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RONALD B. LOVAGLIO
COMMISSIONER

TO: Review Agencies and Interested Parties

FROM: Marcia Spencer Famous *MSF*
Acting Division Manager
Permitting and Compliance Division
(207) 287-4933

DATE: January 31, 2002

SUBJECT: Pre-application meeting for Redington Mountain Windpower, LLC's proposed windfarm, Redington Township and Carrabasset Valley, Franklin County

The following is a summary of the proceedings of the pre-application meeting held on January 17, 2002 (9 am to 12:15 pm) for Redington Mountain Windpower, LLC's (RMW) proposed windfarm.

In attendance:

Land Use Regulation Commission

Marcia Spencer Famous, Acting Permitting and Compliance Division Manager, LURC
Fred Todd, Manager Planning Division, LURC
Bill Galbraith, Supervisor Compliance Division, LURC
Aga Pinette, Senior Planner, LURC

Redington Mountain Windpower, LLC

Harley Lee, President, Endless Energy, LLC
Ralph Chapman, Project Manager
Steve Pelletier (SP), ecological consultant, Woodlot Alternatives
Albert Frick, soil scientist
Jeff Thaler, Bernstein, Shur, Sawyer & Nelson

Other State Agencies

Mark Caron (MC), Maine Department of Inland Fish and Wildlife
Steve Timpano, Maine Department of Inland Fish and Wildlife
Lisa-kay Keen, Maine Department of Environmental Protection
Dave Rocque (DR), State Soil Scientist

Federal Agencies

Wende Mahaney, U.S. Fish and Wildlife Service
Shawn Mahaney (SM), U.S. Army Corps of Engineers
Jeanne Vorhees, U.S. Environmental Protection Agency



Other Interested Parties

Steve Clark (SC), Maine Appalachian Trail Club
Pete Didesheim (PD), Natural Resources Council of Maine
Fred Hardy (FH), Franklin County Commissioners

Redington Mountain Windpower, LLC (RMW) presentation

After introductions, Redington Mountain Windpower, LLC presented an overview of the proposed windpower project and the corporate perspective. Redington Mountain Windpower, LLC is managed by Endless Energy LLC, a company based in Yarmouth, ME. *[Note: The project that was presented is close to the project that will be proposed, but some details may change for the submittal of the application.]*

Project description

The proposed windfarm would be located in Redington Township, with some of the access roads and transmission lines extending into Carrabasset Valley. The windfarm would have 29 turbines that would be 260 feet tall with 130 foot long blades, for a total height of 390 feet to the tip of the blade. The turbines would be installed at or near the summits of Redington Pond Range (15 turbines) and Black Nubble Mountain (14 turbines). The turbine blades rotate within 10% of a consistent speed, which is different and slower than the early design wind turbine blades whose speed varied depending on the wind speed. The collective footprint of all turbines would range from 5130 sq ft up to 91,000 square feet, depending on the type of installation required for each turbine. The maximum footprint per turbine could be from a maximum of 3138 sq ft (56 feet on one side for a square concrete foundation) to a minimum of 177 sq ft (approximately 15 foot diameter for a round turbine base). A total of approximately 225 acres would be cleared for the turbines (20 acres), access roads (32 acres), and the transmission lines (173 acres). The project may be completed in phases, and the timing may coincide with some electrical system impact studies that still need to be done.

The range of sizes for the turbine bases is due to the characteristics of each turbine site. If the turbine base can be inserted directly into bedrock, then the smaller value applies. If the site requires that a base be created to make the tower stable, then the larger value applies. A geotechnical evaluation of each site will have to be conducted, but can't be until road access is available.

The transmission lines would run between the cluster of turbines on Redington Pond Range and Black Nubble, and would then run over to Carrabasset Valley. One-half of the lines would be high voltage lines that would be placed in a horizontal line configuration along a 150 foot wide corridor, and would connect to the existing Bigelow CMP substation. Low voltage lines would have a 75 foot wide corridor. A substation would be located between the two tower clusters, near Nash Stream. A total of 17.5 miles of transmission lines would be installed, 11.5 miles of which would be above ground, and 6 miles underground.

Access roads would follow existing land management roads to the extent possible, but about 10 miles of new road would be constructed (6 miles on the mountains and 4 miles to access the mountains). The new access roads would be 16 to 20 feet wide, with a 14% maximum grade. Existing roads, including Caribou Pond Road and Nash Stream Road, located in both Carrabasset

Valley and Redington Township, may need to be improved. The access roads would be used to transport the turbines to the site, for operation/maintenance, and for ecotourism access.

Environmental Studies

The soils in the area of Redington Pond Range were mapped during the pervious phase. The soils field work for the Black Nubble section was completed in the Fall of 2001 and is in the process of being compiled. Soils above 2700 feet are classified as 'fragile', and there are areas of steep slopes (ie. in excess of 30%). The Endless Energy design team has been in close communication with David Rocque, State Soil Scientist, to review the work product and address sensitive issues. Erosion control will be designed in consultation with the State Soil Scientist.

Ecological studies were done on Redington Pond Range, starting in 1993, including assessments of natural plant communities, wetlands, bird use (including raptor, breeding bird and neo-tropical migrants) and habitat, and small mammals. Golden eagle and Bicknell Thrush surveys, as well as rare plant surveys were also conducted. The study plan was developed in consultation with state and federal agencies. Flyways were simultaneously compared with coastal flyways, and found minimal use in the project area. The studies found Bicknell's Thrush and Northern Bog Lemming in the development area, and identified habitat used by both so it can be avoided and managed. [*A summary of the study findings was distributed to meeting participants.*]

Recently, an ecological assessment of Black Nubble Mtn. was completed, although the studies were more seasonally limited and not as intensive as for Redington Pond Range because the habitat on both mountains is effectively identical. The Black Nubble Mtn. study looked at natural communities, rare plants, small mammals, and wetlands.

An assessment of the transmission line route was conducted: wetlands and streams were delineated and rare natural communities and plant species were searched for. Much of the route is in previously harvested areas. A route analysis was done with the objective to hide the power lines without infringing on streams.

The vicinity of the proposed development is not roadless because there are many land management roads throughout the area which is a highly managed, industrial forest.

A photosimulation of the proposed wind towers has been completed using 100m high towers. RWM spent several months going over the sites for the simulation with the Natural Resources Council of Maine (NRCM) and the Appalachian Trail Club (AMC). The closest visible point of the Appalachian Trail (AT) was used for the simulation. Terry de Wan was the consultant.

Corporate Philosophy

The company's mission is to produce an economically, environmentally sustainable energy system. Other windpower projects by the company include a wind turbine in Orland, Maine, and a windfarm in southwestern Vermont on Little Equinox Mountain. The company considers windpower to be a viable replacement for other energy sources because it does not produce air pollution, and is sustainable at a minimal cost after start-up. Most of New England's current energy resources are non-sustainable. The overall wind resource is very large, and the best resources are on mountain ridges or just off the coast. New technology has brought prices down, and improved the efficiency of the turbines. Windpower is the fastest growing energy source in the world, surpassing nuclear

energy. Other wind turbines have been well received by the public, based on an increase in approval ratings after installation.

Review Agency and Interested Party Concerns

[Note: The bulleted items are presented in question and answer form, with the questions asked by agency staff members and answers by RMW, unless otherwise noted. Comments are designated by the individuals that offered them]

Maine Inland Fisheries and Wildlife (IFW) & US Fish & Wildlife Service (FWS)

- When will the environmental studies be completed? RMW currently believes, most, if not all, ecological field studies have been conducted. RMW will coordinate a review of the existing data with MDIFW to determine if additional studies are warranted. The studies will be completed and information compiled for submittal of the permit application.
- Will there be post-construction survey work, especially for neo-tropical migrants? We are assessing whether such studies will be accurate, based on the thickness of underbrush in the area of the turbines; compared methods to studies done in Vermont at Searsburg and Mt. Equinox.
- How large an area will be cleared around each turbine? Less than ¾ acre per turbine, or about 20 acres. Turbines are assembled in pieces so the cleared area can be kept small.
- How well will the cleared areas revegetate? Soil disturbance will be minimized in the construction areas and retain the duff layer, or topsoil will be brought in if needed. The vegetation will be allowed to regenerate after the turbines are in place.
- Where will the underground lines be? The six miles of underground lines will be between the turbine towers within the access roads.
- (MC) IFW may request formal studies of Black Nubble area.
- (RMW) RMW will plan a site visit in the spring for agencies.
- What did the Black Nubble Mtn. study survey? Wetlands, natural communities, small mammals, and rare plants, but no breeding bird work due to seasonal limitations. Habitat conditions are, however, similar to Redington Pond Range.
- Were the transmission line corridors surveyed? Biological concerns were addressed by Woodlot Alternatives.
- Was a raptor survey done? Yes, In 1994 Woodlot Alternatives did spring and fall surveys that covered the entire project area, not just Redington Pond Range.
- Will the roads be plowed in the winter? Not planning to unless it is necessary to bring equipment up to the site.
- Who are the abutters? Plum Creek, US Navy, and Dallas Co.
- RMW doesn't have the right-of-way for all corridors yet (reference Kenetech files for a similar issue, option to lease).
- Was any evidence of lynx found during the surveys? No tracks were seen during the ecological surveys. No measurable impact anticipated if they are present. (IFW has seen sporadic droppings around the area. Lynx is now a federally endangered species.)

Dave Rocque, State Soil Scientist

- Who will design the roads? DeLuca-Hofman.
- (DR) Primary issues are slope, erodability of the soils, and alteration of hydrology.

Roads may have to parallel contours if the slope is >14%; can't go perpendicular up the mountain side. Roads with ditches will intercept all water coming down the mountain; suggest building road above grade to avoid using ditches. Steep slopes will require some cut and fill along the contours. RMW will need to use innovative approaches to minimize impacts.

- (DR) RWM will need to have expertise on site to apply BMPs, and need a site specific plan. (RMW) Proposing to develop BMPs for roadways.
- Does the Searsburg, VT road go up the mountain? Yes, but road is paved, have ditches, and the slopes are more gradual. (DR) Suggest RMW design the roads with flash rainfalls in mind, use coarse cobbly materials instead of fine gravel.
- Will there be a road put in along the power line route? (No definitive answer)
- (DR) Request that RMW's engineer meet with him to work out road design so that erosion control and potential for alteration of hydrology will be addressed; and to develop BMPs.

US Army Corps of Engineers

- What will be the amount of impact to wetlands? A number of crossings will need to be upgraded, mostly streams. The project area has few wetlands; none on the Black Nubble route, few on the Redington route.
- (SM) The change of use of the existing land management roads may require that the wetland impacts for the entire access route be considered; will have to think about it.
- How many miles of existing roads will be upgraded, and do those roads go through wetlands? Nine miles of existing road to Black Nubble, 7 miles coming in on Caribou Bog Road. Not a lot of existing wetland impact; existing roads are pretty substantial.

Natural Resources Council of Maine (NRCM) and Appalachian Mountain Club (AMC)

- (PD) NRCM doesn't have position on this project yet. As an agency NRCM is supportive of windpower, but troubled with the particular location of the site. The area is one of the 3 most significant mountainous sites in Maine, and the largest contiguous area above 2700 ft elevation in Maine. Twelve miles of the AT are visible, and the turbines would be visible from many spots along the trail. The project will be one of the largest projects in the state and is proposed for a place that's a natural scenic resource used by many people.
- (PD) If the location was not so close to the AT, the major issues would be site specific.
- (SP) What does "natural scenic resource" mean? (PD) The AT is a nationally designated scenic corridor.
- (SP) How does [the 1000 acre clear cut in the foreground of the viewscape] timber harvesting effect the scenic resource? (PD) Trees grow back, but the windfarm is a permanent installation.
- (SC) What are the Federal Aviation Administration (FAA) requirements for lighting? FAA requires a flashing red light or a strobe light (FAA preferred) at the top of the wind turbine. The lights would not be visible from directly below. RMW will be working with FAA to have the minimum number of lights and minimum impact; will try to have lights that won't attract birds.
- Will the new roads and power line right-of-ways be available for ATV and snowmobile use? The main concerns are for safety and erosion. As a rule, logging roads are used recreationally, but traffic will be excluded from the top of the mountain during icy conditions for safety reasons. Haven't finalized policy yet, and welcome suggestions.
- (SC) Do the lights on the towers have to be on 24 hours a day? Yes.

- (SC) Does the Searsburg, VT site have lights? No. Those towers are 190 feet tall, and the FAA requires lights at 200 feet.

(SC) The existing transmission line location at the Wyman Twp. boundary crosses the National Park Service AT right-of-way. Will LURC require a permit from the NPS as a part of the application? (MSF) Not sure, have to consult with the National Park Service to see how that applies to LURC's review process.

Franklin County Commissioners (FH)

- The county commissioners are firm believers in windpower. Their main issue is the visual impact. There is concern that a project shouldn't be permitted just because it isn't visually appealing to someone. The commissioners are not concerned about a project taking up 225 acres of the unorganized territories, but concerned that Franklin County residents be able to have the advantage of the taxes that would be paid to the town.

Procedural Assessment

Land Use Regulation Commission (LURC) and Department of Environmental Protection (DEP)

Appropriate zone for the proposed windfarm

LURC's (D-PD) Planned Development Subdistrict was applied to the Kenetech project, and is designed to deal with large development in areas of high value natural resources. LURC's Comprehensive Land Use Plan specifies the D-PD Subdistrict as the appropriate zone for windpower. However, the description of the D-PD Subdistrict for commercial projects is described as encompassing "at least 30,000 square feet of floor space and 50 contiguous acres". The description of the D-PD Subdistrict did not consider wind towers when the floor area was designated.

The cumulative basal area of the wind towers could be anywhere from 5130 to 91,000 square feet. The total cleared area in the unorganized territories would be 225 acres (173 would be for transmission lines, slightly over 50 acres for new roads and turbine sites; the substation is not included in the estimate). While the proposed windfarm meets the acreage criteria, it may not meet the "total floor space" criteria. Nevertheless, everyone agrees that the D-PD Subdistrict review process, which is more rigorous than LURC's standard review process and designed to address the types of concerns associated with siting projects in sensitive areas, is the appropriate one to apply in this situation.

Use of the D-PD zone does not allow that development zone to help future rezonings meet the adjacency criteria. The D-PD process is a combination of LURC's rezoning and permitting processes. Under LURC's usual permitting process rezoning precedes the permit, but both are often applied for at the same time.

The D-PD review process also includes a public hearing, which would be set within 45 days after submittal of the application unless the applicant requests an extension. LURC wants to be sure interested parties have adequate notice to apply for intervener status if they chose. There would likely be pre-hearing conferences as well.

[A copy of Section 10.14,C of the Commission's Land Use District's and Standards, (D-PD) Planned Development Subdistrict was handed out.]

Coordination of LURC and DEP reviews

LURC will be the lead agency because the towers will be located in LURC jurisdiction. Only part of the access roads and part of the transmission lines are in DEP jurisdiction.

DEP asked how long the road and transmission line corridors would be, how much cutting disturbance there would be, and how much of these areas is above 2700 feet. (RMW: The transmission line in Carrabasset Valley is below 2700 feet, access road is above 2700 feet.) DEP may have to go through site location law, which would incorporate the natural resources protection law (NRPA). Stream or wetland crossings would be addressed under the NRPA. If there will be more than 1 acre of roads, then the stormwater law will be addressed. DEP is not yet sure how the co-use of land management roads will be addressed. Most of the DEP submittal requirements will depend on amounts: length of the roads and transmission lines, cleared acreage, activities in elevations over 2700 feet, square feet of wetlands, how stream crossings will be dealt with (e.g. type and size of culverts), and erosion/sedimentation control.

DEP will defer to IFW on wildlife issues. IFW assumes that road upgrades will be described, and asked what will come under permit-by-rule (PBR). The answer to this will dictate IFW's level of involvement regarding fisheries. RMW should contact IFW's regional fisheries biologist.

The submittal of the permit application to LURC and DEP should be coordinated to minimize redundancy. DEP and LURC will create a checklist using and expanding on DEP guidelines for issues associated with utilities as well as LURC's requirements for the D-PD review process. The timing of the application submittal will be assessed after RMW receives the checklist and this memo.

An additional site visit to Redington Pond Range and Black Nubble Mtn. will be conducted for agencies in the spring. This site visit will most likely be coordinated by LURC.

Additional questions

- Is a FERC license required for this project? RMW has to send a 4-page form to self-certify that it is a qualifying facility. ISO New England controls the study area. RMW has to assure that any change to the system will not adversely affect the grid system.
- Have you talked with the Navy recently about this project? Yes.
- How and when will the tower height be determined? Taller towers are more expensive, and in this area they don't need more wind. There is an advantage to keeping the towers low. The three possible tower heights are 100m, 76m and 67m. Earlier comments said RMW would be using 76m towers. Due to elevation differences, there may be several different tower heights used. Expect 76m towers to be proposed.

How much additional time will be needed to assess the meteorological data? Will any additional data be needed to evaluate the resources? RMW could have that information in time for the permit application. The wind analysis can be done soon; the meteorological towers are collecting data.

- Are there other places along the AT where the wind towers could be seen, other than the point(s) where the photosimulation was done? Five groups, including hikers, were interviewed during the visual assessment, and a large number preferred the smaller towers. People were interviewed at Saddleback, Crocker Mtn. and a third location.

Complete application

For a complete list of the information that must be addressed in the application under LURC's regulations, refer to the description of the (D-PD) Planned Development Subdistrict. Based on today's pre-application meeting, some of the information to be included in the application includes:

- Description of project including turbine sizes, basal area, cleared areas, access provisions, etc.
- Road system design and erosion control measures
- Soils mapping
- Right-title-interest for all development areas and corridors, including right-of- ways.
- Complete wildlife studies
- Visual impact studies addressing the various Appalachian Trail organizations' concerns
- Environmental monitoring proposal
- Conservation easement proposal
- Financial and technical capabilities and viability of the project
- Need and adjacency (It was suggested that RMW review the Kenetech files to see how need in the community was addressed for that project. Need is often one of the hardest issues to address for rezoning.)

Summary of additional information that needs to be prepared for the permit application

Complied and evaluated ecological studies

Final tower height and base size: current range from 5,130 to 90,000 is too broad

Phasing of the project, if any

Conservation easement proposal

Right-title-interest for all areas and corridors