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January 10, 2011

Michael R. Bromwich
Director
Bureau of Ocean Energy Management, Regulation and Enforcement
Office of Offshore Alternative Energy Programs
381 Elden Street
Mail Stop 4090
Herndon, VA 20170

Re: Wind Park Shadowing between Delaware and Maryland

Dear Director Bromwich:

NRG Bluewater Holdings LLC and Bluewater Wind Delaware LLC (collectively, "NRG Bluewater") hereby submit to the Bureau of Ocean Energy Management, Regulation, and Enforcement ("BOEMRE") information in response to the *Commercial Leasing for Wind Power on the Outer Continental Shelf (OCS) Offshore Maryland—Request for Interest (RFI)*. NRG Bluewater is not expressing commercial interest with this submission but its affiliate, Bluewater Wind Maryland LLC, has separately submitted an expression of its commercial interest. NRG Bluewater requests that the aliquots listed below be excluded from the potential lease area or, if not excluded, that mitigation of potential shadowing effects on the Mid-Atlantic Wind Park off Delaware must be considered.

Block Number	Sub-blocks (Aliquots)
6624	B, C, D
6625	A, B, C, D, E, F, G, H
6626	A, B, C

BOEMRE's published RFIs in Delaware and now Maryland recognize that offshore wind parks require buffer areas. Moreover, in the recently released lease for the Cape Wind project off Massachusetts¹ the overall leased area is larger than the area occupied by turbines which indicates that a buffer area is included. In the Delaware and Maryland RFIs BOEMRE requested that entities expressing commercial interest should identify: "specific whole or partial OCS blocks or areas within the RFI area that are of interest for commercial development, *including any required buffer area.*" (Emphasis added.)

¹ http://www.boemre.gov/offshore/RenewableEnergy/PDFs/CapeWind_signed_lease.pdf

Thus, BOEMRE should continue to consider buffers and the effects of shadowing of other wind parks as more portions of the OCS are opened to wind park development. When RFI areas are in close proximity to one another, it is logical that respondents to earlier RFIs will express concerns about potential shadowing by subsequent nearby projects. In this case, NRG Bluewater's analysis indicates that turbines in the northern reaches of the Maryland RFI area will shadow some of the southernmost turbines of the proposed Mid-Atlantic Wind Park.

In its separate response expressing commercial interest in the RFI area, Bluewater Wind Maryland LLC accounted for the potential shadowing effect by adjusting the proposed project layout. Not all potential respondents would be aware of the BOEMRE-submitted layout of the Mid-Atlantic Wind Park and may not make the same accommodations. It is essential for financing and commercial operation of the Mid-Atlantic Wind Park that other wind parks do not materially reduce the output through shadowing of one large array by a nearby array. The literature on shadowing is extensive; the science of shadowing has been conclusively demonstrated on land in Europe and the US, and offshore in Europe.

NRG Bluewater raises this important issue not only for the Mid-Atlantic Wind Park but also as a policy issue for BOEMRE to consider as additional OCS areas are offered for potential development.

Buffer Area in Delaware RFI Response

In its June 25, 2010 submission to BOEMRE, entitled "Expression of Interest in Obtaining a Commercial Lease for the Construction of a Wind Energy Project on the OCS Offshore Delaware," NRG Bluewater identified the requirement for

an exclusionary buffer area ... to prevent future wind farm developments from diminishing the wind resource of the Mid-Atlantic Wind Park [off the coast of Delaware].²

The document further elaborates:

The south, south-southwest, and southwest wind direction sectors have a 15 km (9.3 mile) buffer; south-southeast, southeast, west, and west-southwest direction will transition from 15 to a 5 km (3.1 miles) buffer; and the remaining sectors will have a 5 km buffer. A more extensive buffer, e.g. 30 km in all directions, would be required to achieve a near-zero plant efficiency deficit.

Furthermore, the document states as follows:

[S]ome blocks outside of the current [i.e. Delaware] RFI Area would also be part of the buffer area.

² The analysis of buffer requirements for the Mid-Atlantic Wind Park was prepared by a leading meteorological firm, AWS Truewind, now AWS Truepower.

The Mid-Atlantic Wind Park is located approximately eight nautical miles north of the northern boundary of the Maryland RFI area. The aforementioned 15 km (roughly 8 nautical miles) southern buffer for the Mid-Atlantic Wind Park thereby intersects with northern region of the RFI area.

At the BOEMRE's request, NRG Bluewater will make itself available to discuss, and clarify as needed, any aspects of this comment. Please note that I am President of all three entities discussed in this letter and that all of them are 100%, wholly-owned subsidiaries on NRG Energy Inc.

NRG Bluewater looks forward to working with the BOEMRE to further the development of offshore wind energy on the OCS.

Sincerely,

A handwritten signature in black ink that reads "Peter D. Mandelstam". The signature is written in a cursive style with a long horizontal stroke at the end.

Peter D. Mandelstam

President

NRG Bluewater and related entities