

Update on the Wind Project

March 6, 2010

After generating significantly more electricity than expected in December and January, February output from the Fox Islands Wind Project was below projections. One reason was that Turbine 3 went down in a big storm at the end of January, and was down for about 3 weeks. GE was out three times to fix it, only succeeding on February 22. Since then, T3 has been flawless. The chart at the end of this letter shows cumulative actual and projected output since commissioning. As you can see, by early March we were back on target, and hopefully with all three turbines operating properly, we will return to our high output numbers.

The other reason for lower than projected output was that we were running an experiment in sound reduction, in order to better understand the concerns that have arisen about sound issues with our neighbors. Beginning on the first of February, and continuing until March 6, we have been curtailing output at the site in an effort to understand how output reductions could reduce the bother from the sound experienced by our neighbors. We sent a letter to all residents within a half a mile of the site, asking them to carefully log their experience with the sound each morning and night, so that we could see whether, and how much, operational curtailment improved their subjective experience of the sound. The curtailment schedule was random: no one on the island knew how much the turbines had been turned down.

With financial support from the Department of Energy, the results of this experiment are now being compiled and analyzed by researchers from the Lawrence Berkeley Laboratory. The results will be presented to the Coop Board sometime in the next month. The participation rate by neighbors has not been as high as we had hoped, but we still hope that we can get useful data from the study to better understand the trade-off between turbine speed, sound levels, the experiences of our year-round neighbors, and electricity output. Only with this understanding can the board and the community come to a decision about how we can possibly address the neighbors' concerns.

In addition to this experiment, we are working on a number of other possible steps that may also help to address the neighbors' concerns. We continue to measure sound levels near the turbines, and thus far nothing indicates that the project is not meeting the requirements of our DEP permit, which are that the turbines operate below 45 decibels at night and 55 decibels during the day at all surrounding residential locations. These standards are some of the lowest in the country, and have been extensively reviewed by Maine's Department of Public Health and found to be safe. We will continue to monitor these levels, under the supervision of DEP, to assure that all standards are continuously met.

We continue to explore whether some sort of sound baffling or insulation in the nacelle would improve the situation for our neighbors. This would reduce sound coming from the gearbox and generator, which some people have found bothersome. In addition, General Electric has put Fox Islands on the short list as a beta site for some experimental technology that they have developed to reduce sound coming from the blade tips. We should hear about this shortly.

We are also in discussions with several companies interested in active sound cancellation. This technology, already used in noise cancelling headphones and the sound systems in luxury cars, has not been tried for this type of application yet, but there is enthusiasm among researchers that it could be effective.

Of course, the situation is likely to be different as spring comes. As the trees leaf out, the sound conditions will change. In addition, the wind speeds will begin to fall and the sound levels will drop accordingly. While the turbines operate at or near full power over 30% of the time in November through February, they do so about 5% of the time between June 15 and September 15. Clearly, we will need to continue to monitor the sound throughout the spring, summer, and fall.

