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March 7, 2013

Comments on North Carolina EA (BOEM-2012-0090)
Michelle Morin
Program Manager
Office of Renewable Energy Programs (HM 1328)
Bureau of Ocean Energy Management
381 Elden Street
Herndon, Virginia 20170

Dear Michelle Morin,

The Southern Alliance for Clean Energy (SACE) is a regional organization that promotes responsible energy choices that create global warming solutions and ensure clean, safe and healthy communities throughout the Southeast. We welcome this opportunity to engage in a thoughtful offshore energy discussion and we would like to thank you for your willingness to discuss offshore energy. SACE would like to voice our support for offshore wind energy and the Bureau of Ocean Energy Management's (BOEM) Smart from the Start initiatives in North Carolina, especially this notice of intent to prepare an environmental assessment.

The Southeastern U.S. coast is home to some of the best offshore wind resources in the world. This abundant resource represents a huge economic and environmental opportunity over the next several decades. The relatively shallow offshore waters in our region are ideal for developing wind farms. In addition to increasing our energy security, the development of offshore wind energy will diversify our region's energy portfolio, promote local economic growth, reduce global warming pollution and conserve water resources for our region. Offshore wind energy from the Southeast can help our region achieve the Department of Energy's national vision of generating 20% of its electricity from wind power by the year 2030. Before our region can become home to offshore wind farms and a thriving center for wind innovation, important research needs to be completed and several barriers overcome. We respectfully submit the following suggestions to improve the permitting process for offshore wind.

IMPROVE STAKEHOLDER ENGAGEMENT

SACE is pleased with the work that BOEM has undertaken with the North Carolina Renewable Energy Task Force (NCRETF). Substantial amounts of work have been completed by NCRETF in preparation of this BOEM notice of intent (NOI) to prepare an environmental assessment (EA). However, as data and

analysis continue to be prepared and collected, BOEM should provide that information in a manner that is conducive to stakeholder engagement and seek public comment.

Stakeholder engagement is a vital component to offshore wind energy development. Without appropriate outreach activities, offshore wind energy development potentially faces unnecessary confusion and opposition. By proactively seeking ways to engage the public, especially people with a vested interest in an area, BOEM's Smart from the Start initiative would promote trust, dialogue and information sharing. Such activities may help prevent unnecessary delays in the future, including but not limited to lawsuits. SACE is willing and able to assist in stakeholder outreach in coordination with BOEM.

The proximity and scope of North Carolina's proposed Wind Energy Areas require improved stakeholder engagement by BOEM. Portions of the Kitty Hawk Call Area (KHCA) may actually be closer to Virginia than Virginia's own Wind Energy Area. However, BOEM only scheduled public information sessions in North Carolina with regard to its NOI to prepare an EA and none in Virginia. This may pose some conflict with stakeholders from Virginia. Similarly, portions of the Wilmington West Call Area (WWCA) and Wilmington East Call Area (WECA) appear to be equidistant between Wilmington, North Carolina and Myrtle Beach, South Carolina. Both the WWCA and WECA appear to extend perfectly to the North Carolina/South Carolina jurisdictional boundaries offshore, which will be beneficial if and when South Carolina's Renewable Energy Taskforce begins to prepare its Call Areas. However, BOEM only scheduled public information sessions in North Carolina with regard to its NOI to prepare an EA and none in South Carolina. This may pose some conflict with stakeholders from South Carolina.

CLARIFY BOEM'S INTENT WITH REGARDS TO OTHER OFFSHORE AREAS

The NCRETF developed five "Areas of Interest" (AOI) for offshore wind development activities for BOEM's Smart from the Start initiative. Among those five AOI's, the NCRETF had identified approximately 3,600 square miles for potential offshore wind development. For some reason, AOI #3 and AOI #4 have been left off this NOI to prepare an EA. Those areas were estimated to contain approximately 38 and 131 BOEM lease blocks, respectively.[1] Those two areas, if included in their entirety, would have effectively doubled BOEM's area for evaluation under this proposed EA (from 1,441 square miles to 2,962 square miles). Even though the existing EA area proposed for North Carolina nearly doubles the amount of area potentially available for offshore wind development off Virginia, Maryland, Delaware, New Jersey, Rhode Island and Massachusetts combined, North Carolina contains a massive reserve of offshore wind development potential. Leaving large tracts of area (which have been identified by a multi-year process under a Renewable Energy Task Force) out of a call for information and notice of intent is cause for alarm among offshore wind energy

proponents. SACE, and other organizations, have been dismayed at previous state processes (such as Virginia, Maryland, Rhode Island and Massachusetts) where final BOEM-designated Wind Energy Areas have been mere fractions of initially proposed areas. By removing large swaths of ocean from final Wind Energy Areas, BOEM may be unintentionally forcing multiple offshore wind developers to compete against one another needlessly, which may artificially drive up the cost of offshore wind development. SACE encourages BOEM to clarify its intent with AOI #3 and AOI #4. SACE also recommends that BOEM's EA for the KHCA, WWCA and WECA include relevant information that may be applicable to AOI #3 and AOI #4.

PRESERVE EXISTING WIND ENERGY AREA COORDINATES WITH REGARD TO DISTANCE TO SHORE

Some portions of the KHCA, WWCA and WECA are within approximately six miles from shore, yet there have been some suggestions that North Carolina's wind energy areas should be moved past 20 miles offshore. The basis for such a suggestion has thus far been primarily focused on subjective aesthetic consideration regarding full-scale wind farm development. However, this notice of intent deals only with site assessment activities and plans, not the installation phase of wind farms. Since SACE is unaware of any visualization study that evaluates viewshed considerations only for meteorological towers or buoys (or other site assessment data collection configurations), we deem viewshed concerns for the data collection phase of offshore wind development to be premature.

Premature aesthetic concerns should not preempt data collection from interested offshore wind development companies. Since distance to shore directly relates to site assessment costs, moving site assessment activities further offshore will increase the costs of research and increase response time in the event of a catastrophic loss of life or property. Because current aesthetic concerns might be mitigated by a future private developer's stakeholder outreach, communications efforts or turbine selection and array design, any sort of a viewshed buffer should be considered imprudent at this stage in the Smart from the Start process.

SACE recommends that BOEM preserve the existing wind energy area coordinates with regard to distance to shore. Excluding areas for research, based solely on subjective, aesthetic concerns about potential future wind farm development is hasty and unnecessary. SACE further recommends that the North Carolina Renewable Energy Task Force continue consultation and research on aesthetic and tourism considerations regarding future construction and operations activities of offshore wind farms. Research conducted in North Carolina[2], other states (like South Carolina[3] and Delaware[4]), and ongoing research funded by BOEM on tourism and recreation[5] provides anecdotal evidence[6] that offshore wind farms either have no impact on local tourism or

increase local tourism. Additional consultation and research may be warranted, but not in this environmental assessment for site assessment activities.

SET ADDITIONAL PROTECTIONS FOR THE NORTH ATLANTIC RIGHT WHALE

The North Atlantic right whale is perhaps the most endangered species along the Atlantic Coast and among the most endangered whale species in the world.[7] With only 300-400 individuals (estimated) remaining, the loss of a single whale may have a disproportionally negative impact on the survival of that species. According to the Georgia Department of Natural Resources, "It has been estimated that the loss of one or two female right whales a year could lead to extinction of the species within a century."[8] Even though so few remain, substantial questions exist about the species' habits including its preferred migratory route between its only known calving grounds (near southern Georgia) and its feeding grounds (near Massachusetts).

Ship strikes are of particular concern to this species. According to the National Oceanic and Atmospheric Administration, "With only 300-400 in existence, North Atlantic right whales are among the most endangered whales in the world. Their slow movements, time spent at the surface, and time spent near the coast make them highly vulnerable [to] human activities, especially being struck by ships."[9] While the National Marine Fisheries Service has speed restrictions in place for vessels over 65 feet, these restrictions are in place only between November 1 and April 30. Due to the critically endangered status of the North Atlantic right whale, lack of specificity of data on this species, and new activities proposed under this NOI to prepare an EA, SACE strongly encourages BOEM to require additional mitigation efforts to protect the species.

The Kitty Hawk Call Area (KHCA) does not appear to be in the NMFS mandatory speed restrictions for protecting the North Atlantic right whale migratory route. However, since the KHCA is in close proximity to a speed restriction zone off Virginia, and also presuming North Atlantic right whales must somehow migrate to that Virginian zone which may include migration directly through the KHCA, SACE recommends that BOEM extend the NMFS speed restriction to the KHCA. SACE also recommends that activities in both the Wilmington West Call Area and Wilmington East Call Area follow the NMFS speed restrictions.

Other activities should be restricted within the migratory window. For example, geophysical and geological surveys (especially seismic surveys) ought to be limited to a period between May and October, when studies suggest that the North Atlantic right whales are less likely to be in the area.[10] Similarly, construction activities (especially pile driving and others that require heavy boat traffic) should have similar seasonal restrictions. Biological surveys specifically designed to aid in the detection of the North Atlantic right whale, as well as other important fauna, should be allowed to proceed year around.

CONDUCT ENVIRONMENTAL ASSESSMENT FOR MULTIPLE TECHNOLOGIES

The offshore wind energy industry is rapidly developing in the United States. Previously, meteorological towers were perceived to be the only site assessment options available for offshore wind developers. However, with the advancement of buoy data collection configurations, offshore wind developers may be opting for different types of site assessment technology. SACE recommends that BOEM develop its environmental assessment based on deployment of both meteorological towers as well as buoy data collection configurations. BOEM should also identify workarounds, best management practices and/or preferences for less environmentally intrusive technologies. SACE encourages this environmental assessment process instead of the more extensive environmental impact statement process at this phase. For near-term site construction and operation planning, an environmental impact statement should be conducted.

DEFINE BEST MANAGEMENT PRACTICES (BMP)

SACE encourages BOEM to set BMPs. Such BMPs may include, but are not limited to:

- Incorporating, to the extent applicable to North Carolina, the seasonal restrictions using the green, yellow and red time period recommendations set out by the collaborative agreement to protect North Atlantic right whales between offshore wind developers and conservation non-governmental organizations in the Mid-Atlantic.[11]
- Including management practices described in the BOEM Environmental Assessment for the Mid-Atlantic.[12]
- Providing seasonal protection for the North Atlantic right whale by prohibiting construction and geological and geophysical seismic surveys from November 1 to April 30, while allowing biological surveys.
- Requiring pile-driving technology designed to reduce noise including but not limited to vibratory pile driving, press-in pile driving, bubble curtains, cushion blocks, cofferdams, noise attenuation piles and ramp-up (or "soft start") piling.
- Requiring data collection methodology that is consistent with BOEM best practices and other Wind Energy Areas.
- Identifying that if, through BOEM's assessment, it is discovered that one particular data collection configuration poses substantially less risk than another, BOEM should note this finding and work to encourage the use of those configurations.

INCORPORATE MITIGATION EFFORTS IN LEASE AGREEMENTS

If BOEM should issue a lease for site assessment activities off North Carolina, it should ensure that suggested mitigation techniques and technology from the

Final EA are incorporated into the lease document itself. When the EA for the Mid-Atlantic Wind Energy Areas was developed, there was some confusion as to whether the mitigation efforts mentioned were simply suggestions, or requirements. BOEM should seek to avoid this confusion by explicitly stating its intent, in this EA, that the described mitigation technology and techniques will be included in the lease agreement.

INVESTIGATE ADVANCED TURBINE LIGHTING STRATEGIES

Nighttime wind farm lighting may be of concern to some coastal communities. Aside from aesthetic implications, in some cases nighttime lighting has also contributed to avian mortality.[13] SACE recommends that BOEM evaluate turbine and met tower lighting strategies that both minimize aesthetic concerns and improve protections for migratory bird species. Such strategies may include radar-sensing audio/visual warning systems (like the Obstacle Collision Avoidance System[14]), LED rapid-discharge lights, synchronous lighting, visibility/fog sensors[15] or other technologies and techniques to minimize light impacts.

DEVELOP REASONABLE ESTIMATES FOR CUMULATIVE SITE ASSESSMENT ACTIVITIES

SACE recommends that BOEM develop standardized, reasonable estimates for site assessment activities, which should include a number of data collection configurations for each area in order to develop cumulative effects estimates. BOEM should be able to glean data from numerous projects in the United States and Europe to determine approximately how many data collection configurations are used on average for a certain amount of area that correlates with the number of farms developed. For example, the proposed 468 megawatt Cape Wind project off Massachusetts installed one meteorological tower per 25 square miles.[16] Using Cape Wind as an example ratio for the proposed 1,441 square mile area covered in the EA, it may be anticipated that some 58 meteorological towers or buoys (or one data collection configuration per 25 square miles) may be deployed off the coast of North Carolina for approximately 27,000 megawatts of offshore wind energy capacity potential (or about 19 megawatts per square mile). Cape Wind should be used as a single data point for developing cumulative estimates, with other data points derived from projects in the United States and numerous offshore wind projects in Europe. Using these figures, BOEM may be able to reasonably estimate the number of ships, emissions from construction, and other cumulative impacts with leasing the Wind Energy Areas off North Carolina. BOEM should use the available data to make a best judgment on the ratio of data collection configurations per project or area.

ENCOURAGE OPERATIONS THAT ENHANCE DATA COLLECTION FOR FUTURE OFFSHORE WIND ENERGY FACILITY SITING

While this EA only covers site assessment activities, the intent of meteorological towers or buoy devices is to delineate the appropriateness for offshore wind farm

development. As such, any reasonable activities that may be undertaken with the site assessment technologies that may aide in the future planning and development of wind energy facilities ought to be encouraged. For example, pre-construction studies of birds, bats, and ecological and biological impacts are important before wind turbines are built. The migration of the North Atlantic right whale needs to be factored into wind farm siting decisions, therefore additional monitoring devices, which may aide in the detection of the North Atlantic right whale, should be encouraged. If possible, BOEM should work to reward lease applications by prioritizing applicants that express an intent to conduct thorough assessments.

UTILIZE EXISTING DATA

North Carolina's offshore wind resource is much larger than its onshore resource. A study completed by Geo-Marine Incorporated in 2011 estimates that North Carolina has approximately 3,200 square miles (8,290 km2) of area that may be of interest to offshore wind energy developers. This amount of area is enough for approximately 42,000 megawatts of wind energy capacity and that could supply more electricity than is currently generated by all existing power plants in the state. The report specifically, "identifies offshore areas off of North Carolina, South Carolina, and Georgia where ocean-based renewable energy may be most feasible, taking into consideration geological, environmental, economic, military, transportation, and other constraints. Factors that may preclude offshore wind development were analyzed including marine mammals, sea turtles, birds, fishes, essential fish habitat (EFH), corals, submerged aquatic vegetation (SAV), commercial and recreational fisheries, maritime traffic, military munitions training areas, mining or dumping grounds, subsea pipelines, shipwrecks, self-contained underwater breathing apparatus (SCUBA) sites, and buoys and weather stations." This report, as well as the associated GIS data[17], are available online for download. SACE encourages BOEM to utilize this report and its associated data when developing North Carolina's current and future Wind Energy Areas.

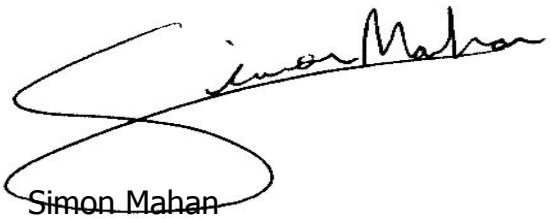
EVALUATE FUTURE ENVIRONMENTAL BENEFITS FROM WIND FARM DEVELOPMENT

All energy generation sources produce some kind of environmental footprint, even sources that are predominantly renewable. Dirty and dangerous sources of energy, such as coal and nuclear, require destructive mining practices in order to obtain the fuel required to generate electricity. A wind turbine's fuel is not dependent on mining since wind is the fuel source that produces electricity. Wind energy does not create harmful pollutants such as nitrogen oxides (NOx), sulfur oxides (SOx), carbon dioxide (CO2), and particulate matter or radioactive waste as a result of its electrical generation. Nor does wind energy require massive amounts of water in order to generate electricity in the way traditional generation sources, such as coal and nuclear, do. The National Renewable Energy Laboratory estimates, for example, that 1,000 MW of wind power development in Georgia would bring annual water savings of 1,628 million

gallons and substantially reduce carbon dioxide emissions.[18] Some European studies suggest offshore wind farms act as habitat for fish and other wildlife, and may actually improve the marine ecosystem.[19] If shipping lanes are moved to accommodate offshore wind farms (especially east of the Kitty Hawk Call Area), North Carolina's Wind Energy Areas may help reduce some particular types of ship traffic and noise stress on marine mammals and other animals near shore. More research must be completed to determine the total ecosystem impact from offshore wind turbines. The generation of electricity from wind energy is renewable and clean; however, wind farms must be sited in locations that minimize their overall environmental footprint.

SACE appreciates the opportunity to comment on this NOI to prepare an EA for North Carolina. We strongly support offshore wind energy development, as well as BOEM's Smart from the Start initiative. We look forward to commenting on the draft EA and are more than willing to provide any additional information BOEM may need in promoting and regulating offshore wind development.

Sincerely,



Simon Mahan
Renewable Energy Manager
Southern Alliance for Clean Energy

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