

MINUTES

MEETING OF THE TECHNICAL COMMITTEE ESTABLISHED BY THE NEW HAMPSHIRE SITE EVALUATION COMMITTEE IN DOCKET NO. 2006-01: APPLICATION OF LEMPSTER WIND, LLC ORDER AND DECISION ISSUED JUNE 28, 2007

August 18, 2009

The Lempster Wind, LLC Technical Committee met at 10:30am. The meeting began at 11:25 am. on Tuesday, August 18, 2009. The following Committee members were present: New Hampshire Fish and Game Department (represented by Mike Marchand and Carol Henderson); Public Service Company of New Hampshire (represented by Kevin Bemis and Richard Dumore); New Hampshire Audubon (represented by Carol Foss) and; Iberdrola Renewables (represented by Kristen Goland). David Tidhar of WEST, Inc was the invited speaker. There was one member of the public, a member of the Lempster Board of Selectmen. Kristen Goland convened the meeting and the following matters were discussed.

1. **Study protocol discussion.** The Technical Committee convened at Turbine 8 at the Lempster Wind Farm and David briefed the group. David explained that T-8 was one of the 4 daily monitoring areas. With the largest search plot, he indicated it provided a good representation of the types of ground cover at all of the turbine sites with rocky embankments, a gravel pad and some grassy slopes. The Technical Committee was polled on the format of the presentation and the TC decided on a Question and Answer format.

Carol Foss asked if WEST accounts of cover type when measuring observer efficiency. David indicated that they look at 2 primary sources of bias; the difference between the observers and the difference between ground cover/visibility index. The visibility index will be generated based on the results of searcher efficiency trials. At the moment, turbine pads are assumed to be easy, grasslands moderate and so on. However, the classification of easy – very difficult will be associated with the probability of finding a carcass, which won't be better understood until all the searcher efficiency trial data has been analyzed. At the end of the study period the data is ranked to visibility index and will be associated with ground cover Carol Foss asked if detect ability as a result of distance from transect line is also taken in to account. David indicated that it was for both searcher efficiency and scavenging removal. David discussed how the sampling approach was designed to maximize the size of the searchable area and how the search area was constrained – by forest and rocky features which are unsafe to search and/or cannot be searched with confidence that carcasses would be visible.

David indicted that for the fall season there has been some maintenance to the grassy areas around T-8 and T-5 and that Iberdrola Renewables contracted with the landowner for periodic mowing. Since July 15 those two areas have been mowed twice but they were not mowed during the spring season.

Mike asked what became of the potential research question of studying downwind of a turbine in the field near T-12. Kristen noted that the field is separated by a small scrub

shrub area and is not directly adjacent to the turbine but that field is not under lease of the project and Iberdrola does not have a right to the area. Kristen recalled that the technical committee asked WEST to analyze the data from the first year of study to determine if there appears to be a correlation between carcass locations and wind direction. If there appeared to be a correlation then Iberdrola Renewables would negotiate with the landowner to gain access to the area for research. David indicated that although the daily searches allows for the potential for research type data analysis, the principal aim of the study is to come up with an estimate of fatalities. He also noted that, to date, there have been 4 bird and 3 bat fatalities located at the site, which he felt is extremely low and it may be difficult to correlate data for research. He also felt that the size of the search areas and variation in ground cover does not make the Lempster Wind Farm an ideal place for a research project.

Carol Foss noted that it would have been helpful to have seen the site before the Technical Committee made their recommendations.

Dick asked if the intention of the grassy areas is to naturally re-vegetate. Kristen indicated that the gravel areas would remain in place and kept clear of any vegetation but that grassy areas would be allowed to re-vegetate up to a certain height, estimated no more than 5 feet due to wind shear and turbulence associated with taller objects affecting turbine production. Most TC members noted that in the thin soils covering the ledge over most of the site, large vegetation should not be an issue.

Carol Henderson asked, in the case of permits where we need to search in years 3 and 5 would we allow the site to re-vegetate in-between those years. Kristen was unsure but indicated that it would depend on the project and would consult with a biologist for their opinion as it relates to a specific site.

David indicated that in many agricultural crop areas researchers are now looking at a density weighted area to sample the search plot to reduce the amount of clearing. He noted that it provides for a more conservative estimate but in certain habitats it can yield the same statistically valid results.

2. Transect Search Test. David placed trial carcass along three transects and asked members of the Technical Committee to walk transects in search of bird fatalities. David explained that observers typically walk a 40-60 meter per minute pace and look 3 meters on each side. He noted that in difficult ground cover, such as large rock, the pace slows for both precision and safety to approximately 20 meters per minute. The pointed to areas that cannot be searched and indicated the rationale for locating search areas is a culmination of what can be safely searched and what is the probability of actually finding something. Once test transect searches were complete the TC members compared their results. NHF&G found more than Iberdrola Renewables, New Hampshire Audubon vindicated themselves with a strong detect ability rate, and the PSNH team proved why this is not their day job.

3. Final Discussions. David indicated that there were two bat fatalities over the previous weekend. Barotrauma was discussed.

David followed-up with Carol Foss on a previous question she asked about species commonly found at wind farm locations. David reported that Golden Crowned Kinglets were the most common followed by European Starlings, Wild Turkeys, and Rock Doves. Carol asked if David if he thought there would be a correlation between the Kinglet mortality and habitat type. David indicated he wasn't aware of any specific data analysis but he would be surprised if there was because the species is very widespread.

David noted that he currently has three observers conducting the daily searches two of which are masters students at Antioch College and one was a biology teacher. Because three carcass searches are being used, a greater number of searcher efficiency trials than anticipated are being conducted in order to account for potential detection rate differences between observers. He discussed how evolution of the design and implementation of post-construction projects is continuing. For instance, a higher frequency of searcher efficiency and scavenging trials are now conducted than in previous studies, whereby less carcasses are distributed per trial. This provides for a greater number of trials and more sampling throughout the study period.

The meeting was adjourned at 12:30 p.m.
