



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

May 7, 2014

Ms. Aileen Kenney
Deepwater Wind Block Island, LLC
56 Exchange Terrace, suite 101
Providence, Rhode Island 02903

**Subject: Application for Wind Farm Construction
 New Shoreham, Rhode Island
 Water Quality Certificate File Number 12-037**

Dear Ms. Kenney:

The Department of Environmental Management (“DEM”) has reviewed the above referenced project for compliance with the *State Water Quality Regulations, July 2006, amended December 2010*. The applicant proposes the following activities:

Deepwater Wind Block Island, LLC (“Applicant”) proposes to construct and maintain the Block Island Wind Farm (“BIWF” or “Project”), a 30-megawatt (MW) offshore wind farm located in Rhode Island state territorial waters. The BIWF would consist of five 6-MW wind turbine generators (WTGs), a submarine cable interconnecting the five WTGs, and a 34.5-kilovolt (kV) submarine transmission cable from the northernmost WTG to an interconnection point on east-central Block Island where the cable will go ashore to a new substation built at the existing Block Island Power Company (“BIPCO”) property.

The Applicant has submitted an Environmental Report dated September 24, 2012, amended May 31, 2013 and is entitled “*Water Quality Certification, Marine Dredging Applications, and Environmental Report, Volumes I to IV.*” Deepwater Wind, by its letter of October 12, 2013, withdrew the long-distance horizontal directional drill (HDD) landing option for the cable landing at Crescent Beach in the Town of New Shoreham.

The five WTGs are proposed to be built approximately 3 statute miles off of the southeast coast of Block Island in Rhode Island Sound (Atlantic Ocean). The proposed locations on the USGS Block Island, RI quadrangle sheet for the five WTGs are listed in **Table 1** below. The cable locations are shown on the site plans associated with the Environmental Report.

Table 1. WTG Coordinates

#	Coordinate Plane WGS 1984	
	Latitude	Longitude
WTG 1	41° 7' 32.596" N	71° 30' 27.230" W
WTG 2	41° 7' 11.770" N	71° 30' 50.208" W
WTG 3	41° 6' 53.060" N	71° 31' 16.183" W
WTG 4	41° 6' 36.710" N	71° 31' 44.810" W
WTG 5	41° 6' 23.050" N	71° 32' 15.540" W

Project Description

The BIWF would consist of five 6-MW WTGs, a submarine cable interconnecting the WTGs (Inter-Array Cable), and a 34.5-kV transmission cable approximately 6.2 miles long from the northernmost WTG to an interconnection point on Block Island (Export Cable). The WTGs would be attached to the seafloor using jacket foundations secured with four foundation piles or skirt piles driven to a depth of up to 250 feet below the mudline. The Applicant plans to install five WTGs with a hub height above mean low water (MLW) between 329 feet and 388 feet and a rotor diameter between 505 feet and 541 feet, for a total height between 581 feet and 659 feet above MLW. The blade clearance will range between 75 feet and 118 feet above MLW.

The WTG foundations would result in approximately 0.35 acre seafloor disturbance from the WTG foundations of all five WTGs, including armoring of the Inter-Array Cable at the base of each turbine. Construction activities would result in up to 1.2 acres of seafloor disturbance associated with jack-up and/or anchored derrick barges used to install the foundations and WTGs. The submarine cables would be installed using a jet plow to minimize sediment resuspension and seafloor disturbance during cable laying. Installation of the Inter-Array and Export Cable would result in up to 14.91 acres of seafloor disturbance. During operation, cable armoring in areas where the target depth is not achieved may require up to 0.39 acre of sand and/or cement bags for cable protection. The Export Cable would be brought ashore on Block Island at Crescent Beach using a short-distance horizontal directional drill (HDD) that would temporarily disturb up to 2.3 acres of beach and parking areas onshore. The onshore BIWF facilities will not result in fill or discharge into wetlands. The Export Cable will require one crossing of navigable water attached to the existing bridge that spans Trims Pond and Harbor Pond on Beach Avenue.

The Project and associated activities will take place in State waters identified as Rhode Island Sound, Class SA.

Public Comment and Hearings

A 60 Day Public Notice was issued on December 3, 2012. Two Public Hearings were also conducted on April 24, 2013 at the Narragansett Town Hall and on May 8, 2013 at the New Shoreham Town Hall. All written and oral comments have been documented and reviewed and taken into consideration in this Permit.

Conditions

It is the opinion of the DEM that said project is in compliance with the Water Quality Regulations provided that the Applicant complies with the Environmental Report and the following conditions.

1. All work shall conform to the Environmental Report and plans submitted with the "Water Quality Certification Program Application" and the "Application for Marine Dredging and Associated Activities" prepared by Tetra Tech, Inc., dated September 24, 2012, amended on May 31, 2013 and October 17, 2013. See Table 2 below:

Table 2. Contents

TITLE	DESCRIPTION
Water Quality Certification, Marine Dredging Applications, and Environmental Report	Volume 1 – Environmental Report and Applications
Water Quality Certification, Marine Dredging Applications, and Environmental Report	Volume 2 – Appendix A, Agency Correspondence; Appendix B, Preliminary Project Design Plans; Appendix C, Typical Construction Drawings; Appendix D, Sediment Profile and Plan View Report
Water Quality Certification, Marine Dredging Applications, and Environmental Report	Volume 3 – Appendix E, Geotechnical and Geophysical Reports; Appendix F, Benthic Resources Survey Report; Appendix G, Sediment Survey and Analysis Report
Water Quality Certification, Marine Dredging Applications, and Environmental Report	Volume 4 - Appendix H, Sediment Transport Analysis Report; Appendix I, Draft Storm Water Pollution Prevention Plan; Appendix J, Resource Area Delineation Reports; Appendix K, Air Emissions Analysis; Appendix L, Eelgrass Survey Report; Appendix M, EMF Analysis; Acoustic Assessment; Appendix O, Pre-Construction Avian and Bat survey Report
November 2, 2012 Submittal of Revised Materials to the Water Quality Certification and Marine Dredging Applications for the Block Island Wind Farm and Block Island Transmission System	Attachment 1 – Application Check List; Project Options Agreements

TITLE	DRAWING NUMBER	SCALE
Route Key Sheet	G1-1	Not to Scale
Block Island Plan View	P1-1	1 inch = 40 feet
Block Island Plan View	P1-2	Plan 1"= 40' Section 1"=10'
Block Island Plan View	P1-3	Plan 1"= 40' Section 1"=10'
Block Island Plan View	P1-4	Plan 1"= 40' Section 1"=10'
Block Island Plan View	P1-5	Plan 1"= 40' Section 1"=10'
Block Island Plan View	P1-6	Plan 1"= 40' Section 1"=10'
Ocean Plan and Profiles	P1-7	Horz 1"= 40' Vert 1"= 4'
Ocean Plan and Profiles	P1-8	Horz 1"= 400' Vert 1"= 40'
Ocean Plan and Profiles	P1-9	Horz 1"= 400' Vert 1"= 40'
Ocean Plan and Profiles	P1-10	Horz 1"= 400' Vert 1"= 40'
Ocean Plan and Profiles	P1-11	Horz 1"= 400' Vert 1"= 40'
Block Island Detail Sheet	U3-1	Not to Scale

2. Any change to the plans identified in Condition 1 resulting in changes in construction methodologies approved in this Water Quality Certificate (the "Permit") shall require the Applicant to notify DEM of the proposed change and receive written approval prior to undertaking any work not authorized by this Permit. A new or amended Permit may be required if the route of the export cable changes due to requirements of any state, local, or federal permit or authorization.
3. The Applicant must notify DEM forty-eight (48) hours in advance of commencing construction activities so that DEM is available to inspect work. No submarine construction authorized by this Water Quality Certificate shall begin prior to January 1, 2015.
4. The Applicant shall designate a third party Environmental Compliance Monitor for this project whose responsibilities shall include ensuring the project complies with the requirements of this Permit and that all necessary reports are made on a timely basis. Prior to the start of construction, the Applicant shall provide to DEM the name, phone number and qualifications of the Environmental Compliance Monitor assigned to the project.
5. A copy of this Permit and referenced plans and documents shall be provided to the contractor prior to the start of construction.
6. A copy of this Permit and referenced plans and documents shall be kept on the major construction vessels during all phases of construction.
7. Staff of the DEM shall have the right to enter and inspect the area and activities subject to this Permit at reasonable hours to evaluate compliance with the conditions stated in this Permit, and may require the submittal of any available

data deemed necessary by DEM for that evaluation.

- 8 All vessels used in the Project shall be maintained in sea-worthy condition. Construction and construction-support vessels shall, at a minimum, implement best management practices to control discharge of drainage and trash. Discharges of sanitary waste and other discharges are prohibited in State waters.
- 9 Construction Window: The proposed construction activities as described in the permit application must adhere to the following time of year restrictions and conditions.
 - A. Wind turbine installation - The proposed wind turbine installation as described in the permit application that requires impact driving shall adhere to a window of May 1 to October 31.
 - B. Jet plowing – The proposed cable installation as described in the permit application that requires the use of a jet plow may occur anytime between April 1 and January 31. This time frame is an extension of the current window of October 15 to January 31. No further modifications to this extended dredge window shall be granted and thus, no jet plowing shall occur during the time period of February 1 to March 31. This time of year restriction is required for the protection of winter flounder.
10. No less than six (6) months prior to construction, the Applicant shall provide to DEM for review and approval a monitoring plan to assess any hard bottom habitat impacts that cannot be avoided. The monitoring plan shall include an assessment of impacts to the hard bottom habitat as well as a plan for assessing recovery time for this sensitive habitat. The plan shall also include a means of recording observations of any increased coverage of invasive species in the impacted hard bottom area. The monitoring plan and subsequent reports shall be provided to DEM and to other resource agencies for review and comment.
11. No less than six (6) months prior to construction, the Applicant shall provide to DEM for review and approval a proposed anchoring plan that minimizes anchoring-related impacts to the hard bottom habitat during construction, operation and maintenance, and decommissioning, to the greatest extent practicable. Vessel operators shall be provided maps of sensitive hard bottom habitat in the project area as well as a proposed anchoring plan that minimizes impacts to the hard bottom habitat to the greatest extent practicable. These plans shall be provided for all anchoring activity including construction, maintenance, and decommissioning.
12. No later than December 31, 2015, the Applicant shall submit a long-term monitoring and operations maintenance plan for the transmission cables for DEM review and approval. This plan shall include a post-construction inspection using a multi-beam survey and shallow sub-bottom profiler (chirp) to ensure cable

burial depth was achieved and to verify reconstitution of the trench. The cable burial depth along the route will be inspected using a sub-bottom profiler at least once every (5) years. No later than December 31, 2015, the Applicant shall submit a study plan to DEM for review and approval to assess electromagnetic field (EMF) levels and burial depth along the entirety of the transmission cable routes to address the potential effects of EMF on the composition, life cycle functions, uses, process and activities of fish and wildlife. The EMF assessment shall be conducted during the first year of BIWF operations. Within ninety (90) days of the assessment (even if required by another agency), the results shall be provided to the Wind Farm Cable Interagency Review Panel ("WFCIRP") and DEM. If it is determined that, pursuant to Rule 8.D of the *State Water Quality Regulations, July 2006, amended December 2010*, there is an adverse impact to the composition, life cycle functions, uses, process and activities of fish and wildlife, the WFCIRP and the Applicant's EMF expert shall submit a recommendation to address such impact to DEM for review, comment, and approval based on the best available science. All approved recommendations shall be implemented by the Applicant within a reasonable time period. The WFCIRP shall consist of one member from each of the following agencies and organizations: DEM, CRMC, ACOE, NMFS, and USCG.

13. Results of scour monitoring at the WTGs shall be provided to DEM for review. Additional consultation will be required if scour protection is deemed necessary.
14. Noise mitigating measures, such as soft-start procedures, shall be used during construction, to ensure marine species have the opportunity to evacuate the area prior to pile driving activity. A plan outlining noise mitigation procedures, which shall be consistent with the project specific Incidental Harassment Authorization (IHA) from the National Marine Fisheries Service, shall be provided to DEM and other resource agencies prior to construction. Once the plan is reviewed and approved by DEM, it shall be kept on each affected construction vessel and implemented by the Applicant. DEM shall be notified within 24 hours if any evidence of a fish kill or other impact to living marine resources during construction activity is observed.
15. Monitoring for noise levels during construction and operation shall be conducted to verify the acoustic models and provide more accurate information on the area of impact. Noise monitoring reports shall be provided to DEM within a reasonable time period.
16. The Applicant shall conduct two (2) years of pre-construction bottom trawl and ventless lobster trap surveys, one year of ventless lobster trap survey during construction, and two (2) years of post-construction bottom trawl and ventless lobster trap surveys to monitor fisheries resources in the project area. DEM recognizes that the Applicant has stated its intent to undertake these surveys in the Environmental Report and has already initiated pre-construction surveys. Monthly survey reports shall be provided to DEM. A final summary report evaluating any

potential changes in fishery resource diversity, distribution and/or abundance shall be provided to DEM and other resource agencies once the post-construction surveys are complete.

17. Mitigation Requirements - DEM has the authority and shall determine if the construction, operation and maintenance of the wind farm (WTGs and transmission cables) violates the water quality criteria as defined in Rule 8.D of the *State Water Quality Regulations, July 2006, amended December 2010*. DEM shall notify the Applicant regarding any such determination and the Applicant shall submit a mitigation plan to DEM within three months of said notification. Mitigation shall be implemented by the Applicant after final review and approval of the mitigation plan by DEM.
18. Prior to initiating construction, all final submarine plans and specifications in conformance with this Permit shall be provided to DEM.
19. DEM shall be notified immediately of any site or operational condition that results in the violation of the requirements noted herein. If conditions are discovered that violate this Permit, submarine operations shall cease until the problem is rectified. Should any stipulation or condition identified within any other applicable permit be in conflict with the conditions set forth in this Permit, the Applicant shall notify the DEM immediately.
20. Decommissioning Plan Review – The BIWF decommissioning plan shall be submitted to CRMC as required by CRMC rules and regulations, the Rhode Island Ocean Special Area Management Plan, and pertinent lease agreements between the BIWF owner and the CRMC and/or the State of Rhode Island. At the time of submission to CRMC, a copy of the decommissioning plan shall be submitted to DEM for review and comment.
21. Material used for fill and construction must be clean and free of matter that could cause pollution of the waters of the State. The use of creosote treated structures may result in the introduction of pollutants to waters of the State.
22. No sewage, refuse, or waste of any kind shall be discharged into waters of the State from activities associated with the development of these parcels. Any release of materials from the site associated with the project during the construction period will require immediate notification to the DEM.
23. The Applicant must obtain all other applicable local, state, and federal permits prior to commencing submarine construction.
24. DEM hereby reserves the right to provide a written response to any of the plans and reports required under this Permit. Said response may also include additional conditions and requirements that are deemed necessary upon review of relevant data. Failure of the Applicant to adequately address a written response in a timely

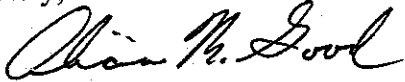
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manner may be grounds for suspension of the within Permit. Failure of the Applicant to adhere to submitted plans required under this Permit may also be grounds for a suspension of the Permit.

25. This Water Quality Certificate shall expire twenty-five (25) years from the date of the commencement of operations.

This is the DEM Rhode Island Water Quality Certification under Section 401 of the Federal Clean Water Act (33 U.S.C. Sec. 1341). Violation of the terms and conditions of this Permit may result in appropriate enforcement action. If you have any questions regarding this Permit, please contact Ronald Gagnon in the Office of Technical and Customer Assistance at 401 222-6822, extension 7500.

Sincerely,



Alicia M. Good, P.E.
Assistant Director for Water Resources

cc: Danni Goulet, RI CRMC
Michael Elliot, ACOE