

DENNIS WATER DISTRICT

Board of Water Commissioners

Minutes of Meeting held

July 07, 2010

A meeting, having been duly posted, was held this date at the Dennis Water District, 80 Old Bass River Rd., S Dennis. The meeting was called to order by Paul F. Prue, Chairman at 9:34 PM. Also in attendance were Charles F. Crowell and Peter L. McDowell and the following District officials:

David Larkowski, Superintendent
Sheryl A. McMahon, Clerk & Treasurer

Also attending for the workshop on the draft Wind Power Feasibility Report were:

Tom Michelman, Principal, Boreal Renewable Energy Development
Alex Weck, Wind Energy Consultant, Boreal Renewable Energy Development
Nathan Weeks, Senior Project Manager, Stearns & Wheeler GHD
Mark McDowell

Mr. Michelman began the session by saying that there were really no surprises in this draft report from what had been previously reported in the preliminary assessment. The avian study was completed on July 6, 2010.

There was some discussion regarding the pro forma spreadsheet and the assumptions used.

There was a general review of the Executive Summary which reported that there is plenty of space for two wind turbines utilizing a 400' buffer from the eastern edge of the District's property line and the Brewster town line. Consideration might be given, if there is great concern about sound, to locating the turbine(s) as exacting to the property setback as possible or perhaps even closer with a variance.

Mr. McDowell noted that one option for the District to avoid an application with OKH may be to build a turbine in Brewster on an easement in favor of the District. He said it would not need to be any further into Brewster than was necessary to meet the fall zone. Mr. Weck said there would only be small changes to the report should the siting be desirable in Brewster and that the wind analysis would still be applicable. Mr. Michelman said they would investigate this feasibility of this option further. Mr. Weeks, as a subcontractor of Boreal, met with the Town of Dennis Department of Natural Resources (DNR) to review the natural species and habitats of the area and to identify if DNR had any concerns. It was also suggested that, if the District was going to pursue a possible siting in Brewster, the consultants should also meet with Brewster's DNR. Other considerations for siting in Brewster were raised. Of specific concern is the fact that supplying electricity across property lines is reserved exclusively for NSTAR as it has a monopoly on the distribution of power in their territory. It was noted that the availability of net metering across a town or property line would still be available to the District if it were to site the turbine off-District property. There was a consensus to have Boreal investigate the zoning and net metering issues for a potential siting in Brewster.

Mr. Weck reviewed the wind resource analysis. He stated that there is virtually no change in the potential wind power generation to move the site into Brewster. He noted that the wind data used in this study was extrapolated from data collected at a private site in Harwich by Boreal. The Board reviewed the correlation of wind data on page 20. A wind speed at 10 meters per second is approximately 20 miles per hour. One blue dot is one hour of observation at the Harwich site. The analysis is not a comparison but a representation of how the data sites are similar. The analysis is a good representation of how the data correlates from 1.5 years collected in Harwich with the Hyannis airport. They used long term averages to adjust the data for the District's site. Given the wind resources at the District's site (Page 27) a 600 KW turbine would generate sufficient power for the District's needs at 1.3 million kWh per year. A bigger turbine would generate excess power. As expected, the payback analysis is better with bigger turbines. Page 54 - Table 2-2 was reviewed and discussed. Do we put one up that covers the needs and provides us with additional power to be sold?

Mr. Weeks reviewed the environmental resource assessment of the proposed site. He reported that there were no endangered species on the site; there are no priority habitats; and the site is not in or near any wetlands. He met with a DNR officer who did not see any problems with the site. US Fish and Wildlife Service commented in regards to the avian study in a letter that states they want more pre-construction surveys done. This would mean more time and observation. This would be in addition to the avian study being resumed this fall. The USF&W generally looks for additional studies to gather information about concerns which are basically migratory issues.

The focus then shifted to the engineering feasibility of the site. Mr. Michelman stated that this is a good site for the electrical interconnection. He did not anticipate any technical issues and he does propose to have two different interconnection points if two turbines were to be constructed. There were no difficulties with the geology for the foundations at the selected site. The primary concern for engineering is road access. The existing terrain is too hilly. The roadway has to be flat to accommodate the long wheel base and low clearance with the delivery of the turbine pieces.

In summary, the site seems to be a premier location for developing wind driven electrical power. The regulatory and permitting issues are generally the biggest concerns. With the passing of amended zoning regulations last spring to accommodate the previous height restrictions, obtaining a certificate of appropriateness from OKH now seems to be the foremost impediment. In terms of the economic feasibility, Mr. Michelman stated that the analysis considers the estimated production, current and historical usage, rates, potential value of the renewable energy certificates, likelihood of obtaining grants and loan rates. The total costs for construction, production and maintenance along with various potential revenues are estimated. Comparing the two tells you if the project will yield a positive return or negative and how quickly.

A discussion regarding the P50 and P90 estimates ensued. The estimated percentage of time the turbine will be generating electricity is essential to determining the necessary size in order to cover the District's annual power demand.

There was some general discussion regarding the assumptions used in developing the models for the best case and worst case scenarios.

In consultation with the consultants, the Board members discussed the next steps for the project, Basically, the Board should come to a decision on size and then design. There was some discussion as to the potential for grants. There was a general discussion regarding to the development of “conceptual plans” and for the permitting process.

There was a consensus that the District will, at some point, need to provide OKH with what the selected turbine would look like. Mr. Michelman, Mr. Weck and Mr. Weeks left the meeting at 11:14 AM.

Additional discussion ensued regarding the varying size of the wind turbines. It appears from the study that a 600kw turbine will not produce enough for our needs given a worse case scenario at P90 (16%). There needs to be surplus power generated that can be sold back (at retail) in order to produce sufficient credit to cover the debt and maintenance costs.

There was a brief discussion on how best to proceed with obtaining an approval from OKH but, there was no consensus reached or motions made.

On a motion made by Charles F. Crowell, and duly seconded, the meeting was adjourned at 11:26 AM.

Respectfully submitted,

Sheryl A McMahon, Clerk