



MARINE MAMMAL COMMISSION

18 April 2011

Ms. Jessica Bradley
Renewable Energy Program Specialist
Office of Offshore Alternative Energy Programs
Bureau of Ocean Energy Management, Regulation, and Enforcement
381 Elden Street, Mail Stop 4090
Herndon, Virginia 20170

Dear Ms. Bradley:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Bureau of Ocean Energy Management, Regulation, and Enforcement's 29 December 2010 notice soliciting interest in wind energy production in marine areas off Massachusetts (75 Fed. Reg. 82055). The notice solicits comments and information—including environmental information—pertinent to the areas and activities under consideration. In response, the Commission offers the following recommendations and rationale.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the Bureau of Ocean Energy Management, Regulation, and Enforcement—

- prepare an environmental impact statement, rather than an environmental assessment, to evaluate the potential effects of issuing renewable energy leases;
- consult with the National Marine Fisheries Service, the Fish and Wildlife Service, the Army Corps of Engineers, and the Marine Mammal Commission to develop a set of standards for the collection of baseline information on marine mammals and their environment; and,
- identify and address any significant data gaps before initiating the leasing process for renewable energy operations.

RATIONALE

The Marine Mammal Commission commends the Bureau for its efforts to accelerate the development of offshore renewable energy to help meet the President's goal of generating 80 percent of the nation's electricity from clean energy sources by 2035. The Commission has commented frequently on the need for a long-term national energy strategy and agrees that alternative energy sources must be an important part of that strategy. Nevertheless, as with any new industrial activity proposed in U.S. coastal and offshore waters, the development of alternative energy sources should proceed in a thoughtful and deliberate manner. Although wind turbines do not appear to pose risks as severe as those from large oil spills, the Commission still believes that such systems need to be subjected to close scrutiny and rigorous risk analyses before long-term leasing commitments are made.

The production of wind-driven energy in marine areas carries several risks to marine mammals and the ecosystems of which they are a part. Noise generated during construction,

operation, and decommissioning of wind generators can disturb marine mammals and may interfere with important activities, including foraging, resting, socializing, and migrating. Pile driving, in particular, can generate underwater noise that is detectable up to 40 km from the source (McIwem 2006) and that has the potential to impair hearing at close range (Madsen et al. 2006). Increased vessel activity associated with construction and operation of wind turbines may contribute to disturbance and increase the risk of vessel collisions with marine mammals (Laist et al. 2001). In addition, whales may collide with the turbine structures themselves (Carter et al. 2008). Construction, operation, and maintenance also pose risks of toxic chemical spills from the turbines and support vessels. Finally, little is known about the potential effects of electromagnetic fields on marine life, including marine mammals (DOE 2009).

At least 37 species of marine mammals have been documented in waters off the mid-Atlantic states and northeastern United States (Waring et al. 2009). Several of those species are listed as endangered or threatened, including the North Atlantic right whale. In April 2010 researchers estimated that as many as 98 right whales—about one-fourth of the entire population—had congregated and were feeding in waters just south of Martha’s Vineyard¹. The area also is important habitat for endangered and threatened sea turtles and several commercially valuable fish species. (A portion of the Nantucket Lightship Essential Fish Habitat overlaps the area under consideration.) In addition, commercial fishermen and local politicians have expressed strong concerns over potential conflicts between wind energy projects and commercial fishing². Finally, this area is wedged between commercial shipping routes established under Traffic Separation Schemes for New York harbor and Great South Channel.

The National Environmental Policy Act requires that environmental impact statements be prepared for major federal actions that may significantly affect the quality of the human environment (42 U.S.C. 4371 et seq.). The Council on Environmental Quality’s regulations implementing the National Environmental Policy Act require that significance be determined on the basis of both context and intensity (40 CFR §1508.27). In determining the intensity of an action, the regulations direct agencies to consider, among other things—

- unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas;
- the degree to which the effects on the quality of the human environment are likely to be highly controversial;
- the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks;
- the degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration;

¹ http://www.nefsc.noaa.gov/press_release/2010/MediaAdv/MA1004/index.html

² <http://www.southcoasttoday.com/apps/pbcs.dll/article?AID=/20110217/NEWS/102170337>

- whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment; and
- the degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

One can make reasonable arguments that all of these criteria apply in the present case. This area has long been recognized as an important migratory corridor and feeding area for endangered and threatened marine mammals and sea turtles, as well as seabirds. Offshore wind energy development involves relatively new technology; therefore considerable uncertainty exists regarding potential short-term and long-term impacts on marine species and habitats. The proximity of the proposed lease areas to historic New England communities could mean that many of the same objections as those made by residents of nearby islands during the planning stages of the Cape Wind energy project will be raised once again. Furthermore, the proposed activities, and the manner in which they are managed, will set a precedent for expansion of this technology throughout the mid-Atlantic and New England states and to areas that are the focus of the Department of the Interior's "Smart from the Start" initiative. Finally, the extensive areas and long lives of the proposed offshore wind energy operations have the potential to result in significant cumulative impacts on the environment.

All of these points argue for a careful, thoughtful approach to the development of wind energy in the region. Given the uncertainties regarding potential effects, the Commission considers it necessary at this stage of the leasing process for the Bureau to make a strong effort to both inform the public and seek public input. Therefore, the Marine Mammal Commission recommends that the Bureau of Ocean Energy Management, Regulation, and Enforcement prepare an environmental impact statement, rather than an environmental assessment, to evaluate the potential biological and socioeconomic effects of issuing renewable energy leases in this area. Environmental assessments are generally intended to determine whether an action is likely to have a significant impact on the human environment. Given the biological and economic resources in the proposed lease area, the Commission believes it is difficult to rule out the possibility of a significant impact from this action.

Baseline Monitoring

An evaluation of the potential effects of wind energy development on marine mammals and their habitats depends on the availability of good baseline information. Baseline information should include both the physical properties and the biological components of the affected marine environment. Physical properties include the location of subsea faults, benthic substrate and obstructions, water depth, proximity to shore, currents, winds, exposure to storms, tides, and freshwater input. Biological components include organisms present on a year-round or seasonal basis and associated with the ocean bottom, mid and upper water column, and surface. These include organisms that may be affected by any phase of development, including accidental events. Baseline information also should be sufficient to identify particularly sensitive populations (e.g., those listed as depleted, threatened, or endangered) as well as particularly sensitive areas (e.g.,

existing local, state, and federal marine protected areas, national monuments, essential fish habitats, designated critical habitats for rare, depleted, endangered, or otherwise protected species, and biological hotspots or areas of particular biological richness).

Collecting adequate baseline data is challenging because of the inherent variability of biological systems. Understanding this variability requires a long-term commitment of effort and resources to monitoring. Monitoring should begin well before siting and initial construction occurs and should continue beyond the lifecycle of development activities. If we fail to collect such information, we will have little knowledge from which to gauge adverse effects associated with energy development and a poor basis for responsible management of marine ecosystems.

On numerous occasions the Marine Mammal Commission has recommended that the Bureau (or the former Minerals Management Service) work with industry, the National Marine Fisheries Service, and the Fish and Wildlife Service to collect better baseline information for the purpose of determining if energy-related activities are likely to have significant effects on marine mammals and their habitat. Important data gaps still exist, although some data are available on marine mammals and their habitats in the area under consideration here. The Commission commends the Bureau for recently providing funding to the National Marine Fisheries Service to address a major data gap—broad-scale data over multiple years on the seasonal distribution and abundance of marine mammals and other wildlife in U.S. Atlantic waters (the Atlantic Marine Assessment Program for Protected Species). Unfortunately, it is not clear that baseline assessment projects such as this one will keep pace with the aggressive schedule that the Department of the Interior has outlined for renewable energy development on the East Coast.

Given the growing demand for renewable energy and the need for baseline information, the Commission believes that the involved agencies should be establishing standards and priorities for the collection of that information. Recently, the Fish and Wildlife Service issued draft guidelines for measures to avoid, minimize, and compensate for effects on fish, wildlife, and their habitats from land-based wind energy development (USFWS 2011). Those guidelines were developed, in part, because managers were making assumptions about long-term effects based on limited data. The guidelines call for a tiered approach involving early and ongoing evaluation of the risks and efforts to minimize effects. They also call for the development of common methods and metrics for assessing wildlife activity and habitat features and for surveys to be conducted at a duration and intensity sufficient to ensure adequate data are collected to characterize wildlife use of the area. The Commission believes that similar guidelines should be developed for offshore wind energy projects. Therefore, the Marine Mammal Commission recommends that the Bureau of Ocean Energy Management, Regulation, and Enforcement consult with the National Marine Fisheries Service, the Fish and Wildlife Service, the Army Corps of Engineers, and the Marine Mammal Commission to develop a set of standards for the collection of baseline information on marine mammals and their environment. The Marine Mammal Commission further recommends that the Bureau use this consultation to identify and address any significant data gaps before initiating the leasing process for offshore renewable energy operations.

Ms. Jessica Bradley
18 April 2011
Page 5

The Commission hopes that you find these recommendations and comments helpful. Please contact me if you have questions or if the Commission can be of assistance as you consider these matters.

Sincerely,



Timothy J. Ragen, Ph.D.
Executive Director

cc: Mr. James H. Lecky, National Marine Fisheries Service
Ms. Lisa Lierheimer, Fish and Wildlife Service

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