June 16, 2011

Walter Cruickshank, Deputy Director
Maureen Bornholdt, Program Manager
Office of Offshore Alternative Energy Programs
Mail Stop 4090
381 Elden Street
Herndon, VA 20170-4817

Re: Comments of Clean Energy States Alliance
Use of Adaptive Management for Outer Continental Shelf (OCS) Leasing Program

Dear Maureen & Walter:

I write on behalf of the Clean Energy States Alliance (CESA) to recommend that the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) provide guidance on the specific adaptive management strategies it proposes to employ to address the potential adverse environmental effects of offshore wind energy development on the OCS. CESA offers, for BOEMRE's consideration, specific recommendations to inform the agency's adaptive management-related elements of the offshore wind program tailored to this technology and its unique environmental setting.

CESA is a §501 (c)(3) nonprofit organization that represents these state energy programs and serves to coordinate their common goals. A primary objective of CESA and its state members, individually and collectively, is to address barriers to the development and growth of viable renewable energy resources in the United States.[1]

As you know, the Department of Interior (DOI) promotes adaptive management as a tool to resolve uncertainties about environmental effects. DOI has determined that its resource agencies, and the natural resources that it oversees, could benefit from adaptive management. *See* DOI Policy on Use of Adaptive Management, FR 61291-61323, December 12, 2008. BOEMRE, in its 2007 Record of Decision, *Establishment of an OCS Alternative Energy and Alternate Use Program*, adopted a specific policy to implement adaptive management:

> The MMS will implement adaptive management strategies that will include the monitoring of activities to ensure that potential adverse impacts of OCS alternative energy development are avoided (if possible), minimized or mitigated.

Id.

[1] We direct you to our website, www.cleanenergystates.org, for detailed information on CESA's members and activities. The recommendations expressed in this letter do not represent the views of individual CESA members, but rather represent the goals of the organization at large.

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However, to CESA's knowledge, BOEMRE has not yet published its specific strategies and approach to adaptive management as applicable to offshore wind projects on the OCS. Development of guidance on use of adaptive management would be of substantial value to guide developers, investors, stakeholders, and other regulatory agencies in understanding how the policy will be applied in the leasing and authorizing of offshore wind projects.

CESA offers several recommendations for consideration by BOEMRE in developing its specific adaptive management approach to offshore wind.

First, in the context of specific offshore wind projects, adaptive management should ***only*** be used where there are real, unresolved concerns about the impacts to the environment from the installation and operation of a project whose significance warrants its use. Minor issues (such as the decision to implement proven mitigation options) should be resolved without the commitment of time and resources associated with the adaptive management process. *See* Williams *et al*., 2007.

Adaptive management typically should not be applied to offshore wind projects because, in the majority of instances, the impacts and level of uncertainty will not warrant its use. As BOEMRE determined in its Alternative Energy Programmatic EIS (October 2007), most impacts for all phases of offshore wind energy development will be negligible to moderate, assuming that proper siting and mitigations measures are followed. Further, BOEMRE determined that, even where there is a potential for major impacts to threatened and endangered species, compliance with regulations and coordination with appropriate wildlife agencies will ensure that project activities will greatly minimize or avoid impacts to these species and their habitat. The PEIS specifically states,

> In general, most impacts would be negligible to moderate for all phases of wind energy development assuming that proper siting and mitigation measures are followed. Human activity on the OCS related to a wind facility is relatively low, with only a few support vessels in operation at any one time during the highest activity period (construction). Potential impacts during the construction phase are the highest, because this phase involves the highest amount of vessel traffic, noise generation, and air emissions. There is a potential for major impacts to some threatened and endangered species of marine mammals, birds, or sea turtles from vessel or turbine strikes, disturbance of nesting areas, alteration of key habitat, or low-probability large spills of fuel or lubricating oil or dielectric fluids, because population-level impacts are possible from injury or death of individual females if population numbers are critically low. Compliance with the regulations and coordination with appropriate wildlife protection agencies would ensure that project activities would be conducted in a manner that would greatly minimize or avoid impacting these species or their habitats. Moderate impacts to fish and fisheries could occur due to the establishment of exclusion zones within wind energy facilities. Potential visual impacts can be mitigated through several means, especially siting facilities away from sensitive areas.

Id. at PEIS, Executive Summary.

BOEMRE also found that proper siting and use of recommended mitigation measures would minimize impacts of an offshore wind facility and its power cable to ocean sediments, marine and aeronautical navigation, commercial fishing, fishing activities, seafloor habitats, marine

mammals, sea turtles, birds, tourism and recreation, areas of special concern, visual resources, and archaeological sites. Specifically, the PEIS states,

> **Mitigation Measures**
> Proper siting of the wind facility and its power cable to onshore facilities would minimize impacts to ocean sediments, marine and aeronautical navigation, commercial shipping, fishing activities, seafloor habitats, marine mammals, sea turtles, birds, tourism and recreation, areas of special concern, visual resources, archaeological sites, and U.S. Department of Defense (USDOD) training and exercise activities. Noise impacts from pile driving or removal can be mitigated by measures such as deterring the local aquatic species from the area before startup and ceasing work when individuals from sensitive species are in the area. The potential for adverse impacts from spills can be decreased through adherence to required U.S. Coast Guard oil spill response plans, and through the use of environmentally friendly chemicals (e.g., transformer fluids and antifouling coatings). Non-explosive decommissioning methods (e.g., cutting pilings just beneath the seafloor bed) can be used for structure removal, avoiding noise and concussion impacts to the ecological system.

Id. at Executive Summary.

Therefore, at the project-level, adaptive management is not warranted for most offshore wind projects. Instead, adaptive management should be applied to projects ***only*** if the level of risk and potential impacts at a project location is determined to be high during the review process, and post-construction monitoring then indicates that the impacts occurring were unanticipated when the project was authorized, and the measures included in the authorizations are inadequate to reduce impact levels to an acceptable level. Once a project is operating, it is difficult to modify site layout, and operations impact mitigation options are extremely limited.

Adaptive management also should not be used to defer impact analysis upfront or mitigation commitments. Instead, the trigger and conditions for use of adaptive management should be established in project authorizations. The conditions should establish clear, objective biological goals or metrics and a requirement to adjust management and/or mitigation measures if these goals are not met. The project commitments to adaptive management should be included in the authorization conditions during the regulatory review process so that a mechanism is available to implement further reasonable mitigation recommendations after the project is operating, based on the results of monitoring for those projects posing potential high risk to ocean resources.

At the program level, however, BOEMRE should actively incorporate adaptive management in its overall leasing program. A major value of adaptive management is for future decision making; that is, in sharing information from early projects so that future installations can benefit by reducing environmental impacts. For example, adaptive management will be valuable for updating and revising BOEMRE programmatic policies and best management practices as new data regarding the impacts of offshore wind projects become available.

At the program level, BOEMRE's use of a systematic assessment that incorporates principles of adaptive management will allow a better understanding of the probabilities of impacts or consequences at widely separated sites and in diverse marine environments. BOEMRE's programmatic adaptive management approach should be employed to estimate probabilities of

risk and formulate future management strategies. This research-oriented approach should be one of learning from experience and flexible enough for the agency to accommodate and integrate new information and improved risk knowledge as it becomes available. The approach could be designed to involve universities and NGOs. Finally, cumulative effects should be considered within the context of a comparative approach relative to other energy sources and uses of the OCS.

Finally, when adaptive management is found to be warranted at the project level due to the uncertainty of the effectiveness of proposed mitigation, only ***passive*** adaptive management should be used. There are two forms of adaptive management (AM): passive and active. In passive AM, simulation models and expert judgment are combined to select a preferred action, and monitoring data are evaluated and may lead to operational adjustments. On the other hand, active AM uses statistically designed experiments to test assumptions or hypotheses about ecosystem responses to actions. In active AM, managers explicitly recognize that they do not know which management approaches are best and, therefore, select several alternative approaches to design and implement. Active AM (experiments) is especially difficult and costly to apply in a marine environment. *See Report to Congress on Potential Environmental Effects of Marine and Hydrokinetic Energy Technologies* (December, 2010) at 53 (citing Prato 2003).

Active AM is more suitable for use by BOEMRE and other agencies for conducting specific research to test the effectiveness of alternative mitigation or management approaches, applicable to multiple projects – but not the responsibility of individual developer/lessees. In contrast, passive AM is more suitable to assess actions with a localized effect or relatively certain outcome, reserving the resources needed for active AM to the subset of issues with the greatest uncertainty.

We appreciate your consideration of our recommendations. Please contact me with any questions.

Sincerely,

Mark Sinclair
Executive Director
Clean Energy States Alliance

cc:
Ned Farquhar