to stop work if he or she believes environmental damage from any clearing and construction activities is imminent. With “stop-work” authority in place, we believe the project can provide its significant energy, environmental and economic benefits while strictly minimizing site specific impacts.

The application from Record Hill Wind LLC does not include significant transmission line construction—only a short stretch of line which descends the mountain to connect to the existing line running parallel to Route 17. It is our understanding that Central Maine Power, which owns that existing line, may apply separately for permission to upgrade the line to a higher capacity to serve this project, as well as other system needs. NRCM strongly supports locating energy generation projects near existing transmission infrastructure, and maximum utilization of existing lines and corridors. State energy corridor law also includes this policy preference, at 35-A MRS §122 (2)(D). However, we also note that transmission line construction, even upgrades of existing lines, can bring additional adverse impacts. Our preference would be to evaluate this project with the application for any transmission upgrade which is necessary to the normal functioning of the project. We concluded our evaluation of the Record Hill permit application based on our general expectations about the type and scope of transmission development that might be associated with the project.

Visual and scenic impacts on recreational resources

The visual impact of the project on homes and camps in the area has been a topic of considerable discussion regarding this proposal. Modern wind farms involve large structures that will be visible in the Roxbury area. However, it is not possible to achieve Maine's ambitious wind power goals without wind farms being built, and visible from some nearby communities. The Governor's Task Force on Wind Power Development in Maine concluded that locating wind power projects near existing development is preferable—in terms of prudent planning, proximity to transmission, and resource protection—than the alternative of placing projects in remote regions of LURC jurisdiction.

Visual impacts are not the same as scenic impacts. Wind farms have an undeniable visual presence on the landscape, but are legally considered to have scenic impacts only in relation to scenic resources of statewide significance. State law helps define the range of specific scenic resources that are of highest concern with regard to impacts from wind power facilities. This project will create an impact on two recreational resources of statewide significance of particular concern to NRCM and the State: the Appalachian Trail and the summit and trails around Tumbledown and Little Jackson Mountains. Because the applicant did not create a visual simulation from the Old Blue lookout on the Appalachian Trail, NRCM was not able to evaluate the possible impact from that location. The following comments focus on the Tumbledown and Little Jackson impacts. However, we expect impacts to be similar for individuals observing the project from Old Blue.

Despite the advancement of wind-power specific laws guiding the evaluation of visual impacts, there is still no distinct dividing line between acceptable and undue impacts. People have differing perspectives on the attractiveness of wind turbines, which adds complexity to any evaluation. Given the nature of the two resources at issue (Tumbledown and Little Jackson), this project requires a particularly careful look at the impacts and a particularly challenging evaluation of tradeoffs. The project also brings the additional challenge of considering visual impacts on a resource not within the state's expedited wind permitting area from a project located "across the border" within the expedited area.

State law (35-A MRSA §3452, subsection 3) lists six evaluation criteria for determining visual impact:

- A. The significance of the potentially affected scenic resource of state or national significance;
- B. The existing character of the surrounding area;
- C. The expectations of the typical viewer;
- D. The expedited wind energy development's purpose and the context of the proposed activity;
- E. The extent, nature and duration of potentially affected public uses of the scenic resource of state or national significance and the potential effect of the generating facilities' presence on the public's continued use and enjoyment of the scenic resource of state or national significance; and
- F. The scope and scale of the potential effect of views of the generating facilities on the scenic resource of state or national significance, including but not limited to issues related to the number and extent of turbines visible from the scenic resource of state

or national significance, the distance from the scenic resource of state or national significance and the effect of prominent features of the development on the landscape.

Tumbledown is clearly one of Maine's very significant scenic resources, a resource of statewide and arguably even national significance. It is an extraordinarily popular day hike. Many visitors to and residents of southern Maine, particularly children, take their first "major" mountain hike on Tumbledown, due to the beauty, convenience and interesting layout of its trails (it includes a natural "chimney" up which the hiker ascends), its spectacular summit, and the alpine pond just below the summit. Due to the popularity of these hikes, efforts were made in the last decade to permanently protect the area. At this point 6,246 acres have been purchased and another 12,030 acres have been protected by a conservation easement. If built, the project would be a highly noticeable development within a panorama from the summit which is largely undeveloped.

Our conclusion that this would not constitute an undue adverse impact comes from two considerations. First, while recreational users of Tumbledown clearly come with high expectations of scenic views, we believe that this development will not unduly impede overall public use and enjoyment. In particular, some of the key views on Tumbledown will not be affected, especially views of and from the pond below the summit, which is often the primary destination of many recreationalists. Some, of course, will come to look west from the summit toward the mountains of New Hampshire, and be troubled by signs of civilization marring the view between Tumbledown and the Presidentials. But, as noted above, others will not be offended by the sight of wind turbines and may enjoy seeing them.

However, the second consideration is equally important. The scale of the turbines, at a distance of roughly six miles, diminishes the scope and nature of the impact. We do not believe it was the intent of policymakers to completely preclude wind development in a wide swath around all scenic resources; indeed, doing so could make it difficult or impossible for the state to meet its wind power objectives. Maine law directs regulators to "consider insignificant" any visual impacts greater than eight miles away (35-A MRSA §3452, subsection 3.) We believe this presents a high threshold for deeming visual impacts which approach this distance to be undue adverse impacts. Although Tumbledown is a jewel of the state's scenic resources, NRCM believes that the specific anticipated impacts on the resource from this project will not violate the standard for protection established in our permitting system.

Sound-related impacts

Sound-related impacts must be considered carefully in the permitting of wind farms in Maine. Public concern over a wide array of sound-related impacts can be high in communities that host a wind power project, making it very important to approach this issue with strong standards and attention to the best existing scientific knowledge on the subject.

We believe it is important for the Department to differentiate between audible sound and ultra-low frequency sound. Even relatively quiet audible sound can and does have impacts on

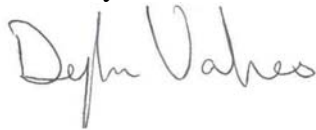
individuals. Living too close to a wind farm can cause sleep disturbance and irritability, which in turn can lead to an array of health issues. Ultra-low frequency sounds are different: they cannot be heard, but they can have negative health impacts in specific circumstances. Based on our preliminary review of some scientific literature, we believe that wind farms do not present the kind of exposures to ultra-low frequency sound necessary to make them analogous to other documented harmful environments (such as piloting airplanes or operating heavy machinery).

Therefore we believe it is appropriate for the Department to continue to use standards for dba sound levels, and to be strict and conservative when evaluating expected impacts. The sound modeling included in the application shows that setback distances at this project are sufficient to ensure that dba standards will be met. We note that the turbines are significantly further away from dwellings than in Mars Hill or Freedom. We also note that the sound modeling was quite conservative, including by treating the entire landscape as bare ground—which would predict higher than actual reflectivity and noise levels.

Conclusion

Permitting wind farms and accepting them in our communities requires a careful balancing of broad benefits and acute impacts. NRCM has reviewed the application for the Record Hill Wind Farm and concludes that it is proposed for an appropriate location; will not have undue adverse impacts; will generate a meaningful amount of renewable electricity; and, thus, it will contribute to Maine's goal of becoming a leader in clean power production in the region. We encourage the Department to approve the permit application.

Sincerely,

A handwritten signature in cursive script that reads "Dylan Voorhees". The ink is dark and the signature is fluid and legible.

Dylan Voorhees
Clean Energy Director