



MARINE MAMMAL COMMISSION

14 January 2013

Ms. Michelle Morin
Office of Renewable Energy Programs (HM 1328)
Bureau of Ocean Energy Management
381 Elden Street
Herndon, Virginia 20170-4817

Dear Ms. Morin:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Bureau of Ocean Energy Management's 14 December 2012 notice of intent to prepare an environmental assessment for an interim policy lease for Southern Company Research and Environmental Affairs (Southern Company) to collect renewable energy data off Georgia (77 Fed. Reg. 74512; BOEM-2012-0074). The Commission offers the following recommendations and rationale.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the Bureau of Ocean Energy Management—

- include an alternative that would restrict site assessment and construction activities from occurring during the calving season of right whales, from 1 November to 30 April; and
- prepare an environmental impact statement to evaluate the potential biological effects of issuing renewable energy leases in this area.

RATIONALE

The Marine Mammal Commission supports the Bureau's efforts to accelerate the development of offshore renewable energy. 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.

Southern Company has applied for an interim policy lease from the Bureau for geophysical and geotechnical investigations (site assessments) followed by the construction of a meteorological tower and/or the deployment of a meteorological buoy off Tybee Island, Georgia. The tower and buoy would be used to collect wind and other environmental data similar to data being collected at a number of other offshore locations off the east coast as part of the Southeast U.S. Atlantic Coastal Ocean Observing System (www.seacoos.org/) and the Carolinas Regional Coastal Ocean Observing System (carolinasrcoos.org/).

The proposed activities pose a variety of risks to marine mammals. Southern Company would use sub-bottom profilers for geophysical surveys and sub-bottom sampling, but scientists have not yet been able to describe the effects of such technology on marine mammals. In its application, Southern Company did not describe in detail the profilers that it is proposing to use, but profilers generate sound levels and frequencies comparable to other sound sources that may affect marine mammal physiology (e.g., hearing) and behavior (e.g., habitat use) (Cox et al. 2006, Gordon et al. 2004). Effects may not be detected unless the affected marine mammals strand, which often leads to mortality. Scientists have conducted some preliminary modeling exercises and studies with captive animals (Wood et al. 2012), but those studies are not sufficient to conclude with confidence that profilers pose no more than negligible risk to marine mammals.

In addition to sub-bottom profilers, Southern Company would be required to drive one or more piles to construct a meteorological tower. Pile-driving generates low-frequency sound impulses that are detectable up to 40 km from the source (McIwem 2006), and could impair hearing in marine mammals at close range (Madsen et al. 2006). Certain species, such as harbor porpoises, have been shown to avoid areas around wind farms during pile driving and other construction activities (Carstensen et al. 2006). Increased vessel activity associated with the construction of a meteorological tower and/or the deployment of a meteorological buoy may disturb marine mammals and poses a risk of vessel strikes (Laist et al. 2001).

Southern Company's proposed project area is used by at least 35 marine mammal species (Waring et al. 2012)—several of which are listed as endangered or threatened, including the North Atlantic right whale. Indeed, Southern Company proposes to conduct site assessment and data collection activities within the only known calving area for right whales. The National Marine Fisheries Service has implemented regulatory measures to protect right whales in these waters, including—

- the establishment of the mid-Atlantic seasonal management area extending from Brunswick, Georgia, to Wilmington, North Carolina, and surrounding other major east coast ports;
- the requirement that vessels greater than or equal to 19.8 m reduce speeds to 10 knots or less from 1 November to 30 April to reduce the risk of vessel strikes (73 Fed. Reg. 60173); and
- the designation of offshore waters from just north of Cape Canaveral, Florida, to the South Carolina-North Carolina border as a restricted area for gillnetting from 15 November to 15 April (72 Fed. Reg. 57104).

In addition, the Service is considering a petition to expand the Southeastern U.S. critical habitat for right whales to include offshore waters from south of Cape Canaveral, Florida, to the South Carolina-North Carolina border (75 Fed. Reg. 61690). An expansion of critical habitat is supported by sightings data and analyses that indicate the right whale calving and nursery grounds include waters as far north as South Carolina and possibly North Carolina (Garrison 2007). The expanded critical habitat, if approved, would include the proposed project area.

The Bureau has proposed several areas off the east coast of the United States as possible wind energy areas, as part of its "Smart from the Start" initiative (76 Fed. Reg. 40925). The Commission has provided numerous recommendations to the Bureau addressing the risk of wind

energy activities to right whales and other marine mammals along the mid-Atlantic—the migratory corridor for right whales. However, Southern Company’s proposed activities would present a heightened risk for right whales as they would occur within an area where the whales are seasonally resident rather than just along the migratory corridor. Mitigation measures requiring site assessment or construction activities to occur at times when right whales are normally not present would avoid the potential impacts of these activities. To that end, the Marine Mammal Commission recommends that the Bureau of Ocean Energy Management include an alternative that would preclude site assessment and construction activities during the calving season of right whales, from 1 November to 30 April.

The effects of wind farm operations on marine mammals are not yet fully understood. Sound generated from wind turbines would generally be of low intensity, with energy concentrated at low frequencies (below a few kHz), but when that sound is transmitted underwater around the wind farm it may contribute significantly to ocean sound levels because it would be present almost continuously during the lifetime of the wind farm (Tougaard et al. 2008). Playback experiments involving harbor porpoises and harbor seals prompted a distinct reaction by both species to wind-turbine sounds (Koschinski et al. 2003). A long-term study of harbor porpoise echolocation activity in the vicinity of a large-scale offshore wind farm in the Baltic showed a significant decline in call rates during construction activities followed by a slow increase during wind farm operations; however, even after ten years, call rates have not recovered to baseline conditions (Teilmann and Carstensen 2012).

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;
- 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 nearly all of these criteria apply in the present case. This area is the only known calving and nursery area for endangered right whales and also contains important habitat for other 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 habitat. Furthermore, the proposed activities, and the manner in which they are managed, will set a precedent for expansion of this technology in waters off the southeast United States. 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 marine environment.

All of these points argue for a careful, thoughtful approach to the development of wind energy in the region. Given the uncertainties regarding the potential effects of wind turbines on right whales and other marine species, the Commission considers it necessary even at this early stage 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 prepare an environmental impact statement to evaluate the potential biological effects of issuing renewable energy leases in this area. Given the diversity and vulnerability of biological resources in the proposed lease area, the Commission believes it is difficult to rule out the possibility of a significant impact from this action.

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

Literature Cited

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