

DEPARTMENT OF THE ARMY US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT 696 VIRGINIA ROAD CONCORD MA 01742-2751

September 4, 2014

Regulatory Division CENAE-R Permit Number: NAE-2009-789

Aileen Kenney Director of Permitting Deepwater Wind Block Island, LLC 56 Exchange Terrace Street Providence, Rhode Island 02903-1772

Dear Ms. Kenney:

Attached are two copies of a Department of the Army permit authorizing your Block Island Wind Farm project. Please sign both copies of the permit and return one signed copy to this office at the address above. A fee of \$100.00 is required. Please enclose a check made payable to "FAO New England District", and return it with the signed permit copy. Please ensure your address and social security number, or tax identification number for businesses, are on the check. The authorized work cannot start until we receive a complete, signed copy of the permit.

You are required to complete and return the attached forms to this office:

1. Work Start Notification Form at least two weeks before the anticipated work start date.

2. Compliance Certification Form within one month following the completion of the authorized work.

This permit is a limited authorization containing a specific set of conditions. Please read the permit thoroughly to familiarize yourself with those conditions, **including any conditions contained on the attached state water quality certification.** If a contractor does the work for you, both you and the contractor are responsible for ensuring that the work is done in compliance with the permit's terms and conditions, as any violations could result in civil or criminal penalties.

The Corps of Engineers has consulted with the National Marine Fisheries Service (NMFS) regarding the effects of your project on Essential Fish Habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act. To minimize impacts to the aquatic environment, conservation recommendations from several agencies are included as special conditions attached to this permit.

This letter contains an approved jurisdictional determination for your subject site and a proffered permit for your proposed project. If you object to either this determination or decision, you may request an administrative appeal under Corps regulations at 33 CFR 331. A combined Notification of Administrative Appeal Options and Process (NAP) and Request for Appeal (RFA) form, and flow chart explaining the appeals process and your options, are attached to this

letter. If you desire to appeal this determination, you must submit a completed RFA form along with any supporting or clarifying information to Michael G. Vissichelli; Administrative Appeals Review Officer; North Atlantic Division, Corps of Engineers; North Atlantic Fort Hamilton Military Community, Bldg. 301; General Lee Avenue; Brooklyn, NY 11252-6700. Contact info: (347) 370-4663 or michael.g.vissichelli@usace.army.mil.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP.

You may not appeal conditions contained in the State water quality certification or the CZM consistency determination under this program as they are automatically included in the Federal permit. Also note that the Department of the Army permit process does not supersede any other agency's jurisdiction.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at <u>http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey</u>.

If you have any questions regarding this correspondence, please contact Michael Elliott at (978) 318-8131, (800) 343-4789, or use (800) 363-4367 within Massachusetts.

Sincerely. Robert J. DeSista

Acting Chief, Regulatory Division

Enclosures

Copy Furnished:

Jennifer Daniels Director of Offshore Energy Tetra Tech 160 Federal Street, 3rd Floor Boston, MA 02110



NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

	A CONTRACTOR OF					
Applica	Date: 4 Sept 2014					
Attach	See Section below					
\mathbf{X}	INITIAL PROFFERED PERMIT (Standard Pe	A				
	PROFFERED PERMIT (Standard Permit or Le	В				
	PERMIT DENIAL	C				
X	APPROVED JURISDICTIONAL DETERMIN	D				
	PRELIMINARY JURISDICTIONAL DETERMINATION E					
SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or						

Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the New England District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations (JD) associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the New England District Engineer. Your objections must be received by the New England District Engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the New England District Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the New England District Engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.
- B: PROFFERED PERMIT: You may accept or appeal the permit
- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the New England District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-PD-PSD-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the New England District Engineer.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-PD-PSD-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the New England District Engineer.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-PD-PSD-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the New England District Engineer.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the
record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to
clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However,
you may provide additional information to clarify the location of information that is already in the administrative record.
POINT OF CONTACT FOR OUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal	If you only have questions regarding the appeal process you may					
process you may contact:	also contact:					
Ruth M. Ladd	Mr. Michael G. Vissichelli					
CENAE-R	Administrative Appeals Review Officer					
U.S. Army Corps of Engineers, New England District	North Atlantic Division, Corps of Engineers Fort Hamilton					
696 Virginia Road	Military Community Bldg. 301, General Lee Avenue Brooklyn,					
Concord, MA 01742-2751	NY 11252-6700					
Telephone: (978) 318-8818	Telephone: (347) 370-4663					
Email: ruth.m.ladd@usace.army.mil	Email: michael.g.vissichelli@usace.army.mil					
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government						
consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day						
notice of any site investigation, and will have the opportunity to participate in all site investigations.						
	Date:	Telephone number:				
		-				
Signature of appellant or agent.						





DEPARTMENT OF THE ARMY PERMIT

Permittee Deepwater Wind Block Island, LLC

Permit No. NAE-2009-789 (see also associated Permit No. NAE-2012-2724)

Issuing Office New England District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To construct and maintain the Block Island Wind Farm (BIWF). In connection with the BIWF, Deepwater Wind Block Island Transmission, LLC will develop the Block Island Transmission System (BITS). The BITS is a 34.5-kV alternating current (AC) bi-directional submarine transmission cable that will run approximately 25.1 miles from its interconnection on Block Island to the interconnection on the Rhode Island mainland. The BIWF and BITS were subject to joint review under the National Environmental Policy Act (NEPA). The BITS has been authorized under a separate permit (see Permit No. NAE-2012-2724). The authorized work includes:

1.) Installation of 5 offshore wind turbines generators (WTGs) and associated foundations including the placement of 0.35 acre of permanent fill.

(Project Description continued on Page 4)

Project Location:

The five WTGs and Inter-Array Cable are 3 miles off southeast coast of Block Island in Rhode Island Sound (Atlantic Ocean). The Export Cable runs from the WTGs to landfall at Crescent Beach in the Town of New Shoreham on Block Island.

General Conditions:

DECEMBER 31, 2019

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

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EDITION OF SEP 82 IS OBSOLETE.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

(Special Conditions start on Page 5)

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

Section 404 of the Clean Water Act (33 U.S.C. 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit,

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit,

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209,170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

(Dermittee) (PERMITTEE) Hileen Kenney, V.P. OF Permitting and Enviro. Attairs

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Robert J. DeSista Acting Chief, Regulatory Division

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(DATE)

Project Description (continued from Page 1)

2.) Installation of 2 linear miles of submerged Inter-Array Cable including the placement of up to 0.1 acre of fill for cable armoring.

3.) Placement of up to 355 cubic yards of fill for armoring of the Inter-Array Cable at the base of the foundations.

4.) Installation of 6.2 linear miles of submerged Export Cable including the placement of up to 0.3 acre of fill for cable armoring.

5.) Export Cable aerial crossing of approximately 45 linear feet over Trims Pond in the Town of New Shoreham (Block Island).

6.) A temporary trench will be excavated between mean low water and mean high water for the Export Cable landfall at Crescent Beach on Block Island with a temporary disturbance area of approximately 0.01 acre.

The work is described on the enclosed plans entitled "34.5kV BIWF Underground Route" dated "May 23, 2012."

Special Conditions

- 1. The special condition requirements contained in the Section 401 State Water Quality Certification issued by RIDEM for the BIWF project are made a part of the Corps permit.
- 2. All Block Island Wind Farm (BIWF) work is to be completed in accordance with the Permittee's September 2012 applications and subsequent modifications, and their Environmental Report and subsequent modifications.
- 3. The Permittee shall ensure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all contracts and subcontracts for work which affects areas of Corps of Engineers jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for work. If the permit is issued after the construction specifications, but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. If the permit is issued after receipt of bids or quotes, the entire permit shall be included in the contract or sub-contract as a change order. The term "entire permit" includes permit amendments. Although the Permittee may assign various aspects of the work to different contractors or subcontractors, all contractors and subcontractors shall be obligated by contract or subcontract shall require or allow unauthorized work in areas of Corps jurisdiction.
- 4. The Permittee shall complete and return the enclosed Compliance Certification Form to the Corps within one month after the completion of the authorized work.
- 5. Adequate sedimentation and erosion control devices, such as geotextile silt fences or other devices capable of filtering sediments, shall be installed and properly maintained to minimize impacts on wetlands and/or waters during construction. These devices must be removed after soils disturbed by construction activities are stabilized by revegetation or other means. The sediment collected by these devices must be periodically removed and placed in uplands, in a manner that will prevent its erosion and transport to wetlands and/or waters.
- 6. All areas of wetlands and/or waters, which are disturbed during construction, except those authorized herein for permanent impact, shall be restored to their approximate original elevation (but not higher) and condition by careful protection, and/or removal and replacement, of existing soil and vegetation. In addition, if upland clearing, grubbing, or other construction activity results in, or may result in, soil erosion with transport and deposition into a wetland or waterway, devices such as geotextile silt fences, sediment trenches, etc., shall be installed and properly maintained to minimize such impacts during construction. These devices must be removed upon completion of work and stabilization of disturbed areas. The sediment collected by these devices must also be removed and placed upland, in a manner that will prevent its later erosion and transport to a waterway or wetland.
- 7. Except where stated otherwise, reports, drawings, correspondence and any other submittals

required by this permit shall be marked with the words "Permit No. 2009-789" and shall be submitted to: PATS Branch - Regulatory Division, Corps of Engineers, New England District, 696 Virginia Road, Concord, MA 01742-2751. Documents which are not marked and addressed in this manner may not reach their intended destination and do not comply with the requirements of this permit. Requirements for immediate notification to the Corps shall be done by telephone to (978) 318-8338.

Essential Fish Habitat:

- 8. The Permittee shall provide their vessel operators with maps of sensitive hard bottom habitat in the project area, as well as a proposed anchoring plan that minimizes impacts on the hard bottom habitat to the greatest extent practicable. These plans shall be provided for all anchoring activity, including construction, maintenance, and decommissioning.
- 9. Prior to the start of construction, a monitoring plan shall be prepared to assess any hard bottom habitat impacts that cannot be avoided. The monitoring plan shall provide an assessment of impacts on 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 the Corps and NMFS for review and comment.
- 10. Reports on the post-construction monitoring of cable installation shall be provided to the Corps and NMFS for review. Mitigation may be required if areas along the cable route do not recover or fill in naturally, as stated in the BIWF/BITS ER.
- 11. Results of scour monitoring at the WTGs shall be provided to the Corps and NMFS for review. Additional consultation will be required if scour protection is deemed necessary.
- 12. Noise mitigating measures shall be used during construction, such as soft-start procedures, to ensure fish species have the opportunity to evacuate the area prior to pile driving activity. A plan outlining noise mitigation procedures shall be provided to the Corps and NMFS prior to construction. Resource agencies shall be notified within 24 hours if any evidence of a fish kill during construction activity is observed.
- 13. 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 the Corps and NMFS.
- 14. Deepwater Wind Block Island (DWBI) shall conduct two years of pre-construction trawl surveys and three years of post-construction surveys in accordance with the BIWF Trawl Survey Plan dated April 2012, as amended, to monitor fisheries resources in the project area. Monthly and annual survey reports shall be provided to the Corps and NMFS. A final summary report evaluating any potential changes in fish diversity, distribution and abundance shall be provided to the Corps and NMFS once trawl survey monitoring is complete.

Avian and Bat:

- 15. DWBI will use anti-perching devices and design measures to avoid attracting avifauna to the wind turbine generators.
- 16. DWBI must use red FAA lights on each wind turbine generator to reduce the potential for attracting migrant avian species to the wind farm.
- 17. DWBI must complete avian and bat surveys and monitoring in accordance with Avian and Bat Post-Construction Monitoring Plan dated February 28, 2014.

Cultural Resources:

18. DWBI shall comply with the Memorandum of Agreement (MOA) executed in June, 2014 that was signed by the Army Corps of Engineers (Corps), Rhode Island State Historic Preservation Office (SHPO), DWBI, and the Narragansett Indian Tribal Historic Preservation Office.

Air Navigation:

19. DWBI shall comply with the Determinations of No Hazard to Air Navigation (2012-WTE-1893-OE through 2012-WTE-1897-OE) issued by the FAA for the WTGs.

Marine Navigation:

20. DWBI shall ensure that the BIWF is designed, positioned, arranged and operated in such a way as to maintain maritime navigation safety as determined by the USCG.

- 21. Design Conditions:
 - a. All WTGs, shall be marked in accordance with applicable federal law and regulation. Application shall be made to Commander (dpw-l), First Coast Guard District, to establish private aids to navigation for each WTG, and approval for all private aids to navigation shall be obtained before construction of the wind farm begins.
 - (1) Additionally, DWBI shall:
 - a) Provide signage on the four sides of the wind turbine structures warning vessels that the air draft of the turbine blades is less than 71 ft. (Or whatever distance the final design provides for blade clearance.)
 - b) Ensure that cable routes and wind turbines are depicted on appropriate government produced and commercially available nautical charts; and
 - c) Provide mariner information sheets on the project website with details on location of the turbines and specifics such as blade clearance above sea level.
 - b. All WTG rotors (blade assemblies) shall be equipped with control mechanisms that can be operated from the control center of the wind farm.

- (1) The WTG control mechanisms shall enable control room operators to shut down any or all of the WTGs within two minutes of initiating shutdown procedures.
- (2) Shutdown(s) may be ordered by the USCG. Normally, USCG-ordered shut downs will be limited to those WTGs in the immediate vicinity of an emergency and for as short a period as is safely practicable under the circumstances, as determined by the USCG.
- c. Safety lines and mooring attachments (for securing vessels), and access ladders for use in emergencies shall be placed on each WTG. Plans for the design and placement of safety lines and access ladders shall be submitted for USCG review and approval.
- d. Radar: Potential interference on navigational radar, if any, is site specific and a function of many factors including turbine size, layout of the wind farm, number of turbines, construction material(s), topographical features, and types of radars impacted.
 - (1) Before beginning construction or operation of the wind farm, DWBI shall submit to the Corps of Engineers and the USCG a researched analysis specific to the BIWF proposal concerning whether or not the WTGs produce radar reflections, blind spots, shadow areas, or other effects that could adversely impact safety of navigation.
 - (2) DWBI shall provide the USCG with recommended measures to mitigate the adverse impact to vessel radars, if any, resulting from the WTGs it proposes. If mitigation measures are deemed necessary for navigation safety by the USCG, those mitigations will be funded by DWBI.
- e. A detailed submarine cable system burial plan shall be submitted that depicts precise location and burial depths of the entire cable system. This plan shall be reviewed by the USCG and approved by the Corps of Engineers before construction of any component of the Offshore Renewable Energy Installation (OREI) begins.
- f. A detailed tower design shall be reviewed by the USCG and accepted by the Corps of Engineers before construction of any component of the OREI begins.
- g. Should there be, at any time, any change or modification in the design of the wind farm that may impact navigation safety (including, but not limited to a change in number, size, or location of WTGs or a change in construction materials or construction method), written application must be made by DWBI to the Corps of Engineers:
 - (1) Justifying the need for the change or modification.
 - (2) Explaining how the change or modification is expected to impact navigation safety

- h. DWBI must receive written approval from the Corps of Engineers before proceeding with any change or modification for which it has submitted a written application as required in paragraph g.(1) (special condition 21.) above.
- 22. Planning Conditions:
 - a. Control Center: Prior to construction of the wind farm, DWBI will provide for USCG review and approval, a plan describing the standard operating procedures, staffing, communications capabilities, and monitoring capabilities of the wind farm control center. The plan shall include, but not be limited to, the following topics:
 - (1) Standard Operating Procedures: Method for establishing and testing WTG rotor shutdown; methods) for notifying the USCG of mariners in distress or potential/actual search and rescue (SAR) incidents; methods) for notifying the USCG of any events or incidents that may impact maritime safety or security.
 - (2) Staffing: Number of personnel intended to staff the control center; hours of operation; job qualification requirements; initial, on-the-job, and refresher training requirements, etc.
 - (3) Communications: Capabilities to be maintained by the control center to communicate with the USCG; and mariners within and in the vicinity of the wind farm.
 - (4) Monitoring: Capabilities to be maintained by the control center to continuously monitor each of the WTGs, including aids to navigation and marine traffic within and in the vicinity of the wind farm.
 - b. Worksite Construction: No construction work shall commence at the site (i.e., on or under the water), without prior review and approval by the USCG of a plan to be submitted by DWBI that describes the schedule and process for erecting each WTG, including all planned mitigations to be implemented to minimize any adverse impacts to navigation while construction is ongoing. Appropriate Notice to Mariners submissions will accompany the plan.

Oil Spill Prevention and Response Plan: DWBI will submit for USCG review and approval an Oil Spill Prevention and Response Plan as required by applicable federal regulations to address the risks posed by oil in each of the nacelles, and oil transfers as part of the normal operations and maintenance of the OREI.

23. Reporting Conditions:

- a. Upon commencing construction of the wind farm and no later than the first calendar day of each succeeding month, DWBI shall provide a written report to the USCG which shall include:
 - (1) The current construction status of the project.

- (2) Changes to the construction schedule or process described in the plan required by paragraph 25.b above.
- (3) A description of any complaints received (either written or oral) by boaters, fishers, commercial vessel operators, or other mariners regarding impacts on navigation safety allegedly caused by construction boats, barges, or other equipment. Describe any remedial action taken in response to complaints received.
- (4) Copies of any correspondence received by DWBI from other federal, state, or local agencies that mention or address navigation safety issues.
- b. No later than 30 days prior to 1 January, 1 April, 1 July, and 1 October of each year in which any WTG is erected, DWBI shall provide the USCG with its planned WTG maintenance schedule for each respective quarter. Appropriate Notice to Mariners submissions will accompany each maintenance schedule.

24. To ensure sufficient opportunity for the public to receive information directly from the owners/operators of the wind farm, DWBI agrees to attend periodic meetings of the Rhode Island Port Safety Forum to brief the forum on the status of construction and operations, and on any problems or issues encountered with respect to navigation safety.

25. The wind farm construction and operation, including the control center and its operators, and all plans and policies related thereto, shall be subject to regular review and inspection by the USCG on at least an annual basis, or more frequently if circumstances dictate.

Marine Mammals and Sea Turtles:

26. Exclusion and Monitoring Zones: Exclusion and monitoring zones will be established around acoustically active Project components (i.e., impact pile driving and DP thruster use for cable-lay operations). These zones will be established to monitor for ESA-listed species of sea turtles and whales that may enter the Project Area and to adjust Project operations accordingly to prevent exposure of these animals to potentially injurious levels of underwater noise. Exclusion and monitoring zones are not being established for Atlantic sturgeon because this species occurs only under the water surface and visual observers will not be able to detect the presence of Atlantic sturgeon in the Project Area and no remote sensing technology that could detect Atlantic sturgeon is feasible for deployment in the area.

a. Impact Pile Driving of WTG Foundations - Prior to the onset of pile driving, when the 200-kilojoule (kJ) impact hammer is in use, an initial 200-m radius exclusion zone will be established around each jacket foundation. In addition, an initial monitoring zone extending 3.6 km (radius) from the pile will be monitored for each pile during impact pile driving activities utilizing the 200-kJ impact pile driving hammer. During the final phases of pile installation, when a 600-kJ impact hammer will be used, the exclusion zone will be expanded to the maximum radial distance of approximately 600 m. The monitoring zone will be expanded to the maximum radial distance of approximately 7 km. These distances are expected to equate to where 180 dB_{RMS} and 160 dB_{RMS} isopleth extend. DWBI will follow ramp-up and shutdown procedures in accordance with these monitoring zones (see below for further details).

- b. Dynamic Position (DP) Vessel during Cable Installation DP vessel use during cable installation will not produce sound levels at 180 dB_{RMS} beyond 1 m from the source and thus, an exclusion zone will not be established. A monitoring zone, based on the extent to the 160 dB_{RMS} isopleth, will be established around the DP vessel. The monitoring zone will extend an estimated 21 m from the source (i.e., DP vessel). All marine mammal sightings, including those beyond the 160 dB_{RMS} isopleth will be recorded.
- 27. Field Verification of Monitoring and Exclusion Zones:
 - a. Impact Pile Driving of WTG Foundations Field verification of the initial 200-m radius exclusion zone and the 3.6-km radius monitoring zone for the 200-kJ impact pile driving hammer, as well as the 600-m radius exclusion zone and 7-km radius monitoring zone for 600-kJ impact pile driving hammer, will be conducted. Acoustic measurements will include the driving of the last half (deepest pile segment) for any given open-water pile and will include measurements from two reference locations at two water depths (a depth at mid-water and a depth at approximately 1 m above the seafloor). If the field measurements determine that the actual 180 dB_{RMS} and 160 dB_{RMS} zones of influence are less than or extend beyond the proposed exclusion zone and monitoring zone radii, a new zone(s) will be established accordingly. The Corps and NMFS will be notified within 24 hours whenever any new exclusion and/or monitoring zone are established by DWBI that extends beyond the initially proposed radii. Implementation of the revised zone(s) smaller than the proposed radii will be contingent upon Corps and NMFS review and approval. In the event that a smaller zone(s) is determined to be appropriate, DWBI will continue to use the originally proposed zone(s) until agency approval is given.
 - b. DP Vessel during Cable Installation Field verification of the preliminary 21-m radius monitoring zone (i.e., that the 160 dB_{RMS} isopleth does not extend beyond 21-m) associated with DP vessel thruster use during cable installation will be performed using acoustic measurements from two reference locations at two water depths (a depth at mid-water and a depth at approximately 1-m above the seafloor). As necessary, the monitoring zone will be modified and implemented as described for impact pile driving).
- 28. Protected Species Observers:
 - a. All observations for whales and sea turtles in the exclusion and monitoring zones will be performed by NMFS-approved protected species observers (PSO). Observer qualifications will include direct field experience on a marine mammal/sea turtle observation vessel and/or aerial surveys in the Atlantic Ocean/Gulf of Mexico. It is anticipated a minimum of two PSOs will be stationed aboard each noise producing construction support vessel (e.g., derrick barge, jack-up barge, and cable-lay vessel). To increase the potential for detection, given the distance of the monitoring zone associated with the impact pile driving, at least two additional PSOs will be stationed aboard an observation vessel dedicated to

patrolling the monitoring zone while continuously searching for the presence of ESA listed species (i.e., whales and sea turtles; in the offshore marine environment, visual surface detection of Atlantic sturgeon is not feasible). Each PSO will monitor 360 degrees of the field of vision. Each PSO will follow the specified monitoring period for each of the following construction activities:

- i. Impact Pile Driving of WTG Foundations - The PSOs will begin observation of the monitoring zone for at least 30 minutes prior to the softstart of impact pile driving (see below for further details). Use of pile driving equipment will not begin until the associated exclusion zone is clear of all ESA-listed whales and sea turtles for at least 30 minutes. Initial monitoring of the exclusion and monitoring zones prior to soft-start will be conducted with the assistance of night vision equipment to account for dark conditions at or just prior to dawn. In addition, soft-start of construction equipment, as described below, will not be initiated if the monitoring zone cannot be adequately monitored (i.e., obscured by fog, inclement weather) for a 30-minute period. If a soft-start has been initiated before the onset of inclement weather, activities may continue through these periods if deemed necessary to ensure the safety and integrity of the Project. Observation of both the exclusion and monitoring zones will continue throughout the construction activity and will end approximately 30 minutes after use of noise-producing equipment stops operation.
- ii. DP Vessel during Cable Installation PSOs stationed on the DP vessel will begin observation of the monitoring zone as the vessel initially leaves the dock. Observations of the monitoring zone will continue throughout the construction activity and will end after the DP vessel has returned to dock.
- b. For each of the two construction activities (impact pile driving and DP thruster use during cable installation), PSOs, using binoculars, will estimate distances to whales and sea turtles either visually, using laser range finders, or by using reticle binoculars during daylight hours. It is important to note that all pile driving activity will occur only during daylight hours. As cable-laying activities will operate 24 hours a day, during night operations, night vision binoculars will be used. If higher vantage points (greater than 25 ft) are available, distances can be measured using inclinometers. Position data will be recorded using hand-held or vessel global positioning system (GPS) units for each sighting, vessel position change, and any environmental change.
- c. For monitoring established exclusion and monitoring zones, each PSO stationed on or in proximity to the noise-producing vessel or location will scan the surrounding area for visual indication of whale and sea turtle presence that may enter the zones. Observations will take place from the highest available vantage point on the associated operational platform (e.g., support vessel, barge or tug; estimated to be over 20 or more feet above the waterline). General 360-degree scanning will occur during the monitoring periods, and target scanning by the PSO will occur when alerted of the presence of a whale or sea turtle.

d. Data on all observations will be recorded based on standard PSO collection requirements. This will include dates and locations of construction operations; time of observation, location and weather; details of whale and sea turtle sightings (e.g., species, age classification [if known], numbers, behavior); and details of any observed behavioral disturbances or injury/mortality. In addition, prior to initiation of construction work, all crew members on barges, tugs and support vessels, will undergo environmental training, a component of which will focus on the procedures for sighting and protection of whales and sea turtles. A briefing will also be conducted between the construction supervisors and crews, the PSOs and DWBI. The purpose of the briefing will be to establish responsibilities of each party, define the chains of command, discuss communication procedures, provide an overview of monitoring purposes, and review operational procedures. The DWBI Construction Compliance Managers (or other authorized individual) will have the authority to stop or delay impact pile driving activities, if deemed necessary. New personnel will be briefed as they join the work in progress.

29. Ramp-up/Soft-Start Procedures: A ramp-up (also known as a soft-start) will be used for noise-producing construction equipment capable of adjusting energy levels (i.e., pile driving operations). The DP vessel thrusters will be engaged from the time the vessel leaves the dock. Therefore, there is no opportunity to engage in a ramp-up procedure. The ramp-up procedure for noise-producing equipment utilized during impact pile driving of the WTG foundations is described below:

a. Impact Pile Driving of the WTG Foundations: The ramp-up procedure for noiseproducing equipment utilized during impact pile driving of the WTG foundations will not be initiated if the monitoring zone cannot be adequately monitored (i.e., obscured by fog, inclement weather, poor lighting conditions) for a 30-minute period. If a soft-start has been initiated before the onset of inclement weather, activities may continue through these periods if deemed necessary to ensure the safety and integrity of the Project. A ramp-up will be used at the beginning of each pile segment during impact pile driving in order to provide additional protection to Atlantic sturgeon, whales and sea turtles near the Project Area by allowing them to vacate the area prior to the commencement of pile driving activities. The ramp-up procedures require an initial set of three strikes from the impact hammer at 40 percent energy with a one minute waiting period between subsequent three-strike sets. The procedure will be repeated two additional times. If whales or sea turtles are sighted within the impact pile driving monitoring zone prior to or during the soft-start, activities will be delayed until the animal(s) has moved outside the monitoring zone and no whales or sea turtles are sighted for a period of 30 minutes.

30. Shutdown Procedures: The monitoring zone around the noise-producing activities (impact pile driving and DP thruster use during cable installation) will be monitored, as previously described, by PSOs for the presence of whales and sea turtles before, during and after any noise-producing activity. PSOs will work in coordination with DWBI's

Construction Compliance Managers (or other authorized individual) to stop or delay any construction activity, if deemed necessary. The following outlines the shutdown procedures:

a. Impact Pile Driving of WTG Foundations – For impact pile driving, from an engineering standpoint, any significant stoppage of driving progress will allow time for displaced sediments along the piling surface areas to consolidate and bind. Attempts to restart the driving of a stopped piling may be unsuccessful and create a situation where a piling is permanently bound in a partially driven position. In the event that a whale or sea turtle is observed within or approaching the monitoring zone during impact pile driving, PSOs will immediately report the sighting to the on-site Construction Compliance Manager (or other authorized individual). Upon this notification, the hammer energy will be reduced by 50 percent to a "ramp-up" level. This reduction in hammer energy will effectively reduce the potential for exposure of whales, sea turtles, and Atlantic sturgeon to sound energy, proportional to the reduction in force; however, established exclusion and monitoring zones will remain constant for monitoring purposes. By maintaining impact pile driving at a reduced energy level, momentum in piling penetration can be maintained minimizing risk to both Project integrity and to whales, Atlantic sturgeon, and sea turtles.

After decreasing impact pile driving energy, PSOs will continue to monitor whale and/or sea turtle behavior and determine if the animal(s) is moving towards or away from the exclusion zone. If the animal(s) continues to move towards the sound source, then impact piling operations will be halted prior to the animal entering the exclusion zone. Ramp-up procedures for impact pile driving may be initiated when PSOs report that the monitoring zone has remained clear of whales and/or sea turtles for a minimum of 30 minutes since the last sighting.

31. Pile Driving - Time of Day Restrictions: Impact pile driving for jacket foundation installation will occur during daylight hours starting approximately 30 minutes after dawn and ending 30 minutes prior to dusk unless a situation arises where ceasing the pile driving activity would compromise safety (both human health and environmental) and/or the integrity of the Project. If a soft-start has been initiated prior to the onset of inclement weather (e.g., fog, severe rain events), the pile driving of that segment may be completed. No new pile driving activities will be initiated until 30 minutes after dawn or after the inclement weather has passed.

- 32. Reporting: DWBI will provide the following reports during construction activities:
 - a. DWBI will contact the Corps and NMFS at least 24 hours prior to the commencement of construction activities and again within 24 hours of the completion of the activity.
 - b. DWBI will contact the Corps and NMFS within 24 hours of establishing any exclusion and/or monitoring zone. Within seven days of establishing exclusion and/or monitoring zones, DWBI will provide a report to the Corps and NMFS detailing the field-verification measurements. This report will include the

following information: a detailed account of the levels, durations, and spectral characteristics of the impact pile driving sounds, DP thruster use, and the peak, RMS, and energy levels of the sound pulses and their durations as a function of distance, water depth, and tidal cycle.

- c. DWBI must notify Corps and NMFS within 24 hours of receiving any field monitoring results which indicate that any exclusion or monitoring zones should be modified (i.e., due to in-field sound monitoring suggesting that model results were too big or too small). No changes will be made to the exclusion or monitoring zones without written (e-mail) approval from the Corps and NMFS.
- d. Any observed behavioral reactions (e.g., animals departing the area) or injury or mortality to any marine mammals, Atlantic sturgeon, or sea turtles must be reported to the Corps and NMFS within 24 hours of observation. If any sturgeon are observed, these instances will also be reported to the Corps and NMFS (incidental.take@noaa.gov) within 24 hours.
- e. A final technical report will be provided to the Corps and NMFS within 120 days after completion of the construction activities. This report must provide full documentation of methods and monitoring protocols (including verification of the sound levels actually produced within the exclusion and monitoring zones), summarizes the data recorded during monitoring, and comparing these values to the estimates of listed marine mammals and sea turtles that were expected to be exposed to disturbing levels of noise during construction activities, and provides an interpretation of the results and effectiveness of all monitoring tasks.

33. Strike Avoidance: All vessels associated with the construction, operation, maintenance and repair, and decommissioning of the BIWF will adhere to NMFS guidelines for marine mammal ship strike avoidance (see

(<u>http://www.nmfs.noaa.gov/pr/pdfs/education/viewing_northeast.pdf</u>), including maintaining a distance of at least 500 yards from right whales, at least 100 ft from all other whales, and having dedicated lookouts and/or protected species observers posted on all vessels who will communicate with the captain to ensure that all measures to avoid whales are taken.

PSOs will be placed on vessels with noise-producing equipment (e.g., vessels with the pile driver and the DP vessels) and vessels assigned to actively observe the Project's established exclusion and monitoring zones through construction. Other vessels will have a dedicated lookout to watch for whales and sea turtles and to communicate with the captain.

34. Geophysical Surveys Mitigation and Monitoring: DWBI will use the following measures during all geophysical surveys (i.e., multi-beam sonar and sub-bottom profiler [chirp]):

a. Implementation of Ramp-Up: At the start of each survey day, instruments that have the capability of running at variable power levels and operate at a frequency detectable by ESA-listed species will initially be operated at low-levels, then gradually increased to minimum necessary power requirements for quality data

collection. This allows any listed species capable of detecting this noise to depart the area before full-power surveying commences. Surveys will not commence (i.e., ramp-up) when the exclusion zone cannot be effectively monitored.

- b. Establishment of Exclusion Zone: Whenever multi-beam sonar or the chirp is in use, a 300-m radius exclusion zone (from the source) will be established around the operating vessel or the towed survey device. The sounds produced by this equipment cannot be perceived by sea turtles or Atlantic sturgeon because the frequency is too high. Therefore, the exclusion zone will be maintained for listed whales. For example, if a sound source is towed 30 m behind the survey vessel, the monitored area from the vessel will be out to 330 m (or 300 m from the source). The 300-m exclusion zone encompasses the 160 dB_{RMS} isopleth, which for either geophysical survey device, is expected to occur within 150 m or less from the operating device.
- c. Visual Monitoring of the Exclusion Zones: The exclusion zone will be monitored by a trained Environmental Compliance Monitor who will keep vigilant watch for the presence of marine mammals within the exclusion zone. The exclusion zone will be monitored for 30 minutes prior to the ramp-up of sound sources. If the exclusion zone is obscured by fog or poor lighting conditions, surveying utilizing noise-producing equipment will not be initiated until the entire exclusion zone is visible for the 30-minute period. If marine mammals are observed within the 300m safety exclusion zones during 30-minute period and before the ramp-up begins, surveying utilizing noise-producing equipment will be delayed until they move out of the area.

The Environmental Compliance Monitor assigned to the survey vessel, as well as all individuals onboard the survey vessel responsible for navigation duties, will receive training on marine mammal and sea turtle sighting and reporting and vessel strike avoidance measures. The training course will be modeled after a NMFS-approved marine mammal and sea turtle training program. The training will include details on the federal laws and regulations for protected species (ship strike information, migratory routes, and seasonal abundance), as well as training on species identification.

All sightings of NMFS-listed species will be recorded on an established NMFSapproved log sheet by the Environmental Compliance Monitor. The following data will be recorded:

- i. Dates and location of operations;
- ii. Weather and sea-state conditions;
- iii. Time of observation;
- iv. Approximate location (latitude and longitude) at the time of the sighting;
- v. Details of sighting (species, numbers, behavior);
- vi. General direction and distance of sighting from the vessel;
- vii. Activity of the vessels at the time of sighting; and

viii. Action taken by the Environmental Compliance Monitor.

All observation data will be provided to NMFS within 60 days of the completion of surveys. In addition, during all survey operations DWBI will report all sightings of ESA-listed species, regardless of condition, to NMFS (incidental.take@noaa.gov) within 24 hours of the observation and record as much information as possible (e.g., species, size, decomposition state, obvious injuries etc.).

d. ShutDown: If a listed whale is spotted within or transiting towards the exclusion zone when equipment is operating that can be heard by that individual (i.e., the chirp), an immediate shutdown of the equipment will occur. Subsequent restart or ramp-up of equipment will occur only after the whale has cleared the safety exclusion zone.

Sea Turtles and Atlantic Sturgeon:

35. All endangered species observers contracted by DWBI must be approved by the Corps and NMFS. DWBI shall provide the Corps, and the Corps shall transmit to NMFS, the names and resumes of all endangered species monitors to be employed at the Project site at least 30 days prior to the start of WTG construction. No observer shall work at the Project site without written approval of NMFS. If during Project construction or DP vessel operations, additional endangered species monitors are necessary, DWBI shall provide those names and resumes, and the Corps shall transmit those names and resumes to NMFS for approval at least 10 days prior to the date that they are expected to start work at the site.

36. Designated exclusion zones for all noise-producing activities must be monitored by NMFS-approved observers. The exclusion zone is considered that area ensonified by injurious levels (i.e., underwater noise levels greater than or equal to 180 dBRMS). Monitoring shall be as follows:

- a. Impact Pile Driving Operations: Observers must begin monitoring the exclusion zone at least 60 minutes prior to the initiation of soft-start pile driving. Full energy pile driving must not begin until the zone is clear of all sea turtles for at least 60 minutes. Monitoring will continue through the pile driving period and end approximately 60 minutes after pile driving is completed. Observers must notify operators if any sea turtles appear to be moving toward the exclusion zone, so that operations can be adjusted (i.e., pile driving energy reduced) to minimize the size of the exclusion zone. If the latter occurs, the observer must monitor the area within and near the exclusion zone for 60 minutes, and if clear after 60 minutes after the last sighting, notify the operator that full energy pile driving may resume.
- b. DP vessel operations: Observers will begin monitoring the exclusion zone as soon as the vessel leaves the dock and continue throughout the construction activity. Observers must notify the vessel operator if any sea turtles appear to be moving toward the exclusion zone, so that operations can be adjusted (i.e., reduced DP thruster energy) to minimize the size of the exclusion zone. If the latter occurs, the observer must monitor the area within and near the exclusion zone for 60

minutes, and if clear after 60 minutes of the last sighting, notify the vessel operator that full energy thruster use may resume. As DP vessels will be operational for 24 hours, at least two observers shall be onboard the vessel, working a 12-hour on, 12-hour off schedule. That observer working the night shift needs to be provided night-vision binoculars.

37. Field verification of modeled noise levels for injury or mortality must be undertaken and must be conducted throughout the work period to confirm modeled sound levels. This needs to be conducted for: (1) impact pile driving operations; and (2) DP thruster use. Acoustic verification and monitoring must be conducted during impact pile driving (for the installation of each WTG foundation pile) and DP thruster use to ensure the exclusion zone is appropriately defined and thus, monitored by the observer required in Condition 39. Acoustic monitoring must be sufficient to determine source levels (i.e., within 1 m of the source), as well as the following:

- a. Atlantic sturgeon acoustic injury thresholds: Distance to the 206 peak sound level (dB_{Peak}) and 187 cumulative sound exposure level (dB_{cSEL}) isopleths.
- b. Sea turtle acoustic injury threshold: Distance to the 207 dB_{RMS} isopleth.

Results of this monitoring must be reported, via email, (danielle.palmer@noaa.gov) to NMFS. For pile driving operations, results must be provided to NMFS prior to the installation of the next pile or within 24 hours of installation, whichever is sooner. For DP vessel operation, results must be provided every 24 hours. If there is any indication that injury thresholds have been attained in a manner not considered in the NMFS Biological Opinion dated January 30, 2014 (i.e., extent of 206 dB_{Peak} or 187 dB_{cSEL} [Atlantic sturgeon]; 207 dB_{RMS} [sea turtles]), NMFS must be contacted immediately.

38. Field verification of modeled noise levels for behavioral disturbance must be undertaken and must be conducted throughout the work period to confirm modeled sound levels. This needs to be conducted for impact pile-driving operations. These reasonable and prudent measures functions as a surrogate for monitoring incidental take. Acoustic verification and monitoring must be conducted during impact pile driving for the installation of each WTG foundation pile. Acoustic monitoring must be sufficient to determine source levels (i.e., within 1 m of the source), as well as the following:

- a. Atlantic sturgeon acoustic behavioral disturbance thresholds: Distance to the 150 dB_{RMS} isopleth.
- b. Sea turtle acoustic behavioral disturbance threshold: Distance to the 166 dB_{RMS} isopleth.

Results of this monitoring must be reported, via email (<u>danielle.palmer@noaa.gov</u>) to NMFS. For pile driving operations, results must be provided to NMFS prior to the installation of the next pile or within 24 hours of installation, whichever is sooner.

39. Any ESA listed species, including Atlantic sturgeon, observed during activities authorized under this Permit must be recorded, with information submitted to NMFS within 30 days. Any dead or injured individuals must be reported to NMFS within 24 hours. In the event of any observations of dead sea turtles or Atlantic sturgeon, dead specimens should be collected with a net and preserved (refrigerate or freeze) until disposal procedures are

discussed with NMFS.

40. Reasonable attempts should be made to collect any dead sea turtles or sturgeon. These individuals shall be held in cold storage until disposition can be discussed with NMFS. The Corps or Deepwater Wind must contact NMFS within 24 hours of any observations of dead or injured ESA listed species. NMFS will provide contact information when alerted of the start of project activity. Until alerted otherwise, the USACE should contact the Section 7 Coordinator by phone (978)281-9328 or fax 978-281-9394). Take information should also be reported by e-mail to: incidental.take@noaa.gov.

Other Stipulations:

41. North Atlantic Right Whales Impact Avoidance: In order to avoid potential impacts to North Atlantic Right Whales, impact driving of wind turbine foundations shall not occur between November 1 and April 30th of any calendar year(s).

42. Nearshore Transmission Cable Burial Depth: The minimum transmission cable burial depth between Mean High Water (MHW) and Mean Low Water (MLW) shall be Elevation minus 10 feet MLW. Transmission Cable installation depth below beaches and dunes at cable landing locations shall also achieve a minimum burial depth of 10' below the beach sediment surface. Burial depth below dunes shall be based on the elevation of the beach at the base of the dunes and shall not include the dune height in the burial depth measurement. A post installation survey, stamped by a RI registered Land Surveyor or Engineer, that provides the elevation of the top of the cable on the mean low water datum and horizontally on the RI State Plane coordinate system shall be submitted to the Corps to confirm this requirement has been met. This survey shall be submitted within 15 days of transmission cable installation at the beach landing locations.

43. Post Construction Avian Monitoring: Post construction avian monitoring will be as described in the modified Avian and Bat Post Construction Monitoring Plan dated February 28, 2014.

44. Environmental Compliance Monitor: DWBI shall employ an Environmental Compliance Monitor (ECM) to monitor environmental compliance during all construction activities associated with the BIWF. The ECM shall be a third-party entity hired by DWBI.

45. Cable Location and Scour Protection: Within 15 days of completing the installation of the submarine transmission cable, DWBI shall submit a post-construction survey, stamped by a Rhode Island-registered Professional Land Surveyor or Engineer, of the actual cable location and the proposed cable easement with State Plane and LAT /LON coordinates for the cable angle points, easement comers / angle points of all scour protection matting (concrete filled bags, concrete mats, stone, etc.) installed on the ocean floor to protect the transmission cable. If the area of the ocean bottom impacted by protective armoring exceeds the 2.1 acres of total ocean bottom coverage estimated within the Environmental Report/COP, the Corps may require marine habitat compensation to be determined after submission of the post-installation survey.





Figure 4. Conceptual Turbine Block Island Wind Farm Block Island Transmission System *October 2013*



8-5X11 BIWF.dwg

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DRAWING MANIFEST							
SHEET #	REV	DATE	DESCRIPTION				
G2-1	В	05/23/2012	ROUTE KEY SHEET				
G2-2	В	05/23/2012	DRAWING MANIFEST				
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P7-1	В	05/23/2012	BLOCK ISLAND PLAN VIEW				
P7-2	В	05/23/2012	BLOCK ISLAND PLAN VIEW				
P7-3	В	05/23/2012	BLOCK ISLAND PLAN VIEW				
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P7-6	В	05/23/2012	OCEAN PLAN AND PROFILES				
P77	В	05/23/2012	OCEAN PLAN AND PROFILES				
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P7-9	B	05/23/2012	OCEAN PLAN AND PROFILES				
P7-10	В	05/23/2012	OCEAN PLAN AND PROFILES				
P7-11	В	05/23/2012	OCEAN PLAN AND PROFILES				
P7-12	В	05/23/2012	OCEAN PLAN AND PROFILES				
P7-13	В	05/23/2012	OCEAN PLAN AND PROFILES				
P7-14	В	05/23/2012	OCEAN PLAN AND PROFILES				
P7-15	В	05/23/2012	OCEAN PLAN AND PROFILES				
P7-16	B	05/23/2012	OCEAN PLAN AND PROFILES				
U2-1	B	05/23/2012	UTILITY CROSSING DETAIL				
U2-2	В	05/23/2012	SHALLOW PENETRATION DETAIL				
U2-3	В	05/23/2012	EROSION CONTROL DETAILS				
U2-4	В	05/23/2012	BRIDGE DETAIL				
U2-5	8	05/23/2012	COFFERDAM DETAILS				
U2-6	8	05/23/2012	SUBMARINE CABLE INSTALLATION DETAILS				
U2-7	В	05/23/2012	MANHOLE DETAIL				
U2-8	В	05/23/2012	TRENCH DETAIL				
U2-9	В	05/23/2012	BLOCK ISLAND LANDING				

SURFICIAL REFLECTIVITY

TYPE 1

LOW REFLECTIVITY, LOW RELIEF, DRAG MARKS COMMON, INTERPRETED AS FINE GRAINED SEDIMENTS (MOSTLY SILT AND FINE SAND) WITH POSSIBLE ISOLATED BOULDERS.

<u> TYPE 2</u>

MEDIUM TO HIGH REFLECTIVITY, MODERATE RELIEF, SAND WAVES DISTINCTIVE, INTERPRETED AS MEDIUM TO COARSE GRAINED SAND AND GRAVEL, POSSIBLE ISOLATED BOULDERS

TYPE 3

LOW TO HIGH REFLECTIVITY, LOW TO MODERATE RELIEF, INTERPRETED AS COMPLEX MIXTURE OF ALTERNATING BOTTOM TYPES INCLUDING FINE TO COARSE GRAINED SEDIMENTS AND BOULDERS.

TYPE 4

LOW TO HIGH REFLECTIVITY, MODERATE TO HIGH RELIEF, INTERPRETED AS HARD, COMPACT SEABED INCLUDING PRIMARILY GRAVEL, COBBLES, AND BOULDERS IN SAND MATRIX.

GRADATIONAL BOUNDARY BETWEEN BOTTOM TYPES

General Notes

1. THE UTILITIES SHOWN HEREON ARE BASED ON FIELD SURVEYS, AERIAL PHOTOGRAPHY AND RECORD DOCUMENTS. OTHER FACILITIES MAY EXIST NOT DISCOVERED THROUGH THE RECORD CHECK. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION, BOTH HORIZONTAL AND VERTICAL, OF ALL UTILITIES THROUGH THE APPROPRIATE UTILITY COMPANIES. CALL BEFORE YOU DIG.

2. ALL PROPERTY LINE INFORMATION IS SHOWN APPROXIMATE AND BASED ON TOWN ASSESSOR'S PLATS ONLY.

3. NAVD88 ELEVATION OF NOAA MLLW AT BLOCK ISLAND = 1.81'



Know what's below.

Call before you dig.

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	·····					CKD	DEJ 03/19/2012	POWER	BLUCK ISLAND, LLC	119630
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A	ISSUED FOR REVIEW	05/07/2012 BWF	IJS DEJ					▼		- G2-3
REV	REVISIONS	DATE DRN D	SGN CKD	APPD F	REFERENCE DRAWINGS	FOR	8.5x11 DWG ONLY		34.5 KY BIWF UNDERGROUND ROUTE	



















































