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Robert P. LaBelle
Acting Associate Director
Offshore Energy and Minerals Management
Office of Offshore Alternative Energy Programs (MS 4090)
Bureau of Ocean Energy Management, Regulation and Enforcement
381 Elden Street
Herndon, VA 20170

Re: Comments on Notice of Preparation of an Environmental Assessment forCape Wind Associates' Construction and Operations Plan (Renewable Energy Lease OCS-A-0478)

Dear Mr. LaBelle:

On behalf of Public Employees for Environmental Responsibility ("PEER"), please accept these additional comments on the Bureau of Ocean Energy Management, Regulation and Enforcement's ("BOEMRE") notice of preparation of an environmental assessment ("EA") for Cape Wind Associates' Construction and Operations Plan ("COP"); specifically, the "Appendix B: Cape Wind Avian And Bat Monitoring Plan – Draft Monitoring Protocols, Nantucket Sound, Massachusetts" (hereinafter "the Plan"). PEER submits these comments in addition to those submitted by our attorneys, Meyer Glitzenstein & Crystal.

Appendix B of the Plan, prepared by ESS Group Inc. (ESS), purports to "present the detailed methodology that will be used to implement the monitoring program and address the study objectives presented in the ABMP." The Plan also states that, "To the greatest extent practicable, the Monitoring Protocols must incorporate methods to assess detectability and sufficiency of negative data."

Use of surrogate birds for piping plover and roseate tern. The Plan proposes to use the semipalmated plover as a surrogate for the endangered piping plover, and the common tern as a surrogate for the endangered roseate tern in its radio tagging studies. While we understand the desire to use more common species for tagging due to the potential for injury and/or mortality associated with tagging, the studies are meaningless if the common surrogate birds do not behave similarly to the birds of interest.
In this case, it is important to note that the semipalmated plover does not breed in Massachusetts, while the piping plover does. The semipalmated plover is "present on sandy beaches and

intertidal flats from late July to early September during its southward migration," whereas with the Piping Plover, "stragglers remain behind until late October." http://www.mass.gov/dfwele/dfw/nhesp/species_info/nhfacts/charadrius_melodus.pdf.

More importantly, the U.S. Fish and Wildlife Service (USFWS) states:

> The major potential threat to piping plovers posed by wind turbine generators is that of collisions. In the off-shore environment, the primary risk occurs during migration, when routes and flight altitudes are largely unknown. …Wind turbine generators pose a threat to piping plovers in the foreseeable future, but the magnitude of this threat cannot be assessed without better information about piping plover movements. Information needs include migration routes and altitude, flight patterns associated with breeding adults and post-fledged young of the year foraging at nearby sites that are not contiguous with nesting habitats, and avoidance rates under varying weather conditions.

See "Piping Plover (*Charadrius melodus*), 5-Year Review: Summary and Evaluation U.S. Fish and Wildlife Service, September 2009." Since migratory routes and flight altitudes are "largely unknown," it is unreasonable to assume that the surrogate species will provide any usable data on whether the proposed turbines present a risk to the piping plovers.

Massachusetts Audubon (MassAudubon) has noted the variability of flight altitudes in terns. In their "Survey of Tern Activity Within Nantucket Sound, Massachusetts, During Pre-Migratory Fall Staging: Final Report for Massachusetts Technology Collaborative," 8 January 2003, MassAudubon stated:

> The majority of birds observed during aerial surveys were flying at low altitudes (estimated at less than 100 feet) over the water. On August 28, however, several flocks of terns were detected high aloft. One flock composed of an estimated 120 terns extended from roughly sea level to an altitude equal to or slightly above our own (500 feet). This flock was recorded along transect 11 (coordinates 41º 28' 34" N; 70º 8' 53" W). In another flock of 18 Common Terns recorded along transect 13, three birds were observed at roughly 400 feet (coordinates 41º 32' 22" N; 70º 5' 26" W). The birds appeared to be "kettling" on thermals, but why they were found aloft on that day and not on other days is unknown.

Even ESS admits that the flight altitudes of these two endangered species are poorly understood. In its August 31, 2004 report on roseate terns and piping plovers, ESS stated, "The characteristics of plover flight are not well known and no activity budgets focusing on altitudes have been established for this or most species." See http://www.nae.usace.army.mil/projects/ma/ccwf/app57h.pdf, p. 8.

Until and unless flight patterns of the piping plover and roseate tern are known, it is simply not reasonable to use surrogate species to determine risk from the rotor blades.

Even if the use of these surrogates was based on knowledge of flight patterns, the methods proposed by ESS for the radio tagging study are arbitrary. Specifically, ESS proposes to tag 12 common terns and 12 semipalmated plovers. In addition, they propose to track the terns 12 times or more, and track the plovers eight times. The surveys will last a ***maximum*** of 4 hours, and ESS cautions that the pilots may not be able to fly each transect during a survey.   These methods lead to a number of unanswered – and perhaps unanswerable – questions:

- How did ESS arrive at the sample size of 12 plovers and eight terns?
- What type of confidence level exists for assuming that this sample size will be adequate to provide realistic data for the population of terns and plovers passing through the project site?
- How does this translate into risk for the two endangered species?
- Will the surveys be done across random days and times?
- Will the surveys be done in all types of weather? All types of visibility?
- Since wind direction can determine flight altitude in terns, will the surveys be done during differing wind directions?
- Will the number of surveys be sufficient to collect any statistically meaningful data given the large number of variables mentioned above?

The methodology presented in the Plan is not detailed enough to assess the study's sufficiency, let alone collect analyzable data. Therefore, PEER believes that ESS must provide a much more detailed plan, together with its rationale for choosing sample sizes, and a detailed description of study methods.

Bat detection. ESS proposes to "characterize bat use of Nantucket sound," and therefore determine the number of bats at risk from the proposed turbines by placing an AnaBat detector on the MET tower, which is located in the southernmost portion of the 25 square mile project site. The manufacturer of the AnaBat detector states that:

> Detection distances will vary with frequency and loudness (amplitude) of the bat calls, atmospheric attenuation, and the directional characteristics and sensitivity of the bat detector….The frequency and amplitude of the bat call has a major influence on how far away the call can be detected, and makes some species easier to detect from afar than others. Quiet (low amplitude) bat calls are more difficult to detect than loud (high amplitude) calls. Call amplitude can vary within an individual (as many bats will reduce the amplitude of their calls as they approach prey or clutter) and also vary between species. Species which always produce low amplitude calls ("whispering bats") will be more difficult to detect from a distance than other species. In addition, bat calls of higher frequencies cannot be detected from as far as those of lower frequencies, as higher frequencies are absorbed by the atmosphere (attenuate) faster than lower frequencies. How quickly sounds attenuate in the atmosphere depend upon weather conditions such as temperature, humidity and air pressure. This relationship is complex, but ***in general, cool dry conditions will allow the detection of bat calls over greater distances***. The sensitivity of the detector also has a major influence on detection distance, and while there is always some variability in sensitivity among units, the biggest influence is the setting of the sensitivity control. Given all the above, it is obvious that detection distances will vary enormously. Many bats are easily detected over 30m under typical

> conditions, while some species which call at low frequencies may be detectable from as far as 100m. ***However, some species will be hard to detect from even 1m away.*** This is why only relative rather than direct statistical comparisons of bat activity are made between species (emphasis added).
> http://www.titley.com.au/anabat-bioacoustics-anabat-support#2

The manufacturer's information raises several issues for the use of the bat detector. First, ESS is proposing to use a bat detector that works better in "cool dry conditions" in the ocean. Second, the manufacturer warns that some bat species will not be detected if they are flying more than one meter away from the detector. Third, the manufacturer cautions that "detection distances will vary enormously." Despite these three glaring problems, ESS blithely states that they "assume that the number of bat passes is a valid reflection of bat activity in the area" (the Plan, page 16). It is abundantly clear that the installation of one AnaBat detector will not provide any usable data on the number of bats in this particular project area, or the risk to those bats. Therefore, ESS must provide a more reasonable and definitive plan for monitoring bat activity in the proposed project site.

Post construction monitoring is inadequate. Page 17 of the Plan states that a total of 19 aerial surveys will be conducted post construction to discern changes in relative abundance of sea ducks and water birds. Five of these aerial surveys will be conducted from May to late July, four from mid-August to late September, and ten during the winter. Again, how was the sampling size derived? How can we be assured that these 19 surveys will be sufficient? In what weather, times of day, wind direction, etc. will these surveys be conducted?

Avian acoustic monitoring is insufficient. ESS states that prior to construction, it will place a microphone on the MET tower. See p. 12 of the Plan. ESS concedes that this covers only a "relatively small portion" of the project area, and that the data will be biased towards "louder and lower flying birds." Moreover, page 20 of the Plan states that these data will be compared to the post monitoring data collected from ten microphones scattered throughout the 25 square miles of the project site. ESS should explain how it can compare data from one microphone in the southernmost portion of the site to 10 arrays over a 25 square mile area. What statistical power will be achieved? Will these data be comparable?

Radio tagging of endangered species. Finally, PEER believes that the proposal to place radio transmitters on roseate tern and piping plovers is unacceptable unless ESS can demonstrate that the tagging will not have an adverse impact on these endangered species. See the Plan, page 21.

Conclusion. The Cape Wind Avian And Bat Monitoring Plan is seriously deficient, and devoid of enough information to assess its statistical strength. Cape wind Associates and its consultant have not provided BOEMRE nearly enough information to make an informed decision. The Plan is insufficient in both its ability to determine baseline conditions, let alone the impacts of the proposed project on bats and birds.

Thank you for the opportunity to comment.

Cordially,

Kyla Bennett, Ph.D., J.D.
Director
New England PEER